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U.S. DEPARTMENT OF COMMERCE
OFFICIAL GAZETTE of the UNITED STATES PATENT OFFICE
April 1, 1969 Volume 861 Number 1

PATENTS

NOTICES

Board of Appeals Decisions Rendered in the Month of February 1969

Examiner affirmed	108
Examiner affirmed in part	22
Examiner reversed	33
Total	163

Adjudicated Patents

(D.C.N.H.) Shield Patent No. 2,443,871 (211—71), for DISPLAY AND DELIVERY DEVICE. Claim 5 *Held* invalid. *Grand Union Co.* v. *Kingston Mfg. Co.*, 292 F. Supp. 483; 160 USPQ 438.

(D.C. Tex.) Krejci Patent No. 2,564,700 (23—209.4), for PRODUCTION OF CARBON BLACK. Claim 26 *Held* not infringed. *Phillips Petroleum Co.* v. *Sid Richardson Carbon and Gasoline Co.*, 293 F. Supp. 555; 160 USPQ 251.

(D.C. Calif.) Roth Patent No. 2,625,683 (2—6), for CRASH HELMET. Claims 1 and 14–18 *Held* invalid. *United Tanks, Inc.* v. *Sears, Roebuck and Co.*, 293 F. Supp. 246; — USPQ —.

(D.C.N.H.) Just Patent No. 2,669,361 (211—49), for DISPLAY AND DELIVERY STAND. Claim 9 *Held* not infringed. *Grand Union Co.* v. *Kingston Mfg. Co.*, 292 F. Supp. 483; 160 USPQ 438.

(D.C.N.J.) Harwin et al. Patent No. 2,740,739 (154—49), for CARPET UNDERLAY. *Held* invalid. *Allen Industries, Inc.* v. *National Sponge Cushion, Inc.*, 292 F. Supp. 504; 160 USPQ 479.

(C.A. Md.) Bruck Patent No. 2,842,170 (143—68), for SABER SAW STRUCTURE. Claims 1, 2 and 3 *Held* valid and infringed. *Porter-Cable Machine Co.* v. *Black and Decker Mfg. Co.*, 402 F.2d 517; 159 USPQ 65.

(C.A.N.Y.) Fulton Patent No. 2,908,021 (5—99), for PLAY YARD, *Held* invalid. *Trimble Products Inc.* v. *W. T. Grant Co.*, 404 F.2d 386; 159 USPQ 92.

(C.A. Calif.) Groen Patent No. 2,950 203 (99—193), for PROCESS OF QUICK-FREEZING RAW ONIONS. *Held* invalid. *Groen* v. *General Foods Corp.*, 402 F.2d 708; 159 USPQ 332.

(D.C.N.H.) Just Patent No. 3,091,317 (193—38), for DISPLAY AND DELIVERY STAND. Claim 2 *Held* invalid. *Grand Union Co.* v. *Kingston Mfg. Co.*, 292 F. Supp. 483; 160 USPQ 438.

(D.C. Ill.) Juvinall et al. Patent No. 3,169,882 (117—93.4), for ELECTROSTATIC COATING METHODS AND APPARATUS. Claims 3, 8 and 12 *Held* valid and infringed. *Ransburg Electro-Coating Corp.* v. *Nordson Corp.*, 293 F. Supp. 448; 158 USPQ 386.

(D.C. Ill.) Juvinall et al. Patent No. 3,169,882 (117—93.42), for ELECTROSTATIC COATING METHODS AND APPARATUS. Claims 1, 3 to 9, 11, 12, 14 and 15 *Held* valid and infringed. *Ransburg Electro-Coating Corp.* v. *Nordson Corp.*, 293 F. Supp. 448; 158 USPQ 386.

(C.A. W. Va.) Neville Patent No. 3,055,280 (94—42), for MEANS FOR TREATING BITUMINOUS PAVEMENT, *Held* valid. *Pavement Salvage Co.* v. *Anderson's-Black Rock, Inc.*, 404 F.2d 450; 159 USPQ 513.

(D.C.D.C.) Anderson Patent No. 3,136,248 (101—426), for PROCESS AND APPARATUS FOR TEMPORARILY INDICATING CORRECTIONS IN TEXT OF PRINTED MATTER. *Held* infringed. *La Salle Street Press Inc.* v. *McCormick and Henderson, Inc.*, 292 F. Supp. 276; 160 USPQ 222.

(D.C. Ill.) Anderson Patent No. 3,136,248 (101—426), for PROCESS AND APPARATUS FOR TEMPORARILY INDICATING CORRECTIONS IN TEXT OF PRINTED MATTER. *Held* infringed. *La Salle Street Press, Inc.* v. *McCormick and Henderson, Inc.*, 292 F. Supp. 276; 158 USPQ 627.

Certificates of Correction for the Week of Apr. 1, 1969

Re. 26,348	3,358,538	3,365,401
D. 209,763	3,359,161	3,365,796
D. 210,023	3,359,544	3,366,067
D. 211,699	3,360,583	3,366,095
3,208,205	3,361,604	3,366,165
3,256,514	3,361,649	3,366,176
3,324,043	3,361,781	3,366,352
3,325,527	3,361,790	3,366,374
3,330,282	3,361,894	3,366,431
3,337,446	3,362,703	3,366,557
3,337,460	3,362,910	3,366,591
3,338,703	3,363,556	3,366,714
3,343,941	3,363,631	3,367,128
3,344,778	3,363,695	3,367,424
3,352,479	3,363,981	3,367,738
3,354,189	3,364,013	3,367,894
3,356,022	3,364,112	3,367,965
3,356,074	3,364,159	3,368,377
3,358,161	3,364,165	3,368,761
3,358,327	3,364,441	3,369,011
	3,364,849	

Erratum

At volume 859, page 346, column 1, line 7 of "Adjudicated Patents" (D.C.D.C.) Beatty et al. Patent No. 2,783,337 (200—148), for FLUID BLAST CIRCUIT INTERRUPTER. Claim 3 *Held* invalid. *Blair* v. *Westinghouse Electric Corp.* 291 F. Supp. 664; — USPQ —.

Should read:

(D.C.D.C.) Wofford Patent No. 2,783,377 (250—27), for SIGNAL BIASED NOISE INVERTER FOR SYNCH SEPARATOR WHICH CANCELS NOISE ABOVE SYNCH PULSE LEVEL. Claim 3 *Held* invalid. *Blair* v. *Westinghouse Electric Corp.*, 291 F. Supp. 664; — USPQ —.

New Applications Received During January 1969

Patents	7383
Designs	419
Plant Patents	15
Reissues	26
Total	7843

Issue—April 1, 1969

Patents	1300	No. 3,435,460 to No. 3,436,759, incl.
Designs	90	No. 213,666 to No. 213,755, incl.
Plant Patents	4	No. 2,876 to No. 2,879, incl.
Total	1394	

Foreign Patents Received in the Search Center as of February 28, 1969

Source	Date received	Highest number
Australia:		
(*Abstracts*)	Jan. 17, 1969	44,592/68
(*Patents*)	Feb. 27, 1969	284,633
Austria	Jan. 27, 1969	266,000
Belgium	Feb. 5, 1969	676,800
Canada	Feb. 25, 1969	806,850
Czechoslovakia	Jan. 17, 1969	126,950
Denmark:		
(*Fremlaeggelsskrifter*)	Nov. 19, 1968	111,520
(*Patents*)	Nov. 19, 1968	110,050
East Germany	Feb. 27, 1969	64,960
Egypt	June 28, 1967	6,873
Finland:		
(*Utläggningsskrifter*)	Jan. 7, 1969	40,450
(*Patents*)	Oct. 8, 1968	37,023
France:		
(*Patents*)	Feb. 20, 1969	1,539,400
(*Additions*)	Feb. 20, 1969	91,950
(*Medicaments*)	Jan. 27, 1969	5,500 M
(*Additions*)	May 2, 1968	162 CAM
Germany:		
(*Auslegeschriften*)	Feb. 3, 1969	1,280,170
(*Patents*)	Dec. 16, 1968	1,262,992
Great Britain	Feb. 24, 1969	1,143,500
India	Apr. 11, 1968	101,130
Ireland	Feb. 6, 1969	27,863
Italy	Apr. 25, 1968	670,000
Japan	Feb. 25, 1969	1,000/69
Netherlands:		
(*Octrooiaanvragen*)	Oct. 7, 1968	7,864/68
(*Patents*)	Dec. 2, 1968	125,282
Norway:		
(*Utlegningsskrifter*)	Feb. 4, 1969	115,908
(*Patents*)	Feb. 13, 1969	113,442
Pakistan	Feb. 3, 1964	112,446
Philippine Republic	Apr. 13, 1962	458
Poland	Jan. 22, 1969	56,033
Rumania	Jan. 22, 1969	51,151
Sweden:		
(*Utläggningsskrifter*)	Jan. 15, 1969	304,919
(*Patents*)	Jan. 15, 1969	303,114
Switzerland	Jan. 30, 1969	464,120
U.S.S.R.	Dec. 12, 1968	220,122

Australia: First 2,000 incomplete
Belgium: First printed 493,079/1950
Canada: First printed 445,931/1948
Czechoslovakia: Not received between 81,300/1952 and 91,901/1959
Finland: First printed 19,428/1941
First 500 incomplete
Hungary: First received 5,792/1896
Latest 140,582/1951
Ireland: First received 10,000/1929
Italy: First 243,000 incomplete
Rumania: First received 40,380/1957
U.S.S.R.: Not received between 2,496/1928 and 116,000/1958
Yugoslavia: First received 10,001/1933
Latest 16,461/1941

Relocation of Attorney's Boxes

The Notice previously published concerning the relocation of Boxes 1 through 290 is hereby rescinded. These boxes will be moved to a new location in the Department of Commerce Building near the 15th and E Streets entrance to the building. This move was scheduled to be completed by March 24, 1969.

Boxes 1 through 290, and all temporary boxes, will be relocated in Building #2 at Crystal Plaza, Virginia on or about July 1, 1969.

W. R. ARMSTRONG,
Director, Office of Patent Services.

Mar. 13, 1969.

Disclaimers

3,193,491.—*Robert H. Cramer, Sylvander C. Eastwood,* Woodbury, and *Abbott F. Houser,* Cherry Hill, N.J. PREPARATION OF A HYDROCRACKING CATALYST AND HYDROCRACKING THEREWITH. Patent dated July 6, 1965. Disclaimer filed Nov. 20, 1968, by the assignee, *Mobil Oil Corporation.*

Hereby disclaims the terminal portion of the term of the patent subsequent to July 7, 1981.

3,193,511.—*Robert H. Cramer,* Woodbury, *Abbott F. Houser,* Merchantville, N.J., *Albert B. Schwartz,* Philadelphia, Pa., and *Robert C. Wilson, Jr.,* Woodbury, N.J. HIGH STABILITY SILICA-ALUMINA CATALYST AND METHOD OF PREPARATION THEREOF. Patent dated July 6, 1965. Disclaimer filed Nov. 20, 1968, by the assignee, *Mobil Oil Corporation.*

Hereby disclaims the terminal portion of the term of the patent subsequent to Sept. 6, 1977.

3,210,267.—*Charles J. Plank,* Woodbury, and *Edward J. Rosinski,* Deptford, N.J. CATALYTIC CRACKING OF HYDROCARBONS WITH THE USE OF A CRYSTALLINE ZEOLITE CATALYST CONTAINING RARE EARTHS AND A POROUS MATRIX. Patent dated Oct. 5, 1965. Disclaimer filed Nov. 20, 1968, by the assignee, *Mobil Oil Corporation.*

Hereby disclaims the terminal portion of the term of the patent subsequent to July 7, 1981.

3,257,310.—*Charles J. Plank,* Woodbury, and *Edward J. Rosinski,* Deptford, N.J. STEAM ACTIVATED CATALYST. Patent dated June 21, 1966. Disclaimer filed Nov. 20, 1968, by the assignee, *Mobil Oil Corporation.*

Hereby disclaims the terminal portion of the term of the patent subsequent to July 7, 1981.

3,264,075.—*Paul Y. C. Gee,* Woodbury, and *Harry J. Andress, Jr.,* Pitman, N.J. METAL SALTS OF SUCCINAMIC ACIDS IN DISTILLATE FUEL OIL. Patent dated Aug. 2, 1966. Disclaimer filed Nov. 20, 1968, by the assignee, *Mobil Oil Corporation.*

Hereby disclaims the terminal portion of the term of the patent subsequent to Apr. 24, 1979.

3,264,208.—*Charles J. Plank,* Woodbury, and *Edward J. Rosinski,* Deptford, N.J. CATALYTIC HYDROCARBON CONVERSION WITH THE USE OF A CRYSTALLINE ZEOLITE CONTAINING MANGANESE IONS. Patent dated Aug. 2, 1966. Disclaimer filed Nov. 20, 1968, by the assignee, *Mobil Oil Corporation.*

Hereby disclaims the terminal portion of the term of the patent subsequent to July 7, 1981.

3,271,418.—*Charles J. Plank,* Woodbury, and *Edward J. Rosinski,* Deptford, N.J. CATALYTIC CONVERSION OF HYDROCARBONS WITH A CRYSTALLINE ALUMINOSILICATE IN A SILICA-ALUMINA MATRIX. Patent dated Sept. 6, 1966. Disclaimer filed Nov. 20, 1968, by the assignee, *Mobil Oil Corporation.*

Hereby disclaims the terminal portion of the term of the patent subsequent to July 7, 1981.

3,277,018.—*Charles J. Plank,* Woodbury, and *Edward J. Rosinski,* Almonesson, N.J. SELECTIVE CRACKING CATALYST. Patent dated Oct. 4, 1966. Disclaimer filed Nov. 20, 1968, by the assignee, *Mobil Oil Corporation.*

Hereby disclaims the terminal portion of the term of the patent subsequent to Feb. 4, 1981.

3,352,832.—*Dennis Arthur Barr,* Welwyn, *Eric Nield,* Stevenage, and *John Brewster Rose,* St. Albans, England. COPOLYMERS OF N-SUBSTITUTED MALEIMIDES. Patent dated Nov. 14, 1967. Disclaimer filed Nov. 22, 1968, by the assignee, *Imperial Chemical Industries Limited.*

Hereby enters this disclaimer to claim 1 of said patent.

3,367,110.—*James L. Leeson, Jr.,* Rockford, Ill. DIGITAL SYNCHRONIZING AND PHASE MATCHING SYSTEM. Patent dated Feb. 6, 1968. Disclaimer filed Nov. 21, 1968, by the assignee, *Woodward Governor Company.*

Hereby enters this disclaimer to claims 1, 2, 3, 4, 5, 6 and 7 of said patent.

3,370,099.—*Charles J. Plank,* Woodbury, and *Edward J. Rosinski,* Almonesson, N.J. ISOMERIZATION PROCESS. Patent dated Feb. 20, 1968. Disclaimer filed Nov. 20, 1968, by the assignee, *Mobil Oil Corporation.*

Hereby disclaims the terminal portion of the term of the patent subsequent to July 7, 1981.

3,378,547.—*Chim P. Patel,* Granite City, Ill., *Mark A. Jaeger,* Lemay, Mo., and *Ronald E. Pyle,* Granite City, Ill. CATIONIC STARCH. Patent dated Apr. 16, 1968. Disclaimer filed Feb. 18, 1969, by the assignee, *Union Starch & Refining Co., Inc.*

Hereby enters this disclaimer to claims 1–6 inclusive of said patent.

3,391,075.—*Charles J. Plank,* Woodbury, and *Edward J. Rosinski,* Almonesson, N.J. CATALYTIC CONVERSION OF HYDROCARBONS WITH THE USE OF A STEAM TREATED Y TYPE OF CRYSTALLINE ALUMINO SILICATE. Patent dated July 2, 1968. Disclaimer filed Nov. 20, 1968, by the assignee, *Mobil Oil Corporation.*

Hereby disclaims the terminal portion of the term of the patent subsequent to July 7, 1981.

3,397,155.—*Paul A. Naro,* Pennington, and *Robert D. Offenhauer,* West Trenton, N.J. POLYMERIZATION OF MONOEPOXIDES EMPLOYING HIGH SURFACE AREA PHOSPHATE CATALYSTS. Patent dated Aug. 13, 1968. Disclaimer filed Nov. 20, 1968, by the assignee, *Mobil Oil Corporation.*

Hereby disclaims the terminal portion of the term of the patent subsequent to Feb. 22, 1983.

Proposed Extension of Defensive Publication Program

[37 CFR Parts 1, 3]

The Patent Office is giving consideration to several changes in its rules of practice which are designed to stimulate and enlarge interest in the defensive publication program.

Under the proposed procedure, an applicant would be permitted to file for defensive publication during the period fixed for reply to the first Office action. The existing procedure, under which an applicant is permitted to file for defensive publication prior to the first Office action, would be retained. The waiver of rights to an enforceable patent is essential to defensive publication; however, in the case of requests filed before the first Office action the waiver does not extend to continuing applications filed within thirty (30) months after the earliest U.S. effective filing date of the designated application. Parties who request defensive publication after the first Office action would be required to waive patent rights based on the pending application and all continuing applications.

Notice is hereby given, therefore, that under the authority contained in section 6 of the Act of July 19, 1952 (66 Stat. 792; 35 U.S.C. 6), the Patent Office proposes to amend Title 37, Code of Federal Regulations, as follows:

1. By revising § 1.111(a) to read as follows:

§ 1.111 *Reply by applicant.*

(a) The applicant must file a timely reply to all Office actions which are adverse in any respect. The reply may request reexamination or reconsideration, with or without amendment, or may be a waiver of patent rights under § 1.139.

* * * * * *

2. By revising § 1.139 to read as follows:

§ 1.139 *Waiver of patent rights.*

(a) Prior to the first Office action, and subject to acceptance by the Commissioner, an applicant may waive his rights to an enforceable patent based on a pending patent application or on any continuing application filed after the expiration of thirty (30) months from the earliest U.S. effective filing date of said application by filing in the Patent Office a written waiver of patent rights, a consent to the publication of an abstract, an authorization to open the complete application to inspection by the general public, and a declaration of abandonment signed by the applicant and the assignee of record or by the attorney or agent of record. See § 3.50 of this chapter for the suggested format.

(b) After the first Office action, and subject to acceptance by the Commissioner, an applicant may waive his rights to an enforceable patent based on a pending patent application by filing in the Patent Office, within the period set for reply, a written waiver of patent rights, a consent to the publication of an abstract, an authorization to open the complete application to inspection by the general public, and a declaration of abandonment signed by the applicant and the assignee of record or by the attorney or agent of record. See § 3.51 of this chapter for the suggested format.

3. By adding a new § 3.51 to read as follows:

§ 3.51 *Waiver of patents after first action.*

To the Commissioner of Patents:

The undersigned having on _____ filed an application for patent, Serial No. _____ entitled _____, hereby waives his right to an enforceable patent based on said application or on any continuing application, subject to acceptance by the Commissioner, and requests that an abstract of disclosure thereof be published in the OFFICIAL GAZETTE, that the complete application be opened to inspection by the general public upon publication of said abstract and that the application be considered pending for the purpose of interference; and further the undersigned expressly abandons said application, the abandonment to take effect five (5) years after the earliest U.S. effective filing date of the application unless within that period interference proceedings have been initiated.

All persons who desire to submit written data, views, arguments, or suggestions for consideration in connection with this proposal are invited to forward the same to the Commissioner of Patents, Washington, D.C. 20231, on or before April 30, 1969. An oral hearing will not be scheduled. Any written comments or suggestions not specifically designated as confidential may be inspected by any person upon written request a reasonable time after the closing date for submitting comments.

EDWARD J. BRENNER,
Commissioner of Patents.

Approved: March 4, 1969.
ALLEN V. ASTIN,
Acting Assistant Secretary for Science and Technology.

Published in 34 F.R. 4973, March 7, 1969

Patents Available for Licensing or Sale

3,151,864. SEESAW WITH SPRINKLER. Stanley L. Sandusky, 10721 Wadsworth Ave., Garfield Heights, Ohio, 44125.

3,263,470. DEVICE FOR PUSHING A BAR THROUGH A DRAWING DIE. Th. Kieserling & Albrecht, Solingen, Germany. Correspondence to: Michael S. Striker, 360 Lexington Ave., New York, N.Y., 10017.

3,358,663. TWO-CYCLE INTERNAL COMBUSTION ENGINE. Walter Miclo, 2061 St. Raymond Ave., Bronx, N.Y., 10462.

3,393,083. METHOD OF PRODUCING A FELTED TEXTILE MATERIAL. Yukichi Go, Gumna, Japan. Correspondence to: Michael S. Striker, 360 Lexington Ave., New York, N.Y., 10017.

3,396,633. HYDRAULIC VARIABLE TORQUE MOTOR. Paul Pleiger Maschinenfabrik, Hammerthal-Nord, Germany. Correspondence to: Michael S. Striker, 360 Lexington Ave., New York, N.Y., 10017.

3,399,720. PLATE HEAT EXCHANGER AND METHOD OF PRODUCING THE SAME. VEB Apparatebau Mylau, Vogtl., Germany. Correspondence to: Michael S. Striker, 360 Lexington Ave., New York, N.Y., 10017.

3,399,817. DEVICES FOR DRIVING PINS INTO MASONRY, STRUCTURAL MEMBERS OR THE LIKE. Carl Bauer, Wuppertal-Cronenberg, Germany. Correspondence to: Michael S. Striker, 360 Lexington Ave., New York, N.Y., 10017.

3,405,832. STOPPER FOR BOTTLES OR THE LIKE. Hans Schwarzkopf, Hamburg, Germany. Correspondence to: Michael S. Striker, 360 Lexington Ave., New York, N.Y., 10017.

3,409,996. AIR CIRCULATING APPARATUS. Francisco Golberger Konstandt, Luzern, Switzerland. Correspondence to: Michael S. Striker, 360 Lexington Ave., New York, N.Y., 10017.

3,404,845. FLUIDIZING-BED PLATE. Bergwerksverband GmbH, Essen, Germany. Correspondence to: Michael S. Striker, 360 Lexington Ave., New York, N.Y., 10017.

3,405,508. METHOD AND APPARATUS FOR PURIFYING GASES. Bergwerksverband GmbH, Essen, Germany. Correspondence to: Michael S. Striker, 360 Lexington Ave., New York, N.Y., 10017.

3,410,996. ARRANGEMENT FOR PREVENTING COLLISION OF TRAINS. Carlo Carrino, Tarranto, Italy. Correspondence to: Michael S. Striker, 360 Lexington Ave., New York, N.Y., 10017.

3,412,435. HANDKERCHIEF HOLDER. Walter Poppe. Correspondence to: Michael S. Striker, 360 Lexington Ave., New York, N.Y., 10017.

The following 2 patents are offered by: Mrs. Donald A. Rosenbaum, 71 N. Smithville Road, Dayton, Ohio.

2,922,430. VALVE ASSEMBLY.

3,417,406. PRESSURE SEALING CLOSURE.

Radio Corporation of America offers to grant non-exclusive licenses on reasonable terms and conditions under the following 51 patents.

Inquiries respecting licenses should be addressed to: Radio Corporation of America, Staff Vice President, Domestic Licensing, 30 Rockefeller Plaza, New York, N.Y., 10020.

3,414,669. BLANKING CIRCUITS FOR TELEVISION RECEIVERS.

3,414,684. VIDEO RECORDER AND/OR REPRODUCER WITH INTERMEDIATE TAPE DRIVE.

3,414,820. DELAYED AGC SYSTEM UTILIZING THE PLATEAU REGION OF AN AMPLIFIER TRANSISTOR.

3,414,894. MAGNETIC RECORDING AND REPRODUCING OF DIGITAL INFORMATION.

3,414,897. DISPLAY DEVICE.

3,415,472. SHAFT-MOUNTING DEVICE.

3,415,981. ELECTRONIC COMPUTER WITH PROGRAM DEBUGGING FACILITY.

3,416,003. NON-SATURATING EMITTER-COUPLED MULTI-LEVEL RTL-CIRCUIT LOGIC CIRCUIT.

3,416,063. STABILIZED SINE WAVE INVERTER.

3,416,086. TELEVISION SIGNAL CONVERTER CIRCUIT.

3,417,262. PHANTOM OR CIRCUIT FOR INVERTERS HAVING ACTIVE LOAD DEVICES.

3,417,282. MEANS FOR STABILIZING TELEVISION DEFLECTION CIRCUITS.

3,417,333. ERROR CORRECTOR FOR DIPHASE MODULATION RECEIVER.

3,417,339. PUSH-PULL TRANSISTOR AMPLIFIERS WITH TRANSFORMER COUPLED DRIVER.

3,418,161. PROCESS FOR PREPARING A MAGNETIC RECORDING ELEMENT.

3,418,246. RARE EARTH ACTIVATED YTTRIUM AND GADOLINIUM OXY-CHALCOGENIDE PHOSPHORS.

3,418,247. RARE EARTH ACTIVATED LANTHANUM AND LUTETIUM OXY-CHALCOGENIDE PHOSPHORS.

3,419,735. MONOSTABLE MULTIVIBRATOR CONTROL.

3,419,737. HALL EFFECT INDUCTIVE ELEMENT.

3,419,743. ELECTRON TUBE HAVING A TENSIONED CATHODE.

3,419,751. PROTECTION FOR HORIZONTAL DEFLECTION CIRCUITS.

3,419,807. CIRCUIT PROTECTION FOR A TELEVISION RECEIVER.

3,419,813. WIDE-BAND TRANSISTOR POWER AMPLIFIER USING A SHORT IMPEDANCE MATCHING SECTION.

3,419,851. CONTENT ADDRESSED MEMORIES.

3,419,712. FUNCTION GENERATION AND ANALOG-TO-DIGITAL CONVERSION USING SUPERCONDUCTING TECHNIQUES.

3,419,950. METHOD OF MAKING A VAPOR DEVICE.

3,420,534. PHONOGRAPH PICKUP.

3,420,707. DEPOSITION OF NIOBIUM STANNIDE.

3,420,952. NON-RANDOM FIELD SHIFT APPARATUS FOR A TELEVISION WAVEFORM MONITOR.

3,420,954. SIGNAL TRANSLATING SYSTEM.

3,420,991. ERROR DETECTION SYSTEM.

3,421,098. SIGNAL TRANSLATING SYSTEM.

3,421,100. DIRECT COUPLED AMPLIFIER INCLUDING TWO-STAGE AUTOMATIC GAIN CONTROL.

3,421,101. BROAD BAND HIGH GAIN VIDEO AMPLIFIER.

3,421,938. METHOD OF FABRICATING IMPROVED SOLDERABLE LANDS.

3,422,240. MICROWAVE OVEN.

3,422,369. OSCILLATOR USING A TRANSISTOR AS VOLTAGE CONTROLLED CAPACITANCE.

3,422,420. DISPLAY SYSTEMS.

3,422,425. CONVERSION FROM NRZ CODE TO SELF-CLOCKING CODE.

3,423,525. LINE-SELECT APPARATUS FOR A TELEVISION WAVEFORM MONITOR.

3,423,536. AUTOMATIC STEREO SWITCHING AND INDICATING CIRCUIT.

3,423,621. COLOR PICTURE DISPLAY CONTAINING A RED-EMITTING EUROPIUM-ACTIVATED YTTRIUM OXYSULFIDE PHOSPHOR.

3,423,630. RETRACE DRIVEN DEFLECTION CIRCUIT WITH SCR SWITCH.

3,423,650. MONOLITHIC SEMICONDUCTOR MICROCIRCUITS WITH IMPROVED MEANS FOR CONNECTING POINTS OF COMMON POTENTIAL.

3,423,654. BISTABLE FERROELECTRIC FIELD EFFECT DEVICE.

3,423,725. REMOTE CONTROL SYSTEM.

3,423,756. SCANNING ANTENNA FEED.

3,424,866. TELEVISION SYNCHRONIZING DELAY COMPENSATING SYSTEM.

3,424,941. TRANSISTOR DEFLECTION CIRCUIT WITH CLAMPER MEANS.

3,424,942. AUXILIARY BEAM DEFLECTION YOKE.

3,425,001. DIELECTRICALLY-LOADED, PARALLEL-PLANE MICROWAVE FERRITE DEVICES.

3,425,021. METHOD AND APPARATUS FOR CONNECTING LEADS TO A PRINTED CIRCUIT BOARD.

General Electric Company is prepared to grant non-exclusive licenses under the following 66 patents upon reasonable terms to domestic manufacturers.

Applications for license under the following patent may be addressed to: Division Patent Counsel, Missile & Space Division, General Electric Company, P.O. Box 8555, Philadelphia, Pa., 19101.

3,410,511. INFLATABLE BAG FOR DISSIPATING IMPACT ENERGY.

Applications for license under the following 4 patents may be addressed to: Division Patent Counsel, Power Transmission Division, General Electric Company, 6901 Elmwood Ave., Philadelphia, Pa., 19142.

3,353,062. FLASHER DEVICE.

3,398,274. OPTICALLY ROUND, MECHANICALLY OVATE REFLECTOR WITH RADIALLY STEPPED SECTIONS.

3,419,791. LEVEL DETECTOR FOR ELECTRIC CURRENT.

3,419,836. ADJUSTABLE TRANSFORMER CORE CLAMP.

Applications for license under the following 4 patents may be addressed to: General Electric Company, Patent Counsel, Housewares Division, 1285 Boston Ave., Bridgeport, Conn., 06602.

2,953,850. MAGNETIC LID HOLDER.

2,979,300. CAN OPENER MOUNTING STRUCTURE.

2,979,817. CAN OPENER CONTROL INTERLOCK.

3,121,285. CAN OPENER.

Applications for license under the following 8 patents may be addressed to: Patent Counsel, Appliance and Television Group, General Electric Company, Appliance Park, Louisville, Ky., 40225.

3,152,199. METHOD OF MANUFACTURING INSULATED REFRIGERATOR CABINETS.

3,226,939. HOUSEHOLD REFRIGERATOR INCLUDING SEMI-AUTOMATIC ICE SERVICE.

3,288,155. SILVERWARE WASHING SYSTEM.

3,288,372. NON-CLOGGING DISHWASHER ARM ORIFICES FORMING A FAN-LIKE VENA CONTRACTA SPRAY PATTERN.

3,351,189. SUPPORT BRACE.

3,398,756. DISHWASHER HAVING IMPROVED VENT MEANS.

3,403,865. COMMINUTING ASSEMBLY FOR FOOD WASTE DISPOSER.

3,409,320. LATCH AND SWITCH OPERATING MECHANISM FOR CABINET CLOSURE.

Applications for license under the following 10 patents may be addressed to: General Electric Company, Appliance Components Division, 1635 Broadway, Fort Wayne, Ind., 46804. Attn: Patent Counsel.

3,377,700. METHOD OF MAKING AN ELECTRICAL CONTACT MEMBER.

3,381,197. MOTOR SPEED RESPONSIVE ARRANGEMENT FOR CONTROLLING MOTOR WINDING CIRCUITS.

3,391,379. ELECTRICAL CONNECTOR FOR ESTABLISHING A MULTIPOINT CONTACT WITH AN INSULATED CONDUCTOR.

3,395,452. METHODS OF TERMINATING ELECTRICAL DEVICES.

3,407,468. APPARATUS FOR ALTERING THE CONFIGURATION OF ELECTRICAL COILS OF INDUCTIVE DEVICES.

3,407,471. APPARATUS FOR CHANGING RELATIVE POSITIONS OF MOVABLE CONDUCTORS OF AN ELECTRICAL INDUCTIVE DEVICE.

3,407,483. PROCESS FOR ACHIEVING DESIRED POSITIONS OF ELECTRICAL COILS RELATIVE TO A MAGNETIC CORE.

3,407,485. METHOD FOR CONTROLLING THE DESIRED POSITION OF COIL END TURNS RELATIVE TO A TURN-ACCOMMODATING MEMBER.

3,407,486. METHOD FOR ALTERING THE CONFIGURATION OF ELECTRICAL COILS OF INDUCTIVE DEVICES.

3,407,487. METHOD OF CHANGING RELATIVE POSITIONS OF MOVABLE CONDUCTORS OF AN ELECTRICAL INDUCTIVE DEVICE.

Applications for license under the following 39 patents may be addressed to: Patent Counsel, X-Ray Department, General Electric Company, 4855 Electric Ave., Milwaukee, Wis., 53201.

2,859,273. INSULATED MOUNTING.

2,992,406. PUMP.

3,034,009. PIN SEAL ACCELERATOR TUBES.

3,040,983. PULSE-TRAIN RATIO APPARATUS.

3,165,658. DIRECTLY-COOLED X-RAY TUBE ANODE.

3,211,940. TRIGGERED SPARK GAP.

3,222,558. VANADIUM WINDOW FOR AN ATOMIC PARTICLE AND RADIATION EMITTING DEVICE.

3,230,410. ARC DISCHARGE DEVICE WITH TRIGGERING ELECTRODE.

3,248,603. MEAN FREE PATH GASEOUS DISCHARGE TUBE AND CIRCUIT THEREOF.

Re.25,689. RADIOACTIVE BOREHOLE LOGGING APPARATUS.

2,809,323. PENETRATING RAY TRANSDUCER.

2,886,726. TARGET FOR X-RADIATION AND THE LIKE.

2,888,370. PHOTOCONDUCTOR OF LEAD OXIDE AND METHOD OF MAKING.

2,889,188. METHOD OF MAKING PHOTOCONDUCTIVE IMAGE TRANSDUCER TUBES.

2,890,360. IMAGE INTENSIFICATION.

2,898,490. TARGET PLATE.

2,914,696. ELECTRON BEAM DEVICE.

2,939,027. PHOTOCONDUCTIVE IMAGE TRANSDUCER TUBES.

2,951,898. ICONOSCOPE.

2,960,616. TARGET STRUCTURE FOR IMAGE TRANSDUCER.

2,972,585. PHOTOSENSITIVE SEMI-CONDUCTING MATERIAL AND METHOD OF MAKING THE SAME.

3,009,079. X-RAY INTENSIFICATION SYSTEM.

3,225,240. IMAGE TUBE HAVING EXTERNAL SEMICONDUCTIVE LAYER ON TARGET OF WIRES IN GLASS MATRIX.

3,331,979. X-RADIATION-TO-ELECTRICAL SIGNAL TRANSDUCER.

2,986,534. PREPARATION OF PHOTOCONDUCTIVE MATERIAL.

2,810,837. CASSETTE.

2,890,346. FLUID PRESSURE OPERATED SERIALOGRAPHIC APPARATUS AND EQUIPMENT EMBODYING SAME.

2,909,666. INTERVAL TIMING APPARATUS AND METHOD.

2,929,000. MEANS FOR AND METHOD OF INTERVAL TIMING.

2,930,305. CASSETTE.

2,943,198. RAY SENSITIVE SCREEN AND ASSOCIATED APPARATUS.

2,958,782. ELECTRONIC TIMER.

2,993,124. TIMING APPARATUS.

3,028,933. SPRING LOCK FOR X-RAY APPARATUS.

3,064,766. SPRING LOCK FOR X-RAY APPARATUS.

3,079,506. X-RAY TIMER.

3,157,787. LIGHTWEIGHT RIGID RADIOGRAPHIC FILM CASSETTE.

3,221,337. SYSTEM FOR CORRECTING THE POSITION OF A WRITING OR READING BEAM RELATION TO A RECORDING MEDIUM.

3,249,691. WIDE DENSITY RANGE FILM ILLUMINATOR.

Registration to Practice

The following list contains the names of all applicants for registration to practice before the United States Patent Office who attained passing grades in the examination of November 19, 1968. Information tending to affect the eligibility of any of said applicants on moral or ethical grounds should be furnished the Commissioner of Patents on or before April 29, 1969.

EDWIN L. REYNOLDS,
Chairman, Committee on Enrollment.

Mar. 4, 1969.

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PATENT EXAMINING CORPS

R. A. WAHL, Assistant Commissioner

CONDITION OF PATENT APPLICATIONS AS OF MARCH 10, 1969

PATENT EXAMINING GROUPS	Actual Filing Date of Oldest New Case Awaiting Action
*Denotes oldest new application.	
CHEMICAL EXAMINING GROUPS	
GENERAL CHEMISTRY AND PETROLEUM CHEMISTRY, GROUP 110—M. STERMAN, Director. Inorganic Compounds; Inorganic Compositions; Organo-Metal and Organo-Metalloid Chemistry; Metallurgy; Metal Stock; Electro Chemistry; Batteries; Hydrocarbons; Mineral Oil Technology; Lubricating Compositions; Gaseous Compositions; Fuel and Igniting Devices.	1-03-69
GENERAL ORGANIC CHEMISTRY, GROUP 120—I. MARCUS, Director. Heterocyclic; Amides; Alkaloids; Azo; Sulfur; Misc. Esters; Carbohydrates; Herbicides; Poisons; Medicines; Cosmetics; Steroids; Oxo and Oxy; Quinones; Acids; Carboxylic Acid Esters; Acid Anhydrides; Acid Halides.	6-20-66
HIGH POLYMER CHEMISTRY, PLASTICS AND MOLDING; GROUP 140—L. J. BERCOVITZ, Director. Synthetic Resins; Rubber; Proteins; Macromolecular Carbohydrates; Mixed Synthetic Resin Compositions; Synthetic Resins With Natural Polymers and Resins; Natural Resins; Reclaiming; Pore-Forming; Compositions (Part) e.g.: Coating; Molding; Ink; Adhesive and Abrading Compositions; Molding, Shaping, and Treating Processes.	12-16-66
COATING AND LAMINATING, BLEACHING, DYEING AND PHOTOGRAPHY, GROUP 160—M. STERMAN, Acting Director. Coating; Processes and Misc. Products; Laminating Methods and Apparatus; Stock Materials; Adhesive Bonding; Special Chemical Manufactures; Special Utility Compositions; Bleaching; Dyeing and Photography.	*5-11-66
SPECIALIZED CHEMICAL INDUSTRIES AND CHEMICAL ENGINEERING, GROUP 170—W. B. KNIGHT, Director. Fertilizers; Foods; Fermentation; Analytical Chemistry; Reactors; Sugar and Starch; Paper Making; Glass Manufacture; Gas; Heating and Illuminating; Cleaning Processes; Liquid Purification; Distillation; Preserving; Liquid and Solid Separation; Gas and Liquid Contact Apparatus; Refrigeration; Concentrative Evaporators; Mineral Oils Apparatus; Misc. Physical Processes.	11-07-66
ELECTRICAL EXAMINING GROUPS	
INDUSTRIAL ELECTRONICS AND RELATED ELEMENTS, GROUP 210—W. S. COLE, Director. Generation and Utilization; General Applications; Conversion and Distribution; Heating and Related Art Conductors; Switches; Miscellaneous.	4-03-67
SECURITY, GROUP 220—S. BOYD, Director. Ordnance, Firearms and Ammunition; Radar, Underwater Signalling, Directional Radio, Torpedoes, Seismic Exploring, Radio-Active Batteries; Nuclear Reactors, Powder Metallurgy, Rocket Fuels; Radio-Active Material.	2-16-67
INFORMATION TRANSMISSION, STORAGE AND RETRIEVAL, GROUP 230—S. BOYD, Acting Director. Communications; Multiplexing Techniques; Facsimile; Data Processing, Computation and Conversion; Storage Devices and Related Arts.	*2-21-66
ELECTRONIC COMPONENT SYSTEMS AND DEVICES, GROUP 250—W. L. CARLSON, Director. Semi-Conductor and Space Discharge Systems and Devices; Electronic Component Circuits; Wave Transmission Lines and Networks; Optics; Radiant Energy; Measuring.	11-10-66
PHYSICS, GROUP 280—R. L. EVANS, Director. Photography; Sound and Lighting; Indicators and Optics; Measuring and Testing; Geometrical Instruments.	4-14-67
DESIGNS, GROUP 290—S. BOYD, Director. Industrial Arts; Household, Personal and Fine Arts.	5-20-68
MECHANICAL EXAMINING GROUPS	
HANDLING AND TRANSPORTING MEDIA, GROUP 310—A. BERLIN, Director. Conveyors; Hoists; Elevators; Article Handling Implements; Store Service; Sheet and Web Feeding; Dispensing; Fluid Sprinkling; Fire Extinguishers; Coin Handling; Check Controlled Apparatus; Classifying and Assorting Solids; Boats; Ships; Aeronautics; Motor and Land Vehicles and Appurtenances; Railways and Railway Equipment; Brakes; Rigid Flexible and Special Receptacles and Packages.	8-28-67
MATERIAL SHAPING, ARTICLE MANUFACTURING, TOOLS, GROUP 320—N. BERGER, Director. Manufacturing Processes, Assembling, Combined Machines, Special Article Making; Metal Deforming; Sheet Metal and Wire Working; Metal Fusion—Bonding, Metal Founding; Metallurgical Apparatus; Plastics Working Apparatus; Plastic Block and Earthenware Apparatus; Machine Tools for Shaping or Dividing; Work and Tool Holders Woodworking; Tools; Cutlery; Jacks.	*4-03-67
AMUSEMENT, HUSBANDRY, PERSONAL TREATMENT, INFORMATION, GROUP 330—A. RUEGG, Director. Amusement and Exercising Devices; Projectors; Animal and Plant Husbandry; Butchering; Earth Working and Excavating; Fishing, etc.; Tobacco; Artificial Body Members; Dentistry; Jewelry; Surgery; Toiletry; Printing; Typewriters; Stationery; Information Dissemination.	4-10-67
HEAT AND POWER ENGINEERING, GROUP 340—C. F. GAREAU, Director. Power Plants; Combustion Engines; Fluid Motors; Pumps; Turbines; Heat Generation and Exchange; Refrigeration; Ventilation; Drying; Vaporizing; Temperature and Humidity Regulation; Machine Elements; Power Transmission.	1-19-68
FIXED CONSTRUCTIONS, SUPPORTS, AND HARDWARE, GROUP 350—T. J. HICKEY, Director. Joints; Fasteners; Rod, Pipe and Electrical Connectors; Miscellaneous Hardware; Locks; Building Structures; Closure Operators; Bridges; Closures; Earth Engineering; Drilling; Mining; Furniture; Receptacles; Supports; Cabinet Structures.	10-04-67
TEXTILES, CLEANING AND FLUID HANDLING, GROUP 360—F. H. BRONAUGH, Director. Fluid Handling, including Valves; Conduits; Filling Receptacles; Lubrication; Joint Packing; Bathroom Fixtures; Centrifugal Separators; Cleaning; Coating; Pressing; Agitating; Foods; Textiles; Apparel and Shoes and their Manufacture; Sewing Machines; Winding and Reeling.	7-14-67

Total number of pending applications (excluding Designs)	186,304
Total number of Design applications pending	3,767

Expiration of patents: The patents within the range of numbers indicated below expire during April 1969, except those which may have expired earlier due to shortened terms under the provisions of Public Law 690, 79th Congress, approved August 8, 1946 (60 Stat. 940) and Public Law 619, 83rd Congress, approved August 23, 1954 (68 Stat. 764), which may have had their term curtailed by disclaimer under the provisions of 35 U.S.C. 253, or which have lapsed under the provisions of 35 U.S.C. 151.

Patents	Numbers 2,590,833 to 2,595,213, inclusive
Plant Patents	Numbers 1,061 to 1,090, inclusive

DECISIONS IN PATENT AND TRADEMARK CASES

U.S. Court of Customs and Patent Appeals

IN RE NORMAN R. SMITH

No. 7989. Decided June 27, 1968

[55 CCPA —; 398 F.2d 849; 158 USPQ 287]

1. PATENTABILITY—EVIDENCE—INSUFFICIENT COMPARATIVE TESTS.

"Appellant argues * * * that his invention is patentable because he achieved an unexpected and unpredictable improvement in suds stability by combining a sultaine and an anionic detergent in a built composition. In support of this argument, appellant directs our attention to two affidavits in the record. The Examiner refused to accept these affidavits as sufficient to overcome the obviousness rejection because of their limited scope relative to the breadth of the claims. The two affidavits together show six compositions within the scope of the claims. All of these employ only two sultaines, and only two anionic detergents. In each composition the total detergent concentration is 12%. We agree with the Examiner that these limited comparative tests, when compared with the number of compounds and ranges of concentrations within the scope of the claims, are inadequate to overcome the strong suggestion of obviousness inferred from the references.

2. SAME—PARTICULAR SUBJECT MATTER—"LIQUID DETERGENT COMPOSITION."

The refusal of certain claims in an application entitled "Liquid Detergent Composition," as unpatentable over the prior art, is affirmed.

AFFIRMED.

Richard C. Witte, Robert B. Aylor, Watson, Cole, Grindle & Watson, William H. Daniel for appellant.

Joseph Schimmel (*Jack E. Armore*, of counsel) for the Commissioner of Patents.

Before WORLEY, *Chief Judge*, and Judges RICH, SMITH, ALMOND, and KIRKPATRICK [1]

ALMOND, *J.*, delivered the opinion of the court.

This is an appeal from the decision of the Patent Office Board of Appeals affirming the final rejection of claims 11 to 16 of appellant's application entitled "Liquid Detergent Composition." [2] No claims have been allowed.

The claimed compositions are said to be homogeneous heavy-duty liquid laundry detergent compositions consisting essentially of a zwitterionic quaternary ammonium compound [3] of the sultaine class, an anionic detergent, a detergency builder salt, a hydrotroping agent, [4] a silicate corrosion inhibitor, ethyl alcohol and water.

Claim 13 is illustrative:

13. A homogeneous heavy-duty high sudsing liquid detergent composition consisting essentially of:

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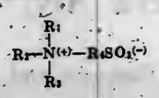
[1] Senior District Judge, Eastern District of Pennsylvania, sitting by designation.

[2] Serial No. 80,991, filed January 6, 1961.

[3] Appellant defines zwitterionic compounds as: * * * organic compounds which in solution and over a relatively broad pH range contain on the same molecule both a positively charged substituent group (cation) and a negatively charged substituent group (anion). When the cation is a quaternary ammonium group and the anion is a carboxylate group ($—COO^{(-)}$), the name "betaine" is applied. When the cation is a quaternary ammonium group and the anion is a sulfonate group ($—SO_3^{(-)}$), the name "sultaine" [or "sulfobetaine]" is applied. Therefore, a zwitterionic detergent is a detergent which under the ordinary conditions of use in a built detergent system bears both a positively charged (cationic) and negatively charged portion (anionic) on the hydrophobic portion of the molecule giving the detergent molecule an "inner salt" (ring) structure.

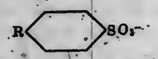
[4] Appellant defines hydrotroping agents as: Compounds such as potassium toluene sulfonate, which co-solubilise inorganic builder salts and organic detergents in concentrated aqueous compositions to permit the formulation of homogeneous detergent compositions.

(*a*) from 3% to about 15% of a zwitterionic quaternary ammonium compound having the general formula:



wherein R_1 is an alkyl radical having from 10 to about 18 carbon atoms, R_2 and R_3 are each alkyl radicals having from about 1 to about 3 carbon atoms, and R_4 is selected from the group consisting of alkylene and hydroxyalkylene radicals having from 1 to 4 carbon atoms;

(*b*) from about 3% to about 12% of a water-soluble salt of an anionic organic sulfuric reaction product selected from the group consisting of RSO_4^-, $R(OC_2H_4)_xSO_4^-$, where x is an integer from 1 to 5,



R being an alkyl radical containing 9 to 16 carbon atoms, and mixtures thereof;

(*c*) from about 8% to about 30% of potassium pyrophosphate;

(*d*) from about 5% to about 15% of an alkali metal salt of an aryl sulfonic acid; selected from the group consisting of benzene sulfonic acid, toluene sulfonic acid and xylene sulfonic acid;

(*e*) from about 3.5% to about 6% of a corrosion inhibitor selected from the group consisting of potassium silicates and sodium silicates, said silicates having a weight ratio of SiO_2/M_2O of from about 1.0 to about 2.6 wherein M refers to sodium and potassium;

(*f*) up to about 7% ethyl alcohol; and the balance substantially

(*g*) water;

said alkali metals of component (*d*) being selected from the group consisting of sodium and potassium; the sum of components (*a*) and (*b*) being not more than about 27%; and the sum of components (*a*), (*b*), and (*c*) being from about 25% to about 40%, all percentages herein being by weight of the composition.

Claims 14 and 15 depend from claim 13, and each specifies a particular zwitterionic compound. Claim 11 is an independent claim which is cast more broadly than claim 13 in its recitations of the anionic detergent and the builder. Claim 12 depends from claim 11 and recites a particular zwitterionic compound. The references relied upon were:

Downing et al., 2,129,264, Sept. 6, 1938.
Isbell, 2,619,467, Nov. 25, 1952.
Krumrei et al., 2,877,185, Mar. 10, 1959,
Goff, 2,950,255, Aug. 23, 1960,
Lang, 3,086,943, Apr. 23, 1963.
Bohme (Germany), 1,018,421, Oct. 31, 1957.

Krumrei discloses a detergent composition as follows:

A typical composition embodying this prior discovery may contain from about 6% to about 15% of salts of alkyl glyceryl ether sulfonate, 12% to 27% of potassium pyrophosphate, or potassium tripolyphosphate, 2% to 6% of ethyl or isopropyl alcohol, * * * 3.5% to 6% of silicate of soda (solids basis) of SiO_2:Na_2O ratio of 1.6:1 to 2.6:1, 3% to 8% of a solubilizing agent, and water to make 100%. This produces a clear solution at room temperature and remains clear down to about 50° F.

The patent also discloses that the preferred solubilizing agent is sodium toluene sulfonate. This reference thus discloses all of the elements of the claimed combination within the ranges claimed except for the zwitterionic compound.

Downing discloses zwitterionic compounds within the scope of the claims, and describes their utility as follows:

Quaternary ammonium salts described herein, and their described derivatives are capable of use for innumerable purposes. One of their chief uses is for wetting, detergent, emulsifying and dispersing purposes. In this connection it may be stated that they are capable of use either in admixture with one another and/or in admixture with soap or soap-like products for utilization in all the processes where soap or soap-like products have heretofore been used or are capable of use. A relative few of these uses will now be given merely for purposes of illustration:

* * * * * * *

E. General:

1. The reagents may be used in pure or standardized form.
2. May be used in conjunction with the known processing or treating agents.

Bohme discloses zwitterionic compounds within the scope of the claims and discloses their compatibility with anionic detergents as specified in appellant's claims.

Isbell discloses amphoteric detergents [5] as being usable with anionic detergents, phosphate salts, silicate salts and hydrotrope sulfonates.

The Examiner rejected the claims under 35 U.S.C. 103, and the Board affirmed that rejection, reasoning as follows:

It is the Examiner's position that it would be obvious to a detergent chemist of ordinary skill in the art in view of the teachings in Downing et al. [Bohme], and Isbell to add any of the sulfobetaines disclosed in the Downing et al. and Bohme patents to the heavy duty liquid detergent composition of Krumrei et al. which, incidentally, includes all the components of the claimed composition except the specific zwitterionic compounds, e.g., sulfobetaines (also known as sultaines) which are employed by appellant * * *. Downing et al. teach that the claimed betaine-like zwitterionic compounds are detergents which are usable with soap and soap-like products * * * in aqueous media * * *. The German application (Bohme) also teaches that amphoteric compounds of the type claimed may be employed in combination with sulfate and sulfonate detergents of the types recited in the instant claims * * *. Isbell teaches that equivalent amphoteric detergents are usable with anionic detergents, phosphate salts, silicate salts and hydrotrope sulfonates. * * *

We agree with the Examiner and the Board that it appears obvious to add the zwitterionic compounds of Downing and Bohme to virtually any known detergent composition in view of the clear statements in those references that the compounds are compatible with and useful in combination with such compositions. Since Downing states that the sultaines are useful "in conjunction with the known processing or treating agents," and Bohme suggests their use with sulfonate anionics, we see nothing unobvious about using the sultaines with the known anionic-containing composition of Krumrei. Appellant's argument that neither Downing nor Bohme suggests the use of a zwitterionic compound in a built [6] composition such as that of Krumrei is unpersuasive since Downing discloses the use of zwitterionic compounds "in admixture with soap or soap-like products" for use "[a]s cleansing agents particularly in hard water * * *." This suggests the use of zwitterionic compounds in built detergent compositions since the use of builders is known in compositions designed for hard water use. Furthermore, Isbell teaches the use of amphoteric detergents, which are zwitterionic within certain pH ranges, in conjunction with builders.

[1] Appellant argues, however, that his invention is patentable because he achieved an unexpected and unpredictable improvement in

[5] Appellant defines an amphoteric detergent as: A detergent which can be either an anionic detergent, a cationic detergent or a zwitterionic detergent depending on the pH. An amphoteric detergent can only be a zwitterionic detergent at a specific pH. Under the normal conditions of use in a built detergent system an amphoteric detergent bears only an anionic (negative) charge on the hydrophobic portion of the molecule.

[6] Appellant defines "built" as: A term referring to a detergent composition containing water-soluble alkaline salts such as potassium pyrophosphate which have the capability of combining with (sequestering) calcium ions (the "hardness" in water) to promote the detergency of the composition.

suds stability by combining a sultaine and an anionic detergent in a built composition. In support of this argument, appellant directs our attention to two affidavits in the record. The Examiner refused to accept these affidavits as sufficient to o ercome the obviousness rejection because of their limited scope relative to the breadth of the claims. The two affidavits together show six compositions within the scope of the claims. All of these employ only two sultaines, and only two anionic detergents. In each composition the total detergent concentration is 12%. We agree with the Examiner that these limited comparative tests, when compared with the number of compounds and ranges of concentrations within the scope of the claims, are inadequate to overcome the strong suggestion of obviousness inferred from the references.

[2] The decision of the Board is affirmed.

AFFIRMED.

PATENT SUITS

Notices under 35 U.S.C. 290; Patent Act of 1952

2,445,038. (See 2,690,277.)

2,613,108, G. F. Kraus, FLUID DISPENSERS; **3,018,056,** A. N. Montgomery, TIMED SPRAY DISPENSERS; **3,214,062,** J. J. Mahon, ACTUATING DEVICE FOR AEROSOL DISPENSER, filed May 2, 1968, D.C., C.D. Calif. (Los Angeles), Doc. 68–717–F, *Cline-Buckner, Inc.* v. *General Time Corporation.*

2,690,277, Shea and Streb, MATERIAL HANDLING EQUIPMENT; **2,445,038,** Riemenschneider and Shea, BOTTOM DUMPING MATERIAL HANDLING BOX, filed Nov. 8, 1967, D.C., N.D. Ill. (Chicago), Doc. 67c1943, *The Union Metal Manufacturing Company* v. *Streator Dependable Manufacturing Company.*

2,782,251, Ebel and D'Ascoli, CABLES FOR HIGH FREQUENCY USE, filed Dec. 15, 1966, *Belden Manufacturing Company* v. *Saxton Products, Inc.* Stipulation and order of dismissal, Nov. 15, 1968.

2,864,395, S. K. Boyajian, ENVELOPES AND THE LIKE WITH REMOISTABLE ADHESIVE COMPRISING POLYVINYL ALCOHOL, filed Aug. 27, 1963, D.C. Del. (Wilmington), Doc. 2734, *Setrak K. Boyajian, doing business as Precision Testing Laboratories* v. *E. I. du Pont de Nemours and Company, Inc.* Consent judgment, action dismissed with prejudice, June 6, 1968.

2,952,060. (See 3,236,486.)

2,974,432, Warnock and Hubener, PRESS-FREE CREASE RETAINED GARMENTS AND METHOD OF MANUFACTURE THEREOF; **3,268,915,** same, PROCESS OF MANUFACTURING PRESS-FREE GARMENT WITH RETAINED CREASES; **Reg. No. 769,609** (KORATRON), Koret of California, Inc., Women's, misses' and children's dresses, halters, outer shorts, outer shirts, blouses, slacks, pedal pushers, and jackets; and men's, students' and boys' pants, slacks, jackets, jacket and slack combinations, walking shorts, shirts and blouses; **Reg. No. 816,674** (KORATRON AND DESIGN), Koratron Company, Inc., same, filed Oct. 3, 1968, D.C. Colo. (Denver), Doc. C–1109, *Bayly Manufacturing Company* v. *Koracrop Industries, Inc. and Koratron Company.*

3,018,056. (See 2,613,108.)

3,066,397, R. E. Hudson, PNEUMATIC DEVICE, filed Aug. 6, 1964, D.C., S.D. Tex. (Houston), Doc. 64–H–394, *Bell Corporation* v. *Warren Automatic Tool Co.* Order, dismissing all causes of action with prejudice, except that plaintiff's request for correction of the named inventors on patent is dismissed without prejudice to the submission of such request to the U.S. Patent Office under Title 35, U.S. Code 256, Aug. 8, 1968.

3,105,713, F. J. Hassler, APPARATUS FOR BULK CURING TOBACCO; **3,110,326,** same, METHOD FOR BULK CURING TOBACCO; **3,134,583,** R. W. Wilson, APPARATUS FOR BULK CURING TOBACCO; **3,244,445,** same, APPARATUS FOR SUPPORTING TOBACCO LEAVES IN BULK FORM FOR CURING, filed Oct. 2, 1968, D.C., E.D.N.C. (New Bern), Doc. 673, *Powell Manufacturing Company, Inc., and R. H. Bouligny, Inc.* v. *Harrington Manufacturing Co., Inc.*

3,110,326. (See 3,105,713.)

3,120,606, Eckert and Mauchly, ELECTRONIC NUMERICAL INTEGRATOR AND COMPUTER, filed Mar. 12, 1968, D.C. Minn. (Minneapolis), Doc. 4–68C68, *Illinois Scientific Development, Inc.* v. *Honeywell, Inc.* Transferred from the District of Columbia, Case No. C–1373–67.

3,134,583. (See 3,105,713.)

3,150,376, Carrel and Mayes, MULTI-BAND LOG PERIODIC ANTENNA; **Re. 25,740,** Mayes and Carrel, LOG PERIODIC BACKWARD WAVE ANTENNA ARRAY, filed Feb. 12, 1965, D.C., N.D. Ill. (Chicago), Doc. 65c220, *The University of Illinois Foundation* v. *The Finney Manufacturing Co., Lewis H. Finneburgh, Morris L. Finney, Jr., Morris L. Finneburch, doing business as Finney Co., Allied Radio Corporation.* Cause stricken from the calendar without prejudice with leave to reinstate on motion of either party, Sept. 12, 1968.

3,197,204, Holkesvick, Hudnall and Adams, EXERCISING DEVICE; **Reg. No. 749,723** (EXER-GENIE), Exer-Genie, Inc., Exercising device—namely, a mechanical device which can be fastened to a support and which includes a flexible member such as a rope which is partially restrained and which can be actuated by a man, woman or child in order to exercise and/or develop various muscles in the user's body, filed May 7, 1968, D.C., C.D. Calif. (Los Angeles), Doc. 68–751–IH, *Exer-Genie, Inc. and E. E. Holkesvick* v. *Alexander G. McDonald, Buddy Systems, Inc., Paul Lee, doing business as J & L Distributing Co., and Fair-Way Distributors Inc.* Consent judgment, plaintiff is owner of U.S. Patent No. 3,197,204, which is valid. Defendants perpetually enjoined, Sept. 24, 1968.

3,214,062. (See 2,613,108.)

3,218,687. (See 3,236,486.)

3,236,486, H. E. Allen, deceased, late of Seattle, Wash., by Helen M. Allen of San Jose, Calif., executrix, WALER BRACKETS; **2,952,060,** H. E. Allen, CONCRETE FORM SECURING MEANS; **3,218,687,** C. E. Barnes, WALL FORM CLAMP, filed June 15, 1966, D.C., N.D. Ill. (Chicago), Doc. 66c1084, *Allenform Corp.* v. *Charles E. Barnes, doing business as Charles E. Barnes Corp.* Consent judgment, Alleuform Corporation owner of Patent Nos. 3,236,486 and 2,952,060, Oct. 23, 1968.

3,244,445. (See 3,105,713.)

3,266,815, C. R. Bishop, TORSION-FREE ARTICULATED VEHICLE SUSPENSION; **3,370,667,** C. R. Bishop, deceased, late of Garden Grove, Calif., by Muriel Janet Bishop, executrix, DRIVE ARRANGEMENT FOR VEHICLES WITH TORSION-FREE ARTICULATED SUSPENSIONS; **3,338,327,** same, DRIVE ARRANGEMENT FOR VEHICLES WITH AN ARTICULATED FRAME, filed Oct. 25, 1968, D.C., C.D. Calif. (Los Angeles), Doc. 68–1779–F, *Saginaw Products Corporation* v. *Cal-Union Corporation, etc. et al.*

3,268,915. (See 2,974,432.)

3,278,102, C. Siegmann, DEVICE FOR DRIVING FASTENERS; **3,278,103,** Julifs, Pugh and Becht, FASTENER APPLYING DEVICE, filed Aug. 29, 1968, D.C., S.D. Ohio (Cincinnati), Doc. 6849, *Senco Products, Inc.* v. *Spotnails, Inc.*

3,278,103. (See 3,278,102.)

3,338,327. (See 3,266,815.)

3,370,667. (See 3,266,815.)

3,379,622, C. F. Van Dreusche, FORMING CHARCOAL IN AN AIR AMBIENT, filed Sept. 13, 1968, D.C., N.D. Calif. (San Francisco), Doc. 49962, *Nichols Engineering & Research Corp.* v. *C. B. Hobbs Corp.*

3,380,455, S. Glogover, UNDERGARMENT, filed May 8, 1968, D.C., S.D.N.Y., Doc. 68–C–1888, *Fleznit Company, Inc.* v. *De Luxe Girdlecraft Co., Inc.* Notice of dismissal, July 19, 1968.

3,404,668, L. M. Batistoni, COMPOSITION FOR COMPACTING SOIL, filed Nov. 19, 1968, D.C., C.D. Calif. (Los Angeles), Doc. 68–1899–HP, *The Larutan Corporation* v. *Farnum De Tar et al.*

Re. 23,422, F. R. Perry, CLEANING METHOD AND MATERIAL THEREFOR, filed June 30, 1965, D.C., E.D.N.Y. (Brooklyn), Doc. 65–C–661, *Agrashell, Inc.* v. *Bernard Sirotta Co.* Order on stipulation discontinuing action, Nov. 20, 1968.

Re. 25,700. (See 3,150,376.)

D. 184,163, D. Bloomfield, RACK FOR HOLDING SUGAR BAGS, filed Nov. 21, 1968, D.C., N.D. Ill. (Chicago), Doc. 68c2253, *Bloomfield Industries, Inc.* v. *Wesco Spring Co., Inc.*

Reg. No. 749,723. (See 3,197,204.)

Reg. No. 769,609. (See 2,974,432.)

Reg. No. 816,674. (See 2,974,432.)

DEFENSIVE PUBLICATIONS

PUBLISHED APRIL 1, 1969

Published at the request of the applicant or owner in accordance with Notice of Apr. 11, 1968, 849 O.G. 1221. The abstracts are identified by serial number of the applications and arranged in chronological order. The heading of each abstract of application published herein indicates the number of pages of specification, including claims and sheets of drawing contained in the application as originally filed. The files of these applications are available to the public for inspection and reproduction may be purchased for 30 cents a sheet.

Applications published under the Defensive Publication Program have not been examined as to the merits of alleged invention. The Patent Office makes no assertion as to the novelty of the disclosed subject matter.

628,785
ESTERS AND METHOD OF PRODUCTION

Roy B. Duke, Jr., Smyrna, Ga., and Milton A. Perry, Longview, Tex., assignors to Eastman Kodak Company, Rochester, N.Y., a corporation of New Jersey

Continuation of application Ser. No. 444,331, Mar. 31, 1965. This application Apr. 5, 1967. Published Apr. 1, 1969

Class 260—345.8

1 Sheet Drawing. 18 Pages Specification

Alkyl methacrylate and neopentyl glycol are prepared by a process comprising the non-catalytic condensation of a heterocyclic aldehyde with certain hydroxy aldehydes to obtain a corresponding monohydroxy ester. The monohydroxy ester is contacted with an alcohol in the presence of an alcoholysis catalyst to obtain the desired 2,2-dialkyl-1,3-propanediol and an alkyl ester of an unsaturated heterocyclic organic acid. The ester is then pyrolyzed to form the desired alkyl methacrylate.

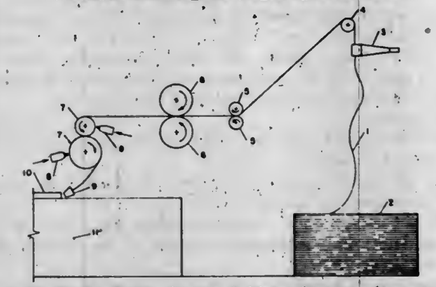
785,020
TOW-TREATING PROCESS

Theodore C. Fritz, P.O. Box 511, Kingsport, Tenn. 37662

Continuation of application Ser. No. 543,360, Apr. 18, 1966. This application Dec. 9, 1968. Published Apr. 1, 1969

Class 264—290

7 Sheets Drawing. 10 Pages Specification



A method of opening and blooming continuous filament tow includes a tensioning step that causes a differential incremental longitudinal displacement between adjacent filaments without any substantial amount of lateral displacement.

758,649
PROCESS FOR PREPARING POLYMER PARTICLES OF 2–10 MICRONS

Francis E. Jenkins, Wilmington, Del., assignor to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware

Continuation of application Ser. No. 546,187, Apr. 29, 1966. This application Aug. 19, 1968. Published Apr. 1, 1969

Class 260—89.5

No Drawing. 12 Pages Specification

A process for forming polymeric synthetic polymeric particles that have a particle diameter within 2–10 microns by (1) adding an electrolyte to a latex having a polymer particle size of 0.001–1 micron to form a thixotropic latex; (2) forming an organic dispersion by adding a polymer non-solvent to the thixotropic latex; and (3) drying the organic dispersion to form finely divided synthetic particles having a diameter within 2–10 microns.

622,446
PROCESS FOR PREPARING ACYLALS OF DIALKYLKETENES

James C. Martin and Paul G. Gott, both of P.O. Box 511, Kingsport, Tenn. 37662

Filed Mar. 13, 1967. Published Apr. 1, 1969

Class 260—340.2

No Drawing. 9 Pages Specification

Novel process for preparing acylals of dialkyl ketenes, said acylals being useful and convenient sources of dialkyl ketenes, which comprises reacting a dialkylketene with carbon dioxide in the presence of certain phosphorous catalysts. The catalysts are trivalent phosphorous compounds of the formula

$$R^2—\overset{R^3}{\underset{|}{P}}—R^4$$

wherein R^2, R^3 and R^4 are the same or different and each represents an alkyl group of up to about 12 atoms or a phenyl group.

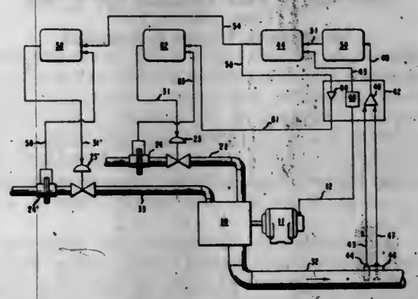
723,407
METHOD AND APPARATUS FOR AUTOMATICALLY CONTROLLING VISCOSITY IN A POLYMERIZATION PROCESS

Rolando Aldo Cecchini, Brockville, Ontario, Canada, assignor, by mesne assignments, to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware

Filed Apr. 23, 1968. Published Apr. 1, 1969

Class 117—92

2 Sheets Drawing. 13 Pages Specification

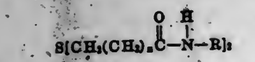


A method and apparatus for automatically controlling viscosity in a continuous polymerization process wherein viscosity is changed by regulating by means of a control valve, the flow of an additive to the polymer solution that is being continuously mixed in a vessel by a mixing blade

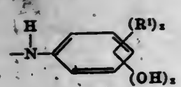
driven at a constant speed by an electric motor. A control signal system is coupled between the motor and the control valve for detecting changes in motor load corresponding to changes in viscosity and generating signals proportional to those changes. These signals are fed to the control valve to operate it and in turn regulate the flow of additive into the polymer.

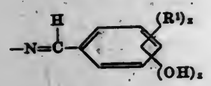
728,901
SUBSTITUTED THIODIACYL HYDRAZIDES
Clarence E. Tholstrup, P.O. Box 511, Kingsport, Tenn. 37662
Filed May 14, 1968. Published Apr. 1, 1969
Class 260—45.8
No Drawing. 14 Pages Specification

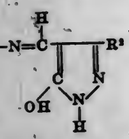
Compounds having the following general formula are disclosed:



wherein n is an integer of 0, 1 or 2, and R is one of the following groups:

(I)


(II)


(III)


wherein x is an integer of 0, 1 or 2; R^1 is independently hydrogen or an alkyl radical having 1 to 18 carbon atoms; and R^2 is an alkyl radical having 1 to 18 carbon atoms, a phenyl radical, or a substituted phenyl radical.

The compounds are stabilizers for polymers, e.g., polyolefins, particularly polymers that contain small amounts of certain metals, e.g., copper, and/or metal salts.

729,548
PROTECTIVE COATING COMPOSITION
Eugene D. King, Wilmington, Del., assignor to Hercules Incorporated, Wilmington, Del., a corporation of Delaware
Filed May 16, 1968. Published Apr. 1, 1969
Class 106—171
No Drawing. 7 Pages Specification

Disclosed is normally solid edible protective coating compositions (forming coatings of increased strength and resistance to moisture and oxygen transmission) comprising blends or mixtures of (1) normally solid monoglycerides (U.S. Patent 3,113,868) and (2) normally solid hydroxypropyl cellulose (U.S. Patent 3,278,521). The maximum hydroxypropyl cellulose/monoglyceride weight ratio can be about 9/1 but usually ratio is about 1/50–1/1.

The compositions can be prepared by dissolving hydroxypropyl cellulose in molten monoglyceride. They can be used as is or allowed to cool, but preferably articles are coated with the molten composition by dipping or spraying and then allowing to cool and thus solidify. They can also be prepared by dissolving the components in a mutual solvent and evaporating the solvent to form a liquid concentrate. Articles can be coated with the solution or concentrate and the solvent evaporated to solidify the coating.

729,549
PROTECTIVE COATING COMPOSITION
Robert W. Butler, Wilmington, Del., assignor to Hercules Incorporated, Wilmington, Del., a corporation of Delaware
Filed May 16, 1968. Published Apr. 1, 1969
Class 106—171
No Drawing. 16 Pages Specification

Disclosed is normally solid edible protective coating compositions (forming coatings of increased strength and resistance to moisture and oxygen transmission) comprising normally solid hot melt film-forming material, including (1) normally solid monoglycerides (U.S. Patent 3,113,868), (2) normally solid C_2–C_4 fatty acid acylated monoglycerides (U.S. Patent 3,247,142), or (3) normally solid poly(oxyalkylene) glycols, or (4) mixtures of two or more of 1–3, and (5) dissolved in said film-forming material normally solid hydroxypropyl cellulose (U.S. Patent 3,278,521). The maximum hydroxypropyl cellulose/film-forming material weight ratio can be about 9/1 but usually ratio is about 1/50–1/1.

The compositions can be prepared by dissolving hydroxypropyl cellulose in molten monoglyceride. They can be used as is or allowed to cool, but preferably articles are coated with the molten composition by dipping or spraying and then allowing to cool and thus solidify. They can also be prepared by dissolving the components in a mutual solvent and evaporating the solvent to form a liquid concentrate. Articles can be coated with the solution or concentrate and the solvent evaporated to solidify the coating.

731,285
PROCESS FOR PREPARING POLYCARBONAMIDE
James L. Bleasdale, Waynesboro, Va., assignor to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware
Filed May 22, 1968. Published Apr. 1, 1969
Class 260—78
No Drawing. 17 Pages Specification

In the process for preparing a linear polycarbonamide having an inherent viscosity of at least 0.8 by a solution condensation reaction between an aromatic acyl halide and an aromatic amine, the molecular weight distribution is controlled by conducting the reaction in the presence of a monofunctional reactant that may be:

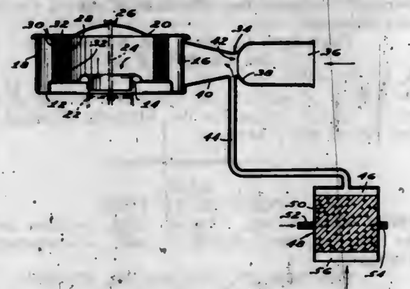
(a) water,
(b) an alcohol having a pK_H of 10 to 18 as determined in aqueous solution,
(c) an organic amine having a pK_{OH} of 3 to 12 as determined in aqueous solution, or
(d) an organic acyl halide having a pK_H of 4 to 10 as determined in aqueous solution as the corresponding acid,

the amounts of aromatic acyl halide, aromatic amine and monofunctional reactant being such that the acyl halide groups are reacted with an essentially equal number of proton donor groups, and further, that 0.07 to 5 mol percent of said reactant is present based on the amount of polycarbonamide produced.

772,384
MULTICOLOR COATING COMPOSITION
James G. Stranch and Billy D. Anderson, both of P.O. Box 511, Kingsport, Tenn. 37662
Filed Oct. 31, 1968. Published Apr. 1, 1969
Class 260—17
No Drawing. 3 Pages Specification

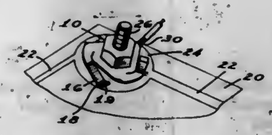
Multicolor coating compositions which can be applied to surfaces either by brushing or spraying comprise cellulose acetate butyrate particles of at least two different colors dispersed in a film-forming liquid material in which the cellulose acetate butyrate particles are insoluble. Typical of the film-forming liquids in which the cellulose acetate butyrate particles can be dispersed are varnishes, enamels, or aqueous emulsions of polyvinyl acetate or copolymers of vinyl acetate and acrylic acid.

775,389
AIR CLEANER FUEL VAPOR ASPIRATOR
Gunnar W. Hansen, 539 Marion St., Ypsilanti, Mich. 48197
Filed Nov. 13, 1968. Published Apr. 1, 1969
Class 55—261
1 Sheet Drawing. 6 Pages Specification



An internal combustion engine air cleaner has a snorkel like air inlet provided with aspirating means connected to a source of excess fuel vapors so that normal air flow into the air cleaner draws the excess fuel vapors therein to be burned in the engine combustion chambers.

781,089
FASTENER FOR PRINTED CIRCUIT BOARDS
Philip Mendola, 8643 Balboa Drive, Utica, Mich. 48087
Filed Dec. 4, 1968. Published Apr. 1, 1969
Class 339—17
1 Sheet Drawing. 5 Pages Specification



Resilient electrically conducting fingers formed on the flange of a threaded fastener contact the metal foil of a printed circuit board when the threaded fastener is tightened to hold an external lead on the board. A reverse curve in the ends of the fingers permits tightening and removal without scraping the foil off the circuit board. Finger ends extend upward beyond the curve to a height at least equal to the diameter of the external lead. The flange surrounds the wrenching surfaces of the fastener to prevent damaging the foil with the tightening tool, and the fingers are stamped from the edge of the flange. Each finger forms an angle of about 30° with the flange and each finger end curves toward the flange for about 0.2 inch, with the curved end also forming an angle of about 30° with the flange.

PLANT PATENTS

GRANTED APRIL 1, 1969

Illustrations for plant patents are usually in color and therefore it is not practicable to reproduce the drawing.

2,876

ROSE PLANT

Walter E. Lammerts, Freedom, Calif., assignor to Amling-De Vor Nurseries, Inc., Livermore, Calif., a corporation of California

Filed July 28, 1967, Ser. No. 656,959
Int. Cl. A01h 5/02
U.S. Cl. Plt.—11 1 Claim

1. A new and distinct variety of rose plant of the hybrid grandiflora class, substantially as herein shown and described, characterized particularly as to novelty by the unique combination of a well-defined grandiflora habit, with a bush height approximately the same as that of "Queen Elizabeth" and forming a moderately tall, well-shaped plant having upright and well-branched canes, good adjustability to high-saline soils and good resistance to salt burn, medium large, glossy, dark green foliage which is essentially disease resistant, abundant bloom production from early spring to late fall, with the flowers usually borne in typical grandiflora clusters, but sometimes singly or in tighter clusters, on strong stems and necks, urn-shaped buds which open to high-centered blooms at the half-open stage, said blooms being regular, well-imbricated, medium large in size and having good petalage when fully open, and the petals being unusually heavy, long-lasting, and very resistant to rain and weather injury, with the bloom tending to retain its crispness even through heavy rain downpours, a distinctive and attractive general color tonality of the flowers progressing from Canary Yellow in the bud and protected petals and Blood Red where the light first hits, to a gradual overall suffusion of Cardinal Rose, with the yellow pigment being much less intense and even sometimes appearing as ivory and the red color being also much less reduced under lower light intensities, while all colors tend to greatly improve and attain maximum development under conditions of bright sun and warm weather, and a light spicy flower fragrance.

2,877

APRICOT TREE

Frederic W. Anderson, Merced, Calif., assignor to The Burchell Nursery, Inc., Modesto, Calif., a corporation of California

Filed Sept. 14, 1967, Ser. No. 667,870
Int. Cl. A01h 5/08
U.S. Cl. Plt.—39 1 Claim

A cultivar of apricot tree which is a sibling of and, in general, closely resembles the Modesto (United States Plant Patent No. 2,543).

2,878

NECTARINE TREE

Frederic W. Anderson, Merced, Calif., assignor to Reedley Nursery, Inc., Reedley, Calif., a corporation of California

Filed Sept. 27, 1967, Ser. No. 671,169
Int. Cl. A01h 5/08
U.S. Cl. Plt.—41 1 Claim

A variety of nectarine tree which is a regular and productive bearer of large freestone fruit having yellow flesh, and yellow skin substantially entirely overspread with red at shipping maturity; the variety being embraced by Group III (with sweet kernels) of the classification established by Caillavet and Souty in their Monographie des Principales Variétés de Pêchers, 1950 edition.

2,879

NECTARINE TREE

Frederic W. Anderson, Merced, Calif., assignor to Reedley Nursery, Inc., Reedley, Calif., a corporation of California

Filed Oct. 16, 1967, Ser. No. 675,719
Int. Cl. A01h 5/08
U.S. Cl. Plt.—41 1 Claim

A variety of nectarine tree which is a regular and very productive bearer of large, uniform, globose fruit—of freestone type—having yellow flesh, and yellow skin substantially overspread with red. The variety is embraced by Group III (with bitter kernels) of the classification established by Caillavet and Souty in their Monographie des Principales Variétés de Pêchers, 1950 edition.

PATENTS

GRANTED APRIL 1, 1969

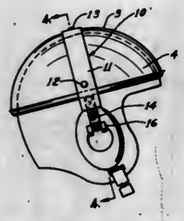
GENERAL AND MECHANICAL

3,435,460

SPONGE RUBBER SCRIMMAGE CAPS

Munro M. Grant, Elyria, Ohio, assignor to The Ohio Athletic Specialty Company, Elyria, Ohio, a corporation of Ohio

Filed Jan. 20, 1966, Ser. No. 521,974
Int. Cl. A42b 1/08; A42c 5/00
U.S. Cl. 2—3 2 Claims



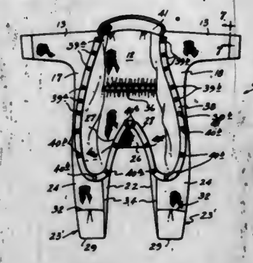
There is disclosed herein a protective device for a football helmet comprising a hemispherical cap adapted to fit over the crown of the helmet and means carried by the cap for detachably engaging the ear apertures of the helmet.

3,435,461

ALL-IN-ONE INFANT'S GARMENT AND METHOD OF MAKING THE SAME

William Walter Artzt, New York, N.Y., assignor to Kapart Inc., Allentown, Pa., a corporation of Pennsylvania

Filed Mar. 21, 1968, Ser. No. 715,074
Int. Cl. A41d 9/00
U.S. Cl. 2—83 9 Claims



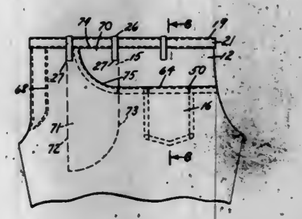
An all-in-one infant's garment has its body, sleeves, cuffs, legs, crotch and feet all constituted by a single fabric piece, with continuous seams extending along the outside of the feet, legs and body and along the underside of the sleeves at the opposite sides of the garment and with each of the garment feet being completed by a lateral seam joining the same to the front of the related leg and by an inside seam which also extends along the lower part of the leg, and an inverted Y-shaped front opening extends from the neck opening of the garment down the center of its body and along the opposite sides of the crotch and the adjacent insides of the legs and is closeable by separable fasteners disposed at the edges of such front opening. In making the garment, flat and longitudinally folded blanks are cut from a flattened tube of fabric to constitute the single fabric pieces of the garments with maximum economy in the cutting operation and in the utilization of the fabric.

3,435,462

TROUSER CONSTRUCTION

William Bank, 60 Ward Drive, New Rochelle, N.Y. 10804

Filed Oct. 10, 1967, Ser. No. 674,174
Int. Cl. A41d 1/06, 13/02, 27/20
U.S. Cl. 2—227 2 Claims



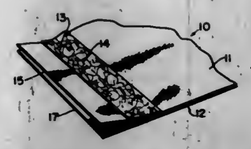
Trouser construction including a pair of pant leg elements each having an upper edge which at the front portions thereof extends to the waist, and which curves downwardly and rearwardly from said portion to extend across the seat thereof along a line parallel to the rear of the waist, the side and rear portions of the upper edges of said leg elements being interconnected to a yoke element commencing at the outer ends of the upper edge of each of the leg elements, and extending rearwardly thereabout.

3,435,463

ALTERATION OF PERMANENTLY PRESSED GARMENTS

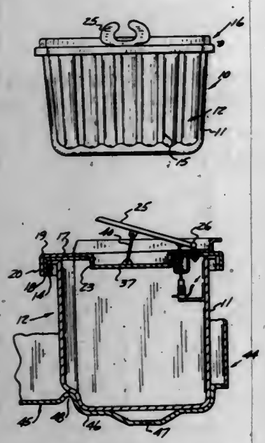
Aubrey Jay, White Plains, N.Y., assignor to J. C. Penney Company, Inc., New York, N.Y., a corporation of Delaware

Filed July 7, 1966, Ser. No. 563,542
Int. Cl. A41d 27/10
U.S. Cl. 2—269 7 Claims



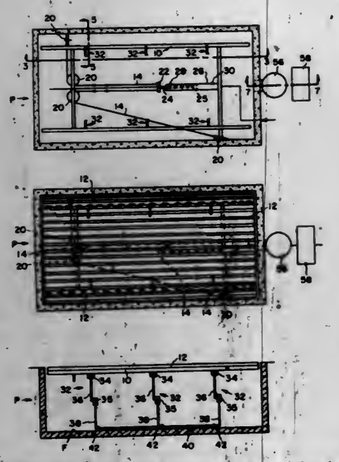
A permanently pressed garment is altered by first securing over the line of alteration with a fusible strip of a cohesive spun web of self-bonded continuous lengths of polymeric fibers in multidirectional overlapping and intersecting arrangement throughout the sheet and having a sheet density greater than about 0.40 oz./yd.^{2} and the polymeric fibers being fusible at a temperature and pressure and for a period below that required to scorch the fabric. Thereafter, the fabric is folded along the line of alteration to sandwich the strip therebetween and heat and pressure are applied to the folded fabric for a period sufficient to cause the fusion of the strip thereby bonding the folded fabric at areas having the strip secured thereon upon subsequent cooling of the fabric.

3,435,464
PORTABLE TOILET
David B. Harding, Grosse Pointe Woods, Mich., assignor to Sani-Jon of America, Inc., Warren, Mich.
Filed Apr. 19, 1967, Ser. No. 631,958
Int. Cl. A47k 11/02
U.S. Cl. 4—111 5 Claims



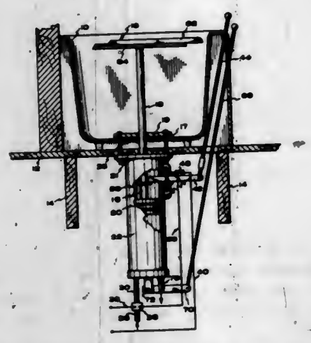
A portable, chemical type toilet, formed of a large plastic container shaped approximately as a semi-circle in cross-section, with a vertically corrugated, flat front wall, and a removable cover formed of a pair of semi-circular shaped plastic sheets fastened together to cover the open top of the container, with a toilet opening formed in the center of the cover and closed by doors connected to a toilet seat fastened to the cover, so that depressing the seat opens the doors, thereby forming a light-weight, rigid unit, with a large storage capacity.

3,435,465
SWIMMING POOL ADJUSTABLE FLOOR AND COVER ARRANGEMENT
Adrian Gilbert Formel, 45 E. Putnam Ave., Greenwich, Conn. 06830
Filed Aug. 17, 1966, Ser. No. 573,106
Int. Cl. E04h 3/16
U.S. Cl. 4—172 11 Claims



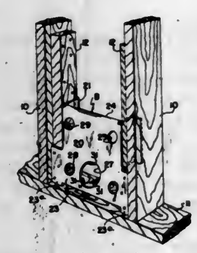
A combination floor and cover for a swimming pool which is adjustable to a selected level below the water surface or above the water surface, The device incorporates cables, each of which are secured at one end to the inner wall of the swimming pool. The other end is connected to an equalizer, the latter being operatively connected to the elevating and lowering means for the device, with no parts located on the deck area.

3,435,466
POWER LIFT BATHTUB SEAT
Otis T. Cheney, Salt Lake City, Utah, assignor to C.C.C. Safety Bath, Inc., Gooding, Idaho, a corporation of Idaho
Filed May 29, 1967, Ser. No. 641,890
Int. Cl. A47k 3/12
U.S. Cl. 4—185 9 Claims



A power lift bathtub seat comprising a seat mounted on a vertical shaft, passed through the bottom of the tub, which is connected to a piston slidably mounted in a cylinder in communication with a source of pressurized fluid. Valve means are interposed between the cylinder and the fluid source having an activation lever which causes the valve to open when held in a predetermined position and which is rotated to cause the valve to close when the piston reaches a predetermined elevation in the cylinder. The seat can be fitted with a slidable section which moves towards the rim of the bathtub for easy mounting.

3,435,467
TOILET BOWL CARRIER
George J. Flegel, Michigan City, and Roger L. Mielbeck, La Porte, Ind., assignors to Josam Manufacturing Co., Michigan City, Ind., a corporation of Delaware
Filed May 1, 1967, Ser. No. 635,132
Int. Cl. A47k 13/00; E03d 11/00
U.S. Cl. 4—252 7 Claims



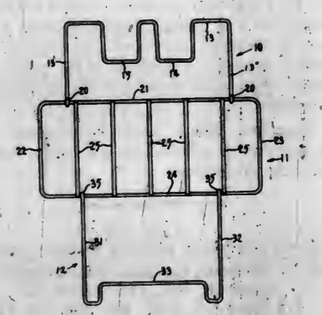
A sturdy stamped and formed heavy sheet metal carrier for a wall hung toilet bowl fixture and accommodating building frame structure; the carrier adapted to nailed securement to frame elements within a wall and to provide strong support of fixture and soil stack bowl inlet fitting relative to the framing and each other.

3,435,468
FOLDING SOFA BED STRUCTURE
Paul W. Eakins, St. Louis, Mo., assignor to Foster Bros. Manufacturing Co., St. Louis, Mo., a corporation of Delaware
Filed Aug. 24, 1967, Ser. No. 663,139
Int. Cl. A47c 17/04, 17/00
U.S. Cl. 5—13 8 Claims



Sofa bed framing construction including a bed foot section which is reversed to form a sofa seat support, there being a hand grip element near the front edge of the sofa seat support when the construction is in sofa forming position by means of which the bed foot section may be unfolded without requiring the user to bend over the seat and grasp the later adjacent to the sofa back. Preferably the construction includes means locking the foot section in inverted seat support position by downward pressure applied to the hand grip element near the front of the sofa seat support and released by upward pull on the hand grip element applied at the front of the sofa seat support.

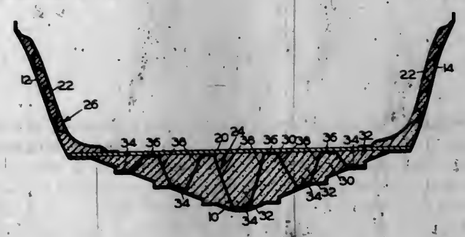
3,435,469
COLLAPSIBLE BEDSPREAD HOLDER
Betty W. Fricke, 585 Newark Ave., Apt. 5, 4H, Elizabeth, N.J. 07208
Filed May 16, 1967, Ser. No. 638,947
Int. Cl. A47c 21/00; F16m 11/00
U.S. Cl. 5—320 3 Claims



This invention relates to bedspread holders disposed at the foot of a footboard-less bed having legs, a mattress, and springs. More specifically, it deals with a flat anchor member which is at least almost completely inserted between the mattress and the springs, and which has its forward portion hingeably connected to a flat bedspread-holding member, the front portion of which is hingeably connected to a leg member, the height of which is adequate to maintain the holding member in substantially a horizontal position.

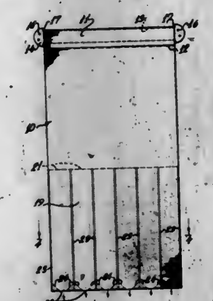
The forward portion of the anchoring member is preferably bent upwardly, but not high enough to extend beyond the top of the mattress. Also, the sides of the holding member may telescopically slide into the front and rear members so as to make the holding member extensible laterally. A connecting rod member is also provided, having a T on each end, said T's being designed to fit into hollow front and rear members and thus enable joining of two or more holding members in the case of multiple bed arrangements.

3,435,470
FOAM-FILLED BOAT HULL
Leo M. Krenzler, 311 E. Alexander, Tacoma, Wash. 98421
Filed Aug. 7, 1967, Ser. No. 658,937
Int. Cl. B63b 3/06, 5/24; B32b 5/20
U.S. Cl. 9—6 2 Claims



A boat hull comprises an outer shell of structural material, a web of reversely contoured reinforcing material seated inside the outer shell to provide a plurality of closed and open cavities, and a quantity of foamed plastic filling the cavities.

3,435,471
WATER SPORT DEVICE
Ralph B. Drennen, Jr., 2408 Regent Lane, Birmingham, Ala. 35226
Filed Mar. 10, 1967, Ser. No. 622,207
Int. Cl. A63c 15/00, 5/00; B60p 3/32
U.S. Cl. 9—310 5 Claims

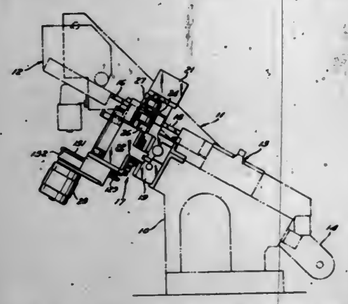


A sheet of flexible material of a size to support a person on a water surface over which the sheet is pulled. Pockets filled with water or air by the forward movement of the device provide stability and rigidity.

3,435,472
POINTER MECHANISM
Allan D. Haines, Tiffin, Ohio, assignor to The National Machinery Company, Tiffin, Ohio, a corporation of Ohio
Filed Jan. 28, 1966, Ser. No. 523,744
Int. Cl. B21k 1/44; 27/00; B23g 9/00
U.S. Cl. 10—21 10 Claims

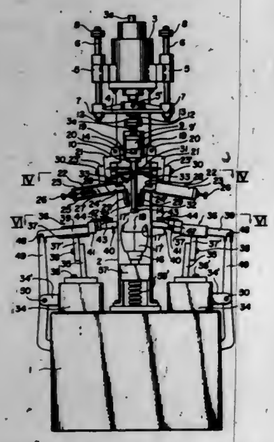
A bolt pointer is disclosed which includes an indexing dial provided with eight blank receiving recesses in its periphery. Power loading means are provided to position

blanks in the dial for transport thereby to a pointing station. At the pointing station the blank is gripped and a rotating cutter is moved axially against the end of the blank. The cutter feed is arranged so that a constant amount of material is cut from the blank during each



revolution of the cutter. After pointing, the blank is carried to a discharge location where it leaves the indexing dial. The drive for the various components is arranged so that the cutting is performed during a period at least equal to one-half the time of a cycle so that a high cyclic rate can be achieved without exceeding the cutter capacity.

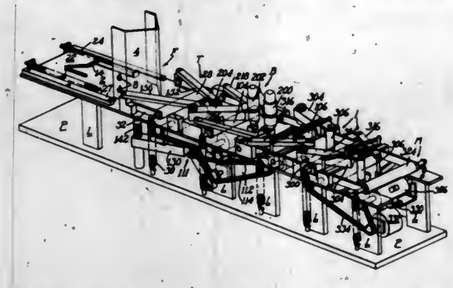
3,435,473
LASTING DEVICE FOR THE SHANK OF SHOES
Takero Ogawa, 12 Meguro Mansion, No. 2156, 4-chome, Kamimeguro, Meguro-ku, Tokyo, Japan
Filed Sept. 25, 1967, Ser. No. 670,320
Int. Cl. A43d *21/00, 23/00*
U.S. Cl. 12—8.5 **6 Claims**



A lasting device for the shank of shoes which enables the lasting operations to be automatically carried out under the condition wherein the leather of the shank part of a shoe can be pulled tightly so that the lasting may be securely gripped and completely and easily done.

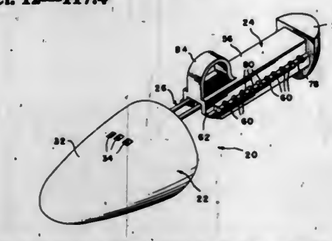
3,435,474
AUTOMATIC EDGE TRIMMERS
Herman A. Imhof, Hamilton, Mass., assignor to USM Corporation, Flemington, N.J., a corporation of New Jersey
Filed Apr. 19, 1967, Ser. No. 632,046
Int. Cl. A43d *89/00, 63/00, 95/00*
U.S. Cl. 12—89 **8 Claims**

A through feed finishing machine for unattached shoe soles having biased rotatable tools mounted in pairs for operation on opposite sides of the soles. Each rotating tool is powered by an individual motor and each tool is provided with a pressure equalizing means mounted opposite the tool to assist in keeping the sole moving along a path through the machine during the operation re-



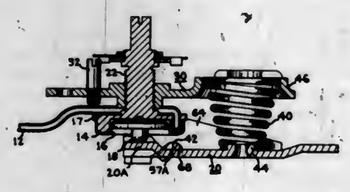
sulting in a uniform cut. The sole is urged at a uniform speed through the machine by knurled drive rolls and holddown rolls acting in pairs, placed along the path of travel at positions closer together than the shortest sole to be finished.

3,435,475
SHOE TREE
Max Bisk, 1100 Elbridge St., Philadelphia, Pa. 19111
Filed Feb. 28, 1968, Ser. No. 708,978
Int. Cl. A43d *3/14*
U.S. Cl. 12—117.4 **10 Claims**



In a shoe tree, a hinge integrally formed in the toe member and a heel pivotably secured to said toe member. The hinge comprises a plurality of pairs of posts which depend from the toe member. The posts are aligned transversely along the toe member with each of the posts of each pair being spaced from each other and facing each other. One of said posts of each of said pair having a laterally extending projection which faces the opposite facing post. The heel member is secured to the toe member between the posts by the projections.

3,435,476
LOW FRICTION HINGE CONNECTION
Robert E. Emmons, Goshen, Ind., assignor to Penn Controls, Inc., Oak Brook, Ill.
Filed Oct. 19, 1967, Ser. No. 676,455
Int. Cl. F16h *21/44, 25/18*
U.S. Cl. 74—103 **3 Claims**



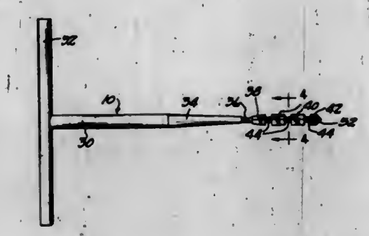
A hinge connection comprising two members formed of sheet metal which are removably interlocked one with the other at the hinge point, the interlocking and pivotal connection being accomplished by two tabs formed on a first one of the members and coined to provide a radius bearing surface for mating engagement with a slightly larger radius blanked on the second member, the tabs being oppositely disposed one from the other and providing rolling pivoting movement with a fixed position and ready assembly and disassembly.

3,435,477
DENTAL APPLIANCE
Paul H. Moyer, 1112 Berwyn Road, Orlando, Fla. 32806
Filed June 13, 1966, Ser. No. 556,973
Int. Cl. A47l *25/00, 21/02;* **A61h** *7/00*
U.S. Cl. 15—22 **10 Claims**



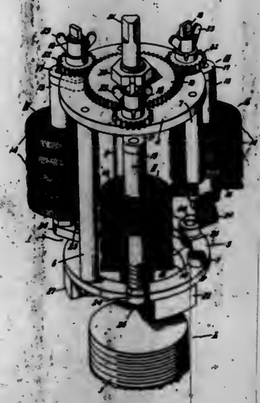
Apparatus for treating the teeth in which a handle or casing is adapted to accommodate a plurality of head structures each of which has a dental treatment device. In one of the head structures the dental treatment device is adapted to oscillate to brush the teeth and in another head structure the dental treatment device is adapted to rotate to treat the gums.

3,435,478
CONDUIT CLEANING TOOL
Karl O. Moser, R.R. 1, Box 292, Coloma, Mich. 49038
Filed Mar. 23, 1967, Ser. No. 625,369
Int. Cl. F28g *3/10;* **B08b** *9/00;* **B23h** *51/68*
U.S. Cl. 15—104.1 **7 Claims**



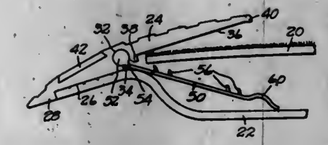
A conduit cleaning tool reciprocable and rotatable in a conduit and having a shank provided with longitudinally spaced reduced neck portions separating a plurality of configured parts each having a plurality of circumferentially spaced longitudinally extending ridges, longitudinal grooves between the ridges and abrupt trailing shoulders.

3,435,479
CLEANING DEVICE
Edwin G. Gibson, Sr., Grapevine, Tex., assignor to General Electric Company, a corporation of New York
Filed Nov. 21, 1967, Ser. No. 684,680
Int. Cl. F28g *3/04;* **B08b** *1/04;* **A46b** *13/02*
U.S. Cl. 15—104.04 **8 Claims**



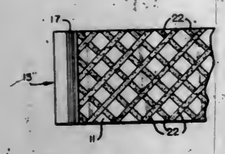
A cleaning device including first and second supporting members maintained in a fixed spaced relationship along a common axis. A plurality of cleaning members are each connected to a lever arm. A shaft rigidly secured to each lever arm extends through a corresponding aperture provided in the first supporting member. The second supporting member is provided with an opening so that an article to be cleaned may be placed in the region surrounded by the cleaning members. A single gear is movably connected to the first supporting member, and pinion gears are connected to the portion of each shaft extending through the first supporting member and are of a diameter large enough to engage the single gear. A movement of one shaft and pinion gear and the associated cleaning member will result in an identical and simultaneous adjustment of each of the other cleaning members. A wing nut is connected to each pinion gear for preventing further movement once an adjustment has been made, and the first supporting member is provided with an extension which may be connected to motive power means so that the entire device may be rotated about an article to be cleaned.

3,435,480
FLOOR MAT
Fred A. Mann, Jr., 504 N. Nottawa St., Sturgis, Mich. 49091
Filed Sept. 28, 1966, Ser. No. 582,747
Int. Cl. B43l *21/02;* **A47k** *7/02*
U.S. Cl. 15—215 **8 Claims**



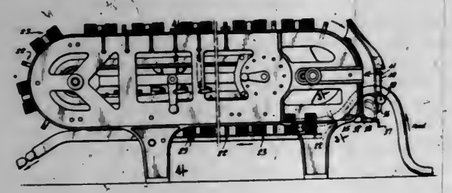
Combined floor mat and base sheet, said sheet having at opposite ends releasable clamp members, said clamp members each having one portion secured to said base and another portion pivotally secured under the first portion.

3,435,481
PROTECTIVE FLOOR COVERING
Milton Kessler, 6690 Harrington, Youngstown, Ohio 44512
Filed Dec. 6, 1966, Ser. No. 599,601
Int. Cl. A47l *23/22*
U.S. Cl. 15—215 1 Claim



A floor mat having a nonslip flexible plastic base with flaps on the respective ends thereof forming flat pockets to receive the ends of a removable washable mat element which is replaceable, with means for holding the removable element securely in place when in use.

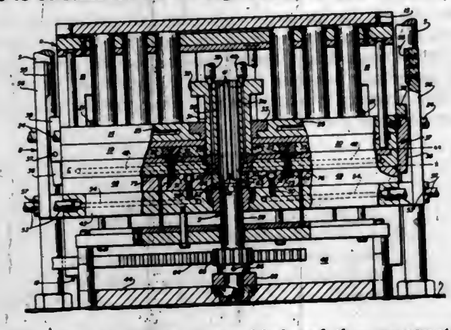
3,435,482
MACHINE AND PROCESS OF LINKING STUFFED CASINGS
Francis J. Ziolko, Somerville, N.J., assignor to Johnson & Johnson, a corporation of New Jersey
Filed July 2, 1965, Ser. No. 469,243
Int. Cl. A22c *11/00, 11/02*
U.S. Cl. 17—45 4 Claims



Apparatus is provided for linking a relatively long length of stuffed casing to form individual sausages of uniform length. The filled casing is advanced along a predetermined path by a conveyor. A constant tension device that precedes the conveyor resiliently supports the casing. A plurality of sausage pinching and sausage twisting sets mounted alternately and equidistantly on the conveyor constrict the casing at intervals without interrupting its movement, thereby dividing the stuffed casing into individual links of uniform predetermined length. Each individual link is rotated axially as it advances thereby forming a twist in the casing section between it and the next succeeding link.

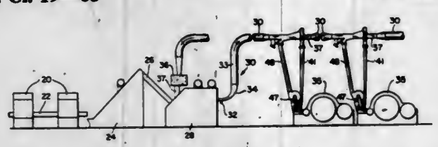
3,435,483
MOLD STRUCTURE FOR USE WITH DOUBLE INJECTION MOLDING MACHINES
Edward A. Heiner, Rocky Hill, and John D. Flannery, Granby, Conn., assignors to Litton Business Systems, Inc., a corporation of New York
Filed Jan. 23, 1967, Ser. No. 611,135
Int. Cl. B29g *3/00*
U.S. Cl. 18—42 4 Claims

A double injection mold structure for simultaneously molding a plurality of different keytops or buttons of the type used on business machines or the like, the mold structure characterized by a split drive shaft which permits quick and convenient removal and replacement of the core pin plates, cavity plates, and one-piece transfer plate of the mold structure without requiring the mold structure to be removed from the press section of the molding



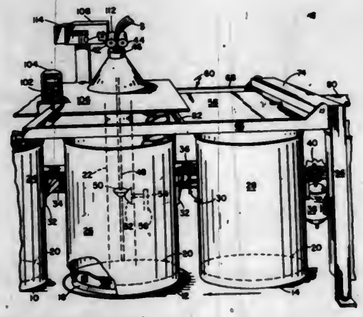
machine, disassembled, reassembled and then remounted in said machine.

3,435,484
FIBER DISTRIBUTING SYSTEM
Howard H. Langdon, Fairport, N.Y., assignor to Curlator Corporation, Rochester, N.Y., a corporation of New York
Filed Jan. 18, 1966, Ser. No. 521,267
Int. Cl. D01b *3/10, 3/00;* D01g *15/40*
U.S. Cl. 19—65 7 Claims



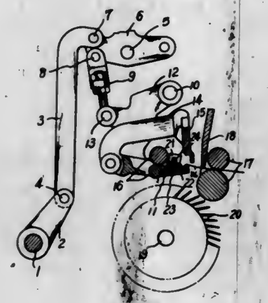
A fiber feeding system is disclosed comprising a trunk line which extends from an opener-cleaner over one row of carding machines and returns over another row of cards. A fan at each card pulls fibers and air from the trunk line through a by-pass to a condenser and returns the air to the trunk line adjacent to and upstream from the point of removal of the air and fibers. Each condenser rotates in a trumpet section of the associated by-pass to compact fibers between it and the confronting wall of the trumpet section.

3,435,485
TEXTILE SLIVER DOFFING MECHANISM
Erhard Edwin Stiepel, Clemson, S.C., assignor to Maremont Corporation, Chicago, Ill., a corporation of Illinois
Filed Feb. 7, 1967, Ser. No. 614,504
Int. Cl. D04h *11/00*
U.S. Cl. 19—159 12 Claims



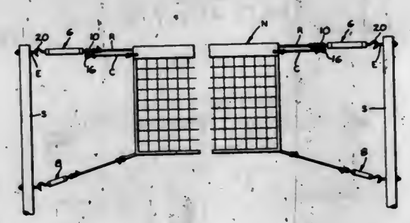
The application discloses, in combination with textile sliver handling apparatus having sliver quantity sensing means, sliver delivery means, sliver receiving means at said sliver delivery means for receiving sliver delivered by said sliver delivery means, and sliver receiving means changing means, responsive to the sliver quantity sensing means, for replacing a full silver receiving means at the sliver delivery means with an empty sliver receiving means, the improvement including accumulator means movable from inoperative into operative position spaced away from said sliver delivery means and interposed between the sliver delivery means and the sliver receiving means during operation of the sliver receiving means changing means, and accumulator operating means responsive to the sliver quantity sensing means.

3,435,486
COMBING APPARATUS HAVING PROVISION FOR COMBING SHORT FIBERS WITHOUT WASTE
Kiyoshi Itoh, Nagoya, Japan, assignor to Tokai Loom Works, Ltd., Doguchi-machi, Niwa-gun, Aichi Prefecture, Japan, a Japanese body corporate
Filed May 11, 1966, Ser. No. 549,229
Int. Cl. D01g *19/16*
U.S. Cl. 19—215 2 Claims



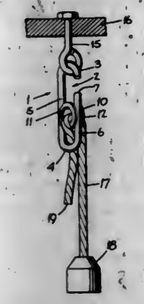
A combing apparatus in which feed and detaching rolls act as nippers nip a web of fibers. Between the rolls a knife and a presser plate effect nipping so that a comb working with the detaching rolls and a combing cylinder under the presser plate comb out leading and trailing hooks of short fibers without removing these short fibers from the web as waste.

3,435,487
ATHLETIC NET STABILIZATION
Gene L. Mazzei, Santa Cruz, and Wilford Lewis Pokriots, San Jose, Calif., assignors to Mike Console, San Jose, Calif.
Filed Dec. 6, 1966, Ser. No. 600,008
Int. Cl. F16g *11/03*
U.S. Cl. 24—73 2 Claims



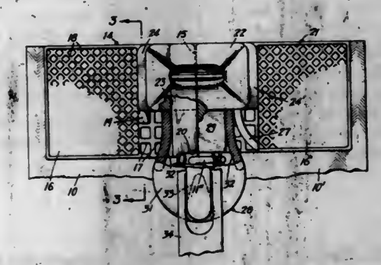
A stabilizer for releasable attachment to each end of a net for volleyball or the like including a resilient connector arranged for attachment at one end to a rigid standard and for double attachment at its opposite end to the net suspension rope and to the net itself for tensioning the same.

3,435,488
CLAMP ASSEMBLY
John B. Beckman, Northvale, and Ralph E. Atkins, Saddle Brook, N.J., assignors to F. P. T. Hycaflex, Inc., Rochelle Park, N.J., a corporation of New Jersey
Filed June 29, 1967, Ser. No. 649,970
Int. Cl. F16g *11/04*
U.S. Cl. 24—126 6 Claims



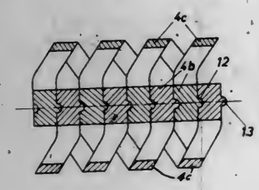
The present invention comprises an improved clamp assembly for rope, cables, etc. which comprises a clamp member having a pair of opposed bearing legs or guide surfaces, a roller having an opening therein is adapted to move between said bearing legs and a lower clamping surface. Rope is inserted into the opening in the roller and the end of the rope is wound beneath the roller and over the clamping surface so that when the roller is forced downwardly it will cooperate with the lower clamping surface to clamp the rope tightly therebetween.

3,435,489
BOX AND PIN SEPARATOR FOR FASTENER STRINGERS
Louis H. Morin, Bronx, N.Y., assignor to Coats & Clark Inc., New York, N.Y., a corporation of Delaware
Filed Dec. 6, 1966, Ser. No. 599,422
Int. Cl. A44b *19/24*
U.S. Cl. 24—205.11 1 Claim



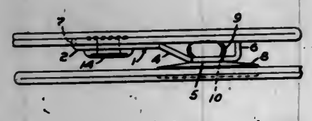
A box and pin separator for separable fastener stringers, particularly wherein the box part employs a fully open channel for reception of the pin part and, more particularly, wherein a stop lug is provided on the stringer to which the pin part is attached for engagement with the box part in checking and positioning the pin part in the box part.

3,435,490
HELICAL COIL TYPE SLIDE FASTENER
Hugo Wilcken, Curau, near Lubeck, Germany
Filed Jan. 17, 1966, Ser. No. 520,999
Claims priority, application Germany, Jan. 19, 1965, W 38,372
Int. Cl. A44b *19/10*
U.S. Cl. 24—205.13 4 Claims



In a convoluted slide-fastener member, a thermoplastic tube of eccentric cross-section is continuously extruded and helically slitted to form a coil, with subsequent spreading-apart of the turns thereof. The heavy portion of each turn is then reshaped and thereby provided with coupling formations adapted to interlink with corresponding formations on a complementary coil.

3,435,491
HOOK AND SNAP GARMENT FASTENER
Stuart T. Shegrs, Belmont, Mass., assignor, by mesne assignments, to United-Carr Incorporated, Boston, Mass., a corporation of Delaware
Filed May 9, 1966, Ser. No. 548,676
Int. Cl. A44b *17/00*
U.S. Cl. 24—224 2 Claims



A fastener combination for releasably securing the overlapping folds of a garment. The male component of the combination which includes an outwardly projecting stud is attached to one of the folds and the female component of the combination is attached to the confronting face of the other fold. The female component includes a keeper having a generally key-hole shaped slot and the end of the keeper adjacent the narrower portion of the slot is severed to provide a lateral spring action in the keeper whereby the stud may be passed through the wider portion of the slot and snapped laterally into the narrower portion thereof to secure the folds and the keeper may be snapped away from the stud in a direction generally parallel to the axis of the stud to disengage the components and release the folds.

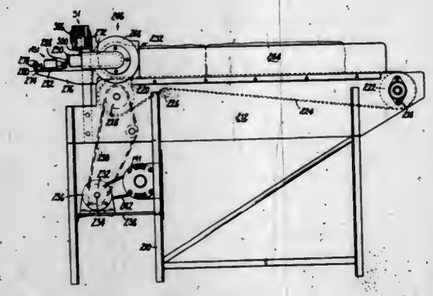
3,435,492
RETAINING LATCH
Henry C. Banas, Costa Mesa, Calif., assignor, by mesne assignments, to McDonnell Douglas Corporation, Santa Monica, Calif., a corporation of Maryland
Filed Aug. 25, 1966, Ser. No. 575,059
Int. Cl. F16b *9/02*; B65g *11/10*; B64d *25/00*
U.S. Cl. 24—230 1 Claim

A latch assembly for coupling the end of a flexible evacuation slide to an aircraft floor. A pair of spaced latch housings anchored to the floor, which cooperate to retain a latchable member, attached to the end of the slide, therebetween, each of the housings including a



spring biased, pivotal arm which is movable between the latched position and unlatched position.

3,435,493
MANUFACTURE OF POTTERY
Frank William Meadows and Arthur Dowley, Stoke-on-Trent, England, assignors to Service (Engineering) Limited, Stoke-on-Trent, Staffordshire, England, a British company
Filed Feb. 16, 1966, Ser. No. 527,924
Claims priority, application Great Britain, Feb. 27, 1965, 8,536/65
Int. Cl. B28b *3/26*
U.S. Cl. 25—22 12 Claims



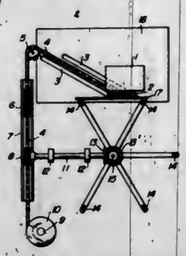
A machine for feeding uniformly metered quantities of clay including an extruder into which clay is fed from a conveyor, to be extruded therefrom at an outlet. A device is arranged at the outlet for cutting off successive metered quantities of clay fed therefrom, and operation of the extruder and conveyor is discontinued when a metered quantity of clay has been extruded.

3,435,494
CORPSE-PRESERVING COFFINS
Julien Pothier Bernard, Grande Rue, Mesves-sur-Loire, Nievre, France
Filed July 12, 1965, Ser. No. 471,099
Claims priority, application France, Oct. 9, 1964, 990,871
Int. Cl. A61g *17/00*
U.S. Cl. 27—11 2 Claims



Corpse-preserving coffin having therein a cartridge containing a substance adapted to give off a gas, a mechanism operable from outside the coffin for opening the cartridge, a gas-escape valve, preferably provided with a pre-settable gate, and a filter interposed between the valve and perforations in a wall of the coffin. All parts except an actuating member for the opening mechanism being disposed inside the coffin, the latter can be transported, interred, placed in a vault or the like without specific arrangements, like an ordinary coffin.

3,435,495
APPARATUS FOR LACING YARN MASSES BY STRING
Shigeru Hayashi, Fuji-shi, Japan, assignor to Asahi Kasei Kogyo Kabushiki Kaisha, Osaka, Japan, a corporation of Japan
Filed Dec. 28, 1967, Ser. No. 694,292
Claims priority, application Japan, Dec. 30, 1966, 41/85,906
Int. Cl. B65h *55/00*
U.S. Cl. 28—21 2 Claims

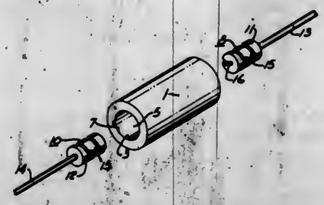


A device for operatively interconnecting an apparatus for lacing a yarn mass or skein by a string with the skein reel of a reeling machine associated therewith so that said apparatus and said skein reel may be operated mechanically continously in timed relation in such a manner that, when lacing of the yarn mass at one place has been completed, the lacing apparatus is lifted and the skein reel is rotated mechanically automatically to bring the portion of the yarn mass to be laced next into the position in which the lacing operation takes place, whereby the labor heretofore required in such operations can be eliminated completely.

ERRATUM

For Class 28—72 see:
Patent No. 3,435,497

3,435,496
METHOD OF MANUFACTURING CYLINDRICAL CERAMIC CAPACITORS
Robert John Cowles, Ridgeway, Pa., assignor to Quality Components, Incorporated, St. Marys, Pa., a corporation of Pennsylvania
Original application Oct. 11, 1963, Ser. No. 315,602, now Patent No. 3,256,471, dated June 14, 1966. Divided and this application Jan. 4, 1966, Ser. No. 518,715
Int. Cl. H01g *13/00*
U.S. Cl. 29—25.42 1 Claim



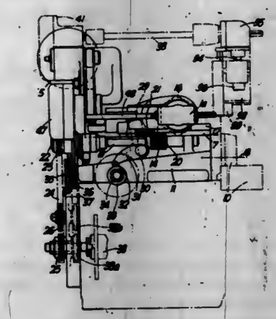
The method of manufacturing cylindrical ceramic capacitors wherein a mixture of ceramic powder granules with a temporary binder are molded to form a cylindrical ceramic body having axial aligned recesses in each end thereof. The ceramic molded body is then baked to vitrify the same. Electrodes are formed on the surfaces of the recesses by coating each of the recesses with a silver paste and then the ceramic molded body with the molded electrodes is again baked to fuse the coated electrodes to the ceramic molded body. A special solid cylindrical terminal head is formed having a spiral groove along the terminal head perimetral surface by upsetting, under compression, one end of a terminal wire. The terminal head is cemented to the electrode in each of the recesses by applying a thermosetting conductive cement to the terminal head and curing the cement in situ by baking the assembled cylindrical ceramic capacitors to form a bond to each electrode and its respective terminal head.

3,435,497
STRAND TREATMENT
Robert Kenneth Stanley, Media, Pa., assignor to Techniservice Corporation, Lester, Pa., a corporation of Pennsylvania
Filed Sept. 25, 1967, Ser. No. 670,147
Int. Cl. D04h *17/00*; D05c *15/00*; D02g *3/00*
U.S. Cl. 28—72 11 Claims



A process of stuffer crimping textile strands is disclosed wherein back pressure is applied to an accumulation of strand by fluid contact therewith, as by injecting gas under pressure in the portion of a stuffing chamber downstream from the strand accumulation. Optionally a solid weight may be added, resting on the strand accumulation.

3,435,498
MULTIPLE OPERATION MACHINE TOOLS
Kenneth Martin Lewry, Hove, Sussex, England, assignor to Kearney & Trecker-C.V.A. Limited, Hove, Sussex, England, a British company
Filed Nov. 18, 1966, Ser. No. 595,419
Claims priority, application Great Britain, Nov. 19, 1965, 49,329/65; Dec. 7, 1965, 51,880/65
Int. Cl. B23p *23/04*
U.S. Cl. 29—33 8 Claims



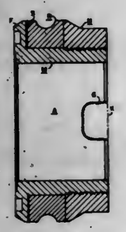
A multiple operation machine tool comprises means for carrying out operations on work whilst it is in a first

work holder, and means for transferring the work from the first work holder to a second work holder which is then moved, with the work, to another location. A turret for a number of tools is provided at the other location, and an indexing mechanism is provided for imparting selective rotation to the turret so that the tools may selectively operate on the work whilst it is in the second work holder at said other location.

3,435,499
ROLL ASSEMBLY

Selwyn R. Rackoff and Martin J. Dempsey, Bethel Park, Pa., assignors to American Shear Knife Co., West Homestead, Pa., a corporation of Pennsylvania

Filed Dec. 22, 1967, Ser. No. 692,785
Int. Cl. B21k *1/02*; B21b *31/08*; B23p *11/02*
U.S. Cl. 29—125 8 Claims



A roll assembly including a tungsten-carbide roll insert on a mandrel having a flange engaged by a lateral surface of the roll. The engaging surface of the insert is roughened by adhered particles of tungsten carbide and the roller is compressed against the flange so that the particles bite into the flange. To reduce tensile stress on the tungsten-carbide insert the inside diameter of the insert and the outside diameter of the mandrel are made equal and the insert is mounted by cooling the mandrel and slipping the insert over the mandrel.

3,435,500
PRESSURE ROLL AND METHOD OF MANUFACTURING

Gilbert A. Aser, Rochester, Robert H. Figler, Webster, Arjan T. Manghirmalani, Pittsford, and Thomas P. Redding, Penfield, N.Y., assignors to Xerox Corporation, Rochester, N.Y., a corporation of New York

Filed Oct. 14, 1964, Ser. No. 403,887
Int. Cl. B21b *31/08*; B60b *7/04*
U.S. Cl. 29—130 13 Claims

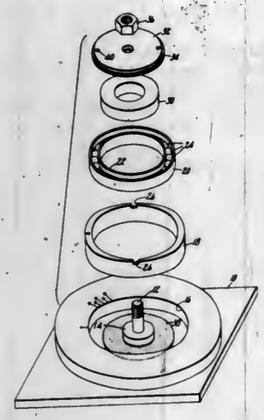


A pressure roller for use in the heat pressure fixing of thermoplastic resin material onto the support material. The roller is constructed of a cylindrical metallic core covered with a cylinder of silicone rubber. Ring seals of a flurosilicone rubber are positioned on the core in contact with the ends of the cylinder. The ring seals and cylinder are covered with a sleeve of Teflon FEP.

3,435,501
METHOD AND MEANS FOR MAKING ELLIPTOIDS

Bruce F. Paul, Ipswich, Mass., assignor to USM Corporation, Flemington, N.J., a corporation of New Jersey

Filed June 22, 1966, Ser. No. 559,624
Int. Cl. B21d *53/12*; B21k *1/04*
U.S. Cl. 29—148.4 12 Claims

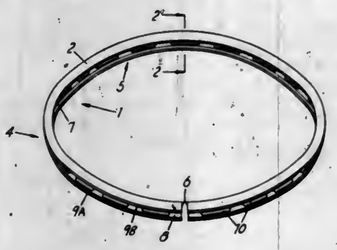


This disclosure pertains to a method and a fixture for producing elliptoids having a preselected dimension along an axis. The invention has particular application, for instance, to precision manufacture of cam-type wave generators requiring predetermined axes and including noncircular bearing rings. Upon radical deflection of originally concentric elements of the desired degree, hardenable material is molded to impose and retain the desired shape in a combination wave generator and bearing assembly, thus eliminating the additive effects of tolerances in the separate parts.

3,435,502
PISTON RING AND METHOD OF MANUFACTURE THEREOF

Harry B. Thompson and William E. Morgan, Hastings, Mich., assignors to Hastings Manufacturing Company, Hastings, Mich.

Filed May 26, 1966, Ser. No. 553,093
Int. Cl. B63p *15/08*
U.S. Cl. 29—156.63 3 Claims



A group of cast iron piston ring blanks are clamped on a mandrel in end to end relation with the gaps in the rings closed. The mandrel is then rotated and axially spaced grooves are cut in the outer faces of the rings by a tool having multiple cutting edges. The outer faces of the rings are then coated with molybdenum to fill the grooves. The molybdenum is ground away to size the outer faces and finish the molybdenum in the grooves.

A tool having multiple cutting projections then forms an external annular groove centrally in each blank between the spaced rings of molybdenum, and bevels each axial edge of the blanks. Radial grooves are then cut through the blanks from the bottoms of the central annular grooves, and the individual rings are removed from the mandrel.

3,435,503
METHOD OF CONSTRUCTING A DEVICE FOR SEPARATING DUST FROM A GASEOUS FLUID

Richard S. Farr, Los Angeles, Calif., assignor to Farr Company, El Segundo, Calif., a corporation of California

Original application Feb. 28, 1964, Ser. No. 348,158, now Patent No. 3,369,349, dated Feb. 20, 1968. Divided and this application June 26, 1967, Ser. No. 658,972
Int. Cl. B21d *39/00*; B23p *15/12, 19/04*
U.S. Cl. 29—157 4 Claims

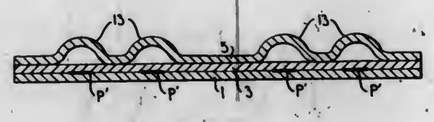


A method for constructing an inertial type filter for separating dust from gaseous fluids such as air wherein a plurality of identical blades or vanes of generally arcuate cross-section are stacked in nesting relationship but with tabs formed on each blade to engage and separate it from the next adjacent blade to form the gas passageway between blades, the stack of blades is compressed to produce intimate contact and uniform spacing between blades and a weld is applied along the tabs to permanently assemble the blades together into a panel of the desired size.

3,435,504
METHOD OF MAKING TUBE-IN-SHEET METAL PRODUCTS

Edwin A. Miller, Attleboro, Mass., assignor to Texas Instruments Incorporated, Dallas, Tex., a corporation of Delaware

Filed Dec. 15, 1965, Ser. No. 513,993
Int. Cl. B21d *53/00*; B23p *15/26*
U.S. Cl. 29—157.3 2 Claims

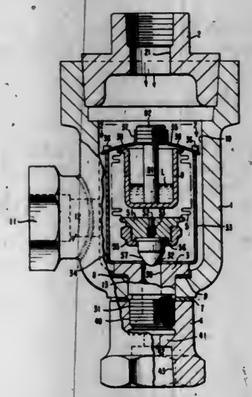


Three sheets of malleable metal such as steel are provided, on one of which is located a foreshortened stop-off pattern of a slurry containing iron oxide particles. The three sheets are stacked and solid-phase green-bonded by rolling under pressure. This has the effect, between the two sheets which sandwich the stop-off pattern, of extending the pattern so that it takes the desired shape. The resulting composite is placed between dies, either or both of which are recessed according to the same or another desired pattern or patterns. Pressure inflation is then performed in the areas under the die pattern or patterns. The pressure-inflated, green-bonded composite is then sintered to improve the nonseparated green bonds. Then the composite is heated in a reducing atmosphere which is absorbed and diffused through the plates and reaches the iron oxide pattern, thereby reducing the oxide to iron with release of steam, the pressure of which inflates the plates in the stop-off pattern.

3,435,505
METHOD OF STEAM TRAP BELLOWS MANUFACTURE

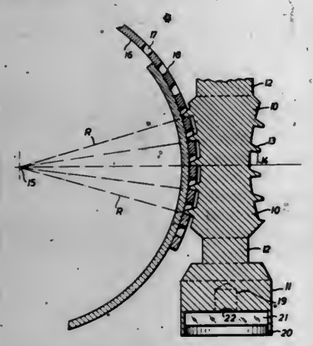
Elmer Sylvester Monroe, Jr., Newark, Del., assignor to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware

Original application Sept. 14, 1964, Ser. No. 396,310, now Patent No. 3,288,367, dated Nov. 29, 1966. Divided and this application May 31, 1967, Ser. No. 642,569
Int. Cl. F16t *1/14*
U.S. Cl. 29—158 2 Claims



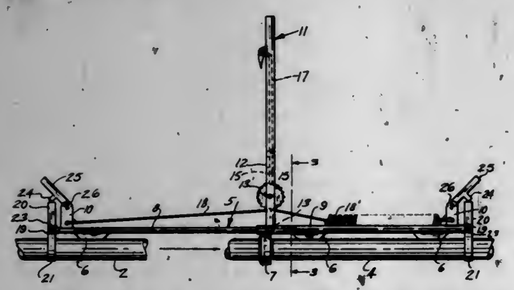
A method of fabricating thermostatic bellows units for operating steam trap devices from a plurality of resilient bellows units having different free lengths and different spring rates, the method comprising applying temporary force to the end of each bellows unit to elastically deform and compress said end from its free length the same predetermined amount so that a reaction force is developed in each unit urging the end thereof to return to extended portions, and while maintaining the end thereof in compressed position and deformed said predetermined amount, completely filling the interior of the bellows unit with a deaerated liquid, then sealing the bellows unit so that the end of the unit will be maintained in its retracted position by action of ambient pressure external of the bellows unit, then releasing said temporary force, the predetermined amount of deformation selected relative to the ratio of effective cross-sectional area of the interior of the bellows unit to the cross-sectional area of the valve seat area orifice so that the temperature excursion necessary to actuate the trap remains substantially constant over a wide range of operating conditions from very low temperatures and pressures to very high temperatures and pressures, and adjustably installing the bellows unit in a trap device so that with the bellows unit in its retracted position the valve element is spaced from its valve seat element a distance substantially equal to but not greater than the predetermined amount the bellows unit was deformed from its free lengths.

3,435,506
METHOD OF FORMING A SLOT FOR A SCREWDRIVER
Ernst Schmidt, Rheinallee 7, Remagen-Kripp, Germany
Filed Mar. 17, 1966, Ser. No. 535,180
Claims priority, application Germany, Mar. 20, 1965, Sch 36,737
Int. Cl. B21h *5/00*; B21k *1/30*; B23p *15/14*; B29d *15/00*
U.S. Cl. 29—159.2 2 Claims



An annular rim is formed at one end of a worm gear by cold deformation so that a screwdriver inserted into a slot within the rim cannot slip.

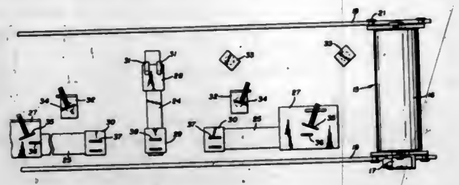
3,435,507
WATER PIPE COUPLER
Charles F. Pronovost, 6429 195th Ave. E., Sumner, Wash. 98390
Filed Jan. 24, 1967, Ser. No. 611,374
Int. Cl. B23p *19/02*
U.S. Cl. 29—237 5 Claims



Apparatus to align and pull pipe sections together is disclosed. A two part telescoping frame with a pipe gripping jaw on each end is provided. A lever with a ratchet held drum is mounted on one frame part. One end of a cable is secured to the second frame part and extends around the drum on the lever. A pull on the lever will pull the cable and urge the telecoping frame parts together. Reverse movement of the lever allows more cable to wind around the drum by spring action. The lever can be pulled again, if needed, to further telescope the frame parts together.

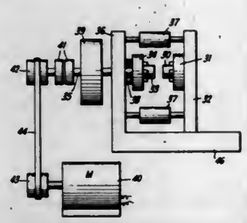
3,435,508
METHOD OF FABRICATING TRUSSES
Arthur Carol Sanford, Palm Beach, Fla. (P.O. Box 1177, Pompano Beach, Fla. 33061)
Filed Mar. 23, 1966, Ser. No. 536,774
Int. Cl. B23p *11/00*
U.S. Cl. 29—432 7 Claims

The method of fabricating the trusses using a single roller press which in one pass fully embeds the teeth of the bottom plates placed under the joints of the assembled truss components and fully embeds the teeth of the top plates already embedded in certain components over the joints, said top plate teeth having been embedded as bot-



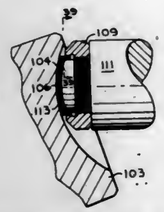
tom plate teeth in certain non-assembled components during a previous pass for fully embedding the top and bottom plate teeth at all joints in an assembled truss.

3,435,509
FRICTION WELDING
Milton Bernard Hollander, Stamford, Conn., assignor, by mesne assignments, to Caterpillar Tractor Co., Peoria, Ill., a corporation of California
Filed July 10, 1963, Ser. No. 294,106
Int. Cl. B23k *27/00*, *31/02*, *35/24*
U.S. Cl. 29—470.3 3 Claims



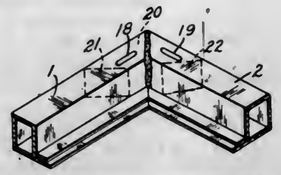
The process involves friction welding zirconium and zirconium alloy workpieces and stopping the relative rotation in less than ten seconds.

3,435,510
BONDING
Theodore L. Oberle, Washington, Marion R. Calton, East Peoria, Calvin D. Loyd, Peoria, and Claude F. White, Creve Coeur, Ill., assignors to Caterpillar Tractor Co., Peoria, Ill., a corporation of California
Application Oct. 27, 1964, Ser. No. 407,955, now Patent No. 3,273,233, dated Sept. 20, 1966, which is a continuation-in-part of application Ser. No. 212,178, July 9, 1962, which in turn is a continuation-in-part of application Ser. No. 146,710, Oct. 23, 1961. Divided and this application June 30, 1966, Ser. No. 563,632
Int. Cl. B23k *31/02*
U.S. Cl. 29—470.3 1 Claim



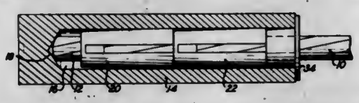
A method of friction welding wherein tabs are formed on one of the workpieces to connect same to an inertial mass and to permit the disconnecting of the mass from the workpiece by shearing off the tabs in response to a predetermined torque.

3,435,511
METHOD OF MAKING X-RAY CASSETTE
Bernard William Cooper, Syosset, and Jerome Rubler, Roslyn Heights, N.Y., assignors to Spectronics Corporation, Westbury, N.Y., a corporation of New York
Filed Jan. 11, 1966, Ser. No. 519,852
Int. Cl. B23k *31/02*
U.S. Cl. 29—476 1 Claim



A method of reinforcing cassettes used for holding X-ray films by placing reinforcing inserts into the hollow, box-like mitered corners. Thereafter, the insert is welded to the box-like elements and the mitered fitting is welded.

3,435,512
CABLE CONNECTORS AND RELATED METHODS AND STRUCTURES
Robert MacRobbie, Brooklyn, N.Y., assignor to Richmond Screw Anchor Co., Inc., Brooklyn, N.Y.
Original application Aug. 2, 1963, Ser. No. 299,608, now Patent No. 3,262,724, dated July 26, 1966. Divided and this application Feb. 25, 1966, Ser. No. 530,169
Int. Cl. B21d *39/00*; H01r *43/00*
U.S. Cl. 29—517 6 Claims



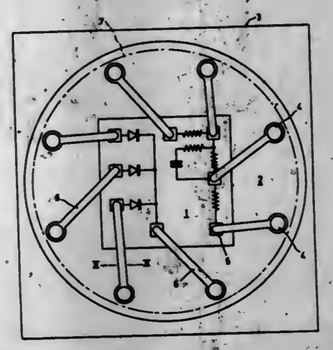
A method comprising forming a metal insert in the form of a tube and forming teeth on the interior of the tube, there being further formed in the tube diametrally opposed axially disposed slots which divide the tube into a base ring with axially extending legs. The tube is then hardened so that the legs flare outwardly and the tube is then forced into a bore in a sleeve, a cable being inserted into the tube and the sleeves being deformed around the tube to compress the legs together into gripping relationship with the cable to form a tapered wedge-like shape for the tube, to which the sleeve intimately conforms.

3,435,513
BEAD CUTTER FOR GEM SETTINGS
Walter F. Knittweis, 3122 Knorr St., Philadelphia, Pa. 19149
Filed Oct. 4, 1966, Ser. No. 584,164
Int. Cl. B26d *1/12*; B23p *5/00*; B24b *39/00*
U.S. Cl. 29—567 8 Claims



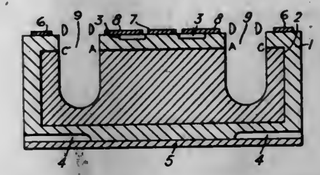
A burnishing tool for forming beads at the ends of prongs of gem settings wherein a hardened arcuately-cupped surface is co-axially disposed with a rotatable shank and narrow slots are circumferentially disposed in the cupped surface to divide the same into a plurality of regularly spaced segments and act as reliefs for metal being cut.

3,435,514
METHODS OF MANUFACTURING SEMICONDUCTOR DEVICES
Ronald John Dean, Southampton, England, assignor to North American Philips Company, Inc., New York, N.Y.
Filed Sept. 12, 1966, Ser. No. 578,631
Claims priority, application Great Britain, Sept. 13, 1965, 38,976/65
Int. Cl. B01j *17/00*; H01l *1/14*, *7/02*
U.S. Cl. 29—577 11 Claims



A method for connecting plural contacts on a semiconductor body to external terminals or other contacts using a metal sheet. The sheet is selectively oxidized to leave a desired pattern of conductive regions maintained by the oxidized sheet parts, and then the sheet is aligned with the body contacts and secured thereto. Especially useful for connecting integrated circuit chips to the terminal pins of a package therefor.

3,435,515
METHOD OF MAKING THYRISTORS HAVING ELECTRICALLY INTERCHANGEABLE ANODES AND CATHODES
Zenon Jan Kurpisz, Gerald James Connor, and James Patrick Curtis, London, England, assignors to International Standard Electric Corporation, New York, N.Y., a corporation of Delaware
Filed Oct. 20, 1965, Ser. No. 498,760
Claims priority, application Great Britain, Dec. 2, 1964, 48,962/64
Int. Cl. H01l *7/10*, *7/16*
U.S. Cl. 29—580 4 Claims



This is a method of making a thyristor which operates bi-directionally wherein a first region of one conductivity type is formed within a surface area of opposite conductivity; a second region forms a cathode of opposite conductivity within the first region on one surface and a third region of opposite conductivity is formed within the opposite surface; an annular groove is formed from said one

surface extending into the body thereby separating said first region into a fourth and a fifth region, the fourth region encompasses the second region and the fifth region forms the anode; a gate electrode is formed within the second region and metal contacts are attached to the second region which shorts the cathode to the second region; and a metal contact is formed on the opposite surface which shorts the anode to the third region. This structure thus formed can act in a bi-directional fashion since the anode effectively has the same structure as the cathode and vice versa, thereby allowing the cathode to act as the anode and the anode to act as the cathode depending upon the gating pulse which is introduced.

3,435,516

SEMICONDUCTOR STRUCTURE FABRICATION

Jack S. Kilby, Dallas, Tex., assignor to Texas Instruments Incorporated, Dallas, Tex., a corporation of Delaware

Continuation of application Ser. No. 467,428, June 28, 1965, which is a continuation of application Ser. No. 189,205, Apr. 20, 1962, which is a division of application Ser. No. 811,470, May 6, 1959, now Patent No. 3,072,832, dated Jan. 8, 1963. This application Jan. 13, 1967, Ser. No. 609,720

Int. Cl. H01l *1/10*

U.S. Cl. 29—588 8 Claims



A method is disclosed for enclosing a semiconductor device having PN junctions adjacent one major surface of a semiconductor wafer. A support means is provided having a flat solid portion on one surface, and a metallic frame including a plurality of inwardly extending flat tabs is positioned over the one surface of the support with the ends of the flat tabs being co-planar and spaced from each other around the solid flat portion. A closed wall member is positioned about the periphery of the one surface of the support over the flat tabs and the tabs are sealed between the wall member and the support. The semiconductor wafer is secured on the solid flat portion of the support, and a plurality of wires are connected between selected regions on a surface of the semiconductor wafer and selected ones of the flat tabs. A cover is then secured to the wall member.

3,435,517

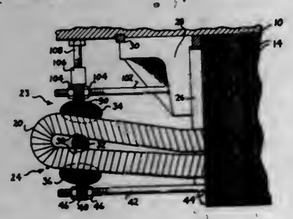
METHOD OF MAKING A TIELESS BRACING OF STATOR COIL END TURNS

John H. Fortenbach, Sun City, Ariz., and Hugh B. Hollowood, Ballston Spa, and Henry E. Mazanek, Amsterdam, N.Y., assignors to General Electric Company, a corporation of New York

Original application Sept. 23, 1963, Ser. No. 310,600, now Patent No. 3,320,452, dated May 16, 1967. Divided and this application Dec. 9, 1966, Ser. No. 619,092

Int. Cl. H02k *15/00*

U.S. Cl. 29—596 4 Claims



1. A method for installing a support ring on the inner surface of end turns extending outwardly from a stator comprising the steps of attaching a multiplicity of axially extending studs at one end to the stator, locating a support ring consisting of soft flexible material attached to the inner surface of a back-up hoop adjacent the end of the stator end turns, locating the other end of said axially extending studs in holes provided in the steel hoops, uniformly threading nuts on the studs against said steel hoops for jacking the latter into engagement with the inner end turns, continuing jacking the ring against the end turns until portions thereof protrude into the space between adjacent end turns, and curing said soft flexible material to a hard rigid substance capable of restricting end turn movement.

3,435,518

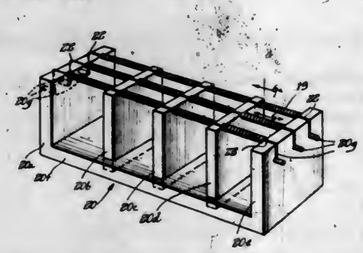
METHOD OF MAKING A MINIATURE MAGNETIC CORE MEMORY ARRAY

Peter A. Denes, 9101 Crestwood Ave. NE., Albuquerque, N. Mex. 87112

Filed Mar. 18, 1964, Ser. No. 352,919

Int. Cl. H01f *3/10, 7/06*

U.S. Cl. 29—604 11 Claims



A method of wiring magnetic cores for single or multiplanar magnetic core memory arrays. Green magnetic cores are placed on a wire and then fired. A suitable conductor is then attached to the wire so that when the wire is pulled through the cores, it will cause the conductor to be threaded through the inside of the cores.

3,435,519

METHOD OF MANUFACTURE OF INFORMATION STORAGE DEVICES

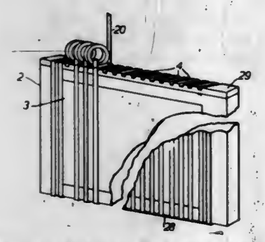
John Bernard James, London, England, assignor to International Computers and Tabulators Limited, Putney, England, a British company

Filed July 8, 1965, Ser. No. 470,498

Claims priority, application Great Britain, Aug. 12, 1964, 32,911/64

Int. Cl. H01f *7/06*

U.S. Cl. 29—604 5 Claims



The present application discloses a method of manufacturing an information storage device using an area of thin magnetic film supported on a substrate, in which control conductors are laid across the film area to couple thereto and in which the conductors are also each coupled with a magnetic switching core for driving purposes. In the method described, the individual conductors are formed from a continuous strip conductor on which is threaded a number of the switching cores. The strip conductor is

wound about the substrate to form a number of loops, each loop having one length passing across the film area. During winding, the switch cores are fed along the length of strip line and are located in notches provided for the purpose in the substrate so that a conductor loop passing across the film area is also threaded through an associated core. After winding, the individual conductor loops are effectively electrically isolated from one another by a common strap applied outside the film area to connect the loops to a common conductive path. Other conductor configurations using variations on this method of manufacture are disclosed, as is an apparatus for carrying out the initial winding of the strip line in conjunction with the selective feeding of the switch cores.

3,435,520

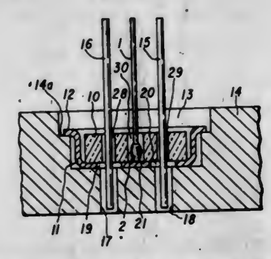
BRAZE GROUNDED LEAD HEADER

Ben H. Copeland, Richardson, Tex., assignor to Texas Instruments Incorporated, Dallas, Tex., a corporation of Delaware

Filed Feb. 28, 1966, Ser. No. 530,507

Int. Cl. H01n *43/00*; H05k *3/00*; H01b *13/00*

U.S. Cl. 29—628 9 Claims



Disclosed is a method of forming a grounded lead header by fusing a braze coated lead and a glass preform to a header eyelet simultaneously.

3,435,521

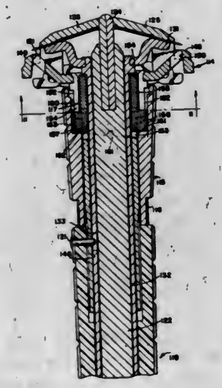
ADJUSTABLE DOUBLE EDGE RAZOR

Leopold Karl Kuhnl, Stratford, Conn., assignor to Eversharp, Inc., Milford, Conn., a corporation of Delaware

Original application Mar. 8, 1966, Ser. No. 532,599, now Patent No. 3,358,368, dated Dec. 12, 1967. Divided and this application Oct. 16, 1967, Ser. No. 675,479

Int. Cl. B26b *21/32*

U.S. Cl. 30—60.5 4 Claims



An adjustable double edge safety razor of the sectional cap type in which the blade seat is fixed relative to the handle. The guard is provided with guide means and an adjustment to permit incremental variance of the clearance between the blade edge and the guard. The guide means maintains the guard properly located during adjustment and also permits cleaning of the razor by flushing. The clamping pressure on the razor does not vary with changes in adjustment and the *razor may be opened and closed without affecting the adjustment.*

3,435,522

APPARATUS FOR SKINNING ANIMALS

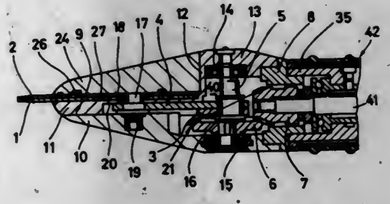
Walter Wezel, Maulbronn, Wurttemberg, and Kurt Schumann, Knittlingen, Wurttemberg, Germany, assignors to Schmid & Wezel, Maulbronn, Wurttemberg, Germany

Filed Aug. 25, 1966, Ser. No. 574,988

Claims priority, application Germany, Aug. 26, 1965, Sch 37,616

Int. Cl. A22b *5/16*

U.S. Cl. 30—219 10 Claims



An apparatus for skinning animals as a support. A pair of cutters is mounted on and located adjacent to one side of the support. A first cover overlies portions of the cutters and is detachably secured to the support. A second cover is located adjacent to the other side of the support and defining therewith a chamber and is secured detachably to the support. A transmission is located in the chamber and includes a rotary driver member journalled both in the support and the second cover and motion transmitting means connecting the driver member with at least one of the cutters. The transmission is withdrawable from the chamber when the second cover is detached from the support.

3,435,523

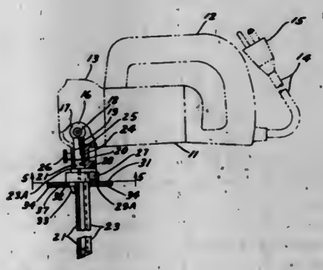
GUIDE AND SPACER FOR CUTTING TOOL

Richard C. Marsh, 7333 Fenkell, Detroit, Mich. 48238

Filed Nov. 4, 1965, Ser. No. 506,299

Int. Cl. B26b *7/00*

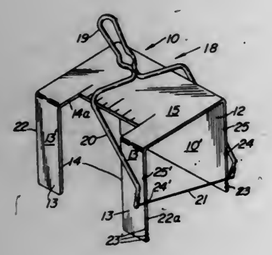
U.S. Cl. 30—272 8 Claims



This application discloses a guide and spacer for a portable, reciprocating blade, power tool, used with a

metal template for making cut outs in a fibrous material such as an automobile floor mat. The invention resides in a circular body member attached to the portable power tool and having a depending, tapered extension which is received in the opening of the metal template to guide the tool around the template. The body has a central opening for receiving the saw guide and saw blades, and the body and the extension are radially slotted so the new blades may be removed from the portable tool without removing the body from the tool.

3,435,524
FOOD SLICING GUIDE
Herbert L. Moore, 4507 N. Magnolia Ave., Chicago, Ill. 60640
Filed Oct. 7, 1966, Ser. No. 585,085
Int. Cl. A01j *23/00*
U.S. Cl. 31—15 2 Claims



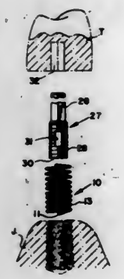
A food slicing guide comprises a U-shaped member having a base and a pair of oppositely disposed side walls for receiving the comestible to be sliced. The member has an opening in its side walls to enable the user to grasp the comestible. The opening extends into the base which has graduated markings adjacent the opening for gauging the uniform thickness of the slices. A food slicer can either be guided by a smooth end of the guide member, or by the opposite end which is provided with pairs of oppositely disposed notches in the side edges of the side walls to receive the slicing tool.

3,435,525
PARTIAL DENTURE HAVING PONTIC WITH HIDDEN ATTACHMENT
Holger S. Floren, 1265 NE. 137th Terrace, North Miami, Fla. 33161
Filed Oct. 13, 1967, Ser. No. 675,151
Int. Cl. A61c *13/22*
U.S. Cl. 32—7 10 Claims



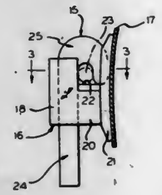
The invention includes a partial denture including at least one pontic having a fixed section affixed in a restoration denture and a removable section affixed to a palatal or lingual bar fitting removably into the restoration denture. The fixed pontic section has a first attachment embedded therein which is exposed sufficiently to receive another attachment, and the removable pontic section has a second attachment embedded therein which is sufficiently exposed to engage the first attachment. The two attachments are male and female members which fit matingly to hold the pontic sections together.

3,435,526
DEVICE FOR SECURING AN ARTIFICIAL TOOTH TO THE BONE STRUCTURE OF A HUMAN JAW
Leo J. Brancato, Danbury, Conn., assignor to Heli-Coil Corporation, Danbury, Conn., a corporation of Delaware
Continuation-in-part of application Ser. No. 497,222, Oct. 18, 1965. This application Feb. 13, 1967, Ser. No. 623,171
Int. Cl. A61c *13/22*
U.S. Cl. 32—10 10 Claims



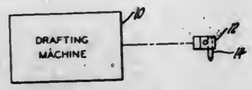
Devices for anchoring one or more artificial teeth to the bone of a human jaw each of which includes a stud and a wire coil implant threadably mountable into a blind hole cut into the bone and in turn threadably receives interiorly thereof an externally-threaded portion of the stud. Each stud has a noncircular stud-screwing shank to project outwardly from the teethridge for support thereon of an artificial tooth or intervening anchoring means for a plurality of the latter. The wire coil implant and stud screwed into it have interiorly thereof spaces into which bone growth may develop.

3,435,527
SAFETY LOCK PIN
Peter C. Kesling, Green Acres, La Porte, Ind. 46350
Filed Feb. 19, 1968, Ser. No. 706,323
Int. Cl. A61c *7/00*
U.S. Cl. 32—14 8 Claims



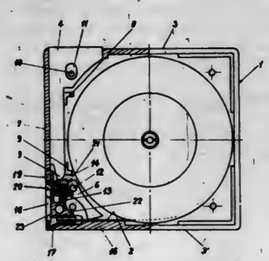
An orthodontic lock pin for use with an orthodontic bracket to lock an arch wire to the bracket and permit tipping of the bracket relative to the arch wire by defining a pin surface in spaced relation to an opposed bracket surface to allow movement of the arch wire therebetween.

3,435,528
DRAFTING STYLI AND MATERIAL THEREFOR
Harold W. Ferchland, Troy, and Augustine J. Wallace, Jr., Southfield, Mich., assignors to General Motors Corporation, Detroit, Mich., a corporation of Delaware
Filed Dec. 6, 1966, Ser. No. 599,470
Int. Cl. B43k *1/00*
U.S. Cl. 33—18 2 Claims



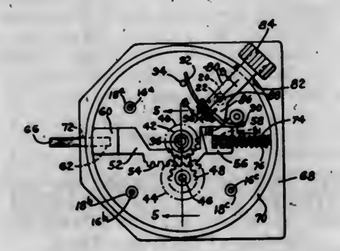
A drafting stylus in the form of a thin pointed rod is composed of a tin-nickel alloy in the ratio of approximately 65% tin and 35% nickel.

3,435,529
LINEAR MEASURING INSTRUMENT
André Quenot, Besancon, France, assignor to Quenot & Cie S.A.R.L., Besancon, France, a French company
Filed Nov. 21, 1966, Ser. No. 595,779
Claims priority, application France, Sept. 8, 1966, 75,668
Int. Cl. G01b *3/10*
U.S. Cl. 33—138 2 Claims



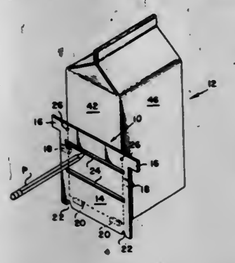
In a linear measuring instrument casing, a single pivoted lever locks the tape against an inner wall of the casing and has the hook shaped end in a recess of the casing to which the pullout ring of the tape may be secured.

3,435,530
GAUGE TO MEASURE TREAD DEPTH OF A TIRE
Andrew J. White, Newmarket P.O., South Lee, N.H. 03857
Filed Aug. 11, 1966, Ser. No. 571,877
Int. Cl. G01b *3/28*
U.S. Cl. 33—172 2 Claims



A gauge to measure the depth of a tire tread having an actuating finger that is inserted into a space provided by said tread. Mechanism connected to said finger has an indicator that is actuated, upon said insertion, to give a reading on a dial face of said depth. A resetting lever is operably connected to said indicator and serves, upon actuation, to return the indicator to normal position.

3,435,531
METHOD OF MAKING FREEZER CARTONS AND THE LIKE AND TEMPLATE THEREFOR
Fred C. Morris, P.O. Box 243, Blacksburg, Va. 24060
Filed June 24, 1966, Ser. No. 560,319
Int. Cl. B43l *13/00*
U.S. Cl. 33—174 7 Claims



A template for forming a small carton from a large carton comprising a T-shaped sheet-like body; said body being in width greater than the width of said carton; means on the body for alining and centering the bottom and the side edges of the large carton; and, means on the body for marking off the height as well as outlining a cover for the small carton.

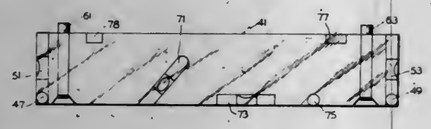
3,435,532
OPTICAL NORMALIZER
Robert E. Brasier, Seattle, Wash., assignor to The Boeing Company, Seattle, Wash., a corporation of Delaware
Filed July 19, 1965, Ser. No. 473,041
Int. Cl. B27g *23/00*
U.S. Cl. 33—185 2 Claims



An apparatus for aligning a drill bushing normal to a selected point on a contour surface comprising an adjustable base to be mounted on the contour surface and an illuminated optical alignment telescope mounted in the base and interchangeable with the drill bushing. The telescope has four slidably mounted pins in its lower end for contacting the contour surface and an optical flat actuated by the other ends of the pins. A spherical lens in point contact with the optical flat generates Newton interference rings around the point of contact. By adjusting the base,

the Newton interference rings are centered in the field of view of the telescope when the telescope is normal to the contour surface. In another embodiment, means ancillary to the telescope project four pairs of line segments onto the contour surface and the base is adjusted to render respective pairs of line segments continuous in the field of view of the telescope when the telescope is normal to the contour surface.

3,435,533
UNIVERSAL LEVEL
Calvin S. Whitfield, 2417 Glenwood Drive NE., Atlanta, Ga. 30305
Continuation-in-part of application Ser. No. 457,612, May 21, 1965. This application Oct. 2, 1967, Ser. No. 675,747
U.S. Cl. 33—211 2 Claims



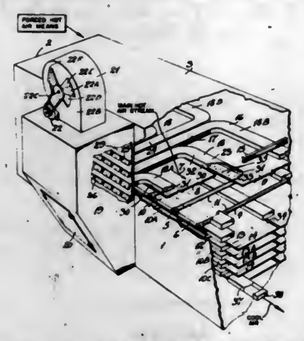
A universal level comprising a transparent body or a light-weight skeletal body for holding a plurality of leveling tubes in a predetermined orientation. At least three of the tubes have their axes in a geometrical X–Y–Z relation with a fourth tube having its axis at an angle to said other axes. Preferably the fourth tube is a 30° or 45° angle tube. The arrangement also includes indexing pins for aligning the level with an edge of the building support member and preferably magnets for holding the level thereto. A further X-axis tube and a further Z-axis tube may be included with the X and Z pairs of tubes being disposed adjacent opposite ends of the body such that the level may be applied to either the right-hand edge or the left-hand edge of a member (whichever edge is accessible) by orienting it oppositely or in end-to-end fashion.

3,435,534
PROCESS FOR CONTINUOUSLY HEATING, DRYING AND HEAT-SETTING TOWS OF FILAMENTS OF SYNTHETIC POLYMERS
Peter Knobloch, Adalbert Kühn, Otto Pfannenschmidt, and Werner Schneider, Bobingen, Germany, assignors to Farbwerke Hoechst Aktiengesellschaft vormals Meister Lucius & Bruning, Frankfurt am Main, Germany
No Drawing. Filed June 27, 1967, Ser. No. 649,135
Claims priority, application Germany, Aug. 10, 1966, F 49,918
Int. Cl. F26b *3/28*
U.S. Cl. 34—1 6 Claims

Heating, drying and heat-setting wet tows of filaments or fibers of synthetic polymers of high molecular weight in an electric high frequency field.

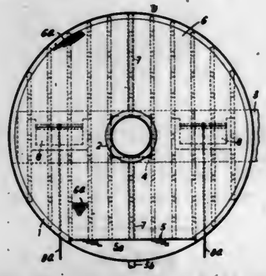
3,435,535
MEANS AND METHOD FOR CONTROLLING THE EDGE-DRYING OF GYPSUM WALLBOARD
Robert C. Blair, 53 Victoria Embankment, Nottingham, Nottinghamshire, England
Continuation of abandoned application Ser. No. 596,729, Nov. 23, 1966, which is a continuation of abandoned application Ser. No. 362,270, Apr. 24, 1964. This application Dec. 4, 1967, Ser. No. 687,918
Int. Cl. F26b *3/04, 13/04*
U.S. Cl. 34—7 8 Claims

In a tunnel type drying oven for wallboard transversely spaced parallel ducts apertured upon the underside, extend longitudinally therein, and over the edges of wallboard being transported through the oven whereby to deliver elongated flanking curtains of cooling air along the



wallboard edges and substantially confine a current of drying air between the side curtains to prevent edge overdrying.

3,435,536
DISCHARGING PARTICULATE MATERIAL FROM STORAGE MEANS
John William Tinley, Sawston, England, assignor, by mesne assignments, to Bangor Punta Operations, Inc., Hayward, Calif., a corporation of California
Continuation-in-part of application Ser. No. 457,022, May 19, 1965. This application Apr. 19, 1967, Ser. No. 632,060
Claims priority, application Great Britain, May 25, 1964, 21,488/64
Int. Cl. F26b *17/10*
U.S. Cl. 34—57 8 Claims

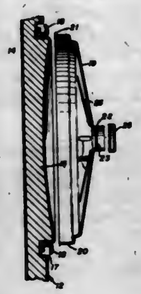


Particulate material remaining on the floor of storage means, such as a bin, silo, cargo container of a road vehicle or railroad car, after discharge of other material by gravity through an outlet opening in the floor, is removed by forming the floor with a multitude of inclined air passages directed toward the opening and supplying air under pressure to the underside of the floor, whereby there is formed an air current which sweeps the top of the floor and carries the particles toward the opening. The storage means may contain a drying cylinder which rises from the floor and through which drying air can be forced into the body of material stored within the storage means.

3,435,537
APPARATUS FOR DEODORIZING OR TREATING CLOTHES IN A CLOTHES DRIER
Joseph F. Rumsey, Jr., 1708 W. Main St., Oklahoma City, Okla. 73106
Filed June 20, 1967, Ser. No. 647,475
Int. Cl. F26b *21/14*
U.S. Cl. 34—72 3 Claims

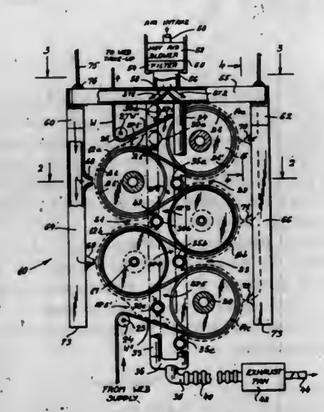
A container on the inner surface of the door of a clothes drier and of a size to be received in the drier opening when

the door is closed, vents in the surface of the container and means receiving a volatile deodorizing pellet or other chemical in the container in a manner whereby the hot



air of the drier, circulated by the rotary action of the drier and tumbling clothes, vaporizes the pellet or chemical with the result that the vapor penetrates the clothes in the drier.

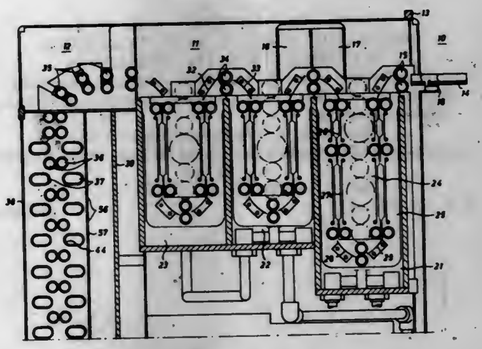
3,435,538
WEB DRYING APPARATUS HAVING MULTIPLE HOT AIR NOZZLES AND EXHAUST OUTLETS
Lawrence W. Hargett, Easton, Pa. (97 Tracey Place, Englewood, N.J. 07631)
Filed Mar. 8, 1967, Ser. No. 621,498
Int. Cl. F26b *13/08*
U.S. Cl. 34—114 9 Claims



The technical disclosure describes apparatus for improving the drying of wet webs by passing hot dry air through multiple nozzles to a web carried on rotating heated dry cylinders. A multiplicity of perforated exhaust outlet tubes are disposed between the cylinders. The nozzles may be made as modular slidable units to facilitate cleaning the cylinders and threading the web around the cylinders.

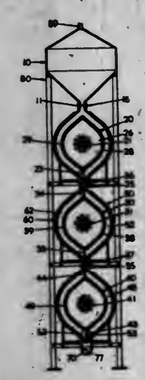
3,435,539
DRYER FOR A FILM PROCESSING MACHINE
Leo Paul Van Bouwel, Mortsel-Antwerp, and Willy Pieter Tack, Berchem-Antwerp, Belgium, assignors to Gevaert-Agfa, N.V., Mortsel, Belgium, a Belgian company
Filed July 20, 1966, Ser. No. 566,690
Claims priority, application Great Britain, July 20, 1965, 30,876/65
Int. Cl. F26b *21/02, 13/08, 3/04*
U.S. Cl. 34—160 8 Claims

A drying apparatus for drying discontinuous sheets, especially photographic film, of the type in which spaced pairs of co-operating feed rollers for conveying the sheets are arranged in alternation with pairs of air tubes extending in spaced, generally parallel, relation to the normal path of the sheets, each of the air tubes including a wall section nearest the sheet path which is formed with the curvature bending away from the sheet path in the direction of the sheet movement along such path, each tube having a longitudinally extending air discharge



slit therein which is located at a locus on the curved wall section which lies downstream from that locus on the wall section which lies nearest the sheet path, so that the air discharge slit is protected from contact by the leading edge of any sheet which may accidentally deviate from the normal path through the apparatus. Preferably, the air tubes have a cross section approximating the shape of a trapezoid.

3,435,540
APPARATUS FOR AERATING LOOSE PARTICLES
Norman H. Sanders, Jr., and Raymond Sanders, Greenwich Township, Huron County, Ohio (both of Rte. 1, Greenwich, Ohio 44837)
Continuation of application Ser. No. 317,596, Oct. 21, 1963. This application Feb. 7, 1968, Ser. No. 703,791
Int. Cl. F26b *17/14*
U.S. Cl. 34—174 6 Claims



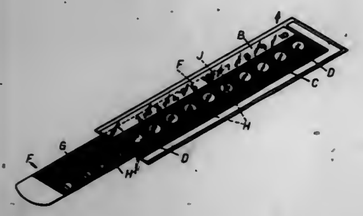
An apparatus for drying grain particles including a plurality of vertically spaced separate air plenums having continuous columnar passages adjacent their outer peripheries in cascade fashion leading from a grain hopper above the uppermost plenum to a discharge bin

below the lowermost plenum. A vertical passage of restricted cross-section intermediate the plenums connects the upper and lower passages adjacent upper and lower plenums so that grain passage therebetween is mixed and churned for better drying efficiency and uniformity. Conditioned air is forced through each of the plenums and its adjacent grain passages.

3,435,541
DIDACTIC DEVICE FOR TEACHING MATHEMATICS TO CHILDREN

Charles Arthur Tacey, London, England, assignor to Philograph Publications Limited, London, England, a British company

Filed Aug. 1, 1967, Ser. No. 657,659
Claims priority, application Great Britain, Aug. 5, 1966, 35,182/66
Int. Cl. G09b *23/02, 19/02, 1/16*
U.S. Cl. 35—31 6 Claims

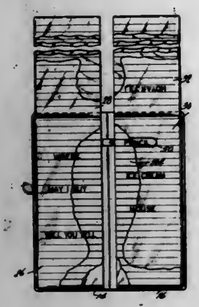


A device which comprises a sleeve and a slide which is axially displaceable within the sleeve. The sleeve has an opaque area and a transparent display panel through which its interior surface is visible. The display panel is marked with a series of numerals and the opaque area includes a series of transparent areas or windows having a positional relationship with the numerals. The slide is provided with coloured areas visible through the transparent areas which relate to the numerals of the display panel.

3,435,542
LANGUAGE AID SYSTEM

Victor Barouh, 935 Plum Tree Road, Westbury, N.Y. 11590

Filed Aug. 10, 1967, Ser. No. 659,670
Int. Cl. G09b *19/06;* B42d *1/00, 3/12*
U.S. Cl. 35—35 6 Claims

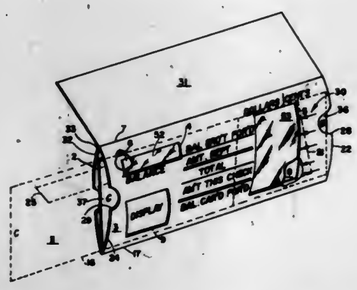


A language aid device comprising a book-shaped cover capable of being opened to lie flat. Affixed to each side of the cover are a pair of rectangular sheets for forming pockets for receiving language aid cards formed of a translucent plastic material such as Mylar. Heat seamed with the sheet to the top edge of the cover are pairs of flaps of transparent material for receiving language aid cards therein for facilitating the registry of the language aid cards to enable translation of words. A marker is carried by the cover and is used for marking words and phrases for enabling a person knowing one language but wishing to speak in another language to form sentences in the unknown language.

3,435,543
NUMERICAL STORAGE AND COMPUTING DEVICE

John Whittier Stemmons, 19142 Glen Albyn, Orange, Calif. 92667

Filed Oct. 10, 1966, Ser. No. 585,659
Int. Cl. B43l *1/00, 1/12;* G09b *1/16*
U.S. Cl. 35—61 3 Claims



The device consists of a cover having printed indicia thereon in alignment with various apertures in the cover. A base member having an adhesive layer thereon is disposed below the cover. Either the base member or the adhesive layer is colored. A translucent sheet is positioned between the base member and the cover. When the translucent sheet is selectively pressed against the adhesive layer colored displays becomes visible. An erase means is composed of several integral means for individually disengaging portions of said translucent layer from the adhesive layer to selectively erase some or all colored displays. Glass beads may protrude from the surface of the adhesive layer.

3,435,544
COMBINATION BOOT AND REMOVABLE CUFF THEREFOR

Henry Lish, Newton, Mass., assignor to Lish Bros. Incorporated, New York, N.Y., a corporation of New York

Filed Apr. 22, 1968, Ser. No. 723,016
Int. Cl. A41d *17/00, 27/12*
U.S. Cl. 36—2 10 Claims
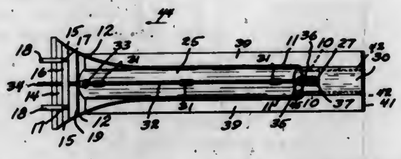


A combination boot and removable cuff having elastic means on said cuff in resiliently gripping relation with outer circumferential surface portions of the boot to render said cuff adjustable to boots of various sizes.

3,435,545
DEVICE FOR FORMING SNOW BARRIERS

George W. Anderson, 1624 Jackson St., Sioux City, Iowa 51105

Filed May 4, 1967, Ser. No. 636,091
Int. Cl. E01h *4/00;* E02d *17/20*
U.S. Cl. 37—10 3 Claims

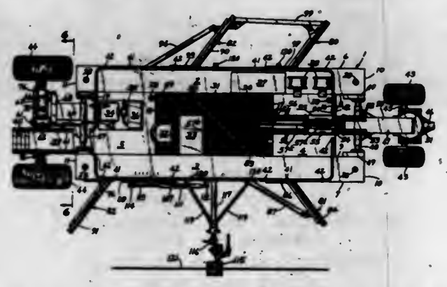


A device for building a snow barrier including an elevator for raising fallen snow and dropping it selectively in the form of a wall. The device is adapted for pulling by a farm-type tractor.

3,435,546
PRECISION ROAD GRADER WITH TILTABLE FRAME

Noel S. Iverson, New Ulm, Minn., assignor to New Ulm Manufacturing Company, New Ulm, Minn., a corporation of Minnesota

Filed July 25, 1966, Ser. No. 567,524
Int. Cl. E02f *3/76;* A01b *63/104, 65/00*
U.S. Cl. 37—108 8 Claims

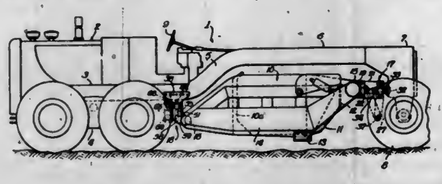


A rigid frame having mold boards fixed thereto, ground engaging wheels at its front and rear ends, and wheel mounting means, pivotally secured to the front and rear ends of the frame and operable to raise and lower the frame relative to the wheels and pivotally tilt the frame relative to the wheels on an axis extending longitudinally of the frame.

3,435,547
SELF-CONTAINED SCRAPER BOWL ASSEMBLY ADAPTED FOR ATTACHMENT WITH MOBILE VEHICLE

William E. Martin, % The Martin Company, P.O. Box 187, Kewanee, Ill. 61443

Filed Dec. 15, 1966, Ser. No. 602,107
Int. Cl. E02f *3/62*
U.S. Cl. 37—124 10 Claims

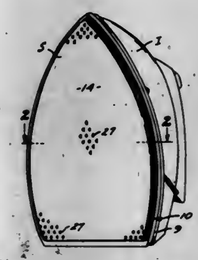


A scraper bowl assembly and vehicle therefor comprises a scraper bowl positioned beneath an elongate intermediate vehicle frame portion and mounted on front and rear portions of the vehicle frame so as not to stress the intermediate frame portion. The scraper bowl assembly includes mounting elements secured to front and rear bowl parts with means to elevate the bowl relative to the mounting elements wherein the elevating means is operative between the mounting elements and the bowl.

3,435,548
SHOE FOR A HAND-HELD IRON

Joseph K. Dikoff, 15004 Oxnard St., Van Nuys, Calif. 91401

Continuation-in-part of application Ser. No. 530,998, Mar. 1, 1966. This application Nov. 15, 1967, Ser. No. 683,183
Int. Cl. D06f *75/38*
U.S. Cl. 38—97 4 Claims



A shoe attached to the underside of the sole of a steam iron to prevent burning of the textile being ironed and to enhance the ironing operation. The shoe includes a sheet of paper formed of short fibers of aromatic polyamides. This sheet is perforated to permit free flow of steam from the iron. The sheet is provided with a coating of high-temperature resistant moisture sealing medium that prevents fuzzing and prevents moisture from entering the pores of said sheet.

3,435,549
PUMP TYPE TUBULAR MAGAZINE REPEATING FIREARM

Alfred F. Kermode, 201 Cisco, Ridgecrest, Calif. 93555

Filed Sept. 1, 1967, Ser. No. 665,687
Int. Cl. F41c *11/00;* F41d *9/00;* F4f *1/00*
U.S. Cl. 42—17 15 Claims



Tubular magazine hand held pump type repeating grenade thrower with relatively short receiver and action, resulting from short bolt and bolt locking mechanism.

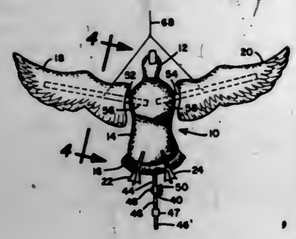
3,435,550
ANIMATED DUCK DECOY

George N. Carlson, 7225 Kentucky Ave. N., Minneapolis, Minn. 55428

Filed Aug. 11, 1967, Ser. No. 659,942
Int. Cl. A01m *31/06*
U.S. Cl. 43—3 10 Claims

A duck decoy formed with an arched body, cupped wings and a fanned tail. A spring member is secured to each wing and has a projecting portion selectively received in one of a plurality of body apertures. The decoy is held in a simulated landing position by a support in-

cluding a swivel mounted in the tail, and shaft sections joined by an adjustable hinge. The body is provided with



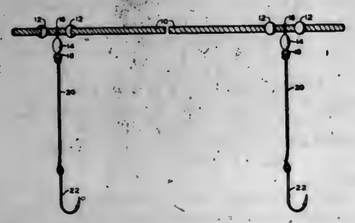
removable legs and a cord may be connected to the wings for actuating the same.

3,435,551
FISHING ROD
Toivo Koistinen, Box 25, Varkaus, Finland
Filed Sept. 16, 1966, Ser. No. 579,899
Int. Cl. A01k *87/00*
U.S. Cl. 43—19.2 **5 Claims**



A fishing rod structure providing a handle member with a rod portion extending outwardly from the handle member with trigger means associated with the rod portion of the unit arranged to intermittently strike or move the rod portion such that a vibration is set up in the rod portion. This trigger control may be provided in close association to one end of the rod when the rod is pivotally mounted within the handle and a ratchet type unit is provided to be moved by this trigger and be drawn across the inner end of the rod to provide a plurality of intermittent vibratory effects on the rod end which will be transmited along the rod.

3,435,552
FLOATABLE TROTLINE
William A. Caldwell, Bartlesville, Okla., assignor to L & H Manufacturing Co., Dallas, Tex.
Filed June 27, 1966, Ser. No. 560,411
Int. Cl. A01k *69/00, 91/04, 93/00*
U.S. Cl. 43—43.15 **6 Claims**



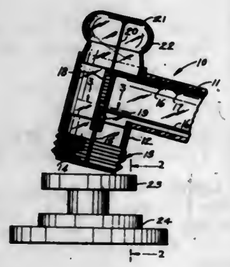
A buoyant trotline structure for fishing is made by attaching a series of individual hooks to a foamed polyolefin staging by means of swivels which are limited in longitudinal movement along the line by small beads of plastic molded directly to the staging on each side of each swivel. Plastic beads are molded to synthetic fiber staging at fixed intervals by means of a mold through which the twine is run, there being a pair of spherical cavities spaced therein which are connected by conduit means with an electrically heated melt reservoir. The swivel is positioned on the twine between these two cavities and the beads thereafter molded directly to the line.

3,435,553
LIVE BAIT HOLDERS
Gerald Jay Conley, 344 Arch St., Baird, Tex. 79504
Filed May 25, 1967, Ser. No. 646,139
Int. Cl. A01k *83/06*
U.S. Cl. 43—44.8 **1 Claim**



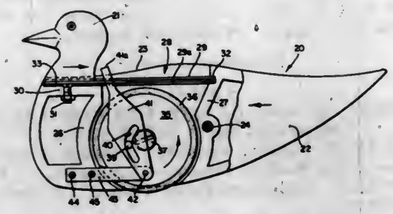
A bait holder fishing lure member attached to a fish hook adjacent the bight of the hook end and extending toward the loop-eye. The shank portion is made of a flexible wire and terminates in an arrow-headed shaped portion of triangular shape.

3,435,554
SPARKING HAMMER
James F. Philips, R.F.D. 1, Calhoun Road, Elizabeth, Pa. 15037
Filed Jan. 2, 1968, Ser. No. 695,149
Int. Cl. A63h *33/36*
U.S. Cl. 46—10 **1 Claim**



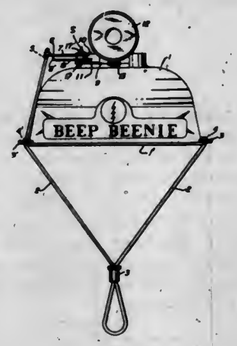
A novel device in a form of a plastic hammer, having a lower head which is threaded into the handle portion and is in the form of a bellows, which when striking a surface will cause a rod on the interior of the head portion of the device, which has a flint attached, to strike upon a striker bar which is serrated in order to produce a sparking effect through the upper head portion which is transparent, creating a novel effect. The bellows portion has a spring which extends into the handle portion of the device which will return the bellows portion to its full down position after striking an object.

3,435,555
TOY BIRD
Phillip S. Sammis, 300 S. 41st St., Philadelphia, Pa. 19104
Filed Apr. 4, 1967, Ser. No. 628,328
Int. Cl. A63h *11/10*
U.S. Cl. 46—104 **4 Claims**



A toy bird, the head of which is moved in a reciprocating fashion longitudinally of the body by means of a lever actuated by an eccentric on a wheel which is turned when the bird is pushed along a surface.

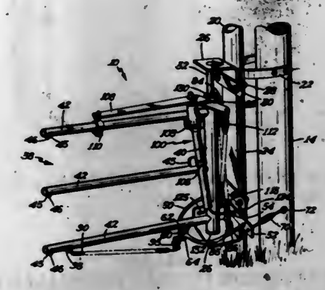
3,435,556
COMBINATION HEADGEAR AND SIGNALING DEVICE
Robert E. Clarke, Bel Air, Md., assignor to Louis Marx & Co., Inc.
Filed Oct. 11, 1965, Ser. No. 494,642
Int. Cl. A63h *33/26*
U.S. Cl. 46—227 **5 Claims**



A helmet having a battery operated signal producing means, a battery and a normally open switch for operating said signaling means mounted thereon. The switch is operated by the downwardly displacement of a chin strap in response to the opening of the wearer's jaws.

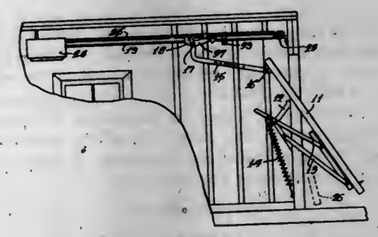
3,435,557
SELF-CLOSING GATE
Glenn J. Johnson, Rte. 2, Powell, Wyo. 82435
Filed Dec. 18, 1967, Ser. No. 691,350
Int. Cl. E06b *7/00*; E05f *1/04*; E05d *7/06*
U.S. Cl. 49—70 **14 Claims**

This invention relates to an electrified self-closing gate. It incorporates a gate frame which is insulated from a support shaft mounting the same so that the gate may be electrified independent of the support. The gate is extensible in that the metal gate frame has tubular arms in which are positioned non-metallic lightweight rods which are slidably mounted therein to varying positions to adjust gate width for any gate opening. The gate is electrified only when it is being swung. Suitable biasing springs connected to the gate frame compensate for windage and insure that the gate frame will ride on a cam through a cam follower attached to the gate frame, the cam being horseshoe shaped and inclined to elevate the gate upon opening and allow the same to be closed through the force of gravity. A depression in the cam



provides a reference position or lock position for the gate. The electrified gate is powered from a conventional fencer which is operated by a switch. The switch is controlled by a lever which deflects the switch to operate the same whenever the gate frame is moved upwardly on opening.

3,435,558
DOOR OPERATING MECHANISM
Marvin A. Kruse, Chicago, Ill., assignor to H. W. Crane Company, Maywood, Ill., a corporation of Illinois
Filed Sept. 1, 1967, Ser. No. 665,128
Int. Cl. E05f *15/00*
U.S. Cl. 49—200 **6 Claims**

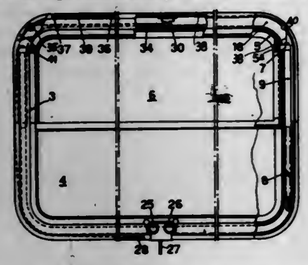


A power operated upwardly acting door having means supporting the door for movement between open and closed positions and a track supporting a trolley which is secured to the door and is movable with the door between its open and closed positions. A latch assembly is connected to the trolley for locking the door in the closed position and means operated in response to door opening movement of the power means to release the latch prior to moving the trolley in the door opening movement.

3,435,559
DEVICE FOR PNEUMATICALLY CONTROLLING THE CLOSING OF A MOTOR-VEHICLE, TRAM CARRIAGE WINDOW AND THE LIKE
Gandenzio Delledonne, Via Caduti della Liberta 100, Castelletto Ticino, Novara, Italy
Filed Feb. 6, 1967, Ser. No. 614,287
Claims priority, application Italy, Feb. 11, 1966, 14,416/66; Jan. 9, 1967, 11,268/67
Int. Cl. E05f *15/00*
U.S. Cl. 49—280 **4 Claims**

A device for automatically controlling the closing of a motor vehicle or tramcar window or the like, characterized in that the movements of the movable sash frame

carrying the glass in the upper half of the window port or aperture are pneumatically effected, the device also



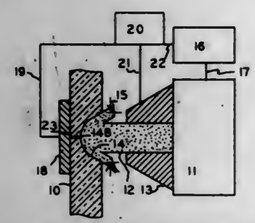
including a locking assembly for stopping the movable frame at any desired position.

3,435,560

APPARATUS FOR PRODUCING SMALL HOLES

Donald G. Andersen, Canoga Park, Calif., assignor, by mesne assignments, to the United States of America as represented by the Secretary of the Navy

Filed Oct. 18, 1965, Ser. No. 497,568
Int. Cl. B24b 7/00, 9/00; B24c 3/00
U.S. Cl. 51—5 4 Claims



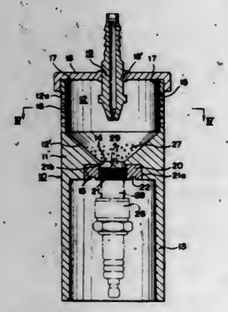
This device shows a unique and novel method for producing very small holes of predetermined size in materials such as glass by providing an abrasive stream for etching a portion of the glass and at the same time the stream provides one electrode of a pair of electrodes, the other of which is positioned on the other side of the glass so that when there is a predetermined thickness of glass electrical breakdown will occur therethrough.

3,435,561

DEVICE FOR CLEANING THE ELECTRODE SECTION OF AN IGNITION PLUG

Ryoichi Mori, Tokyo, Japan, assignor to Nikko Denki Kogyo Kabushiki Kaisha, Tokyo, Japan

Filed Dec. 21, 1966, Ser. No. 603,661
Int. Cl. B24c 3/00
U.S. Cl. 51—8 4 Claims



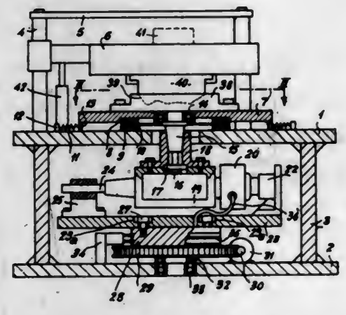
A device for cleaning the electrode section of an ignition plug. The device has upper and lower cavity sections with an annular partition separating them. A spark plug is adapted to be placed in the partition wall with a portion of the electrode section exposed in the upper cavity section, with the remainder of the spark plug in the lower section. A measured amount of abrasive material is placed in the upper cavity section and a compressed air nozzle extends through the cover of the upper section for injecting air into the upper section for agitating the abrasive material for cleaning the electrode section.

3,435,562

METHOD OF AND DEVICE FOR THE ABRASIVE SHAPING OF A WORKPIECE

Alfred M. A. Maillet, Versailles, Yvelines, France, assignor to La Soudure Electrique Languepin, La Plaine-Saint-Denis, Seine-Saint-Denis, France, a French body corporate

Filed July 19, 1966, Ser. No. 566,352
Claims priority, application France, July 20, 1965, 25,317
Int. Cl. B24b 7/00, 9/00
U.S. Cl. 51—60 10 Claims



Method and apparatus for the shaping of a workpiece to an abrasive pattern of a tool having the configuration desired in the workpiece but dimensioned in each of a multiplicity of parallel sectional planes through the pattern to a predetermined extent smaller than the dimensions of the corresponding section through the finished configuration, the system involving urging the tool pattern against the workpiece and oscillating the tool linearly while rotating the direction of oscillation about an axis perpendicular to this direction.

3,435,563

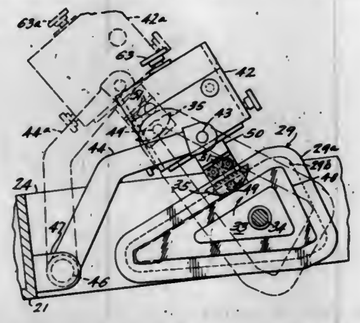
TANGENT GRINDER

Warren E. Reaser, Toledo, Ohio, assignor to The Sun Tool & Machine Company, Toledo, Ohio, a corporation of Ohio

Continuation-in-part of application Ser. No. 530,605, Feb. 28, 1966. This application Mar. 10, 1967, Ser. No. 622,250
Int. Cl. B24b 5/26, 9/00
U.S. Cl. 51—101 11 Claims

A machine for grinding the edges of glass plates having irregular non-circular contours, particularly those having sharp outside corners. The machine has a support for mounting the glass plate for rotation on an axis normal to the surface of the glass plate. A grinding wheel is mounted for rotation in a frame and on an axis at least substantially parallel to the axis of rotation of the glass plate and the frame is mounted on a carrier for oscillation in a carrier on an axis that is parallel to the axis of rotation of the glass plate and that is spaced away from the axis of the grinding wheel. The carrier is pivoted for translating the frame and the grinding wheel toward and away from the axis of rotation of the glass plate. The machine has a contour template and an attitude control

cam mounted coaxially with the glass plate. The frame mounts a follower for the template by which the carrier is translated and has means that engages the attitude control cam for compensatorily oscillating the frame in the carrier in order to maintain a line of attack of the grinding wheel on the edge of the glass plate, at the same



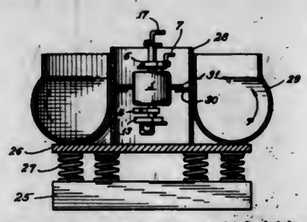
position relative to the wheel mounting frame and thus for maintaining constant the angle between (1) a line through the axis of rotation of the grinding wheel and the line of attack of the wheel on the edge of the sheet of glass and (2) a line through the axis of oscillation of the frame and the axis of rotation of the grinding wheel.

3,435,564

VIBRATORY MOTOR ASSEMBLY FOR FINISHING MACHINE OR THE LIKE HAVING ADJUSTABLE ECCENTRIC WEIGHTS

Gunther W. Balz, Kalamazoo, Mich., assignor to Roto-Finish Company, Kalamazoo, Mich., a corporation of Michigan

Filed Oct. 22, 1965, Ser. No. 501,615
Int. Cl. B24b 31/06; F16h 33/10
U.S. Cl. 51—163 14 Claims



A vibratory motor assembly and finishing machine containing the same, having manually operable means, the manipulation of which both disengages an eccentric weight from a support mounted on the motor shaft and rotates the weight to a different rotative position, where the weight is operably reengaged with the shaft.

ERRATUM

For Class 51—299 see:
Patent No. 3,435,569

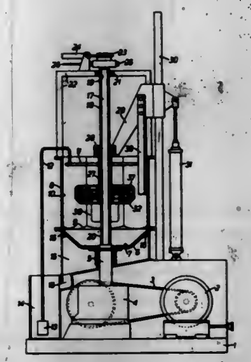
3,435,565

SURFACE TREATMENT OF WORKPIECES

Brian F. Blundell, Hemel Hempstead, England, assignor to Roto-Finish Limited

Filed Feb. 2, 1967, Ser. No. 613,626
Claims priority, application Great Britain, Feb. 7, 1966, 5,227/66
Int. Cl. B24b 31/00, 1/00
U.S. Cl. 51—313 3 Claims

Very rapid abrasive finishing treatment of workpieces is obtained by using centrifugal force to cause the mass of abrasive media in which the workpieces are immersed to assume a toroidal form, with individual particles circulating helically around the toroid. In the preferred forms of apparatus, a dished platform rotates about a vertical axis within the lower end of a stationary vertical



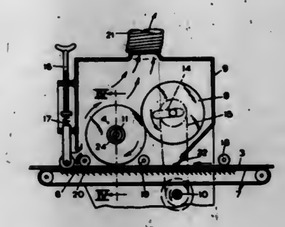
walled tub of polygonal cross-section. The workpieces may be loosely mixed with the media and may be extracted after treatment by lowering a sieving basket into the circulating mass. Alternatively the workpieces may be secured to stationary or moving fixtures.

3,435,566

METHOD OF DEBURRING A FLAT WORKPIECE

Johan Enserink, Amsterdam, Netherlands, assignor to N.V. Koninklijke Nederlandse Vliegtuigenfabriek Fokker, Amsterdam, Netherlands, a Dutch company

Filed Nov. 30, 1964, Ser. No. 414,680
Claims priority, application Netherlands, July 20, 1964, 6408273
Int. Cl. B24b 1/00, 7/00, 9/00
U.S. Cl. 51—328 2 Claims



Employing a grinding wheel of resilient material having abrasive particles of predetermined size for removing burrs on a flat workpiece without any substantial grinding effect upon the surface of the workpiece between burrs by adjusting the peripheral speed of the grinding wheel in accord with the abrasive particle size.

3,435,567

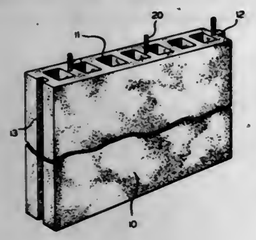
WALL CONSTRUCTION

Kenneth A. Tyson, 15520 W. El Rio Drive, Menomonee Falls, Wis. 53051

Filed Aug. 18, 1966, Ser. No. 573,346
Int. Cl. E04g 21/12; E04c 1/06; E04b 1/62
U.S. Cl. 52—125 3 Claims

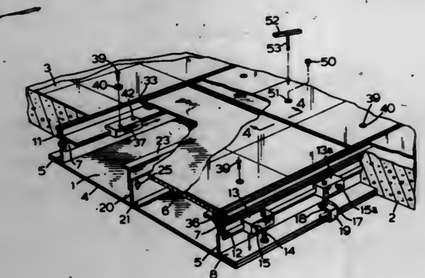
Reinforced concrete slabs amenable for easy assembly with other like slabs to form building walls. Said slabs

having a plurality of internal passageways to minimize the weight of the slabs and to provide conduits for pipes, wires or heating elements. The reinforcements in the slabs are



provided by three-dimensional integral lattice structures equipped with means adaptable for use in transporting or lifting the slabs.

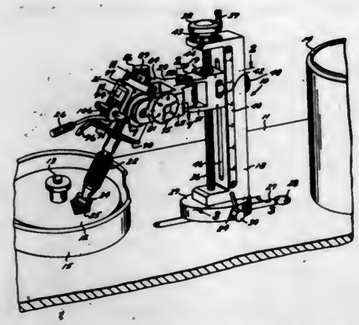
3,435,568
TRENCH DUCT ASSEMBLY WITH ADJUSTABLE LID SUPPORTING MEMBERS
Harry Joseph Hoseason, Toronto, Ontario, and Walter R. Packman, Port Credit, Ontario, Canada, assignors to Bargar Metal Fabricating Company, Cleveland, Ohio, a corporation of Ohio
Filed Mar. 31, 1967, Ser. No. 627,457
Int. Cl. E04b *5/48, 2/84, 5/36*
U.S. Cl. 52—221 9 Claims



An underfloor trench duct is composed of end-abutting sections, each comprising a base, a pair of upstanding side walls, a lid assembly covering the duct and a pair of longitudinally extending lid supporting members supported on the side walls, the lid supporting members being adjustable as to height. Each lid supporting member has an inverted U-shaped vertical channel portion engaging over the side wall, an inwardly directed horizontal flange integral with and on top of the vertical channel portion and projecting into the duct, an upwardly extending vertical flange located on the opposite side of the lid supporting member to the inwardly extending flange, and a dovetail portion outside the duct. A plurality of dovetail clamps engage over the dovetail portion, and the heights of the lid supporting members are adjustable by means of jack screws carried by the dovetail clamps.

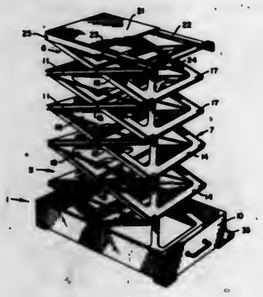
3,435,569
FACETING APPARATUS
Howard E. Stanley, 1545 E. Catalina, Santa Ana, Calif. 92701
Filed Oct. 5, 1965, Ser. No. 493,041
Int. Cl. B24b *19/00*
U.S. Cl. 51—229 11 Claims

A faceting apparatus which includes a vertical post supporting for vertical movement an elevation block, which in turn supports on a generally vertical swinging axis a link, or yoke, which in turn supports on a horizontal axis for swinging movement a chuck block which carries a chuck rotatively mounted therein, and there is provided pawl means for selectively locking the chuck in desired positions relative to the chuck block, and



further there is provided a clutch assembly adapted to limit the downward movement of the chuck at a desired point, but will not prevent upward movement of the chuck.

3,435,570
ERECTABLE STRUCTURE WITH SCISSORS LINK
Thomas G. Berry, Silver Spring, Md., assignor to Fairchild Hiller Corporation, Hagerstown, Md., a corporation of Maryland
Filed Sept. 23, 1966, Ser. No. 581,492
Int. Cl. E04h *12/18, 12/34*
U.S. Cl. 52—109 8 Claims

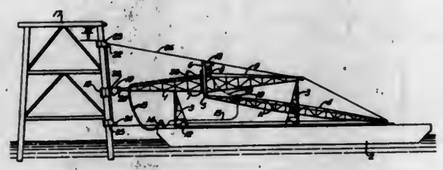


An erectable structure having a number of pairs of oppositely disposed scissors links connected in end-to-end relationship. A foldable, multi-section structural panel is connected between the ends of each pair of oppositely disposed links, the panel folded inwardly when the structure is packed and folding outwardly when the structure is deployed to provide a box-like structure.

3,435,571
RECLINING KING-POST CRANE AND METHOD OF ERECTING IT
John J. Oltermann, New Orleans, La., Joseph R. Woolslayer and Cecil Jenkins, Tulsa, Okla., assignors to Lee C. Moore Corporation, Pittsburgh, Pa., a corporation of Pennsylvania
Filed Dec. 5, 1967, Ser. No. 688,251
Int. Cl. E04h *12/34;* E04g *21/14;* E02b *17/00*
U.S. Cl. 52—119 7 Claims

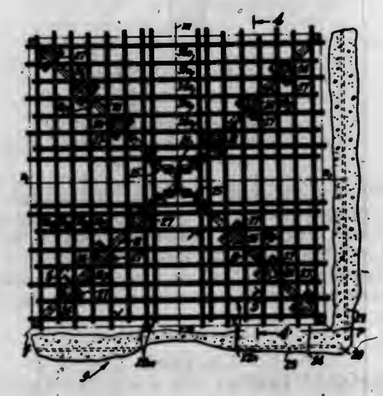
The post of a king-post crane is supported in an elevated reclining position on a barge beside a stationary structure extending above a body of water, with the crane boom inclined from the cenrtal portion of the king-post downwardly and outwardly past its top end. The foot of

the reclining king-post is hinged to the side of the stationary structure, and the opposite ends of a cable sling are connected to the top end of the king-post and to the crane load line below the post, with the central portion of the sling extending around sheaves connected to the



side of the structure above and below the king-post. When the load line is reeled in, the king-post is swung upwardly by the sling and boom, after which the erect post is fastened to the stationary structure above the hinge point.

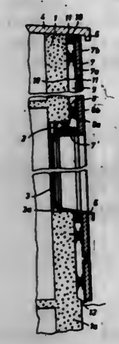
3,435,572
FLAT SLAB CONSTRUCTION
Samuel J. Fuchs, Brooklyn, N.Y. (Box 56, Church St. Station, New York, N.Y. 10008)
Filed Jan. 6, 1967, Ser. No. 607,845
Int. Cl. E04b *1/16, 5/16, 1/20*
U.S. Cl. 52—251 5 Claims



A concrete flat slab building construction having a shear reinforcing structure for relief of excessive stress concentration in flat plate floor portions adjacent columns supporting the slab.

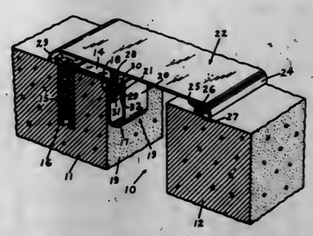
3,435,573
BUILDING FACING MADE OF WEATHER-RESISTANT FACE PLATES
Gustav Krone, Berlin, Germany, assignor to Krone Kommanditgesellschaft, Berlin, Germany
Filed Nov. 3, 1967, Ser. No. 680,503
Claims priority, application Germany, Nov. 3, 1966, K 60,626
Int. Cl. E04b *2/30*
U.S. Cl. 52—272 8 Claims

A building facing formed of a plurality of individual face plates held in spaced relation from the building wall by means of spacers which at the same time serve as securing means for the plates; each plate comprises an inner heat-insulating core layer and an external cover layer; air-tight sealing means inserted between the adjoining edges of adjacent plates; the outer face of the building wall and the inner face of the facing define an



intermediate air space which communicates with the external atmosphere only through openings provided adjacent the lower end of the facing.

3,435,574
EXPANSION JOINT COVERS
Edward C. Hallock, 86 Woodland Ave., Summit, N.J. 07901
Filed July 25, 1966, Ser. No. 567,706
Int. Cl. E04b *1/68;* E04c *1/34;* E04f *15/14*
U.S. Cl. 52—278 5 Claims

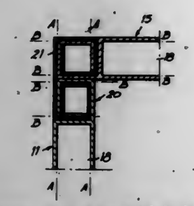


An expansion joint cover for closing an expansion joint between a pair of structures including an attachment member forming a U-shaped socket having at least one resilient arm portion and serrations at the interior of the socket. Adjacent the socket is a flange extending in such a direction from the socket so that it may be secured to the exposed surface of one of the structures to have the socket extending into the expansion joint. A cover member spanning the joint and including opposite longitudinal edges parallel to the structures has a rib extending from its underside, the rib having an end hook portion for insertion into the socket to engage the serrations, thereby securing the cover member to one of the structures so that it is movable therewith.

3,435,575
PROCESS AND EXTRUDED ELEMENTS FOR INDUSTRIAL MANUFACTURING OF FURNITURE, FURNITURE COMPONENTS AND SIMILAR CONSTRUCTIONS
Frantz Louis Charles Pottiez, Brussels, Belgium, assignor to "Meurop" Societe Anonyme, Rijmenam, Belgium
Filed Jan. 21, 1966, Ser. No. 522,281
Claims priority, application Belgium, Nov. 22, 1965, 45,122; Nov. 26, 1965, 45,141
Int. Cl. A47b *96/20, 47/04;* F16b *12/02*
U.S. Cl. 52—282 12 Claims

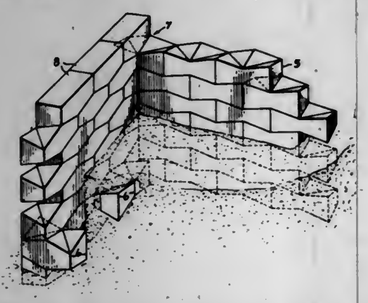
A construction, such as a piece of furniture or component part thereof, consists of at least two elements hav-

ing parallel lateral walls and end walls and substantially square edge members interconnecting these elements. One of the walls of an edge member is located in an extension of one of the lateral walls. Another wall of the edge member is located at a distance from the other lateral wall equal to the thickness of the edge member walls. Yet another wall of the edge member is located at a distance



from an adjacent end wall which is equal to said thickness and terminates at a distance from said one wall which is also equal to said thickness. Additional means, such as an adhesive, a hardening material or a tightening wedge-shaped element, are also used to fix the interconnected edge members.

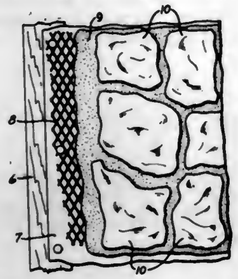
3,435,576
INTERLOCKING BUILDING BLOCK
John Giannelia, 1390 Lakeshore Road W., Port Credit, Ontario, Canada
Filed July 22, 1966, Ser. No. 572,636
Claims priority, application Canada, Nov. 19, 1965, 945,731
Int. Cl. E04c *1/10*
U.S. Cl. 52—300 6 Claims



1. A construction element comprising at least two identical modular units, each modular unit having a substantially square cross-section in plan bounded by four rectilinear flat sides, an upper wall and a lower wall; one of said walls being of gable-like formation sloping downwardly from a diagonally extending V-ridge and the other wall being formed as a diagonally extending valley open at both ends and which is the mirror image of the gable-like wall, the gable-like wall and the valley extending substantially at right angles to one another, abutting units having their respective ridges oriented at 90° to each other to thereby form a continuous zig-zag ridge line.

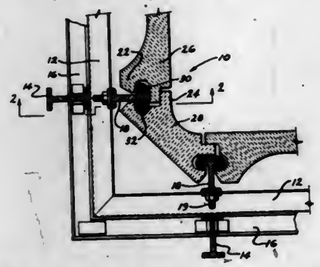
3,435,577
WALL CONSTRUCTION
James D. O'Leary, 11345 N. Valley Drive, Mequon, Wis. 53092
Filed June 20, 1966, Ser. No. 558,851
Int. Cl. E04c *1/04*
U.S. Cl. 52—309 5 Claims

A wall construction including a sheet of foraminous material which is secured to a vertical supporting structure. A layer of adhesive is applied to the foraminous material and is composed of polyester resin, a granular, generally inert filler and short asbestos fibers, and a series



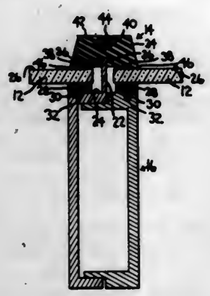
of stones or other objects are bonded to the adhesive layer.

3,435,578
FURNACE WALL CONSTRUCTION
Herbert E. Taylor, Longmeadow, Mass., and David R. Pearl and Lawrence S. Wolfson, West Hartford, Conn., assignors to Combustion Engineering, Inc., Windsor, Conn., a corporation of Delaware
Filed Aug. 24, 1967, Ser. No. 663,057
Int. Cl. E04b *1/62;* E04f *15/14*
U.S. Cl. 52—396 3 Claims



A furnace, the walls of which are constructed of an outer corrugated metal wall, and an inner refractory block wall which is exposed to the furnace interior. The corrugated wall has vertical channel members secured thereto, and the refractory blocks have flanges on each side, which cooperate with the channel members to hold the blocks in place.

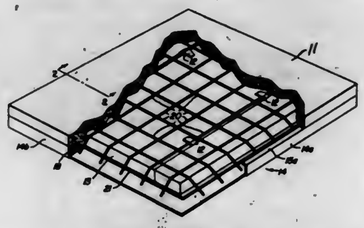
3,435,579
THERMALLY INSULATED WALL CONSTRUCTION
William J. Horgan, Jr., Pittsburgh, Pa., assignor to PPG Industries, Inc., Pittsburgh, Pa., a corporation of Pennsylvania
Filed Nov. 22, 1966, Ser. No. 596,285
Int. Cl. E04b *1/62;* E04f *15/14*
U.S. Cl. 52—400 11 Claims



A curtain wall or partition wall construction having a

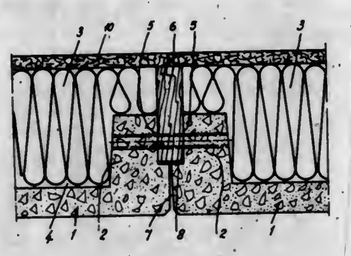
structural rubber gasket and rubber panel backing strips that thermally and acoustically isolate supported panels and associated metal stiffening members.

3,435,580
INSULATED, REINFORCED CONCRETE, PANEL-TYPE BUILDING UNIT
Taylor S. Merrill and Donald D. Johnson, Salt Lake City, Utah, assignors to Otto Buehner & Company, Salt Lake City, Utah, a corporation of Utah
Filed Mar. 17, 1966, Ser. No. 535,121
Int. Cl. E04b *3/20;* E04c *1/06, 1/16*
U.S. Cl. 52—405 10 Claims



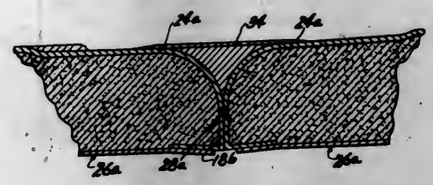
A curtain wall building unit of panel formation, having sheet material providing one broad face of the panel and a mesh-reinforced concrete slab providing the opposite face. Slab insulating material is positioned between the two facing components of the panel, and a plurality of relatively narrow strut pieces, mutually spaced both longitudinally and transversely of the panel, are fastened to the sheet material and extend through the insulating material into embedded engagement with the mesh reinforcing of the concrete slab.

3,435,581
INSULATED WALL CONSTRUCTION FOR BUILDINGS
Karl Ahlqvist, Strandvagen 55, Sollentuna, Sweden
Filed July 5, 1966, Ser. No. 562,752
Claims priority, application Sweden, July 9, 1965, 9,070/65
Int. Cl. E04b *2/32, 1/62*
U.S. Cl. 52—405 7 Claims



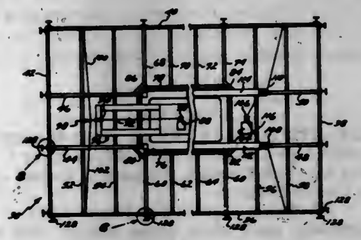
A plurality of blocks are provided, each having inwardly extending flanges along the vertical side edges thereof. Each flange has in its outer face a recess extending vertically thereof, the recesses of facing flanges of adjacent blocks receiving a locking-rail. A clamping bolt extends throughout the facing flanges and the associated locking-rail to secure adjacent blocks to one another. The locking-rail extends a substantial distance inwardly of the innermost edges of the associated flanges. Insulating elements are fitted within the space between the flanges of each block, these insulating elements also extending a substantial distance inwardly of the innermost edges of the flanges of the associated block.

3,435,582
WALLBOARD CONSTRUCTION
Virgil V. Disney, Evanston, and Mitchell P. Ptasienski, Elk Grove Village, Ill., assignors to United States Gypsum Company, Chicago, Ill., a corporation of Illinois
Filed Mar. 2, 1966, Ser. No. 531,308
Int. Cl. E04c *2/04;* B32b *3/02, 13/08*
U.S. Cl. 52—608 8 Claims



A gypsum wallboard construction is provided with a particular board edge construction adapted to obviate the occurrence of a joint deformity known as "ridging." The wallboard has opposed front and rear planar faces, a cellular gypsum core, and a plurality of multiply paper cover sheets conforming and adhering to the core which has been provided with longitudinal edges which comprise one portion adjacent and perpendicular to the rear planar face and another, curvilinear portion adjacent the front planar face to provide a depression for receiving a sealing composition when two panels are joined in edge abutting relationship.

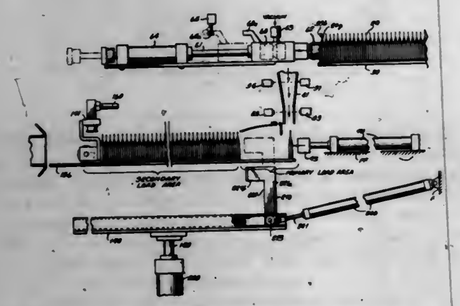
3,435,583
METHOD OF FORMING BUILDINGS
Victor Ben-Aziz, Garden Grove, Calif., assignor to National Coordinators, Inc., Fullerton, Calif., a corporation of California
Filed Apr. 11, 1966, Ser. No. 541,680
Int. Cl. E04g *21/14;* E04b *1/34, 1/35*
U.S. Cl. 52—745 2 Claims



The specification of this application teaches a method of forming buildings in which a core structure is erected such that steel members incorporated in the structure are exposed at its exterior surface. Cranes or other lifting means are provided on that core structure for lifting heavy loads. Structures which will become floors of the building are assembled at the base of the core structure such that they encompass the core and are made of steel in regions adjacent the core. The floor structures are then lifted into place and affixed temporarily to the core structure. Each floor is adjusted so that that portion of the floor which is adjacent the core structure is level. The floor is then secured, employing a metal to metal connection, to the core structure. Columns are erected at the margins of the floors and each floor is adjusted so that it is level in the regions of its outer periphery and is then fixed to the columns. An exterior wall structure is erected by attaching wall and window panels to the several floors. The several floors are completed by applying layers of sheet steel and concrete to them.

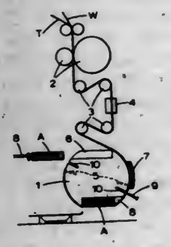
The number of building units may be multiplied by creating separate core structures and floors for each building unit and by interconnecting the floors of the several units.

3,435,584
PACKAGING MACHINE
Karl E. Prechter, Middletown, N.J., assignor to Domino Sugar Company, a corporation of Delaware
Filed June 14, 1966, Ser. No. 557,582
Int. Cl. B65b 57/10, 35/54, 35/50
U.S. Cl. 53—62 9 Claims



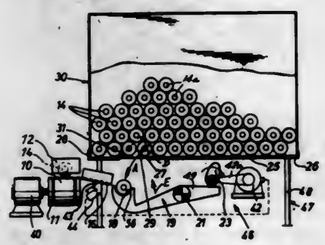
A packaging machine for filling a succession of receptacles with a measured number of packets in plural columnar arrangement is made up of a station adapted to accommodate an interleafed, side-by-side, plurality of columns of said packets, each column having said packets contiguous with one another along the major portion of their broad faces and standing on edge, means for supplying packets on edge to said station in pluralities equal to the number of said columns, the individual packets in said pluralities being arranged side-by-side and being overlapped at the edges thereof to provide interleafing of said columns, means for counting the number of said packets supplied to form said columns and means for moving said interleafed plurality of columns as a unit and on edge into said receptacle upon reaching a predetermined packet count by said counting means.

3,435,585
APPARATUS FOR PACKING AND WRAPPING
Eric Neville Coles, London, England, assignor to Wix of London Limited, London, England, a limited company of the United Kingdom
Filed Oct. 7, 1965, Ser. No. 493,825
Claims priority, application Great Britain, Oct. 9, 1964, 41,326/64
Int. Cl. B65b 61/18, 11/28, 49/14
U.S. Cl. 53—133 4 Claims



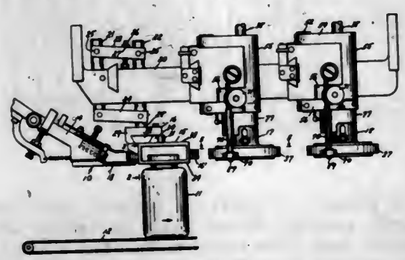
A wrapping apparatus includes an intermittently rotated drum having article receiving recesses movable with the drum between feed and discharge positions, and transversely positioned suction ports located between the recesses. A wrapper web is releasably engaged by the suction ports which pulls the web about the drum. At the feed station a pusher advances an article into a recess which is then advanced and covered by the web and stopped at the discharge position and an ejector member pushes the article out of the recess and pulls the web with it, a cutter slitting the web along a line trailing the recess.

3,435,586
APPARATUS FOR LOADING BOBBINS INTO SHIPPING RECEPTACLES
Hermann Scherr, Ebersbach (Fils), Germany, assignor to Zinser-Textilmaschinen Gesellschaft mit beschrankter Haftung, Ebersbach (Fils), Germany
Filed Oct. 21, 1966, Ser. No. 588,613
Claims priority, application Germany, Oct. 23, 1965, Z 11,823
Int. Cl. B65b 5/08, 39/00
U.S. Cl. 53—242 11 Claims



Apparatus for loading apertured shipping receptacles with bobbins directly upon removal of bobbins from the stripping station of a spinning frame or twister comprises an endless belt which transports bobbins from the stripping station to a loading station, a stand arranged to support receptacles adjacent to the loading station, and a loading unit which transfers bobbins from the conveyor through the aperture and into the interior of the receptacle on the stand.

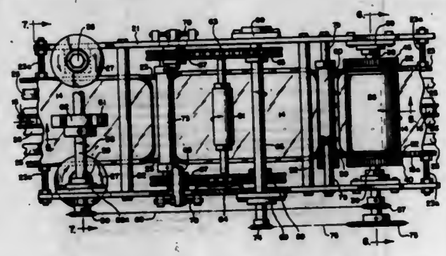
3,435,587
SELF-ADJUSTING CAP APPLYING MECHANISM
Arthur W. Weller, Brooklyn, N.Y., assignor to Resina Automatic Machinery Co., Inc., Brooklyn, N.Y., a corporation of New York
Filed Dec. 23, 1966, Ser. No. 604,285
Int. Cl. B67b 3/20; B65b 7/28
U.S. Cl. 53—317 3 Claims



1. In a container capping machine having means to feed a succession of caps and a succession of containers which meet at a capping location and roller means for rotating said caps to threadedly engage the same upon said containers, the improvement comprising means to automatically laterally adjust the axial position of said rollers to correspond to wear on the peripheral surfaces thereof, said means including first roller supporting means in fixed relation with respect to said capping machine,

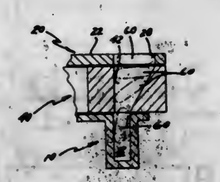
second means related to said first means for movement in a plane perpendicular to the axis of rotation of a roller, and having bearing means for supporting said roller for rotation, third means resiliently engaging said second means in a direction whereby said roller will lie within the path of travel of an engaged cap supported upon the neck of a container, fourth means for determining the limit of travel of said second means to fix the adjusted location of the peripheral surface of said roller, and sensing means for determining the effective diameter of said peripheral surfaces with the occurrence of wear, and relocating the position of said fourth means in accordance therewith.

3,435,588
CONTINUOUS MOTION CLOSURE APPARATUS
Charles J. Johnson, Jr., and Harry G. Westerlund, Des Plaines, Ill., assignors to Ekco Products, Inc., Wheeling, Ill., a corporation of Illinois
Filed July 1, 1966, Ser. No. 562,397
Int. Cl. B21d 51/32; B65b 7/28
U.S. Cl. 53—366 4 Claims



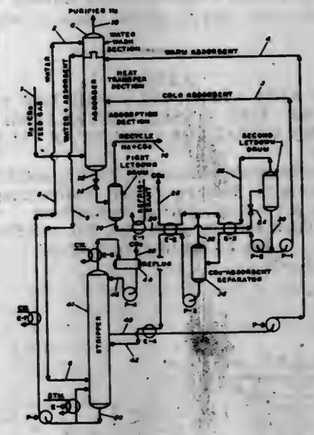
Apparatus for feeding a container and closure in closing position relative to said container in a continuously moving path for engagement with folding means for folding and interlocking the rim of the container about the marginal edge of the cover while also providing cover hold-down means to prevent relative shifting of the cover while the rim of the container undergoes action of said rim folding and interlocking means.

3,435,589
APPARATUS FOR PACKAGING SMALL OBJECTS
Frederick B. Horton, 1564 Sherin Drive, NE., Grand Rapids, Mich. 49505
Filed Sept. 13, 1965, Ser. No. 486,736
Int. Cl. B65b 67/00, 57/18, 57/20
U.S. Cl. 53—390 4 Claims



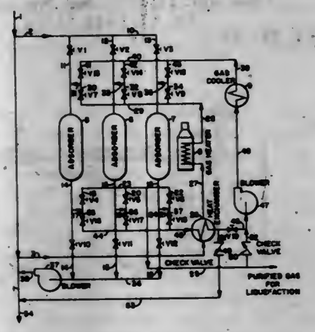
An apparatus having a tray-like member for holding a number of tablets or the like in bulk form, with a predetermined number of apertures by which a corresponding number of tablets may be readily measured from the bulk quantity thereof, and including chute means beneath the apertures for orienting the tablets or other such objects dropped therethrough into a predetermined desired position for entry into a corresponding number of correspondingly oriented compartments within a given receptacle.

3,435,590
CO_2 AND H_2S REMOVAL
Calvin S. Smith, El Cerrito, Calif., assignor to Chevron Research Company, San Francisco, Calif., a corporation of Delaware
Filed Sept. 1, 1967, Ser. No. 665,108
Int. Cl. B01d 49/00
U.S. Cl. 55—43 13 Claims



A process for removing H_2S and/or CO_2 from a H_2-containing gas mixture fed to a low point in a CO_2 absorber. Cold, lean, liquid absorbent such as propylene carbonate, acetone or methanol is fed to an intermediate point in the absorber and flows downward in countercurrent contact with the gas mixture, thus absorbing H_2S and/or CO_2 and cooling the H_2. Warm, lean, liquid absorbent is fed to an upper point in the absorber and flows downward in countercurrent contact with the cold H_2 at a point above the intermediate point, thus cooling the absorbent and warming the cold H_2. The absorbed gases are later removed by flashing and stripping.

3,435,591
PROCESS AND APPARATUS FOR PURIFYING GAS
John R. Spencer, Walton D. Greathouse, and James H. Cheek, Houston, Tex., assignors to Continental Oil Company, Ponca City, Okla., a corporation of Delaware
Filed Sept. 9, 1966, Ser. No. 578,246
Int. Cl. B01j 1/22; B01d 53/04
U.S. Cl. 55—62 4 Claims



A cyclical method and apparatus for removing condensables from part of a hydrocarbon gas stream are disclosed. A first portion of a hydrocarbon feed stream is passed through a sorbent bed wherein condensables are adsorbed and an effluent dry gas is produced; a second portion of the hydrocarbon feed stream is diverted,

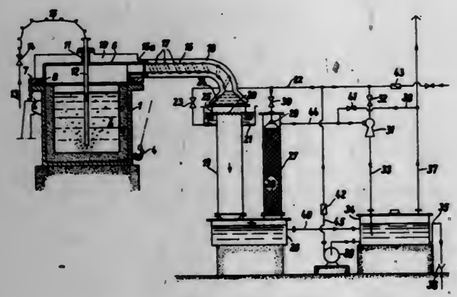
heated, passed through a second saturated sorbent bed; condensables in the saturated bed are vaporized into the heated flowing gas stream which is then returned to the remainder of the original hydrocarbon stream at a point downstream of the take-off points for the first and second portion streams; a third hot regenerated bed is cooled by a circulating stream of cool gas in a closed cooling circuit. The sorbent beds are cycled through the adsorption, heating and cooling phases consecutively.

3,435,592

PROCESS AND APPARATUS FOR THE PURIFICATION OF THE GASES GENERATED IN THE CHLORINATING TREATMENT OF ALUMINOUS MELTS

Ernst E. Lindenmaier, Kusnacht, Zurich, and Edgar Jackel and Ludwig G. Mathys, Zurich, Switzerland, assignors to Krebs & Co. Ltd., Zurich, Switzerland

Filed July 28, 1966, Ser. No. 568,584
Int. Cl. B01d 57/00, 47/02
U.S. Cl. 55—71 3 Claims



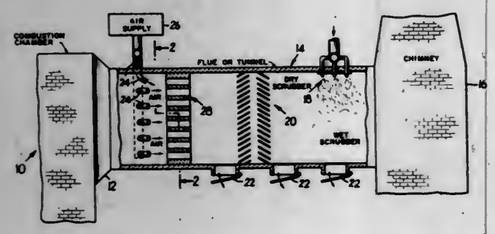
The waste gas from a chlorine-treated aluminum melt is passed with a temperature above the sublimation temperature of the gaseous aluminum chloride contained therein into a falling film condenser in which walls completely covered with a film of a cooling liquid which dissolves condensed aluminum chloride, enclose the waste gas stream.

3,435,593

GAS CLEANING PROCESS AND APPARATUS

Louis F. Nordone, 300 Hayward Ave., Mount Vernon, N.Y. 10552

Filed Apr. 21, 1967, Ser. No. 632,660
Int. Cl. B01d 51/10
U.S. Cl. 55—84 7 Claims



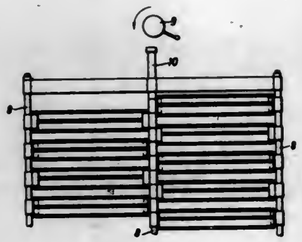
In a method of removing fly ash and the like from a flue gas in which the flue gas is caused to flow through one or more gas cleaning devices located in the flue, or tunnel, the step of introducing into the flue upstream of the cleaning devices and within about the first one-third of the length of the flue, a relatively small proportion of cool, dry air in an amount effective to reduce turbulence in the flue gas flow, but not in an amount so high that natural draft is reduced below that required for the effective removal of the flue gas from the combustion chamber being served. The air introduced into the flue should have a temperature not greater than 70° F. and a dew point not greater than 55° F., and the quantity of air introduced is usually in the range of between 5% and 20%, by weight, of the flue gas.

3,435,594

ELECTRODE DISCHARGE PLATE FOR DUST COLLECTOR

Walter Steuernagel, Frankfurt am Main, Germany, assignor to Metallgesellschaft Aktiengesellschaft, Frankfurt am Main, Germany

Filed Oct. 19, 1967, Ser. No. 676,402
Claims priority, application Germany, Oct. 28, 1966, M 71,485
Int. Cl. B03c 3/76, 3/40
U.S. Cl. 55—112 1 Claim



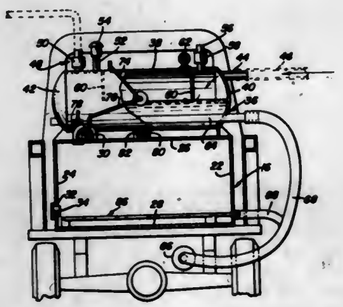
The discharge plate for an electrostatic dust collector or separator is a flat metal plate having trapezoidal ridges pressed out alternately on both sides of the plate. Each ridge has an outer portion parallel to the plane of the metal plate and discharge points are punched out of the outer portion and extend normal to the plane of the outer portion. This electrode has good electrical characteristics as well as high mechanical rigidity and good dust shaking vibrating properties.

3,435,595

APPARATUS FOR RECLAIMING PARAFFIN AND OTHER LIQUIDS FROM A GAS FLOW LINE

Talmadge D. Skelton, Hobbs, N. Mex., assignor to The Skelton Corporation, Hobbs, N. Mex.

Filed Sept. 8, 1967, Ser. No. 666,410
Int. Cl. B01d 19/00
U.S. Cl. 55—169 1 Claim



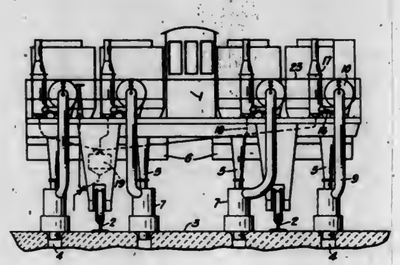
A pair of first and second tanks with the first tank including inlet means adapted to have the outlet end of a gas conduit from a well, through which heavy paraffin and lighter hydrocarbons also flow, secured thereto and also a gas outlet provided with means operable to maintain the first tank under a predetermined minimum pressure, the first tank including means operative to cause most liquids, semi-solids and solids contained in the flow of gas to precipitate to the bottom of the first tank as the flow from, an associate well passes through the first tank and selectively actuatable discharge means operable to discharge precipitate from the lower portion of the first tank into the second tank in response to a rise in the level of precipitate in the first tank.

3,435,596

GAS CLEANING APPARATUS FOR COKE OVEN BATTERIES

Klaus Hornung, Essen-Kray, Germany, assignor, by mesne assignments, to Koppers Company, Inc., Pittsburgh, Pa., a corporation of Delaware

Continuation-in-part of application Ser. No. 554,438, June 1, 1966. This application June 29, 1967, Ser. No. 650,085
Int. Cl. B01d 47/06
U.S. Cl. 55—223 5 Claims



A rotating impact wheel communicates through a conduit mounted tangentially to a gas-tight annular hood surrounding the coal discharge conduit on a larry car, and causes gases, emanating during charging coal into a coke chamber, to separate partially from solid matter in the gases. The gases pass through the rotating wheel into a static separator where further separation of solid particles occurs. The gases passing through the conduit are sprayed with washing fluid.

Another conduit surrounds the opening in the larry car hopper and this conduit, having slits in the top, communciates wtih the rotating impact wheel. When loading coal into the larry car suction in the other conduit removes coal dust from the vicinity of the larry car hopper.

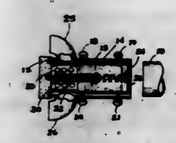
3,435,597

ANTI-SMOG DEVICE

Eugene A. Levy, 19600 Vose St., Reseda, Calif. 91335

Filed Sept. 1, 1966, Ser. No. 576,597
Int. Cl. B01d 35/18, 35/10
U.S. Cl. 55—269 2 Claims

The invention is an anti-smog device of the type particularly adapted for use with automobile exhausts. The device is one that combines filtering and precipitation to accomplish its purpose. The filter may be of the bristle brush type and generally cylindrical in form to fit within a cylinder. The cylinder fits within the exhaust or tail pipe of the automobile. Cooling means which may be any of various types, is provided and positioned to produce cooling effect in the vicinity of the filter so that the purposes are achieved by the combined filtering and precipitation. The filter may be at the after or forward end of the cylinder holding the filter which fits into the tail pipe. In the form of device wherein the refrigerating or cooling



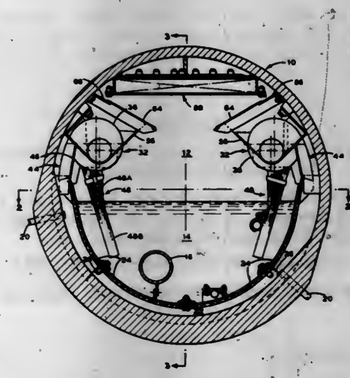
unit is at the after end, the unit is provided with side or lateral exhaust arms for the escape of the filtered gases.

3,435,598

VAPOR AND LIQUID DRUM INCLUDING CYCLONE SEPARATOR

Earl E. Coulter, Akron, and Lowell E. Johnson and Thomas M. Modrak, Alliance, Ohio, assignors to The Babcock & Wilcox Company, New York, N.Y., a corporation of New Jersey

Filed Apr. 17, 1964, Ser. No. 360,665
Int. Cl. F22b 37/32; B04c 5/04; B01d 47/02
U.S. Cl. 55—424 6 Claims



1. In a steam and water drum normally having a water level separating a steam space from a water space and containing means forming an inlet compartment arranged to receive water-steam mixtures, a water-steam separator in said drum comprising means forming a substantially cylindrical horizontally arranged whirl chamber, means forming a separated water discharge conduit having an inlet end connected to the circumferential wall of the whirl chamber and opening to and extending along the length thereof and an outlet end opening to said water space at a position beneath the water level of the drum, said conduit constituting the only outlet for discharge of separated water from the whirl chamber, a perforated plate covering the inlet end of said conduit, means for passing the water-steam mixtures from said compartment tangentially into said whirl chamber along the length thereof and effecting a whirling path of water-steam travel therein along the circumferential wall of said chamber at a velocity sufficient to centrifugally separate the steam from the water, to cause most of the separated water to discharge through said perforated plate and conduit into the water space and to cause recirculation of the remainder of the separated water in the whirling path, said perforated plate being proportioned and arranged to provide a pressure drop of a magnitude sufficient to assure the

maintenance of a water film over said plate to inhibit carry-under of steam to said water space, and means forming an outlet for separated steam arranged at one end of said whirl chamber and opening to said steam space.

3,435,599

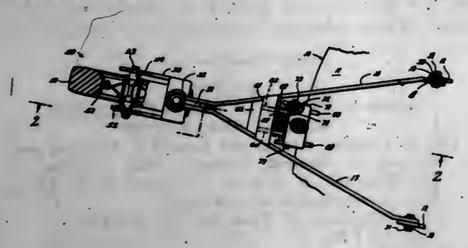
WHEEL MOUNT

John F. Engler, % Engler Manufacturing Corp., P.O. Box 7616, Houston, Tex. 77007

Filed Mar. 2, 1967, Ser. No. 619,987

Int. Cl. A01d *35/26*; B62d *21/14*

U.S. Cl. 56—25.4 4 Claims



A mower with a swiveled rear wheel supported on a frame pivotally attached to the mower and extending rearwardly therefrom, with a spring between the mower and the frame.

3,435,600

APPARATUS FOR TRIMMING OR CUTTING VINES OR OTHER VEGETATION

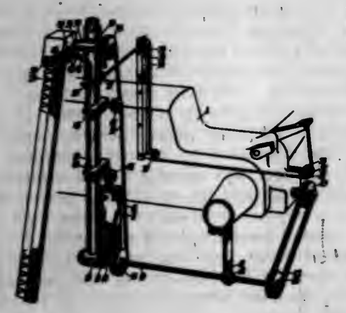
John Leslie Tickle, Hartwell, near Melbourne, Victoria, Australia, assignor of one-half to Peter Bruce Arnold, Cobdogla, South Australia, Australia

Filed Dec. 22, 1965, Ser. No. 515,561

Claims priority, application Australia, Dec. 23, 1964, 53,291/64

Int. Cl. A01d *55/02*

U.S. Cl. 56—237 6 Claims



Apparatus, which may be tractor mounted, for cutting vines and other vegetation, particularly between rows and at diverse angles, which comprises an adjustable column, bracket means connected pivotally to one end of the column, the bracket means being adapted to be mounted on a tractor in such manner as to support the column in upwardly-extending position and being pivotal relative to the tractor, a cutter bar, a driving head at one end of the cutter bar, driving means for imparting a drive to cutter blades supported by the cutter bar, support means at the upper end of the column supporting the driving head and cutter bar in adjustable angular relationship with the column, means for adjusting the angular position of the cutter bar relative to the column and for securing them in adjusted angular relationship, and power means for imparting a drive to the driving means.

3,435,601

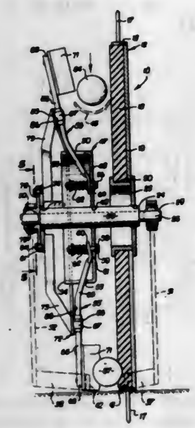
MELON LOADER

Gerald D. Smith, 943 E. Murphy, and David G. Marlow, Rte. 2, Box 295, both of Blythe, Calif. 92225

Filed Nov. 15, 1966, Ser. No. 594,534

Int. Cl. A01d *45/00*

U.S. Cl. 56—327 10 Claims



1. In a melon loader:
(a) a frame member;
(b) a wheel mounted for rotation on said frame member;
(c) pickup means mounted for rotation in spaced axial alignment with said wheel and adapted to be rotated therewith; and
(d) means mounted on said frame member to move a portion of said pickup means axially with respect to said wheel during rotation from a melon pickup location to a melon release location,
(e) said pickup means portion being moved axially toward said wheel at said pickup location to hold each melon against said wheel and being moved axially away from said wheel at said release location to permit each melon to drop from the loader.

3,435,602

STRAND WRAPPING MACHINE

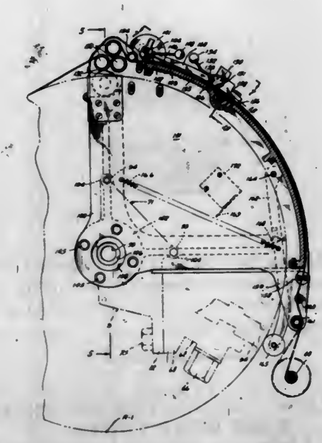
Chester R. Sheets, East Paterson, N.J., assignor, by mesne assignments, to the Okonite Company, Passaic, N.J., a corporation of Delaware

Filed May 20, 1965, Ser. No. 457,303

Int. Cl. D02g *3/36*

U.S. Cl. 57—15 20 Claims

Method and apparatus for helically wrapping an axially moving strand by orbiting a plurality of covering tape spools about said strand while each tape is withdrawn from its spool by a capstan driven at least as fast as the tape is applied to the strand so as to deliver the tape to



a point substantially free of tension so that a tensioning means can subsequently apply the desired tension to the tape free of varying condition at the supply spool.

3,435,603

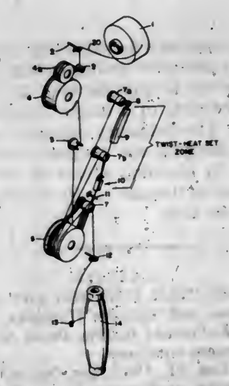
PROCESS AND APPARATUS FOR PRODUCING TORQUE IN SYNTHETIC FILAMENTS, FIBERS AND YARNS

Charles M. Rice, Chandler, N.C., assignor to American Enka Corporation, Enka, N.C., a corporation of Delaware

Filed Oct. 30, 1967, Ser. No. 678,807

Int. Cl. D01h *13/28, 7/92, 7/46*

U.S. Cl. 57—34 9 Claims



Process and apparatus for imparting torque to a continuous synthetic filament, strand or yarn end comprising forwarding the yarn to a heat setting means, thence to a zone where the yarn is wrapped one or more turns about itself, and finally to a device for collecting the yarn in package form; the yarn, while under forwarding tension and being wound on itself, translates twist about its own longitudinal axis which can be set by heating and subsequent cooling.

3,435,604

TEXTILE SPINDLE ARRANGEMENT

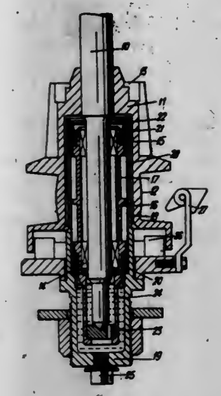
Keith Shotbolt, Newport, England, assignor to Imperial Chemical Industries Limited, London, England, a corporation of Great Britain

Filed Jan. 26, 1967, Ser. No. 611,917

Claims priority, application Great Britain, Feb. 7, 1966, 5,360/66

Int. Cl. D01h *7/08, 7/20*

U.S. Cl. 57—134 8 Claims



A spindle mounting for textile winding apparatus having improved vibration characteristics comprising a bearing assembly which engages the main frame at two spaced points through non-oil damped resilient means, the spaced points optionally being positioned so as to minimise spindle tilt.

3,435,605

SYNTHETIC FIBER SEWING THREAD

Robert L. Ammons, Kingsport, Tenn., assignor to Eastman Kodak Company, Rochester, N.Y., a corporation of New Jersey

No Drawing. Filed July 10, 1967, Ser. No. 651,997

Int. Cl. D02g *3/02*

U.S. Cl. 57—140 9 Claims

Sewing thread made from a polyethylene terephthalate staple fiber having a denier/filament less than 1.5 and a length 1.5 inches. The thread is characterized by; a modulus generally equal to that of cotton threads; low elongation and elastic recovery; stable to hot air and hot water; resistance to durable press finishing chemicals; and a high strength to size ratio. These sewing threads possess excellent sewability characteristics and possess advantages of both cotton and synthetic based threads without the disadvantages of either.

3,435,606

PROCESS FOR MAKING ELASTOMER/NON-ELASTOMER STAPLE FIBRE YARNS

Alan Roebuck, Doncaster, England, assignor to Imperial Chemical Industries Limited, London, England, a corporation of Great Britain

No Drawing. Filed May 3, 1967, Ser. No. 635,704

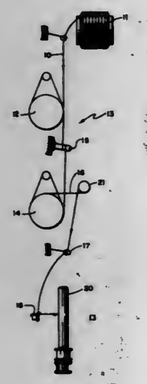
Claims priority, application Great Britain, June 7, 1966, 25,352/66

Int. Cl. C02g *3/02*

U.S. Cl. 57—157 9 Claims

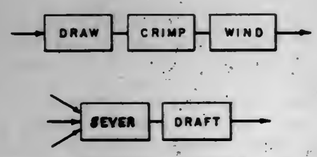
A composite yarn comprising potentially shrinkable elastomeric and non-elastomeric staple fibres is produced by forming a composite roving of a continuous filament elastomer and a sliver of non-elastomeric staple fibres at the front rollers of a roving machine, the elastomeric filaments are then stretch broken on a conventional cotton or worsted spinning machine.

3,435,607
TORQUE YARN PROCESS
Virginia S. Bowers and Francis B. Breazeale, Hendersonville, and Charles M. Rice, Candler, N.C., assignors to American Enka Corporation, Enka, N.C., a corporation of Delaware
Filed Sept. 14, 1964, Ser. No. 395,997
Int. Cl. D02g 3/02; D01h 13/26
U.S. Cl. 57— 157 11 Claims



Production of torque yarn on a twister take-up by stripping back false twist imparted through traveller rotation and by heating yarn in the false twisted area. Stripping action produced by increasing friction between traveller and yarn.

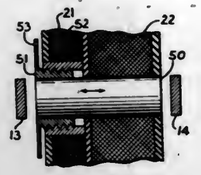
3,435,608
STRAND TREATMENT
Robert K. Stanley, Media, Pa., assignor to Techniservice Corporation
Filed Apr. 28, 1967, Ser. No. 634,657
Int. Cl. D02j 1/22; D02g 1/20
U.S. Cl. 57—157 9 Claims



A textile strand composed at least in part of continuous filaments is drawn to increased length and crimped at such increased length; numerous strands similarly treated are combined side by side in parallel juxtaposition to form a composite strand, and the filamentary components are severed while maintaining the composite strand intact, after which the strand is drafted to reduced diameter into the form of top.

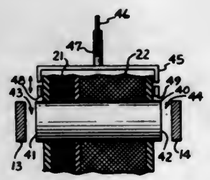
3,435,609
FREQUENCY REGULATOR FOR TUNING FORK DRIVE SYSTEM
Philippe G. Kueffer, La Salle, Ill., assignor to General Time Corporation, New York, N.Y., a corporation of Delaware
Original application Oct. 18, 1965, Ser. No. 497,236. Divided and this application May 10, 1967, Ser. No. 651,335
Int. Cl. G04c 3/00
U.S. Cl. 58—23 2 Claims

A frequency regulator for adjusting the frequency of a tuning fork in a timepiece driving system by adjusting the magnetic flux in the air gaps between the tines of the tuning fork and the ends of a magnetic core used to drive the tuning fork. The frequency regulator adjusts



the magnetic flux by changing the magnetic reluctance of the magnetic core, by shunting a part of the magnetic flux between the ends of the core, or by moving the core back and forth along its axis.

3,435,610
FREQUENCY REGULATOR FOR TUNING FORK DRIVE SYSTEM
Philippe G. Kueffer, La Salle, Ill., assignor to General Time Corporation, New York, N.Y., a corporation of Delaware
Original application Oct. 18, 1965, Ser. No. 497,236. Divided and this application May 10, 1967, Ser. No. 651,337
Int. Cl. G04c 3/00
U.S. Cl. 58—23 2 Claims

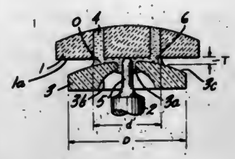


A frequency regulator for adjusting the frequency of a tuning fork in a timepiece driving system by adjusting the magnetic flux in the air gaps between the tines of the tuning fork and the ends of a magnetic core used to drive the tuning fork. The frequency regulator adjusts the magnetic flux by changing the magnetic reluctance of the magnetic core, by shunting a part of the magnetic flux between the ends of the core, or by moving the core back and forth along its axis.

3,435,611
OIL RETAINER FOR ROTARY SHAFT
Yoshiyuki Hirose and Susumu Hanaoka, Tokyo, Japan, assignors to Kabushiki Kaisha Daini Seikosha, Tokyo, Japan, a Japanese company
Filed Jan. 31, 1967, Ser. No. 612,854
Claims priority, application Japan, Feb. 2, 1966, 41/5,745
Int. Cl. G04b 31/00
U.S. Cl. 58—140 4 Claims

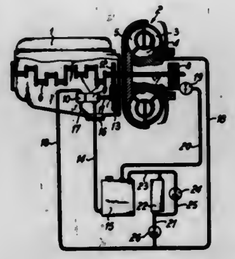
The pivot of a rotary shaft is rotatably supported by an apertured jewel and an end stone which is slightly spaced from the jewel and is provided with one or more small holes arranged on a circle which is smaller than the diameter of the jewel, but larger than the diameter of the hole in the jewel. Lubricating oil is retained by surface tension in the space between the jewel and the end stone and in the small hole or holes in the end stone.

The space between the jewel and end stone and the diameter and location of the small hole or holes in the end stone are interrelated so that the surface tension of



lubricating oil retained in the small hole or holes in the end stone and that of oil retained in the space between the end stone and the jewel are kept in balance.

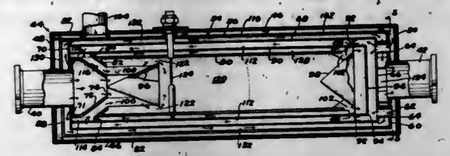
3,435,612
DRIVE UNIT FOR VEHICLES, ESPECIALLY MOTOR VEHICLES
Paul Hensler, Munchingen, Kreis Leonberg, Germany, assignor to Firma Dr. Ing. h.c.f. Porsche KG, Stuttgart-Zuffenhausen, Germany
Filed Nov. 29, 1966, Ser. No. 597,579
Claims priority, application Germany, Dec. 16, 1965, P 38,352
Int. Cl. F16h 41/30
U.S. Cl. 60—12 12 Claims



An internal combustion engine oil circulation system wherein only two pumps are provided for lubricating the internal combustion engine and supplying filling fluid for a hydrodynamic torque converter. One pump returns oil that has dropped into the engine pan from the bearings to a reservoir tank through a pressure regulator and simultaneously provides the filling oil for the torque converter. The torque converter drains through a throttle valve into the tank and a second pump supplys oil from the tank to the engine bearings. The pressure regulator may be a perssure valve and/or an oil filter and excess pressure valve in parallel.

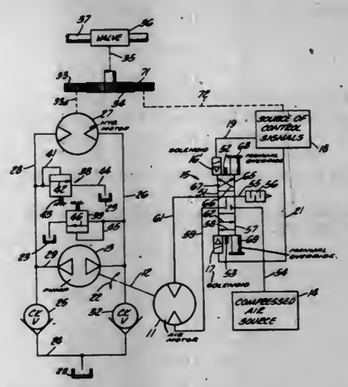
3,435,613
APPARATUS FOR THE TREATMENT OF EXHAUST GASES
Joseph M. Eannarino and Michael S. Granieri, Jr., Rome, N.Y., assignors to Tri-Sciences Industries, Inc., Utica, N.Y., a corporation of New York
Filed Aug. 7, 1967, Ser. No. 658,718
Int. Cl. F01n 3/14
U.S. Cl. 60—30 6 Claims

An apparatus for the treatment of exhaust gases from a combustion engine in which the improvement is characterized by a thermally isolated firing chamber for the burning of exhaust gases with the introduction of supplemental combustion supporting air and the location of baffles at the entrance and the outlet of said firing chamber to insure a rapid rise to operating temperature and



an assembly of annular passages around said firing chamber to effect efficient transfer of heat from exhaust gases to incoming combustion supporting air.

3,435,614
SELF-CONTAINED HYDRAULIC VALVE ACTUATOR
Howard L. Ledeen, 4170 Commonwealth Ave., Pasadena, Calif. 91103, and Elmer W. Childress, 7051 Vanscoy St., North Hollywood, Calif. 91605
Filed Jan. 23, 1967, Ser. No. 610,958
Int. Cl. F15b 9/14, 21/02; F16h 39/50
U.S. Cl. 60—52 11 Claims

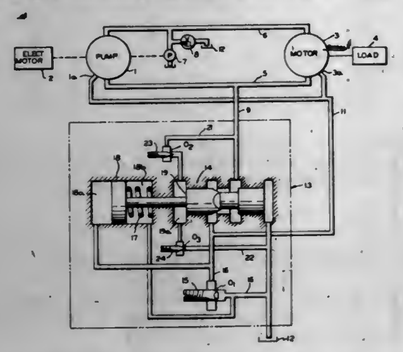


This application discloses a remotely controllable actuator adapted for mounting on the housing of a valve; a rising stem type valve is shown. The actuator contains a prime power source which is a reversible motor driven by any energy source; compressed air is shown. The motor drives a reversible hydraulic pump which has its output connected to a reversible hydraulic motor. The hydraulic motor is connected through a gear train to the valve stem. Control circuits for starting and stopping the actuator are shown. Such circuits function in response to control signals emanating from any source such as a computer or manually operated control station. The controls include pressure relief valves interconnected in such manner along with time delay switches to effect positive closure of a valve by continuous operation of the hydraulic motor until pressure build up in the system reaches a predetermined point at which the valve must be closed.

3,435,615
SPEED REGULATOR FOR HYDROSTATIC TRANSMISSIONS
Roland L. Genz, Portage, and Samuel G. Williams, Kalamazoo, Mich., assignor to General Signal Corporation, a corporation of New York
Filed Oct. 20, 1967, Ser. No. 676,909
Int. Cl. F16h 39/50
U.S. Cl. 60—53 4 Claims

A regulating scheme for reducing variations in the output speed of a hydrostatic transmission of the type em-

ploying fixed displacement pump and motor units. The scheme comprises a bleed conduit leading from the high pressure side of the transmission circuit to a reservoir and containing a throttling valve, a drain conduit connecting

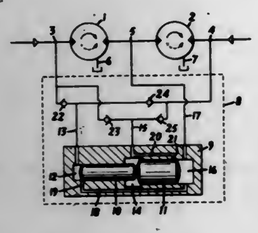


the case drains of the pump and motor with the reservoir, and a control for positioning the throttling valve in accordance with both the pressure in said high pressure side and the sum of the flow rates through the bleed and drain conduits.

3,435,616
EQUALIZING SYSTEM FOR HYDRAULIC MOTORS

Jorgen F. Waldorff, Nordborg, Denmark, assignor to Danfoss A/S, Nordborg, Denmark, a company of Denmark

Filed Feb. 28, 1967, Ser. No. 619,368
Claims priority, application Germany, Mar. 1, 1966, D 49,466
Int. Cl. F01b *25/04;* **F01k** *23/00;* **F02b** *73/00*
U.S. Cl. 60—97 **3 Claims**



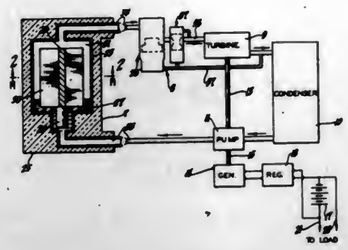
A pressure equalizing system for use with series hydraulic motors connectable to the motors sensing pressure variations across the motors and effective to maintain the pressure drops across series hydraulic motors constant in spite of external conditions and changing operating conditions so that the desired motor speeds and power ratios are maintained. The system uses opposed pistons as valve means opening and closing a fluid bypass for bypassing hydraulic fluid between series motor effective to maintain the pressure hydraulic fluid flow between the motors uniform and effective to maintain the pressure drops across the motors constant and uniform.

3,435,617
POWERPLANT HAVING A RADIOACTIVE HEAT SOURCE

Joseph A. Wagle, New Augusta, Ind., assignor to General Motors Corporation, Detroit, Mich., a corporation of Delaware

Filed Apr. 6, 1966, Ser. No. 540,552
Int. Cl. G21d *5/04;* **G21c** *15/00, 19/28*
U.S. Cl. 60—105 **5 Claims**

A powerplant includes a boiler heated by decay of a radioactive material, a turbine, a condenser, a feed water pump, and a generator driven by the turbine. A relief valve causes the boiler to accumulate steam and then releases it through a constant-pressure regulating valve



to the turbine until boiler pressure is reduced to relief valve closing pressure, which is significantly lower than the opening pressure. The turbine is thus operated intermittently at constant pressure.

3,435,618
CONTROLLED DISSOLUTION OF FLOCCULANTS

Melvin F. Katzer, Danville, Calif., assignor to The Dow Chemical Company, Midland, Mich., a corporation of Delaware

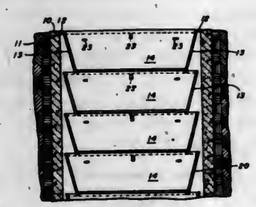
No Drawing. Filed Oct. 7, 1966, Ser. No. 584,991
Int. Cl. E02b *13/00;* **C08f** *45/04*
U.S. Cl. 61—1 **5 Claims**

Shaped articles composed of water-soluble polyelectrolytes and a water-soluble solid matrix of wax is employed to administer the polyelectrolytes to aqueous dispersions. The rate at which such a solid article dissolves in a body of water is modified by the incorporation of a simple water-soluble electrolyte, such as sodium chloride. The technique is particularly effective for introducing flocculant grade polyelectrolytes into a flowing stream of water.

3,435,619
WALL CONSTRUCTION

Earl J. McGuire, Coraopolis, Pa., assignor to Dravo Corporation, Pittsburgh, Pa., a corporation of Pennsylvania

Filed June 13, 1967, Ser. No. 645,707
Int. Cl. E21d *5/04*
U.S. Cl. 61—41 **10 Claims**



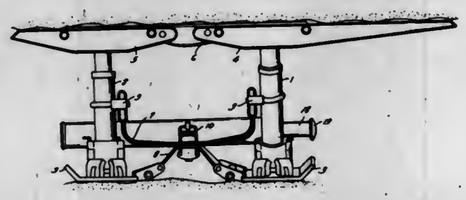
This invention relates to an improvement in shaft curtain wall construction. The curtain wall comprises a plurality of pre-cast concrete panels disposed one atop the other in a vertical plane and supported by and between a pair of support members on opposite walls of the shaft. The support members and panels have matched, reversely inclined abutting surfaces with the inclined surfaces of the support members extending under the matching surfaces of the panels. Each panel has the shape of a symmetrical trapezoid with its long base uppermost, so that

the side edges of the panel slope downwardly and inwardly. The support members comprise opposed vertical columns or recesses in a shaft lining, each with a series of ledges or steps which slope downwardly and inwardly to form supporting surfaces on which the panels rest, with the side edges of each panel resting on the supporting surfaces of the columns. The panels are grouted in place by a non-shrink grout. The weight of each panel is thus carried by the support columns, so that each panel is independently supported.

3,435,620
WALKING MINE ROOF SUPPORT

Walter Weirich, Dortmund, and Günther Kuschke, Castrop-Rauxel, Germany, assignors to Gewerkschaft Eisenhuette Westfalia, Altlunen, Germany

Filed July 11, 1967, Ser. No. 652,509
Claims priority, application Germany, July 12, 1966, H 59,924
Int. Cl. E21d *11/00*
U.S. Cl. 61—45 **7 Claims**



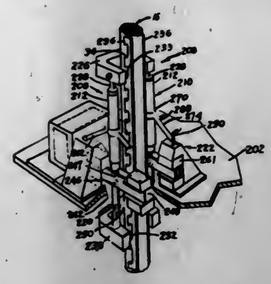
A walking mine roof support including elongated substantially horizontally arranged guide and fluid-operated advancing means including telescopically arranged members, a pair of frames substantially parallel to said guide and advancing means and respectively arranged at opposite sides of the latter and each including a pair of expandable and collapsible pit props spaced in direction of said guide and advancing means from each other and connected to each other by packs of leaf springs, with the leaf springs of one frame fixedly connected at an intermediate portion thereof to one of the telescoping members of said guide and advancing means by rigid transverse connecting means and the leaf springs of the other frame fixedly connected at an intermediate portion thereof to another of the telescoping members, and length adjustable connecting means in the form of fluid-operated cylinder and piston means extending between and pivotally connected to one of the props of one frame and to that telescoping member to which said one frame is connected for steering the direction of movement of said walking mine roof support.

3,435,621
JACKING SYSTEM FOR OFFSHORE PLATFORMS

Roy Bernhard Johnson, York, Pa., assignor to American Machine & Foundry Company, a corporation of New Jersey

Filed July 26, 1966, Ser. No. 567,887
Int. Cl. E02b *17/04;* **B66f** *1/02, 3/46*
U.S. Cl. 61—46.5 **9 Claims**

An offshore platform assembly comprises a platform, a plurality of spuds extending through openings in the platform for engagement with a supporting surface and a jacking mechanism associated with each of the spuds for effecting relative movement between the platform and spuds. Fluid operated jacks are pivotally mounted on the platform for engagement with the spuds and latch means pivotally mounted to the jacks for movement to and from said spuds. Means are provided for moving the jacks into holding engagement with the spuds and the

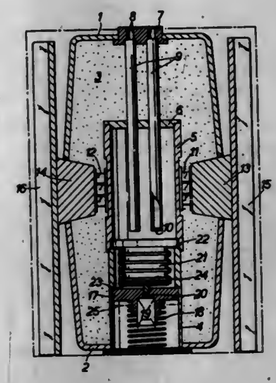


latch means are operable to fix the longitudinal position of the jacks on the spuds.

3,435,622
TEMPERATURE REFERENCE APPARATUS

Donald Moore Barton, London, and Colin Robinson, Reading, England, assignors to De La Rue Frigistor Limited, Langley, England, a British company

Filed Dec. 14, 1966, Ser. No. 601,640
Claims priority, application Great Britain, Dec. 23, 1965, 54,650/65
Int. Cl. F25b *21/02*
U.S. Cl. 62—3 **18 Claims**



A temperature reference apparatus which includes a chamber containing water and connected to the interior of a bellows whereby any change in the volume occupied by the water during freezing and thawing causes movement of the bellows, which movement is employed to operate an electrical switch to control the temperature of the apparatus. The size of the bellows in relation to the quantity of water is arranged to be such that the bellows are not fully extended at any time before the water is completely frozen.

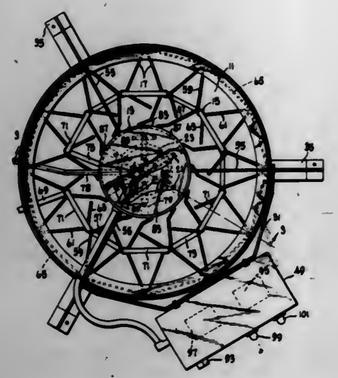
3,435,623
CRYOGENIC VAPORIZER

Lewis Tyree, Jr., Chicago, Ill., assignor to Liquid Carbonic Corporation, Chicago, Ill., a corporation of Delaware

Filed Aug. 22, 1967, Ser. No. 662,428
Int. Cl. F17c *7/02*
U.S. Cl. 62—52 **7 Claims**

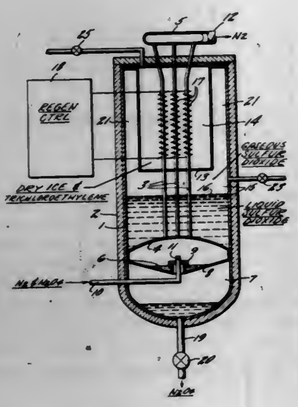
A cryogenic vaporizer having an ambient section which occupies an annular region within which a central elec-

trical section is located. During operation the liquid is vaporized in the ambient section via passage through a plurality of elongated heat exchange elements and the vapor is passed through the central electrical section



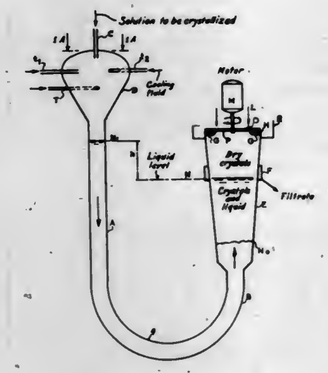
which is thermostatically controlled to raise the vapor temperature to that desired. Each heat exchange element is in physical contact with the central electrical section, and defrosting is carried out during off hours by thermal conduction of heat to the elements.

3,435,624
DUAL TEMPERATURE COLD TRAP
John D. Rockenfeller, Glastonbury, Conn., assignor to United Aircraft Corporation, East Hartford, Conn., a corporation of Delaware
Filed Oct. 31, 1967, Ser. No. 679,307
Int. Cl. B01d *5/00, 53/10*
U.S. Cl. 62—55.5 4 Claims



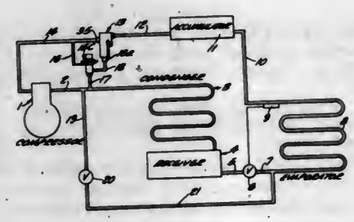
A single primary coolant is used both to solidify remnants of a gaseous impurity in a gaseous flow as well as to condense a secondary coolant which is used to liquify said impurities prior to passage through the solidifying portion of the system. With gravity return of condensed secondary coolant, no compressors or pumps are needed.

3,435,625
PROCESS AND APPARATUS FOR THE CONTINUOUS SEPARATION OF SOLID MATERIALS CONTAINED IN A LIQUID
Herbert F. Wiegandt, Ithaca, N.Y., assignor to Institut Francais du Petrole des Carburants et Lubrifiants, Rueil Malmaison, France
Continuation-in-part of application Ser. No. 298,102, July 29, 1963. This application Mar. 20, 1967, Ser. No. 624,394
Int. Cl. B01d *9/02, 43/00;* C07c *7/14*
U.S. Cl. 62—58 19 Claims



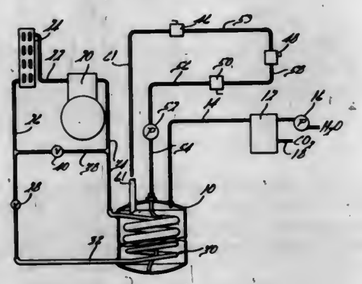
Solids are continuously separated from a liquid containing entrained solids by passing said liquid material into the bottom of a vertical column of increasing cross-section toward the top of the column. The column is provided with a filter in the upper portion thereof which serves to form a porous bed of the solid material which is gradually pushed to the top of the column by the entering flow of solids and liquid. Washing liquid is introduced at the top of the column to wash the solids before removal thereof from the column. The increase in the cross-section of the column and the pressure from the liquid-solid mixture introduced at the bottom of the column raises the porous bed of solids without undue pressure thereon.

3,435,626
PRESSURE CONTROL APPARATUS FOR REFRIGERATION SYSTEM
Daniel D. Wile, Whittier, and David S. Brainard, Alhambra, Calif., assignors to Recold Corporation, Los Angeles, Calif., a corporation of California
Filed Feb. 7, 1966, Ser. No. 525,760
Int. Cl. F25b *41/04;* F16k *31/145*
U.S. Cl. 62—196 6 Claims



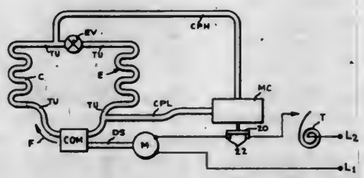
A control valve arrangement having a main control valve that is normally open and a pilot valve or valves that control the control valve to maintain desired operational pressures during the operation and defrost cycles of a refrigeration system.

3,435,627
HEAT EXCHANGE SYSTEM
Herman B. Castillo, Clawson, Mich., assignor to Temprite Products Corporation, Troy, Mich., a corporation of Michigan
Filed Dec. 28, 1966, Ser. No. 605,388
Int. Cl. B67d *5/62;* F28f *1/00*
U.S. Cl. 62—197 3 Claims



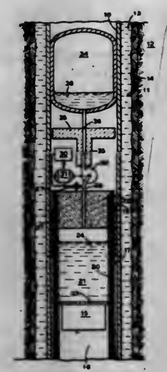
The present disclosure relates to a heat exchange system particularly adapted for the cooling of a recirculating liquid, wherein a portion of the circulating liquid conduit is disposed in a generally coaxial relationship with several of the turns of a refrigeration evaporator coil, other turns of which are immersed in a body of the liquid being cooled.

3,435,628
PRESSURE RESPONSIVE SAFETY CONTROL FOR MOTOR DRIVEN COMPRESSOR
Grover M. Russell, Goshen, Ind., assignor to Penn Controls, Inc., Wheaton, Ill., a corporation of Delaware
Filed May 2, 1967, Ser. No. 635,424
Int. Cl. F25b *1/00, 49/00*
U.S. Cl. 62—228 8 Claims



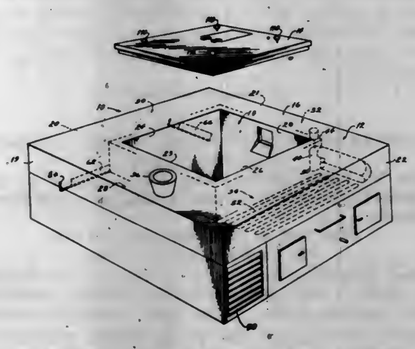
A pressure responsive control for a motor driven refrigeration compressor, which control allows starting of the compressor motor only when the differential pressure between the high and low sides of the compressor are within a predetermined setting. The controller incorporates the additional features of high and low pressure limits to shut down the motor. These control functions are accomplished by one pair of normally closed switch contacts in the motor operate circuit, which contacts allow operation of the compressor until the contacts are opened by any one of three actions: minimum low pressure "cut-out," maximum high pressure "cut-out," or any decrease in pressure on the high pressure side of the compressor. The contacts then remain open preventing restarting until the differential pressure between the high and low sides of the compressor equalizes to within the differential pressure setting of the control.

3,435,629
BOREHOLE LOGGING TECHNIQUE
James K. Hallenburg, Fort Worth, Tex., assignor to Schlumberger Technology Corporation, Houston, Tex., a corporation of Texas
Filed Apr. 13, 1967, Ser. No. 630,665
Int. Cl. F25d *23/12;* F25b *19/00;* H01j *39/18*
U.S. Cl. 62—259 6 Claims



One embodiment of this invention stabilizes the temperature of electrical equipment enclosed in a Dewar flask within a well logging tool at a substantially lower value than the ambient borehole temperature. Cooling water in an evaporator which also is in the Dewar flask, absorbs heat at constant pressure from the electrical equipment. Water vapor from the evaporator is pumped to a higher pressure and discharged into a condenser that is in thermal equilibrium with the borehole. The higher pressure in the condenser causes the vapor to return to a liquid state in order to liberate the heat of vaporization that was absorbed in the evaporator. This heat then is transferred by the condenser to the borehole environment.

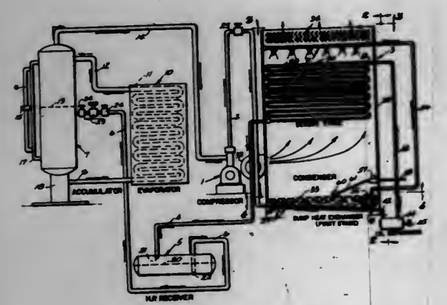
3,435,630
LIQUID IMMERSION TYPE FREEZER
John W. Ferry, Tampa, Fla., assignor to International Refrigeration Company, Inc., a corporation of Florida
Filed July 24, 1967, Ser. No. 655,419
Int. Cl. F25b *3/00;* B63j *2/12;* F25d *25/04*
U.S. Cl. 62—282 10 Claims



A quick freeze refrigeration apparatus which is of an integral construction that is adapted to fit atop or over the hold hatch of a fishing boat. The apparatus is of a generally tubular construction and a has a number of compartments therein through which a freeze solution is caused to circulate. Still other compartments contain

the refrigeration units, cooling coils and the like for quick freezing shrimp, fish and the like. The latter are dumped into the apparatus, frozen and thereafter automatically conveyed and dumped into the hold of the fishing boat for storage. The apparatus further is adapted to refrigerate the storage hold.

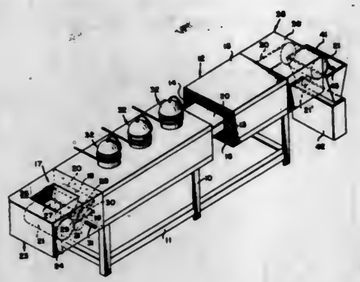
3,435,631
TWO-STAGE EVAPORATIVE CONDENSER
Charles P. Wood, Jr., Cincinnati, Ohio, assignor to Midwest Research & Development Corporation, Cincinnati, Ohio, a corporation of Ohio
Filed Aug. 17, 1967, Ser. No. 661,255
Int. Cl. F28d *5/00*; F25b *43/02*
U.S. Cl. 62—305 9 Claims



The application discloses a self-contained water-air condenser which operates in two stages in cooling and condensing superheated gas, such as ammonia, as the gas issues from a power-driven compressor. In general, the condenser comprises a housing, the lower portion of which includes a water sump heat exchanger (first stage) through which the superheated gas advances from the compressor to be desuperheated or partially cooled. From the sump, the partially cooled gas passes upwardly to a tube-type condenser section (second stage) mounted within the housing above the sump. The housing includes a spray head system above the condenser section which receives water from the reservoir contained in the sump or passage downwardly through the condenser section to aid in reducing the desuperheated gas to a liquid state for recirculation back to the refrigeration system. The cooling action of the second stage condenser section is promoted by passing an air blast stream upwardly to cause partial evaporation and cooling of the water droplets falling by gravity through the tubes of the second stage condenser section.

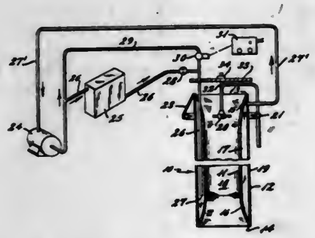
3,435,632
CONVEYOR-TYPE FREEZER USING CARBON DIOXIDE SNOW
Walter Y. Fallin, Jacksonville, Fla., assignor to Instafreeze Corporation, Tustin, Calif., a corporation of Nevada
Filed Oct. 4, 1966, Ser. No. 584,132
Int. Cl. F25d *3/12, 25/04*
U.S. Cl. 62—322 5 Claims

A method and apparatus for freezing, protecting, and/or treating foods and/or other materials including conveying food or material on an endless conveyor belt to a confined area such as a tunnel, feeding a liquid cryogenic agent of a type which changes to snow upon expansion, through tubing to one or more bell shaped housings, each housing having a wall of cold-conducting material, the tubing also being of cold conducting properties and being coiled about the bell shaped housing to effect precooling of the cryogenic agent which produces more snow upon expansion, feeding the liquid cryogenic agent through a nozzle fixed to the tubing within the upper terminal of the housing to expand the liquid cryogenic agent to produce snow which gravitates downwardly onto the food or material on the conveyor belt to freeze



the same, the snow being applied to one or both sides of the food or material, the food or material further being turned subsequent to the application of the snow thereto, if desired, to effect intermingling of the snow and the food or material.

3,435,633
COOLING UNIT
William S. Dixon, P.O. Box 275, Albany, Ga. 31702
Continuation-in-part of application Ser. No. 665,784, Sept. 6, 1967. This application Mar. 22, 1968, Ser. No. 715,326
Int. Cl. F25c *1/00, 5/10*
U.S. Cl. 62—352 10 Claims

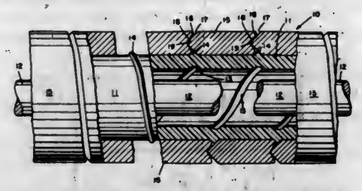


A cooling unit for use with a refrigeration system, such unit being composed of one or more upright open ended bodies each of generally straight sleeves of different diameters arranged in concentric relation about a common axis, said sleeves having their end portions arranged in gradually converging relation and providing closed annular refrigerant chambers with inner and outer exposed surfaces constituting refrigerating surfaces which decrease gradually in proximity to each other toward the ends of the unit and with the extremities of each open ended body unrestricted and minimizing excessive build-up of refrigerated product which would interfere with the release of the product from the cooling unit.

3,435,634
WIRE CABLE HOUSING
Newton L. Chatham, Williamsport, Pa. 17701
Filed Mar. 6, 1967, Ser. No. 620,832
Int. Cl. F16c *1/06, 1/26, 1/10*
U.S. Cl. 64—3 7 Claims

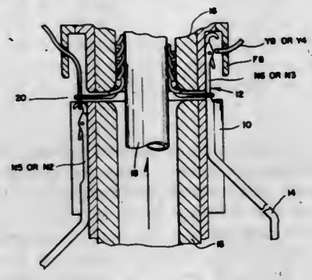
A helically wound spiral flexible cable housing adapted to be wound about a bendable plastic tube through which a cable is operable either longitudinally of the tube or

axially of the tube. The housing is constructed of a flat stock or wire of rectangular cross sectional form having one of its lateral edges formed with a groove and its opposite edge of a tongue-like form to engage the groove of



the adjacent spiral when the wire is wound into a spiral. The housing is wound so that the tongue-like edge frictionally engages the groove to minimize the compression factor of the housing.

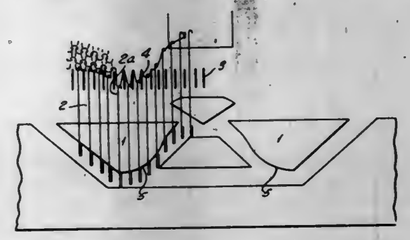
3,435,635
MACHINE FOR KNITTING A TUBULAR COVER OVER A HOSE
Roy D. Faigenbaum, Melrose Park, and John Greczin, Philadelphia, Pa., assignors to Knitting Machinery Corp. of America, Philadelphia, Pa., a corporation
Filed Jan. 28, 1966, Ser. No. 526,675
Int. Cl. D04b *9/44*
U.S. Cl. 66—9 3 Claims



A machine for knitting a tubular fabric over a hose which will not unravel, said machine having a pre-determined number of yarn feeds and the same number of knitting cams, but a lesser number of needles. A spacer sleeve is provided within a hollow needle stem of the machine to enlarge the width of the stitches of the fabric formed on the hose.

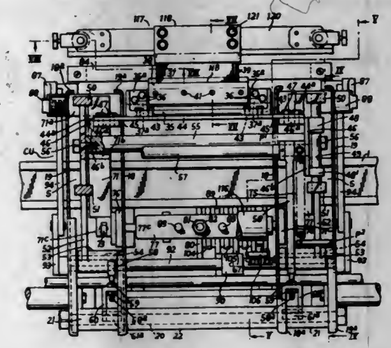
3,435,636
STITCH CAM AND METHOD OF KNITTING SEMIDRAWN YARN
Hellmuth Gustav Lindner, Auerbach, and Wilfried Willy Kotzerke, Einsiedel, near Karl-Marx-Stadt, Germany, assignors to VEB Vereinigte Feinstrumpfwerke, Thalheim, Germany
Filed Feb. 28, 1966, Ser. No. 530,620
Int. Cl. D04b *15/06, 21/18*
U.S. Cl. 66—57 5 Claims

A knitting method and apparatus capable of being used, for example, in connection with a circular knitting machine during the knitting of an article such as a lady's stocking. Individual latch needles coact with sinkers which have upper stitch-drawing surfaces, and the lower needles butts are acted upon by the draw-down surface of a stitch cam which has its draw-down surface convexly curved and outwardly bulging while terminating at its lowermost region, corresponding to the maximum depth of the needles, in a surface portion which is almost horizontal so that a plurality of successive needles, when in the region of their maximum depth, will have their upper ends situated at a substantial distance below the upper stitch drawing surfaces of the sinkers . As a result, the yarn which extends across the upper stitch drawing surfaces of the sinkers frictionally engages these surfaces so that during the drawing of the yarn downwardly between the sinkers the yarn is automatically braked and cannot be fed further to the needles when the latter approach the region of their maximum depth. According to the invention the yarn which is fed to the needles will include a yarn which during the spinning



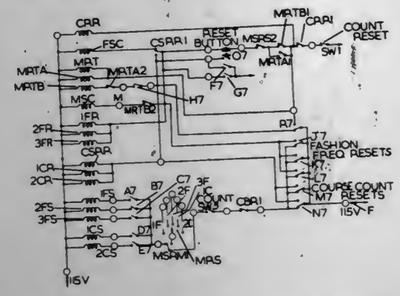
thereof has not been fully drawn, so that the yarn is still in a condition where it can be further drawn and permanently elongated. As a result when the needles have been moved by the stitch cam of the invention to the region of their maximum depth the stopping of the yarn feed by frictional engagement of the yarn with the upper stitch drawing surfaces of the sinkers will result in further drawing of the yarn by the upper yarn-engaging ends of the needles simultaneously with loop formation, so that at least part of the length required for loop formation is brought about by permanent elongation of the yarn.

3,435,637
STRAIGHT-BAR KNITTING MACHINES
Reginald F. Wholton, Syston, and Clive Cartledge, Arnold, England, assignors to Textile Machinery Developments Limited, Leicester, England, a British company
Filed Feb. 20, 1967, Ser. No. 617,204
Int. Cl. D04b *11/14, 11/26*
U.S. Cl. 66—88 20 Claims



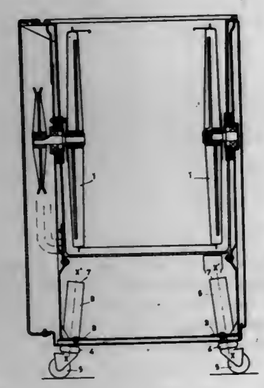
A plain straight-bar knitting machine having a plurality of knitting sections and normally adapted to produce only non-rib fabric. Invention provides initially separate conversion units, applied one to each section to convert the machine into one capable of changing from rib to plain knitting. Each unit comprises a unitary sub-framework supported from a longitudinal member of the machine frame, and includes a bar of horizontal machine needles, a rib knock-over slide and means in the sub-framework operated and controlled from a main cam shaft of the machine for producing motions of the said bar and slide.

3,435,638
STRAIGHT-BAR KNITTING MACHINES
Ernest Start, Ruddington, and Raymond Blood, Loughborough, England, assignors to William Cotton Limited
Filed Sept. 20, 1966, Ser. No. 580,670
Claims priority, application Great Britain Sept. 23, 1965, 40,544/65
Int. Cl. D04b *11/06*
U.S. Cl. 66—89 7 Claims



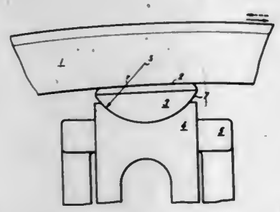
For a straight-bar knitting machine a semi-automatic programming arrangement enabling differently shaped blanks to be produced in automatic continuity from a single pinched chart of reasonably short length without a complex and costly controller and without an unduly great number of counters, by having a series of manually preset counters including for courses and fashions and multiplication of courses and fashions, programming means for rendering the counters effective selectively, and a relay system through which the different counters are controlled from one general arrangement of holes in the punched chart.

3,435,639
MACHINE FOR WASHING AND CENTRIFUGING LAUNDRY
Cyprien Jean Dupeux, Chatou, Yvelines, France, and James Belaieff, Geneva, Switzerland, assignors to North American Philips Company, Inc., New York, N.Y., a corporation of Delaware
Filed Jan. 17, 1967, Ser. No. 609,946
Claims priority, application France, Jan. 17, 1966, 46,074
Int. Cl. D06f *29/02*
U.S. Cl. 68—24 4 Claims



The invention relates to machines for washing and centrifugal drying and is directed to the supporting structure thereof which permits freedom of movement of the machine in the horizontal and vertical directions thereby stabilizing its operation throughout the speed range of the rotating clothes basket. In the specific form illustrated, the frame of the machine is mounted on wheels which are pivotable about respective axes which are offset from the vertical and have their upper ends inclined towards the center of the frame. The wheels are connected to the frame bottom through an elastic coupling consisting of two interfitting coaxial tubes and a helical spring arranged within the tubes and coaxial therewith and with the axis of the mounting wheels.

3,435,640
KNIFE REST FOR A BAND SHAPED SPLITTING KNIFE
František Flekáč, Krnov, Czechoslovakia, assignor to Strojosvit, Narodni Podnik, Krnov, Czechoslovakia
Filed Nov. 21, 1967, Ser. No. 684,864
Claims priority, application Czechoslovakia, Nov. 21, 1966, 7,380/66
Int. Cl. C14b *1/18*
U.S. Cl. 69—10 1 Claim



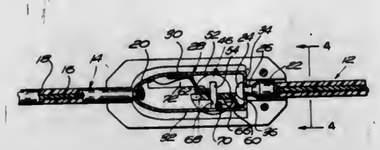
A knife rest for a band shaped splitting knife of a splitting machine for leather, hides and similar flat material, said knife rest automatically adjustable to different conditions of the splitting knife in operation, securing thus a contact between the rear surface of the knife and the active contact surface of the knife rest along a large contact area said rest having a curved face contacting its backing member to facilitate rotation of the rest against its backing member.

3,435,641
METHOD FOR PROCESSING ANIMAL PELTS
Samuel J. Pingree, St. Louis, Mo., and George A. Batman, Greenville, S.C., assignors to The Fouke Company, a corporation of Delaware
Filed Aug. 17, 1967, Ser. No. 661,246
Int. Cl. C14b *1/00*
U.S. Cl. 69—22 10 Claims



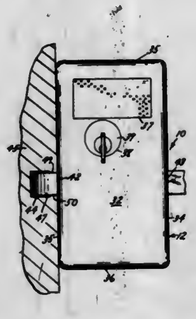
A process for removing guard hair from pelts of fur seal which have been previously conditioned wherein a gripping substance such as an adhesive, a thermal-setting material, or an epoxy resin, on a backing is brought in contact with the guard hair on the skin. The guard hair adheres to or embeds in the gripping substance so that when the backing is parted from the pelt or skin the guard hair will be pulled free from the epidermis. When thermal-setting materials are used, they are applied to the hair at a temperature above their solidifying temperatures, but before the pelt and thermal-setting material are parted the temperature of the gripping substance is reduced below its solidifying temperature. Thereafter the thermal-setting material and the embedded guard hair can be separated and the thermal-setting material be used again.

3,435,642
FLEXIBLE SHACKLE LOCK
Andrew Del Pesco, Danielson, Conn. 06239
Filed Sept. 12, 1966, Ser. No. 578,571
Int. Cl. E05b *67/06*; H01r *13/54*; F16g *11/00*
U.S. Cl. 70—49 10 Claims



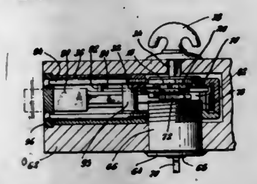
A flexible shackle lock having a housing, in one end of which an elongated flexible cable extends for securement therein, a latch member located in the housing and receiving the other end of the cable in a locked position thereof, a cylinder rotatably mounted in the housing and having a key slot formed therein into which an acceptable externally applied key is inserted for rotating the cylinder, a restricting member being located in the housing for restricting rotation of an unacceptable key that is inserted in the cylinder and the cylinder being arranged for engaging the latch member when the cylinder is rotated by an acceptable key, wherein the cable end is released from the latch member for withdrawal from the housing.

3,435,643
EMERGENCY DOOR LOCK HAVING ALARM MEANS
Edward C. Pollak, 21 Thimble Lane, Hicksville, N.Y. 11801, Bennett B. Harman, 220—55 46th Ave., Bayside, N.Y. 11361, and William Solomon, 46 Croley St., Huntington, N.Y. 11743
Filed Mar. 21, 1966, Ser. No. 536,136
Int. Cl. E05b *65/10, 45/12*; E06c *15/02*
U.S. Cl. 70—92 4 Claims



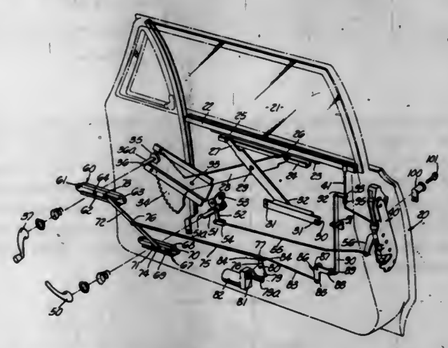
An emergency door lock having integral alarm means permitting authorized personnel in possession of a key to open the door upon which the lock is installed without sounding the alarm, while permitting unauthorized personnel to open the same door in an emergency by sounding the alarm, which alarm cannot be disconnected by subsequently closing the door in the absence of possession of the key.

3,435,644
THUMB KNOB ATTACHMENT FOR MORTISE-TYPE LOCK
John Hines, South Norwalk, Conn., assignor to The New England Lock and Hardware Co., South Norwalk, Conn., a corporation of Connecticut
Filed Oct. 27, 1967, Ser. No. 678,760
Int. Cl. E05b *65/06*; E05c *1/06*
U.S. Cl. 70—129 4 Claims



A thumb knob attachment sub-assembly, for a mortise-type lock, which comprises a pair of toggle arms, each pivoted at one end to a base member with their free ends urged toward one another by a coil spring interconnected between points intermediate the ends of the toggle arms respectively, to press on the outer surface of a cam carrying bushing, which extends through the base member and is wider in one cross section dimension than in another normal to it, and has relatively long flat sides at its narrower dimension and shorter curved sides at its wider dimension. No part of the coil spring is subjected to severe strain and it has long life, functioning to hold the bushing so that the cam thereon will not move, with, or relative to, a supporting spindle, due to vibration or jarring, into a position where it will prevent the bolt of the mortise-type lock from being moved by other means, usually operated from outside a door, such as a cam attached to the inner end of the plug of a key operated cylinder lock.

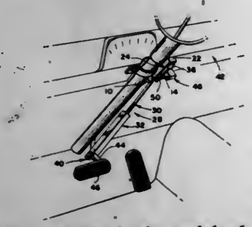
3,435,645
AUTOMOBILE DOOR AND WINDOW SAFETY LOCK
Louis J. Gallo, Las Vegas, Nev., assignor of thirty-three and one-third percent to Peter Epsteen, Chicago, Ill.
Filed Sept. 28, 1967, Ser. No. 671,261
Int. Cl. B60r *25/00*; F16c *3/00*
U.S. Cl. 70—183 5 Claims



A device for incorporation with the operating mechanism of an automobile door and window to lock the same, which door and window are each controlled by the turning of a separate rod or shaft characterized by modifying the door and window operating shafts by flattening a portion of each; providing a pair of slides each having an open bifurcated end or a flattened end, one for each of such shafts; guide means for each of said slides and means for connecting said slides to an electromotor for movement into locking or unlocking position and means

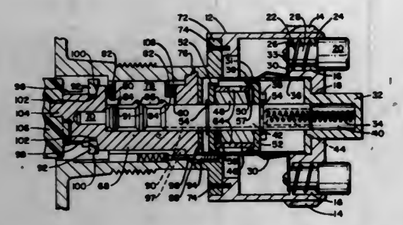
for interconnecting said door latching means to the conventional push rod for additional latching of the door operating latch.

3,435,646
ANTITHEFT DEVICE FOR LOCKING THE BRAKE OF AN AUTOMOTIVE VEHICLE
David N. Michnoff, 7416 Westpark Drive, Hyattsville, Md. 20783
Filed June 12, 1967, Ser. No. 645,199
Int. Cl. E05b 65/12; G05g 5/06
U.S. Cl. 70—203 6 Claims



Locking device for the brake pedal of an automobile, including a receptacle mounted upon the dashboard and an adjustable-length rod having a bifurcated lower end engageable with the brake pedal and an upper end received within the receptacle and held therein by a padlock.

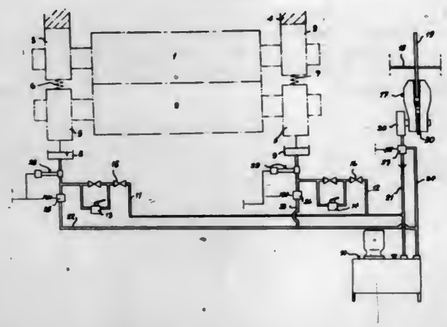
3,435,647
IGNITION COMBINATION LOCK MECHANISM
Edward H. Le Blanc, Cromwell, Conn. (2944 Hopkins Ave., Redwood City, Calif. 94062)
Continuation-in-part of application Ser. No. 613,168, Feb. 1, 1967. This application Aug. 31, 1967, Ser. No. 664,656
Int. Cl. E05b 37/00; B60r 25/04
U.S. Cl. 70—214 11 Claims



An ignition lock mechanism, which fits into the ignition lock housing now provided in automobiles, having axial elements which engage fingers attached to pushbuttons and upon depression of pushbuttons in proper sequence the movement of the axial elements unlock the mechanism so that the lock mechanism can freely rotate and hereby activate the ignition system through the ignition switch which cooperates with the lock mechanism.

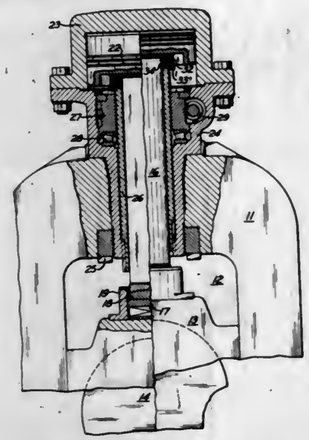
3,435,648
ROLLING MILL
Erik W. Bergström, Guldsmedshyttan, and Nils Gunnar H. Borg, Lindesberg, Sweden, assignors to Trafikaktiebolaget Grangesberg-Oxelosund, Guldsmedshyttan, Sweden, a corporation of Sweden
Filed June 7, 1966, Ser. No. 555,789
Claims priority, application Sweden, June 8, 1965, 7,440/65
Int. Cl. B21b 33/00, 31/32
U.S. Cl. 72—1 6 Claims

An arrangement in rolling mills and the like is provided in which the rolls are mutually movable and means are provided to operate the rolls in a given relative position. Upon overload, as when foreign objects penetrate between the rolls, or when there is danger of injuries to persons, provision is made to separate the rolls in a simple and rapid manner simultaneously as their rotation is reduced or braked. According to the invention the rolls are equipped with hydraulic cylinder and piston assem-



blies to keep the rolls spaced a correct relative distance apart, against springs tending to separate the rolls, with manually or automatically operated pressure release means. The release means can be directly operated by the pressure in the hydraulic system, which at overload rises or is influenced by manual means. The means for separating the rolls preferably consists of cup springs.

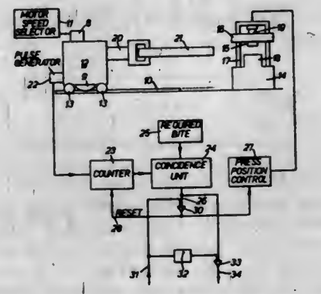
3,435,649
HYDROMECHANICAL GAUGE CONTROL SYSTEM FOR A ROLLING MILL AND LIKE DEVICE
Jeremiah Wagner O'Brien, Mount Lebanon, Pittsburgh, Pa., assignor to United Engineering and Foundry Company, Pittsburgh, Pa., a corporation of Pennsylvania
Filed May 4, 1967, Ser. No. 636,102
Claims priority, application Great Britain, Sept. 9, 1966, 40,489/66
Int. Cl. B21b 37/08, 31/32, 31/24
U.S. Cl. 72—19 4 Claims



A rolling mill including a pair of piston cylinder assemblies arranged at the top of the mill housing for urging the upper roll in a direction to oppose the rolling force and at a force greater than the rolling force. Around each cylinder is a hollow sleeve which is splined so that while the sleeves cannot rotate they are allowed to move vertically to set the initial gap of the mill. The

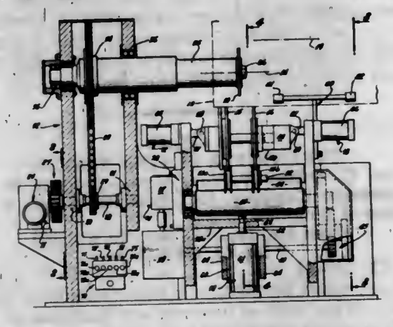
sleeves are driven by a motor-worm wheel set. Between the sleeves and the pistons of the cylinders springs are located which resist the downward movement of the piston.

3,435,650
FORGING CONTROL
Graham Arthur Forster, Sheffield, and Christopher David Collinson, Rotherham, England, assignors to Davy and United Engineering Company Limited, Darnall Works, Sheffield, Yorkshire, England
Filed Apr. 4, 1966, Ser. No. 539,826
Claims priority, application Great Britain, Apr. 7, 1965, 14,810/65
Int. Cl. B21j 13/08
U.S. Cl. 72—24 4 Claims



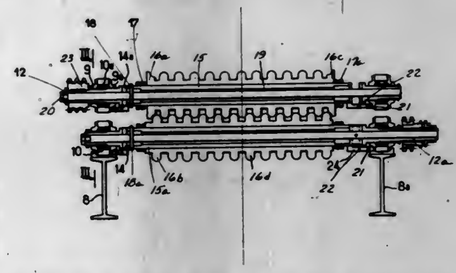
A forging press and a manipulator are controlled so that a workpiece mounted on the manipulator for lengthwise movement relative thereto is forged along its length in a succession of bites by moving the manipulator at a speed determined by the operator and continuously comparing the distance moved by the manipulator with the required forging bite increment and each time the workpiece completes movement equal to said required bite increment a press cycle is automatically initiated so long as the movable press tool is at its position from which the press cycle commences, but if the press tool is not at that position a press cycle is not initiated and the movement of the manipulator is stopped. In this arrangement the manipulator controls the press and not vice versa as is usual in such arrangements.

3,435,651
BELLOWS FORMING METHOD AND APPARATUS
Andrew M. McInnis, Covina, Calif., assignor to Associated Piping & Engineering Co., Compton, Calif., a corporation of Texas
Filed July 14, 1966, Ser. No. 565,236
Int. Cl. B21d 15/06, 51/12
U.S. Cl. 72—105 9 Claims



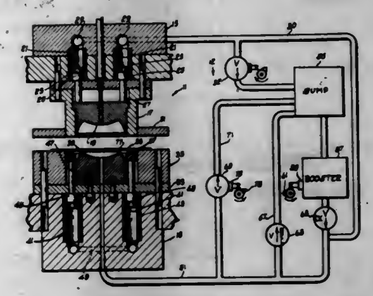
The disclosure concerns apparatus and method for forming bellows corrugations in the wall of metallic tubing using first, second and third rolls with flanges, wherein the tubing wall is progressively bulged by the first roll flange into the space between the second and third roll flanges as the tubing rotates, the rolls imposing substantially the only axial constraint on the tubing.

3,435,652
MOUNTING OF SHAFTS FOR A MACHINE FOR SHAPING METALLIC BANDS
Lucien Diolot, Neuilly-sur-Seine, France, assignor to Societe Nouvelle Spiden, Paris, France
Filed Feb. 9, 1967, Ser. No. 614,883
Claims priority, application France, Feb. 9, 1966, 49,041
Int. Cl. B21d 5/16; B21b 31/34, 31/08
U.S. Cl. 72—180 11 Claims



Mounting of shafts for a machine for profiling metallic bands wherein, at each extremity of a pair of shafts, the bearing block of one of the shafts is articulated on the stationary bearing block of the other shaft; on each shaft the shaping tool for shaping the bands is mounted on a central sleeve between two end sleeves carrying the bearings and the driving pinions with a spindle extending through the three sleeves.

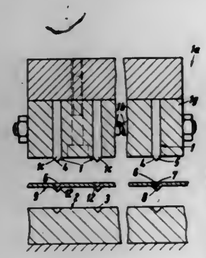
3,435,653
FORMING METHOD AND APPARATUS
Joseph A. Scaletta, Chicago, Roland E. Miller, Orangeville, and John Valek, Cicero, Ill., assignors to National Dairy Products Corporation, Chicago, Ill., a corporation of Delaware
Filed Jan. 21, 1966, Ser. No. 522,284
Int. Cl. B21d 11/04
U.S. Cl. 72—336 9 Claims



In a method and apparatus for forming drawn containers from a metallic blank, the edge portion of the blank is clamped between a pair of opposed clamping members during the drawing operation, with the magnitude of the clamping force being limited to a predetermined maximum which will permit a gradual but not

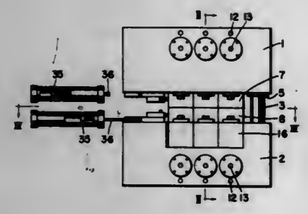
complete withdrawal of the blank from between the clamping members. All of the clamping force is relieved so as to release the edge portion of the blank before the stress in the edge portion is sufficient to fracture the blank and before any portion of the edge portion has become fully withdrawn from between the clamping members.

3,435,654
BOUNDARY LAYER CONTROL
Hermann Papst, St. Georgen, Black Forest, Germany
Original application Dec. 23, 1963, Ser. No. 332,619. Divided and this application Mar. 16, 1966, Ser. No. 534,732
Claims priority, application Germany, Dec. 24, 1962, P 30,859
Int. Cl. B21d *28/00, 17/02*; B23p *15/16*
U.S. Cl. 72—340 16 Claims



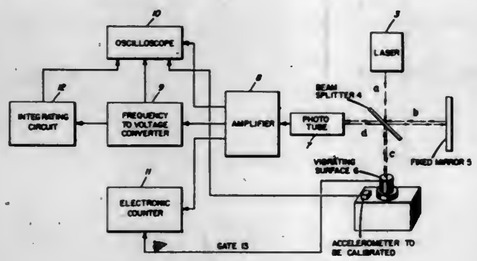
A method of producing boundary layer control means for skin constructions of hollow profiled bodies which are placed into a stream of fluid so that a boundary layer develops during relative movement between the body and the fluid, in which a plurality of narrow elongated slots are formed in a sheet of skin material whose width decreases in direction from one to the other side of the sheet and forming from the sheet at least part of a wall of the hollow body with the other side of the sheet forming the outer surface of the wall.

3,435,655
CLAMPING DEVICE FOR FORGING DIE IN PRESS
Akikazu Iba and Kenji Sakai, Hyogo, Japan, assignors to Sumitomo Metal Industries Limited, Osaka, Japan
Filed Mar. 22, 1966, Ser. No. 536,430
Claims priority, application Japan, Mar. 31, 1965, 40/19,120, 40/19,121
Int. Cl. B21j *13/00*; B21d *37/14*
U.S. Cl. 72—462 10 Claims



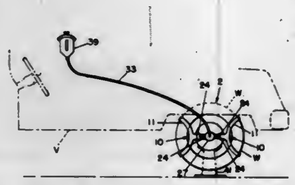
A clamping means for retaining die members in a forging press, wherein the dies are held in one direction by a wedge-shaped block actuated by a fluid driven inclined cam surface, and held in a second direction by a different clamping structure comprising a fluid actuated lever system.

3,435,656
HARMONIC MOTION MEASURING DEVICE USING LASER TECHNIQUES
Robert J. Jordan, Leonardtown, Robert B. Davis, Hollywood, and Ronald N. Phillips, Leonardtown, Md., assignors to the United States of America as represented by the Secretary of the Navy
Filed Apr. 29, 1966, Ser. No. 547,710
Int. Cl. G01c *25/00*
U.S. Cl. 73—1 2 Claims



A harmonic motion measuring device using laser techniques for the calibration of accelerometers. The accelerometer is placed on a vibrating surface and the laser beam is reflected from the vibrating surface via a mirror to a phototube. A frequency converter, electronic counter, and integrating circuit measures the Doppler shift caused by the movement of the laser beam reflected from the vibrating surface.

3,435,657
PORTABLE SPEEDOMETER CHECKING DEVICE FOR AUTOMOTIVE VEHICLES
David Weissman, 1320 McKinley St., Philadelphia, Pa. 19111
Filed Feb. 14, 1967, Ser. No. 616,016
Int. Cl. G01c *25/00*
U.S. Cl. 73—2 5 Claims

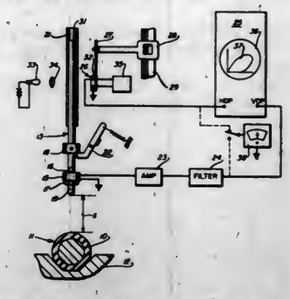


An automotive speedometer tester comprises two Y-shaped clamps. The clamps are secured to a rear wheel that has been raised. A speedometer shaft is connected by the clamps from the wheel to a master speedometer located near the speedometer being tested.

3,435,658
TYPEWRITER PLATEN TESTER
George T. Arthur, Vernon, Conn., assignor to Royal Typewriter Company, Inc., Hartford, Conn., a corporation of Delaware
Filed Jan. 19, 1967, Ser. No. 610,282
Int. Cl. G01n *3/08*
U.S. Cl. 73—12 2 Claims

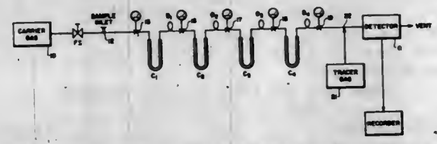
An apparatus for permitting determination of dynamic characteristics such as hardness and resilience of viscoelastic materials suitable for typewriter platens by simulating conditions of usage and through recordation of measured voltages proportional to impact force and displacement applied respectively to the vertical and horizontal

deflection plates of an oscilloscope. The apparatus provides for variation of velocity, energy and impact surface



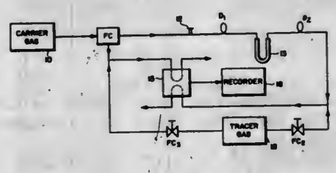
shape of an indentor rod to simulate a type bar impact against materials considered for use as type-writer platens.

3,435,659
RETENTION SPECTRUM ANALYSIS APPARATUS
James C. Sternberg, Fullerton, Calif., assignor to Beckman Instruments, Inc., a corporation of California
Filed June 20, 1966, Ser. No. 558,679
Int. Cl. G01n *31/08*
U.S. Cl. 73—23.1 16 Claims



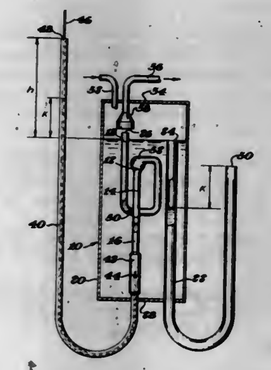
One embodiment involves a source of carrier gas in series with a flow controller and a sample inlet and a number of chromatographic columns, each of which is followed by a delay, with the output of the last delay being fed into a detector and a source of tracer gas inserted between the detector and the last delay. A second embodiment involves the series combination of a source of carrier gas, a flow controller and a sample inlet with a delay and a number of parallel combinations of chemical modifiers in parallel with a delay and a restrictor, the output of the last parallel combination being connected to the detector and a source of tracer gas being inserted between the last parallel combination and the detector, said tracer being detectable by the detector for the purpose of indicating variations in flowrate of the output. The tracer gas may either be inserted at a constant rate or at fixed thermodynamic activity.

3,435,660
STEAM FLOW RATE MONITORING APPARATUS AND METHOD
James C. Sternberg, Fullerton, Calif., assignor to Beckman Instruments, Inc., a corporation of California
Filed June 20, 1966, Ser. No. 558,691
Int. Cl. G01n *31/08*
U.S. Cl. 73—23.1 16 Claims



A flow sensitive system is disclosed in which a tracer substance is introduced into a fluid stream at a point preferably just upstream of a detector sensitive to the tracer. If the tracer is introduced at a fixed rate and a concentration sensing detector utilized or if the tracer is introduced at a fixed concentration and a rate sensing detector utilized, the detector output would provide an indication of flow changes in the fluid stream. The system may be utilized therefore merely as a flow monitor or may be utilized in conjunction with other systems, such as chromatographic analyzers, to provide real time indications of events occurring upstream from the detector when those events are accompanied by flow changes.

3,435,661
GAS SAMPLE INJECTION APPARATUS
Walter F. Gerdes, Lake Jackson, Tex., assignor to The Dow Chemical Company, Midland, Mich., a corporation of Delaware
Filed Jan. 6, 1967, Ser. No. 607,717
Int. Cl. G01n *31/08*
U.S. Cl. 73—23.1 7 Claims

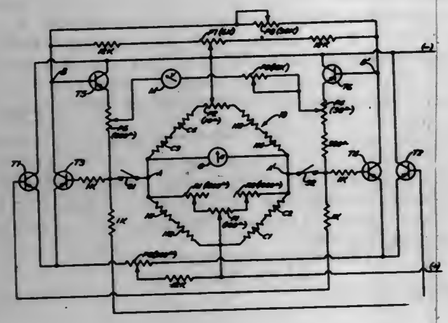


The invention comprises a device for injecting a sample of gaseous material into a stream of carrier gas (as in chromatography) which is particularly useful in cases in which the gaseous sample is wet, corrosive, and may contain viscous contaminants. The device includes a trap-accumulator in which liquid components of the sample are separated from the gaseous and the gas accumulated, and which dumps or discharges the accumulated gas when a predetermined volume has accumulated. Hydraulic and gas flows and liquid levels are arranged so that the discharge of the accumulated gas sample is into the flowing stream of carrier gas. The device amounts to a chromatography type batching valve without moving parts, and without external operating means or timer. All functions are performed by hydraulic actuation.

3,435,662
MEASURING CIRCUIT FOR A PARAMAGNETIC GAS ANALYZER
Emilio G. Meyer, Milan, Italy, assignor to Mine Safety Appliances Italiana S.p.A., Milan, Italy
Filed July 27, 1965, Ser. No. 475,188
Int. Cl. G01n *27/74*
U.S. Cl. 73—27 6 Claims

This invention relates to a measuring circuit for a paramagnetic gas analyzer of the type in which the wind generating and adjacent filaments of the analyzer are connected in a Wheatstone bridge circuit. Means are provided for balancing the bridge under static conditions in the absence of a paramagnetic gas to compensate for thermal conductivity errors due to changes in composition of the background gases. The circuit also includes means for decreasing the unbalance of the bridge under dynamic

conditions, resulting from the presence of a paramagnetic gas in the mixture, to the point at which the thermal conductivity error will be opposed in polarity and substan-



tially equal in magnitude to the sum of the density, viscosity, and specific heat errors, caused by changes in the composition of the background gases under dynamic conditions.

3,435,663

DYNAMIC FILTER PRESS

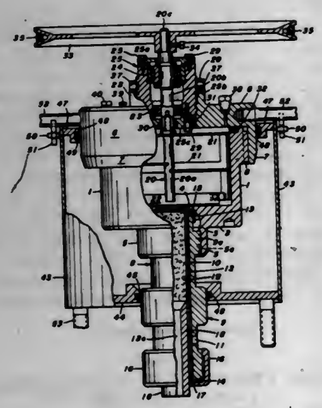
Guy Nicolas de Lamballerie, Salies-du-Salat, France, assignor to Entreprise de Recherches et d'Activites Petrolieres (E.R.A.P.), Paris, France

Continuation-in-part of application Ser. No. 540,251, Apr. 5, 1966. This application Apr. 12, 1968, Ser. No. 721,039

Claims priority, application France, Apr. 23, 1965, 14,391; Dec. 8, 1967, 131,521

Int. Cl. G01m *3/00*

U.S. Cl. 73—38 11 Claims



A filter press to determine permeability of a ground sample. The sample is located in an outlet of a chamber in which drilling mud is placed. The entire unit is placed in a heated enclosure and brought to a desired temperature. Pressure is then applied to the sample to force the mud through the sample, while an agitator may be used to stir the mud. The volume of the fluid passing through the sample in a predetermined time is recorded. The permeability of the sample is then compared with the permeability of the sample before the plugging provoked by the mud.

3,435,664

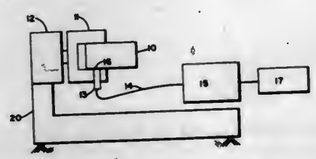
METHOD AND APPARATUS FOR EVALUATING THE PROPERTY OF A LIQUID BY ACOUSTIC MEANS

Robert V. Harris, Darien, Conn., assignor to Branson Instruments, Incorporated, Stamford, Conn., a corporation of Delaware

Filed Jan. 18, 1967, Ser. No. 610,196

Int. Cl. G01n *11/02*

U.S. Cl. 73—54 10 Claims



A method and apparatus for evaluating the property of a liquid, such as viscosity, in a sealed container by providing temporary relative motion between the container and the liquid and denoting by acoustic means coupled to the outside of the container the decay of the relative motion versus time.

3,435,665

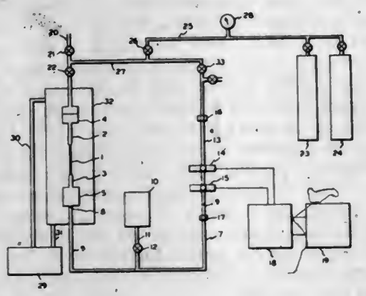
CAPILLARY VISCOMETER

Leonidas S. Tzentis, Williamsburg, Va., assignor to The Dow Chemical Company, Midland, Mich., a corporation of Delaware

Filed May 20, 1966, Ser. No. 551,651

Int. Cl. G01n *11/06*

U.S. Cl. 73—56 4 Claims



A capillary viscometer adapted to measure precisely the bulk velocity of a test fluid being forced by pressure of an inert fluid through a capillary tube connected directly to a manometer fitted with photoelectric cells for measuring the time elapse for the meniscus of the manometer fluid to pass between two spaced locations. The viscometer of this invention is particularly useful in the measurement of viscosities of non-Newtonian viscous fluids at high pressures and high shear rates.

3,435,666

VISCOMETER

James D. Fann, Simonton, Tex., assignor to Champion Laboratories, Inc., West Salem, Ill., a corporation of Connecticut

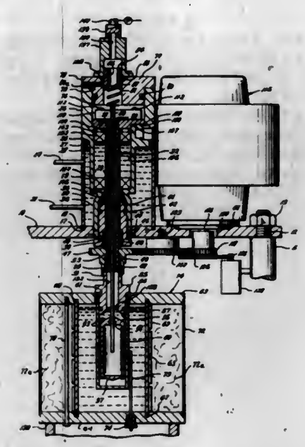
Filed July 18, 1966, Ser. No. 566,130

Int. Cl. G01n *11/00*

U.S. Cl. 73—60 7 Claims

Viscometer of the type wherein viscosity is determined by measurement of shear forces in a fluid by rela-

tive rotation of a cylinder in close proximity to a surrounding cylinder wall, there being a pressurable fluid



above the fluid the viscosity of which is to be measured to prevent evaporations therefrom.

3,435,667

MEASURING METHOD AND APPARATUS

Iben Browning, Sunnyvale, Calif. (1052 Pomeroy Ave., Santa Clara, Calif. 95051); and William J. Geiger, 1320 Pear Ave., and Edward R. Strand, 2532 Fairbrook Drive, both of Mountain View, Calif. 94040

Filed Aug. 25, 1965, Ser. No. 482,357

Int. Cl. G01m *1/12*

U.S. Cl. 73—65 4 Claims

A load-carrying vehicle weighing apparatus and method are disclosed wherein an impulse is imparted to the load-carrying vehicle bed by a fast push having a period such that the entire vehicle bed and responsive load moves substantially as a single unit. A detector provided on the vehicle measures the displacement of the load during the fast push thereby to provide a measure of the weight of the load.

3,435,668

METHOD OF DETERMINING PREFERRED ORIENTATION IN METALS

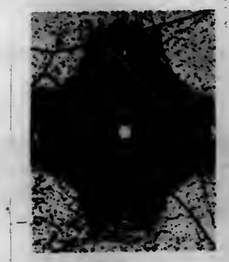
Colin J. Sandwith, Corvallis, Oreg., assignor to the United States of America as represented by the Secretary of the Interior

Filed Aug. 26, 1966, Ser. No. 576,180

Int. Cl. G01n *3/48, 21/60*

U.S. Cl. 73—88 10 Claims

A greatly simplified method for determining preferred orientation in single crystal and polycrystalline metals is presented. The method involves forming an indentation with a symmetrical indentor in the surface of a first specimen having an unknown preferred orientation but known crystal structure to obtain an indentation response. Then comparing that response to the responses obtained by indenting a plurality of specimens each having the same crystal structure as said first specimen and each



having a different preferred orientation. By comparing these responses, the match will be readily apparent and the preferred orientation of the first specimen will be obtained.

3,435,669

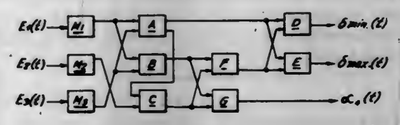
TENSIOMETRIC APPARATUS FOR DIRECT DETERMINATION OF THE MAGNITUDES AND DIRECTIONS OF PRINCIPAL STRESSES

Ivan Atanassov Slavov, Kiril Dimitrov Daskalov, Petar Levtchev Ganev, Stefan Petrov Mandjakov, and Petko Ivanov Barzakov, Sofia, Bulgaria, assignors to Mashinno-Elecktiotechnitcheski Institut, Sofia, Bulgaria

Filed Apr. 21, 1966, Ser. No. 544,296

Int. Cl. G01n *3/00*

U.S. Cl. 73—88.5 5 Claims



Apparatus for measuring the magnitudes and directions of principal stresses in the plane of a work surface stressed by static or dynamic loading, and at a point in the work surface includes means converting strain gauge inputs, respective to different strain directions, into sinusoidal amplitude-modulated signals with suppressed carrier frequency. A series of analog computer circuit units are connected to outputs of the converter means and include analog computer units certain of which form linear combinations of the type a_1x+b_1y, c_1x-d_1y, x^2+y^2 and the function arctg x/y. The output signals are in the form of $\Delta_{min.}(t)$, $\Delta_{max.}(t)$ and $\alpha_0(t)$.

3,435,670

FORCE MEASURING SYSTEM WITH NONLINEAR NETWORK

Donald E. Clark, Redmond, and Melvin O. Elde, Seattle, Wash., assignors to United Control Corporation, Redmond, Wash., a corporation of Delaware

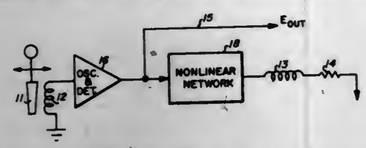
Filed July 14, 1966, Ser. No. 565,239

Int. Cl. G01l *5/12*

U.S. Cl. 73—141 8 Claims

A force measuring system of the servo type having a sensing element movable in response to the force to be measured, a detector means which is responsive to the displacement of the sensing means from some zero posi-

tion and which provides an error signal, and a restoring system which exerts a restoring force on the sensing element to oppose its movement in response to the force to be measured. The error signal is applied to the restoring



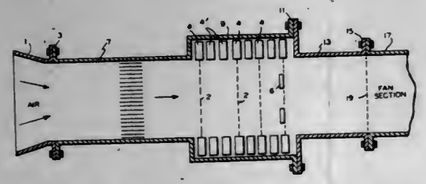
system through a nonlinear network which has transitions at selected values of the error signal to emphasize changes in the amplitude of the error signal when the force being measured has selected values.

3,435,671

TRANSPORTABLE WIND TUNNEL

John M. Hildt, Amherst, N.H., assignor to Astro Dynamics, Inc., Burlington, Mass., a corporation of Masschusetts

Filed May 11, 1966, Ser. No. 549,330
Int. Cl. G01m *9/00*
U.S. Cl. 73—147 3 Claims



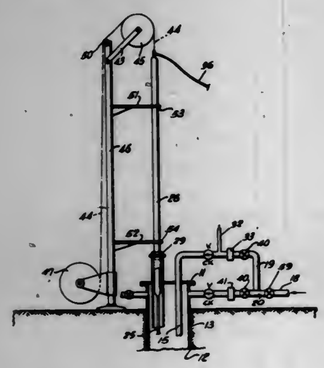
A wind tunnel in which there are a plurality of sections. One section contains turbulence-reducing screen elements with spacer elements that may fill this section so that there is a wide range of ready adjustment of spacing, number of screen elements and other variations. There are also an air-path straightening section, a test section and suction producing means.

3,435,672

GAS INJECTIVITY OR PRODUCTIVITY PROFILE LOGGING

Karl C. ten Brink and Charles D. Woodward, Houston, Tex., assignors to Texaco Inc., New York, N.Y., a corporation of Delaware

Filed July 22, 1965, Ser. No. 474,092
Int. Cl. E21b *47/00*
U.S. Cl. 73—155 3 Claims



Gas stream well logging that divides the flow, either into or out of the formation surrounding a well, into two streams and measures the interface location under various flow conditions. A gas containing a halogen is used as a tracer to identify one stream.

3,435,673

METHOD OF, AND AN APPARATUS FOR, OBTAINING MEASUREMENTS WHICH CORRESPOND TO THE SUBSTANCE CROSS-SECTION OF TEXTILE MATERIAL

Ernst Felix, Uster, Switzerland, assignor to Zellweger, Ltd., Uster, Switzerland

Filed Apr. 28, 1967, Ser. No. 634,654
Claims priority, application Switzerland, May 6, 1966, 6,663/66
Int. Cl. G01l *5/04*
U.S. Cl. 73—160 15 Claims



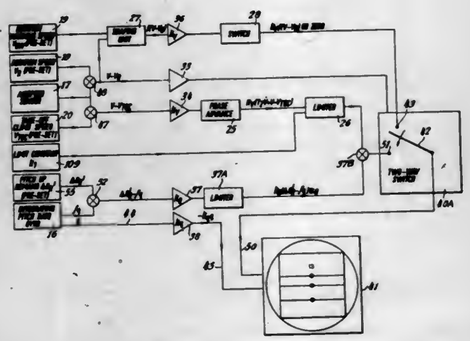
Method and apparatus for measuring the substance cross-section of textile material, slivers in particular, in which the textile material is drawn at a predetermined speed through a nozzle having at least one constriction, pneumatic pressure generated at the constriction being evaluated as the measured quantity relating to the substance cross-section of the textile material.

3,435,674

TAKE-OFF DIRECTOR SYSTEMS FOR AIRCRAFT

George R. Sleight and Michael I. Whitehouse, London, England, assignors to Elliott Brothers (London) Limited, London, England

Filed July 14, 1967, Ser. No. 653,555
Claims priority, application Great Britain, July 29, 1966, 34,263/66
Int. Cl. G01c *21/12*
U.S. Cl. 73—178 16 Claims



The invention relates to an aircraft director system for affording the pilot of an aircraft a continuous indication of the optimal action to be taken during the period of take-off and initial climb. It is also applicable to action to be taken in overshoot conditions and can be used to control an automatic pilot. The invention relates to improvements in the sequentially phased system described and claimed in United States Letters Patent No. 3,295,369

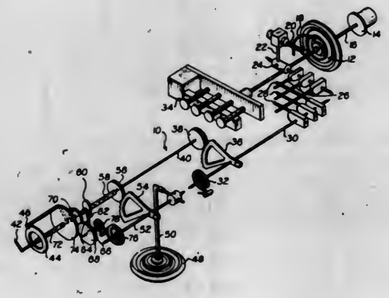
in which a visual indication is provided for the pilot and in particular provides a single demand signal for nose-up rotation and lift-off, feedback from the control column, an accelerometer to sense phase advanced airspeed and strain gauge means to provide a rate of climb signal and eventually a change of height signal.

3,435,675

MAXIMUM ALLOWABLE AIRSPEED POINTER

Emil P. Knapp, Floral Park, N.Y., assignor, by mesne assignments, to Lear Siegler, Inc., Santa Monica, Calif., a corporation of Delaware

Filed Nov. 29, 1966, Ser. No. 603,079
Int. Cl. G01c *21/00*
U.S. Cl. 73—182 10 Claims



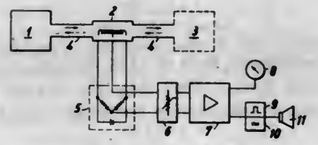
Maximum allowable airspeed indicating device wherein maximum allowable airspeed pointer is driven in response to changes in external parameter such as altitude by drive means operably associated with means for sensing changes in said external parameter, the drive means including cam means for rotating the maximum allowable airspeed pointer as a function of change in the parameter and of shape of cam. By tailoring the shape of cam to specific characteristics of aircraft, accurate maximum allowable airspeed reading is provided over the entire range of flight. The device may include means for deactuating the cam means where a change in use of aircraft results in a portion of the maximum allowable airspeed curve being constant value.

3,435,676

APPARATUS FOR MEASURING THE RATE OF FLOW AND DIRECTION OF A GAS STREAM

Egon Brückner, Ebermannstadt, and Ingo Westerboer, Erlangen, Germany, assignors to Oskar Vierling, Ebermannstadt, Germany

Filed Sept. 15, 1966, Ser. No. 579,658
Claims priority, application Germany, Apr. 16, 1966, V 30,867
Int. Cl. G01w *1/02*
U.S. Cl. 73—189 5 Claims



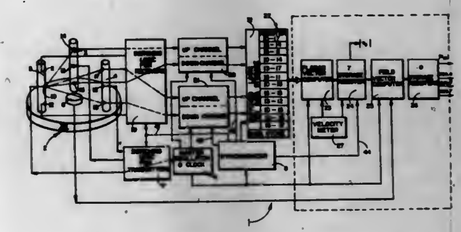
A variometer for measuring gas direction and velocity having a probe which is part of a Wheatstone bridge, which probe is positioned in the gas flow passage and is made up of two coilings of metal wire each formed as a truncated cone, connected in series, and arranged so that their truncated ends are adjacent each other to form a double frusto-cone whose axis is parallel with the flow of gas. The output voltage of the bridge is connected to an amplifier which in turn is connected to a transducer for acoustic indication and an indicating instrument for visual indication.

3,435,677

SYSTEM FOR MEASURING DIRECTION AND VELOCITY OF CURRENTS IN A LIQUID MEDIUM

Frederick H. Gardner, Long Beach, Calif., assignor to North American Rockwell Corporation, a corporation of Delaware

Filed Apr. 3, 1967, Ser. No. 628,015
Int. Cl. G01w *1/02*
U.S. Cl. 73—189 10 Claims



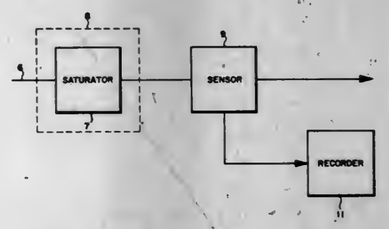
A plurality of sensor elements, each including receivers for receiving acoustic signals generated by transmitters on each of the elements, including digital data processing circuitry for computing the frequency change of signals transmitted between sensors and for generating output signals indicating the direction and velocity of ocean currents. The system includes circuitry for providing a reference plane for the sensor elements so that the output direction and velocity are oriented to the reference plane or to an earth fixed reference.

3,435,678

APPARATUS FOR FLOW MONITORING

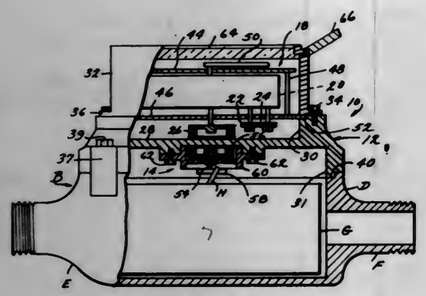
James C. Sternberg, Fullerton, Calif., assignor to Beckman Instruments, Inc., a corporation of California

Filed June 20, 1966, Ser. No. 558,787
Int. Cl. G01f *1/04*
U.S. Cl. 73—194 5 Claims



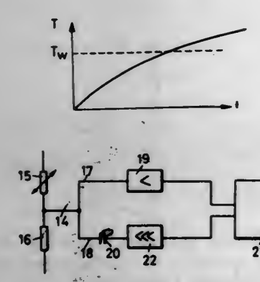
A flow rate indicator including saturating means for adding a tracer to a stream at fixed concentration and sensing means downstream to indicate the rate of introduction of the tracer. The saturator may be an iodine saturator and the sensor a galvanic cell, or a hydrogen flame detector.

3,435,679
CONVERSION UNIT FOR CONVERTING MECHANICAL DRIVE WATER METERS TO MAGNETIC DRIVE
Renny Rudolph Davis, Thomasville, Ga., assignor to Davis Industries, Inc., Thomasville, Ga., a corporation of Georgia
Filed Aug. 9, 1967, Ser. No. 659,470
Int. Cl. G01f 3/08
U.S. Cl. 73—258 4 Claims



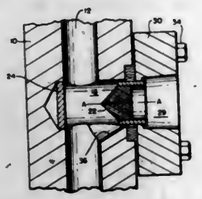
A universal conversion unit for converting any of the various conventional mechanical-drive water meters to a magnetic-drive meter having no stuffing box or the like in the transmission. The conversion unit includes a blind flange carrying a rotatable magnet which is mounted close to the undersurface of the flange, a combined gear-reduction and register unit mounted on top of the blind flange opposite the magnet and a second rotatable magnet disposed between the reduction and register unit and the top of the flange so as to drive the unit when the first magnet is rotated. To employ the conversion unit, the upper portion of the housing of a conventional water meter together with its associated parts is removed and replaced by the conversion unit. The lower surface of the conversion unit flange is adapted to be connected to the upper edge of the lower housing portion of the existing meter. By slightly varying the contours of the lower edge of the conversion unit housing the conversion unit will fit the lower housing portion of almost all mechanical drive meters currently in use.

3,435,680
METHOD OF SENSING LEVELS IN CONTAINERS HOLDING LIQUIDS
Walter Holzer, Meersburg (Bodensee), Schutzenrain, Germany
Filed May 16, 1966, Ser. No. 550,355
Int. Cl. G01f 23/00
U.S. Cl. 73—295 3 Claims



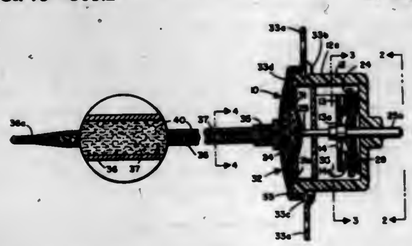
A sensed rate of change of temperature due to changing liquid levels within a container, such as a washing machine, is transformed into an electrical signal. The signal is in turn applied to a response apparatus which can for example consist of a glow-discharge tube with a series-connected relay for switching and control purposes.

3,435,681
LIQUID LEVEL GAGE
Robert C. Stanley, Westwood, Mass., assignor to White Consolidated Industries, Inc., Cleveland, Ohio, a corporation of Delaware
Filed Feb. 17, 1967, Ser. No. 616,840
Int. Cl. G01f 23/02
U.S. Cl. 73—327 2 Claims



A reflex liquid level gage having a sight element with its optical axis horizontal and having a peripheral wall parallel to the axis brazed to a closely engaging metallic element. A light absorbing surface opposite the inner end of the sight element is provided.

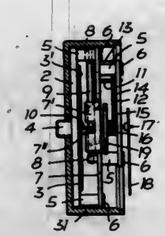
3,435,682
DISPERSION EBULLATOR
Alvin W. Linke, 4989 Country Manor, Jackson, Mich. 49201, and John H. Catlin, Deer Run, Lincoln, Mass. 01773
Filed Apr. 26, 1966, Ser. No. 545,469
Int. Cl. G01k 5/28
U.S. Cl. 73—368.2 20 Claims



A thermally responsive power element comprises an expansible member having a tube connected at one end thereto and in communication with the interior thereof. The tube is otherwise closed and contains a volatile liquid which is adapted to boil and expand the expansible member when any portion of the tube is subjected to a given temperature. The liquid contains particles of non-wettable material, such as polytetrafluoroethylene. The particles are of such a size that they are held in suspension and dispersed throughout the liquid and are effective in promoting ebullation of the liquid at a given temperature.

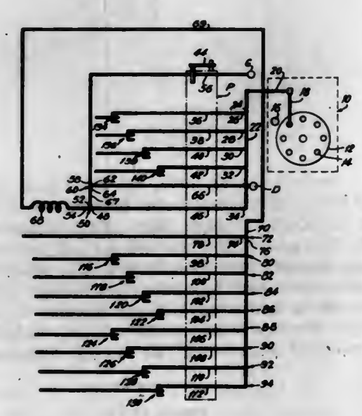
3,435,683
MANOMETER
Blasius Speidel, 244 Hochmeisterstrasse, and Paul Keller, 288 Weilbachstrasse, both of 7455 Jungingen, Germany
Filed Apr. 4, 1967, Ser. No. 628,347
Claims priority, application Germany, Apr. 7, 1966, S 103,110
Int. Cl. G01l 7/06
U.S. Cl. 73—410 2 Claims
The improvement in a manometer for preventing a permanent deformation of the main well of the pressure

cell by the end of the transmitting lever digging into this wall when the internal pressure in the cell exceeds a certain admissible value. The improvement consists



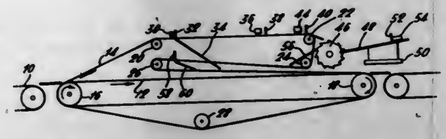
in the provision of at least one fixed stop member which limits the further movement of the cell wall when the pointer of the instrument reaches the highest admissible value on the dial.

3,435,684
METHOD AND APPARATUS FOR THE DILUTION AND DIVISION OF A STREAM OF SAMPLES FOR CONTINUOUS ANALYSIS
William J. Smythe, Rye, N.Y., assignor to Technicon Corporation, Ardsley, N.Y., a corporation of New York
Filed Oct. 2, 1967, Ser. No. 672,055
Int. Cl. G01n 1/28
U.S. Cl. 73—423 9 Claims



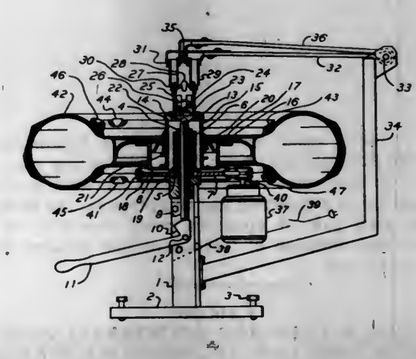
A system for prediluting a flowing stream of samples and for dividing the diluted stream into a plurality of quotient streams includes a peristaltic type pump coupled to an off-take tube for aspirating samples, from respective containers, interspersed with relatively large gas segments. A valved pump tube periodically adds relatively small gas segments to a separate stream of diluent and this segmentized diluent stream is added to the sample stream and is mixed therewith. Each of the relatively small gas segments is withdrawn and the debubbled, mixed, sum stream is divided into a plurality of quotient streams, each having a portion of each sample and each relatively large gas segment.

3,435,685
APPARATUS FOR SAMPLING AND MEASURING PHYSICAL PARAMETERS OF OBJECTS
David Anthony Watkin, Edward John Coode, and Cecil John Austen, Chislehurst, England, assignors to British Scientific Instrument Research Association, South Hill, Chislehurst, Kent, England, a British company
Filed Oct. 21, 1966, Ser. No. 588,381
Claims priority, application Great Britain, Oct. 22, 1965, 44,896/65
Int. Cl. G01n 33/00
U.S. Cl. 73—432 6 Claims



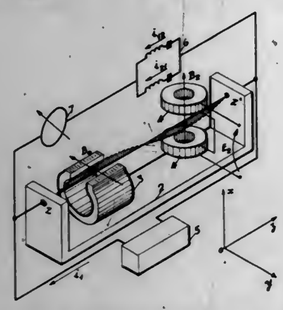
Apparatus for sampling and measuring the physical properties of objects such as biscuits. An endless belt is provided for carrying a plurality of streams of biscuits away from an oven or the like and a second endless belt is provided for withdrawing one stream from said plurality of streams as a sample stream. A gate is provided for intermittently selecting a predetermined number of biscuits from said sample stream and a chute is arranged to return biscuits which have not been so selected from the sample stream to the first mentioned endless belt into the empty position thereon caused by the withdrawal of the sample stream. Means are provided for examining the physical properties of the selected group of biscuits and further means are arranged to return the selected group of biscuits into the empty position on the first mentioned endless belt at an instant when nonselected sample biscuits are not being returned thereto.

3,435,686
DYNAMIC WHEEL BALANCER
Cloyd D. Waldron, 1308 Willow Lane, Mobile, Ala. 36605
Continuation of application Ser. No. 382,039, July 13, 1964. This application Mar. 27, 1967, Ser. No. 626,346
Int. Cl. G01m 1/28
U.S. Cl. 73—460 9 Claims



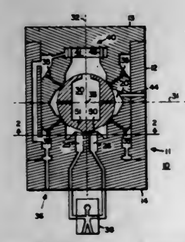
A machine that balances wheels dynamically by spinning them steadily and freely on a ball bearing against a plane. Tilt caused by dynamic unbalance is recorded by a friction restrained indicator on the wheel carrying element that is tilted by an arm on the machine frame. A second zero reference indicator associated therewith permits the reading of small angles of tilt.

3,435,687
VIBRATING GYROMETERS
Raymond Mathey, Bernard Picardat, and Robert Lecocq, Paris, France, assignors to CSF-Compagnie Generale de Telegraphie Sans Fil, a corporation of France
Filed Feb. 16, 1966, Ser. No. 527,824
Int. Cl. G01p *15/10*
U.S. Cl. 73—505 3 Claims



A gyrometer for measuring the angular velocity component about an axis comprising a conductive vibrating string parallel to this axis and vibrating in a D.C. magnetic field perpendicular thereto. Windings are provided for applying to this string an A.C. magnetic field perpendicular to the string and to the D.C. field. A self-oscillating system is connected to this string for keeping it vibrating at its resonance frequency. An impedance having a zero admittance at the resonance frequency of the string and an infinite admittance at both side frequencies of the modulated signal induced in the string is connected, in series with an A.C. current measuring means, across this string.

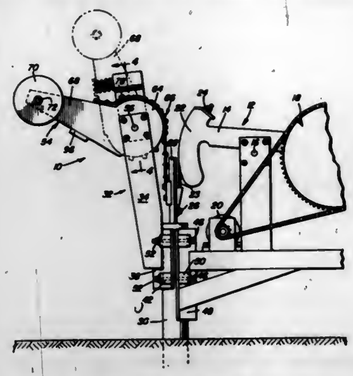
3,435,688
FLUID SENSOR
Harvey D. Ogren, St. Paul, Minn., assignor to Honeywell Inc., Minneapolis, Minn., a corporation of Delaware
Filed Jan. 3, 1966, Ser. No. 518,155
Int. Cl. G01c *19/28, 19/30, 19/50*
U.S. Cl. 74—5.6 6 Claims



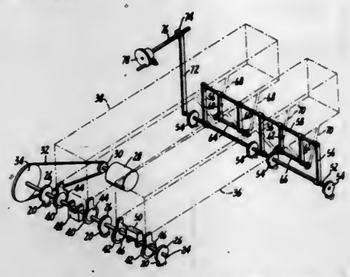
A two-axis sensor having a member hydrostatically mounted for rotation about three intersecting axes and means on said rotor for controlling the fluid flow rate through a first and second pair of apertures. The fluid signal in each pair of apertures being indicative of the amount and direction of rotation of said member about one of said axes.

3,435,689
PUMP SUCKER ROD COUNTERBALANCE
Albert A. Parish, Earth, Tex., assignor to K-M-P Pump Company, Inc., a corporation of Texas
Filed May 2, 1967, Ser. No. 635,524
Int. Cl. F16h *21/10*
U.S. Cl. 74—41 9 Claims

A counterbalance for a reciprocating pump sucker rod of a well pump to reduce the power necessary to lift the sucker rod, which counterbalance is pivotally mounted adjacent the sucker rod and rigidly yet resiliently connected thereto in such a manner so as to exert a lift upon the sucker rod during lifting of the rod by a primary power source.



3,435,690
SUSPENSION AND CONTROL MECHANISM FOR SHAKER TABLE
Joseph A. Amori, San Jose, Calif., assignor to Rapid-Cleave Corporation, Santa Clara, Calif., a corporation of California
Filed Jan. 19, 1967, Ser. No. 610,284
Int. Cl. B06b *1/02*
U.S. Cl. 74—61 5 Claims



A twin bed shaker table, the head ends of the beds being driven in circular paths of small radii by a common headshaft, through 180° offset eccentrics, having 180° offset counterweights, and the tail ends of the beds being adjustably supported for mutually offset arcuate oscillatory movement through a rigid linkage system and a single setting and control means therefor to control the rate and direction of material flow along the beds between zero rate and a maximum rate in each direction.

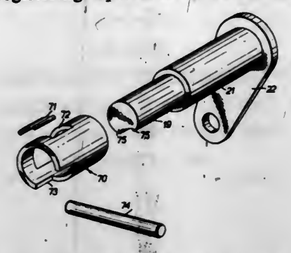
ERRATUM

For Class 74—103 see:
Patent No. 3,435,476

3,435,691
MEANS FOR ACTUATING A FRICTION PAD IN A DISC BRAKE
Donald J. Cock and Gordon A. Habgood, Tyseley, Birmingham, England, assignors to Girling Limited
Filed June 10, 1966, Ser. No. 556,658
Claims priority, application Great Britain, June 11, 1965, 24,883/65
Int. Cl. F16h *21/44*
U.S. Cl. 74—107 5 Claims

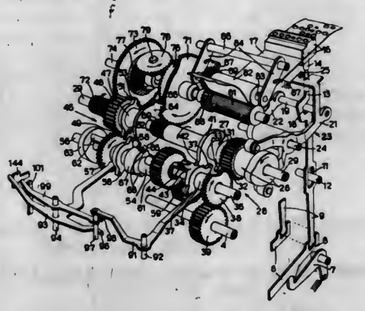
A force transmitting rotary bearing arrangement useful for but not limited to brakes comprising a rotary shaft,

adapted to act as a cam, supported in a housing with the interposition of a cage, wherein the housing and cage have registering apertures to receive a push rod



engageable at one end with the cam, and a number of roller bearings are arranged in a group opposite the push-rod to support the shaft against the reaction of the push-rod.

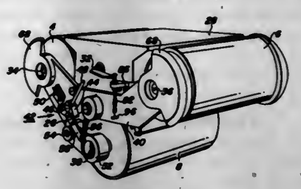
3,435,692
BIDIRECTIONAL STEP BY STEP FEEDING DEVICE FOR A RECORD SUPPORT, FOR EXAMPLE A PUNCHED TAPE
Armando Costa and Giovanni Cerutti, Ivrea, Turin, Italy, assignors to Ing. C. Olivetti & C. S.p.A., Ivrea, Italy, a corporation of Italy
Filed June 26, 1967, Ser. No. 648,768
Claims priority, application Italy, June 27, 1966, 15,085/66
Int. Cl. F16h *27/10*
U.S. Cl. 74—125.5 4 Claims



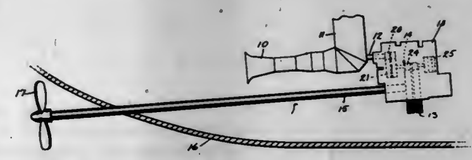
A bidirectional shaft for a record moving roll is rotatable by a differential gear system comprising two sun bevel gears coaxially arranged with said shaft and a planetary bevel gear turnably situated therebetween on a pivot stud which extends radially from said shaft. Said sun gears are rotatable through individual clutches, one through one of said clutches to drive it in one direction a given distance, the other through the other of said clutches to drive it in the other direction half of said given distance. If both clutches are engaged, the roll turning shaft, due to opposite concomitant rotation of said sun gears, will first stand still while a recording apparatus functions, and then will receive a record feeding step. If only said other clutch is engaged then said shaft will receive a back spacing step.

3,435,693
BELT TRACKING DEVICE
Gerard C. Wright, Penfield, and William L. Taylor, Newark, N.Y., assignors to Xerox Corporation, Rochester, N.Y., a corporation of New York
Filed Oct. 27, 1966, Ser. No. 589,999
Int. Cl. F16h *7/18*
U.S. Cl. 74—241 6 Claims

There is disclosed herein apparatus for maintaining transverse alignment of a moving belt by having a sensing member adjacent to the edge of the belt which is moved by the belt and a linkage member which translates the movement of the sensing member into movement of the axis of the rollers supporting the belt.

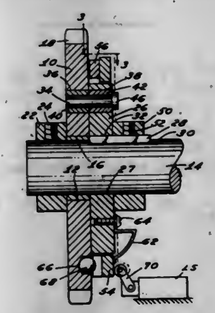


3,435,694
TURBINE-POWERED MARINE DRIVE
John M. Phinney, Milwaukee, Wis., assignor to The Falk Corporation, Milwaukee, Wis., a corporation of Wisconsin
Filed Aug. 25, 1966, Ser. No. 575,060
Int. Cl. F16h *3/14*
U.S. Cl. 74—361 2 Claims



An apparatus for coupling an aircraft type gas turbine engine to a forward and reverse transmission for use in a ship. The movable parts of the clutches are attached to the output shaft so as not to be affected by the high speed of the turbine input.

3,435,695
SHEAR PIN SAFETY HUB
Charles F. Rivers, 15318 Warwick, Detroit, Mich. 48223
Filed July 19, 1967, Ser. No. 654,641
Int. Cl. F16h *13/02*
U.S. Cl. 74—412 10 Claims



The device comprises a rotary driving member and a rotary driven member. A shear pin connects the members to transmit rotation from the driving member to the driven member. An operating member or plate on the driven member is constrained to rotate with the driven member but is capable of shifting axially. The operating member has angularly spaced cams, and the driving member carries balls in recesses respectively located between the cams. If for any reason the pin should shear, the

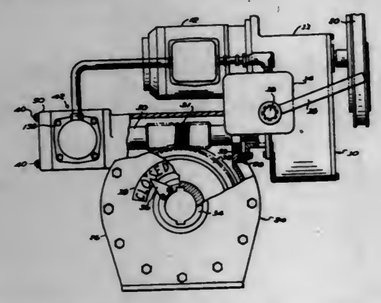
driving member rotates relative to the driven member causing the balls to ride over the cams with a rolling action thereby axially shifting the operating member. Axial shifting of the operating member operates a limit switch to deactuate the power means for the driving member.

3,435,696

PROTECTIVE APPARATUS

Hugh B. Carr, Carnegie, Pa., assignor to S. P. Kinney Engineers, Inc., Carnegie, Pa., a corporation of Pennsylvania

Filed Aug. 18, 1967, Ser. No. 661,699
Int. Cl. F16h *1/20*
U.S. Cl. 74—424.8 6 Claims



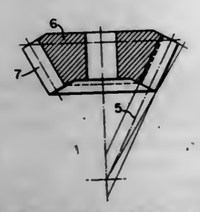
This application discloses a protective apparatus for an electric motor driven mechanism for opening the circuit to the motor when the driven mechanism encounters abnormal resistance. There is provided in the driven mechanism a drive shaft which is rotated by the motor and engaged with a driven member and which is supported for limited axial movement. Overload restraining means, as for example a spring, holds the shaft in a normal operating position but when the driven member encounters excessive resistance to movement the increased torque on the drive shaft then effects axial movement of the drive shaft which movement is translated to a switch that opens the motor circuit. This axial movement or thrust is obtained by a thread-like formation on the drive member through which motion is transmitted to the driven member, as in the case of a worm gear on the drive shaft engaging a worm wheel on the driven member or a thread on the drive shaft imparting rectilinear motion to a nut on the driven member.

3,435,697

CONSTANT TOOTH DEPTH BEVEL GEARS

Raymond Naville, Bienne, Switzerland, assignor to Fabrique de Machines Mikron S.A., Bienne, Switzerland, a corporation of Switzerland

Filed May 22, 1967, Ser. No. 640,211
Claims priority, application Switzerland, Nov. 15, 1966, 16,532/66
Int. Cl. F16h *55/04*
U.S. Cl. 74—459.5 2 Claims



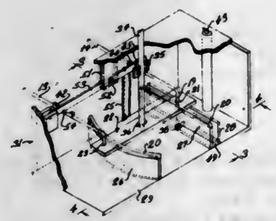
Bevel gears presenting a constant tooth depth over the whole tooth length and in which the angular position of the tooth corresponds to the pitch cone of the gear, and a hob therefor having a plurality of knives disposed only about a portion of the periphery of the hob.

3,435,698

GEAR SHIFT MECHANISM

Dalton A. Thomas, Rte. 1, Box 97, Alpine, Ala. 35014

Filed Aug. 21, 1967, Ser. No. 661,858
Int. Cl. G05g *9/00*
U.S. Cl. 74—477 10 Claims



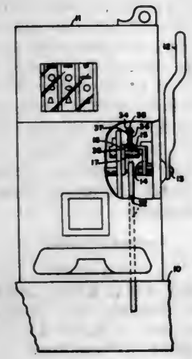
Shifting apparatus for transmission actuating members pivoted to the ends of a bar with a shift lever connected to an intermediate portion of the bar. A lateral projection carried by one actuating member is engaged by a first restraining element upon relative movement thereof and said first restraining element in one direction to hold said one actuating member against longitudinal movement. A second restraining element operates in response to said relative movement in said one direction to release said other actuating member and in response to said relative movement in another direction to hold the other actuating member against longitudinal movement.

3,435,699

INTERCHANGEABLE FOOT LEVER MECHANISM FOR VENDING MACHINES

Anthony Thomas D'Andrea, 460 Capitol Hill Ave., Reno, Nev. 89502

Filed June 30, 1967, Ser. No. 650,290
Int. Cl. G05g *11/00*
U.S. Cl. 74—481 8 Claims



A foot pedal actuating attachment is provided for mechanisms which are normally hand crank operated. The attachment effects operation of the normally hand crank operated portion of the mechanism independently of and without effecting movement of the hand crank.

3,435,700

FLUID CUSHIONED STEERING COLUMN

Waldo E. Calhoun, R.D. 1, Bluffton, Ind. 46714

Filed Oct. 5, 1967, Ser. No. 673,056
Int. Cl. B62d *1/18*
U.S. Cl. 74—493 12 Claims



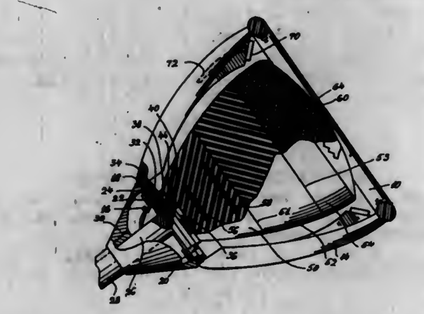
A fluid cushioned vehicle steering apparatus comprising a reservoir, a cylinder having longitudinally spaced apertures formed therein and journalled for rotation in the reservoir, a piston and its connecting piston rod arranged for reciprocation in the cylinder, means for preventing rotation of the piston and piston rod relative to the cylinder, the piston rod extending through one end of the cylinder and reservoir to constitute a portion of the steering column for the vehicle, and means connected to the opposite end of the cylinder to constitute another portion of the steering column for the vehicle. The reciprocation of the piston in the cylinder is retarded by fluid contained therein, the fluid being forced through the apertures in the cylinder wall when the piston moves. Preferably, means are provided for mounting the reservoir at selectively adjustable heights and additional means are provided for selectively and adjustably the positioning the piston in the cylinder.

3,435,701

SAFETY STEERING WHEEL

Paul Bucher, 68–19 31st Ave., Jackson Heights, N.Y. 11372

Filed Oct. 26, 1966, Ser. No. 589,604
Int. Cl. B60r *21/02*
U.S. Cl. 74—552 8 Claims



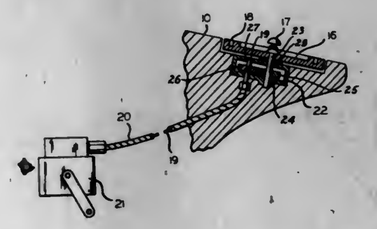
A safety steering wheel for an automobile having means for protecting the driver of an automobile from injury by a steering shaft in the event of a collision with an obstacle in the path of the vehicle. The means comprises superimposed resilient pads disposed at the end of the steering post of shaft having progressively more resilience in a direction outwardly from the shaft. The pads are so arranged that in the event of a collision of the vehicle with another vehicle or obstacle of the body of the driver will cause the arms of the steering wheel mounting to bend, while the resilient pads will cushion the driver's body and will prevent penetration by the steering shaft.

3,435,702

AUTOMOTIVE STEERING

Gordon Smith, 2804 N. 44th St., Milwaukee, Wis. 53210

Filed Aug. 4, 1967, Ser. No. 658,463
Int. Cl. G05g *1/10*
U.S. Cl. 74—552 4 Claims



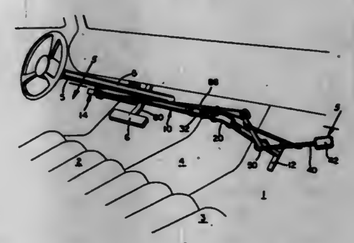
A steering wheel for a vehicle is rotatably mounted within a recess in a padded horizontal dashboard wherein the steering wheel is associated with a shaft which is in turn associated with a power steering mechanism of the vehicle. The steering wheel can be manipulated while the arms rest in a relaxed position on the dashboard.

3,435,703

DUAL CONTROL VEHICLE BRAKE SYSTEM FOR DRIVER TRAINING AUTOMOBILES

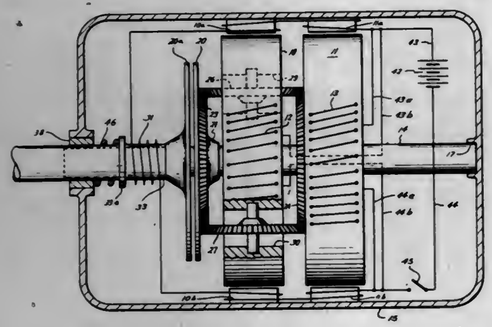
Earl Allgaier, 2534 24th St. N., Arlington, Va. 22207

Filed Apr. 26, 1967, Ser. No. 633,805
Int. Cl. G05g *1/16*
U.S. Cl. 74—562.5 3 Claims



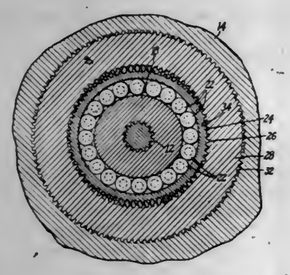
For use by an instructor in training a student driver, a rigid, pipe-like frame member is fixed across the floor of a conventional automobile in front of the two front seats, and a supplemental brake pedal is pivoted to the right hand end of the frame in front of the instructor's seat and is cable-connected to the regular brake pedal in front of the student's seat at the left side of the car, so that actuation of the supplemental pedal will apply the brakes.

3,435,704
REACTION-FREE ROTARY DRIVE
William R. Quinn, 5628 Brock, Houston, Tex. 77023
Filed Jan. 27, 1967, Ser. No. 612,176.
Int. Cl. G05g *3/00*
U.S. Cl. 74—572 7 Claims



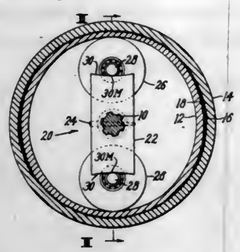
This disclosure is of a reaction-free rotary drive, that is, a drive mechanism wherein there is no reactionary secondary rotation or torque produced by the primary rotation or torque of the drive and its components. The drive components when in operation do not produce counter rotation of any part of the apparatus, so that the drive apparatus will function in non-gravitational areas, such as in space, without producing counter rotation of the support for or holder of the apparatus.

3,435,705
HARMONIC DRIVE POWER HINGE PINS
C Walton Musser, Palos Verdes Estates, Calif., assignor to United Shoe Machinery Corporation, Flemington, N.J., a corporation of New Jersey
Filed June 14, 1966, Ser. No. 557,580
Int. Cl. F16h *33/00*
U.S. Cl. 74—640 4 Claims



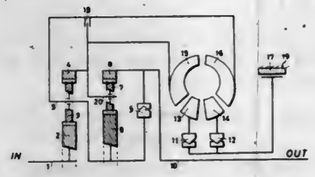
A rotary power transmission, especially of the harmonic drive reducer type, employs axially spaced, relatively rotating members respectively provided with journal bearings designed greatly to reduce the co-efficient of friction between their bearing surfaces. Either a circular spline may incur a progressing elliptoidal shape (of considerably lower magnitude of strain than in its cooperative flexspline) or, if the circular spline be non-deflecting, be radially displaceable during rotation to create two hydrodynamic wedges between the bearing members immediately ahead of localities along the major axis. Reduction in friction load is attributable to the sliding-rolling contact of the members, rolling velocity being considerably more than that of the sliding velocity.

3,435,706
TORQUE REACTIVE WAVE GENERATORS
Donald R. Humphreys, Topsfield, Mass., assignor to USM Corporation, Flemington, N.J., a corporation of New Jersey
Filed Dec. 8, 1966, Ser. No. 600,153
Int. Cl. F16h *35/02*
U.S. Cl. 74—640 5 Claims



A mechanical transmission having, in coaxial relation, a circular member and a radially deflectable tubular member engaging the circular member at spaced circumferential localities, one reacting on the other, and cam controlled elements for maintaining torque handling capacity by automatically varying the effective diameter of the flexible member in response to different torque load requirements.

3,435,707
POWER TRANSMISSION MECHANISM
Pablo Martin de Julian, 981 Vicuna Mackenna St., Santiago, Chile
Filed Nov. 25, 1966, Ser. No. 596,836
Int. Cl. F16h *47/04*
U.S. Cl. 74—677 28 Claims

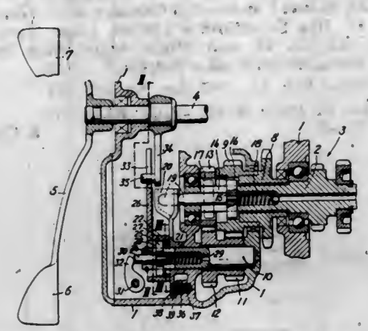


A power transmission of the type wherein epicyclic gears are combined with a hydrodynamic torque converter having one or more impellers, one or more turbines, and one or more reactors. A reversing device is interposed between the driven shaft and one or more of the reactors, so that the torque forcing the reactor or reactors to rotate in reverse also acts on the driven shaft in a forward sense.

There is also provided a control system for automatically changing from low speed drive to high speed drive, and vice versa, utilizing the bladed wheel that is normally interposed between the impeller and the turbine of the hydrodynamic torque converter.

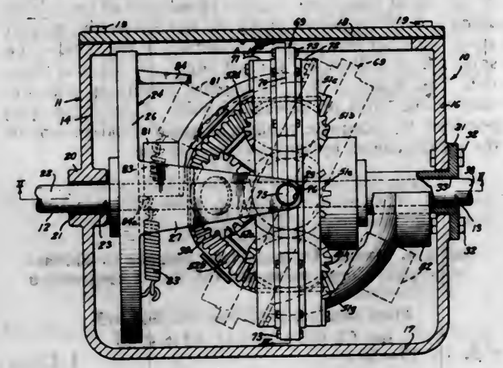
3,435,708
SPEED-CHANGE APPARATUS
Soichiro Honda and Yoshinori Okamoto, Tokyo, Japan, assignors to Kabushiki Kaisha Honda Gijutsu Kenkyusho
Filed June 7, 1967, Ser. No. 644,381
Claims priority, application Japan, June 7, 1966, 41/36,266
Int. Cl. F16h *3/16*
U.S. Cl. 74—745 8 Claims

A mechanical power source including a first section for controlling rotary output speed through a sequence of stages and a speed-reduction device for reducing the speed of the selected stage and a clutch arrangement whereby the speed-reduction device is actuated by operating the first section so that activation of the speed-



reduction device is accompanied by a shift from one stage to another.

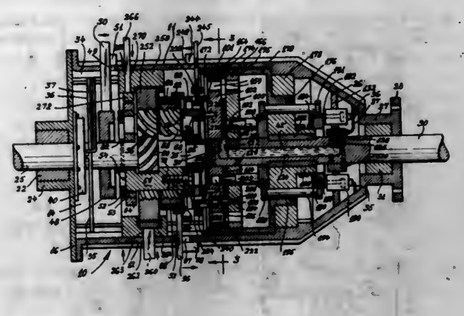
3,435,709
VARIABLE SPEED TRANSMISSION
Ivan L. Looker, 560 E. Mulberry St., Watseka, Ill. 60970
Filed Apr. 19, 1967, Ser. No. 631,984
Int. Cl. F16h *3/74*
U.S. Cl. 74—752 15 Claims



An infinitely variable-speed transmission including an input and an output shaft, a driven gear on the output shaft, a rotatable gear carrier journalling a plurality of pinion gears and idler gears in meshing relation with the driven gear, one-way clutches mounted respectively on said pinion gears, a wobble plate or cam ring mounted on the input shaft for rotation both with and on the same axis as the input shaft and also mounted for rotation relative to the input shaft about an axis perpendicular to the axis of rotation of the input shaft and to the central axis of the wobble plate for operating the one-way clutches as the input shaft rotates to a greater or lesser degree depending upon the angle between the axis of rotation of the input shaft and the central axis of the wobble plate, a stationary housing journalling the input and output shafts and an over-running clutch interconnecting the gear carrier and the housing.

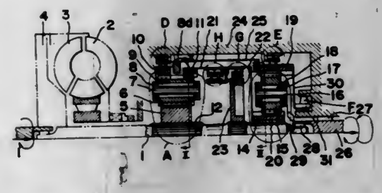
3,435,710
AUTOMATIC PROGRESSIVE TRANSMISSION
Giuseppe Tiberio, 2102 Kennedy Blvd., Union City, N.J. 07087
Filed May 22, 1967, Ser. No. 640,095
Int. Cl. F16h *3/74*
U.S. Cl. 74—752 10 Claims

The disclosure describes a transmission assembly which is capable of uniform variation in transmission ratio between infinity and unity. The assembly includes a casing in which is a rotatable carrier of satellite gears coupled to a solar gear on a drive shaft. Various means



are provided for coupling the satellite gear carrier to a rotatable carrier of reciprocatable piston-pawls. The piston-pawls cooperate with buttress gears carried by a rotatable bell secured to a driven shaft.

3,435,711
PLANETARY TRANSMISSION
Jun Kakei, Yokohama, Japan, assignor to Nissan Jidosha Kabushiki Kaisha, Yokohama, Japan
Filed Dec. 4, 1967, Ser. No. 687,531
Claims priority, application Japan, Dec. 22, 1966, 41/83,547
Int. Cl. F16h *1/28*
U.S. Cl. 74—765 3 Claims

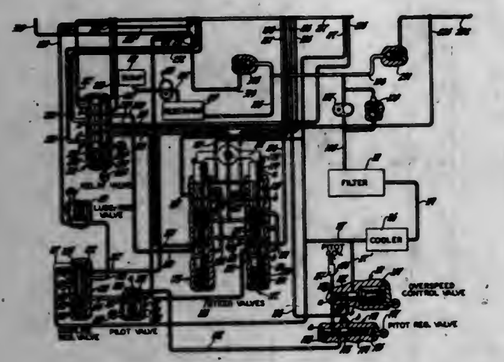


A mechanical transmission which is suitable for vehicles such as trucks, having two compact planetary gear sets, two clutches and two brakes provides three forward and one reverse speed ranges. The transmission provides two front ring gears to the front planetary gear set, a front sun gear secured to the input shaft, a rear carrier secured to the output shaft, and a front carrier secured to a rear ring gear.

3,435,712
TRANSMISSION HAVING A CONTROLLED PRESSURE BIAS DECREASING TO A PREDETERMINED MINIMUM VALUE AS THE GOVERNOR SPEED INCREASES
Robert H. Schaefer, Westfield, Ind., assignor to General Motors Corporation, Detroit, Mich., a corporation of Delaware
Original application Mar. 10, 1965, Ser. No. 438,634, now Patent No. 3,378,119, dated Apr. 16, 1968. Divided and this application Sept. 20, 1967, Ser. No. 678,473
Int. Cl. F16h *3/74*
U.S. Cl. 74—856 5 Claims

A transmission having fluid actuated ratio establishing devices is disclosed, wherein the pressure level of the fluid is regulated by a valve element having a spring bias

and a pressure bias. The pressure bias is controlled by a governor means so that increasing governor speed



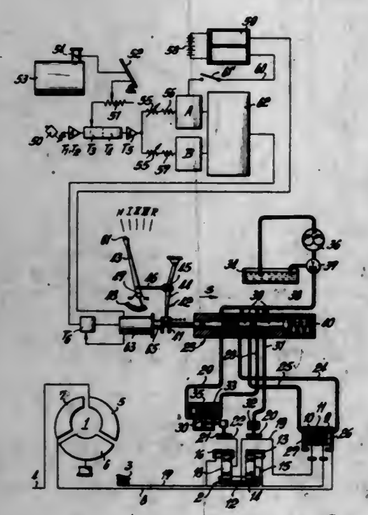
results in a decreasing pressure level to a predetermined minimum value.

3,435,713

AUTOMATIC CHANGE SPEED TRANSMISSION

Erwin Pfisterer and Siegfried Strohm, Stuttgart-Stammheim, Germany, assignors to Firma Dr. Ing. h.c.F. Porsche KG, Stuttgart-Zuffenhausen, Germany

Filed July 25, 1967, Ser. No. 655,890
Claims priority, application Germany, Aug. 4, 1966, P 40,124
Int. Cl. G05g 21/00
U.S. Cl. 74—866 14 Claims



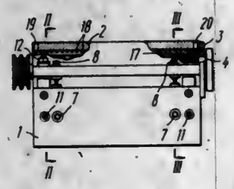
A change speed gear arrangement for vehicles, particularly passenger motor vehicles, having an automatic electrical circuit for providing electrical shifting signals in dependence upon the vehicle speed and the engine load, wherein the electrical signal actuates a reversible motor for moving the control slide valve of a hydraulic circuit that changes the gear ratios. The automatic operation is manually over-ridable.

3,435,714

SPINDLE HEAD OF MACHINE

Boris Moiseevich Bromberg, ulitsa Akademika Pavlova, 27, kv. 23, Moisei Yakovlevich Gauzner, ulitsa Gogolya, 5, kv. 19, Ilya Samuilovich Ljutsin, ulitsa Komsomolskaya, 43, kv. 41, and Moisei Simonovich Nadel, ulitsa Kirova, 95, kv. 8, all of Odessa, U.S.S.R.

Filed Feb. 28, 1967, Ser. No. 619,283
Int. Cl. B23b 39/00, 19/02; B23c 7/00
U.S. Cl. 77—3 8 Claims



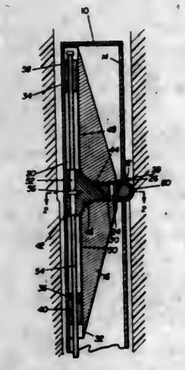
A diamond drill head or the like having fine adjustment for precise location of the axis of the drill spindle after the spindle has been preliminarily positioned, in which the spindle bearing is mounted on a support having limited flexibility along at least two lines. Flexing the support along one of these lines permits adjustment of the spindle along a small arc in one direction, and flexing the support along the other line permits adjustment of the spindle in a small arc in a direction at right angles to said first direction. The means to flex the support preferably also prestresses the lines of limited flexibility. Structure is also provided for adequate cooling to avoid misalignment of the spindle caused by heat developed in use.

3,435,715

CUTTING TOOL

Galen A. Jordan, Ogden, Utah, assignor to Thiokol Chemical Corporation, Bristol, Pa., a corporation of Delaware

Filed June 26, 1967, Ser. No. 648,815
Int. Cl. B23b 29/034; E21b 9/26
U.S. Cl. 77—58 1 Claim



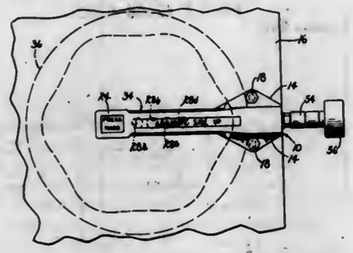
A tool is provided for cutting cavities. The cutter of the tool is mounted on two flexible members which can be extended from or retracted toward a tubular housing, thereby permitting the tool to be inserted into the workpiece through a small opening therein.

3,435,716

APPARATUS AND METHOD FOR CUTTING SHEET MATERIAL

Gerald D. Sjostrand, 5440 E. Lansing Way, Fresno, Calif. 93727

Filed Oct. 4, 1966, Ser. No. 584,229
Int. Cl. B23d 19/04, 25/02; B26d 7/06
U.S. Cl. 83—37 14 Claims



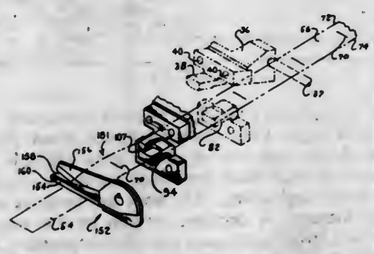
Method and apparatus for cutting sheet material to provide the same with a generally polygonal configuration including means for mounting sheet material for rotation about an axis and a cutting blade spaced from the mounting means engageable with the sheet material. The blade is mounted for rotation about an axis intersecting the rotational axis of the sheet material and is canted with respect to its own rotational axis and the plane of the sheet material. Rotation of the blade rotates the sheet material and varies the cant of the blade and the spacing of its cutting edge with respect to the rotational axis of the sheet material.

3,435,717

LABEL FEED AND CUTTING MEANS

James Keith Macomber, Rockville Centre, N.Y., assignor to Consolidated Lithographing Corporation, Carle Place, N.Y., a domestic corporation

Continuation-in-part of application Ser. No. 458,247, May 24, 1965. This application July 27, 1965, Ser. No. 475,220
Int. Cl. B26d 7/14, 5/20; G03b 1/22
U.S. Cl. 83—176 60 Claims



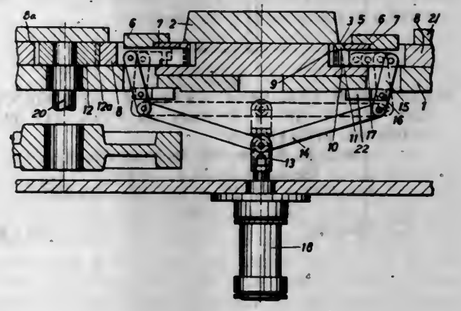
This disclosure relates to apparatus for cutting labels from a continuous ribbon or strip having the labels printed thereon, and for supplying the separate cut labels to labeling or banding apparatus. The continuous ribbon is supplied in a roll to the apparatus of the invention, the ribbon comprising at least one cut or perforation between adjacent printed labels, said cut or perforation being sufficient for mechanical registration purposes but not large enough to sever the ribbon. Registration is accomplished by mechanically engaging the cut or perforation and coercing the ribbon by buckling or bowing, or buckling and bowing same thereby registering the cuts or perforations of each label with an edge of the cutting means so as to sever the label with great accuracy along the original cut or perforation line so that no registration mark remains on the cut label. Registration may also be accomplished in accordance with the invention by mechanically engaging the cuts or perforations to coerce the ribbon into registration and then to move it toward a cutting station having a pair of cutting edges with the cuts or perforations positioned between said pair of cutting edges so as to be removed during the cutting operation, severing each label and removing the registration mark during the cutting operation.

3,435,718

APPARATUS FOR TRIMMING THE EDGES OF HOLLOW BODIES

Rudolf Widani, Nuremberg, Germany, assignor to Ludwig Widani, Werkzeugmaschinen, Nuremberg, Germany, a German firm

Filed Mar. 16, 1966, Ser. No. 534,757
Claims priority, application Germany, Mar. 18, 1965, W 38,795
Int. Cl. B23d 21/14; B26d 5/08
U.S. Cl. 83—185 4 Claims



There is shown a device for first trimming off in one piece a rough edge of a work piece such as a tubular member and then splitting the trimmed-off edge into several pieces to permit easy disposal thereof as scrap. To this end, the work piece is placed upon a cutting head securely mounted on a table. A first drive means moves an annular cutter surrounding the cutting edge of the head into and out of cutting engagement therewith to trim off in one piece the rough edge of the work piece. Thereupon, the trimmed off edge is split into two pieces by means of splitting knives or cutters which are driven by a second drive means independent of the first drive means. The timing of the splitting operation with reference to the trimming-off operation can be freely selected due to the provision of two independent drive means. The split trimmed-off pieces are disposed through openings in the table of the device.

3,435,719

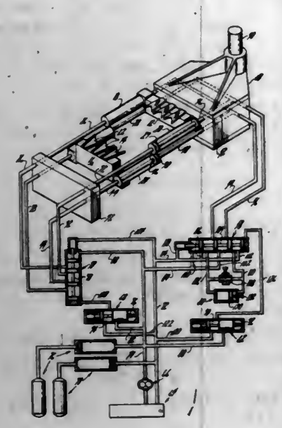
SHEARS FOR MOLTEN GLASS FEEDERS

Frederick J. Wythe, Hebron, Conn., assignor to Emhart Corporation, Bloomfield, Conn., a corporation of Connecticut

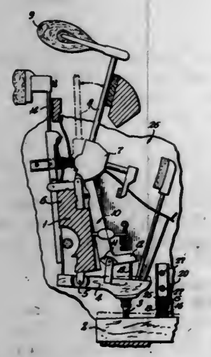
Filed Apr. 24, 1967, Ser. No. 633,257
Int. Cl. B26d 5/08, 5/12
U.S. Cl. 83—623 12 Claims

An hydraulically operated straight line shear structure for association with a molten glass feeder to provide gobs

of such glass for glassware forming machines. Each shear of a pair of opposed shears is driven through its cutting stroke by its own reversible hydraulic motor. The motors can be connected in series so that operation of one effects operation of the other to a like degree.

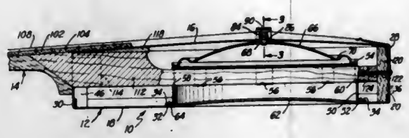


3,435,720
MEANS FOR ASSURING RETURN MOVEMENT OF THE KEYS OF A PIANO ACTION TO THEIR NORMAL POSITIONS
Ben E. Eston, 9B Jackson Court, Hempstead, N.Y. 11550
Filed Mar. 30, 1966, Ser. No. 538,637
Int. Cl. G10c *3/18*
U.S. Cl. 84—240 10 Claims



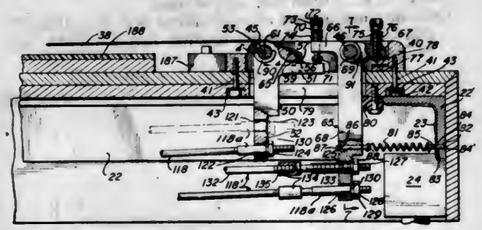
Means for relieving sluggishness of a piano action and to assure return movement of the keys to their normal positions comprising a strip of relatively soft, resilient material supported adjacent one of the movable components of the piano action in such manner that the strip of material is contiguous to the component when the component is in normal position, whereby when a key is depressed, a portion of the strip material is compressed, and upon release of the key the expansive force of the compressed material exerted on the movable component with which it is operatively associated returns the key to its normal position. The movable components of the piano action with which the strip material is associated are preferably the piano keys, butt members and hammer-shanks, or a combination thereof.

3,435,721
GUITAR CONSTRUCTION
Rudolph Dopera, 1045A Rosecrans Ave., Gardena, Calif. 90247
Filed Sept. 15, 1966, Ser. No. 579,617
Int. Cl. G10d *3/02*
U.S. Cl. 84—296 4 Claims



A stringed musical instrument such as a guitar is disclosed which utilizes an internal polymer composition diaphragm as a support used for the strings used with the instrument. This diaphragm is domed and is provided with a flexed roll adjacent to its edge. The center of the dome of the diaphragm is thicker than the flex roll at the edge of the diaphragm.

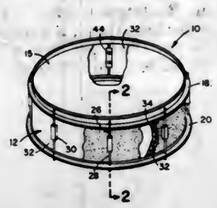
3,435,722
STRINGED MUSICAL INSTRUMENT
Kenneth V. Paul, 824 S. Jackson St., and William F. Johnson, Rte. 4, Box 75, both of Waukegan, Ill. 60085
Filed Aug. 5, 1964, Ser. No. 387,652
Int. Cl. G10d *3/14*
U.S. Cl. 84—312 24 Claims



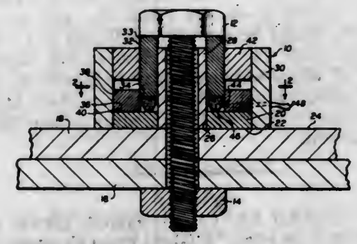
There is disclosed a stringed musical instrument of the pedal guitar type. Foot operated pedals pivot pivotally mounted shafts, and one or more arms shiftable along and secured to each shaft are connected by connectors to selected lever mechanisms. The lever mechanisms are operable to increase or decrease tension on the respective strings. Each lever mechanism includes cooperating levers, one of which is adapted to be connected to an associate string. Each lever may be connected to one of the arms by the connectors. The lever mechanisms and arms can be connected in any desired musical arrangement.

3,435,723
MUSICAL DRUM
James T. Corder, 2403 Gladstone Drive NE., Huntsville, Ala. 35811
Filed Dec. 23, 1965, Ser. No. 516,066
Int. Cl. G10d *13/02*
U.S. Cl. 84—411 4 Claims

A musical drum wherein the shell consists of an outer structural member of clear plastic such as Plexiglas and an inner member of decorative material wherein the inner member can be changed to provide different decorative patterns and tonal responses without need of changing the entire drum shell.

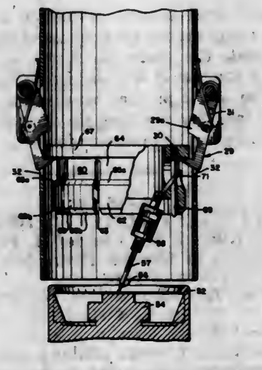


3,435,724
EXPLOSIVE WASHER FOR HIGH TENSION BOLTS
Emanuel Trungold, 6141 Broadway, Bronx, N.Y. 10471
Filed Jan. 25, 1967, Ser. No. 611,607
Int. Cl. F16b *31/02, 43/00*
U.S. Cl. 85—62 11 Claims



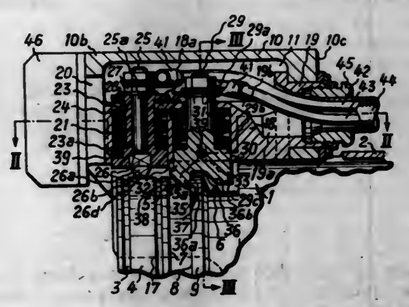
An explosive washer for tensioning high tension bolts, which washer, when exploded, expands in the axial direction to elongate and therefore stress the bolt.

3,435,725
STORE LAUNCHING SYSTEM
Matthew N. Miller, Topanga, Calif., assignor to Fairchild Hiller Corporation, Bay Shore, N.Y., a corporation of New York
Continuation-in-part of application Ser. No. 539,425, Apr. 1, 1966. This application Sept. 1, 1966, Ser. No. 585,996
Int. Cl. F41f *5/02*
U.S. Cl. 89—1.5 13 Claims



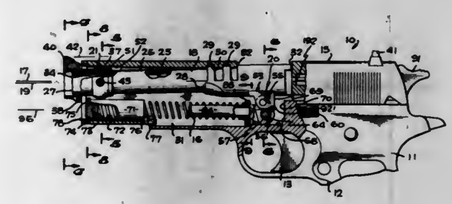
A system for successively launching stores through a tube in which a detachable insert is held to the store. The launch tube includes fingers which engage the insert and hold it as the store leaves the tube. Stores may be successively launched through the same tube with each insert held until released by the next successive store to be launched.

3,435,726
HOLDING DEVICE FOR ROCKETS WITH LAUNCHER TUBE
Rudolf Gabler, Heiden, Switzerland, assignor to Oerlikon-Buhrle Holding Ltd., Zurich, Switzerland
Filed June 2, 1967, Ser. No. 643,247
Claims priority, application Switzerland, June 10, 1966, 8,454/66
Int. Cl. F41f *3/04*
U.S. Cl. 89—1.807 8 Claims



A device for holding a rocket in a launcher tube has a stop which is secured, radially movable, to the launcher tube and can be swung about an axis parallel to the axis of the launcher tube. The stop can be swung out of a holdover position, in which the rocket is held in the launcher tube, into a rest position, in which the rocket is freely movable in the tube. The stop, in the holdover position, is pressed radially against the rocket by a spring.

3,435,727
GUN HAVING MOVABLY MOUNTED BARREL
Frank A. Pachmayr and Edward B. Miller, Los Angeles, Calif., assignors to Pachmayr Gun Works, Inc., Los Angeles, Calif., a corporation of California
Original application Dec. 29, 1966, Ser. No. 605,825. Divided and this application May 29, 1968, Ser. No. 733,142
Int. Cl. F41c *21/00, 21/10;* F41d *11/00*
U.S. Cl. 89—163 10 Claims



A gun having a slide which recoils rearwardly upon firing, and having a barrel whose breech end swings slightly in a rearward and downward direction upon recoil, with the breech end of the barrel being mounted for such movement by a link pivotally connected at two different locations to the barrel and the receiver of the

gun respectively, and with the returning upward and forward movement of the breech end of the barrel, following recoil, being limited by engagement of a downwardly facing stop surface on the link with an upwardly facing stop surface carried by the receiver. A forward portion of the link is movably received within a vertical slot formed in the rear portion of an otherwise conventional recoil spring guide.

3,435,728

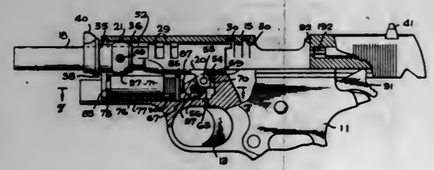
GUN RECOIL SPRING ASSEMBLY

Frank A. Pachmayr and Edward B. Miller, Los Angeles, Calif., assignors to Pachmayr Gun Works, Inc., Los Angeles, Calif., a corporation of California

Original application Dec. 29, 1966, Ser. No. 605,825. Divided and this application May 31, 1968, Ser. No. 733,367

Int. Cl. F41c *21/18;* F41d *5/02*

U.S. Cl. 89—199 11 Claims



A gun having a slide which recoils in a front to rear direction relative to the receiver of the gun, and having a recoil spring resisting rearward movement of the slide, and a plug urged forwardly by the spring, with forward forces being transmitted from the plug to the slide by a retaining plate which is movable upwardly within a guideway in the slide to an active position, and is withdrawable downwardly from the slide to free the plug and spring for removal. The recoil spring is desirably so constructed that, in its full recoil position, the successive turns of the spring are in direct metal to metal contact, to assist coacting stop shoulders on the slide and receiver in positively limiting the recoiling motion.

3,435,729

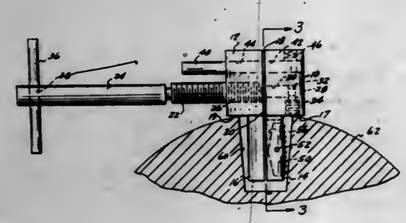
HOLE GROOVING DEVICE

Joseph L. Toth, Livonia, Mich., assignor to Burr-Bun Tool Service Company, Detroit, Mich., a corporation of Michigan

Filed Jan. 20, 1967, Ser. No. 610,632

Int. Cl. B23c *1/20;* B27g *15/02*

U.S. Cl. 90—12 5 Claims



A hole grooving apparatus for roughening the inner surface forming the finger holes of a bowling ball having means for adjusting the device to accommodate holes of different diameters and a pivotally mounted cutting means to provide adjustment to uniformly engage the interior surface of the hole.

3,435,730

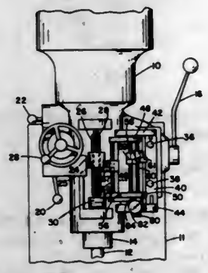
ANCILLARY MACHINE FEED TRIPPING MECHANISM

John A. Berberian, Burlington, Mass., assignor to BST Co., Cambridge, Mass., a partnership

Filed Jan. 26, 1967, Ser. No. 611,940

Int. Cl. B23c *1/06;* B23b *47/18*

U.S. Cl. 90—14 16 Claims



Ancillary stop structure in a machine having a quill stop, an adjustable micrometer nut, automatic and manual feed mechanisms, and automatic feed tripping mechanism actuated by movement of said nut, the ancillary structure rotatably positioned beside the quill stop path and having a flange between the quill stop and nut and in abutment with the nut, and also having adjustable stops one of which selectively may be positioned in the quill stop path, the nut and ancillary structure movable a distance greater than that required to actuate the tripping mechanism.

3,435,731

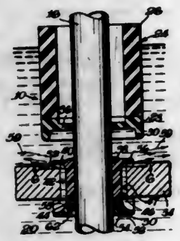
LOW LIQUID LEVEL CONTROL DEVICE

Andrew T. Browne, % Globe Hoist Company, Salisbury, Md. 21801

Filed Aug. 11, 1967, Ser. No. 659,987

Int. Cl. F15b *21/04*

U.S. Cl. 91—4 10 Claims



Low liquid level control device for a semi-hydraulic lift having a ring-shaped float mounted about the air line. The float seals the space about the air line when the liquid level is too low. A flow deflecting bushing is attached to the bottom of the plunger between the air line and the opening for laterally diverting the fluid flowing upwardly through the opening to minimize fuming.

3,435,732

HYDRAULICALLY POWERED DRILLING SUB

Lafayette E. Gilreath and Charles H. Pollard, Houston, Tex., assignors to Gilreath Hydraulics, Inc., Houston, Tex., a corporation of Texas

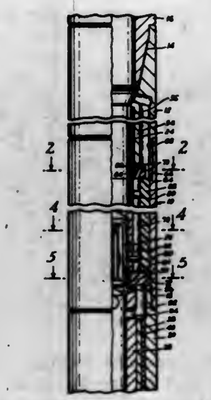
Filed July 15, 1966, Ser. No. 565,485

Int. Cl. F01c *1/04*

U.S. Cl. 91—135 1 Claim

A hydraulically powered drilling sub used in well drilling operations, constructed to be connected into a tubular drilling string to rotate the drilling bit while

holding the string against rotation. The invention incorporates a hydraulic motor having a tubular barrel and a rotor in the barrel having radially movable blades between which fluid pressure is introduced from the string above while being discharged from the barrel below. The



motor is provided with thrust bearings for holding the barrel and rotor against relative longitudinal movement and upper and lower elongated bearings above and below the rotor to hold the rotor against lateral movement in the barrel. Sealing means is provided at locations to prevent leakage between the barrel and rotor.

3,435,733

ELASTIC SEAL BETWEEN CYLINDER AND PISTON

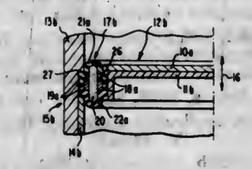
Kurt Enke, Fellbach, Wurttemberg, Germany, assignor to Daimler-Benz Aktiengesellschaft, Stuttgart-Untertürkheim, Germany

Filed July 15, 1966, Ser. No. 565,597

Claims priority, application Germany, July 16, 1965, D 47,740

Int. Cl. F01b *19/02;* F16j *3/00;* F16f *5/00*

U.S. Cl. 92—97 2 Claims



The seal structure comprises a sealing member of elastic material having a body adapted to be secured on one hand at the inner circumference of the cylinder and on the other hand at the outer circumference of the piston. The body of the sealing member comprises a ring-shaped convex hollow body, and ring means of substantially rigid material are disposed on the hollow body about its circumference for centering and supporting the hollow body of the sealing member. The wall thickness of the ring-shaped hollow body is relatively slight and the hollow space thereof is filled with a substantially incompressible medium. The ring-shaped hollow body consists of two substantially symmetrical halves with the separating joint thereof extending radially to form the flange-like securing bead, and the ring of rigid material is comprised by a pair of circumferential rings arranged radially inwardly as well as radially outwardly of the hollow space within the hollow body.

3,435,734

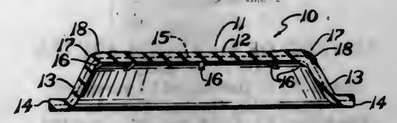
AIRBRAKE DIAPHRAGM

Kenneth C. Bushway, Waltham, and Nicholas V. Riselli, Belmont, Mass., assignors to The B. F. Goodrich Company, New York, N.Y., a corporation of New York

Filed July 12, 1966, Ser. No. 564,678

Int. Cl. F16j *3/00*

U.S. Cl. 92—103 6 Claims



A flexible resilient brake diaphragm for fluid pressure operated braking systems has a dish-shaped configuration that contains a central portion which includes a generally planar center section and sloping sides which together form a generally frusto-conical component. The sloping side of the central portion join to an outwardly extending peripheral flange useful for securing the diaphragm in place within the braking system. The exterior surface of the shoulder of the diaphragm (formed at the juncture of the generally planar center section of the central portion of the diaphragm with the sloping sides of the central portion of the diaphragm) is provided with a stippled surface formed by small protuberances on the exterior surface of the shoulder. Spaced ribs may be provided along the inner surface of the shoulder of the diaphragm to impart a greater degree of rigidity at the shoulder. The peripheral flange of the diaphragm desirably increases in thickness as the flange extends outwardly from the central portion of the diaphragm.

3,435,735

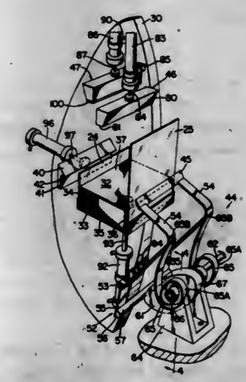
APPARATUS FOR AND METHOD OF MAKING A CIGARETTE PACKAGE CONSTRUCTION OR THE LIKE

William C. Whitaker, Richmond, Va., assignor to Reynolds Metals Company, Richmond, Va., a corporation of Delaware

Filed Mar. 13, 1967, Ser. No. 622,649

Int. Cl. B31b *1/28, 49/04*

U.S. Cl. 93—12 14 Claims



This disclosure relates to an improved apparatus for and method of making container means such as a cigarette package, for example, in which each package is made from a foldable blank in an automatic sequence on an indexing device comprising such apparatus. Each blank is folded about a suitable arbor carried on such indexing device using folding means provided on such indexing device and externally thereof. Separate heating means is

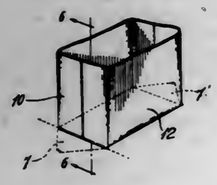
carried on such indexing device and provided for heat sealing overlapped opposite end portions of each blank in position during the forming of each package. Each heating means operates together with an associated clamping means for each package which is also carried on such indexing device and the heating and clamping means are operated to provide an optimum seal for each package.

3,435,736

METHOD OF MAKING A SQUARE BOTTOM BAG

Erwin W. P. Reiche, 643 Laurent St., Fabreville, Quebec, Canada

Filed Oct. 11, 1965, Ser. No. 494,470
Int. Cl. B31b *49/04*
U.S. Cl. 93—35 4 Claims



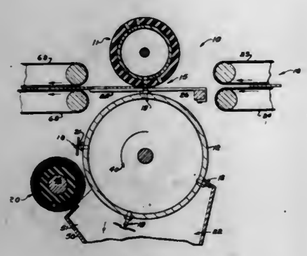
A method of making a square bottom bag in which triangular flaps formed at the lower corners have their walls sealed together before the flaps are sealed to the side or bottom of the bag.

3,435,737

METHOD AND APPARATUS FOR REMOVING WASTE PIECES FROM SHEET MATERIAL

Albert J. Sarka, Fairview Park, Ohio, assignor to Harris-Intertype Corporation, Cleveland, Ohio, a corporation of Delaware

Filed June 16, 1967, Ser. No. 646,611
Int. Cl. B31b *1/74*; G03b *1/24*
U.S. Cl. 93—36 16 Claims



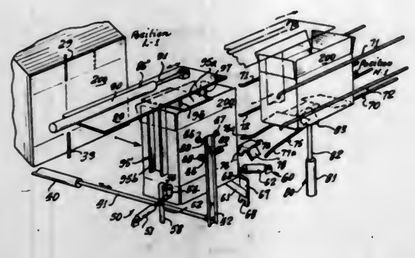
A pair of cooperable rotating cylinders define a stripping nip therebetween through which sheet material, which has been cut into waste pieces and articles, is fed. A plurality of barbed stripping pins are carried by one of the cylinders and each impales a waste piece and moves the same away from the articles to effect separation of the waste pieces from the articles. The separated waste piece is then pushed onto a tapered section of the pin to enlarge the pierced hole in the piece to a size greater than the transverse dimension of the barb to enable the waste piece to be readily removed from the pin.

3,435,738

FOLDABLE CASE SETUP APPARATUS

Joseph C. Berney, 2437 Bamboo St., Newport Beach, Calif. 92660

Filed Aug. 26, 1965, Ser. No. 482,801
Int. Cl. B31b *5/00, 1/76, 1/100*
U.S. Cl. 93—53 12 Claims



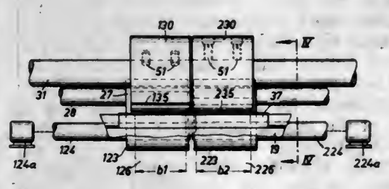
A case erecting apparatus includes a feed magazine which delivers a stack of knocked-down cases, an opening mechanism for sequentially opening the cases as they are removed from the stack, pivotal arms for closing the bottom end flaps at a station adjacent to magazine, and a transfer device which feeds a case with its bottom end flaps closed into a plow for closing the bottom side flaps. The opening mechanism includes a reciprocating suction device which grips the foremost panel of the front case in the stack and pulls it from the stack, fingers which momentarily restrain the rearmost panel of the front case to open the case, and stationary break plate in the path of the foremost end panel to shape the case to rectangular configuration. After the pivotal arms have closed the bottom end flaps, they serve as tracks to support those flaps while the transfer device moves the case into the plows. As additional features, a ram overfolds the bottom flaps, and an adhesive applicator may be used to seal the bottom flaps.

3,435,739

APPARATUS FOR APPLYING WINDOW MATERIAL TO WINDOW CUTOUTS IN THE MANUFACTURE OF WINDOW ENVELOPES AND THE LIKE

Max Neunkirchen, Irlich, near Neuwied, Germany, assignor to Richard Winkler, Rengsdorf uber Neuwied, and Kurt Dunnebier, Gladbbach, Germany

Filed Dec. 8, 1966, Ser. No. 600,121
Claims priority, application Germany, Dec. 22, 1965, W 40,563
Int. Cl. B31b *1/00, 49/04*; B32b *31/00*
U.S. Cl. 93—61 4 Claims



Apparatus for feeding a plurality of strips of transparent material, cutting such fed strips into pieces of predetermined length, and properly positioning such cut

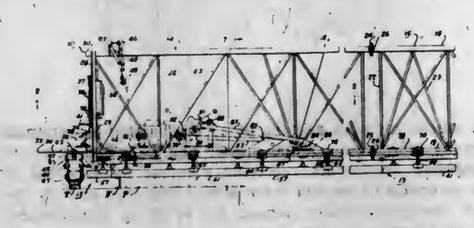
pieces over openings or cutouts in a moving web or blanks, such as, a web or blanks for making window envelopes.

3,435,740

RECIPROCAL SCREEDS FOR FINISHING CONCRETE

Lloyd A. McGall, San Antonio, Tex., assignor, by mesne assignments, to Ruby Industries Inc., Austin, Tex., a corporation of Texas

Filed Dec. 2, 1966, Ser. No. 598,723
Int. Cl. E01c *19/42*
U.S. Cl. 94—45 9 Claims



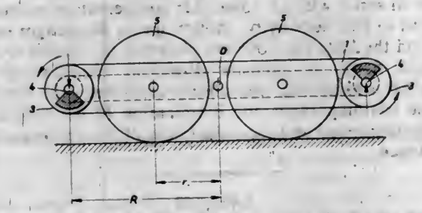
A reciprocal concrete pavement finishing screed of lightweight construction and formed in longitudinal sections so as to be readily portable, the sectional construction permitting variation of the length of the screed in accordance with the width of the pavement. Each section is unitary and includes a self-supporting frame portion having a pair of longitudinal, reciprocal screed elements suspended therefrom, the frame portions and screed elements of adjacent sections being detachably secured to one another to provide a composite frame and a pair of screed assemblies. Each section is of triangular, transverse configuration and has a trio of lower longitudinal frame members for slidably supporting the screed elements outboard thereof, the center frame member only being common to both elements. Adjustable fasteners suspend each screed element for independent adjustment. The screed has means at its ends for mounting upon tracks and varying its elevation.

3,435,741

DOUBLE VIBRATION ROLLER

Joachim V. B. Mozdzanowski, Boppard (Rhine), Germany, assignor to Bopparder Maschinenbaugeselischaft m.b.H., (Bomag) Boppard (Rhine), Germany

Filed Dec. 9, 1966, Ser. No. 600,453
Int. Cl. E01c *19/24*
U.S. Cl. 94—50 3 Claims



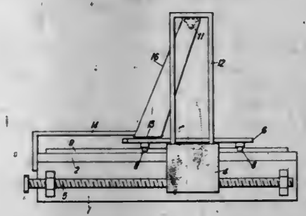
A ground compacting apparatus having a frame with a double vibration roller mounted thereon. Imbalance oscillation generators are located on the front and rear of the frame outside the rollers and comprise masses at the front and rear which rotate at the same speed with a 180° phase difference and additional fixed masses.

3,435,742

METHODS OF PRODUCING MAPS AND MEANS THEREFOR

Thomas Stanley Briggs, Edinburgh, and Kenneth Robson Brown, Kirknewton, Midlothian, Scotland, assignors to Ferranti, Limited, Hollinwood, England, a company of Great Britain and Northern Ireland

Filed Jan. 24, 1966, Ser. No. 522,587
Claims priority, application Great Britain, Jan. 29, 1965, 3,933/65
Int. Cl. G03b *29/00*
U.S. Cl. 95—12 8 Claims



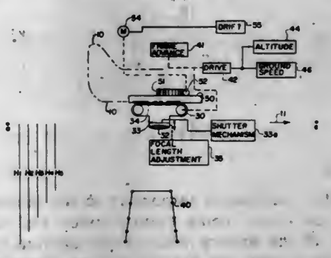
A map having lines of longitude and latitude arranged as a regular rectangular grid is obtained from a standard map on which the lines of longitude converge to a point off the map by employing an optical system in which a slot is moved relatively to the standard map while an image of an elemental strip of said map is projected through the slot onto a light sensitive surface, the movement comprising rotation between the standard map and the slot about an axis passing through the convergence point, and the light sensitive surface is moved relatively to the slot in a direction normal to the latter in a plane parallel to the plane of the standard map.

3,435,743

CAMERA SYSTEM

Dwin Craig, Falls Church, Va., assignor to Fairchild Hiller Corporation, Rockville, Md., a corporation of Maryland

Filed Sept. 15, 1965, Ser. No. 487,488
Int. Cl. G03b *29/00*
U.S. Cl. 95—12.5 20 Claims



The aerial camera, or set of cameras, are focused at predetermined elevations, which results in the formation of contour lines of objects on the ground which are in sharp focus when at the selected elevations.

3,435,744

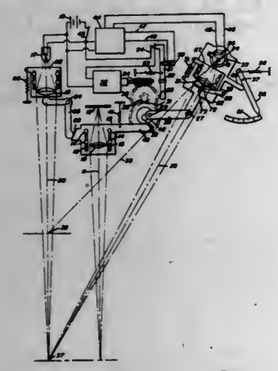
AUTOMATIC FOCUSING SYSTEM

Allen G. Stimson, Rochester, N.Y., assignor to Eastman Kodak Company, Rochester, N.Y., a corporation of New Jersey

Filed May 31, 1966, Ser. No. 554,072
Int. Cl. G03b *3/10*
U.S. Cl. 95—44 15 Claims

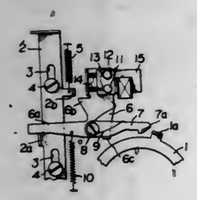
A device for use with photographic cameras for automatically determining the distance from the instrument to a subject to be brought into focus. A beam of light is

directed toward the subject from a light source positioned in predetermined relation to the camera. A portion of the light beam reflected back to the camera from the subject is received at a location spaced laterally from the emitted beam. The angle between the emitted and the reflected



beams is sensed by bringing the reflected portion of the light beam into alignment with photoresponsive sensors. The angle so sensed is then translated into a corresponding mechanical movement which is a function of the distance from the camera to the subject.

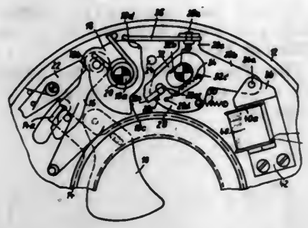
3,435,745
ELECTRIC SHUTTER FOR USE IN PHOTOGRAPHIC CAMERAS
Yoshio Fukushima, Tokyo, Japan, assignor to Kabushiki Kaisha Ricoh, Tokyo, Japan, a corporation of Japan
Continuation of application Ser. No. 577,882, Sept. 8, 1966. This application Nov. 15, 1966, Ser. No. 600,339
Int. Cl. G03b 9/58
U.S. Cl. 95—53 8 Claims



A shutter mechanism responsive to the intensity of the light on the object being photographed and also to the condition of the battery which helps operate the mechanism so that when the battery voltage decreases beyond a certain point the shutter will not open, thus signalling to the operator a need for a new battery.

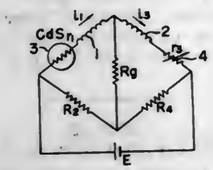
3,435,746
PHOTOGRAPHIC SHUTTER
Wilhelm Pross, Munich, Germany, assignor to Compur Werk Gesellschaft mit beschränkter Haftung & Co., Munich, Germany, a firm of Germany
Filed Jan. 23, 1967, Ser. No. 610,923
Claims priority, application Germany, Feb. 1, 1966, C 38,087
Int. Cl. G03b 9/00
U.S. Cl. 95—53 8 Claims

There is disclosed a shutter with a rotatable master member which during its running down movement, when the opening of the aperture reaches a maximum, encounters and is stopped for a predetermined time by a delay mechanism, and then is released to complete its running down movement and cause the opening of the aperture to be closed. The delay mechanism comprises a structure for directly receiving and absorbing the impact between



the master member and the delay mechanism to minimize thereby rebounding of the master member. The structure comprises an impact receiving element displaceable in the direction of impact from a rest position, and an impact absorbing elastic element for resisting displacement of said impact receiving element.

3,435,747
ELECTROMAGNETIC CONTROLLING DEVICE FOR EXPOSURE
Ichiro Yoshiyama and Masaichiro Konishi, Osaka, Japan, assignors to Minolta Camera Kabushiki Kaisha, Osaka, Japan, a corporation of Japan
Filed Sept. 16, 1965, Ser. No. 487,759
Claims priority, application Japan, Sept. 28, 1964, 39/55,452
Int. Cl. C03b 9/02, 7/08; G01d 5/34
U.S. Cl. 95—64 3 Claims

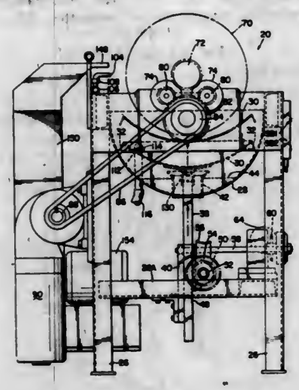


An electromagnetic exposure controlling device in which an iris diaphragm is coupled to a rotor member of a galvanometer which has two coils wound thereon each placed in a respective leg of a Wheatstone bridge circuit, one being connected in series with a photocell and the other in series with an adjustable compensation resistance related to film sensitivity, shutter speed, diaphragm opening and the like. The coils are placed in the circuit so that current flows in opposite directions therethrough to establish a balancing relationship as between the opening of the iris diaphragm, the illumination of the subject to be photographed and the adjustment of the compensation resistance.

3,435,748
APPARATUS FOR DEVELOPING A CYLINDER
David R. Cannon, New Albany, Ind., assignor to Reynolds Metals Company, Richmond, Va., a corporation
Filed Dec. 2, 1966, Ser. No. 598,843
Int. Cl. G03d 3/00
U.S. Cl. 95—89 3 Claims

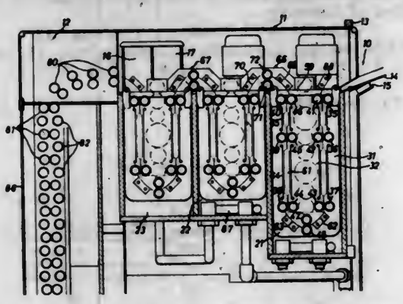
An apparatus for developing a gelatine coating on a cylindrical surface having automatic controls for maintaining proper water temperatures in the developing bath.

A vertically movable liquid applying pan is located under the horizontally rotatable cylinder. The pan bottom has a thermally sensitive element in a trough. The trough has a slow leak to maintain a representative liquid surrounding the sensitive element. A stationary tub is



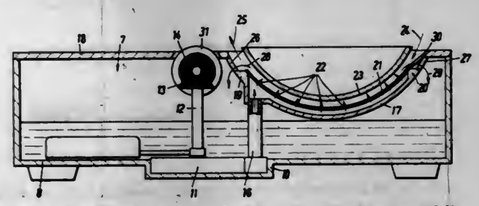
located underneath the pan to receive the liquid drainage and the liquid overflow from the pan. Elevated wells in the tub surround elevating supporting columns which elevate and lower the pan. Alcohol jets adjacent to the bath spray the cylinder, and liquid filling pipes fill the pan to maintain a flow of liquid through the pan.

3,435,749
PHOTOGRAPHIC MATERIAL PROCESSING APPARATUS
Andre Paul Cauwe, Bruges, and Leo Paul Van Bouwel, Mortsel-Antwerp, Belgium, assignors to Gevaert-Agfa N.V., Mortsel, Belgium, a Belgian company
Filed Sept. 17, 1965, Ser. No. 488,097
Claims priority, application Great Britain, Sept. 25, 1964, 39,266/64
Int. Cl. C03d 3/12; B65h 17/42, 17/34
U.S. Cl. 95—94 9 Claims



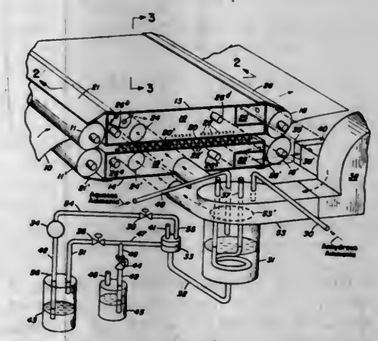
A roller arrangement for conveying sheet material in a generally U-shaped path, which is composed of two separable unitary sets of rollers. The outer set has the rollers thereof rotatably held by a supporting frame in two spaced parallel rows while the rollers of the inner set are arranged in at least one row which is adapted to fit in parallel relation between the two outer rows. In working position, the rollers of the two sets form cooperating pairs of rollers defining two spaced apart guide paths forming the legs of the U-shaped path. The inner set includes a frame rotatably supporting the rollers thereof as a unitary assembly for easy bodily displacement outwardly of the outer set. A curved guide plate is located at one end of the two guide paths for directing sheets therebetween to complete the U-shaped path. The rollers are preferably equipped with gear wheels which form part of a unitary intermeshing guide train adapted to be driven by a single driving member when the roller sets are in working position. The guide plate may be constructed integrally with the outer set of rollers. The guiding arrangement may be employed in an apparatus for processing the sheet material through a tank containing suitable processing liquid.

3,435,750
APPARATUS FOR PRODUCING COPIES
Walter Limberger, Hamburg-Poppenbuttel, Germany, assignor to Lumoprint Zindler KG, Hamburg, Germany
Filed Apr. 19, 1966, Ser. No. 543,642
Claims priority, application Germany, Apr. 23, 1965, L 50,549
Int. Cl. G03d 3/10, 3/06
U.S. Cl. 95—94 6 Claims



A developing device employing the electro-photographic method of making copies is formed of a trough mounted within a housing forming a reservoir for developing liquid. The trough has an upwardly facing concave shaped surface and a perforated plate is spaced above this surface forming a chamber therebetween. A guide member is located above the plate having the same general configuration and forming with the plate passageway through the trough. Developing fluid under pressure is supplied into the chamber and passes through holes in the plate into the passageway being directed against the downwardly facing surface of the guide member.

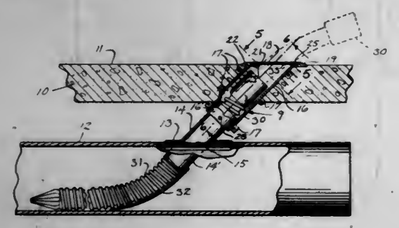
3,435,751
PHOTOCOPY DEVELOPING APPARATUS
Robert C. Goodman, Binghamton, and Emilio G. Mastrolanni, Endicott, N.Y., assignors to GAF Corporation, New York, N.Y., a corporation of Delaware
Filed Nov. 3, 1966, Ser. No. 591,822
Int. Cl. G03d 3/12
U.S. Cl. 95—94 4 Claims



A photographic apparatus having a developing chamber and a mixing chamber for anhydrous and aqueous ammonia. A liquid vessel is connected to the mixing chamber

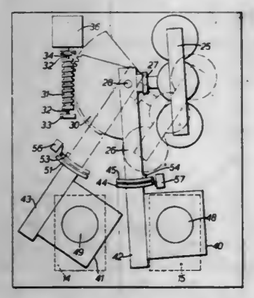
and a pump connected to the liquid vessel establishes a predetermined liquid level in the mixing chamber. A blower is in communication with the mixing chamber and circulates a solution into the developing chamber. A heater system is provided in the developing and mixing chambers to maintain the proper temperature of the solution.

3,435,752
FIXTURE ASSEMBLIES FOR UNDERFLOOR EXHAUST REMOVAL SYSTEMS
Richard E. Capstran, 3813 N. 35th St., Milwaukee, Wis. 53216
Filed May 11, 1967, Ser. No. 637,744
Int. Cl. F24f 7/04
U.S. Cl. 98—42 8 Claims



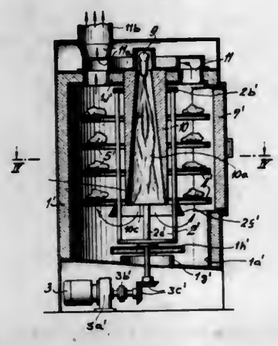
A floor fixture for the hose and adapter of an exhaust removal system wherein there is a self-storing nonremovable, slidable cover which can be moved vertically, with one simple motion, from stored position to closing position, or vice versa, there being a hose guiding tube and saddle assembly adjustably connected to the lower end of the floor fixture to permit adjustment and proper alignment of the floor fixture with the finished floor grade, the hose guiding tube being at a preset angle and having its lower end projecting into an opening in the top of an underfloor air duct while it is supported by a saddle portion which is curved to fit on top of the air duct.

3,435,753
PREPARATION OF FOOD PRODUCTS
Peter Harold Smith, Maidenhead, England, assignor to Microtherm Limited
Filed Aug. 16, 1966, Ser. No. 572,745
Int. Cl. A47j 27/00; H05b 9/06
U.S. Cl. 99—327 10 Claims



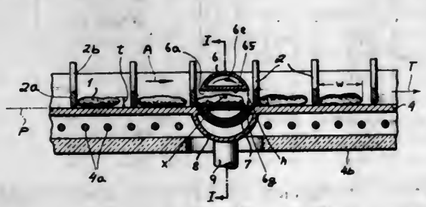
In an oven for heating articles by means of microwave energy, a pair of oven cavities cooperate with a single source of microwave energy. A rotatable waveguide arrangement switches the microwave energy from the source alternately to the two cavities. An interlock apparatus prevents switching while the source is operating.

3,435,754
ROASTING AND BROILING APPARATUS
Alfred Löhr and Helmut Hemmann, Herborn, and Karl Tropp, Werdorf, Germany, assignors to Burger Eisenwerke Aktiengesellschaft, Wetzlar, Germany, a corporation of Germany
Filed May 23, 1967, Ser. No. 640,534
Claims priority, application Germany, May 25, 1966, B 87,277
Int. Cl. A47j 37/00
U.S. Cl. 99—341 6 Claims



A meat-roasting and meat-broiling apparatus having an upright support with a plurality of axially spaced and angularly offset stations for receiving the pieces of meat, a support carrying these stations for rotating them about a vertical axis, and an upright housing provided with an access door in the side thereof. The support is formed as a drum-like cage with vertical bars supporting the stations and surrounding a central heating means. On at least one side of the cage, a viewing opening is provided in the housing which also has a mirror permitting a view of the comestible products from the exterior of the apparatus.

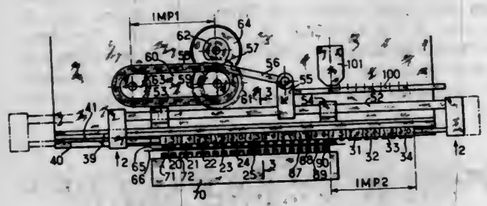
3,435,755
SERIAL ROASTING APPARATUS WITH PRODUCT TURNER
Alfred Löhr and Helmut Hemmann, Herborn, and Karl Tropp, Werdorf, Germany, assignors to Burger Eisenwerke Aktiengesellschaft, Wetzlar, Germany, a corporation of Germany
Filed May 23, 1967, Ser. No. 640,532
Claims priority, application Germany, May 25, 1966, B 87,278
Int. Cl. A47j 37/04
U.S. Cl. 99—424 7 Claims



Apparatus for the serial roasting of flat comestible objects in which the pieces of comestible are drawn along a roasting surface heated from below and are turned at substantially the half-way point in their movement therealong by a turning device in the form of a drum journaled at one end at the side of the apparatus and having a throughgoing longitudinal slot extending diametrically through the drum and open at the other end; a plurality of flights constitute the means for displacing the meat along the roasting surface, each of the flights being cantilevered at the side of the apparatus proximal to the open

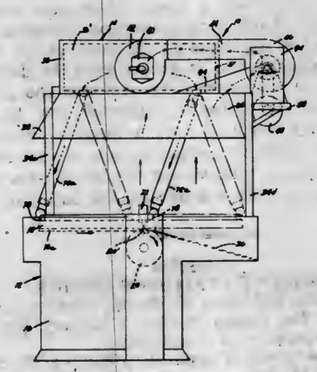
end of the drum and passing diametrically therethrough in the stationary condition of the periodically operating drum. The flights are displaced periodically by a chain programmed or timed synchronously with the gear drive at the supported end of the drum to halt the flights when the drum is rotated.

3,435,756
MAGNETIC HOLDING MEANS FOR TYPE MEMBERS IN SELECTIVE PRINTING MACHINES
Claude Raymond Marie Martin, Maisons-Laffitte, France, assignor to Societe Industrielle Bull-General Electric (Societe Anonyme), Paris, France
Filed May 15, 1967, Ser. No. 638,295
Claims priority, application France May 25, 1966, 62,833
Int. Cl. B41j 1/20
U.S. Cl. 101—93 5 Claims



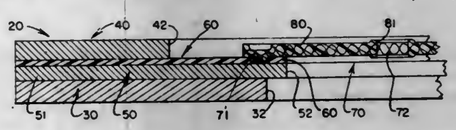
An improvement for enhancing the quality of the printing in mechanisms in which type holders are successively advanced along a guide path past a row of striker hammers adapted to be selectively actuated for the printing, the improvement consisting in that the guide path is provided with guide means against which the type holders are applied by magnetic attraction in order to prevent rebounding and vibratory movements of the said type holders in the guide path during the printing.

3,435,757
HOT MELT STENCILING METHOD AND APPARATUS
Victor E. Pennington, 1359 Northlawn NE., Grand Rapids, Mich. 49505
Filed Oct. 21, 1965, Ser. No. 499,725
Int. Cl. B41l 13/06, 27/00
U.S. Cl. 101—124 5 Claims



Stencil printing of a normally solid, heat fluidizable substance using hot air conducted onto the substance on the stencil to fluidize it and allow it to be squeegeed through the stencil, and then cooling to solidify it; the hot air being passed through swinging conduits movable with the stencil through a manifold to the stencil area.

3,435,758
STENCIL AND METHOD OF MAKING THE SAME
Edmund F. Brennan, Arlington, and John A. Hawes, Boston, Mass., assignors to Dymo Industries, Inc., Berkeley, Calif., a corporation of California
Filed Mar. 2, 1966, Ser. No. 531,199
Int. Cl. B41l 13/00; B41c 1/14; B32b 7/00
U.S. Cl. 101—127.1 23 Claims



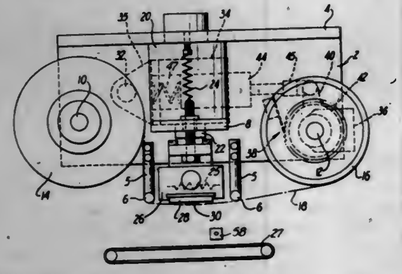
There is disclosed a stencil used on addressing machines, the stencil comprising a frame including a support member having a window therein, a layer of thermoplastic resin such as polyethylene resin on one surface of the support member around the window, an open lace-like base sheet formed of interlaced fibers, preferably a mixture of vegetable fibers and polyester fibers, covering the window on the side of the support member carrying the resin coating, the fibers of the base sheet around the periphery thereof being embedded in the resin coating to mount the base sheet in covering relationship with the window, a coating carried by the base sheet and comprising from about 13% to about 25% by weight of cellulose acetate resin, about 1.5% to about 9% by weight of modifying resins such as ethyl cellulose, nitrocellulose, cellulose acetate butyrate, cellulose acetate propionate and cellulose propionate, from about 35% to about 55% by weight of primary solvent plasticizers for the coating resins such as di-esters of phthalic acid, and from about 15% to about 40% by weight of secondary non-solvent plasticizers for the coating resins such as triaryl phosphates; there further is disclosed a method of mounting the stencil base sheet on the improved frame and specifically on the support member carrying the thermoplastic resin coating.

3,435,759
DUPLICATING METHOD INVOLVING COLOR FORMATION
Laurence B. Lueck and Ronald I. Morley, St. Paul, Minn., assignors to Dymo Industries, Inc., Berkeley, Calif., a corporation of California
No Drawing. Continuation-in-part of application Ser. No. 293,892, July 9, 1963. This application Mar. 2, 1966, Ser. No. 531,025
Int. Cl. B41l 27/00; B41m 5/00, 5/22
U.S. Cl. 101—129 10 Claims

There is disclosed a process of mimeographing utilizing mimeograph paper carrying a coating of a molybdenum or tungsten water soluble compound wherein the metal ion has a valence of 6 and a buffering agent such as a citrate, and a mimeographing fluid containing a water soluble stannous compound as a reducing agent and citric acid, the molybdenum compounds reacting to provide a blue image while the tungsten compounds provide a yellow image; a brown image can be provided by adding to the mimeograph paper an oxide of phosphorus or silicon or arsenic, a red image can be provided by adding to the mimeograph paper water soluble alkaline thiocyanate or alkyl xanthate, while a black image can be provided by placing one from all three of the compounds named on the one surface; alternatively, the metal

compounds may be placed in the mimeographing fluid and the reducing agent can be placed on the mimeograph paper.

3,435,760
BED AND PLATEN PRINTING MACHINE WITH HEATED TRANSFER RIBBON
Harry Harrison, Heywood, England, assignor to Sulmist Limited, Heywood, Lancashire, England, a British company
Filed Jan. 20, 1967, Ser. No. 610,683
Claims priority, application Great Britain, Mar. 4, 1966, 9,715/66
Int. Cl. B41f *1/00, 31/16;* B44b *5/00*
U.S. Cl. 101—287 3 Claims



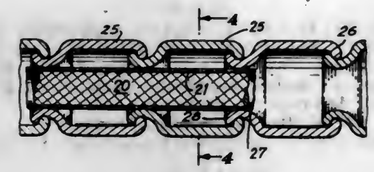
A compact imprinting mechanism employs a heat transfer printing tape trained over a pair of spaced guides between which is a retracted heated printing head mounted upon the core of a D.C. solenoid. Upon actuation, a control mechanism causes a current to flow in the winding of the solenoid for a preset period whereby the head presses a printing die against the heat transfer tape to cause an imprinting to occur. Immediately, thereafter the control mechanism actuates another D.C. solenoid to cause an indexing mechanism to draw an unused portion of the tape under the head.

3,435,761
PREMORDANTED IMBIBITION DYE PRINTING BLANK
Walter John Weyerts, Rochester, N.Y., assignor to Eastman Kodak Company, Rochester, N.Y., a corporation of New Jersey
Filed May 10, 1966, Ser. No. 549,060
Int. Cl. B41m *5/12;* B41n *3/00;* G03c *7/02*
U.S. Cl. 101—464 18 Claims

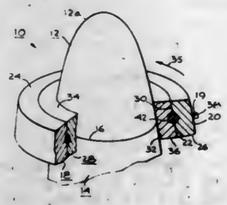
In dye imbibition printing blanks which include a support having coated thereon a hydrophilic colloid layer containing basic mordant which tends to diffuse through the colloid, there is incorporated in the outer stratum of the colloid layer a water soluble acid salt of an alkyl or aryl substituted polyalkoxy ether which prevents diffusion of the mordant out of the layer. Processes for preparing such dye imbibition printing blanks are provided. Relief imbibition printing processes are provided which feature applying to the surface of a colloid blank a water soluble acid salt of an alkyl or aryl substituted polyalkoxy ether.

3,435,762
ANTI-PERSONNEL ORDNANCE DEVICE
Joseph Friedman, St. Louis, Mo., and Richard Wachtell, Scarsdale, N.Y., assignors to Chromalloy American Corporation, West Nyack, N.Y.
Filed Mar. 6, 1967, Ser. No. 621,061
Int. Cl. F42b *3/00, 13/48;* F42d *3/00*
U.S. Cl. 102—22 3 Claims

For harassment or destruction of ground troops and installations from the air, a long length of explosive high energy detonating cord or other flexible explosive device is encased in a heavy metal casing arranged, in one manner or another, to be flexible for rolling or folding the entire device, which is then unreeled from an aircraft or otherwise and laid over a substantial length of ground and detonated (upon contact or otherwise) to provide an almost instantaneous explosion over a very substantial distance, with production of considerable shrapnel from the metal casing and from trees, stones, etc., in the area of the explosion all along the cord. Paravanes may be added to support the device during unreeling and to slow its descent to the ground, and additional grenade-like explosives may be attached at intervals along the device.



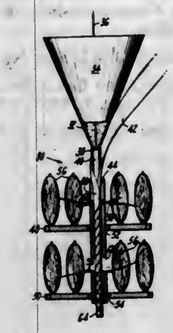
3,435,763
EXPLOSIVE ARRANGEMENT FOR GENERATING A MACH STEM TO AFFECT A LINE CUT
Arthur A. Lavine, 5322 Waupaca Road, Palos Verdes Peninsula, Calif. 90274
Filed June 20, 1967, Ser. No. 647,422
Int. Cl. F42b *3/08, 1/02*
U.S. Cl. 102—24 10 Claims



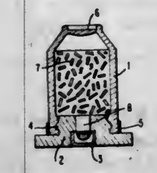
There is described herein an explosive arrangement in which an elongated first high explosive charge member and an elongated second high explosive charge member are combined to provide a linear Mach stem extending along the length of the elongated second explosive charge member. The first explosive charge member has a detonation front velocity that is greater than the detonation front velocity in the second high explosive charge member. The Mach stem that is generated may be either a constant angle Mach stem or a variable angle Mach stem depending upon the particular type of wave shaping arrangement that is utilized and the Mach stem that is generated may be utilized to affect a line cut in an article to be cut.

3,435,764
DORMANT EXPLOSIVE DEVICE
Stanley R. Kelly and John M. Smith, Simsbury, Conn., assignors to The Ensign-Bickford Company, Simsbury, Conn., a corporation of Connecticut
Continuation-in-part of application Ser. No. 511,554, Dec. 3, 1965. This application Nov. 13, 1967, Ser. No. 682,001
Int. Cl. F42b *3/10*
U.S. Cl. 102—27 6 Claims

A dormant explosive fuse is comprised of a covered column of coarse dry high explosive material having a particle size sufficiently large to render the explosive material incapable of initiation and propagation at the core load utilized.



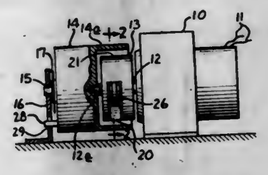
3,435,765
CARTRIDGE
Heinz Gawlick, Furth, and Hans Umbach, Stadeln, Germany, assignors to Dynamit Nobel Aktiengesellschaft, Troisdorf, Germany
Filed May 1, 1967, Ser. No. 635,210
Int. Cl. F42b *9/06, 5/14*
U.S. Cl. 102—39 12 Claims



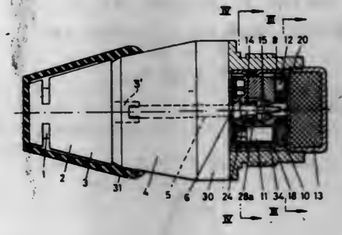
The present disclosure relates to a propellant cartridge for commercial devices driven by powder charge, for example, rivet guns, or cattle stunning devices, that have a propellant charge in a cartridge case having a shank portion of a synthetic polymer closed at one end by a bottom piece containing a primer and closed at its opposite forward end by a synthetic polymer disc homogeneously integral with the shank portion, that is, the shank portion and forward closure disc are constructed in one piece of a synthetic polymer. Suitable bursting grooves are provided to separate the closure disc from the case shank upon ignition of the propellant charge and subdivide the disc into a plurality of separate pieces. Also, the case shank may be provided with a plurality of longitudinally extending bursting grooves for tearing the case shank into a plurality of strips that may extend the entire length of the case shank.

3,435,766
ELECTROMECHANICAL TRANSDUCER FOR USE AS SAFETY AND ARMING DEVICE IN FUZES
Richard C. St. John, Skokie, Ill., assignor to General Time Corporation, Stamford, Conn., a corporation of Connecticut
Filed Mar. 3, 1967, Ser. No. 620,346
Int. Cl. F42c *15/26*
U.S. Cl. 102—70.2 6 Claims

This application discloses an electromechanical transducer especially suitable for use as a safety and arming device in a fuze. The transducer includes a motor for converting a low power electrical input, as supplied by a battery for example, to continuous rotational movement of a rotor connected to the motor ouput shaft. A pair of spring biased arms are pivoted on the rotor so as to swing out into contact with an arming element at a predetermined speed of the motor, whereby the inertia of the rotor system advances the arming element from a safety position to an arming position.



3,435,767
SAFETY DEVICE FOR A PROJECTILE
Arne Stav, % Forsvarets Forskningsinstitutt, Kjeller, Norway
Filed Apr. 14, 1967, Ser. No. 630,926
Claims priority, application Norway, Apr. 29, 1966, 162,801
Int. Cl. F42b *5/08, 9/08*
U.S. Cl. 102—70.2 5 Claims

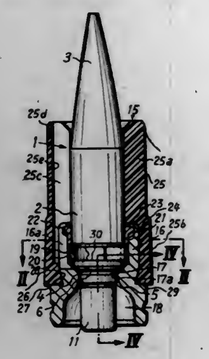


A safety device for a shell in which an explosive primer charge is supported on a rotary disc spring-biased toward a position in which the primer charge is aligned with a detonator charge and a main charge for igniting the latter when the former is electrically ignited. An air-operated turbine turns a shaft for threadedly withdrawing prongs which normally block the disc in an inoperative position. The external ignition circuit to the detonator is closed by the movement of the disc into the operative position.

3,435,768
SABOT PROJECTILE
Walter Engel, Dubendorf, Switzerland, assignor to Oerlikon-Buhrle Holding Ltd., Zurich, Switzerland
Filed July 24, 1967, Ser. No. 655,583
Int. Cl. F42b *11/16, 13/34*
U.S. Cl. 102—87 5 Claims

A sabot projectile, which carries with it a tracer composition on the rear part of the hard-metal projectile body, connected to a steel joining part by a flanged joint, has a hard solder bonding connection for connecting the joining part to the rear part. In the zone of the hard solder bonding connection, the rear part and the joining part are constructed as two truncated circular cones merging into one

another. In order to relieve the load on the hard solder bonding connection, these two truncated cones are supported at the rear in common against a corresponding inside surface of a hollow truncated cone on the sabot.



3,435,769

DISINTEGRATING BULLET FOR PRACTICE CARTRIDGES FOR SMALL-ARMS OR AUTOMATIC WEAPONS

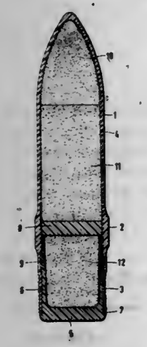
Raimund Germershausen, Dusseldorf-Nord, Germany, assignor to Rheinmetall G.m.b.H., Dusseldorf, Germany, a company of Germany

Filed Dec. 27, 1966, Ser. No. 604,697

Claims priority, application Germany, Jan. 7, 1966, R 42,380

Int. Cl. F42b *11/36*

U.S. Cl. 102—92.7 12 Claims



A disintegrating bullet for practice cartridges for small-arms or automatic weapons, consisting of a one-piece thin-walled plastic casing which extends to the base and is provided with a plurality of intended break lines extending longitudinally, the bullet casing being sealed after insertion of a filling of heavy pulverous material by means of a solid base. The sealing and guiding band of the casing is radially reinforced by a disc within and engaging the casing, and the base is provided with a forwardly extending inwardly tapering tubular shank engaging the rearward portion of the reinforcing disc.

3,435,770

LIQUID FUEL INJECTION PUMPS

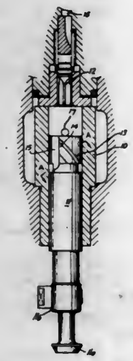
Arthur J. Ellis, Cheltenham, England, assignor to Bryce Berger Limited, Gloucestershire, England, a corporation of Great Britain

Filed May 9, 1967, Ser. No. 637,208

Claims priority, application Great Britain, May 10, 1966, 20,632/66; Apr. 1, 1967, 18,152/67

Int. Cl. F04b *49/00*

U.S. Cl. 103—41 7 Claims



A liquid fuel pump including a plunger which has a groove therein that defines a control edge for modifying the rate of pressure decay, said groove being less in depth at a point immediately adjacent the control edge than it is at a point remote from said edge.

3,435,771

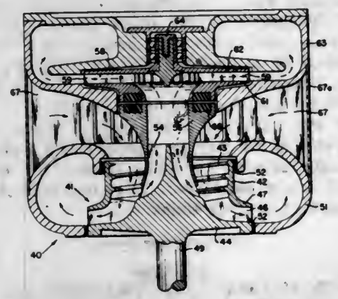
PUMP FOR USE WITH NEAR BOILING FLUIDS

James C. Riple, Hawthorne, Calif., assignor to The Garrett Corporation, Los Angeles, Calif., a corporation of California

Filed Mar. 29, 1967, Ser. No. 626,870

Int. Cl. F04d *9/02, 29/18*

U.S. Cl. 103—113 5 Claims



A centrifugal pump for pumping near boiling fluids and having a hubless inducer for whirling the liquid phase outwardly to a rotating liquid impeller and having an axial passageway for guiding the vapor phase to a vacuum means that sucks the vapors from the core of the hubless inducer.

3,435,772

VARIABLE DIAMETER STATOR FOR SCREW PUMP

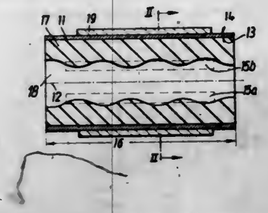
Karl Schlecht, 7024 Bernhausen, Filder, Germany

Filed Mar. 14, 1967, Ser. No. 622,999

Claims priority, application Germany, Mar. 15, 1966, Sch 38,663

Int. Cl. F04c *3/00*

U.S. Cl. 103—117 7 Claims



A stator for a screw pump comprises a tubular jacket. The jacket has an axis and may have a plurality of slots formed therethrough which are parallel to the axis, equiangularly spaced from each other and of equal length less than the length of the jacket. The jacket may comprise a pair of spaced annular end rings joined by a plurality of equiangularly spaced flat bar connecting members extending parallel to the axis. Elastic material is positioned on the inside surface of the jacket and forms an axially extending hollow space around the axis in a worm configuration; the hollow space having a cross-sectional area at each point along the axis. Pressure apparatus applies pressure to the outside surface of the jacket directed toward the inside thereof to compress the cross-sectional area of the hollow space formed by the elastic material. The pressure apparatus is a clamping sleeve or a pressure cylinder around the jacket with a pressure medium in a pressure chamber formed by the space between the jacket and the pressure cylinder.

3,435,773

GEAR PUMP

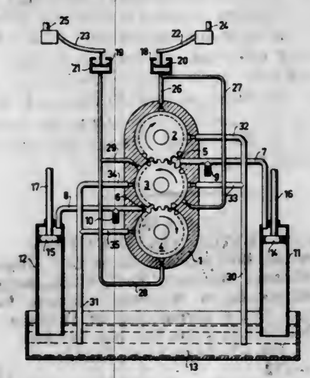
Berth Ulrik Gustafsson, Saffle, Sweden, assignor to AB Kalle-Regulatorer, Saffle, Sweden

Filed Aug. 23, 1967, Ser. No. 662,747

Claims priority, application Sweden, Sept. 28, 1966, 13,077/66

Int. Cl. F04c *1/04;* F04b *13/02, 19/06*

U.S. Cl. 103—126 2 Claims



A gear pump system comprising two gear wheels in engagement with an intermediate central wheel to form two pump units each having inlets for gas and liquid located such that the pump units will operate independent of each other.

3,435,774

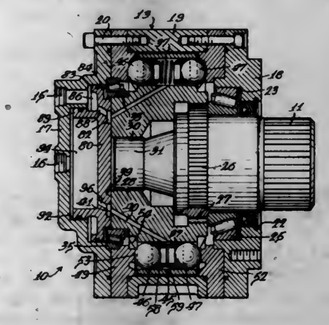
HYDRAULIC PUMP OR MOTOR

John T. Parrett, Benton Harbor, Mich., assignor to Benton Harbor Engineering Works, Inc., a corporation of Michigan

Filed Dec. 1, 1966, Ser. No. 598,340

Int. Cl. F04b *1/10, 1/02;* F01b *13/04*

U.S. Cl. 103—162 11 Claims



A multiple piston hydraulic unit in which the pistons take the form of ball members with annular sealing rings adjacent the ball members and surrounding piston rings sealingly engaging both the sealing rings and the cylinder walls with some misalignment being permitted between the sealing rings and the piston rings.

3,435,775

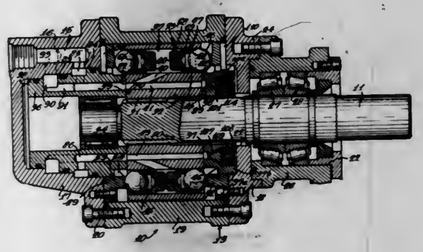
HYDRAULIC PUMP OR MOTOR

John T. Parrett, Benton Harbor, Mich., assignor to Benton Harbor Engineering Works, Inc., a corporation of Michigan

Filed Nov. 13, 1967, Ser. No. 682,363

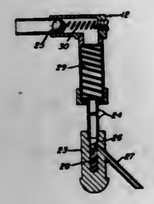
Int. Cl. F04b *1/02, 1/20*

U.S. Cl. 103—162 6 Claims



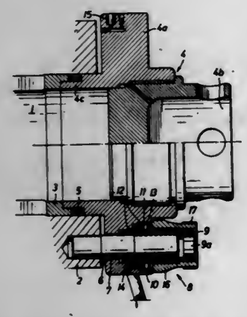
A hydraulic energy translating device of the multiple piston type wherein the pistons have a plurality of power strokes during each rotation of the associated cylinder block through the provision of a plurality of inlet and outlet ports and a relatively stationary valve member engaging one end of the cylinder block, there being provided a hydrostatic thrust bearing engaging the other end of the cylinder block for balancing the axial forces on the block and serving, through the provision of check valves in the thrust bearing, the additional function of venting excess fluid in the hydraulic-unit housing to the low pressure ports.

3,435,776
APPARATUS FOR PUMPING A FLUID FED THERETO BY GRAVITY
Bernard Ostrofsky, Gary, and Jack N. Bergman, Hammond, Ind., assignors to Standard Oil Company, Chicago, Ill., a corporation of Indiana
Original application Dec. 31, 1963, Ser. No. 334,773, now Patent No. 3,315,521, dated Apr. 25, 1967. Divided and this application Feb. 8, 1967, Ser. No. 614,645
Int. Cl. F04b *21/04*
U.S. Cl. 103—188 1 Claim



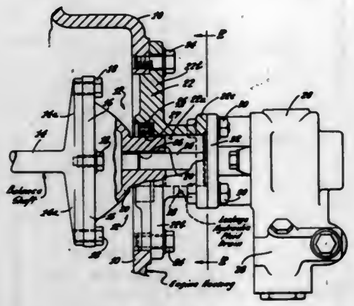
A pumping apparatus which has a first cylindrical tube having a spring-loaded, concentric, reciprocally-moving appendage at one end thereof and a second cylindrical tube located at the opposite end thereof. The cylindrical tubes are perpendicular to one another and are joined so that fluid may flow serially therethrough. The open end of each tube is sealed by a spring-loaded check valve. The application of force to the appendage closes the check valve in the second cylindrical tube, compresses the fluid in both tubes, and opens the check valve in the appendage forcing fluid out of a pre-directed nozzle in the appendage.

3,435,777
PUMP, PARTICULARLY HYDRAULIC PUMP FOR DRILLING PLANT
Martin Schaaf, Erkelenz, Rhineland, Germany, assignor to Maschinen- und Bohrgeräte-Fabrik Alfred Wirth & Co., K.G., Erkelenz, Rhineland, Germany, a German company
Filed May 15, 1967, Ser. No. 638,264
Claims priority, application Germany, May 20, 1966, M 69,557
Int. Cl. F04b *21/02, 21/08*
U.S. Cl. 103—217 3 Claims



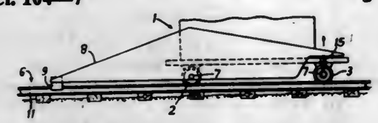
A pump, particularly for a drilling plant in which an opening in the housing thereof is sealed by a closure member by the cooperation of a number of clamping devices which are simultaneously actuatable by pressure medium to clamp the closure member against the opening. The application of the pressure medium is then discontinued and a mechanical clamping means for each of the clamping devices is operated to maintain the clamping pressure previously applied by the pressure medium. A common source of pressure medium communicates with all the clamping devices.

3,435,778
ADAPTER FOR MOUNTING HYDRAULIC PUMP
Anthony L. Asculto and Vito J. Romani, San Diego, Calif., assignors to National Pump & Injector Sales & Service, San Diego, Calif., a corporation of California
Filed Aug. 15, 1967, Ser. No. 660,708
Int. Cl. F04b *17/00*; F02n *7/00*
U.S. Cl. 103—218 4 Claims



An improved mounting bracket is described herein, which is used for mounting an hydraulic starting pump on the housing of a marine diesel engine, and to permit an auxiliary drive shaft in the engine to be directly coupled to the actuating shaft of the pump.

3,435,779
TRACK LIFTING TRUSS
John K. Stewart, Columbia, S.C., assignor to Tamper Inc., Columbia, S.C.
Filed Feb. 3, 1967, Ser. No. 613,911
Claims priority, application Great Britain, Feb. 8, 1966, 5,522/66
Int. Cl. E01b *33/00, 29/04*
U.S. Cl. 104—7 3 Claims

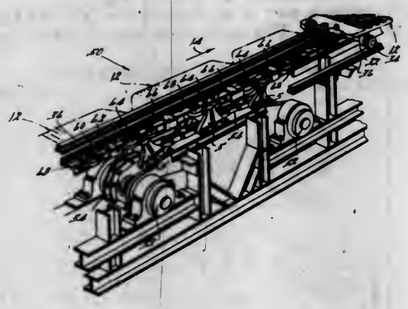


Apparatus for lifting railroad track, which apparatus is mounted on a track travelling vehicle having a chassis and includes a pair of track lifting truss elements extending longitudinally of the vehicle chassis and overhanging the front end thereof, which trusses are pivotally mounted on trunnions concentric with the axles of the front wheels and extending outwardly of the wheels, the trusses carrying rail engaging magnets at their forward ends and hydraulic jacks being provided to pivot the trusses about the trunnions and lift the track, the forces created during the track lifting operations being transmitted directly to the ground through the trunnions and the rail engaging wheels.

3,435,780
CONVEYOR CONSTRUCTION
Adolph Czarnecki, Birmingham, Kenneth L. Jones, Royal Oak, and Michael Michaels, Novi, Mich., assignors, by mesne assignments, to Standard Alliance Industries, Inc., Chicago, Ill., a corporation of Delaware
Filed Oct. 7, 1966, Ser. No. 585,003
Int. Cl. B61b *7/00, 13/12*
U.S. Cl. 104—172 17 Claims

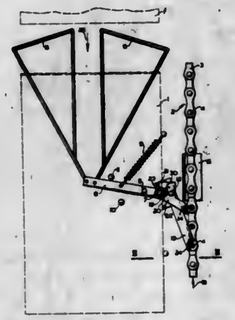
1. A conveyor construction for use in foundries, factories and the like comprising:
chain means for transmitting a driving force to the conveyor construction,

first means for transporting conveyable items in engagement with and driven by the chain means, said chain means including:
connector means for holding the chain means together, and a plurality of first rollers disposed within said chain means,
a plurality of first rollers disposed within said chain means,
a plurality of second rollers disposed within said chain means and placed between said first rollers,



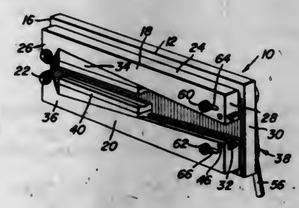
guide means for guiding the rollers along a path to be taken by the chain means,
said first and second rollers being positioned beneath said first means to protect the rollers from spillage of an item being conveyed,
said second rollers being of smaller diameter than said first rollers to thereby enable said second rollers to be drivingly engaged in acceptance of a driving force on the chain means, and also to enable said chain means to negotiate curves in said path with relatively facilitated clearance.

3,435,781
COUPLING DEVICE
Robert Klein, Jr., Landover Strasse 56, Pirmasens, Pfalz, Germany
Filed Feb. 13, 1967, Ser. No. 615,852
Claims priority, application Germany, Feb. 11, 1966, K 583,961
Int. Cl. B61b *13/00, 7/00, 9/00*
U.S. Cl. 104—172 3 Claims



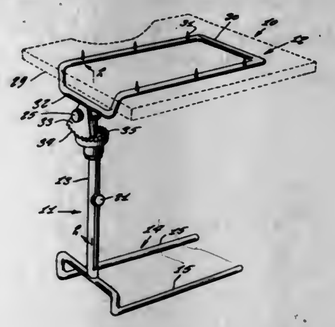
A coupling device for use in conveying installations where boxes or carriages containing blanks or articles being worked or treated are moved from one operating station to the other and where the coupling device is operative to connect and disconncet the carriage from the conveyer at any particular station and the coupling device of a preceding carriage at standstill is not connected to the conveyer when bumped by a succeeding carriage.

3,435,782
CABLE GRIPPING COUPLER
Felix I. Stewart, Petersburg, Tenn. (121 Earl St. SW., Huntsville, Ala. 35805)
Filed June 1, 1967, Ser. No. 642,877
Int. Cl. B61b *7/20*
U.S. Cl. 104—220 10 Claims



A device for transmitting force from a cable extending between two wedges slidably mounted by holders pivotally secured to a block, the cable being clamped between the jaws of the wedges when exerting a pull in one direction. The holders are held in clamping positions or displaced to release positions by a linkage arrangement that may be automatically actuated.

3,435,783
ADJUSTABLE EASY CHAIR TABLE
Cecil L. Kollenborn, 819 Junipero Serra, Stockton, Calif. 95207
Filed Aug. 9, 1967, Ser. No. 659,531
Int. Cl. A47b *23/04, 19/06, 13/00*
U.S. Cl. 108—8 1 Claim

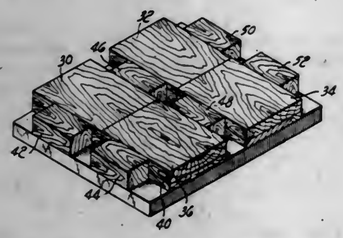


An adjustable table for supporting papers, books or a tray of food, and which includes a vertically adjustable stand upon which there is a tilt adjustable table-top.

3,435,784
PALLET MOLDING
Elmer Petersen, 122B Edenburg Lane, Leisure Village, Lakewood, N.J. 08701
Filed Feb. 14, 1967, Ser. No. 621,387
Int. Cl. B65d *19/24*
U.S. Cl. 108—51 2 Claims

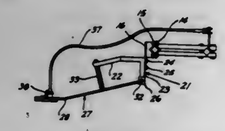
Pallet molded of comminuted wood and binder by rectangular cores placed on a lower layer but spaced apart

to receive spread compound and form spacers therebetween and a top layer thereabove and integral therewith,



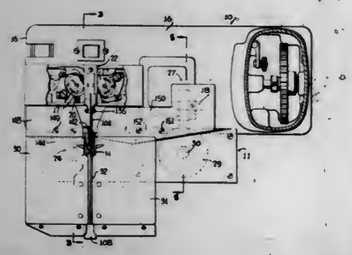
preferably in stacked relation with the top of one mold forming the bottom of the mold thereabove, and the stack subjected to heat and pressure.

3,435,785
FERTILIZER APPLICATOR AND PROCESS
Bruce A. Harbolt, Los Angeles, Calif., assignor to Union Oil Company of California, Los Angeles, Calif., a corporation of California
Filed Apr. 19, 1967, Ser. No. 631,988
Int. Cl. A01c *23/02*; B05b *1/20*
U.S. Cl. 111—6 **5 Claims**



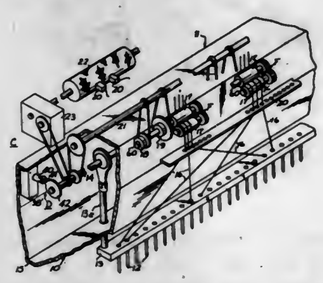
Equipment and process for injecting fertilizer into the ground under high pressure by application from a point on the ground surface.

3,435,786
TAPING SEWING MACHINE
John L. Rockerath, Utica, N.Y., and John R. Haugan, Highland Park, Ill., assignors to Union Special Machine Company, Chicago, Ill., a corporation of Illinois
Filed May 8, 1967, Ser. No. 636,781
Int. Cl. D05b *23/00*
U.S. Cl. 112—2 **34 Claims**



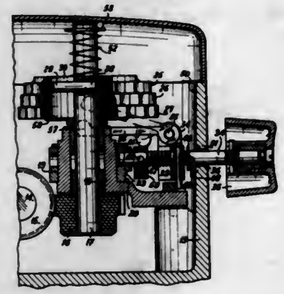
Sewing machine structure wherein provision is made for sewing together two marginal edge portions of two brassiere cups or other fabric bodies and simultaneously applying a cover tape over the joining seam, said marginal edge portions first being presented uprightly with downwardly terminating edges, a stitch line being formed spaced upwardly from an paralleling the edge extremities, then spread apart horizontally and flattened with adjacent fabric body portions lying thereover and thereagainst, and two stitch lines being formed through the tape, the marginal edge portions and said overlying fabric body portions, the first mentioned stitch line being formed by a horizontally reciprocable needle and a cooperating loop taker and the two other stitch lines one disposed at one side and the other at the other side of said first stitch line being formed by two vertically reciprocable needles and cooperating loop takers, this procedure being carried out in the single machine by a single operator.

3,435,787
PATTERN ATTACHMENT
Joe T. Short, West Point, Ga., assignor to Callaway Mills Company, La Grange, Ga.
Continuation-in-part of application Ser. No. 544,559, Apr. 22, 1966. This application Apr. 18, 1967, Ser. No. 631,806
Int. Cl. D05c *15/00, 23/00*; G01n *21/30*
U.S. Cl. 112—79 **14 Claims**



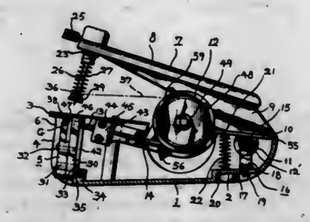
A tufting machine pattern attachment, controlling yarn feed rates for providing yarn loops of corresponding, different heights to produce a desired pattern, includes means enabling change of yarn feed rate only during a preselected interval of each cycle of motion of tufting needles.

3,435,788
SEWING MACHINE
Marcel Fresard, Petit-Lancy, and Olindo Baruffa, Chatelaine, Geneva, Switzerland, assignors to Mefina S.A., Fribourg, Switzerland, a company of Switzerland
Filed Oct. 20, 1966, Ser. No. 588,016
Claims priority, application Switzerland, Nov. 8, 1965, 15,372/65
Int. Cl. D05b *3/02*
U.S. Cl. 112—158 **4 Claims**



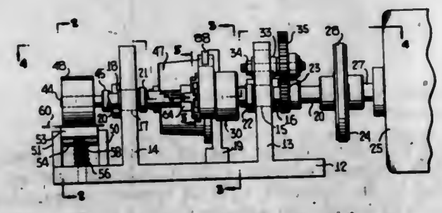
A sewing machine for making ornamental stitches includes an amplitude adjustment lever which not only permits adjustment of the amplitude of a zigzag stitch by moving the lever angularly but also permits selection of a particular cam of a series of cams by rotating a shaft carried by the lever. Rotation of the shaft brings the selected cam opposite a cam follower, which through related connected means, transmits oscillatory motion to a cradle carrying the needle bar of the sewing machine. The movement of the series of cams is accomplished by providing a positioning cam on the shaft, which cam engages an offset portion of a pivoted lever whose arms are disposed beneath the lowermost of the series of cams.

3,435,789
TOY SEWING MACHINE
Shigeaki Kuramochi, No. 24—17, 5-chome, Koishikawa, Bunkyo-ku, Tokyo, Japan
Filed Oct. 16, 1967, Ser. No. 675,571
Int. Cl. D05b *1/00*
U.S. Cl. 112—169 **2 Claims**



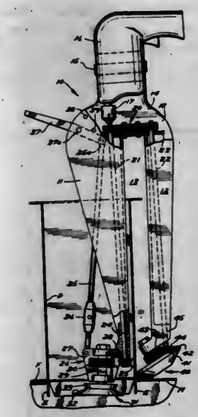
A toy sewing machine comprising a box-shaped frame body of which an upper surface is opened, a sewing hook member provided at the front of said frame body, a press operating body having a grip member pivoted rotatable freely at the rear end of said frame body, a compression spring inserted between said press operating body and frame body, a bobbin holding portion formed on said press operating body, a bobbin inserted into said holding portion, an operating lever engaging said sewing hook member protruded from the front of said bobbin holding portion, a needle fixed at the extremity of said press operating body, and a thread wound around said bobbin and passed through a thread bore of said needle. Said sewing hook member has a rotary operating piece and a hook piece pivoted so as to rotate freely on the frame body, said rotary operating piece having a slot inserting said operating lever therein comprised by an upper vertical portion and a lower inclined portion.

3,435,790
INTERMITTENT OUTPUT TRANSMISSION
Arthur N. Hale, Park Ridge, Ill., assignor to Union Special Machine Company, Chicago, Ill., a corporation of Illinois
Filed May 12, 1967, Ser. No. 638,007
Int. Cl. D05b *27/10*; F16h *3/78*
U.S. Cl. 112—214 **28 Claims**



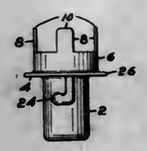
This disclosure relates to a speed reducer and a mechanism connected to the speed reducer and coupled with the input to the speed reducer, which, when actuated, is operative to effect cyclic intermittent output motion of the speed reducer. In particular, an eccentric drive is provided for pivoting a normally fixed member of a strain wave speed reducer in order to achieve the intermittent output.

3,435,791
ROLL TYPE DUCT CRIMPER
Albert W. Wieters, 7438 Baker Ave. NE., Fridley Terrace, Minneapolis, Minn. 55432
Filed Aug. 10, 1966, Ser. No. 571,559
Int. Cl. B21d *19/04*
U.S. Cl. 113—58 **7 Claims**



This disclosure relates to a tool for installing duct work and includes a pair of parallely arranged arms extending downwardly to a crimping and rolling section which includes driven formed roller members for bending portion of duct work and thereafter driving the rollers to complete the bend over the connected section. Drive means are provided for the unit and positioning means are provided to position one of the formed roller members.

3,435,792
ONE-PIECE SOCKET AND PRONGED RING
Conrad Olson, Arlington, Mass., assignor, by mesne assignments, to United-Carr Incorporated, Boston, Mass., a corporation of Delaware
Original application Oct. 7, 1963, Ser. No. 314,373. Divided and this application Apr. 6, 1966, Ser. No. 559,018
Int. Cl. B21d *53/00*; H02g *15/02*
U.S. Cl. 113—119 **1 Claim**

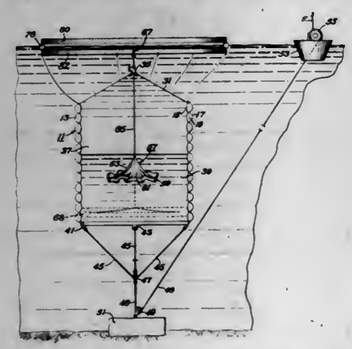


This is a method of forming a socket wherein leg blanks are first formed extending from a forward edge of a body portion and then the body portion is necked to provide a flange with a barrel portion following which the legs are wiped back to provide back-acting legs whose terminal ends are in close relationship to the flange.

3,435,793
PORTABLE SUBMARINE TANKS
Wood B. Shurtleff, 8113 Rush St., Fort Worth, Tex. 76116
Filed Apr. 11, 1967, Ser. No. 630,107
Int. Cl. B65d *89/10, 25/00*
U.S. Cl. 114—.5 **11 Claims**

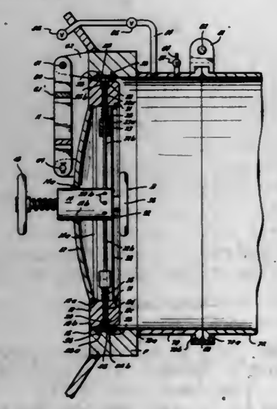
Disclosed herein is a portable submarine tank for storing or transporting petroleum or other lighter than water, miscible fluids. The tank is constructed of a collapsible,

fluid impervious material, having a generally cylindrical wall and an enclosing top, but having an essentially open bottom when in the storage position. Inner and outer walls are inflated with a selected fluid to increase the rigidity of the structure, and the type and quantity of fluid varied to regulate buoyancy. The walls may be compartmented, but interconnected with fluid passages containing check valves to minimize fluid loss in the event of rupture in a wall of one compartment. A pressure relief valve may be disposed in one of the compartments, generally the lower compartment, to enable expulsion of



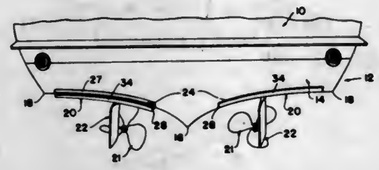
one fluid with another to vary buoyancy. A suitable connection in preferably the top of the tank is used to fill it with petroleum or the like, which communicates through the open bottom with the water surrounding the structure. Securing elements such as cables depend from the tank to a submersed anchor and to releasable fastener means to enable selection in tank elevation. A sealing element is carried by the tank so that the opening in its bottom may be closed. Thereafter, release from the submersed anchor permits the tank to be towed for transporting fluid.

3,435,794
REMOVABLE TWO-WAY PRESSURE DOOR ASSEMBLY
Raymond E. Pechacek, Houston, Tex., assignor to Hahn & Clay, a corporation of Texas
Filed June 6, 1967, Ser. No. 643,947
Int. Cl. B63b *19/28*; B65d *45/00*
U.S. Cl. 114—16.6 **10 Claims**



A door assembly for diving bells, submarines, and the like, wherein a single door is capable of sealing against pressure from either side and is also readily removable for replacement, repair, or other purposes.

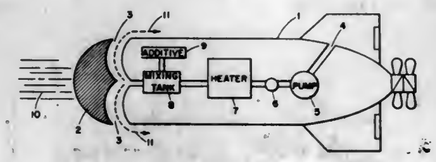
3,435,795
TRIM AND PLANING CONTROL MEANS FOR WATERCRAFT
Eugene L. Eckfield, Pompano Beach, Fla., assignor to Chris-Craft Industries, Inc., Pompano Beach, Fla., a corporation of Delaware
Filed Sept. 8, 1966, Ser. No. 577,878
Int. Cl. B63b *1/22*
U.S. Cl. 114—66.5 **16 Claims**



Trim and planing control means for watercraft of different hull designs are disclosed in various embodiments. These uniformly feature an arrangement in which the hull is recessed, on opposite sides of its keel center line and directly forwardly of the lower end of the stern transom of the craft, the recesses being defined by parallel upright side walls joined across the top thereof by a forward and downwardly inclined wall. The recesses are preferably covered to a considerable extent at the rear thereof by a part of the transom.

Each recess has a planing member housed and movably mounted therein, the member being operated by means within the craft to depress it out of a normal coplanar, substantially flush relation to adjacent surfaces of the hull to a position in which a substantial part of the length of the plane member is disposed in planing position below its recess and the hull. In a preferred embodiment, the planing member is provided at its rear with an upwardly offset portion, which portion coacts with the transom in closing the rear of the recess when the planing member is retracted into that recess.

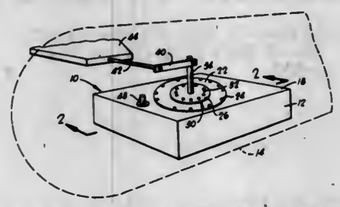
3,435,796
METHOD AND APPARATUS FOR DRAG REDUCTION
Edward W. Merrill, Cambridge, Mass., assignor, by mesne assignments, to the United States of America as represented by the Secretary of the Navy
Filed Nov. 13, 1967, Ser. No. 682,456
Int. Cl. B63b *1/34*
U.S. Cl. 114—67 **14 Claims**



A system for reducing drag on a submerged aquatic body is proposed whereby a dilute polymer solution is created in the boundary layer of seawater surrounding the body by mixing into seawater a heated slurry or granulated or powdered polymer. The heated slurry is a particulate dispersion of long chain polymers that are soluble in seawater at any naturally occurring temperature, but insoluble in seawater at temperatures above approximately 70° C. When the heated slurry is exposed to the cold water, under appropriate mixing conditions, the micron-size particles swell and dissolve without, in the process, forming a gummy, viscous continuum. In the boundary

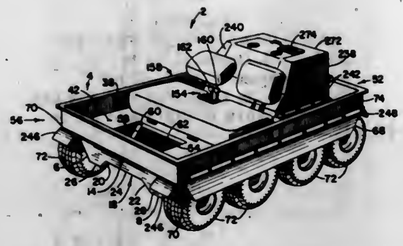
layer, under shear, they form a molecular solution of elongated molecules in line with the laminar flow to repress the development of classical turbulence.

3,435,797
COMPRESSED AIR, PRESSURE-SENSING ACTUATOR
William L. Chapman, Ponca City, Okla., assignor to Continental Oil Company, a corporation of Delaware
Filed May 3, 1967, Ser. No. 635,861
Int. Cl. B63b *21/56*; B63g *8/14*; G01l *7/08*
U.S. Cl. 114—235 **2 Claims**



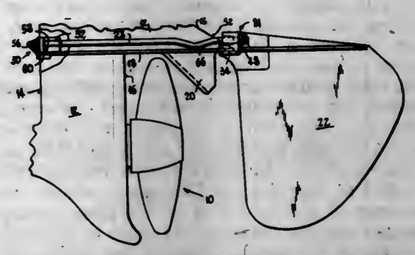
An automatic depth controller for a paravane having one or more diving planes and adapted to be towed through water. The apparatus utilizes a compressed air chamber separated from the water by a flexible diaphragm carrying a piston in order that the piston, which is connected to the paravane diving plane or planes, will move in response to variations in pressure between the compressed air chamber and the static pressure of the water. A biasing spring is anchored between the piston and a wall of the air chamber to eliminate hysteresis effect of the diaphragm when exposed to minor pressure differentials and to preposition the piston at discreet pressure differentials.

3,435,798
LOW-SILHOUETTE VEHICLE
Anthony Riell, Grosse Pointe, Mich., assignor to LTV Aerospace Corporation, Dallas, Tex., a corporation of Delaware
Filed May 19, 1967, Ser. No. 639,866
Int. Cl. B60f *3/00*; B60k *9/00*
U.S. Cl. 115—1 **5 Claims**



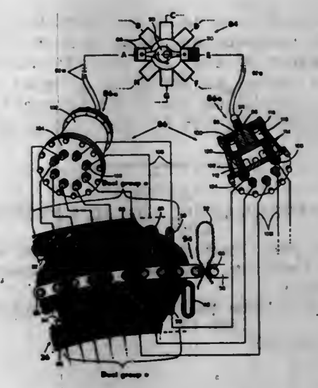
A vehicle having propulsion means, wherein a plurality of traction members are rotatably driven by a transmission mechanism drivingly connected to a variable-speed transmission which is operatively associated with a prime mover. The occupant-carrying zone is provided with a seating structure having a pair of pivotal backrest portions which can be changed at will, to enable the driver and/or drivers to actuate an adjacent steering and driving mechanism. A plurality of opposed water-reaction means is disposed on each side of the vehicle body to facilitate movement of the vehicle through a body of fluid. Also, a centrifugal exhauster is utilized as a means for providing a moving stream of high-velocity, low-pressure cooling air through the prime mover and transmission compartment.

3,435,799
RUDDER ATTACHMENT FOR OUTBOARD ENGINES
Douglas F. Linsley, Box 324, Westport, Conn. 06880
Filed Aug. 23, 1967, Ser. No. 662,609
Int. Cl. B63h *21/26*, *25/06*
U.S. Cl. 115—18 **12 Claims**



A rudder attachment for outboard marine drives of either outboard or inboard engines, comprising a cast rudder blade and first clamp head, and a separate, second clamp head. The clamp heads have sockets receiving fore and aft portions of the lower, fin-like housing of the drive. A pair of elongate draft screws extend on opposite sides of the drive housing and are acommodated in receptacle formations of the clamp heads, the screws passing through one clamp head and having nuts by which the clamp heads are pulled toward each other, clamping between them the drive housing and thereby rigidly supporting the rudder blade aft of the housing.

3,435,800
MARINE PROPULSION SYSTEM
Jean-Pierre F. Osterwalder, 812 Cottage St., Vienna, Va. 22180
Filed May 15, 1967, Ser. No. 638,201
Int. Cl. B63h *5/00*, *1/30*
U.S. Cl. 115—28 **10 Claims**



A water propulsion system for propelling a ship through water by a sinuous undulating movement of a propulsor connected to the hull, the propulsor being secured at its periphery to the hull or on two sides and having its greatest amplitude at its central portion, the propulsor including (a) a flexible inelastic spine which may be a plurality of interconnected links forming a chain, the spine having positioned on each side thereof (b) a plurality of upper and lower opposed duct groups, each duct group including a plurality of tubular ducts which are preferably oval in cross sectional shape and secured to the spine by (c) webbing, such as nylon or metal web, and a closed hy-

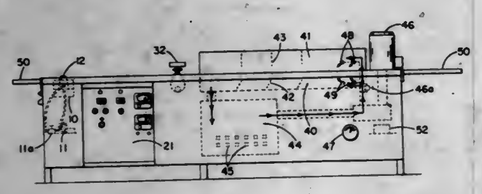
draulic means periodically and continually supplying and withdrawing liquid alternately to opposed upper and lower ducts to produce bending and flexing in the propulsor to effect a sinuous, undulating movement, enclosed hydraulic means connected to the duct means including a multiphase pump generator means including a plurality of reciprocating piston and cylinder pairs 180° out of phase and a plurality of opposed pump generator cylinders receiving said pistons, a nozzle opening from each of the pump cylinders in fluid communication with the nozzle opening in the shell of a transformer distributor, the transformer distributor selected ducts and a plurality of stationary pistons secured to said covers, each said piston including a passageway in communication with a corresponding opening, a free piston within said shell and having a pressure face, said face formed to provide a plurality of cylinders receiving the stationary pistons whereby movement of hydraulic fluid in said pump generator is translated into corresponding expansion or contraction of the width of the ducts as opposed duct groups to effect the undulating sinuous wave-like movement of the propulsor.

3,435,801

SOLDER DEPOSIT AND LEVELING MACHINES

Alexander F. Carini, 5 Farley St., Milford, N.H. 03055; Howard W. Wegener, Abbott Hill, Wilton, N.H. 03086; and Kenneth G. Boynton, Milford, N.H. 03055

Filed Mar. 2, 1967, Ser. No. 620,184
Int. Cl. B05c 5/00; H05k 3/00
U.S. Cl. 118—63 9 Claims



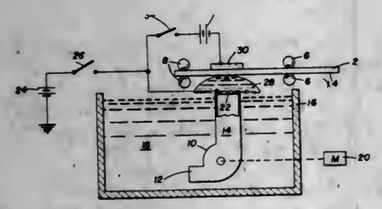
An automatic mass solder depositing and leveling machine with successive operations of foam fluxing, fountain application of solder and blast-off removal of excess solder, all applied horizontally to a copper printed circuit board, coating the board with a copper-tin interface on the printed portions for final subsequent soldering operations.

3,435,802

ELECTROGRAPHIC LIQUID DEVELOPING APPARATUS

Nelson R. Nail, Rochester, N.Y., assignor to Eastman Kodak Company, Rochester, N.Y., a corporation of New Jersey

Filed June 30, 1965, Ser. No. 468,210
Int. Cl. B05b 5/02
U.S. Cl. 118—637 4 Claims



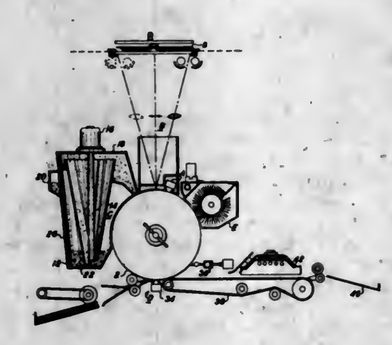
A record member to be developed is positioned relative to the open end of a duct from which a continuous flow of liquid developer is directed toward the image-bearing surface of the record member. The open end of the duct is covered with a fine mesh screen for restricting the flow of liquid developer so as to produce a "welling up" or "mound" of liquid developer between the end of the duct and the surface for contacting the latter. By connecting an electrical bias to the screen, it also serves as a development electrode.

3,435,803

LIFTING APPARATUS

Daniel J. Donalies, Rochester, N.Y., assignor to Xerox Corporation, Rochester, N.Y., a corporation of New York

Filed Dec. 27, 1965, Ser. No. 516,528
Int. Cl. B05b 5/02; G03g 15/08
U.S. Cl. 118—637 9 Claims



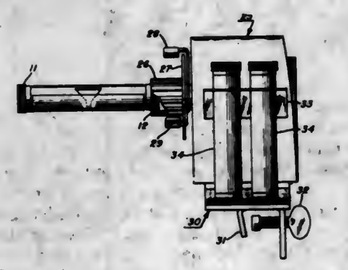
An apparatus for mixing and lifting materials, such as granular triboelectrically attracted developers for automatic xerographic copying machines, from a material sump to an elevated position. The apparatus employs a rotating, inverted, generally conically shaped housing open at both ends with cooperating slats in the housing to scoop and aid in lifting the material from the sump. Centrifugal force lifts the material within the housing and carries it over the top of the housing.

3,435,804

AUTOMATIC FISH FEEDER

Anthony J. Orlowski, 51 W. 48th St., Bayonne, N.J. 07002

Filed Apr. 10, 1967, Ser. No. 629,680
Int. Cl. A01k 61/02; B65d 83/06
U.S. Cl. 119—51.11 10 Claims



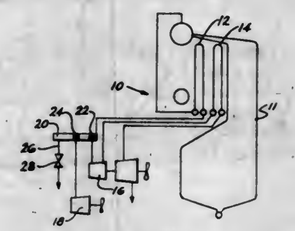
A tubular food container, provided with an adjustable discharge opening, is attachable to the time dial of an electric timer to gradually dispense a predetermined quantity of fish food into an aquarium.

3,435,805

CENTER SUPPORT MARINE BOILER WITH ISOLATED REHEATER

Leonard E. Triggs, West Simsbury, and Robert B. Hedges, Glastonbury, Conn., assignors to Combustion Engineering, Inc., Windsor, Conn., a corporation of Delaware

Filed Dec. 8, 1967, Ser. No. 689,116
Int. Cl. F22b 33/00, 37/24; F22g 7/14
U.S. Cl. 122—1 5 Claims



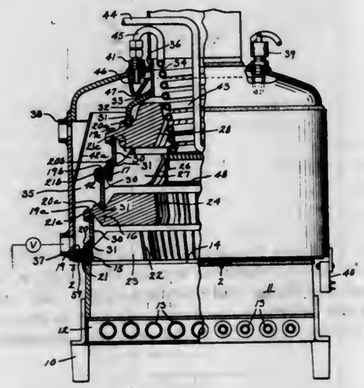
A large capacity boiler is adapted for operation in a marine power plant operating on a vapor reheat cycle. The unit is vertically supported at a level intermediate to its upper and lower ends to accommodate vertical expansion in both directions and the arrangement of tubes is such as to provide an integral reheater compartment having independently operated burners and being isolated from the gas flow through the remainder of the unit in order to protect the reheater tubes during astern operation of the power plant.

3,435,806

HEAT EXCHANGERS

Harold N. Shaw, P.O. Box 173, Everett, Mass. 02149

Continuation-in-part of application Ser. No. 614,125, Feb. 6, 1967. This application Mar. 14, 1968, Ser. No. 729,854
Int. Cl. F22b 27/12
U.S. Cl. 122—41 19 Claims



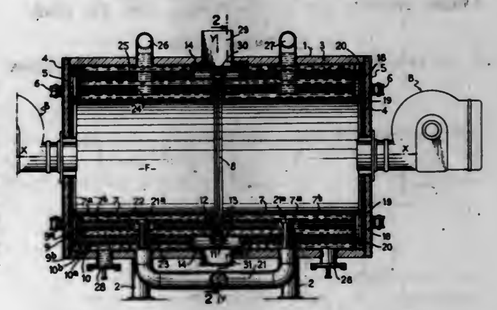
In gas heated steam generators useful in supplying steam to steam cookers or other appliances, a high rate of heat transfer is obtained by the use of inwardly projecting fins from a surrounding stepped steam generating surface, the steps providing surrounding superimposed shelves, there being means for heating the fins to a sufficient temperature to cause generation of steam by heat conducted from the fins to the outer side of said stepped wall, there also being means for causing the feed of water at substantially the rate at which it is evaporated, with the water flowing by gravity from the upper shelves to collect on a lowermost shelf, and there being a thermostat which controls the heat input for maintaining the lowest shelf near the critical temperature for maximum steam generation to provide violent spattering of water from the lowest shelf to upper shelves for recirculation purposes.

3,435,807

BOILER

Raymond Telliez-Metadier, Paris, France, assignor to Decauville S.A., Paris, France, a French body corporate

Filed May 22, 1967, Ser. No. 640,286
Claims priority, application France, May 23, 1966, 62,471
Int. Cl. F22b 7/04, 31/02
U.S. Cl. 122—136 10 Claims



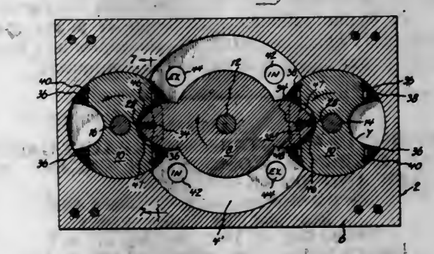
The invention relates to boilers of the type having a cylindrical furnace F. This boiler comprises two burners B which are mounted in face-to-face positions in the opposite doors 4 of the boiler, the arrangement being such that the paths of the water and of the hot combustion gases are both symmetrical, with respect to a vertical plane comprising the axis X—X of the furnace, and to a mean plane Y—Y, resulting in improved performance characteristics of the boiler.

3,435,808

ROTARY ENGINE

Forrest R. Allender, South Bend, Ind., assignor to The Clayg Corporation, Elkhart, Ind., a corporation of Indiana

Continuation-in-part of application Ser. No. 435,641, Feb. 26, 1965. This application Apr. 10, 1967, Ser. No. 633,347
Int. Cl. F02b 53/06, 55/02
U.S. Cl. 123—13 12 Claims



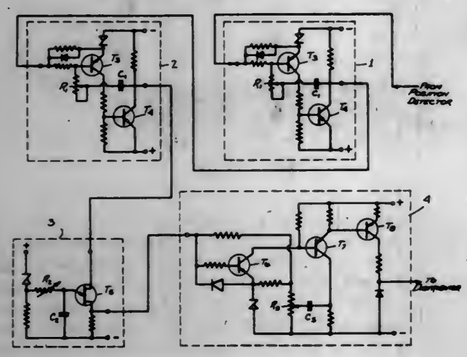
A rotary internal combustion engine comprising a power wheel having two lobes projecting outwardly from diametrically opposed positions on the power wheel. A pair of compression chamber wheels are disposed on diametrically opposite sides of the power wheel. Each com-

pression chamber wheel has two chambers provided therein and the lobes are movable through the chambers. The lobes and chambers are shaped so that a compression zone is formed between the tip of the lobe and the leading end of the chamber and a combustion zone is formed between the tip of the lobe and the trailing end of the chamber. Transfer passage means are provided for transferring compressed gas from the compression zone to the cobustion zone so that the gas can be ignited in the combustion zone.

3,435,809
DEVICE FOR THE CONTROL OF FUEL INJECTION

Jacques Bassot, Paris, and Louis Moupetit, L'Etang-la-Ville, France, assignors to Societe des Procedes Modernes d'Injection Sopromi, Boulogne, Hauts-de-Seine, France

Filed Apr. 28, 1966, Ser. No. 546,008
Claims priority, application France, Apr. 29, 1965, 15,109
Int. Cl. F02m *51/00*
U.S. Cl. 123—119 **15 Claims**



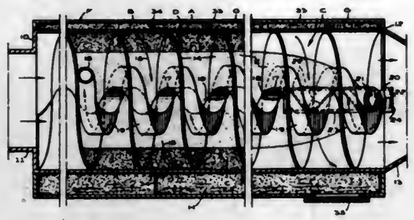
A monostable circuit, consisting of two transistors both of which are blocked and conducting simultaneously, generates a timing signal whose duration varies as a function of a first engine parameter, when the shaft of the engine reaches a certain angular position. A unijunction transistor pulse generating circuit generates short pulses for the duration of the timing signal. The number of short pulses generated depends on a second motor parameter. These pulses are fed to a three transistor power circuit, which generates high power pulses equal in number to the pulses generated by the pulse generating circuit, but each having a duration which is a function of a third engine parameter. These power pulses energize transducers which inject fuel into the engine as a function of the power pulses received by the transducers.

3,435,810
APPARATUS FOR UTILIZING EXHAUST GASES OF AN INTERNAL COMBUSTION ENGINE, MUFFLER AND SPARK ARRESTOR

Ewald A. Busse, 3276 Fair Oaks Ave., Redwood City, Calif. 94063

Filed Oct. 13, 1967, Ser. No. 675,097
Int. Cl. F02m *25/06;* **F02b** *75/10;* **F01n** *1/12*
U.S. Cl. 123—119 **8 Claims**

An apparatus for utilizing exhaust gases of an internal combustion engine, muffler and spark arrestor having a tubular casing with a helical partition mounted therein so as to form a spiral passageway. An inlet pipe at the front of the casing delivers exhaust gases from an engine to the spiral passageway, and as these gases are whirled through the passageway, the heavier and lighter components thereof are divided into separate streams, and the lighter components of the centrifuged gases are conveyed to a carburetor to augment the engine operating charge, while the heavier components are recycled

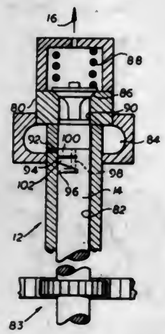


through the spiral passageway to recover additional lighter components that are delivered to the carburetor. An outer housing is provided to serve as a muffler and to collect ignited fragments contained in the exhaust gases so that they will be extinguished without escaping to the atmosphere.

3,435,811
MULTIPLE INJECTION FUEL PUMP

Rudolf W. Guertler, Fort Wayne, Ind., assignor to International Harvester Company, Chicago, Ill., a corporation of Delaware

Filed June 14, 1967, Ser. No. 646,033
Int. Cl. F02m *39/00;* **F04b** *13/02, 19/22*
U.S. Cl. 123—139 **8 Claims**



A fuel injection pump adapted to be used with a multiple injection fuel injection nozzle. The pump is designed to control the timing and duration of the pilot and main spray of the injection nozzle in response to the relieving of fuel pressure built up in the pumping chamber of the pump.

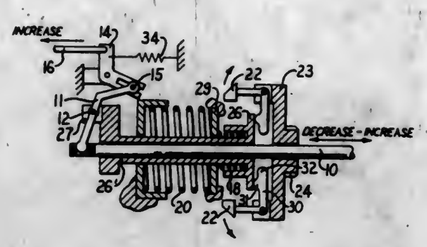
3,435,812
ENGINE GOVERNOR FOR CONTROL AT MINIMUM AND MAXIMUM SPEED LEVELS

Joseph F. Kennell, and Brace C. Smith, Peoria, Ill., assignors to Caterpillar Tractor Co., Peoria, Ill., a corporation of California

Filed May 16, 1967, Ser. No. 638,855
Int. Cl. F02d *1/04;* **G01p** *15/02*
U.S. Cl. 123—140 **1 Claim**

A minimum-maximum governor for compression ignition type engines which are used with manual or pedal fuel control and the operator is relieved of controlling

against the force of a governor spring during the major part of the operating range of the engine, with particular

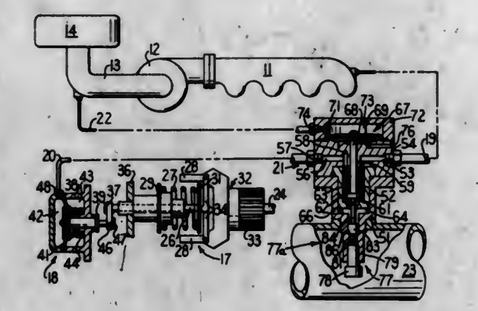


reference to an improved governor flyweight design which enables a long range of control independent of governor forces and through simple mechanisms.

3,435,813
ENGINE SAFETY CONTROLS

Harold H. Wagner, Peoria, Ill., assignor to Caterpillar Tractor Co., Peoria, Ill., a corporation of California

Filed Oct. 9, 1967, Ser. No. 673,727
Int. Cl. F02d *1/04, 1/06;* **F02b** *41/10*
U.S. Cl. 123—140 **5 Claims**



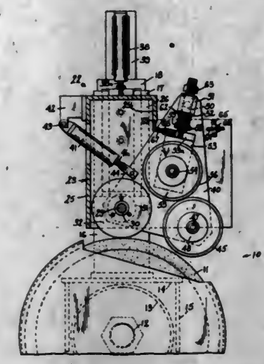
Engine safety controls to reduce engine output in case of excessive coolant temperature or air cleaner blockage. A pressure responsive assembly tends to override the engine governor but is urged out of overriding relation by pressure from the engine inlet manifold. A regulator valve is disposed between the pressure responsive assembly and the manifold. The regulator vents manifold pressure from the pressure responsive assembly so that it overrides the governor and reduces engine output in response to means sensing reduction of inlet air pressure and means sensing a preselected temperature level in the engine coolant.

3,435,814
CRUSHING ROLL DRESSER FOR GRINDING WHEELS

Leif E. Fersing, Springfield, Vt., assignor to Textron Inc., Providence, R.I., a corporation of Rhode Island

Filed Jan. 4, 1966, Ser. No. 518,697
Int. Cl. B24b *55/04*
U.S. Cl. 125—11 **10 Claims**

A trueing device for grinding wheels which includes a disc for contacting the periphery of a grinding wheel and sensing the peripheral speed thereof. An idler disc is arranged to engage the periphery of both the contact disc and a trueing wheel to bring the trueing wheel to the same peripheral speed as the grinding wheel. As the trueing wheel is moved into engagement with the grinding

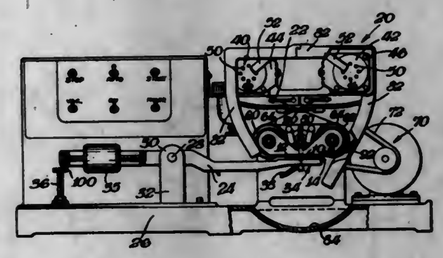


wheel after it is brought up to speed, the idler disc is removed from engagement therewith and the trueing wheel is driven by the grinding wheel.

3,435,815
WAFER DICER

Edward C. Forcier, Worcester, Mass., assignor to Micro Tech Mfg., Inc., Worcester, Mass., a corporation of California

Filed July 15, 1966, Ser. No. 565,626
Int. Cl. B28d *1/06*
U.S. Cl. 125—16 **2 Claims**



The subdivision of a semiconductor wafer by drawing loops of a fine wire across the surface of the wafer to abrade cuts into the wafer surface with an abrasive material on the loop wire. The abrasive material is applied to the single length of wire as it is drawn from a feed spool and is removed from the wire before it is wound-up on a takeup spool.

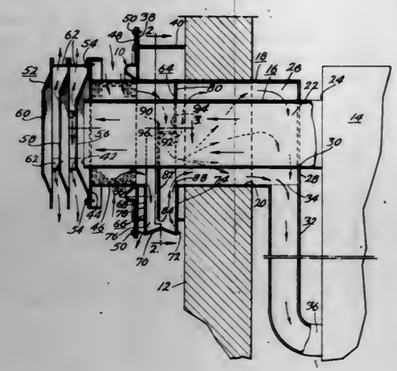
3,435,816
VENT ARRANGEMENT FOR SEALED COMBUSTION SYSTEMS

Douglas W. De Werth, Cleveland, Ohio, assignor to American Gas Association, Inc., New York, N.Y., a corporation of New York

Filed Nov. 9, 1967, Ser. No. 681,749
Int. Cl. F24c *3/12*
U.S. Cl. 126—85 **8 Claims**

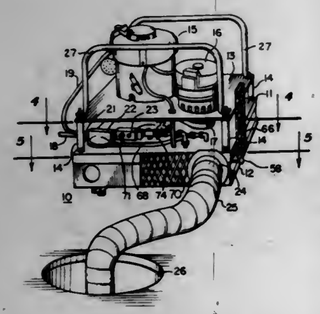
The improvement in a vent terminal for sealed combustion systems of the type including a flue gas pipe mounted coaxially within a larger combustion air pipe,

comprising a combustion air by-pass opening in the combustion air pipe, and a baffle arrangement in the combus-



tion air pipe adjacent the by-pass opening for diverting excess combustion air from the pipe.

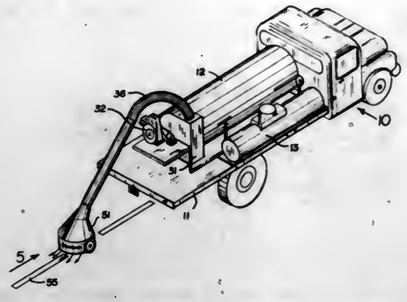
3,435,817
SPACE VENTILATING AND HEATING APPARATUS
Carl A. Ott, Denver, Colo., assignor to Over-Lowe Company, Inc., Denver, Colo., a corporation of Colorado
Filed July 28, 1967, Ser. No. 656,769
Int. Cl. F24h *3/02, 3/00*
U.S. Cl. 126—110 **2 Claims**



An internal combustion engine unit is provided for heating and ventilating areas such as those located below streets and reached through manholes. The unit includes a centrifugal type blower driven by the engine and comprising a gas fired heating element arranged in the scroll of the blower for heating the air to be delivered to the point of use.

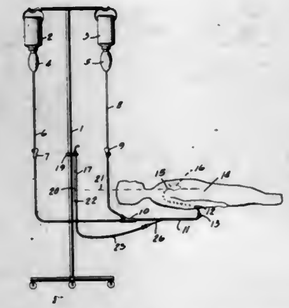
3,435,818
PORTABLE ROAD MARK PAINT DRYING MACHINES
James C. Drake, Grand Junction, Colo., assignor of twenty percent to Wilbur A. E. Mitchell, Greeley, Colo.
Filed Aug. 9, 1967, Ser. No. 663,916
Int. Cl. F23c *5/00*
U.S. Cl. 126—271.2 **6 Claims**

A highway paint mark drying machine including a hot air blast furnace. An adjustable pipe extension is connected to the furnace. The outlet end of the pipe extension is provided with a horizontally rotatable register member. The



register member further includes pivotally adjustable vane members.

3,435,819
VENOUS PRESSURE MONITORING APPARATUS
Gordon S. Reynolds and Karl A. Pannier, Jr., Salt Lake City, Utah, assignors to Le Voy's Inc., a corporation of Utah
Filed May 17, 1966, Ser. No. 550,732
Int. Cl. A61b *5/02*; A61m *5/14*
U.S. Cl. 128—2.05 **10 Claims**

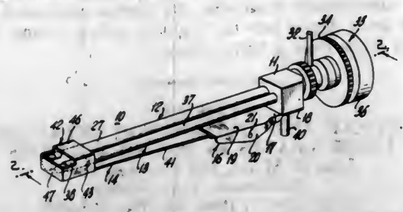


1. Venous pressure monitoring apparatus including
a manometer in the form of a transparent open-ended tube for disposition in a substantially vertical position,
a graduated scale on said tube,
means for placing the lower end of said manometer in communication with an intravenous infusion system,
a ported fitting on the upper end of said manometer, and
automatically operable valve means to close the port in said fitting when the manometer is filled with infusion liquid to a predetermined extent.

3,435,820
ILLUMINATING ENDOSCOPE WITH DETACHABLE SHIELD
Stanley Taub, 134 Joralemon St., Brooklyn, N.Y. 11201
Filed Feb. 16, 1966, Ser. No. 527,973
Int. Cl. A61b *1/06*
U.S. Cl. 128—11 **6 Claims**

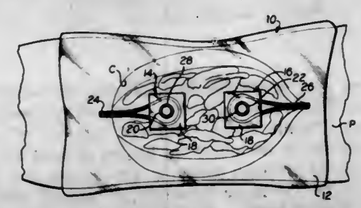
An endoscope includes a mounting member rotatably supporting a telescope barrel and a parallel tube carrying a lamp adjacent the barrel distal end. The mounting member also releasably supports a depressor strip terminating in a shield member surrounding the distal sec-

tions of the tube and barrel and having windows providing transverse optical access to the lamp and a re-



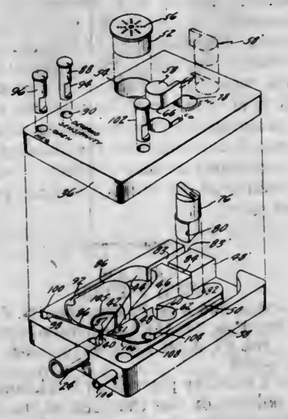
flector mounted at the end of the telescope barrel, the barrel being rotatable relative to the shield while the barrel distal end and lamp are spaced from the observed tissue.

3,435,821
SURGICAL DRAPE
Joseph M. Bennett, 1 Thomas Powell Blvd., Farmingdale, N.Y. 11735
Filed July 19, 1966, Ser. No. 566,344
Int. Cl. A61g *13/00*; A61f *5/44*
U.S. Cl. 128—132 **12 Claims**



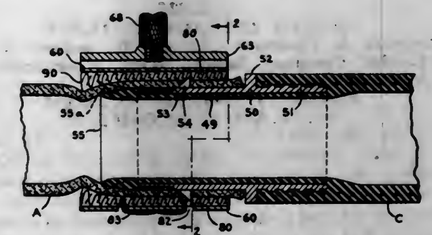
A surgical drape that is easily and quickly positioned in and about a body cavity during an operation and including means for closing the open ends of severed tubes in the abdominal cavity of the body to prevent the flow of contaminating fluids out of such tubes and into the cavity.

3,435,822
BREATHING APPARATUS WITH FLUID DIODE VALVE
Hermann Ziermann, Cheshire, and Robert E. Olson, Vernon, Conn., assignors to United Aircraft Corporation, East Hartford, Conn., a corporation of Delaware
Filed June 29, 1965, Ser. No. 467,842
Int. Cl. A62b *7/00*
U.S. Cl. 128—145.6 **5 Claims**



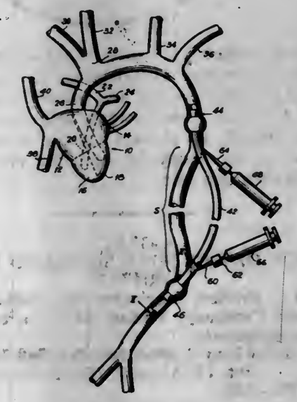
A fluid diode in the inhalation channel of a pure fluid amplifier for a respirator decouples the channel from the inner action region in combination with a flow control valve in the same channel for permitting selection of flow without changing the switching pressure.

3,435,823
ANASTOMOTIC COUPLING WITH ANTI-PULSE RING MEANS
Miles Lowell Edwards, 13191 Sandhurst Place, Santa Ana, Calif. 92705
Filed Apr. 11, 1966, Ser. No. 541,815
Int. Cl. F16l *31/00*
U.S. Cl. 128—334 **21 Claims**



Couplings are disclosed for connecting two graft tubes or a graft tube and a natural body vessel such as an artery. Each coupling comprises a rigid tube and a ring clamp. In the body vessel coupling the rigid tube has a silicone rubber lining with a flared projecting end portion which bears against the inner surface of the vessel and presses the wall of the vessel outwardly against the clamp to prevent the occurrence of a gap or crevice in the joint when the vessel expands from internal fluid pressure. The rigid tube has outwardly pointed projections to retain the body vessel and the ring clamp.

3,435,824
SURGICAL APPARATUS AND RELATED PROCESS
Herminio Gamponia, Flushing, N.Y. (668 Stratton St., Logan, W. Va. 25601)
Filed Oct. 27, 1966, Ser. No. 590,079
Int. Cl. A61b *17/00, 19/00*
U.S. Cl. 128—334 **9 Claims**



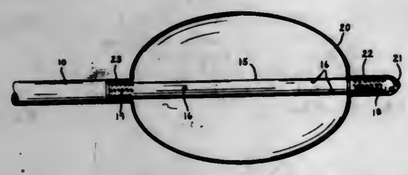
1. Surgical apparatus comprising a tube including at least two end portions adapted for insertion into spaced locations in a fluid carrying system, said tube and end portions being provided with a continuous axially disposed bore extending completely therethrough, and inflatable means connected to and encircling each of said end portions for retaining the end portions in said system after insertion into the same.

7. A surgical process for by-passing a section of a blood vessel system, said process comprising partially cutting through the vessel system at a position at least one end of said section, inerting into the thusly resulting cut the extremity of a tube having a diameter closely matching the inner diameter of the system adjacent said cut and which tube has an inflatable bladder encircling said extremity, and inflating said bladder with a pressure medium to an extent that said extremity is retained in the system but with a pressure of less than that which would cause the system to rupture.

3,435,825
PLASTIC COLLAGEN SUTURES
Lawrence A. Thoennes, Chicago, Ill., assignor to The Kendall Company, Boston, Mass., a corporation of Massachusetts
Filed Dec. 17, 1962, Ser. No. 245,061
Int. Cl. A61l *17/00*; D01f *5/00*
U.S. Cl. 128—335.5 10 Claims

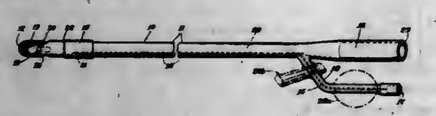
A novel chromicized suture strand and method of making same is disclosed. This suture strand is made by treating raw natural unreconstituted collagen with a dichromate salt and a phenolic derivative, such as pyrogallic acid, so that the reaction product has a chrome content equivalent to that in chromic oxide in the range of 0.1% to 0.3% of the dry weight of the suture.

3,435,826
EMBOLECTOMY CATHETER
Thomas J. Fogarty, Portland, Oreg., assignor to Edwards Laboratories, Inc., Santa Ana, Calif., a corporation of California
Continuation-in-part of application Ser. No. 208,967, July 10, 1962. This application May 27, 1964, Ser. No. 370,430
Int. Cl. A61m *25/00, 29/02*; A61b *17/24*
U.S. Cl. 128—348 18 Claims



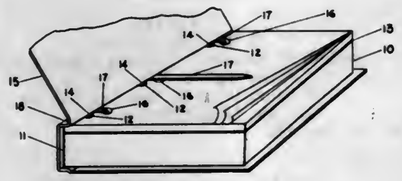
A balloon catheter in which the balloon material is longitudinally stretched when deflated causing the balloon to contract circumferentially and smoothly hug the catheter body. A venous thrombectomy catheter having a soft and highly flexible tip portion capable of doubling back against the catheter body for upstream passage through the valve leaflets in a vein.

3,435,827
DRAINAGE DEVICE WITH SHIELDED DRAINAGE ORIFICE
Richard E. Ericson, Barrington, Ill., assignor to The Kendall Company, Boston, Mass., a corporation of Massachusetts
Filed May 9, 1966, Ser. No. 548,713
Int. Cl. A61m *25/00, 1/00*
U.S. Cl. 128—349 7 Claims



A drainage device is described incorporating a shield member overlying but not occluding the drainage orifice uniformly spaced apart from the tubing wall and having at least one opening whereby a narrow fluid path is provided between the body cavity and the drainage orifice. This construction diminishes the trauma associated with tissue being drawn into the drainage orifice during drainage of fluids from a body cavity.

3,435,828
ARTICLE AND METHOD FOR RETAINING LOOSE LEAVES IN BOUND VOLUMES
John R. Miller, 914 Pinecrest Drive, Richardson, Tex. 75080
Filed July 19, 1966, Ser. No. 566,280
Int. Cl. B42f *13/04, 13/02*; B42d *1/00*
U.S. Cl. 129—1 2 Claims



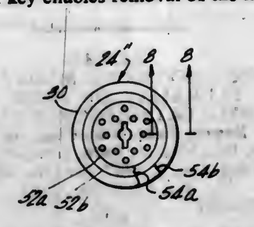
Described are means and methods for removeably securing loose leaves among bound leaves of a permanently bound book. Pliable lacing members, one end of which may be attached to the book but having at least one free end, are passed through holes in the bound and loose leaves to secure the loose leaves at the desired positions among the bound leaves. Also disclosed are methods of incorporating such lacing members within a bound book and lacing members which are not permanently affixed to the book.

3,435,829
METHOD OF PREPARING A RECONSTITUTED TOBACCO SHEET
John D. Hind and Robert B. Seligman, Richmond, Va., assignors to Philip Morris Incorporated, New York, N.Y., a corporation of Virginia
No Drawing. Application June 16, 1966, Ser. No. 557,903, now Patent No. 3,353,541, dated Nov. 21, 1967, which is a continuation-in-part of application Ser. No. 336,009, Jan. 6, 1964. Divided and this application Apr. 28, 1967, Ser. No. 647,276
Int. Cl. A24b *5/16, 3/14, 5/08*
U.S. Cl. 131—140 1 Claim

This disclosure relates to a process for producing a binder composition for use in the manufacture of reconstituted tobacco. The binder is made from tobacco plant parts and involves the use of the naturally occurring tobacco pectins, which are obtained by a process in which an inorganic acid is employed to treat the tobacco plant parts. The treatment involves the destruction of the alkaline earth metal cross-links of the tobacco pectins, the release of the resulting tobacco pectins by a washing action and the depositing of the released tobacco pectins on the treated plant parts.

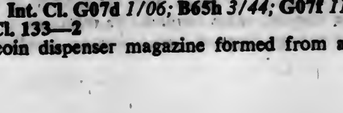
3,435,830
PIPE FILTER
Emil Morgan, 306 Ave. P, Brooklyn, N.Y. 11204
Filed Feb. 24, 1967, Ser. No. 618,384
Int. Cl. A24f *1/10, 9/10, 5/08*
U.S. Cl. 131—205 2 Claims

A filter for a smoking pipe which is frictionally retained at a lower portion of the chamber of the bowl of the pipe. The filter is a flat circular disc with numerous apertures therein through which the smoke of the pipe passes as it is drawn from the burning tobacco in the bowl along the passageway within the pipe stem toward the mouth of the smoker. A key enables removal of the filter so that



the smoker can clean the same and also enables replacement of the filter into the bowl.

3,435,831
WIG OR A TOUPEE
Taisuke Nakayama and Shuzo Nakayama, Tokyo, Japan, assignors to Tokyo Gihatsu Seikei Company Limited, Tokyo, Japan, a corporation of Japan
Filed Mar. 29, 1966, Ser. No. 538,337
Claims priority, application Japan, Dec. 11, 1965, 40/75,882
Int. Cl. A41g *3/00, 5/00*
U.S. Cl. 132—53 4 Claims



A wig or toupee with an attachment film which includes a hairless band-shaped edge, irregularly edged, and hair penetrating from back side to front side of the film rearwardly of said edge.

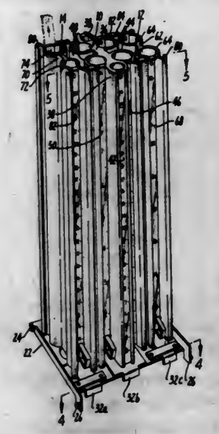
3,435,832
WIG FRAMEWORK
Yonezo Ito, Tokyo, Japan, assignor to Yonezo Ito and Komachiya Honten Co., Ltd., Tokyo, Japan, a corporation of Japan
Filed Nov. 23, 1966, Ser. No. 596,554
Int. Cl. A41g *5/00*
U.S. Cl. 132—54 1 Claim



A frame work including a wig comprising a plurality of horse-shoe shaped curved frames rotatably hinged at their opposite ends and covered with fabric carried by the frames to which fabric false hair is anchored. The frame is so disposed as to receive some of the wearer's real hair therethrough to anchor the wig to the head.

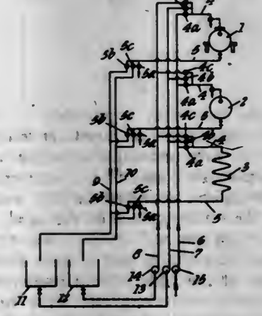
3,435,833
COIN DISPENSER MAGAZINE
Frederick K. Tanaka, Hayward, Calif., assignor to Micro-Magnetic Industries, Inc., Palo Alto, Calif., a corporation of California
Filed Sept. 22, 1967, Ser. No. 669,853
Int. Cl. G07d *1/06*; B65h *3/44*; G07f *11/00*
U.S. Cl. 133—2 5 Claims

A coin dispenser magazine formed from an extruded integral body with removable transparent index windows in each coin receiving tube and integrally extruded ribs



by which the magazines may be connected in multiple arrays.

3,435,834
ARRANGEMENTS FOR IN-PLACE CLEANING
Harry Christopher Cooper, Crawley, England, assignor to The A.P.V. Company Limited, Crawley, England, a British company
Filed Mar. 17, 1967, Ser. No. 623,964
Claims priority, application Great Britain, Apr. 25, 1966, 18,031/66
Int. Cl. B08b *3/04*
U.S. Cl. 134—98 2 Claims

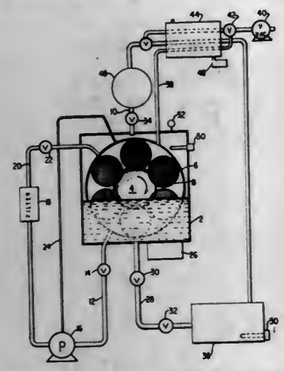


A distribution arrangement for an in-place cleaning system comprising main supply lines for cleaning liquids and rinsing water fed by pumps from storage tanks and a suitable water source, and return lines to the tanks, each individual cleaning circuit or part thereof being adapted to be connected between each main supply line and the corresponding return line or drain line by individually operable valves.

3,435,835
CAP WASHING MACHINE
Norman L. Hobbs, Rosemont, Pa., assignor to American Home Products Corporation, New York, N.Y., a corporation of Delaware
Filed May 10, 1967, Ser. No. 637,472
Int. Cl. B08b *3/08, 3/10*
U.S. Cl. 134—108 9 Claims

This invention is concerned with an apparatus for clean-

ing and drying caps, such that, these caps may be employed in the bottling of pharmaceutically elegant liquid medicinals without the introduction thereto of an extraneous particultae matter from said caps.

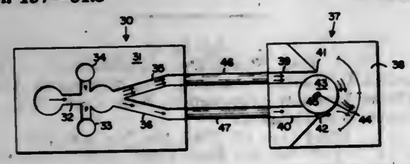


3,435,836
UMBRELLA CONSTRUCTION
Sergio Vanzini, Via Vetere 10, Milan, Italy
Filed June 20, 1967, Ser. No. 647,412
Claims priority, application Italy, Sept. 27, 1966, 22,840/66
Int. Cl. A45b 19/04
U.S. Cl. 135—22 5 Claims



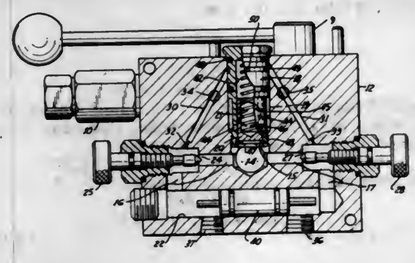
An umbrella comprises a plurality of ribs pivotably mounted to the upper end of a rod carried within a tube, a slide within the tube and slidable on the rod, a plurality of stays each pivotably mounted at one end of the slide and at its opposite end to one of the ribs, a sleeve movable axially along the outer surface of the tube, a bridge coupling the sleeve to the rod so as to move the latter and the slide axially therewith, and a limit limiting the further movement of the slide after a predetermined movement of the rod, to thereby effect the opening of the umbrella by causing the downward pivoting of the ribs and stays.

3,435,837
CONTROL APPARATUS
Neil C. Sher, St. Paul, Minn., assignor to Honeywell Inc., Minneapolis, Minn., a corporation of Delaware
Filed Nov. 8, 1965, Ser. No. 506,793
Int. Cl. F15c 1/08, 1/12, 1/14
U.S. Cl. 137—81.5 5 Claims



An indicating device employing the principle of fluid attachment to provide a visual indication of the relative strengths of two fluid streams.

3,435,838
VALVE FOR CONVERTING SINGLE INPUT FLOW INTO A PLURALITY OF PRESSURE COMPENSATED REGULATED OUTPUT FLOWS
Allen M. Bower, Painesville, Ohio, assignor to Fluid Controls, Inc., Mentor, Ohio, a corporation of Ohio
Filed Aug. 1, 1967, Ser. No. 657,701
Int. Cl. G05d 11/03
U.S. Cl. 137—101 9 Claims



The present valve is one which receives a flow of fluid and passes it through a plurality of volume control orifices from which the flow issues as a plurality of streams, each of predetermined flow, which may or may not, as desired, differ in volume and pressure from each other. The streams are delivered to separate outlet ports, one for each orifice. The ports are connectable to external loads, respectively. Each orifice is selected, or adjusted, for a predetermined flow. The valve maintains the same predetermined drop or pressure differential across each orifice so that each predetermined flow is maintained constant regardless of the external load on its associated orifice, so long as the external loads are within the capacity of the fluid supply to the valve.

Within the valve are sensing means which sense changes in the predetermined differential in pressure at their inception and control by-pass means in a relation to the sensed changes so as to restore the predetermined pressure differential to the original value.

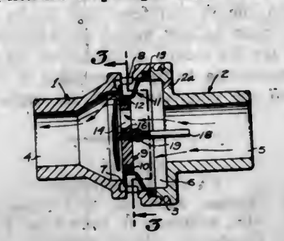
Beyond the orifices, in a direction toward the outlet ports, are compensating means subjected to the streams and movable in response to differentials in the pressures thereof so as to control the effective size of their outlet ports in a manner to equalize, at the discharge sides of the orifices, the pressures of the streams at the level imposed by the highest external load.

The valve thereby delivers a plurality of pressure compensated regulated flows each of which may be equal to, or may differ from, the pressure and volume of the others.

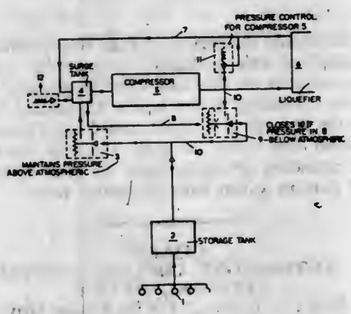
3,435,839
BACKFLOW BYPASSING VALVE FOR BREATHING APPARATUS
David Elder, San Diego, Calif., assignor to Elder Oxygen Company, Inc., San Diego, Calif., a corporation of California
Filed May 21, 1965, Ser. No. 457,778
Int. Cl. G05d 7/00, 9/00
U.S. Cl. 137—102 2 Claims

A valve particularly adapted for resuscitation which permits the oxygen to be supplied at low positive pressure so that the patient in breathing out even under severe handicap may bypass the exhaled air and should there be any liquid discharge, the valve may be quickly disassembled and the internal valve elements be removed as a unit for cleaning or replacement; this being accomplished by

a readily separable connection, between a valve housing and a cap and a valve unit clamped by the connection and comprising a flexible diaphragm supporting a lightweight valve disk which, in turn, carries a check valve. The valve housing having bypass ports at the patient side of the valve unit for discharge of exhaled air.



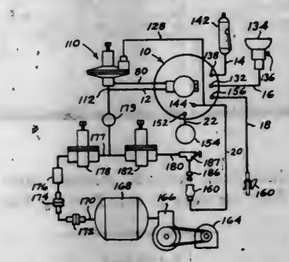
3,435,840
PRESSURE CONTROL ARRANGEMENT
Michael E. Clarke, Kingston, England, assignor to The British Oxygen Company Limited, a British company
Filed Oct. 10, 1966, Ser. No. 585,687
Claims priority, application Great Britain, Oct. 14, 1965, 43,592/65
Int. Cl. G05d 16/00
U.S. Cl. 137—110 3 Claims



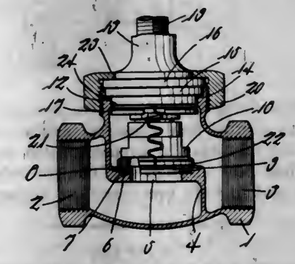
A pressure control arrangement for a gas compression system in which gas is fed from a gas storage vessel through a pressure surge vessel to a gas compressor. The arrangement comprises a first pressure controller to allow gas into the surge vessel only when the gas pressure therein is below a preselected value, and a second pressure controller operable to return gas from the compressor outlet to the gas storage vessel when the pressure in the surge vessel rises above said preselected value. A third pressure controller may be provided to return gas from the compressor outlet to the surge vessel when the compressor outlet pressure is too high.

3,435,841
DENTAL ASPIRATOR
Norman C. Williams and Dwight A. Booth, Portland, Oreg., assignors, by mesne assignments, to Omark Air Controls, Inc., Portland, Oreg., a corporation of Oregon
Filed Feb. 21, 1966, Ser. No. 528,857
Int. Cl. G05d 11/00
U.S. Cl. 137—118 3 Claims

A dental aspirator including a receptacle closed off at the top by detachable housing structure which mounts multiple ejectors operated by gas under pressure to produce a vacuum. A primary ejector is normally operated continuously to produce a vacuum in the receptacle, and a pressure-responsive valve directs gas under pressure to a reserve ejector when the demand in the vacuum in the receptacle increases. The housing structure is detachable from the receptacle for cleaning purposes.



3,435,842
APPARATUS FOR INSTALLING A VALVE SEAT IN A VALVE
Susumu Ogawa, Toyonaka, Japan, assignor to Fuji Metal Manufacturing Co., Ltd., Osaka, Japan
Filed Mar. 30, 1966, Ser. No. 538,857
Claims priority, application Japan, June 7, 1965, 40/33,951
Int. Cl. F16k 1/46, 1/42, 1/48
U.S. Cl. 137—454.6 8 Claims

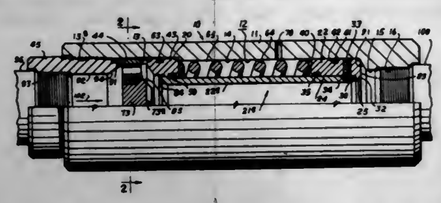


This invention is concerned with easily installable and removable valve seats for use in association with valve bodies having an annular valve port recessed therein between inlet and outlet openings. An internally threaded valve guide member for supporting the valve via a threaded valve rod, has its lower portion, as normally disposed within the interior of the valve body, provided with a recess in its periphery. A replaceable valve seat for cooperation with the valve port is disposed between the lower end of the rod-supported valve and the annular port. The valve seat is also provided with a recessed periphery similar to that of the lower portion of the valve guide. A connecting fixture includes interconnected but spaced apart upper and lower resilient ring-like members for engaging the respective peripheral recesses of the valve guide and the valve seat to removably attach the valve seat thereto and to provide positive coaction between the valve seat and the periphery of the interior valve port.

3,435,843
VALVES
Larry K. Spencer, Dallas, Tex., assignor to Otis Engineering Corporation, Dallas, Tex., a corporation of Delaware
Filed Jan. 5, 1966, Ser. No. 518,909
Int. Cl. F16k 31/36
U.S. Cl. 137—505.25 13 Claims

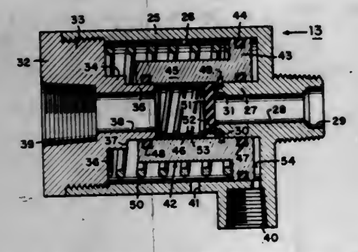
A fluid flow regulator operable by fluid pressure of the

fluid controlled by said regulator. Means is provided for



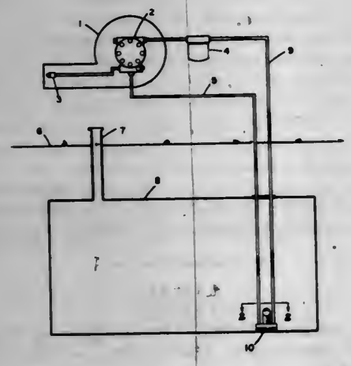
controlling fluid flow, between selected rates of flow, responsive to fluid pressure in said flowing fluid.

3,435,844
CONTROL VALVE
Raymond F. Stelzer, Bel Nor, Mo., assignor, by mesne assignments, to Wagner Electric Corporation, a corporation of Delaware
Filed Aug. 22, 1966, Ser. No. 573,915
Int. Cl. F16k *17/26, 15/12*
U.S. Cl. 137—522 18 Claims



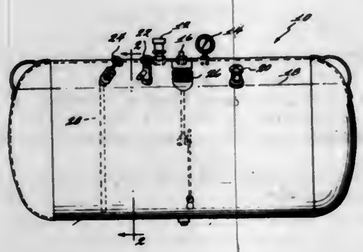
A control valve having a valve member movable in response to control fluid pressure supplied thereto in excess of and less than a predetermined value to effect pressure fluid flow through said control valve in opposite directions and in only one direction, respectively.

3,435,845
SLUDGE-ELIMINATING, AIR-VENTING, FLOW-CONTROL DEVICE
David M. Hebner, 1700 Lauderdale Road, Richmond, Va. 23229
Filed Apr. 13, 1967, Ser. No. 630,630
Int. Cl. F23n *1/00*
U.S. Cl. 137—563 5 Claims



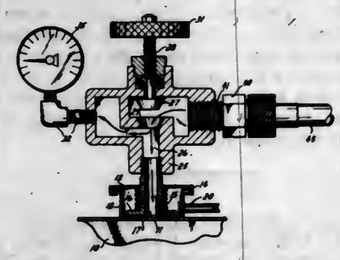
An auxiliary tank is provided for installation in a fuel oil tank which supplies an oil burner system of the recirculating type. The system feed pipe and the system return pipe are both connected to the auxiliary tank. Communication with the main oil tank is provided by openings in the auxiliary tank above the level of the connections with the system feed and return pipes. Such openings function as inlet means for make-up oil and as vent means for the escape of entrapped air to the main tank. An upstanding baffle is provided in the auxiliary tank between the connections of the main and return pipes.

3,435,846
TANK FITTINGS
Donelson B. Horton, Madison, and Eugene C. Cagle, Huntsville, Ala., assignors to John Blue Company, Incorporated, Huntsville, Ala., a corporation of Alabama
Filed Aug. 1, 1966, Ser. No. 569,247
Int. Cl. F17b *1/00*; E03b *11/00*
U.S. Cl. 137—590 1 Claim



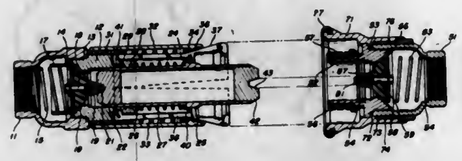
A substantially cylindrical storage tank positioned with its longitudinal axis extending horizontally and having fixtures mounted on the tank exterior along a line generally corresponding to the tank's 85 percent full level. One of the fixtures is a liquid outlet valve connected to an eduction tube within the tank. The tube has a vertical portion extending upwardly from the tank bottom to an inclined portion joined with the outlet valve.

3,435,847
AUTOMOTIVE COOLING SYSTEM FLUSHING DEVICE
Henry A. Cooley, 2134 W. Avalon Drive, Phoenix, Ariz. 85015
Filed Jan. 3, 1966, Ser. No. 518,326
Int. Cl. F01p *11/02, 11/06*
U.S. Cl. 137—612.1 1 Claim



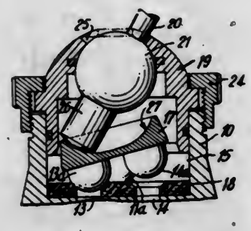
A device for flushing an automobile radiator at its normal operating pressure and temperature including means for introducing makeup cooling liquid, a regulator valve for adjusting the flow of makeup liquid, a pressure indicator to indicate the presure of makeup liquid and a pressure relief radiator closure adapted to vent the system at pressures above its normal operating pressure.

3,435,848
FLUID LINE COUPLER
James R. Johnston, 4021 La Salle St., San Diego, Calif. 92110
Continuation-in-part of application Ser. No. 548,217, May 6, 1966. This application Mar. 20, 1967, Ser. No. 624,473
Int. Cl. F16l *37/28*
U.S. Cl. 137—614.04 2 Claims



A fluid line coupler with a spring-loaded shut-off valve on each mating end for shutting off fluid upon disconnection with an automatic locking sleeve when one mating half is placed within the other mating half and a retaining spring which can be overcome by a predetermined stress tending to pull the coupler apart at which time the coupler is disconnected with each line coupled thereby being shut off by the spring-loaded valves.

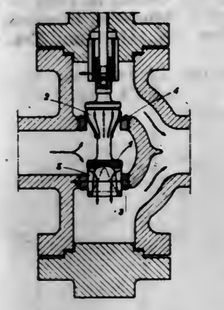
3,435,849
MECHANICAL MIXING TAP
Paul Saffin Von Corpon, 4 Rue de l'Athenee, Geneva, Switzerland
Filed Jan. 26, 1966, Ser. No. 523,079
Claims priority, application Switzerland, Feb. 2, 1965, 1,425/65
Int. Cl. F16k *11/18*
U.S. Cl. 137—625.4 6 Claims



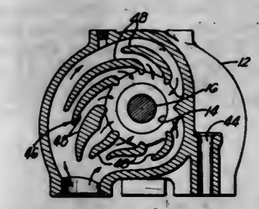
A mixing tap in which an actuating dog on a ball and socket handle directly contacts a surface of a revolution of a rockable plate to control the openings of water inlets and outlets. The surface of revolution has a central region which is spherical, and when the dog is in contact with this spherical surface all the openings are closed. A surface of revolution extends from the spherical region and it has a curvature which is greater than that of the central region, for controlling the opening of the inlets and outlets when the dog moves out of the central region.

3,435,850
FLUID REGULATOR VALVE
Lucien Male, Meudon, France, assignor to ARCA Premoncontrole, Gentilly, France, a company of France
Filed Mar. 13, 1967, Ser. No. 622,563
Claims priority, application France, Mar. 21, 1966, 54,308
Int. Cl. F16k *1/54, 1/12*
U.S. Cl. 137—625.34 1 Claim

A valve to control a single fluid flow which comprises first and second coaxial basic valves fast with one another cooperating respectively with first and second seats, the first valve having a V aperture and the first seat being a figure of revolution while the second valve is parabolic, the axis of the valves being normal to inlet flow.

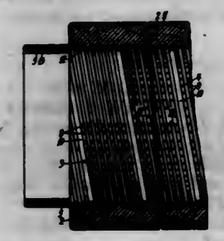


3,435,851
VALVE
Peter B. Olmsted, 1823 Arlington Road, Ann Arbor, Mich. 48104
Filed Sept. 6, 1966, Ser. No. 577,427
Int. Cl. F15d *1/02*
U.S. Cl. 137—625.48 3 Claims



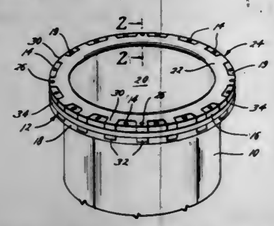
A spool valve having ports and a group of vanes associated with each port, the vanes being arranged so that they emanate from an annulus around the spool and function to direct fluid from a plurality of sides of the spool to reduce the imbalance of fluid forces on the spool and improve valve flow characteristics.

3,435,852
FLEXIBLE DUCTING
John Massey Trihey, Harkaway, Victoria, Australia, assignor to Vulcan Australia Limited, Burwood, Victoria, Australia, a corporation of Australia
Filed May 15, 1967, Ser No. 638,392
Claims priority, application Australia, May 16, 1966, 5,601/66
Int. Cl. F16l *11/16, 9/16*
U.S. Cl. 138—122 10 Claims



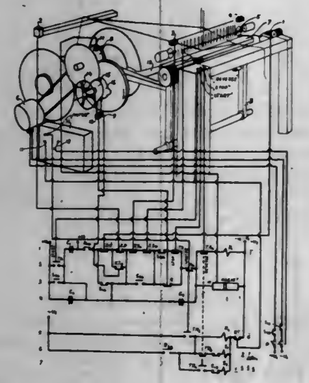
Flexible ducting formed of corrugated convoluted ductile material seam locked with a double locked seam.

3,435,853
METHOD AND MEANS FOR PREVENTING LINER CONTRACTION
Frank G. Weeden, Gerald R. Pope, Willard L. Petrosky, and Burleigh R. Murphee, Houston, Tex., assignors to John L. Doré Co., Houston, Tex., a corporation of Texas
Filed Jan. 25, 1967, Ser. No. 611,668
Int. Cl. F16l 9/14
U.S. Cl. 138—147 4 Claims



The present invention relates to a device and method for prevention of liner slippage in lined pipes, tubing, vessels or the like. It utilizes tab portions of the liner bent around the edges of the lined equipment and the retention of these tabs by the utilization of a bar.

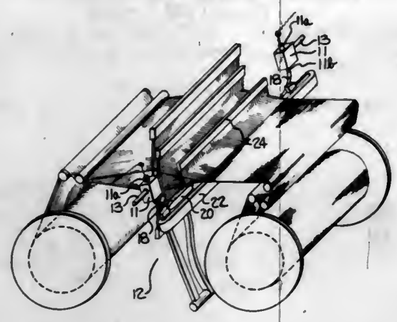
3,435,854
CONTROL APPARATUS FOR A LOOM
Vladimir Svatý, Zdeněk Rambousek, and Josef Nádvorník, Liberec, Czechoslovakia, assignors to Elitex, Zavody textilniho strojirenstvi, Liberec, Czechoslovakia
Filed June 3, 1966, Ser. No. 555,055
Claims priority, application Czechoslovakia, June 4, 1965, 3,607/65
Int. Cl. D03d 51/00
U.S. Cl. 139—1 10 Claims



The control circuit of a loom is operated by a push-button start switch, a pushbutton stop switch, and a push-button reverse switch by which electrically operated parts of the loom are connected with a higher voltage at the beginning of certain operations, and with a lower voltage during normal operation of the loom.

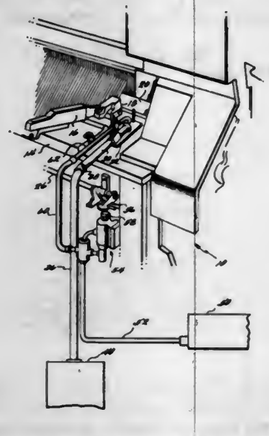
3,435,855
EFFECT FABRICS
Malcolm R. Livingston, Charlotte, N.C., assignor to Celanese Corporation, a corporation of Delaware
Original application Aug. 7, 1964, Ser. No. 388,058. Divided and this application Aug. 31, 1966, Ser. No. 606,473
Int. Cl. D02g 3/04; D03d 25/00, 23/00
U.S. Cl. 139—1 26 Claims

A process and apparatus for producing an effect fabric by randomly introducing and distributing effect fiber into said yarn during the fabric construction while the yarn is in an opened condition and subsequently consolidating the



yarn into the fabric. The effect fiber is preferably incorporated into the fabric by blowing the effect fiber into the opened yarn with pressurized air.

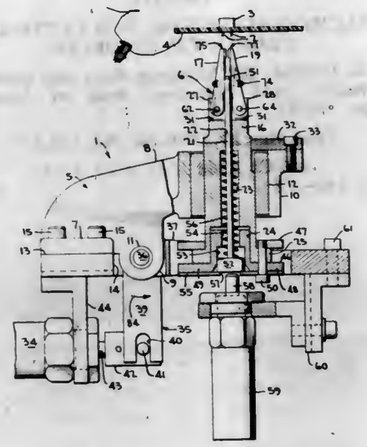
3,435,856
FILLING TAIL REMOVAL EQUIPMENT
Claude E. Simpson and William Z. White, Galax, Va., assignors to Burlington Industries, Inc., Greensboro, N.C., a corporation of Delaware
Filed Sept. 5, 1967, Ser. No. 665,352
Int. Cl. D03d 45/02
U.S. Cl. 139—256 10 Claims



Filling tail removal equipment for removing the filling tails of both a spent bobbin and a full bobbin in automatic filling replenishing loom, the equipment including a single filling tail removal pipe having forced air under positive pressure discharged into the mouth thereof for first retaining the filling tails and, then after severence of the filling tails at the fabric selvage by the temple cutter, conveying the filling tails into a receptacle.

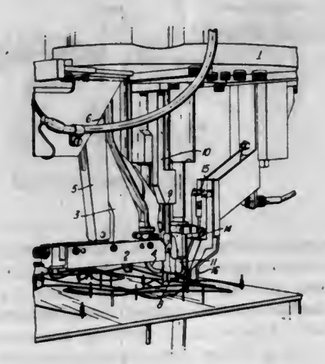
3,435,857
COMPONENT LEAD CLINCHING DEVICE
Phillip A. Ragard, Binghamton, N.Y., and Robert F. Welch, Susquehanna, Pa., assignors to Universal Instruments Corporation, Binghamton, N.Y., a corporation of New York
Filed Feb. 23, 1967, Ser. No. 617,870
Int. Cl. B21f 15/04, 45/00
U.S. Cl. 140—71 9 Claims

A device for clinching leads of electrical components to a board, which leads are connected to the body portion of the component disposed on one side of the board and extend through the board and project outwardly from the other side thereof; the device including a plurality of pivotably supported arms having lead deforming and guid-



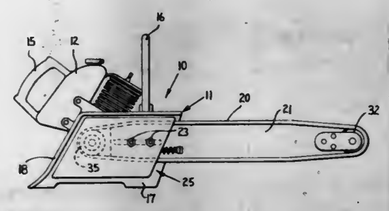
ing surfaces, which surfaces are adapted in sequence to be placed adjacent to the projecting leads and thereafter moved along an arcuate path to wipe the leads into clinching engagement with the board.

3,435,858
WIRE WRAPPING MACHINE
Patrick Arnold Taysom and Robert Edwin Kirk, London, England, assignors to International Standard Electric Corporation, New York, N.Y., a corporation of Delaware
Filed July 26, 1966, Ser. No. 567,998
Int. Cl. B21f 3/12, 45/00; H01r 9/22
U.S. Cl. 140—92.1 12 Claims



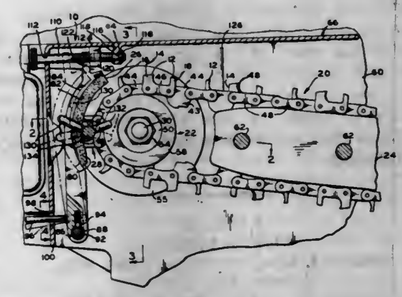
Machines for automatically wiring electrical circuit boards. The machines have head units which include wire-wrapping devices, wire feed devices, and wire-bending devices. The wire-wrapping devices are equipped to strip the wires. The wire feed devices are able to move transversely relative to the board and are equipped to cut the wire. The heads are capable of rotating about the wire bending devices. The board is mounted on a tape controlled table which moves in a coordinate manner to position the board with respect to the head unit.

3,435,859
CHAIN SAW ATTACHMENT
Charles M. Walker, R.R. 1, Greensburg, Ind. 47240
Filed Mar. 22, 1968, Ser. No. 715,332
Int. Cl. B27b 17/14
U.S. Cl. 143—32 6 Claims



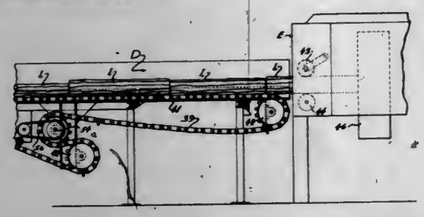
A chain saw chain tensioner including a coil spring acting to rotate a screw through a toothed clutch. The screw has mounted thereon a lug member which functions to urge a blade against the saw chain to tension it, the urging force being provided by the coil spring.

3,435,860
TOP SHARPENING, FLOATING SPROCKET CHAIN SAW
Kay Silvon, Portland, Oreg., assignor to Omark Industries, Inc., Portland, Oreg., a corporation of Oregon
Filed Nov. 18, 1966, Ser. No. 595,487
Int. Cl. B27b 17/00; B23d 63/12
U.S. Cl. 143—32 10 Claims
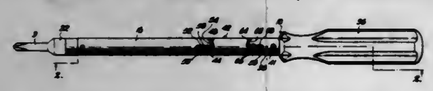


1. In a chain saw:
a drive shaft,
a sprocket driven by the shaft and movable along the shaft between predetermined limits,
a saw chain having top sharpenable projecting elements and meshing with and driven by the sprocket,
a sharpening member,
sharpener feed means for moving the sharpening member transversely relative to the shaft from a retracted position out of engagement with the tops of the projecting elements of the portion of the saw chain on the sprocket to a sharpening position engaging said tops of the projecting elements,
and actuating means including means engaging the sprocket and adapted to create back and forth relative movement between the sprocket and the sharpener member in a direction parallel to the shaft to dress the sharpening member.

3,435,861
SYSTEM FOR DEBARKING LOGS
Dean W. Shields, Birmingham, Ala., assignor to Beloit Corporation, a corporation of Wisconsin
Filed Aug. 1, 1966, Ser. No. 569,155
Int. Cl. B27l *1/00*
U.S. Cl. 144—208 4 Claims



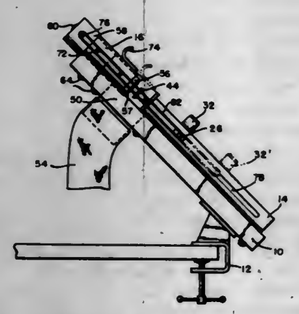
A system for feeding logs to a debarker wherein the logs are fed axially, end-to-end, the conveyor system being operated in timed relation such that the logs are fed axially to the debarker at a linear rate equalling substantially the maximum debarking rate of the debarker, eliminating lost or idling time for the debarker and utilizing it to the maximum extent.

3,435,862
IMPACT TOOL
Marsdon P. Rainey, 7311 W. 54th Terrace, Shawnee Mission, Kans. 66202
Filed June 26, 1967, Ser. No. 648,931
Int. Cl. B25b *15/02, 15/06, 19/00*
U.S. Cl. 145—50 7 Claims



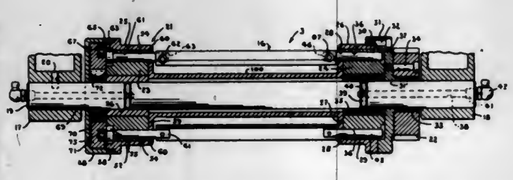
A hand tool comprising a tube interconnected to a shaft for relative reciprocation along the rotation about the axis of the shaft. A tubular connecting member is rotatable and reciprocable on the shaft and cooperates with cam and shoulder surfaces on the tube and shaft, respectively, to rotate the tube when the shaft is rotated and to rotate the tube when a force is applied longitudinally of the shaft.

3,435,863
NUTCRACKER
Garnett J. Dye, 950 Veltre Circle SW., Atlanta, Ga. 30311
Filed Feb. 21, 1967, Ser. No. 617,537
Int. Cl. A47j *43/26*
U.S. Cl. 146—15 2 Claims



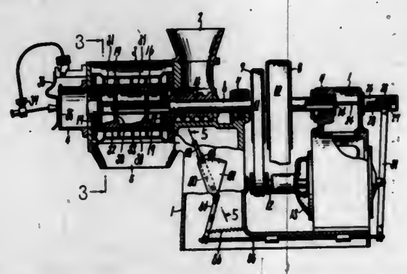
A nutcracker having opposed cup-shaped members and an impact member for striking one of said cup-shaped members to propel same a predetermined distance toward the other cup-shaped member to shatter the shell of a pecan engaged between said members.

3,435,864
MACHINE STRUCTURE FOR CUTTING A PRODUCT INTO PIECES
Joe R. Urschel, 202 Michigan Ave., and Gerald W. Urschel, 1614 Napoleon, both of Valparaiso, Ind. 46383
Filed Mar. 29, 1966, Ser. No. 538,316
Int. Cl. B26d *1/02, 3/22, 4/34*
U.S. Cl. 146—78 8 Claims



The invention embodies oscillating a plurality of elongate circumferentially spaced knives about their respective axes and about a common axis.

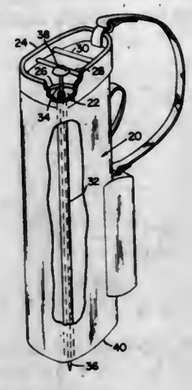
3,435,865
RICE-CLEANING MACHINE
Kantaro Mori, Hikone-shi, Japan, assignor to Mori Seikoku Kenkyusho Company Limited, Hikone-shi, Japan
Filed Sept. 21, 1966, Ser. No. 580,932
Int. Cl. B02d *3/00*; B02c *9/00*
U.S. Cl. 146—279 10 Claims



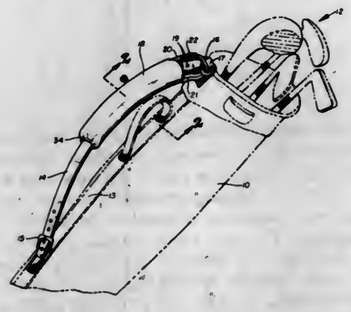
A rice-cleaning machine which has diametrically expandable and contractable means on the drum for varying the rice-cleaning rubbing pressure. The means is a pair of semicircular bodies pivoted at one circumferential edge to the end plates. Diametrical expansion and contraction is achieved by the pivoting of the semicircular bodies.

3,435,866
GOLF BAG SUPPORT
David B. Cantwell, 1580 Edgeworth Ave., Colma, Calif. 94014
Filed Jan. 3, 1967, Ser. No. 606,819
Int. Cl. A63b *55/04*
U.S. Cl. 150—1.5 9 Claims

A support for holding a golf bag in an upright position between shots and including a tubular member containing a frictionally held elongated rod means extendable therefrom to penetrate the ground to support the golf bag.



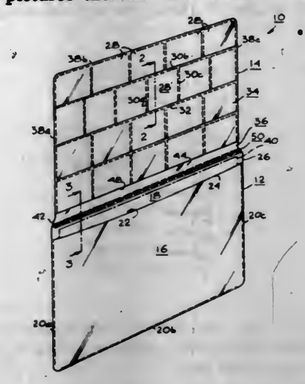
3,435,867
RESILIENT COVER FOR GOLF BAG STRAP
Alsie G. Hyden, 13 SE. 98th, Oklahoma City, Okla. 73114
Filed Sept. 5, 1967, Ser. No. 666,241
Int. Cl. A63b *55/00*; A45c *1/04*
U.S. Cl. 150—1.5 4 Claims



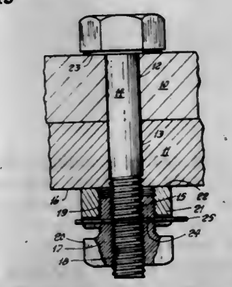
A longitudinal and cylindrical cloth covered sponge rubber member is telescopically placed about a typical golf bag strap. Adjustable means are provided for retaining the member in a desired position on the strap by attachment with the upper end ring of the bag strap.

3,435,868
ENVELOPE ARRANGEMENT
Rudolph H. Stermer, 5112 Laurel Canyon Drive, North Hollywood, Calif. 91607
Filed Sept. 21, 1966, Ser. No. 584,941
Int. Cl. A45c *11/24*; B65d *27/04*
U.S. Cl. 150—39 7 Claims

A flexible, transparent plastic holder comprising an envelope retaining a dental record card therein and a detachable coupled body having a plurality of cavities with X-ray pictures therein. The holder being bendable along the region of the detachable coupled area between the envelope and the body.



3,435,869
THREADED FASTENER ASSEMBLY
Robert A. Ohlbaum, 105—10 62nd Road, Forest Hills, N.Y. 11375
Filed May 3, 1967, Ser. No. 637,039
Int. Cl. F16b *39/00*
U.S. Cl. 151—15 1 Claim

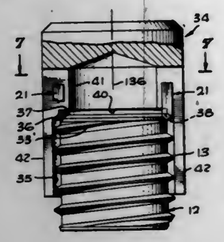


The fastener assembly includes a bolt having a relatively coarse thread which passes through the member or members which are to be compressively loaded thereby. The base of the bolt head tightly abuts one member and a differential nut having a hex head is threaded on the bolt. The differential nut is provided with inner threads to mate with those of the bolt and relatively fine outer threads which mate with those of a castellated base nut. The base nut bears against the second member and by preventing rotation of the bolt while applying a known torque via torque wrench to the differential nut which does not bear against the second member, the members are compressed between the base nut and the bolt head. Since there is no rotation of any component of the fastener which abuts the members while they are being compressed, the inherent problem of sliding friction is eliminated and the compressive loading is directly related to the torque applied.

3,435,870
LOCK KEY FASTENER UTILIZING DEFORMED THREAD AS STOP SHOULDER
Robert Neuschotz, 1162 Angelo Drive, Beverly Hills, Calif. 90210
Filed Dec. 6, 1967, Ser. No. 688,563
Int. Cl. F16b *39/284, 39/34*
U.S. Cl. 151—22 18 Claims

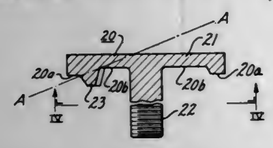
A fastener having an external thread to be screwed into a carrier part, and having another thread for con-

nection to a coacting member, with the external thread having a portion at its axially outer end which is deformed or displaced axially to a position in which it will



function as a stop shoulder, for engaging the carrier part in a relation limiting the extent to which the fastener can be screwed into that part.

3,435,871
WELD ELEMENT
Kenneth L. Johnson, Pitcairn, Pa., assignor to Screw and Bolt Corporation of America, Pittsburgh, Pa., a corporation of Pennsylvania
Filed July 12, 1967, Ser. No. 652,770
Int. Cl. F16b *39/00;* B23k *9/02, 11/02*
U.S. Cl. 151—41.7 9 Claims

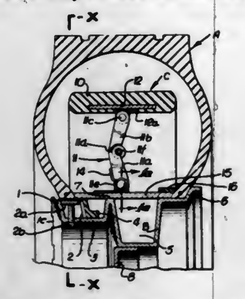


A weld element having a configurated under surface is provided with a weld projection area which has one side flank that is an integral and immediately-contiguous part of a position limit area that is backwardly-offset with respect to or of lesser height than the weld projection area. The weld projection area is provided with an opposed side flank of greater slope to direct flow of fused or molten weld metal into a relief area that is backwardly-offset with respect to the projection area and the position limit area. The flanks provide a weld projection area whose base lies on a transverse plane that slopes with respect to the axis of and the under surface of the weld element and declines towards the relief area.

3,435,872
SAFETY WHEEL RIM AND BUFFER THEREFOR
Tilden W. Johnson, 5630 Sawtelle Blvd., Culver City, Calif. 90230
Continuation-in-part of application Ser. No. 424,745, Jan. 11, 1965. This application Feb. 9, 1967, Ser. No. 620,206
Int. Cl. B60b *9/02, 25/00;* B60c *19/12*
U.S. Cl. 152—158 16 Claims

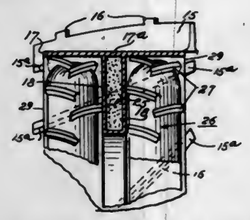
A safety wheel for high speed vehicles utilizing flexible rim extensions (buffers) wherein mechanical simulation of air tire performance is attained by short human leg like spokes actuated by small springs (torsion etc.) acting at right angles to the load enabling yielding to shock loads, said spokes having the unyielding normal load characteristics of a wagon wheel, the sway prevention of bicycle spokes and rim flexibility of a tire cap all combined for said mechanical air simulating characteristics.

The rim is specially adapted for use with buffers having one low flange notchable to the same radius as the rim tire bead seat combined with a flange of sufficient height to permit holes and bolts to hold buffers in lateral position by reinforcements extending under the tire bead. One specie having an adjustable arc in one rim tire bead seat air sealed for tubeless tire use by a rubber membrane over said rim tire bead seat with said adjustable arc section and air sealed by a bead in one rim drop center.



One specie of the flexible rim extending buffer (as in FIGURE 3 formed like a tire and supportable by an air tube that neutralizes the spoke's springs by sidewall pressure) actually increases in diameter and circumference along the cap and weight bearing height upon loss of air.

3,435,873
TRACTION ATTACHMENTS FOR DUAL PNEUMATIC TIRES
Jacob J. Weier, 10611 S. Sawyer Ave., Chicago, Ill. 60655
Filed Nov. 10, 1966, Ser. No. 593,405
Int. Cl. B60c *27/16;* B60b *15/26*
U.S. Cl. 152—182 5 Claims

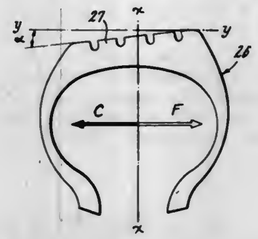


A circular metal-retread covering for dual rubber tires. These metal-retread coverings are made particularly for large dual pneumatic tires on the driving wheels of motor vehicles, such as logging tractors, swamp buggies and farm tractors, which are adapted to be driven on soft or muddy ground. The said metal-retread covering comprising in combination a plurality of identical circular plate sections, said sections having means for removably securing the sections together. The circular sections embody a plurality of ground engaging traction cleats having grouter lugs thereon. Said sections embodying hollow U-shaped channel spacer means arranged midway between the outer circular edge portions thereof and providing liquid ballast compartments, each having bores in a wall closed by removable plugs.

3,435,874
ASYMMETRIC TIRES
Henri Mirtain and André Devienne, Compiegne, France, assignors to Societe Francaise du Pneu Englebert, Margny-les-Compiegne, France, a corporation of France
Filed May 24, 1966, Ser. No. 552,473
Claims priority, application France, June 1, 1965 19,084
Int. Cl. B60c *5/00 9/00, 11/00*
U.S. Cl. 152—352 10 Claims

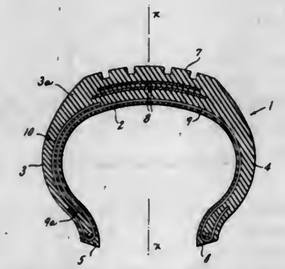
A belted radial ply pneumatic tire having a deliberate degree of asymmetry incorporated in its tread region to

provide a force of conicity which is directed laterally of the median equatorial plane of the tire and, when the tire is in service on a normally forward moving vehicle, is vectorially opposite to the tire's lateral force of structure resulting from the bias angle at which the cords in



the radially outermost region of the breaker are oriented relative to the median equatorial plane of the tire. The type of asymmetry chosen is such as to enable at least a portion of the tread to make an angle other than 90° with the median equatorial plane, the latter being considered perpendicular to the ground.

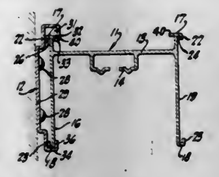
3,435,875
PNEUMATIC TIRES
André Devienne, Compiegne, France, assignor to Societe Francaise du Pneu Englebert, Margny-les-Compiegne, France, a corporation of France
Filed May 18, 1966, Ser. No. 551,004
Claims priority, application France, June 1, 1965, 19,082
Int. Cl. B60c *5/00, 9/00, 11/00*
U.S. Cl. 152—356 12 Claims



An asymmetric radial ply pneumatic vehicle tire with increased strength and resistance to curbing shocks and similar impacts in one of its sidewalls. The asymmetry is provided by a greater number of reinforcing plies in one lateral region of the carcass structure than in the other, specifically the region which underlies the sidewall that is to face outwardly of the vehicle when the tire is mounted thereon, and the outermost or supplementary reinforcing ply extends from the respective bead region to at least the corresponding proximate shoulder region of the tread but not further than the edge of the breaker in the remote shoulder region of the tread.

3,435,876
VALANCE STRUCTURE
Andrew J. Toti, 311 W. River Road, Modesto, Calif. 95351
Original application Oct. 22, 1965, Ser. No. 501,184, now Patent No. 3,371,701, dated Mar. 5, 1968. Divided and this application Oct. 4, 1967, Ser. No. 672,883
Int. Cl. E06b *9/26, 9/38*
U.S. Cl. 160—38 8 Claims

A valance structure for supporting traverse means for closing off door, window or like openings, such as vertical venetian blinds, drapes and other foldable closure structures. A one piece extruded valance member has a traverse track extending longitudinally thereof from which the drape, blind or like closure structure is to be supported. The valance member is removably interconnect-



able with a supporting bracket member, without requiring separate fasteners, by means of foot and shoulder portions on the valance member which are insertable in opposed channel portions provided on the bracket. The valance member also includes a slot in one wall thereof provided to receive therein decorative facia material.

3,435,877
FOLDING AND STACKING DOOR MEANS
Francis B. Horton, 7 Pinecrest Drive, Wellington, Kans. 67152
Filed Aug. 16, 1967, Ser. No. 660,954
Int. Cl. E05d *15/26*
U.S. Cl. 160—206 3 Claims

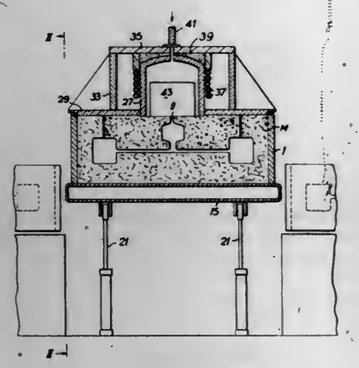


This invention relates to a closure means and, more specifically, to a folding and stacking door means usable for coverage of large openings such as that found on entrances to airplane hangars. Still, more specifically, this invention relates to a collapsible folding and stacking door means having interconnected door panel assemblies operable through upper and lower hanger and guide assemblies permitting the easy lateral movement of the sliding door panel assemblies from opened to closed positions requiring a minimum of storage space in the stacked or wide open position and revealing the entire entrance opening.

3,435,878
METHOD OF CASTING METALS BY INDUCTION HEATING
John Christie Howard, John Farquhar Howard, and Alec George Allen, Sutton, Coldfield, and Patrick Anthony Neenan, Chasetown, near Walsall, England, assignors to Associated Electric Industries Limited, London, England, a British company
Continuation-in-part of application Ser. No. 339,938, Jan. 24, 1964. This application Feb. 21, 1966, Ser. No. 529,148
Claims priority, application Great Britain, Jan. 31, 1963, 4,026/63; July 3, 1963, 26,402/63; July 12, 1963, 27,761/63, 27,763/63; Nov. 25, 1963, 46,449/63
Int. Cl. B22d *27/02, 11/12, 45/00*
U.S. Cl. 164—51 13 Claims

A method of casting metals in a prepared mold by providing a refractory, electrically non-conducting melting chamber having a discharge port in the floor thereof

in communication with the inlet port of the mold, the outlet port being closed with a solid metal surface having a melting point not greater than the required pouring temperature, and induction heating a charge of casting



metal in the non-conductive chamber downwardly of the charge until the charge becomes molten and melts through the solid metal surface and discharges into the mold to produce the casting.

3,435,879

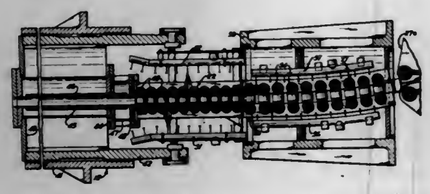
CONTINUOUS CASTING METHOD

Joseph I. Greenberger, Pittsburgh, Pa., assignor to United Engineering and Foundry Company, Pittsburgh, Pa., a corporation of Pennsylvania

Original application Jan. 11, 1965, Ser. No. 424,779, now Patent No. 3,370,641, dated Feb. 27, 1968. Divided and this application May 18, 1967, Ser. No. 655,697

Int. Cl. B22d *11/06, 11/12, 11/10*

U.S. Cl. 164—83 **3 Claims**



Continuous casting with a vertical oscillating mold and an attached straight secondary cooling device. The strand is bent from vertical to horizontal after leaving the straight secondary cooling device and while still having a molten core.

3,435,880

APPARATUS FOR DIE CASTING MATERIALS OF RELATIVELY HIGH MELTING TEMPERATURES

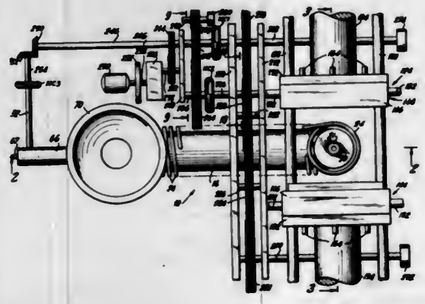
George W. Goetz, Red Hook, N.Y., and Norman W. Weinstein, Philadelphia, Pa., assignors to Impact Casting Co., Inc., New York, N.Y., a corporation of New York

Filed Feb. 8, 1966, Ser. No. 525,987

Int. Cl. B22d *11/06, 11/10, 17/00*

U.S. Cl. 164—155 **19 Claims**

The disclosure is of a method and apparatus for casting molten metals in a split mold by closing the mold halves on a liquid mass of the molten metal while it is in free fall. The mass does not contact the mold until the die halves close on the mass or bolus, and the mass remains soft till the die hardens therein to form the casting. The apparatus comprises a U-shaped chamber having a bottom cross-piece communicating with a pair of upwardly extending legs. The cross-piece and one leg is heated to maintain the metal in liquid state, said one leg being formed with a nozzle to expel a drop of the liquid metal upwardly when pressure is applied to the surface of the metal in the other leg. The split mold halves are positioned above the nozzle and the mold halves close on the ejected drop or bolus or mass when said mass is momentarily at rest while in free fall. The metal to be melted is supplied to said other leg. A body of liquid salt is provided in said other leg above the surface of the liquid alloy therein, and a body of oil is provided above the body of liquid salt. Means is provided to control the level of the alloy at the nozzle and to



apply downward pressure on the liquid alloy to expel the drop or bolus. The top of the other leg is open, and feed means are provided to drop quantities of metal in a solid state in a top open end to replenish liquid alloy in the chamber as castings are produced, the bodies of liquid oil and salt permitting the passage of said solid alloy quantities therethrough under the influence of gravity. Means is provided to sense the level of the molten metal at the nozzle and also means is provided to coordinate the level sensed with the feed means. Control means is also provided to coordinate the operation of the drop expelling means and the means to close the mold halves on said drop.

3,435,881

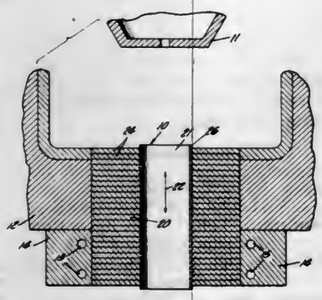
ANISOTROPIC CONTINUOUS CASTING MOLD

William H. Smith, Claremont, and Daniel M. Whitley, Fullerton, Calif., and Edgar P. Eaton, Jr., Morristown, N.J., assignors to Ducommun Incorporated, Vernon, Calif., a corporation of California, and Carbone Corporation, Boonton, N.J., a corporation of New Jersey

Filed Jan. 3, 1967, Ser. No. 606,636

Int. Cl. B22d *27/04, 11/12*

U.S. Cl. 164—283 **4 Claims**



This disclosure relates to a continuous casting mold made of anisotropic material and having an inner liner made of vitreous graphite.

3,435,882

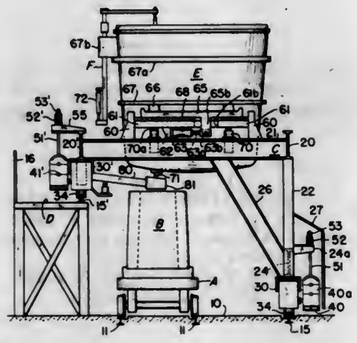
GANTRY CAR APPARATUS FOR CASTING MOLTEN METAL

Martin C. Falk, Pittsburgh, Pa., assignor to Pennsylvania Engineering Corporation, New Castle, Pa., a corporation of Pennsylvania

Filed June 20, 1966, Ser. No. 558,789

Int. Cl. B22d *39/00, 33/02, 37/00*

U.S. Cl. 164—323 **14 Claims**



Apparatus for handling refined molten metal on a plant floor including, a first longitudinal trackway along the floor, a series of ingot cars on said trackway for carrying ingot molds, a second longitudinal trackway extending along the floor in a transversely-outwardly spaced relation with respect to said first trackway, a gantry car constructed for movement along said second trackway in an overhead straddling relationship with respect to said first trackway and the ingot cars and ingot molds thereon, a ladle carried on said gantry car having a bottom pouring spout, means for moving said gantry car along said second trackway from a molten metal receiving station to an ingot mold filling station, and means for aligning the pour spout of said ladle with a succession of the ingot molds that are advanced along said first trackway on said ingot cars.

3,435,883

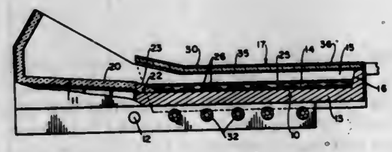
ART OF CASTING FUSIBLE MATERIALS

Howard A. Fromson, Rogues Ridge Road, Weston, Conn. 06880

Application July 3, 1967, Ser. No. 650,740, which is a continuation-in-part of application Ser. No. 412,448, Nov. 19, 1964. Divided and this application Mar. 7, 1968, Ser. No. 711,245

Int. Cl. B22d *41/04, 1/00*

U.S. Cl. 164—336 **7 Claims**



The invention resides in casting a body of fusible material in a unit having a mold and a reservoir connected together and tiltable about an axis of 90° or less. The mold has a mold cavity with an effective length greater than its effective depth, and the unit is turnable about an axis from an initial position with the mold elevated and the reservoir located below said mold. The material to be cast is teemed in the reservoir while the unit is in the initial position indicated and is turned about said axis through an angle of 90°, or less into casting position, in which the effective length of the mold extends substantially horizontal and its depth extends downward. During this turning operation, the material to be cast is transferred from the reservoir to the mold. During solidification of the material in casting position of the unit, a heat shield is applied over the mold to inhibit and control heat radiation from the top surface of the body of material being cast, and is removed before the top of the body of material being cast is completely solidified.

3,435,884

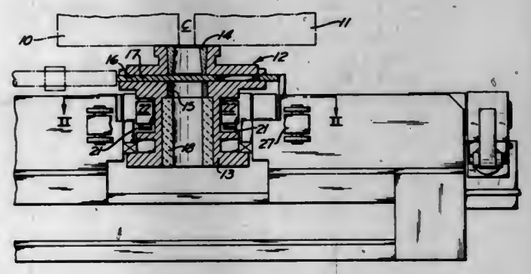
GATE POSITIONING DEVICE FOR ARTICLE-CASTING MACHINE

John Adam Orris, Mars, and Leon Daroszewski, Pittsburgh, Pa., assignors to United Engineering and Foundry Company, Pittsburgh, Pa., a corporation of Pennsylvania

Filed June 1, 1966, Ser. No. 554,602

Int. Cl. B22d *35/04;* **B29f** *1/05*

U.S. Cl. 164—341 **3 Claims**



The present disclosure relates to a novel gate assembly for an article-casting machine and, more particularly, to a simple and trouble-free mechanism for moving the gate and assuring that a proper sealing condition will exist between the gate and the cooperating mold assembly.

In the preferred form of the present disclosure, there is provided a gate assembly adapted to be moved forcibly into engagement with a portion of a mold assembly and through which molten metal is delivered to a mold, an arm for supporting said gate assembly, and projecting from one side thereof, a shaft arranged normal to and spaced away from the mold for carrying said arm, a mechanical self-locking device rotatably connected to said shaft, a power means connected to said device for causing operation of the device and, hence, applying to said gate assembly through said shaft and arm a desired sealing force to urge the gate forcibly against the mold assembly, the construction being such that on the inadvertent drop in the force produced by said power means said device will retain the gate assembly in its operative position.

3,435,885

FLASK FOR MAKING PRECISION CASTINGS

Clarence J. Burke, Rolling Hills Estates, and Milton O. Grosjean, Los Angeles, Calif., assignors to The Garrett Corporation, Los Angeles, Calif., a corporation of California

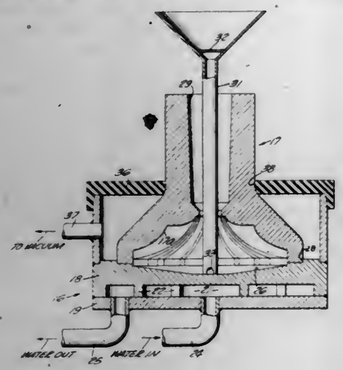
Filed May 19, 1966, Ser. No. 551,256

Int. Cl. B22d *35/04;* **B22c** *21/10*

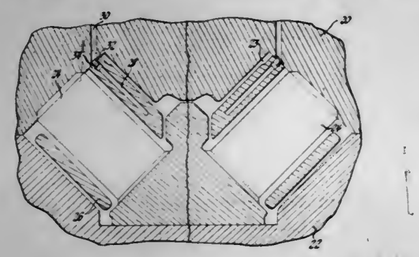
U.S. Cl. 164—385 **7 Claims**

A flask for casting precision metallic parts wherein the

molten metal is continuously added below the surface of the molten pool and heat is conducted away from the bottom of the casting so that no liquid pockets are formed as the casting solidifies.



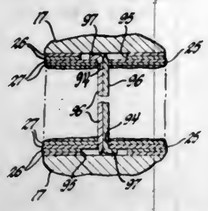
3,435,886
HOLLOW STEM CHILL VENT CHAPLET
Richard C. Walter, Williamsville, N.Y., assignor to General Motors Corporation, Detroit, Mich., a corporation of Delaware
Filed June 20, 1966, Ser. No. 558,883
Int. Cl. B22c *23/00, 21/14*; B22d *33/04*
U.S. Cl. 164—410 **3 Claims**



In the art of metal casting a chaplet providing efficient communication between a core vent passage and a mold wall vent passage consisting of a hollow stem portion which is received in the core vent passage and a partially spherical head portion which engages the periphery of the mold wall vent passage whereby communication is maintained between the mold vent passage and the core vent passage without the need for accurate alignment of core and mold vent passages.

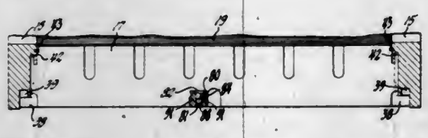
3,435,887
REGENERATOR MATRIX
Albert N. Addie, La Grange, and Charles L. Rose, Westmont, Ill., assignors to General Motors Corporation, Detroit, Mich., a corporation of Delaware
Filed Oct. 9, 1967, Ser. No. 673,867
Int. Cl. F28d *19/04*
U.S. Cl. 165—9 **10 Claims**

A radial-flow rotary regenerator matrix includes two coaxial steel rims. Twenty-five rigid steel stiffeners are joined rigidly to the rim by tongue-and-grove type connections and keyed against disconnection. Labyrinth seal elements mounted in spacer plates are alternated with sheet metal shim pack heat transfer material in segments between the stiffeners, received in grooves in the inner face of the rims. Circumferential keepers fitted in slots in the shim pack and spacers hold these parts aligned. The seal elements are held in tension by support bars which fit over shoulders on the outside of the rims, the bars being retained by latches.



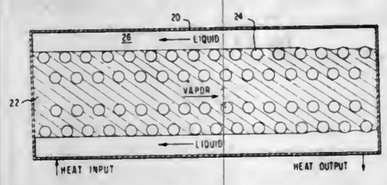
The spacers next to the stiffeners are keyed to the stiffeners to prevent relative radial shifting of the spacers. The keys are held operative by a deformable wire lock.

3,435,888
REGENERATOR MATRIX FRAME
Albert N. Addie, La Grange, and Jack P. Hart, Hinsdale, Ill., assignors to General Motors Corporation, Detroit, Mich., a corporation of Delaware
Filed Oct. 9, 1967, Ser. No. 673,868
Int. Cl. F28d *19/04*
U.S. Cl. 165—9 **9 Claims**



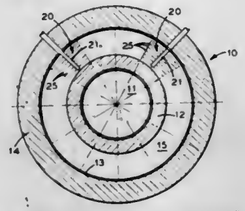
A radial-flow rotary regenerator matrix includes two coaxial steel rims. Twenty-five rigid steel stiffeners are joined rigidly to the rim by tongue-and-groove type connections and keyed against disconnection. Labyrinth seal elements mounted in spacer plates are alternated with sheet metal shim pack heat transfer material in segments between the stiffeners, received in grooves in the inner face of the rims. Circumferential keepers fitted in slots in the shim pack and spacers hold these parts aligned.

3,435,889
HEAT PIPES FOR NON-WETTING FLUIDS
Walter B. Bienert, Baltimore, Md., assignor to Martin-Marietta Corporation, New York, N.Y., a corporation of Maryland
Filed Apr. 25, 1966, Ser. No. 545,404
Int. Cl. F28d *15/00*
U.S. Cl. 165—105 **5 Claims**



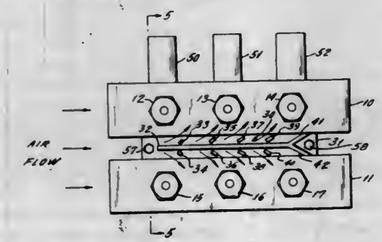
The concept of heat pipes is a fairly recent development and a heat pipe may be considered as a structure of high thermal conductivity. A mass flow of a liquid is achieved inside a closed container by means of capillary action and heat is transported from one point to the other in the form of latent heat of vaporization. The useful temperature range of a heat pipe depends upon the vapor pressure of the working fluid. The prior art devices in their simplest form consisted of a sealed containment vessel, a wick material in contact with the vessel walls, a working fluid that fills the wick, and a space containing the vapor of the working fluid. One end of the pipe may be considered the evaporator which is adapted to be placed adjacent a heat source while the other end of the pipe is considered a condenser. At the evaporator, the liquid absorbs heat while it is boiled out of the wick into the vapor space. The vapor than flows to the condenser end of the pipe where the heat is removed from the vapor by condensation on the wick which in turn transports the liquid back to the evaporator. The heat pipe is capable of transporting large heat fluxes with very small temperature gradients. Effective thermoconductivities several hundred times that of copper have been measured.

3,435,890
HEAT EXCHANGER
Wolfgang Junkermann, Oberhausen, Rhineland, Germany, assignor to Babcock & Wilcox Limited, London, England, a company of Great Britain
Filed Apr. 22, 1966, Ser. No. 544,491
Int. Cl. F28f *9/22*
U.S. Cl. 165—145 **9 Claims**



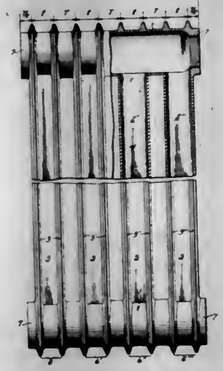
1. In a heat exchanger arranged for disposition within an annular fluid flow passage and comprising a plurality of tubular heat exchange sections disposed in said passage, each of which substantially fills a sector-shaped portion of said annular passage and includes an inlet header extending through said passage in a direction radial thereto, a plurality of multi-looped tubular heat exchange elements connnected with said header and arranged in equally spaced parallel planes perpendicular to said radial direction, each element being wider than the element inwardly adjacent thereto to an extent determined by the distance between the elements, whereby the outer extremities of the elements are aligned in intersecting planes so as to form a sector-shaped heat exchanger section.

3,435,891
AIR FLOW BAFFLE FOR RECTIFIER HEAT EXCHANGER
Frank W. Parrish, El Segundo, Calif., assignor to International Rectifier Corporation, El Segundo, Calif., a corporation of California
Filed Mar. 23, 1967, Ser. No. 625,385
Int. Cl. F28f *3/00, 9/22*
U.S. Cl. 165—121 **3 Claims**



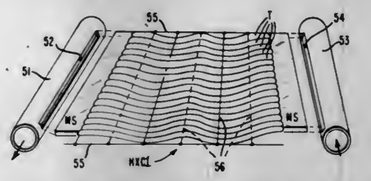
An air baffle positioned in the "air shunt" space between two forced cooled heat exchangers has baffles which direct air away from the path between the heat exchangers and into the surfaces of the heat exchangers. The baffle is made of insulation material and has baffles of progressively longer lengths to redirect air from the air shunt path over the full length of the heat exchangers.

3,435,892
THERMOSYPHONIC RADIATOR
Günter Schöll, 21A Mulbergerstrasse, 73, Esslingen, Germany
Filed May 31, 1967, Ser. No. 642,511
Claims priority, application Germany, June 3, 1966, Sch 39,065
Int. Cl. F28f *1/16*
U.S. Cl. 165—131 **4 Claims**



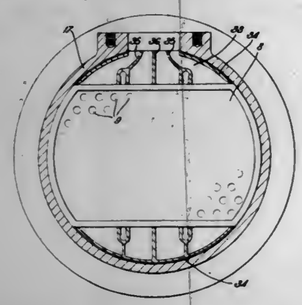
A cast one-piece radiator element of the highest thermal efficiency and minimum dimensions with a single row of vertical channels connecting an upper and lower header, wherein each channel is provided with a pair of diametrically opposite heat-transmitting ribs defining therewith a substantially H-shaped profile.

3,435,893
HEAT EXCHANGER COMPONENT FORMED WITH FLEXIBLE PLASTIC TUBES
Michael S. Withers, Landenberg, Pa., assignor to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware
Filed July 31, 1967, Ser. No. 657,380
Int. Cl. F28f *21/06, 9/02*; F28d *7/02*
U.S. Cl. 165—158 **13 Claims**



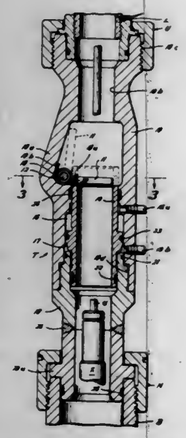
An assemblable component suitable for heat exchange, or heat transfer, comprising a plurality of elongated flexible plastic tubular elements arranged in a substantially flat laterally disposed single layer side-by-side array, said tubular elements of at least one portion of the component having their laterally adjacent portions physically united to each other to form a single integral molded structure extending transversely of said array, said molded structure having passageways of a particular transverse cross-section extending therethrough, each communicating with the interior of a tube element at at least one end of the molded structure, the molded structure having a particular configuration to permit stacking or windup to produce multi-layer units. Also involved is an improved manufacturing arrangement for producing the simplified easily assemblable components.

3,435,894
HEAT EXCHANGERS
Herbert F. Maddocks, 26 Garth Drive, Liverpool Road, Chester, England
Filed Oct. 31, 1966, Ser. No. 590,874
Claims priority, application Great Britain, Nov. 3, 1965, 46,689/65
Int. Cl. F28f *3/08, 1/02*
U.S. Cl. 165—167 17 Claims



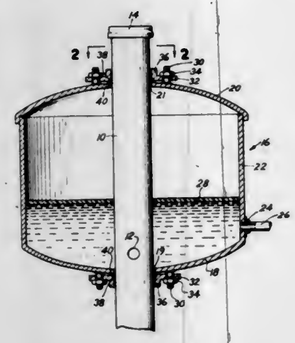
A heat exchanger assembly comprising a plurality of heat-exchanger elements, each element being of boxlike configuration having opposed parallel walls between which extend a plurality of tubular members constituting fluid passages, the rim or peripheral portions of the elements being laterally enlarged, so that when assembled in face to face relation, the rim portions only of the elements are in contact, and flow chambers communicating with the tubular members are provided between the parallel walls of the elements to permit circulation of one fluid through the tubular members of the several elements. The perimeter of the elements is open at two opposed portions to permit insulation of a second fluid through the elements and over the tubular members, other portons of the perimeter of the elements being closed.

3,435,895
AUTOMATIC WIRELINE TOOL TRAP ASSEMBLY
William T. Lee, Magnolia, Tex., assignor to Bowen Tools, Inc., a corporation of Texas
Filed Oct. 2, 1967, Ser. No. 672,333
Int. Cl. E21b *33/02, 33/05*
U.S. Cl. 166—75 8 Claims



An automatic wireline tool trap assembly having a hinged or pivoted gate contained within a central opening of a tubular housing wherein the gate is spring biased to extend at substantially right angles to the axis of the tubular housing to partially close off its central opening to prevent well tools from dropping therebelow while permitting movement of a wireline therethrough under normal operations. A hydraulically actuated mechanism is adapted to move the gate to an open position against he action of the spring mechanism so that a tool may be lowered on the wireline below the gate for well operations. The tool trap thus serves to catch or trap a well tool which may become separated from its wireline during removal thereof at the lubricator or other wellhead apparatus, whereby loss of the well tool down the well is avoided.

3,435,896
WELL CASING SUPPORTED WATER STORAGE TANK
Clifford C. Williams, Box 681, Joliet, Ill. 60434
Filed May 8, 1967, Ser. No. 636,936
Int. Cl. E21b *33/03;* E03b *11/02;* F16l *5/02*
U.S. Cl. 166—88 5 Claims

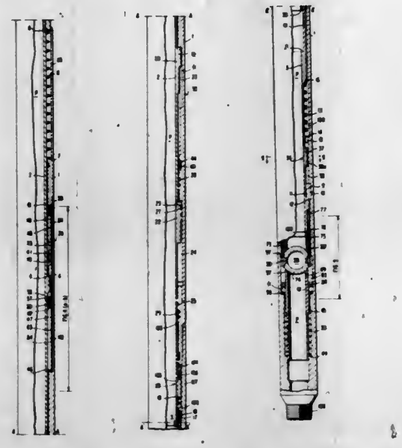


A well casing supported water storage tank having upper and lower openings receiving a well casing and upper and lower compression fittings with casing encircling gaskets, compression rings and tightening means for effecting seals at both tank openings and for supporting the tank and its contents at selected elevation on the well casing communicating with a discharge opening in the casing.

3,435,897
WELL TOOL WITH HYDRAULIC IMPEDANCE MECHANISM AND ROTARY BALL VALVE
Burchus Q. Barrington, Duncan, Okla., assignor to Halliburton Company, Duncan, Okla., a corporation of Delaware
Filed Dec. 23, 1966, Ser. No. 604,209
Int. Cl. E21b *43/12;* F16k *31/12, 31/46*
U.S. Cl. 166—226 10 Claims

A well tool including a tubular body and two longitudinally displaced conduits mounted for individual telescoping movement therewithin. The lowermost inner tubular conduit supports a rotary valve. The uppermost tubular conduit, which serves to transmit actuating force to the rotary valve, is connected to the outer tubular members by an hydraulic coupling. This hydraulic coupling impedes, without preventing, movement of the valve actuating conduit. The two inner conduits are telescopingly interconnected and an annular bypass passage extends between the outer conduit and the telescopingly inter-connected inner conduits. A slide valve defined by portions of the outer conduit and the valve actuating conduit serves to control fluid flow through this bypass passage. A lug and slot control mechanism is provided to

control movement of the valve actuating conduit relative to the outer conduit to insure that either the bypass valve



or the rotary valve is placed in an open position in response to movement of the actuating conduit.

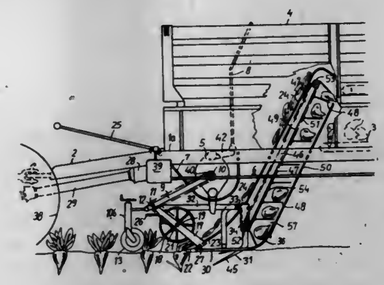
3,435,898
WATER FLOOD METHOD WITH OIL SOLUBLE SURFACTANT
James L. Thompson, Tulsa, Okla., assignor to Sinclair Research, Inc., a corporation of Delaware
No Drawing. Filed May 22, 1967, Ser. No. 640,398
Int. Cl. E21b *43/16, 43/20*
U.S. Cl. 166—274 19 Claims

A water flood method for the secondary recovery of crude oil from an underground formation containing the same comprising injecting into the formation from an input well area a hydrocarbon solvent containing about 0.001 to 5% of an oil soluble, substantially water insoluble surface active agent selected from the group consisting of alkyl and aralkyl polyoxyethylene phosphate ester and diester acids of the type $R—OPO_3H_2$ and $(R—O)_2PO_2H$ wherein R is an alkyl of about 8 to 27 carbon atoms and alkylphenyl, modified with about 1 to 40 moles ethylene oxide, and the alkaline earth metal or alkali metal salts of such agents, in an amount sufficient to produce a slug thereof in the reservoir, and subsequently injecting into the formation an aqueous medium to drive the hydrocarbon towards an output well, and recovering the crude oil from the output well. The solvent can also be recovered. The solvent can be injected in an amount less than about 0.45% pore volume to improve the water injectivity of the system.

3,435,899
DELAYED GELLING OF SODIUM SILICATE AND USE THEREFOR
Homer C. McLaughlin and Joseph Ramos, Duncan, Okla., assignors to Halliburton Company, Duncan, Okla., a corporation of Delaware
No Drawing. Filed Apr. 24, 1967, Ser. No. 632,929
Int. Cl. E21b *33/13*
U.S. Cl. 166—292 22 Claims

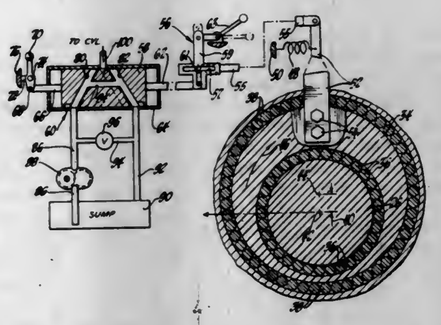
A liquid sealing composition having a delayed gel time is formed by adding to a sodium silicate solution, a complexed polyvalent metal. Slow release of the polyvalent metal ion from the complex results in a delayed setting or gelling of the sodium silicate solution. Release of the polyvalent metal ion may be achieved by use of a material which will destroy the complex so that polyvalent metal ion is liberated at the desired time. Release of the polyvalent ion may also slowly occur from some complexes without the necessity of adding a complex destroyer.

3,435,900
SELF-LOADING WAGON TO HARVEST SUGAR BEETS
Ernst Welchel, 1 Bohnhofstrasse, 7326 Heiningen, Kreis Goppingen, Germany
Filed Oct. 22, 1965, Ser. No. 504,293
Claims priority, application Germany, Oct. 24, 1964, W 37,837
Int. Cl. A01d *27/02, 87/04;* B60p *1/38*
U.S. Cl. 171—101 6 Claims



A harvesting device for root crops planted in parallel rows is formed of a self-loading truck containing a loading chamber divided into two compartments. Means are provided on the undercarriage of the truck for severing the head portions from the root portions of the crop and for uprooting the root portions. Conveyors pass the head portions into one of the compartments and the root portions into the other compartment. The severing means and the uprooting means are adjustably positioned on the undercarriage for establishing their height above ground level, and the uprooting means is arranged to operate sequentially after the severing means.

3,435,901
TRACTOR-IMPLEMENT HITCH SYSTEM
Milton C. Bennett and Joseph A. Kulhavy, Racine, Wis., assignors to J. I. Case Company, Racine, Wis., a corporation of Wisconsin
Filed Oct. 7, 1965, Ser. No. 493,766
Int. Cl. A01b *63/112*
U.S. Cl. 172—9 6 Claims



An automatic draft and position control means for a

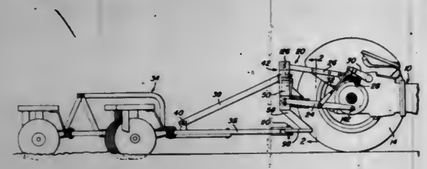
tractor wherein the sensing element is a shaft eccentrically mounted in the tractor body for rotation about one axis and is also mounted for rotation about its own axis. The draft arms of the tractor are rigidly secured to the shaft.

3,435,902

TRACTOR HITCH FOR DRAFT IMPLEMENT

Henry Folkerts, R. Rte. 1, Outlook, Wash. 98938

Filed Jan. 17, 1967, Ser. No. 609,960
Int. Cl. A01b *63/11*; B60d *1/02*
U.S. Cl. 172—239 10 Claims



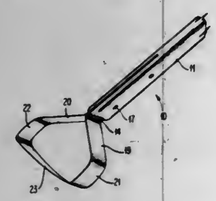
An implement hitch for a tractor including a pair of rearwardly projecting and upwardly swingable hitch lift arms and operative to support a portion of the weight of an associated draft implement in cantilever fashion behind a tractor in response to increased drag on the tractor by the draft implement so as to automatically more heavily load the rear wheels of the tractor and thereby increase their tractive power.

3,435,903

PULL HOE

Lewis B. Sherrod, Jr., Bowman Mill Road, Rte. 1, Lexington, Ky. 40503

Filed Mar. 29, 1967, Ser. No. 626,811
Int. Cl. A01b *1/08*
U.S. Cl. 172—376 10 Claims



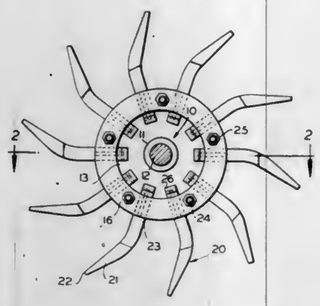
A pull hoe comprises a handle and a strip of sheet metal. The strip of sheet metal is formed to have support portions, which are substantially parallel to the handle and attached thereto, and first arms extending forwardly from the support portions. The first arms also extend outwardly and upwardly away from the support portions. The strip has second arms extending from the forward ends of the first arms at an angle to the first arms and substantially parallel to the support portions. A concave curved blade connects the forward ends of the second arms. The first arms and the second arms are inclined from their bottom edges to their top edges so that the opening at the bottom of the strip is larger than the opening at the top the strip. A plane through the longitudinal axis of the handle intersects the entire length of each part of the strip.

3,435,904

ROTARY CULTIVATOR

Russell E. Rice, Stockton, Calif., assignor to International Harvester Company, Chicago, Ill., a corporation of Delaware

Filed July 5, 1966, Ser. No. 562,728
Int. Cl. A01b *23/02*, *21/02*
U.S. Cl. 172—556 4 Claims



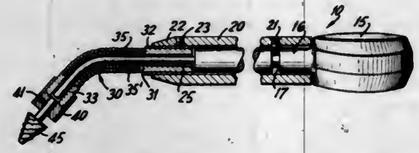
An agricultural implement of the rotary hoe type, having adjustable and replaceable teeth for breaking up, loosening and cultivating the soil.

3,435,905

TOOL AND METHOD OF MANUFACTURING THE SAME

Harry J. Lazarus, Teaneck, N.J., assignor to Lazarus and Peyser Associates, Teaneck, N.J., a limited partnership

Filed Mar. 29, 1966, Ser. No. 538,397
Int. Cl. A61c *1/02*, *3/02*
U.S. Cl. 173—163 12 Claims



An angle drive tool includes a stationary guide having a bendable outer end portion and a bearing portion and a driving member rotatable on the bearing portion. A flexible sleeve laterally surrounds the bendable outer end portion of the stationary guide and is connected to the driving member. This sleeve extends longitudinally around any bends in the outer end portion of the guide. Tool mounting means are secured to the other end of the flexible sleeve. A palm grip is secured to the bearing portion of the guide and projects outwardly beyond the driving member.

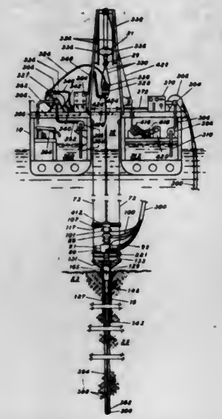
3,435,906

METHOD AND APPARATUS FOR OFFSHORE DEEP DRILLING FROM A FLOATING PLATFORM

Kingsley M. Nicolson, Santa Barbara, Calif., assignor to Chevron Research Company, San Francisco, Calif., a corporation of Delaware

Continuation-in-part of application Ser. No. 631,715, Dec. 31, 1956. This application Aug. 24, 1967, Ser. No. 663,080
Int. Cl. E21b *15/02*, *3/08*
U.S. Cl. 175—7 9 Claims

A continuous length of drill pipe wound on a reel is used for drilling and working in an offshore well from a floating vessel through a submerged wellhead affixed in a vertical position on the underwater bottom. The drill pipe passes from the reel through a pipe straightener and thence through a gripper hung from the hook on the traveling block in a derrick. The gripper is operated independently of the drawworks operated hook to lower and raise drill pipe in a continuous manner from the vessel into and out of the well bore. The position of the traveling block and hook in the derrick, and hence the



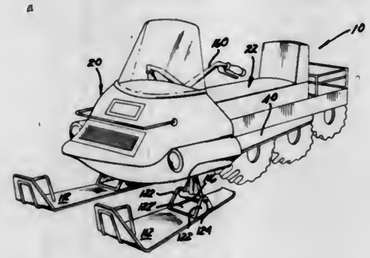
corresponding position of the gripper, is governed by a constant weight control in the drawworks to compensate for vertical relative motion of the vessel. The drill pipe has concentric pipe passages throughout its length, one to conduct drilling fluid to a downhole fluid motor which drives the drill bit and the other to return exhausted drilling fluid and cuttings from a pump at the bottom of the well to the surface.

3,435,907

VEHICLES FOR TRAVELLING OVER VARIOUS TYPES OF TERRAIN

Lee A. Imhoff, Lakeview, Mich., assignor to New Frontier Corporation, Grand Rapids, Mich., a corporation of Michigan

Filed Jan. 12, 1967, Ser. No. 608,832
Int. Cl. B62m *27/02*
U.S. Cl. 180—5 5 Claims



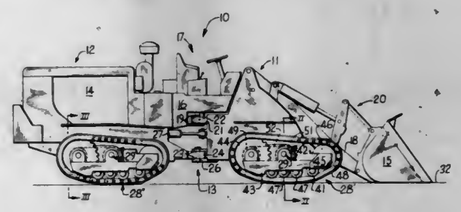
A vehicle with steerable front wheels or runners and tandem axle rear support and propulsion means including at least three tandem axle and wheel units, the front most one having its lower portion slightly above the second one, and its rear, and preferably the rear most of three being also elevated slightly above the second one. The vehicle also has a novel snow removal access construction and a novel interchangeable ski and wheel feature on the front end.

3,435,908

ARTICULATED CRAWLER TRACTOR CONSTRUCTION

Donald Edward Sunderlin, Washington, and Jacob Emor Staab and Dorrance Oldenburg, Peoria, Ill., assignors to Caterpillar Tractor Co., Peoria, Ill., a corporation of California

Filed Mar. 1, 1967, Ser. No. 619,676
Int. Cl. B62d *55/00*; E02f *3/76*
U.S. Cl. 180—9.44 13 Claims



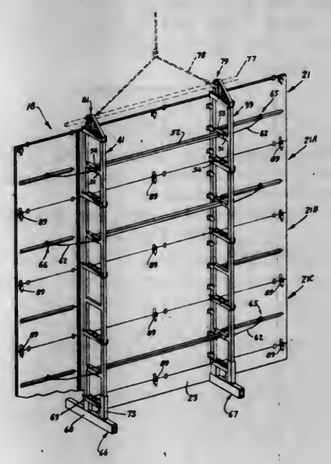
A tractor body rides on four separate powered track assemblies and is articulated at the mid-point between the front and rear sets of tracks. Each of the four track assemblies is free to oscillate independently about an axis transverse to the tractor and the rear pair of tracks may also oscillate about a longitudinal axis. The construction provides more constant traction, reduced stress concentration, and greater riding stability, particularly where a forward mounted working implement such as a loader bucket is combined with the tractor body.

3,435,909

SOUND REFLECTING STRUCTURE

Jerry A. Wenger, Owatonna, and Harvey M. Urch, West Concord, Minn., assignors to Wenger Corporation, Owatonna, Minn., a corporation of Minnesota

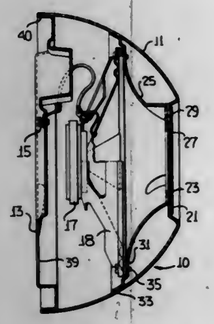
Filed Oct. 23, 1965, Ser. No. 503,020
Int. Cl. E04b *1/99*
U.S. Cl. 181—30 13 Claims



An acoustical tower having a plurality of identical panel units located in side-by-side relation in a generally upright plane. Frame assemblies are pivotally mounted on the back side of each panel to support the tower. The frame assemblies have cooperating structures for securing adjacent portions of the frame assemblies together to build the tower. The relative positions of the frame assemblies are held by a strut which extends between adjacent frame as-

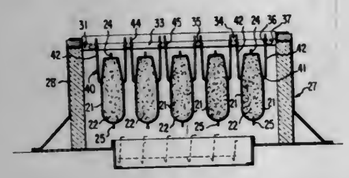
semblies. The lower frame asemblies are mounted on a support adapted to receive caster hoists used to raise the frame assemblies and panels so that they can be moved to a new location.

3,435,910
SEMISPHERICAL LOUDSPEAKER
Uolevi L. Lahti, 909 Sunset Road, Ann Arbor, Mich. 48103
Filed Nov. 22, 1967, Ser. No. 685,043
Int. Cl. G10k *13/00*; H04r *7/16*
U.S. Cl. 181—31 15 Claims



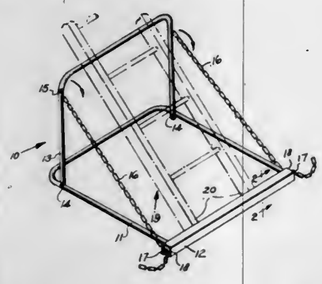
A loudspeaker system comprising a loudspeaker having its basket secured to and its cone acoustically coupled to an inverted exponential horn. The horn is mounted on the concave wall of a semispherical enclosure, the wall having an aperture defined therethrough which is slightly larger than the small opening of the horn, the latter being defined by a sharp edge which spreads the acoustic pattern provided by the horn. A high frequency horn having a rim of about the same size as the small horn opening may be mounted at the apex of the first mentioned diaphragm, whereby the high frequencies transduced by the high frequency diaphragm are radiated through the wall aperture with acoustic spreading due to the sharp edge. The exponential horn provides a rigidifying strut for the enclosure, which is fabricated of thin plastic.

3,435,911
ACOUSTIC CURB
Robert C. Greenheck, Schofield, Wis., assignor to Greenheck Fan & Ventilator Corp., Schofield, Wis., a corporation of Wisconsin
Filed Nov. 14, 1966, Ser. No. 593,848
Int. Cl. F01n *1/10*
U.S. Cl. 181—50 5 Claims



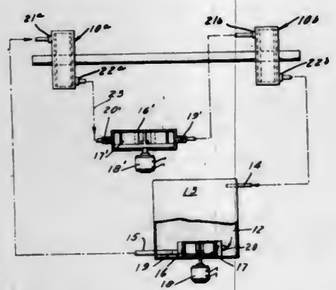
1. An acoustic curb for a fan comprising a curb body having an inlet and an outlet and having opposed side walls, a pair of upwardly extending support flanges disposed along the upper portions of the inner faces of a pair of opposed side walls, each flange having a series of open-ended slots predeterminedly spaced therealong, a plurality of suspended baffles, each baffle having high sound absorption characteristics and being substantially in the form of an elongated panel having end plates, resilient members attached to the end plates of each panel and removably interlocked in their respective open-ended slots, said plurality of baffles being suspended within said curb to define uninterrupted substantially straight flow paths between said inlet and outlet.

3,435,912
LADDER SAFETY SUPPORT
Richard R. Scherer, 2158 64th St. S., White Bear Lake, Minn. 55110
Filed Oct. 16, 1967, Ser. No. 675,594
Int. Cl. A64b *1/42*
U.S. Cl. 182—107 4 Claims



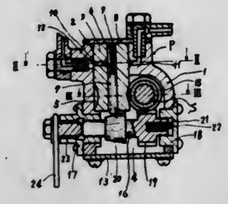
A safety device for ladders that prevents the danger of a ladder slipping when in use. This device is equipped with a collapsible frame portion having a U-shaped tubular member at the base which is closed off by a U-shaped channel member against which the bottom of the ladder may rest, a second U-shaped member is inverted and pivotably connected to the bottom U-shaped member and resting the lower portion of the ladder when the ladder is placed against a wall, and chain members secured to the structure of the device to prevent the over-extending of the U-shaped member on the underside of the ladder at its lower portion.

3,435,913
HIGH-SPEED BEARING LUBRICATOR
George J. Driver, Jr., 1265 Crestridge Place, Anaheim, Calif. 92805
Filed July 12, 1965, Ser. No. 471,350
Int. Cl. F16n *17/06*; F01m *1/00*
U.S. Cl. 184—6 6 Claims



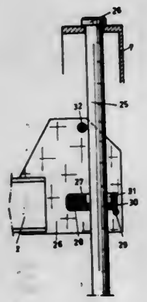
A high-speed bearing lubricator which includes a closed system for circulating solid lubricant particles in a gas carrier to a sealed housing for the bearing, the carrier and lubricant being delivered from a pump under positive pressure to an inlet of the bearing housing and returned to the pump by a suction pressure applied to an outlet of the bearing housing, a closed mixing container being interposed in the return line which is connected at the top of the container for mixing and agitating the carrier and particles prior to reaching the inlet of the pump which is contained within the container and has its inlet at the bottom thereof. Where several bearings are lubricated in series, pumping means are placed in flow paths between the successive bearings so as to apply pressure to the inlet side of the bearing housing and suction to the outlet side of each bearing housing.

3,435,914
OIL PUMP FOR AN ENGINE
Kunio Atsumi, Hamamatsu, Japan, assignor to Suzuki Jidosha Kogyo Kabushiki Kaisha (trade name: Suzuki Motor Co., Ltd.), Hamana-gun, Shizuoka Prefecture, Japan, a corporation of Japan
Filed Oct. 24, 1966, Ser. No. 589,015
Claims priority, application Japan, Oct. 28, 1965, 40/87,665
Int. Cl. F01m *1/02*; F16n *7/36*; F04d *15/00*
U.S. Cl. 184—6 4 Claims



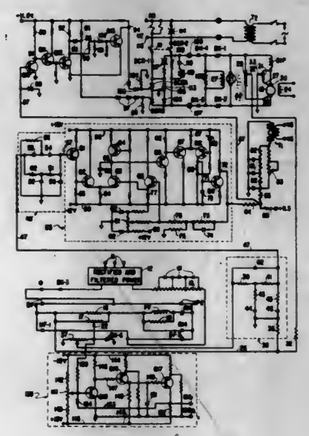
Oil pump in which the oil distributor is driven by a pump shaft interlocked with the engine and said pump shaft drives simultaneously a camshaft synchronized therewith. The cam carried by said camshaft is in contact with a plunger which extends into the cylinder chamber of said oil distributor. The oil is supplied by sliding said plunger and successively connecting the oil hole communicating with said cylinder chamber to the suction and discharge holes surrounding the distributor through rotation of said distributor. The profile of the cam changes in the axial direction in dependence on the relation between the contact position of said cam and said plunger and the opening of the engine throttle.

3,435,915
LIFTING INSTALLATION
Julio Villars, 1290 Versoix, Switzerland
Filed Jan. 31, 1967, Ser. No. 612,853
Claims priority, application Switzerland, May 5, 1966, 6,552/66
Int. Cl. B66f *7/00*; B60s *13/00*; F16b *7/10*
U.S. Cl. 187—8.47 4 Claims



This disclosure concerns a lifting appliance comprising lifting and lowering means including a plurality of flexible cables which are anchored at the top of corresponding supporting columns dispersed about said moving means and which have vertical runs down the respective columns and around pulleys on the moving means to power drive means independent of the moving means and comprising safe failure means operative if a cable becomes slack or breaks, formed by vertical rods on the columns; the horizontal pivoted locking plate loosely threaded on each rod and a support for each locking plate which is mounted on the moving means and normally holds the plate horizontal so that the rod can travel freely therethrough and which tilts when the support is removed by tilting the moving means so as to grip the respective vertical rod.

3,435,916
ELEVATOR MOTOR SPEED CONTROL INCLUDING A HIGH GAIN FORWARD LOOP AND LAG-LEAD COMPENSATION
Robert E. Bell, Donivan L. Hall, and Richard C. Loshbough, Toledo, Ohio, assignors, by mesne assignments, to The Reliance Electric and Engineering Company, Cleveland, Ohio, a corporation of Ohio
Filed June 4, 1964, Ser. No. 373,136
Int. Cl. B66b *1/00*
U.S. Cl. 187—29 4 Claims

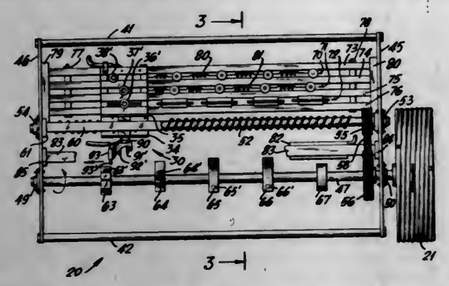


A variable voltage elevator hoist motor speed control having a direct current generator and negative feedback loop including a high gain amplifier operating upon a speed error signal developed from the difference between a commanded hoist motor speed and actual hoist motor speed. The imperfect regulatory characteristics internal to the motor, generator and interconnecting circuits from the effects of unbalanced loads and component imperfections, such as nonlinearities, response to temperature variations and hysteresis, are suppressed to a negligible value by the high gain amplifier and an external independent phase and gain compensation network such that the speed error signal is forced to a negligibly small value and ideally to zero.

3,435,917
TOP OF CAR SELECTOR FOR USE IN AN ELEVATOR CONTROL SYSTEM
Stephen A. Hornung, Louisville, and Buckley Reed, Valley Station, Ky., assignors to K. M. White Company, Louisville, Ky., a corporation of Kentucky
Filed May 4, 1965, Ser. No. 453,108
Int. Cl. B66b *1/00*
U.S. Cl. 187—29 15 Claims

A selector apparatus for an elevator control system mounted on the top of the elevator car and includes an elevator displacement-related carriage having first and

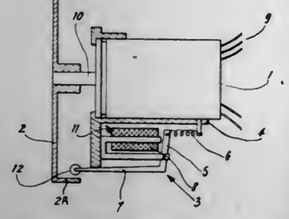
second mutually perpendicular rows of circuit controlling elements which are advanced and retrograded, within a frame, dependent upon the movement of the car. The first set of circuit controlling elements is engaged by angularly displacing cams responsive to the movement of the car, and the second set of circuit controlling elements is linearly related to associated circuit control means. The high differential in car movement response between the first and second associated sets of circuit controlling elements and control means permits the same instrumentality to control car speed and dead-zone levelling.



3,435,918
DEVICE FOR INCREASING SENSITIVITY DAMPING

Pierre André Chombard, Boulogne, France, assignor to Societe Francaise d'Equipements pour la Navigation Aerienne, Neuilly-sur-Seine, Hauts-de-Seine, France, a joint-stock company of France

Filed Mar. 27, 1967, Ser. No. 626,112
Claims priority, application France, Mar. 29, 1966, 55,517
Int. Cl. F16d *63/00*
U.S. Cl. 188—1 **9 Claims**



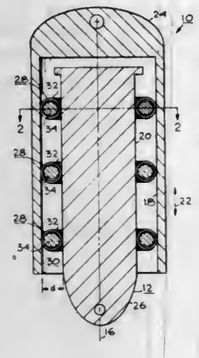
A device for improving sensitivity and damping, adaptable to an indicating instrument provided with a moving member, characterized in that a striker coupled to a fixed portion and actuated periodically by an appropriate means, is provided so as to strike the said moving member, the striker being spaced apart from said moving member when the striker is in the position of rest, whereby the mechanical shocks produced by the striker effectively reduce the contact forces of the moving member and at the same time cause damping of the said member by creating as many transitory frictions as there are shocks applied.

3,435,919
ENERGY ABSORBING ARRANGEMENT

Ronald C. Gularte, Los Angeles, and David L. Platus, Covina, Calif., assignors to Mechanics Research, Inc., a corporation of California

Filed Apr. 3, 1967, Ser. No. 628,000
Int. Cl. F16d *63/00;* **B62d** *1/16*
U.S. Cl. 188—1 **11 Claims**

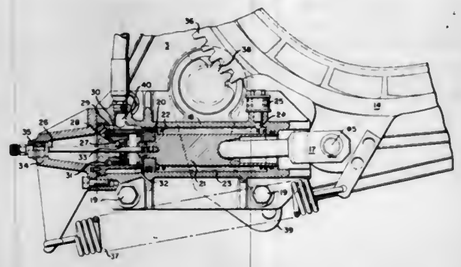
There is disclosed herein an energy absorbing arrangement in which a flexible toroidal-like, energy absorbing member is confined in the annular space between an inner, cylindrical body member and an outer tube-like body member. Relative motion between the inner body member and the outer body member roll the toroidal-like member in the annular space, and thereby absorbs energy in the rolling due to the cyclical plastic deformation or hysteretic deformation thereof, since the annular spacing between the inner body member and the outer body member is less than the unstressed and undeformed diameter of the flexible, toroidal-like member. A nondeformable rigid cylindrical retainer means may be positioned within the flexible, toroidal-like member to limit the radial deformation thereof to prevent stress relieving plastic flow or creep of the flexible toroidal-like energy absorbing member.



3,435,920
SPREADING-TYPE DISC BRAKE INCLUDING ADJUSTOR AND ACTUATOR THEREFOR

Hermann Klaue, Ave. des Planches 3, Montreux, Switzerland

Continuation of application Ser. No. 559,441, June 22, 1966. This application Feb. 1, 1968, Ser. No. 702,484
Int. Cl. F16d *55/00, 65/38, 11/06*
U.S. Cl. 188—72 **12 Claims**

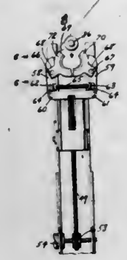


A disc brake having a rotatable drum of generally U-shaped and outwardly opening cross-section and including disc members between the legs of the U and operable to cause brake engagement by limited rotational movement of a drive band also located in the opening between the legs of the U. The drive band is actuated by a link connected directly thereto and movable in a plane perpendicular to the axis of the brake. The link may be operated by either a hydraulic cylinder or a direct mechanical connection. A wear takeup device may be located in the hydraulic cylinder to adjust piston travel to make up for wear at the frictional brake surfaces.

3,435,921
CLOTH LAYING MACHINE FOR KNIT GOODS

Edward M. Merrill, North Bellmore, N.Y., assignor to Cutting Room Appliances Corp., New York, N.Y.

Original application Aug. 5, 1965, Ser. No. 477,372, now Patent No. 3,345,062, dated Oct. 3, 1967. Divided and this application June 27, 1967, Ser. No. 649,305
Int. Cl. F16d *51/00;* **B65h** *59/10;* **B60t** *13/04*
U.S. Cl. 188—75 **4 Claims**

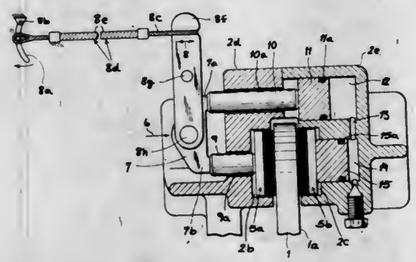


A cloth laying machine for tubular knit goods including a rectangularly-shaped divider element adapted to be disposed within the tub of said knit goods, and having parallel side edges maintained against an aligning surface by magnetic means. Means is also provided for laterally shifting the cloth web source to maintain one edge of the same in alignment with the aligned edge of the divider element.

3,435,922
HYDRAULIC DISK BRAKE WITH AUXILIARY BRAKE-OPERATING MECHANISM OPERABLE FROM ONE SIDE OF THE DISK

Leopold Franz Schmid, Stuttgart, Germany, assignor to Alfred Teves G.m.b.H., Frankfurt am Main, Germany, a corporation of Germany

Continuation-in-part of application Ser. No. 567,740, July 25, 1966. This application Dec. 20, 1967, Ser. No. 692,175
Claims priority, application Germany, Dec. 28, 1966, T 32,873
Int. Cl. F16d *65/14, 55/00;* **B60t** *11/10*
U.S. Cl. 188—106 **14 Claims**

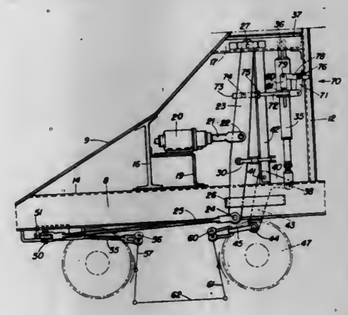


A disk-brake assembly having auxiliary brake actuating means for emergency, parking or locking purposes and mechanically operated by a Bowden line from the operator's seat of the vahicle in which the housing is provided with, in addition to main wheelbrake pistons which urge respective brakeshoes against the disk, a pair of auxiliary pistons in respective auxiliary cylinders whose axes are parallel to the axes of the main pistons and cylinders and which are connected by a fluid passage behind the auxiliary pistons while a plunger is operated from one side of the disk by the Bowden cable to increase the pressure behind the auxiliary pistons and urge at least one of them in the direction of the disk to apply a brakeshoe thereagainst. The plunger thus acts as a servo-master which can operate one or both auxiliary pistons as servo followers. Preferably, each auxiliary piston urges a respective brakeshoe against the disk directly or via force-transmitting means.

3,435,923
BRAKING ARRANGEMENT FOR RAILWAY HOPPER CARS

Henry R. Billeter, Deerfield, Ill., assignor to Sloan Valve Company, Chicago, Ill., a corporation of Illinois

Filed July 6, 1967, Ser. No. 651,439
Int. Cl. F16d *65/52;* **B61h** *13/00*
U.S. Cl. 188—197 **14 Claims**

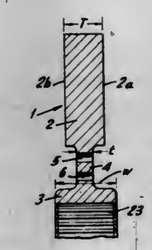


A hopper car with a separate slack adjuster and brake cylinder arranged on each end of the car, the slack adjuster being pivoted perpendicularly on the car frame and to the brake cylinder. The brake linkage extends from a vertical cylinder lever on one side of the truck and brakes, to the other side of the truck, to the slack adjuster. The full braking force is exerted upon the brakes, from one end of the linkage, and the slack adjuster controls for abnormal slack conditions at the other end of the linkage. A trigger connection extends between the cylinder lever and slack adjuster for controlling the latter.

3,435,924
DISK-BRAKE SYSTEM WITH FLOATING BRAKE DISK

Friedrich Beuchle, Frankfurt am Main, Germany, assignor to Alfred Teves K.G., Frankfurt am Main, Germany, a corporation of Germany

Filed Mar. 13, 1967, Ser. No. 622,718
Claims priority, application Germany, Apr. 30, 1966, T 31,071
Int. Cl. F16d *65/10, 11/00, 13/60*
U.S. Cl. 188—218 **2 Claims**



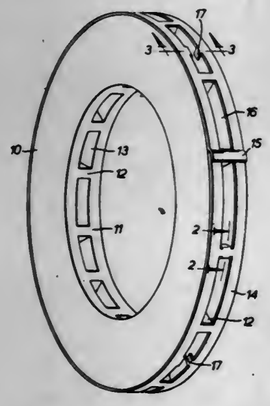
A brake disc for a disk-brake system which has a hub splined to the disk shaft; a relatively thin web connecting the hub to a relatively thick annular brake ring whose faces are engaged by the brakeshoes, and a plu-

rality of circular rows of angular equispaced through-going sectors, the rows being coaxial with one another and angularly staggered. The splines and grooves have flanks which lie parallel to the respective radial plane through the spline and groove.

3,435,925
BRAKE DISC AND VIBRATION DAMPING MEANS THEREFOR

Anthony W. Harrison, Birmingham, England, assignor to Girling Limited, Birmingham, England, a British company

Filed June 29, 1967, Ser. No. 650,059
Claims priority, application Great Britain, June 29, 1966, 29,166/66
Int. Cl. F16d *65/10, 11/00, 13/60*
U.S. Cl. 188—218 5 Claims

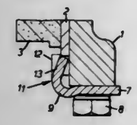


A ventilated disc for disc brakes having air passages extending substantially radially through it has mounted on its periphery a separate annular member which is permitted limited movement relative to the disc with the object of damping out vibrations in the disc.

3,435,926
DISC BRAKESHOE ASSEMBLIES

Ronald Lee, Tyseley, Birmingham, England, assignor to Girling Limited, Birmingham, England, a British company

Filed July 10, 1967, Ser. No. 652,213
Claims priority, application Great Britain, July 22, 1966, 33,183/66
Int. Cl. F16d *65/04, 69/00*
U.S. Cl. 188—242 3 Claims

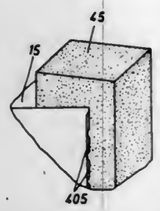


The invention provides a novel means for attaching a brake pad assembly to a brakeshoe in a manner which permits easy assembly and disassembly, and yet assures the proper location of the pad assembly. The said means comprises a spring keeper, which may be of L-shape cross-section, having one part attachable to the shoe, another part engageable with the pad assembly, and an intermediate part which is resiliently deformed on assembly so as to apply a spring force acting to hold the pad assembly in close engagement with the shoe.

3,435,927
FRICTION DISC BRAKE COMPRISING FRICTION PADS WITH LININGS OF SINTERED FRICTION MATERIAL

Ulrich Volker and Gunter Gerloff, Reinbek, and Heinz Haseloff, Glinde, Germany, assignors to Jurid Werke GmbH, Glinde, Reinbek, Germany

Filed Aug. 23, 1967, Ser. No. 662,706
Claims priority, application Germany, Aug. 23, 1966, J 31,604
Int. Cl. F16d *65/78*
U.S. Cl. 188—264 2 Claims

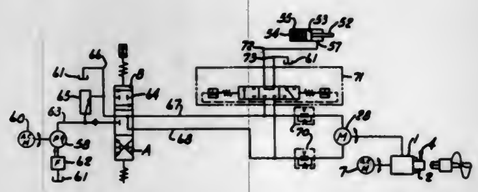


A caliper member of a hydraulically actuated disc brake system has a depression therein with a brake shoe seated in the depression. Heat-insulating liner members are disposed between the side surfaces of the brake shoe and the side walls of the depression, each of the liner members having at least one integral extension and being fixedly mounted on a side wall of the caliper by engagement of that extension with correspondingly formed parts of the caliper. Portions of the confronting faces of the liner members and the side walls of the caliper are spaced from each other by air gaps. Preferably, the liner members consist essentially of 20 to 40 percent by weight rock wool, 40 to 60 percent by weight asbestos, and 15 to 20 percent by weight phenolic resin.

3,435,928
AUXILIARY DRIVE UNIT TO ALIGN AUGER DRIVE SOCKET WITH AUGER PIN IN MINING ASSEMBLY

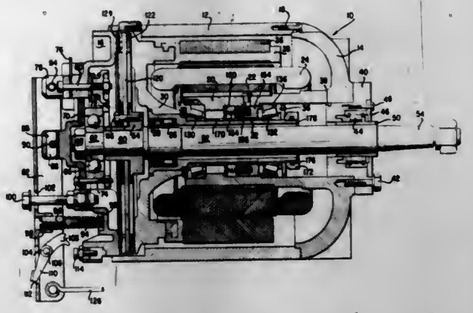
Frederick G. Horning, Salem, Ohio, assignor to The Salem Tool Company, Salem, Ohio, a corporation of Ohio

Filed Mar. 3, 1966, Ser. No. 531,544
Int. Cl. F16d *47/00*; E21c *1/00*; F16k *37/06*
U.S. Cl. 192—.096 9 Claims



An independent hydraulically operated auxiliary drive to automatically connect into a train of gears for operating an auger mining mechanism to preposition the auger drive socket by rotation for the insertion of an auger section. After inserting the auger pin in the socket a low cost high speed AC squirrel cage motor which is permanently connected through a friction clutch and gear train to the drive socket drives the auger mining mechanism with full line voltage starting characteristics. The rotary positioning of the auger socket is made possible by a manually reversible control fluid valve that determines the direction of flow and connects fluid supply lines, each of which has a flow control valve that includes a restriction in parallel with a check valve joined to the opposite sides of a fluid motor. An automatic fluid brake valve is connected to the supply lines ahead of the flow control valves. Either fluid line with pressure automatically actuates and opens the fluid brake valve to supply fluid pressure to actuate a piston in a cylinder that closes a clutch placing the fluid motor in the gear train of the auger mechanism drive. This is completed by the full supply line pressure and when the piston has completed its stroke the system pressure then overcomes the restriction of the flow control valve and the supply lines supply full pressure to the fluid motor to rotate the same until the auger socket or chuck has been turned and aligned to receive the awaiting auger stem. The auxiliary drive motor is then stopped by releasing the manually reversible control fluid valve which shuts off fluid pressure to the supply lines. The auger drive may then be fed forward to insert the auger pin in the auger drive socket and the AC squirrel cage motor started on full voltage to operate the auger mining mechanism.

axially fixed and the other resiliently positioned so that a predetermined running clearance may be maintained

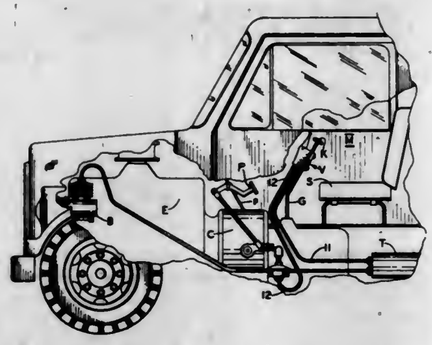


during operation of the motor, which clearance may be in the range of .001 to .003 inch.

3,435,929
PNEUMATIC CLUTCH RELEASE ON TRANSMISSION CONTROL

Gary M. Thompson, Rte. 1, Box 36, Omaha, Nebr. 68114

Filed Mar. 17, 1967, Ser. No. 623,884
Int. Cl. F16d *67/00, 21/00, 19/00*
U.S. Cl. 192—3.5 3 Claims



This invention relates to air-actuatable power-transmission clutches for motor vehicles, and in particular, this invention relates to a novel air valve component that is attached in a unique position along a manually-operated gear shift lever adjacent to the handle portion thereof whereby said air valve may be conveniently, accurately, and easily manually controlled by the motor vehicle operator's gear shifting hand.

3,435,930
TAPERED ROLLER BEARING ASSEMBLIES FOR ELECTRIC MOTORS

Walter J. Scheuerer, Califon, N.J., assignor to The Singer Company, New York, N.Y., a corporation of New Jersey

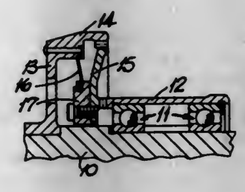
Filed May 25, 1967, Ser. No. 641,187
Int. Cl. F16d *11/06, 13/22, 67/02*
U.S. Cl. 192—18 4 Claims

This disclosure relates to a tapered roller bearing assembly for an electric motor. More particularly, the disclosure relates to a tapered roller bearing assembly including a pair of bearings cooperatively mounted between the shaft and the housing having one of the bearings

3,435,931
DRIVE COUPLINGS

James Deas Paterson, Middlesex, and Gerald George Sommerville, Wimbledon, London, England, assignors to Rotax Limited, London, England

Filed Mar. 6, 1967, Ser. No. 620,742
Int. Cl. F16d *11/00, 13/04, 23/00*
U.S. Cl. 192—46 2 Claims



A drive coupling for transmitting rotary motion comprising an input member and an output member and ratchet means interconnecting the input and output members, one part of said ratchet means being connected to one of the members by means of a hollow truncated conical part having two stable conditions, in one of which the ratchet means is engaged and in the other of which the ratchet means is disengaged, relative angular movement of the ratchet means serving to move the conical part to its other stable condition thereby to maintain the ratchet means out of engagement.

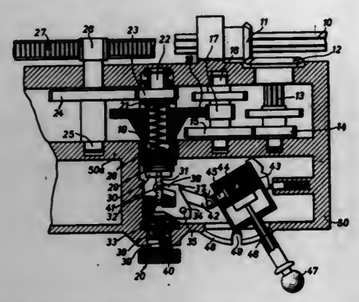
3,435,932
OVERLOAD CLUTCH FOR MACHINE TOOLS, PARTICULARLY LATHES

Max Anderes, Baar, Switzerland, assignor to Oerlikon Buhrle Holding Ltd., Zurich, Switzerland

Filed Mar. 16, 1967, Ser. No. 623,658
Claims priority, application Switzerland, Mar. 25, 1966, 4,380/66
Int. Cl. F16d *23/00, 7/02, 43/20*
U.S. Cl. 192—56 3 Claims

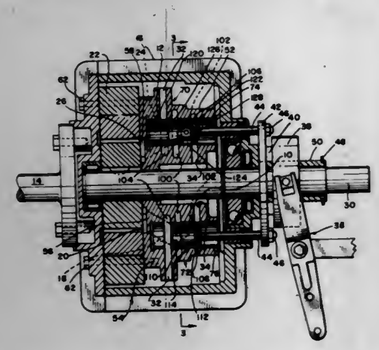
An overload clutch which comprises two clutch members pressed against one another by spring force through a toggle joint, which a bell-crank lever in the event of overloading, breaks sharply. The toggle joint is straight when the clutch is engaged. The clutch members have clutch faces which are inclined with respect to the direction of a movement to be transmitted by the clutch. These clutch faces produce, from the force to be transmitted by

the clutch, a component of force which counteracts the spring force and which, at a specific magnitude, causes



a pivoting of the bell-crank lever as a result of which the toggle joint sharply breaks and disengages the clutch.

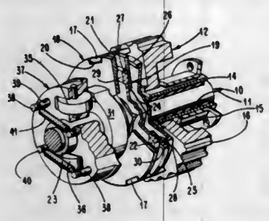
3,435,933
PUMP TYPE HYDRAULIC TRANSMISSION WITH INTERCHANGEABLE SPOOL VALVES
John R. Thomas, Wichita, Kans., assignor to The Thomas Company, Inc., Wichita, Kans., a corporation of Kansas
Filed Nov. 24, 1967, Ser. No. 685,612
Int. Cl. F16d *31/04, 31/06, 33/00*
U.S. Cl. 192—61 9 Claims



In a rotary-housing, hydrostatic, variable-power-transmitting, hydraulic mechanism, valve housings for spool valves, bores in the housings, and air, oil and pump-connecting grooves and ports are configured substantially identically, so that suction and discharge valve spools can be interchanged between bores to adjust the mechanism for direction of rotation of the driving shaft. The configuration of the spools and the bore grooves are related relative to various modes of operation to permit this interchangeability. A casting with a flange acts as a pump manifold and the casting has a pair of bosses diametrically opposed across the driven shaft, the bosses being bored to form the valve housings. The spool stems are directly connected to a shifter collar in the operating mechanism at one end of the rotary housing.

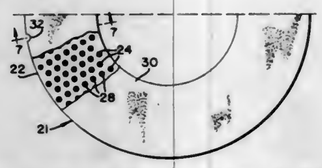
3,435,934
TORQUE AND ACCELERATION CONTROL CLUTCH
B. Todd Crutcher III and Ronald D. Dodge, Lexington, Ky., asisgnors to International Business Machines Corporation, Armonk, N.Y., a corporation of New York
Filed Apr. 10, 1967, Ser. No. 629,579
Int. Cl. F16d *19/00, 21/00, 23/00*
U.S. Cl. 192—93 15 Claims

A clutch comprising rotary driving and driven members with the members having cooperating friction members engaging with each other to cause the driving member to drive the driven member. A rotatable member, which is connected to the rotary driven member by springs, has a pair of diametrically disposed inclined surfaces cooperating with rollers on the driven member. When the rotatable member is permitted to rotate by a latching mechanism, the springs cause rotation of the



rotatable member relative to the driven member whereby cooperation between the rollers and the inclined surfaces causes axial movement of the rotatable member into engagement with one of the friction members on the rotary driving member. As a result, the friction members are moved into engagement with each other whereby acceleration control of the rotary driven member is obtained.

3,435,935
FRICTION PLATE WITH HEAT DISSIPATING MATERIAL
Charles P. Warman, Wichita Falls, Tex., assignor to Wichita Clutch Company, Inc., Wichita Falls, Tex.
Filed Sept. 19, 1966, Ser. No. 584,307
Int. Cl. F16d *13/60, 13/72, 65/84*
U.S. Cl. 192—107 8 Claims

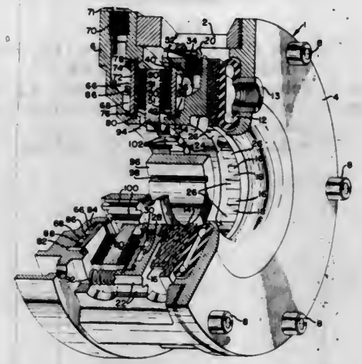


A brake or clutch wear plate in which a metal, such as steel, is used to provide the desired tensile strength and metal, such as wrought copper or sintered copper, is used to fill perforations in the wear plate of the clutch or brake to enable rapid dissipation of heat with the plate being cooled by a cooling fluid, such as water, so as to prevent warping of the wear plate and enable the wear plate to be operated at a relatively cool temperature, which minimizes wear thereon. Provision is made for bonding the sintered metal, such as copper, or wrought copper, to the base plate. Further provision is made for coating the base plate with a metal of high heat conductivity, such as copper, in sintered form or in the form of sheets of wrought metal which is also bonded to the metal inserts and to the base plate.

3,435,936
HEAT DISSIPATING CLUTCH OR BRAKE WITH A PERIPHERALLY PIVOTED PLANAR WEAR PLATE FOR EXPANSIVE MOVEMENT IN A CO-EXTENSIVE PLANE
Charles P. Warman, Wichita Falls, Tex., assignor to Wichita Clutch Company, Inc., Wichita Falls, Tex.
Filed May 6, 1966, Ser. No. 556,793
Int. Cl. F16d *13/60, 13/72, 13/74*
U.S. Cl. 192—113 11 Claims

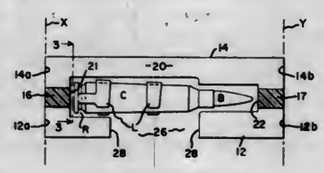
A friction clutch or brake for rapidly dissipating heat by circulating a cooling media therethrough to maintain the friction elements, both the metal wear plates and the

asbestos friction discs, at a temperature below that at which damage thereto would be effected, which arrangement increases the frictional coefficient of the friction elements. The present clutch or brake utilizes a wear plate of metal, such as copper, of high heat conductivity



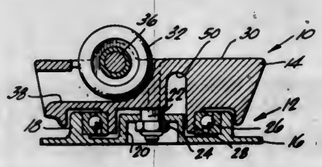
to rapidly dissipate the heat caused by interengaging of the friction elements. Provision is made for a planar expansion to prevent distortion so as to permit continuous slipping of the clutch or brake over an indefinite period of time without appreciative wear.

3,435,937
FLEXIBLE ONE-PIECE CHUTE
Douglas P. Tassie, St. George, Vt., assignor to General Electric Company, a corporation of New York
Filed Dec. 30, 1966, Ser. No. 606,102
Int. Cl. B65g *11/10*
U.S. Cl. 193—25 4 Claims



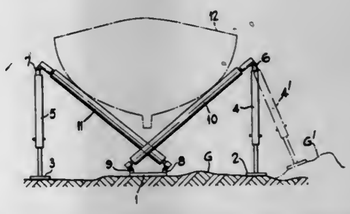
A generally rectangular, flexible ammunition chute constructed of a non-metallic corrosion resistant plastic material and having spaced first and second pairs of generally rectangular walls forming a passageway therebetween, one pair of the walls having spaced kerfs lying in parallel planes perpendicular to the longitudinal axis of the chute.

3,435,938
OMNI-DIRECTIONAL ROLLER
Robert A. Warren, Long Beach, and Bernard Spira, Los Angeles, Calif., assignors, by mesne assignments, to McDonnell Douglas Corporation, Santa Monica, Calif., a corporation of Maryland
Filed Mar. 29, 1967, Ser. No. 626,784
Int. Cl. B65g *13/11, 39/02*
U.S. Cl. 193—37 1 Claim



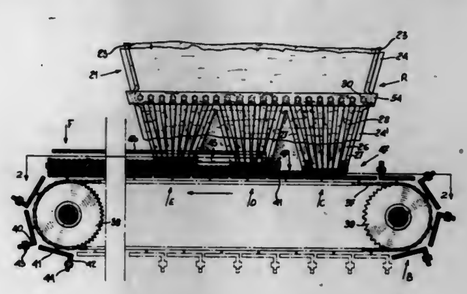
A roller conveyor apparatus which is rotatable within a plane which is at right angles to the plane of roller rotation. The roller axis of rotation is offset from the axis of rotation of the apparatus. Such a structure arrangement makes the roller conveyor apparatus self-aligning with the direction of the load transmitted thereon.

3,435,939
DEVICE FOR THE MOVEMENT OF BOATS BY LAND
Ingulv Renland, Drammensveien 26, Konsberg, Norway
Filed Mar. 27, 1967, Ser. No. 626,178
Claims priority, application Norway, Mar. 29, 1966, 162,341
Int. Cl. B65g *39/02, 13/00*
U.S. Cl. 193—42 3 Claims



A device for assisting in the movement of boats on land, comprising a series of units each comprising a central base plate to which are hingedly connected journals for the roller ends of a pair of divergently directed rollers and two independently movable lateral base plates each of which supports the lower end of a longitudinally extensible upright to the upper end of which is hinged a journal for the upper end of one of said rollers, the independent placing of the lateral base plates and longitudinal extensibility of the uprights supported thereon allowing each of the several units to be independently adapted to the surface of the ground upon which it rests while maintaining the several sets of rollers in position properly to support the boat resting upon them.

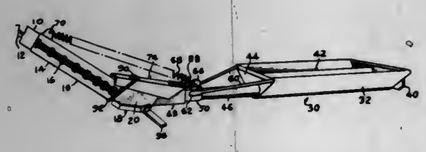
3,435,940
MECHANISM FOR THE FORMATION OF ORDERLY GROUPS OF CIGARETTES
Ariosto Seragnoli, Via Bellinzona 31, Bologna, Italy
Filed Jan. 21, 1966, Ser. No. 522,307
Claims priority, application Italy, Jan. 26, 1965, 1,580/65
Int. Cl. B65b *19/04, 35/44;* B65g *47/82*
U.S. Cl. 198—24 11 Claims



A mechanism for the formation of orderly groups of cigarettes constituted of orderly superposed layers of cigarettes including a plurality of stations for the forma-

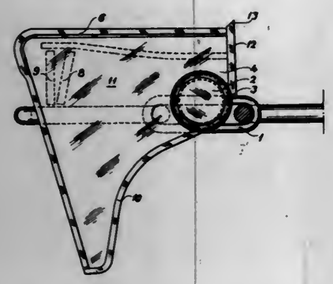
tion of distinct layers of cigarettes, means for conducting the cigarettes to said stations, container means for receiving said groups of cigarettes, first pusher means for pushing one layer of cigarettes at a time into said containers, conveyor means for intermittently displacing said containers in an operative direction past said stations, and second pusher means for transferring said groups of cigarettes from said containers toward a packaging machine.

3,435,941
HINGED-HOPPER AUGER CONVEYOR
Martin Mayrath, 10707 Lennox Lane, Dallas, Tex. 75229
Filed Feb. 13, 1967, Ser. No. 615,684
Int. Cl. B65g *33/14, 21/12*
U.S. Cl. 198—87 7 Claims



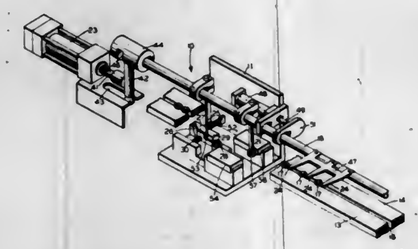
A conveyor of the auger type having a main auger conveyor tube to which is pivotally attached, at its lower (inlet) end, a collecting hopper unit having an auxiliary auger conveyor powered from the main auger drive. The main conveyor tube and the hopper unit are connected for material flow by respective interfitting trough-like members with overlapping side walls, which are pivoted to one another along a bottom edge of each to maintain an imperforate channel for the material in all pivoted positions of the hopper unit, and a cover member is pivotally and slidably mounted with respect to the respective trough-like members to effectively close the flow channel in all of such positions.

3,435,942
LOAD TRANSPORTING AND DUMPING CONVEYOR
Erkki T. Lehtola, Kaskinen, Finland, assignor to Oy Tahka AB, Kaskinen, Finland, a corporation of Finland
Filed Aug. 23, 1966, Ser. No. 574,364
Claims priority, application Finland, Aug. 25, 1965, 2,034/65
Int. Cl. B65g *47/38, 17/16*
U.S. Cl. 198—155 4 Claims



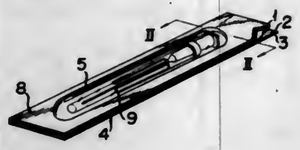
Apparatus for transporting and unloading articles and particularly for transporting and unloading elongated articles, such as logs. A tiltable article-carrying element is advanced along a predetermined path by a power-driven chain or the like. When the element carrying an article reaches a predetermined point, an unloading means is moved into the path of the carrying element, whereby the carrying element is titled so as to cause the article to be discharged therefrom.

3,435,943
METHODS OF AND APPARATUS FOR INDEXING ARTICLES
Anderson F. Johnson, Jr., Sinking Spring, Pa., assignor to Western Electric Company, Incorporated, New York, N.Y., a corporation of New York
Filed Aug. 2, 1967, Ser. No. 657,862
Int. Cl. B65g *25/08*
U.S. Cl. 198—221 10 Claims



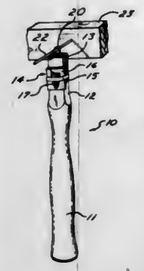
An indexing mechanism for feeding a plurality of articles such as semiconductor headers includes a guideway for the articles; and a rod, mounted for axial and rotary movement, having a plurality of arms extending therefrom for engaging the individual articles. A guide member is pivotably mounted at an incline to the path of axial movement of one of the extended arms. The rod is reciprocated to move the latter named guide arm during a return stroke of the rod along the incline of the guide member to rotate the feed arms out of engagement with the articles, and then behind the inclined guide member, whereafter during the forward stroke of the rod the arm engages and advances past the pivoting guide member while all the feed arms engage and advance the articles.

3,435,944
PACKING OF HYPODERMIC NEEDLE ASSEMBLY
Ichiro Ishii, Tokyo, Japan, assignor to Jintan Terumo Co., Ltd., Tokyo, Japan, a corporation of Japan
Filed July 10, 1967, Ser. No. 652,334
Claims priority, application Japan, July 12, 1966, 41/66,231
Int. Cl. A45c *11/00*; B65d *85/54*
U.S. Cl. 206—43 2 Claims



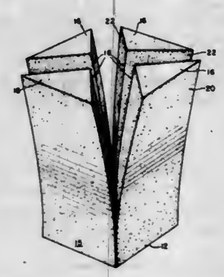
A packing for a hypodermic needle assembly comprising a covering of synthetic resin film having a dome portion to hold a hypodermic needle assembly, a base plate which consists of a paper sheet fastened to the covering so as to seal the dome portion and a synthetic resin film having a large number of micropores and attached to the surface of the paper sheet.

3,435,945
DISPLAY MEANS FOR TOOL HANDLES
Norman Link, Salem, Ind., assignor to O. P. Link Handle Company, Inc., Salem, Ind., a corporation of Indiana
Filed Nov. 1, 1967, Ser. No. 679,917
Int. Cl. B65d *85/00*
U.S. Cl. 206—46 3 Claims



There is disclosed herein display means for merchandising a replacement tool handle comprising a handle, wedge means attached to the handle, and a U-shaped suspension member inserted in the upper end of the handle.

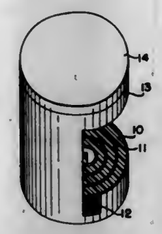
3,435,946
PROTECTIVE SHOCK RESISTANT PACKAGE FOR FRAGILE OBJECTS
Dale W. Sobek and David B. Giacomelli, Oakland, Calif., assignors to Polymir Industries, Inc., a corporation of California
Filed Feb. 12, 1968, Ser. No. 704,764
Int. Cl. B65d *85/00*
U.S. Cl. 206—46 8 Claims



The following detailed disclosure relates to a protective shock resistant package for fragile objects in which an essentially homogeneous body of relatively soft resiliently compressible material is adapted to envelop the object to be packaged. The body, with the enclosed object, is urged into a relatively stiff container such as a cardboard box or can, the volume of which is no greater than the unstressed form of the body so that a compressive load is placed on the body, the magnitude of which is sufficient to hold the object therewithin resiliently, yet firmly in place.

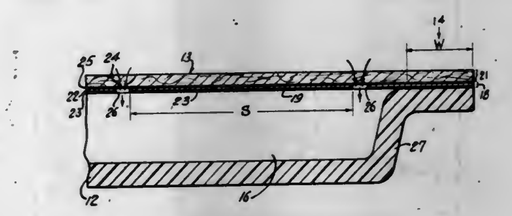
3,435,947
ARTICLE HAVING AN EXPANDABLE AND RIGIDIZABLE COMPACTED FLEXIBLE MATERIAL
Herbert M. Ezekiel, Dayton, Ohio, assignor to The National Cash Register Company, Dayton, Ohio, a corporation of Maryland
Filed Nov. 26, 1965, Ser. No. 509,828
Int. Cl. B65d *79/00*
U.S. Cl. 206—47 8 Claims

An article having a container holding a compacted flexible material such as a polyurethane foam impregnated with a polymerizable substance. Minute capsules containing a material which induces polymerization of the polymerizable substance are positioned in proximity to the flexible material as by adhesive bonding. The compacted flexible material is removed from the container and



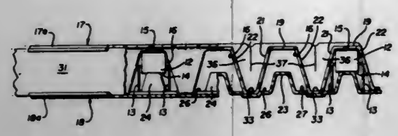
expanded to its original shape. The polymerization inducing material is released from the minute capsules to contact the polymerizable substance causing it to polymerize to a hardened state resulting in the rigidizing of the flexible material.

3,435,948
GAS STERILIZABLE PACKAGE
Alan Lawrence Kaganov, Somerville, and Iwan Wolodymyr Turiansky, South Orange, N.J., assignors to Ethicon, Inc., a corporation of New Jersey
Filed Aug. 8, 1966, Ser. No. 570,993
Int. Cl. B65d *83/00*; A61b *19/02*
U.S. Cl. 206—56 9 Claims



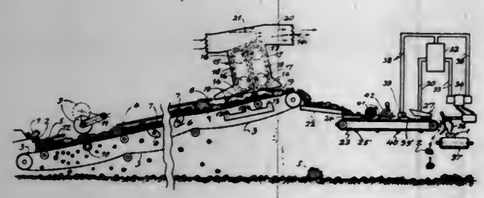
This application discloses a sterile package formed from a base sheet and a cover sheet hermetically sealed to one another in a generally continuous annular heat seal area surrounding a central product receiving area, thereby defining an enclosed compartment for a sterile product. The cover sheet is made up of a barrier layer having a heat sealing surface facing the base sheet and a gas permeable but bacteria impermeable protective layer laminated to the opposite surface of the barrier layer. The barrier layer defines a multiplicity of relatively small perforations arranged in a general uniform pattern throughout its area and the perforations extend through the barrier layer so as to communicate with the inside surface of the protective layer and the enclosed compartment. Thus, a sterilizing gas may be passed through the protective layer and then through the perforations and into the enclosed compartment to sterilize its contents, although the protective layer will prevent the passage of bacteria therethrough. A particular relationship between the width of the heat seal area, the closest distance between the adjacent perforations in the barrier layer and the average maximum transverse dimension or diameter of the perforations also is disclosed. This relationship allows the package to be formed without the necessity for registering the perforations with the heat seal area.

3,435,949
MAGAZINE FOR INTEGRATED CIRCUIT MODULES
Claus P. J. Suverkropp, Sunnyvale, Calif., assignor to Signetics Corporation, Sunnyvale, Calif., a corporation of California
Filed Oct. 6, 1967, Ser. No. 673,363
Int. Cl. B65d 83/00
U.S. Cl. 206—56 10 Claims



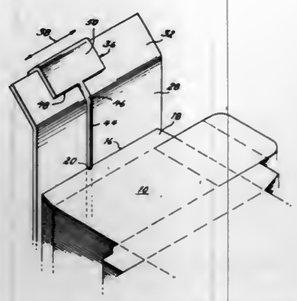
A magazine for integrated circuit modules or other semiconductor assemblies includes a plurality of long, parallel compartments, each to support in end-to-end relation a number of dual, in-line-type modules. The magazine is formed from two pieces of sheet material secured together between the compartments, and a removable closure blocks the open ends of the compartments. Provisions for subdividing the magazine by removing one or more compartments are included to afford magazines of smaller capacity.

3,435,950
MATERIALS SEPARATION DEVICES
Lew Suverkrop, deceased, late of Bakersfield, Calif., by Beth Suverkrop, executrix, 109 H St., Bakersfield, Calif. 93304
Filed Mar. 3, 1966, Ser. No. 536,174
Int. Cl. B07c 9/00, 5/34
U.S. Cl. 209—73 20 Claims



Crop handling mechanism operable to receive a mixture of crop product material and undesired waste objects mixed therewith and having different physical characteristics than the product material, the mechanism including means to separate the crop product material from the undesired waste objects by the use of guide means to direct the movement of a mixture of desired crop product material and undesired material along a predetermined and substantially fixed path, means to engage and remove from the guide means material larger than a predetermined size to be processed by the mechanism, separating means movable relative to the guide means and operable to change the direction of movement of one of said materials separated from the other material, and a plurality of embodiments of sensor control means positioned adjacent said path and responsive to at least one physical characteristic of one of the materials when moved therepast and operable selectively to actuate said separating means in response to differences respectively in the reaction of said physical characteristics of said desired crop material and undesired objects and materials relative to the sensor control means and thereby cause the separating means to separate the desired crop product materials from the undesired objects or materials.

3,435,951
MEANS FOR IDENTIFYING BLANKS FOR FOLDING BOXES
John L. Landenberger, Chestnut Hill, Philadelphia, Pa. (Valley Forge Industrial Park, Norristown, Pa. 19401)
Filed Sept. 19, 1966, Ser. No. 580,320
Int. Cl. B07c 7/00; B65h 1/00
U.S. Cl. 209—122 1 Claim

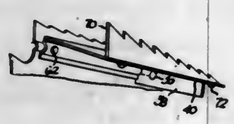


A hopper for receiving cards having a coded notch or notches, and a sensing device in said hopper positioned so as to prevent admission into the hopper of any but the correctly coded cards.

3,435,952
PROCESS AND REAGENT FOR RECOVERY OF MOLYBDENITE FROM COPPER SULFIDE-MOLYBDENITE FLOTATION CONCENTRATES
Burton Corbett, Miami, Ariz., assignor to Miami Copper Company, Division of Tennessee Corporation, New York, N.Y., a corporation of Delaware
No Drawing. Filed Mar. 10, 1966, Ser. No. 533,234
Int. Cl. B03d 1/02
U.S. Cl. 209—167 16 Claims

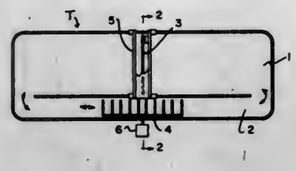
A flotation reagent useful as a depressant of copper and iron sulfides, but not molybdenum sulfide, is prepared by mixing an arsenical compound selected from yellow or red arsenic sulfides and arsenic oxide with Nokes reagent (phosphorous pentasulphide in aqueous NaOH). Preferred reagents are produced by mixing the arsenical compound, preferably arsenic trioxide, with Nokes reagent containing a higher-than-ordinary proportion of NaOH.

3,435,953
UNIVERSAL CROP SEPARATOR
Frank W. Schlue, Jr., Davenport, Iowa, asisgnor to J. I. Case Company, Racine, Wis., a corporation of Wisconsin
Filed Oct. 12, 1966, Ser. No. 586,265
Int. Cl. B01d 33/34, 21/18
U.S. Cl. 209—408 2 Claims



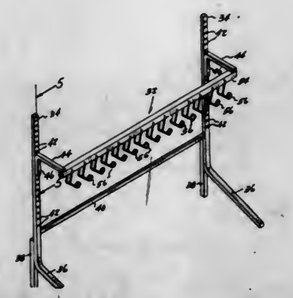
Mounting means for crop separators of a harvesting machine which include first parts defined on the spaced side members of the separator with cooperating second parts on grid sections which slidably receive the first part to releasably retain the grid sections of the side members.

3,435,954
WASTE WATER PURIFICATION APPARATUS
Werner Friedrich Ohl, Michelbach, and Rudolf Christian Passavant, Michelbacherhutte, Germany, assignors to Passavant-Werke. near Michelbach, Nassau, Germany, a corporation of Germany
Filed Mar. 8, 1967, Ser. No. 621,923
Claims priority, application Germany, Mar. 8, 1966, P 38,924
Int. Cl. C02c
U.S. Cl. 210—220 6 Claims



Apparatus for introduction of gases into liquids such as aeration of activated sludge wherein a tank includes aeration devices and a movable fluid circulation blade disposed vertically and transversely of the tank and of substantially the same cross-sectional area as the tank. The tank may be rectangular with the blade reciprocating or circular with the blade rotating and preferably with the aeration devices being located in the bottom of the tank. The tank may be separated into a fluid circulation section and an aeration section by a common wall in fluid flow communication, with the blade being located in the circulation section and the aeration devices being located in the aeration section.

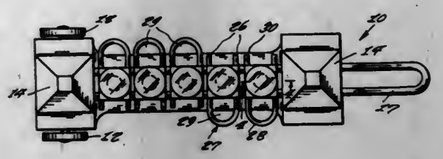
3,435,955
BICYCLE TIRE DISPLAY RACKS
Fredrick F. Brunette, 328 N. Main St., Plymouth, Mich. 48170
Filed May 15, 1967, Ser. No. 638,348
Int. Cl. A47f 7/04; B42f 13/00
U.S. Cl. 211—24 11 Claims



A rack for individually displaying and supporting a number of bicycle tires in a suspended position. One embodiment discloses a self-supporting frame having a horizontal support member. A series of hook-shaped wire tire supporting elements each having their upper ends swingably connected to the horizontal support member provide means for individually suspending the tires. The tire supporting elements are arranged to swing toward and away from its neighboring elements to permit a tire to be hung or removed without disturbing the remaining tires.

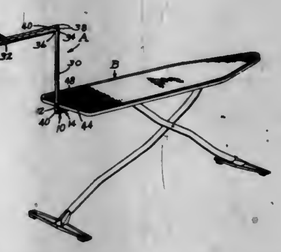
A second embodiment discloses a rack, similar to the first embodiment, but with arms arranged to support the horizontal support member at a selected height above a supporting surface by attaching the arms to a pair of slotted uprights.

3,435,956
LANDSCAPER'S UTILITY CART
Herman J. Ulitsch, 16980 MacArthur, Detroit, Mich. 48240
Filed July 20, 1967, Ser. No. 654,783
Int. Cl. A47f 7/00; B63b 11/00, 3/00
U.S. Cl. 211—60 2 Claims



A utility cart for a gardener or handyman, the cart including a series of retainers for securing various tools upon the cart, the retainers being adjustable so to suit various sizes of tools.

3,435,957
DEVICE FOR HANGING CLOTHES AND THE LIKE ON AN IRONING BOARD
Ambrose T. Lloyd, 1355 Buchanan Place, Minneapolis, Minn. 55421
Filed Feb. 23, 1967, Ser. No. 618,023
Int. Cl. A47f 5/00; D06f 81/00
U.S. Cl. 211—86 7 Claims

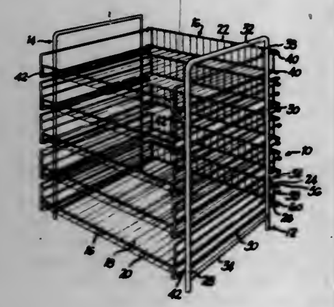


The invention is a bracket and clothes hanger support for attachment to an ironing board including a base member having a pair of wing portions extending therefrom which are deformable to accommodate various types of ironing boards together with a nut-equipped bolt extendable through a flange formed on each wing portion and engageable with the board of an ironing board and a receiver carried by said base member in which a support rod is removably mounted and on which is carried a bar for supporting coat hangers and the like.

3,435,958
SHELF STRUCTURE
Robert G. Chesley, Farmington, Mich., assignor to Chesley Industries, Inc., Farmington, Mich., a corporation of Michigan
Filed June 6, 1966, Ser. No. 555,406
Int. Cl. A47f 3/14, 5/13; A47b 45/00
U.S. Cl. 211—133 15 Claims

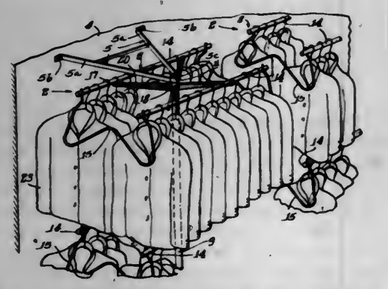
The basic shelf structure comprises two spaced apart side members. A plurality of shelves having upright extending rear walls cooperate with the side members to pivotally lock the same together. Locking means are provided for the pivotal connections between the upright extending rear walls of the shelves and side members with

the locking means being positioned to pivotally lock each upwardly extending rear wall to the side members with vertically spaced pivotal connections to provide a sturdy structure free from distortion. Clamping means comprising laterally extending hook-type clamps lock the front of the shelf structure together by a readily releasable clamping arrangement. The two above-mentioned locking means are the sole means locking the side members and shelves together.



The shelf structure may be converted to a modular type unit wherein the shelves and rear walls are provided in different sizes to permit back-to-back and side-to-side assembly of a single shelf structure with the different sized shelf and back walls and common side members and common rear walls being utilized.

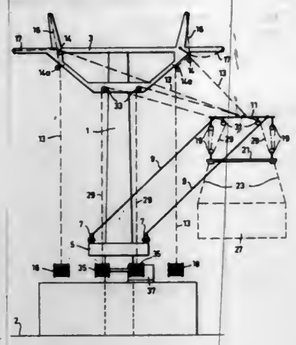
3,435,959
REVOLVING GARMENT RACK
Marvin A. Berman, Highland Park, Paul M. Levy, Skokie, and Albert Mayer, Cicero, Ill., assignors to Capitol Hardware Manufacturing Co., Inc., Chicago, Ill., a corporation of Illinois
Filed Nov. 21, 1966, Ser. No. 595,718
Int. Cl. A47f 5/02
U.S. Cl. 211—163 **7 Claims**



A rotatable garment rack including two vertically spaced hangrod frames each provided with a pair of hangrods located on opposite sides of the frames and pivotable to two angular positions whereby one or the other of the hangrods extends parallel to the front of the rack.

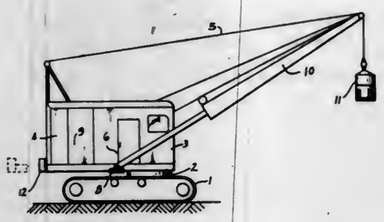
3,435,960
SHIP'S DERRICK FOR CONTAINER HANDLING
Alf Eskil Hallén, Angsvagen 7, Askim, Sweden
Filed Aug. 10, 1967, Ser. No. 659,660
Claims priority, application Sweden, Sept. 2, 1966, 11,896/66
Int. Cl. B66c 23/52, 23/00
U.S. Cl. 212—3 **4 Claims**

A ship's derrick for loading and unloading containers and similar large loads while preventing swivelling of the load. The derrick comprises two parallel booms, which at their outer ends are articulated to a common transverse



beam. The load is suspended by two spaced load lines which extend between this beam and the load, whereby rotation of the load is prevented.

3,435,961
VEHICULAR BOOM HOIST
Frank C. Hamson, South Houston, Tex., assignor of one-half to Billy J. Sealey, Harris County, Tex.
Filed Jan. 23, 1967, Ser. No. 617,000
Int. Cl. B66c 23/72
U.S. Cl. 212—49 **5 Claims**

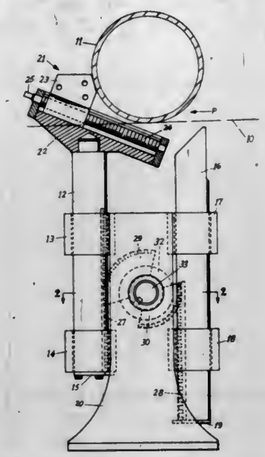


A vehicular boom hoist construction having a boom pivotally mounted on the framework of a vehicle and located rearwardly of the turntable ring over the rear conical rollers, positioned to increase the lifting capacity of the boom and extendable counterweights on the vehicle frame provided to offset the load carried by the boom, and adjustable by the operator as desired.

3,435,962
APPARATUS FOR HANDLING PIPE AND THE LIKE
Allen A. Goeppel, Allison Park, Pa., assignor to Armco Steel Corporation, Middletown, Ohio, a corporation of Ohio
Filed Jan. 5, 1966, Ser. No. 518,839
Int. Cl. B66f 3/04
U.S. Cl. 214—1 **7 Claims**

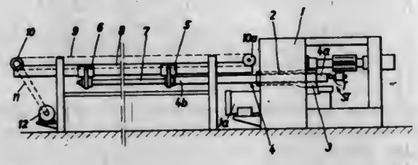
A stop and kickout apparatus for handling pipe and the like comprising a table slanted to the horizontal and a pair of vertically reciprocable members one of which serves as a stop for the pipe and the other of which acts as a kickout when the stop is lowered and the kickout raised, whereby the pipe is sent rolling down the table. The stop is adjustable to accommodate pipe of different diameters and the stop moves faster than the kickout

whereby to insure that the stop clears the pipe before the pipe is acted upon by the kickout. Preferably the



adjustable stop moves along a line slanted to the axis of the pipe.

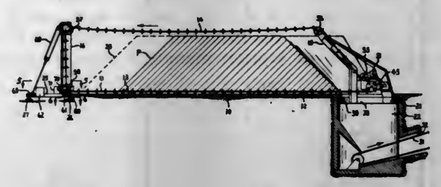
3,435,963
STOCK FEED MECHANISM
Hans Jacoby, Bielefeld, and Karl Spauschus, Weltramsdorf, near Coburg, Germany, assignors to Werkzeugmaschinenfabrik Gildemeister & Comp., AG, Bielefeld, Germany
Filed Nov. 22, 1966, Ser. No. 596,265
Claims priority, application Germany, Nov. 27, 1965, W 40,385
Int. Cl. B65h 5/08; B23b 13/02, 31/10
U.S. Cl. 214—1.5 **22 Claims**



A machine tool for machining large diameter tubular workpieces in which a leading end of the workpiece is centered from without in a hollow rotary spindle and in which the trailing end of the workpiece is internally clamped in alignment with the centered leading end by at least three clamping elements engaging the internal surface of the workpiece and arranged movable independently from each other substantially radially of the spindle axis on a leading portion of a reciprocable pusher means arranged coaxially with the spindle and rotatable about the spindle axis.

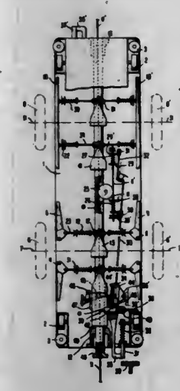
3,435,964
RECLAIMING CONVEYOR
G Barron Wilkin, 8235 N. Kirby Ave., Portland, Oreg. 97217
Filed Dec. 26, 1967, Ser. No. 693,269
Int. Cl. B55g 57/12; B65g 65/34
U.S. Cl. 214—10 **15 Claims**

An endless cable having conveyor flights thereon, the cable having a lower horizontal reach on the level of the bottom of a pile of material to be removed and having an upper horizontal return reach above the top of the pile. One end of the conveyor run is pivotally mounted to swing in a vertical axis and the other end is supported by a carriage on an arcuate track causing the lower reach



to cut laterally through the bottom of the pile in the manner of a bandsaw, removing material from the bottom.

3,435,965
TRANSPORT TROLLEY FOR PARKING GARAGES
Willi Scharf, Gluckstrasse 4, Mannheim, Germany, and Hans Overlach, Klopstockstrasse 11, Berlin, Germany
Filed Sept. 8, 1965, Ser. No. 485,846
Int. Cl. E04h 6/00
U.S. Cl. 214—16.1 **4 Claims**



A transport trolley displaceable by a propulsion force for conveying wheeled vehicles particularly in parking garages; the trolley is provided with extensible and retractable wheel engaging and guiding arms and rails. The actuation of said arms and rails is effected by means actuated by forces derived from the propulsion force itself.

3,435,966
BOARD HANDLING DEVICE FOR A MULTI-STAGE HOT PLATE PRESS
Minoru Jinno, Nagoya-shi, Japan, assignor to Kabushiki Kaisha Meiki Seisakusho, Shioiri-cho, Mizuho-ku, Nagoya-shi, Japan, a corporation of Japan
Filed Jan. 11, 1968, Ser. No. 697,172
Claims priority, application Japan, Apr. 4, 1967, 42/21,658
Int. Cl. B30b 15/32; B65g 25/08
U.S. Cl. 214—16.6 **10 Claims**

In an attempt of obtaining a pusher rod adapted to push the material to be treated on each hot plate of a multistage hot plate press or to unload hot pressed boards out of the hot plate of the press along a straight line which is parallel to the center line i.e., the longitudinal or transverse axis of the hot press while reducing the space in which the pusher and swings from the retracted to the extended position, a

connecting rod, which is maintained in balance by means of a pair of tension members, such as sprocket chains, working in opposite direction to each other, is provided between the pusher rod and a horizontally revolving arm. One end of this connecting rod is hinged on the horizontally revolving arm at the free end thereof, and the other end is adjustably connected to the inner end of pusher rod. By action of the pair of tension members such as sprocket



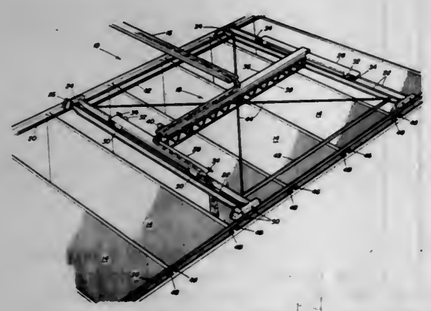
chains, each pivoted on the connecting rod, the outer end of the pusher rod is forced to move along a modified "involute" curve thereby being maintained nearly along a straight line convenient for loading of material into the hot-plate press or unloading of hot-pressed boards out of the press after the tip of the pusher rod having been brought into contact with the material to be treated or the pressed boards.

3,435,967

AUTOMATIC LEVEL LOADING SYSTEM FOR BIN STORAGE OF FREE FLOWING MATERIALS

Walter J. Sackett, Sr., 3700 Echodale Ave., Baltimore, Md. 21208

Filed June 23, 1967, Ser. No. 648,335
Int. Cl. B65g *65/32, 37/00*; **A01f** *25/00*
U.S. Cl. 214—17 **8 Claims**



A building for storage of free flowing materials is described which has a bridge type charging conveyor system that travels above rectangular bins and spreads material automatically and with complete, uniform coverage. This is accomplished with crossed traveling conveyors, one feeding the next, and a programmed reversal of both travel and feed direction commanded by limit switches.

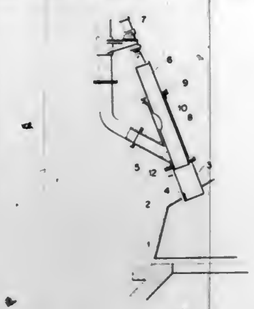
3,435,968

DEVICE FOR CHARGING ALLOYED IRON AND SECONDARY RAW MATERIALS INTO A STEEL-MAKING FURNACE

Koichi Tagiri, Masuo Iwai, and Yoshiwaka Nikaido, Kitakyushu, Japan, assignors to Yawata Iron & Steel Co., Ltd., Tokyo, Japan

Filed July 18, 1966, Ser. No. 566,048
Int. Cl. B66c *17/08*; **F23k** *3/00*
U.S. Cl. 214—35 **1 Claim**

A charging shoot device for charging secondary raw materials and alloyed irons into a steelmaking furnace. The device has an outer pipe adapted to be mounted on a furnace hood, to which is connected a feed pipe for supplying the materials to be added. An inner pipe is slidable in the outer pipe and has a lateral opening which in one position is in register with the feed pipe opening, and in the other position is out of register therewith.



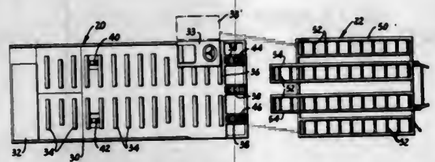
The end of the inner pipe which is toward the hood has an acute-angled cutting edge thereon which is slidable along the inside surface of the outer pipe in order to scrap off accumulated molten metal or slag which splashes up from the molten bath.

3,435,969

CARGO HANDLING APPARATUS

Duane N. McCartney, Pebble Beach, Victor H. Carder, Pacific Grove, and Hugh H. Shaw, Salinas, Calif., assignors to Domino Sugar Company, a corporation of Delaware

Filed Apr. 11, 1966, Ser. No. 541,663
Int. Cl. B60p *1/04*; **B65g** *67/30*
U.S. Cl. 214—84 **1 Claim**



Apparatus for handling palletized freight including a power driven transporter having longitudinally extending tongues which mate with complementary tongues on pallet supporting trailers. The tongues of the transporter may be moved up and down to engage and disengage the transporter from a load on the trailer, with power driven conveyor means on the transporter tongues for moving pallets onto and off from the trailer. The transporter includes a driver station mounted adjacent to the longitudinally projecting tongues with the station mounted for lateral movement out of the cargo conveying path over the transporter.

3,435,970

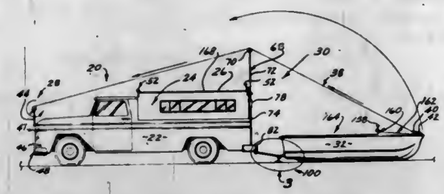
BOAT LOADING AND UNLOADING APPARATUS FOR A VEHICLE

Floyd J. Sutton, Long Beach, Calif. (Walker Rte., Coleville, Calif. 96107)

Filed July 27, 1967, Ser. No. 656,535
Int. Cl. B60r *9/00*
U.S. Cl. 214—450 **11 Claims**

The specification discloses boat loading and unloading apparatus for a vehicle comprising roller means for the top of the vehicle for rollably supporting an inverted boat, winch means mounted at one end (opposite from an unloading end) of the vehicle and having a free end provided with coupling means for attachment to one end of the boat, controllably mountable and dismountable upwardly extending boom means having a pulley wheel for

supporting an intermediate portion of the winch cable during a boat loading and unloading operation and positioned at the opposite unloading end of the vehicle, effective horizontal hinge means for attachment to a lower portion of the unloading end of the vehicle and having coupling means for attachment with respect to one end portion of a boat prior to the beginning of a boat-weight-lifting retraction or boat-weight-lowering extension move-



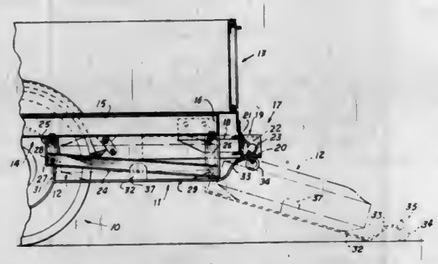
ment of the winch cable; and restraining and travel limiting longitudinal cable means having one end attached to one end of the boat and the other end attached to a fixed upper attachment location at the unloading end of the vehicle top for limiting the lowermost position of the boat inner pivot end attained adjacent to the loading and unloading end of the vehicle to a predetermined minimum elevation above an underlying ground level.

3,435,971

SPARE TIRE AND WHEEL RACK

Jack M. Powell, 110 W. Mitchell St., Arlington, Tex. 76010

Filed Nov. 30, 1966, Ser. No. 598,042
Int. Cl. B62d *43/04*
U.S. Cl. 214—451 **1 Claim**



A spare wheel rack or carrier for pickup trucks adapted to be suspended beneath the truck frame rearwardly thereof and comprising a cradle in which the spare wheel is removably supported on a carriage having a shaft transversely of its forward end, the shaft having a roller on each end thereof arranged on rearwardly inclined tracks, one at each side of the cradle whereby the carriage is slidable rearwardly of the truck frame and lowered to the ground for convenient access to the spare wheel, and having a central bar or strap for supporting the carriage in porting position.

3,435,972

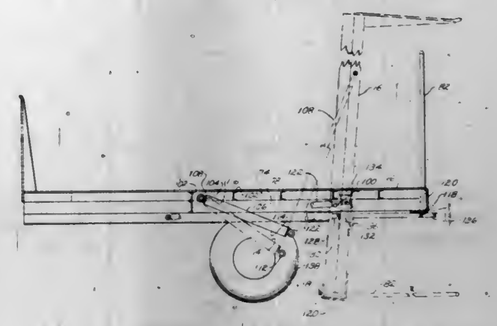
BALE HANDLING SYSTEM

Richard B. Miskin, Miskin Bldg., Ucon, Idaho 83454, and Merlin R. Miskin, Rte. 2, Box 194, Idaho Falls, Idaho 83401

Application Jan. 23, 1967, Ser. No. 610,977, which is a division of application Ser. No. 379,128, June 30, 1964. Divided and this application May 10, 1967, Ser. No. 610,714
Int. Cl. B60p *1/36*; **B66f** *9/06*
U.S. Cl. 214—501 **6 Claims**

A vehicle for transporting baled products comprising a chassis with longitudinal members and a horizontal platform support thereon with a rearwardly extending bracket

means on the chassis and pivot means connecting the platform to the chassis and hydraulic means for rotating the platform from a horizontal position to a position substantially beyond a vertical plane with respect to the horizontal platform. The vehicle is further provided with



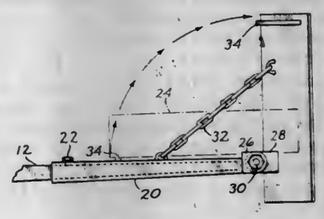
spaced opening means for selectively connecting the rear end of the hydraulic means to the chassis at alternate positions and the vehicle is further provided with hydraulic pusher means for pushing material off of the platform and retriever means for retrieving material onto the platform.

3,435,973

LIFT TRUCK PAPER ROLL HANDLING ATTACHMENT

Sidney Earl Dickey, 2515 S. 2nd Ave., Milwaukie, Oreg. 97222

Filed Apr. 10, 1967, Ser. No. 629,508
Int. Cl. B66f *9/06, 9/08*; **B25j** *3/00*
U.S. Cl. 214—620 **4 Claims**



A paper roll handling attachment for lift trucks equipped with a pair of outwardly projecting forks comprises a pair of sleeves sized to slip over the ends of the forks and a pair of concavely arcuate lift pads. Pivotal mounting means mount the pads on the ends of the sleeves, with the curved surfaces of the pads arranged opposite each other in an arc corresponding to the curvature of the outer surface of the paper roll. Limit means interconnect the pads and the sleeves for limiting the pivotal movement of the pads between substantially horizontal and substantially vertical positions.

3,435,974

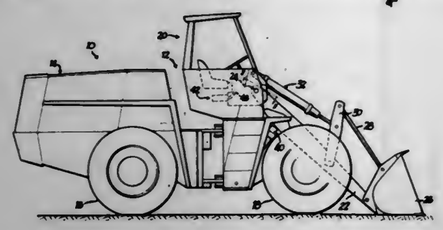
HEIGHT LIMITER

Gene L. Omon, Wauwautosa, Wis., assignor to J. I. Case Company, Racine, Wis., a corporation of Wisconsin

Filed May 1, 1967, Ser. No. 635,147
Int. Cl. E02f *3/00*
U.S. Cl. 214—762 **13 Claims**

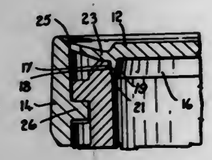
A vehicle having boom means pivotally mounted on the vehicle to move an implement between raised and lowered positions through a fluid motor with valve means

selectively supplying the fluid to the motor. Indexing means are provided for maintaining the valve in the operated position and the indexing means are actuated in



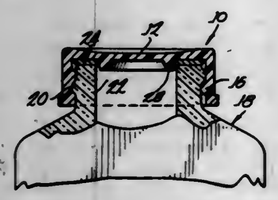
response to predetermined pivotal movement of the boom arms on the vehicle to allow the valve to close thereby positioning the boom arms relative to the vehicle.

3,435,975
SAFETY CLOSURE
Bruno Weigand, Scarborough, Ontario, Canada, assignor to Tamper-Proof-Tops Industries Ltd., Toronto, Ontario, Canada, a corporation of Canada
Continuation-in-part of application Ser. No. 560,537, June 27, 1966. This application Oct. 30, 1967, Ser. No. 679,074
Int. Cl. B65d *41/06, 53/02*; A61j *1/00*
U.S. Cl. 215—9 10 Claims



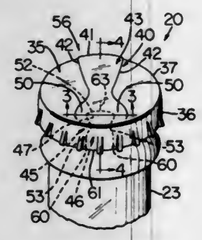
This disclosure relates to a safety closure for use with a container which consists of a rigid circular member having a perpheral skirt connected to the circular member by a flexible annular band. The skirt and annular band are adapted to extend radially beyond the abutting surfaces of the rigid circular member and container neck to permit the skirt to be displaced relative to the circular member about the abutting surfaces for disengagement of lugs carried by the skirt from recesses formed in the container neck prior to unscrewing of the closure.

3,435,976
CLOSURE CONSTRUCTION
Edward W. Owens, Palatine, Ill., assignor to The AFA Corporation of Florida, Miami, Fla., a corporation of Florida
Filed Nov. 13, 1967, Ser. No. 682,115
Int. Cl. B65d *53/02*
U.S. Cl. 215—40 10 Claims



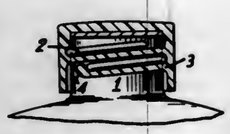
A closure for a bottle or the like has a flexible concavo-convex integrally formed with a depending, internally threaded, skirt. A projecting ring concentric with the surrounding skirt extends from the convex undersurface of the top. The ring is annularly relieved for reception of a discrete seal ring which may be locked in place thereby against such undersurface.

3,435,977
SELF-OPENING CLOSURE FOR A CONTAINER
Raymond E. Jacke, Henrico County, Va., assignor to Reynolds Metals Company, Richmond, Va., a corporation of Delaware
Filed Feb. 16, 1968, Ser. No. 706,126
Int. Cl. B65d *55/00, 17/20*
U.S. Cl. 215—46 26 Claims



This disclosure relates to a closure for a container such as a bottle, can, or the like, which is made of a plurality of layers of material which are laminated together as an integral unit and which has cooperating weakening lines provided in its inner and outer layers which define an integral pull out plug and a pull tab respectively which enable the provision of a dispensing opening for said container.

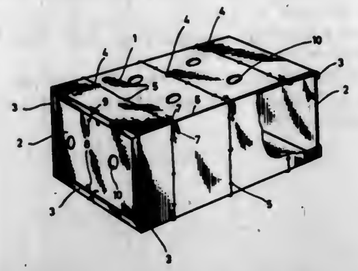
3,435,978
BOTTLE CAP WITH INTERLOCKING THREADS
John C. Wittwer, R.F.D. 2, Mount Kisco, N.Y. 10549
Filed Jan. 23, 1967, Ser. No. 611,017
Int. Cl. B65d *39/08, 41/00, 41/04*
U.S. Cl. 215—98 8 Claims



A threaded container cap with locking means incorporated as part of the threads. One of the threads is provided with a small protrusion or lug which falls into a detent provided in the other thread. Or, the lower extremity of one thread is modified to pass through an opening in the other where it is locked by jamming action.

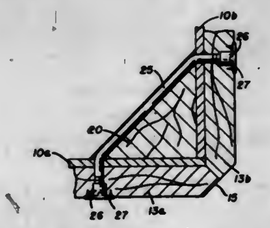
3,435,979
COLLAPSIBLE CONTAINER HAVING REINFORCED EDGE PORTIONS
Horst Grelle, Munich, Germany, assignor to Bahre-Metallwerk K.G.
Filed July 12, 1967, Ser. No. 652,829
Int. Cl. B65d *9/34, 63/00, 7/42*
U.S. Cl. 217—69 4 Claims

A collapsible prismatic folding box comprising thin wall sections and end sections of pressed material, with binding members extending round said box near its ends, characterised in that said wall sections have their ends embracing said end sections thickened progressively towards their edges, said thickness increase being between 2 and 3 times



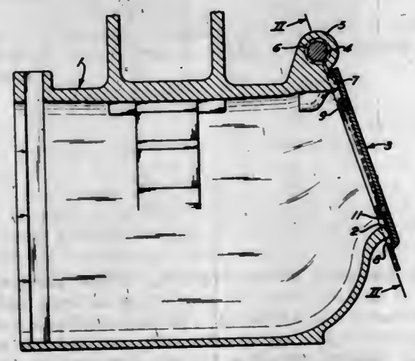
the centre thickness of said sections, said edges being turned over at 90°.

3,435,980
REINFORCED PLYWOOD PRODUCE BOX
James P. Elliott, Statesville, N.C., assignor to Fusion Rubbermaid Corporation, Statesville, N.C., a corporation of North Carolina
Filed Oct. 31, 1967, Ser. No. 679,357
Int. Cl. B65d *9/34, 63/00*
U.S. Cl. 217—69 2 Claims



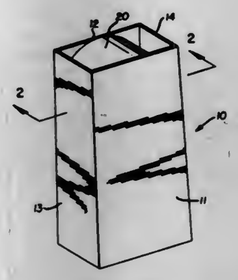
A rectangular plywood box with wood reinforcing strips along the top and bottom edges, connected at the top corners by angular tie bolts, and wood skids on the bottom adapted for stacking on other like boxes.

3,435,981
JOURNAL BOX LID GASKET AND METHOD
Arthur F. Emmerson, 425 Bell Ave., Altoona, Pa. 16602, and Glynn A. Miles, Madera, Pa. 16661
Filed Feb. 23, 1967, Ser. No. 618,181
Int. Cl. B65d *53/00*; F16c *3/02, 35/00*
U.S. Cl. 220—46 6 Claims



A railroad car journal box lid is provided with a resilient polyvinyl chloride gasket, preferably by pouring liquid polyvinyl chloride onto the inner side of the lid after a primer has been applied to the lid, and then heat curing the polyvinyl chloride.

3,435,982
FREESTANDING CONTAINER
John B. Sneed, 505 Lucy St., Akron, Ohio 44306
Filed July 31, 1967, Ser. No. 657,203
Int. Cl. B65d *7/42, 25/28, 21/00*
U.S. Cl. 220—70 1 Claim



A freestanding container having a substantially rectangular horizontal configuration and a recessed cylindrical concave bottom surface forming gripping areas adjacent the point of juncture of the ends of the cylindrical portion with the parallel side walls. The side walls tapering from the top to bottom to facilitate nesting of several similar containers.

3,435,983
TANK KEYWAY AND WELD TESTER
Roger C. Ffooks, Tittlesfold Farm, near Billingshurst, England, assignor to Conch International Methane Limited, Nassau, Bahamas, a Bahamian company
Filed June 1, 1966, Ser. No. 554,569
Claims priority, application Great Britain, July 13, 1965, 29,629/65
Int. Cl. B65d *7/34*
U.S. Cl. 220—80 2 Claims

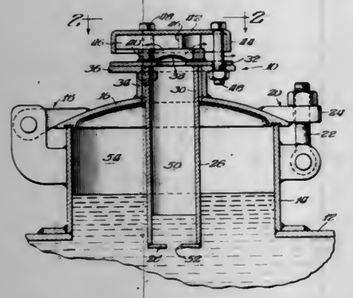


A marine tanker for the bulk transport of liquefied gases comprising in a thermally insulated hold a self-supporting metal tank of which at least one portion is formed by welding the edges of adjacent plates so as to form a non-expanding joint, wherein a hollow section extending externally of the tank is provided along the weld to enable the application of fluid pressure to identify any flaw in the weld, wherein the hollow section associated with the weld is adapted and arranged to form part of a key and keyway means retaining the tank against undesired displacement.

3,435,984
SAFETY VENT STRUCTURE
Benjamin J. Damiani, Flossmoor, Ill., assignor, by mesne assignments, to Union Tank Car Company, a corporation of Delaware
Filed June 2, 1967, Ser. No. 643,283
Int. Cl. B65d *25/00*
U.S. Cl. 220—89 3 Claims

A safety vent structure for tank cars and the like. A

baffle member which defines a surge chamber is mounted in a manway or expansion dome, with the upper portion of the baffle extending through the dome cover. The upper portion of the baffle holds a frangible disc designed to rupture and vent the surge chamber to atmosphere when the pressure within the chamber exceeds a predetermined limit. The lower portion of the baffle defines a passageway which provides fluid communication with the interior of the tank. The sectional area of the passageway is less than the sectional area of the baffle, so that pressure within the chamber increases at a slower rate than pressure within the tank.



3,435,985

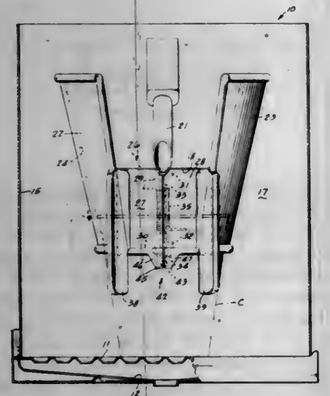
CUP DISPENSING DEVICE

Richard T. Cornelius, Minneapolis, and Irving F. Snyder, Anoka, Minn., assignors to The Cornelius Company, Anoka, Minn., a corporation of Minnesota

Filed Nov. 16, 1966, Ser. No. 594,853

Int. Cl. B65h *3/32*

U.S. Cl. 221—194 **10 Claims**



A cup dispensing device includes a pair of cup guides which jointly normally define a pocket at a beverage dispensing station, the pocket being receptive of individual falling cups that rest on a drip tray therebeneath, both of the cup guides being pivoted about a vertical axis and respectively having a pair of spaced projections engageable by the back of the fingers of a person grasping a filled cup in the pocket.

3,435,986

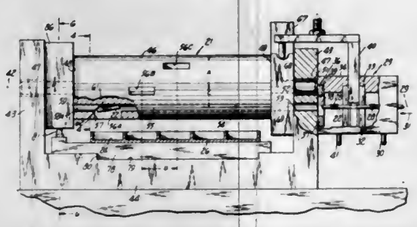
DISPENSING MECHANISM HAVING ARTICLE DISTRIBUTING CYLINDER

Fritz V. Brosseit, Kansas City, Mo., assignor to Western Electric Company, Incorporated, New York, N.Y., a corporation of New York

Filed Nov. 13, 1967, Ser. No. 682,358

Int. Cl. B65h *3/08;* **B65g** *59/12;* **B65b** *5/04*

U.S. Cl. 221—278 **13 Claims**



A cylinder that is provided with a circumferentially arranged group of internal bores is indexed about its axis for receiving a succession of pneumatically conveyed articles. The successively received articles are discharged in sequence from longitudinally spaced portions of the cylinder by means of radial passages extending from the bores to the cylinder periphery.

3,435,987

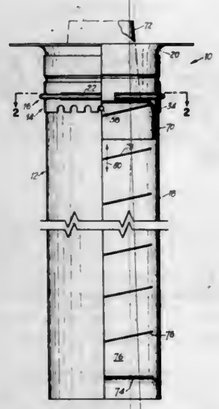
DISPENSING DEVICE WITH ADJUSTABLE RESILIENT OUTLET

Charles E. Saunders, Old Lyme, and Arthur Salcman, Old Saybrook, Conn., assignors to American Machine & Foundry Company, a corporation of New Jersey

Filed Nov. 17, 1967, Ser. No. 683,971

Int. Cl. A47f *1/08*

U.S. Cl. 221—307 **6 Claims**



A dispensing device comprising a hollow container having at least one wall slot and having an open outlet end; an annular member having a portion overlapping the container slot and forming an opening said annular member being displaceable relative to the container for changing the size of the opening; and a resilient member disposed adjacent the container and adjacent the annular member and received in said opening.

3,435,988

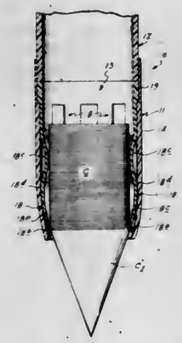
PAPER CUP DISPENSER

Walter Jonas, Easton, Pa., and Adolf Pfund, Milford, N.J., assignors to Sobel Industries, Inc., West Easton, Pa., a corporation of Pennsylvania

Filed Mar. 20, 1968, Ser. No. 714,485

Int. Cl. A47f *1/08*

U.S. Cl. 221—310 **9 Claims**



In a dispenser for paper cups of various sizes having a housing for accommodating a stack of the cups to be removed one at a time through an opening at the bottom and in which the stack is supported by a circular array of spaced, elongated resilient fingers directed substantially vertically within the housing, the fingers are formed integrally, at their upper ends, with a mounting ring by which such supper ends are mounted against the inner housing surface and each finger is formed with an undulated configuration to have a portion thereof bowed inwardly away from the housing surface between the upper finger end and a location intermediate the finger ends where the finger bears against the housing surface and a lower portion seeking a position diverging inwardly with respect to the housing surface from the bearing location to the lower free end of the finger releasably engageable with the rim of the lowermost cut in the stack. The fingers and the mounting ring are preferably formed, as a unit, of a plastic material, such as, super - polyoxy methylene having a molecular weight of at least 15,000, which is capable of repeated return to its formed configuration after flexing therefrom.

3,435,989

METHOD AND APPARATUS FOR MEASURING AND DISPENSING LIQUIDS

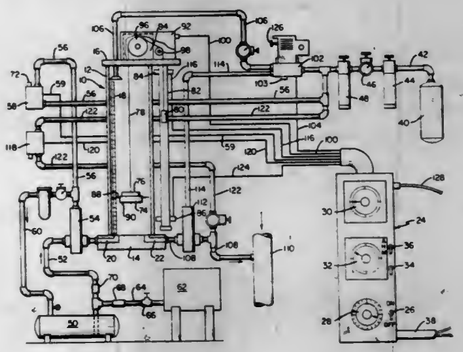
Edwin N. Lorenzen, Littleton, Colo., assignor to Protex Industries Inc., Denver, Colo., a corporation of Colorado

Filed Dec. 16, 1966, Ser. No. 602,362

Int. Cl. G01f *11/44;* **B67d** *5/22, 5/38*

U.S. Cl. 222—1 **24 Claims**

This invention relates to a method and apparatus for measuring and dispensing liquids from a vertically disposed holding tube. The method of this invention comprises injecting a predetermined quantity of liquid into a vertically disposed holding tube, retaining the liquid in the tube for a preselected period of time to enable inspection and determination of the accuracy of measurement, applying gaseous pressure to the upper surface of the liquid to discharge forcibly same into a receiver, and injecting water into the upper end of the tube to wash down the walls and insure dispensing of all the measured liquid. The apparatus comprises a vertically extending holding tube having a base and a cap, a source of supply of pressurized liquid and pressurized gas, a liquid receiver, a plurality of conduits a first one of which interconnects the liquid source with the base of the tube and has a fill valve disposed therein and a second one of which interconnects the base of the tube and the receiver and has a pump valve disposed therein, and means for effecting removal of liquid to be disposed within the holding tube through said second conduit to the receiver, said liquid removal effecting means including a third conduit interconnecting the gas source with the cap of the tube and having a blowout valve mounted therein. The apparatus also includes cycle-initiating means actuatable to cause opening of the fill valve, interruptor means operating in response to a rise of liquid in the tube to a first predetermined level to cause closing of the fill valve, and control means for actuating the liquid removal effecting means and to cause opening of the dump valve, said control means being further operative in response to the fall of liquid in the tube to a second predetermined level to cause de-actuation of the liquid removal effecting means and to close the dump valve. The apparatus also includes a fourth conduit interconnecting a gas source and the second conduit downstream of the dump valve to provide a flow path for gas to purge the downstream portion of the second conduit, and a purge valve disposed in said fourth conduit to control flow therethrough. The apparatus also includes another conduit interconnecting the gas source and the other end of the fill valve to provide a flow path for gas to actuate the fill valve and has a fill control valve mounted therein. The means of the apparatus for effecting operation of the interruptor means includes a float supported by the liquid in the tube, a pulser carried by the cap and actuated by the float to produce a pulse for each of the increments of rise in the liquid level, and a counter adapted to receive and count the pulses of the pulser and to actuate the interrupter means. The apparatus also includes fail-safe means to prevent overflow of the holding tube. The apparatus also includes blowout control means. The apparatus also includes means to inject washout water into the upper end of the tube to wash down the walls during the period when the blowout valve and the dump valve are open.



3,435,990

BEVERAGE DISPENSER AND METHOD OF REFILLING

Albert M. Pike, Jr., 165 S. Glenwood Place, Aurora, Ill. 60506

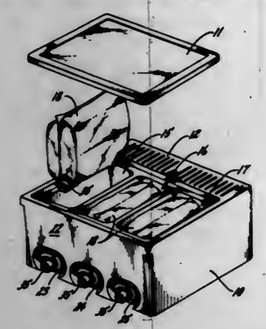
Filed Oct. 16, 1967, Ser. No. 675,655

Int. Cl. B67b *7/00;* **G01f; B65d** *35/22*

U.S. Cl. 222—1 **6 Claims**

A refrigerated beverage dispenser is described having individual tubs each adapted to receive a collapsible container of beverage liquid having a self-contained dispenser spout, each tub having an opening through which

the dispenser spout may be positioned for use and through which the collapsed exhausted beverage container may be

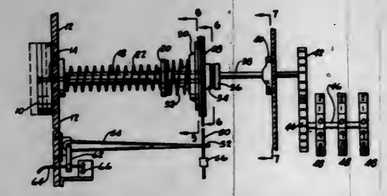


withdrawn and the dispenser of a full container positioned in its place.

3,435,991
FUEL DELIVERY UNIT WITH PUMP SWITCH CUT-OFF

Marvin Wendele Reed and Maurice Verion Reed, Reedsville, Ohio, assignors of ten percent to The Raymond Lee Organization, Inc., New York, N.Y., a corporation of New York

Filed Sept. 26, 1967, Ser. No. 670,622
Int. Cl. B67d *5/30, 5/12*
U.S. Cl. 222—20 5 Claims

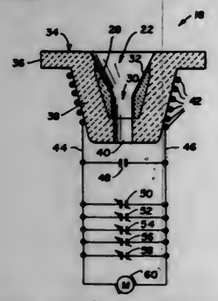


A fuel delivery unit of the type to be installed at gas stations and the like which can be preset to automatically deliver a selected amount of fuel corresponding to a specified price as, for example, when a customer asks for a quantity of fuel in terms of price.

3,435,992
POURING NOZZLE FOR CONTINUOUS CASTING LIQUID METAL OR ORDINARY STEEL

Norman F. Tisdale and Rowland A. Tisdale, Pittsburgh, Pa., assignors to Tisdale Company, Inc., Zelienople, Pa., a Pennsylvania company

Filed Mar. 11, 1966, Ser. No. 540,446
Int. Cl. B67d *3/02, 5/06;* B22d *11/10*
U.S. Cl. 222—146 8 Claims

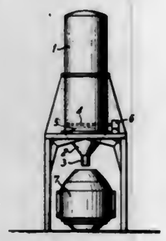


In combination with a ladle having a bottom opening, a refractory nozzle having an induction coil surrounding it and a source of high frequency current for energizing the coil so as to inductively heat the interior surface of the coil to the temperature of molten metal being poured from the ladle.

3,435,993
HOPPER WITH VIBRATORY MEANS FOR UNIFORM RATE OF MATERIAL DELIVERY

Ludwig Hunkel, 3 Ostendstrasse, 6079 Sprendlingen, Hesse, Germany

Filed Apr. 26, 1967, Ser. No. 634,001
Claims priority, application Germany, May 5, 1966, H 59,311
Int. Cl. B65g *65/70;* G01f *11/46*
U.S. Cl. 222—195 6 Claims

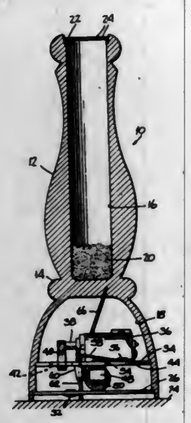


Delivery means are provided for discharging a loose bulk material at a steady rate of discharge from a hopper. An apertured intermediate plate is located above the outlet cone of the hopper and skeletal frame shakers for controlling the flow of the discharging material are located directly above such plate. The shaker is selectively used and comprises a flat spoke-like grating extending substantially across the entire area of the plate. The grating includes spokes which have outlets for compressed air and means are provided for vibrating the grating in a horizontal plane, which means are located outside of the hopper and vibration absorbing means are provided between the hopper, intermediate plate and the vibrating means.

3,435,994
BATTERY OPERATED VIBRATING DISPENSER

Arnold Freed, 166—40 Powells Cove Blvd., Whitestone, N.Y. 11357, and Frank Convertine, 24 Brightwater Place, Massepequa, N.Y. 11758

Filed May 16, 1968, Ser. No. 729,738
Int. Cl. B65g *65/70;* B65d *47/00*
U.S. Cl. 222—196 3 Claims



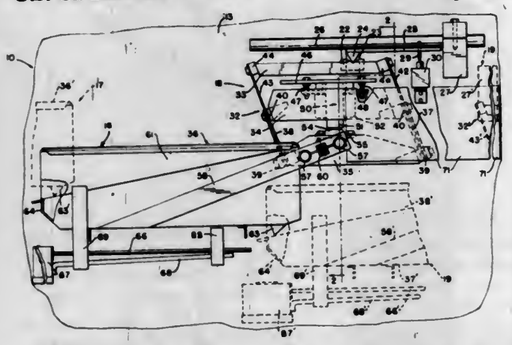
A vibrating dispenser comprising an upper chamber adapted to contain a granular condiment dispensable

through a perforated cap, and a lower chamber provided with a battery-driven motor having a rotatable shaft on which is mounted an eccentric weight, with means within the chamber to close an electric circuit to activate the motor and rotate the shaft, and means extending from the dispenser to open the circuit.

3,435,995
MULTIPLE STAGE VIBRATORY MATERIAL SUPPLY STRUCTURE

Donald W. Garnett, Grand Ledge, Mich., assignor to The Olofsson Corporation, Lansing, Mich., a corporation of Michigan

Filed June 15, 1965, Ser. No. 464,124
Int. Cl. B65g *3/12, 65/70;* B67d *5/52*
U.S. Cl. 222—199 19 Claims

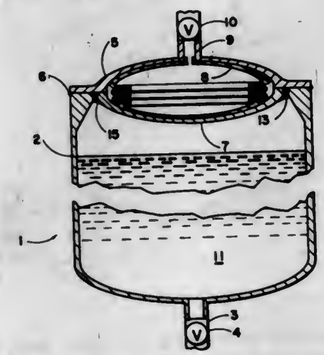


A plurality of receptacles are overlapped longitudinally in vertically cascaded order; and individual vibratory units for the receptacles include a dual leaf spring suspension having an elongated bar secured at opposite ends to the receptacle and the vibratory unit. Each bar is at a right angle to the leaf springs, vibration being transmitted along and through the bar to the receptacle. Multiple provisions are made for an accurate setting of the vibratory characteristic of the mechanism by adjusting the air gap of electromagnetic components, inertially counterweighting the vibratory unit, selecting leaf spring flexibility, and providing fine tuning means.

3,435,996
POSITIVE EXPULSION DEVICE

Richard A. Jones, Los Gatos, Calif., assignor to United Aircraft Corporation, East Hartford, Conn., a corporation of Delaware

Filed July 6, 1967, Ser. No. 651,542
Int. Cl. G01f *11/08*
U.S. Cl. 222—386.5 4 Claims

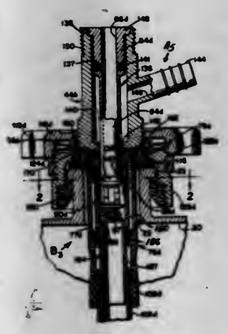


A positive expulsion tank containing a bladder which is expanded to expel the contents of the tank. The bladder is separated from the contents of the tank by a rigid piston sealed to the tank by a frangible hermetic seal, which is maintained free from cyclic pressure loads by compressive load bearing means coacting with said piston.

3,435,997
BEER TAPPING DEVICE

Mack S. Johnston, Kalispell, Mont., assignor to Johnston Enterprises, Inc., Kalispell, Mont., a corporation of Montana

Continuation-in-part of applications Ser. No. 150,982, Nov. 8, 1961, and Ser. No. 406,682, Oct. 27, 1964.
This application May 20, 1966, Ser. No. 551,744
Int. Cl. B65d *83/00, 83/14*
U.S. Cl. 222—400.7 4 Claims

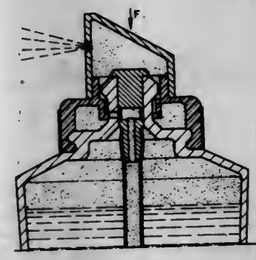


This invention describes an improved tapping device for drawing fluid, such as beer, from containers such as beer kegs or barrels, using a gas to drive the fluid from the container. It describes a sub-unit attached to the keg and called a keg adapter in conjunction with an improved probe attachment called a dispenser coupler in which the coupler includes a rotatable and slidably movable collar with orienting means spaced on the coupler head to orient the collar and thus align the probe and insure safe tapping of the keg.

3,435,998
AEROSOL CONTAINER

Maurice M. Kahn, Beaurepaire, France, assignor to Boxal Beaurepaire S.A., Beaurepaire, France, a French company

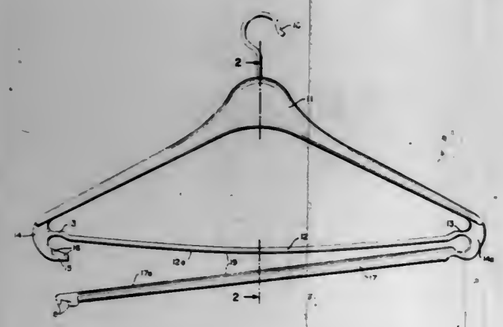
Filed Aug. 9, 1967, Ser. No. 659,479
Claims priority, application France, Aug. 11, 1966, 11,614
Int. Cl. B65d *83/14*
U.S. Cl. 222—402.24 6 Claims



In an aerosol container, a valve seat formed by an annular surface provided on the outer surface of the con-

tainer collar, a retaining joint formed by the edge of a circular passage made in the elastic bottom of a mounting cap sealingly mounted around the can by its opening and an opening for permitting the aerosol from the can to escape in the direction of the valve, this opening being made in part of the collar surmounted by the mounting cap, with the space between the bell and the can forming an expansion chamber for the aerosol passing through this opening.

3,435,999
SUIT HANGERS WITH DOUBLE BAR
Otto B. Mantell, 1414 Avenue of the Americas, New York, N.Y. 10019
Filed Aug. 2, 1967, Ser. No. 657,827
Int. Cl. A41d *27/22*
U.S. Cl. 223—91 **4 Claims**



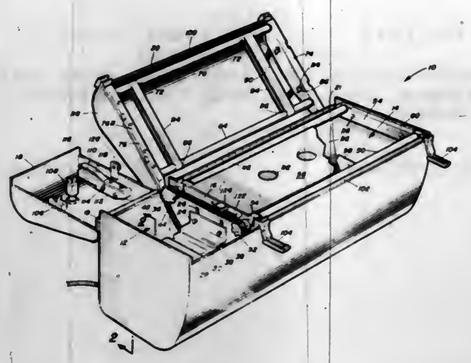
A suit hanger having a curved upper, coat hanging bar, a fixed pants hanging bar substantially extending across the ends of the coat hanging bar, and including a second pants hanging bar which is resilient and integral with one end of the hanger, and which is free at the other end, the free end of the second bar normally extending downwardly, and having a lock at the other end which can be lifted and locked to the other end of the hanger so as to grip a pair of pants, and which permits sliding removal of the pants when the second bar is unlocked.

3,436,000
SHOEHORN
Jose Hernandez Batista, 1822 SW. 99th Place, Miami, Fla. 33165
Filed June 27, 1967, Ser. No. 649,245
Int. Cl. A47j *51/03*
U.S. Cl. 223—118 **1 Claim**



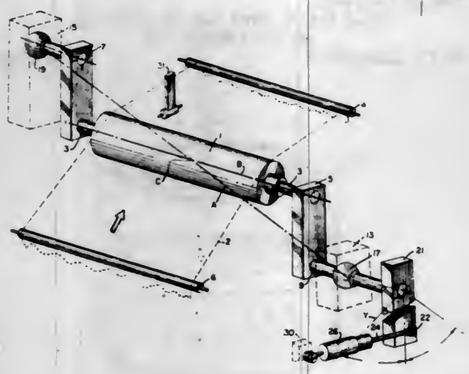
An improved shoehorn which comprises a spoon type article having a bowl area and a handle area, said bowl area being composed of relatively thin, flexible plastic material which is interconnected with the handle area, which is of a more rigid plastic material, said shoe horn being for use in guiding the heel of a user into the heel socket of a shoe.

3,436,001
AUTOMATIC DISPENSER FOR PAPER TOWELS
Kenneth R. Bartleson, 824 W. 34th St., Baltimore, Md. 21211
Filed Dec. 22, 1966, Ser. No. 604,029
Int. Cl. A47k *10/38*
U.S. Cl. 225—100 **1 Claim**



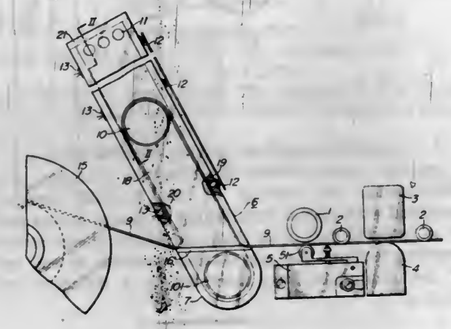
Individual paper towels from perforated roll stock are dispensed individually by this machine. A push button signals a motor to carry the end of the toweling across an area where longitudinal tension is applied by differing peripheral speed rollers and a belt. This tension causes serverance at the perforation line of the toweling and the individual towel is thrust from an exit port. A drive chain which rotates the rollers carries a finger around the chain path to time the drive cycle by controlling a sensitive switch. The motor drive compartment is independently enclosed from the towel supply and feed section. When the closure for the latter is opened it separates the cooperative portions of the feed mechanism to facilitate the loading of a replacement roll of stock toweling.

3,436,002
SHEET-TREATING ROLL APPARATUS
Paul G. Racine, Taunton, Mass., assignor to Mount Hope Machinery Company, Taunton, Mass., a corporation of Massachusetts
Filed Feb. 16, 1967, Ser. No. 616,724
Int. Cl. B65h *25/26*
U.S. Cl. 226—23 **9 Claims**



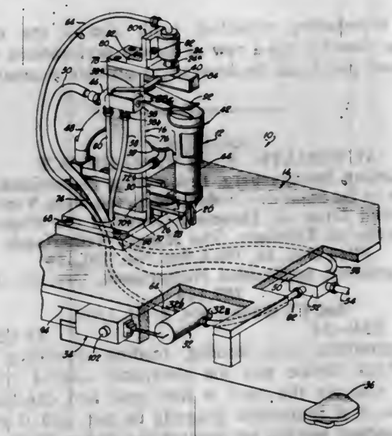
A roll apparatus for treating travelling sheet or web material, to guide a sheet in a fixed path, or to straighten the weft elements of a web. The ends of a roll are mounted on opposed crank arms for rocking adjustment about an axis tilted from the roll axis, either to change the angle of sheet encounter for guiding, or to stretch a web differentially for weft-straightening. Also snap-acting positioners for adjusting the roll.

3,436,003
TAPE SUPPLY SYSTEM
Kaisaku Fujiwara, Odawara-shi, Japan, assignor to Hitachi, Ltd., Tokyo, Japan, a corporation of Japan
Filed June 15, 1967, Ser. No. 646,253
Claims priority, application Japan, Sept. 16, 1966, 41/60,816
Int. Cl. B65h *17/32*
U.S. Cl. 226—97 **2 Claims**



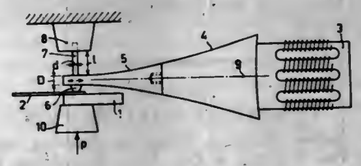
A tape supply system adapted for use with a magnetic tape or a paper tape apparatus, in which a cylindrical rotary body having an outer diameter slightly smaller than the width of the cavity in a tape loop storage vacuum column is rotatably and movably disposed in said vacuum column for trailing a tape therearound, whereby tapes of different widths or punched tapes can be handled without requiring a complicate mechanism.

3,436,004
AUTOMATIC FASTENER DRIVING APPARATUS
Salvatore L. Morabito, Northlake, and Frank W. Mullaney, Villa Park, Ill., assignors to Fastener Corporation, Franklin Park, Ill., a corporation of Illinois
Filed Aug. 18, 1966, Ser. No. 573,281
Int. Cl. B21j *15/28;* **B25c** *1/04*
U.S. Cl. 227—7 **13 Claims**



Automatic fastener driving apparatus comprising a power driven fastener driving tool, a workpiece support means adapted to support a workpiece adjacent the tool and motor means operable for producing relative movement between the tool and the support means to place the tool in contact with a workpiece. Manual control means movable between a normally inoperative position and an operative position is provided and timing means is operatively interconnected with the motor means and the control means for operating the motor means in response to movement of the control means to an operative position. The timing means includes means for operating the motor means at successive time intervals when the control means is maintained in the operative position, and tool control means is provided for operating the tool to drive a fastener into the workpiece in response to relative movement between the tool and the support means.

3,436,005
WELDING APPARATUS PROVIDED WITH A VIBRATING CONTACT TIP
Cornelis Martinus Van Der Burgt, Emmasingel, Eindhoven, Netherlands, assignor to North American Philips Company Inc., New York, N.Y., a corporation of Delaware
Filed Feb. 5, 1963, Ser. No. 256,471
Claims priority, application Netherlands, Feb. 13, 1962, 274,759
Int. Cl. B23k *1/06*
U.S. Cl. 228—1 **4 Claims**

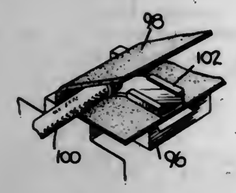


1. A welding apparatus comprising, an electromechanical transducer, an amplitude transformer connected thereto, said electromechanical transducer imparting vibratory movement to said amplitude transformer, first and second spaced members, a support means rigidly mounted on said first member at one end, the other end of said support means freely engaging said amplitude transformer, a contact tip mounted on said amplitude transformer remote from said support means and spaced from said second member to provide a clearance for first and second workpieces to be joined, said support means having a thickness in the direction of movement of said amplitude transformer, at the area of free engagement, substantially less than the thickness of the amplitude transformer in a direction substantially orthogonal to the direction of movement of said amplitude transformer at said area of free engagement, and a length corresponding to a natural resonant frequency of the bending vibration of the support means, said natural resonant frequency being substantially equal to the frequency of the mechanical vibration of said electromechanical transducer and, means for controlling the separation between said first and second members whereby the workpieces may be welded under a preselected pressure.

3,436,006
ULTRASONIC WELDING DEVICE
John M. Cole, Highland, N.J., assignor to Thomas & Betts Corporation, Elizabeth, N.J., a corporation of New Jersey
Filed June 22, 1965, Ser. No. 465,994
Int. Cl. B23k *5/20, 1/06*
U.S. Cl. 228—1 **13 Claims**

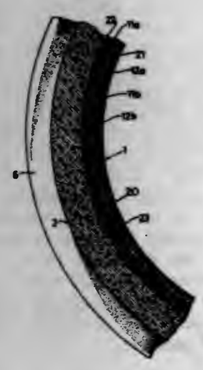
An ultrasonic welding device for welding insulation material about at least a portion of an electrical terminal by

means of ultrasonic energy. In a preferred form, the ultrasonic welding device comprises roll means for feeding an elongated continuous strip of insulation material to a welding station, spreader means for spreading the insulation open at said station in order that an electrical terminal may be positioned within the end of the strip of insulation material at said welding station, reciprocatable ram means positioned at said welding station for applying



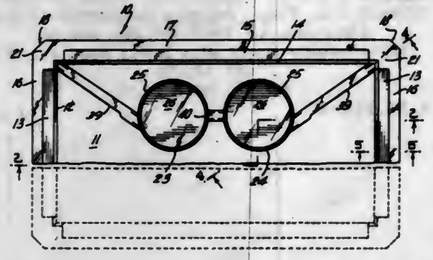
pressure to the insulation in order to form it about at least a portion of the terminal, ultrasonic welding means operating in conjunction with said ram means to weld said insulation material by means of ultrasonic energy, knife means for severing the welded insulation from the remainder of the continuous strip of insulation, and drive means for causing the ram means to reciprocate and for causing said roll means to feed insulation strip forward to said welding station.

3,436,007
CONTAINER WALL SECTION
Anders Ruben Rausing, Blentarp, Sweden, assignor to Tetra Pak Rausing & Co., KG., Hochheim, Germany, a company of Germany
Filed Oct. 16, 1967, Ser. No. 675,549
Claims priority, application Sweden, Nov. 4, 1966, 15,119/66
Int. Cl. B65d *3/00, 5/56, 5/40, 5/62, 25/14, 5/58, 5/60, 5/00, 1/00*
U.S. Cl. 229—14 6 Claims



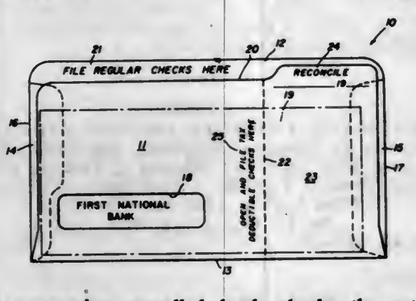
A container has a laminated wall section constituted by a barrier layer made from any suitable material such as aluminum coated on both sides with a thermoplastic such as polyethylene. The laminate is single or double pleated to establish the desired configuration for the wall and is then heated to cause all of the thermoplastic surfaces lying adjacent each other in the pleats to melt and adhere to one another.

3,436,008
CONTAINER
Francis J. Santangelo, Middlesex, N.J., assignor to Johnson & Johnson, a corporation of New Jersey
Continuation-in-part of application Ser. No. 533,919, Mar. 14, 1966. This application Mar. 15, 1968, Ser. No. 713,420
Int. Cl. B65d *3/24, 1/36, 11/00*
U.S. Cl. 229—15 5 Claims



A composite container having flexible paneling with a molded plastic frame of structural member sections determining the contour of the flexible paneling is equipped with plastic partitioning or spacer means molded as an integral part of at least one of the plastic structural member sections for segregating contents in one section of the container from contents in a different section thereof.

3,436,009
ENVELOPE FOR CANCELLED BANK CHECKS
Joseph T. Richardson, Chicago, Ill.
(724 N. Western Ave., Park Ridge, Ill. 60068)
Filed June 26, 1967, Ser. No. 648,761
Int. Cl. B65d *27/04, 27/08*
U.S. Cl. 229—71 5 Claims

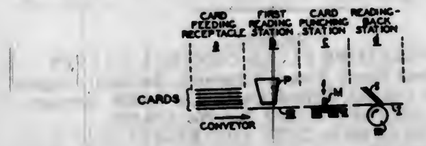


For segregating cancelled bank checks the return envelope therefor has a row of die-cut perforations along which one panel can be severed to provide a separating flap.

3,436,010
AUTOMATIC PUNCHING DEVICE
Arie Adriaan Spanjersberg, Leiderdorp, Netherlands, assignor to De Staat der Nederlanden, ten Deze Vertegenwoordigd Door de Directeur-Generaal der Posterijen Telegrafie en Telefonie, The Hauge, Netherlands
Filed Dec. 16, 1963, Ser. No. 330,824
Claims priority, application Netherlands, Dec. 21, 1962, 287,168
Int. Cl. G06k *1/04, 1/14, 1/00*
U.S. Cl. 234—34 13 Claims

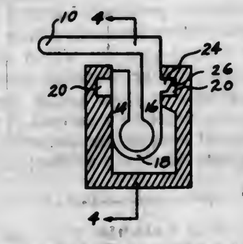
An automatic card feeding, reading, punching, and reading-back device and the electronic control circuits therefor wherein the card is first read and checked to determine if it is marked properly or not, and if not it is not punched but fed on through the device. If the card is properly marked, its readings are stored and transferred to the control and code converter for punching the card in a code according to the read marks. If the card

is not punched, an indication is also made thereof and used for controlling the device. Finally the punched holes in the card or the unpunched card are read back and



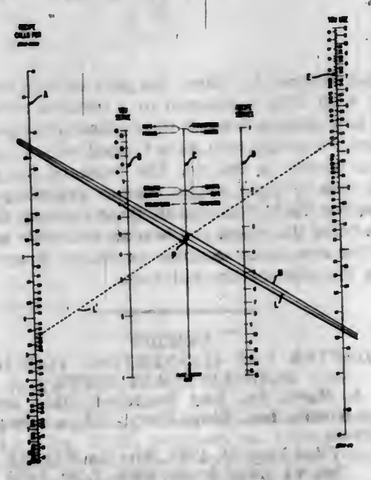
checked against the stored marks or nonpunched indications to determine that the holes or unpunched cards are correct, and if not the device is stopped.

3,436,011
MEANS FOR ADJUSTING THE INTERLOCK OF A VOTING MACHINE
Ransom F. Shoup, Bryn Mawr, Pa., assignor to The Shoup Voting Machine Corporation, Bala-Cynwyd, Pa., a corporation of Pennsylvania
Filed July 5, 1967, Ser. No. 651,300
Int. Cl. G07c *13/00*
U.S. Cl. 235—51 2 Claims



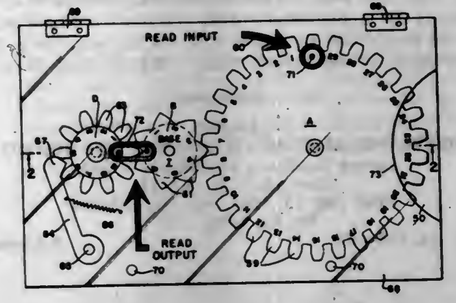
A shim insertable in the interlock of a voting machine of the type shown in Shoup patents, U.S. Numbers 2,054,102 and 2,293,669.

3,436,012
KITCHEN CALCULATOR AND METHOD FOR USE
Barbera W. Stephenson, 901 Orchard Way, Silver Spring, Md. 20904
Filed Mar. 12, 1968, Ser. No. 712,413
Int. Cl. G06k *11/02*
U.S. Cl. 235—61 4 Claims



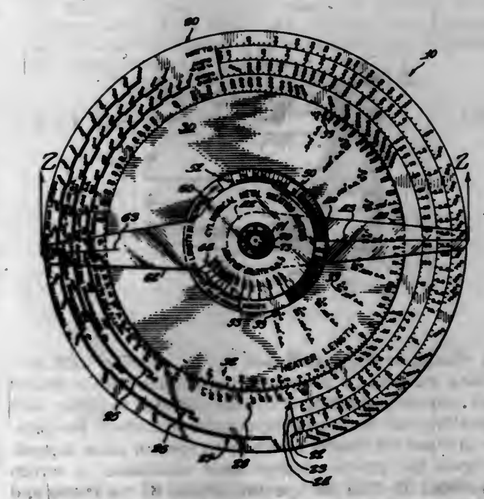
A nomographic calculator for use in scaling recipes and converting common kitchen measurements. The nomographic calculator is a superimposed combination of two nomographs and a moveable, pivoted marker.

3,436,013
MULTI-BASE COUNTER MECHANISM
Richard S. Campbell, 236 Holly Drive, Spartanburg, S.C. 29301
Filed Dec. 19, 1966, Ser. No. 603,001
Int. Cl. G06c *27/00*
U.S. Cl. 235—74 8 Claims



The invention provides a movable table of numbers according to the new math by which numbers of one base system may be converted to corresponding numbers of another base system by use of numeral interrelated gear wheels having read input origin point in relation to a master number gear wheel and a read output locus in relation to other entrained number gear wheels for showing in the latter locus a corresponding number of another selected base than that of the base of the master number gear wheel. The invention also involves a simple mechanical arrangement readily operable in which change gear number wheels can be quickly interchanged to afford a variety of base number systems into which conversions may be made.

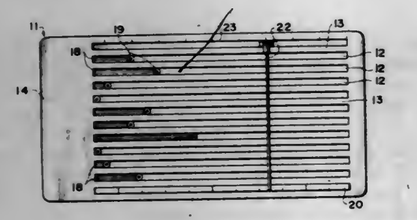
3,436,014
HEATER CALCULATOR
Robert P. Ochonicky, Bensenville, Ill., assignor to Continental Sensing Incorporated, Melrose Park, Ill., a corporation of Illinois
Filed Nov. 17, 1966, Ser. No. 595,078
Int. Cl. G06c *27/00*
U.S. Cl. 235—78 7 Claims



A disc type calculator for storage, display and computation of data relative to electrical heaters. The calculator includes four rotatable discs stacked in coaxial relationship, and a pair of pointers, one rotatable

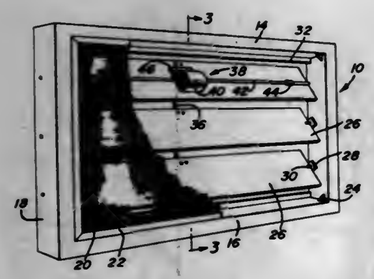
and one fixed with respect to the smallest or uppermost disc. The smallest disc and the third largest and largest discs bear graduated scales which, in cooperation with the pointers, permit calculation of heater surface temperature and power per unit area of heater surface as functions of heater length, diameter and total power. The largest disc also bears a pattern of indicia which, in cooperation with a corresponding overlying pattern of apertures in the second largest disc, permits a determination of the availability of heater types which will, for a desired diameter and length, yield a desired total power.

3,436,015
MECHANICAL COMPUTER AND PLOT BOARD
Carson Bradford, 455 Elizabeth Ave., Newark, N.J. 07112
Filed July 13, 1967, Ser. No. 653,084
Int. Cl. G06c *3/00*
U.S. Cl. 235—86 **9 Claims**



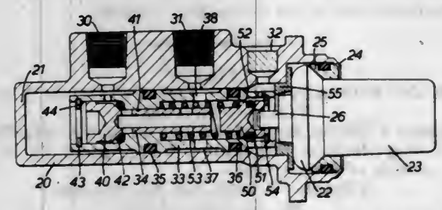
My invention relates to mechanical computers generally and specifically to a mechanical computer which records and plots a plurality of individual data and totalizes the recorded data on a separate indicia.

3,436,016
TEMPERATURE RESPONSIVE VENTILATOR WITH COILED LEAF SPRING
Ralph S. Edwards, Rte. 1, Stanley, N.C. 28164
Filed Dec. 12, 1967, Ser. No. 689,865
Int. Cl. F24f *7/00, 13/00;* **A01k** *41/00*
U.S. Cl. 236—49 **8 Claims**



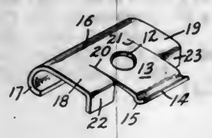
A ventilator for installation in the exterior wall of a building including a peripheral rigid frame with a shutter panel assembly forming a closure therefor together with a spiralling coil leaf spring responsive to ambient temperature to cause the shutter assembly to open or close depending upon the exterior temperature conditions. A screen is provided to close the opening defined by the frame and still permit circulation of air. In one embodiment, the shutter assembly is in the form of a single large panel attached to one end of a pair of springs fixed to a shaft. In another embodiment of the invention, the shutter assembly is in the form of a plurality of louvers interconnected by a rod with one of the louvers being operatively associated with the coil spring.

3,436,017
TEMPERATURE FLUID CONTROL VALVES
Arthur Ernest Henry Elmer, Painswick, England, assignor to Dynair Limited, Stroud, England, a British company
Filed May 4, 1967, Ser. No. 636,052
Int. Cl. G05d *27/00, 7/00;* **F16k** *21/00*
U.S. Cl. 236—92 **7 Claims**



A thermally actuated pneumatic control valve including a hollow spool sliding in a valve bore and two separately movable control plungers within the spool, one plunger being engaged by the operating element of a wax capsule thermal senser, to close a vent passage, and at a higher temperature to shift the second plunger to open an inlet port, while at even higher temperatures the spool moves with the two plungers without affecting valve operation.

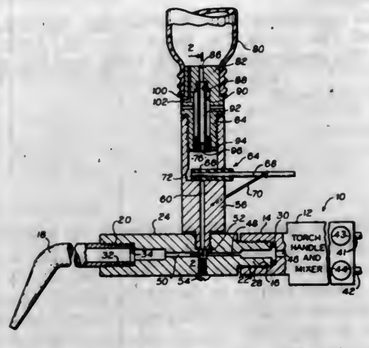
3,436,018
RAIL FASTENER
Rex L. Alexander, Plant City, Fla., assignor to Harsco Corporation, Harrisburg, Pa., a corporation of Delaware
Filed Dec. 4, 1967, Ser. No. 687,743
Int. Cl. E01b *9/00, 13/00, 21/04*
U.S. Cl. 238—349 **1 Claim**



A rail fastener for either the gage or field side of the rail or both sides is fastened to a concrete crosstie by a single bolt passing through the fastener into the tie. The fastener is a spring steel plate formed with a rolled back to fit a groove in the tie. The front of the plate has spaced cuts at right angles thereto extending past the opening for the bolt to provide three sections, the middle section being the widest and bearing resiliently on the rail base. The two outer sections are turned downwardly to engage the edge of the rail base.

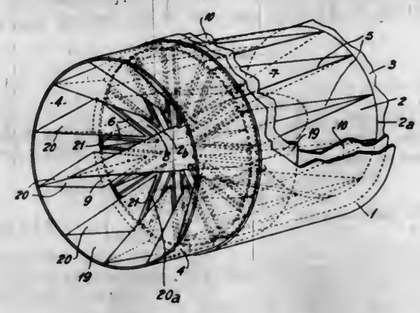
3,436,019
ADAPTER FOR CONVERTING TORCH TO POWDER SPRAY WORK
Elwin A. Hawk, Sr., East Rochester, Ohio, assignor to Coast Metals, Inc., Little Ferry, N.J., a corporation of Delaware
Filed May 24, 1966, Ser. No. 552,575
Int. Cl. B44d *1/097;* **B05b** *7/30, 7/20*
U.S. Cl. 239—85 **7 Claims**

A torch that includes an adapter which can be inserted between the handle and tip of a conventional welding torch to make the torch into a powder spray torch for applying hard surfacing material. The adapter is connected at its opposite ends to the threads of the handle and tip by which these parts were originally connected to one another. A vent is provided along the powder pas-



sage for preventing pressure of a flashback from reaching the powder holder; and this vent is controlled by the same valve means that regulate the flow of powder to the torch.

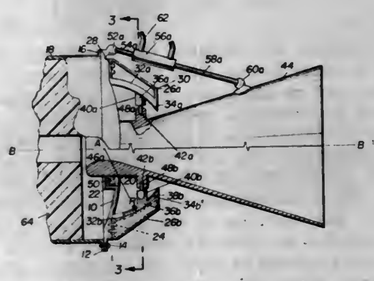
3,436,020
JET ENGINE EXHAUST SILENCER
Louis Duthion, Paris, Michel Serge Daniel Hafenscher, Neuilly-sur-Seine, and André Emile Roger Cabassut, Versailles, France, assignors to Societe Bertin & Cie, Paris, France, a French body corporate
Filed Dec. 6, 1966, Ser. No. 599,529
Claims priority, application France, Dec. 13, 1965, 42,043
Int. Cl. B64d *33/06;* **B63h** *11/10*
U.S. Cl. 239—265.13 **8 Claims**



A gas ejection system for a jet engine having a first nozzle element adapted to receive an axial flow of gas and containing longitudinal corrugations and, a second nozzle element having radial walls arranged at the outlet of said first element and being inwardly offset at their leading edges with respect to the trailing edges of said first element whereby intaken air may flow between adjacent radial walls and the exhaust gas stream from in between the corrugations.

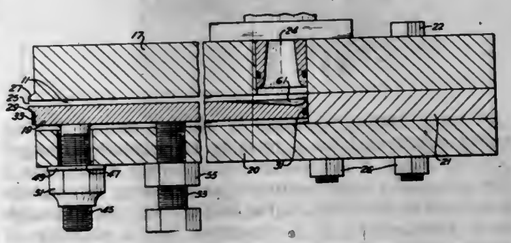
3,436,021
ROCKET NOZZLE SUPPORT AND ACTUATION APPARATUS
David A. Walton, Kent, Wash., and Stanley P. Desjardins, Brigham City, Utah, assignors to Thiokol Chemical Corporation, Bristol, Pa., a corporation of Delaware
Filed Nov. 29, 1966, Ser. No. 597,767
Int. Cl. B64c *15/04*
U.S. Cl. 239—265.35 **1 Claim**

1. In a rocket motor, the combination comprising:
a closure member having an aperture formed therein;
a pair of brackets fixedly projecting from said closure member in diametrically opposed relation to said aperture and each having an inwardly facing curved surface;
a pair of support members each supported on the curved surface of a respective one of said brackets so as to be movable lengthwise thereof while being restrained from lateral movement relative thereto;
a thrust nozzle the forward end of which extends through said aperture and is pivotally mounted between said support members, whereby the longitudinal axis of said thrust nozzle is rotatable in a first plane disposed substantially perpendicular to the curved surfaces of said support members and in a second plane disposed substantially perpendicular to said first plane;



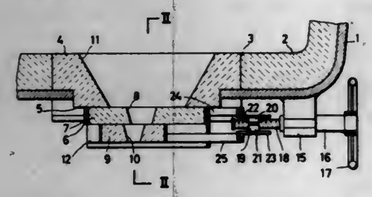
a flexible, annular seal member fixedly connected at its inner edge to the forward periphery of said thrust nozzle and at its outer edge to said closure member; and
actuation means carried by said rocket motor and operatively connected to said thrust nozzle for rotating the longitudinal axis thereof in said first and second planes.

3,436,022
FILM COATING APPARATUS
Rolf K. Ernst, Konigswinter-Siegkreis, Germany, assignor, by direct and mesne assignments, of one-half to Maschinenfabrik Karl Hennecke, Birlinghoven, Germany, and one-half to Mobay Chemical Company, Pittsburgh, Pa., a corporation of Delaware
Filed Dec. 9, 1966, Ser. No. 600,623
Int. Cl. B05b *1/30, 1/00*
U.S. Cl. 239—455 **8 Claims**



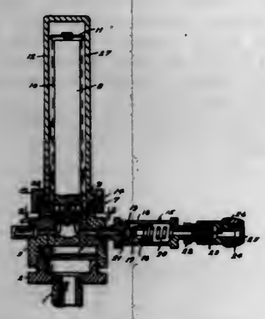
Apparatus for depositing a thin film of liquid comprises a sector-shaped chamber formed from a top planar surface and a bottom planar surface in close proxmity to said top surface, the chamber having an inlet at its apex and an outlet along its circumference.

3,436,023
APPARATUS FOR ALTERING THE POSITION OF A JET OF MOLTEN METAL, ESPECIALLY FOR CONTINUOUS CASTING MACHINES
Armin Thalmann, Uster, Switzerland, assignor to Concast AG, Zurich, Switzerland
Filed Mar. 7, 1966, Ser. No. 532,135
Claims priority, application Switzerland, Mar. 9, 1965, 3,270/65
Int. Cl. B05b 1/32; C21b 7/14
U.S. Cl. 239—537 12 Claims



Apparatus for adjusting the orientation of a jet of molten metal issuing from an outlet opening of a container, such as a tun dish, includes a positioning element, having a discharge aperture therethrough, adjustably mounted downstream of the outlet opening with the aperture communicating with the latter for flow of molten metal serially through the outlet opening and the aperture. The cross sectional flow area of the discharge aperture is less than that of the outlet opening, and means are operable to adjust the positioning element relative to the outlet opening to adjust the orientation of the molten metal jet. Means are also provided to cooperate with the discharge aperture to control the rate of flow of molten metal therethrough.

3,436,024
COMBINATION SPRAY HEAD AND SCREEN FILTER
John V. Gregg, Sr., Kansas City, Mo., assignor to Cook Paint & Varnish Company, Kansas City, Mo., a corporation of Delaware
Filed Mar. 20, 1967, Ser. No. 624,474
Int. Cl. B05b 1/14
U.S. Cl. 239—553.3 5 Claims



A spray coating apparatus in which a central filtering screen is provided for a plurality of circularly arranged nozzles. Fluid is introduced via a supply conduit to a first group of vertically-oriented passageways or conduits in a two-way manifold. As the fluid stream passes through these passageways, it is separated into a plurality of streams which are projected upwardly into the filter chamber at spaced intervals around the circumference of a cylindrical screen filter. After filtering, the fluid flows back to the manifold and passes through a second group of passageways in said manifold which are horizontally oriented with respect to the first group. The filtered fluid is then discharged through the spray nozzles.

3,436,025
FINE GRANULATOR
William M. Sheldon, Elizabeth, N.J., assignor to Pulverizing Machinery Division of Slick Industrial Company, Washington, D.C., a corporation of Delaware
Original application Apr. 29, 1963, Ser. No. 276,645, now Patent No. 3,241,776, dated Mar. 22, 1966. Divided and this application Feb. 15, 1966, Ser. No. 527,453
Int. Cl. B02c 7/06, 7/12
U.S. Cl. 241—15 1 Claim

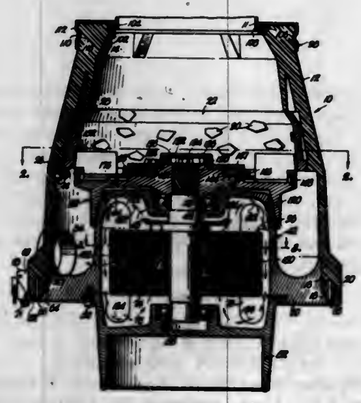


Method of comminuting material by subjecting material confined in suspended condition within a generally cylindrical comminuting zone by a selectively directed flow of gaseous carrier to the cutting impact of multiplicities of discrete rapidly moving acute angle shearing edges disposed in selectively spaced relation to said comminuting zone and to each other to facilitate said selectively directed flow of gaseous carrier therepast.

3,436,026
METHOD OF COMMINUTING SOLID PARTICLES IN LIQUIDS
Hans Michael Wörwag, Waldackerstr. 15, Stuttgart, Zuffenhausen, Germany
No Drawing. Filed Oct. 11, 1966, Ser. No. 585,727
Claims priority, application Germany, Oct. 13, 1965, W 40,090
Int. Cl. B02c 19/00, 23/00
U.S. Cl. 241—16 4 Claims

There is provided a novel method of comminuting pigment agglomerations contained in lacquers which comprises passing the suspension of the pigment in the lacquer through capillary filters which are so dimensioned that a shearing of the solid particles to the desired size takes place.

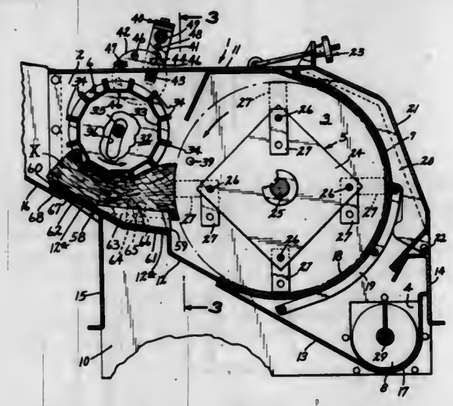
3,436,027
WASTE DISPOSER
George O. Sherman, Jr., Prairie Village, Kans., assignor to The Salvajor Company, Kansas City, Mo., a corporation of Missouri
Filed July 13, 1965, Ser. No. 471,769
Int. Cl. B02c 18/42, 18/12
U.S. Cl. 241—46.08 17 Claims



A waste disposer having a bi-directional motor and a rotor with lugs that move away from the shredding surface upon a reversal of direction of rotation. The lugs again return to an operative position upon continued rotation of the rotor. The motor and rotor are provided with

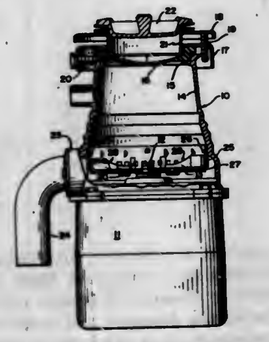
"quick-disconnect" fastenings to the housing to permit removal from the housing without need to disconnect any plumbing whatsoever. The motor casing is constructed to utilize the flow of water in the disposer to dissipate the heat from the motor.

3,436,028
HAMMERMILL AND FEED CONTROL DEVICE THEREFOR
Earl A. Koehnen, Chaska, Minn., and Clarence W. Mobley, Jr., Billings, Mont., assignors to Farmhand, Inc., South Hopkins, Minn., a corporation of Delaware
Filed Nov. 25, 1966, Ser. No. 597,065
Int. Cl. B02c 13/06
U.S. Cl. 241—186 5 Claims



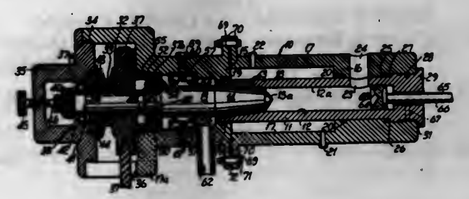
A feed control device including a base plate for mounting within the inlet throat of a hammermill and having a plurality of upwardly projecting relatively narrow guide elements disposed in laterally relatively widely spaced parallel relationship. The guide elements extend longitudinally of the direction of feed and have material supporting upper edges in a common plane, the guide elements defining the sides of a plurality of guide channels for granular material.

3,436,029
FOOD WASTE DISPOSER
Charles R. Lopp and James G. Ruspino, White Bear Lake, Minn., assignors to Whirlpool Corporation, a corporation of Delaware
Filed Oct. 11, 1966, Ser. No. 585,866
Int. Cl. B02c 13/16, 18/42
U.S. Cl. 241—194 5 Claims



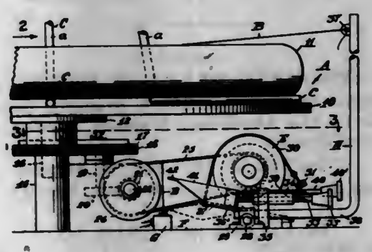
A food waste disposer having a hammer mounted on a flywheel with the hammer having a leading surface adjacent the shredder ring that is sloped downwardly and inwardly toward the flywheel and extending completely to the outer extremity of the hammer that is adjacent the ring to provide an overhang, with the leading surface being inclined outwardly and rearwardly with respect to the direction of rotation so that the entire structure tends to direct the food waste downwardly and outwardly against the shredder ring.

3,436,030
HOMOGENISERS
Martin Gray Stanton, Sutton Coldfield, England, assignor to National Research Development Corporation, London, England, a British corporation
Filed Aug. 11, 1966, Ser. No. 571,807
Claims priority, application Great Britain, Aug. 11, 1965, 34,384/65
Int. Cl. B02c 19/08, 23/02
U.S. Cl. 241—199 9 Claims



A homogeniser has a mortar bore containing a pestle and means for adjusting the clearance between the pestle and the bore and for keeping the pestle axially aligned in the bore. A plunger is used to move material in the bore into contact with the pestle.

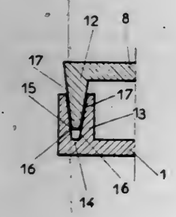
3,436,031
MECHANISM FOR DELIVERING WIRE FROM COILS THEREOF
Robert F. Winders, 4300 District Blvd., Los Angeles, Calif. 90058
Filed Dec. 19, 1966, Ser. No. 602,827
Int. Cl. B65h 25/00
U.S. Cl. 242—54 16 Claims



The invention herein set forth comprises a power propelled mechanism for delivering lengths of wire from coils or rolls thereof to machines for fabricating wire structures such as bed-springs, poultry wire, screens and the like and for subjecting wire to various processes such as coating, annealing and heat treatment; the actuating and control mechanism for wire delivering reels herein shown being specially designed to deliver wire from coils two feet or more in diameter and having a weight of five hundred pounds or more; the wire being delivered under controlled tension and regulated speed to a wire working machine having mechanism at its intake which exerts a pull on the wire being delivered thereto. The reel is motor

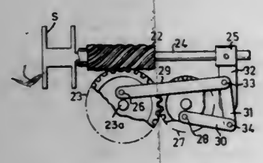
propelled and its operating mechanism embodies an automatic braking system, constituting the essence of the present invention, whereby stoppage of a rapidly revolving heavily loaded reel may be quickly effected within a partial revolution thereof under the urge of force developed by momentum of the revolving reel; such braking action occurring automatically by mechanism actuated by obstructions such as kinks or entanglements developed in the length of wire being advanced by the reel and leading between the reel and the intake of the wire fabricating machine upon the advancing obstructions coming into positive engagement with and actuating an element controlling the braking system so as to effect application of a brake and co-incidently terminating powered propulsion of the wire delivering reel through mechanism actuated by the element controlling the braking system, so as to stop wire delivering rotation of the reel, and thereby preventing the obstruction in the wire from being fed into the wire working machine.

3,436,032
SIMPLY ASSEMBLED CLOSING CASING
Andre Quenot, Besancon, France, assignor to Quenot & Cie S.a.r.l., Besancon, France, a company of France
Filed Dec. 16, 1966, Ser. No. 602,234
Claims priority, application France, Sept. 30, 1966, 78,248
Int. Cl. B65h *75/16*
U.S. Cl. 242—84.8 **3 Claims**



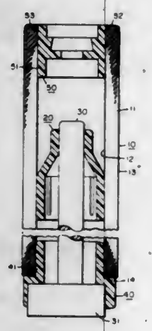
This disclosure concerns a plastic tape measure casing with a bottom having a tangential tape measure outlet and two spaced circular parallel walls forming a groove therebetween and a cover having a depending peripheral rim force-fitted in the groove of the bottom.

3,436,033
LINE SPREADING DEVICE IN FISHING REELS
Åke Eugen Murvall, Marieberg, Svangsta, Sweden, assignor to Abu Aktiebolag, Svangsta, Sweden, a corporation of Sweden
Filed Feb. 21, 1967, Ser. No. 617,698
Claims priority, application Sweden, Feb. 22, 1966, 2,271/66
Int. Cl. A01k *89/00;* **F16h** *21/18*
U.S. Cl. 242—84.21 **5 Claims**



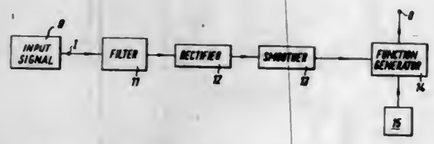
In a fishing reel having a non-rotatable line spool, on which the line is wound by means of a rotatable line guide member, the axial reciprocating movement of the spool for spreading the line windings on the core of the spool is combined with a periodically increasing and decreasing of the amplitude of this movement by connecting the spool with one point of a lever, of which two other points are connected each with one of two excenters driven at different speeds by a common crank shaft.

3,436,034
TEXTILE BOBBIN
Thomas G. Crawford, Hampton, S.C., assignor to Westinghouse Electric Corporation, Pittsburgh, Pa., a corporation of Pennsylvania
Filed Feb. 27, 1967, Ser. No. 618,843
Int. Cl. B65h *75/10, 75/12*
U.S. Cl. 242—118.32 **7 Claims**



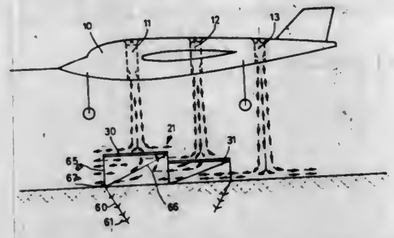
The barrel forming the body of the pirn or bobbin is a laminated tube. The fibrous sheet material of the tube is impregnated with a thermoset epoxy-modified cresylic acid phenol-formaldehyde resin. An internal guide bushing, formed of a thermoplastic resin, is located within the barrel. The bushing has a large cylindrical portion, which engages the barrel, and a smaller cylindrical portion which fits about the spindle. A frustroconical portion joins the two cylindrical portions. The large cylindrical portion has at least one slot cut therein.

3,436,035
AIRCRAFT CONTROL APPARATUS
Eric Priestley, Lewisham, London, England, assignor to Elliott Brothers (London) Limited, London, England, a British company
Filed Nov. 3, 1966, Ser. No. 591,912
Claims priority, application Great Britain, Nov. 16, 1965, 48,730/65
Int. Cl. B64c *13/50*
U.S. Cl. 244—77 **14 Claims**



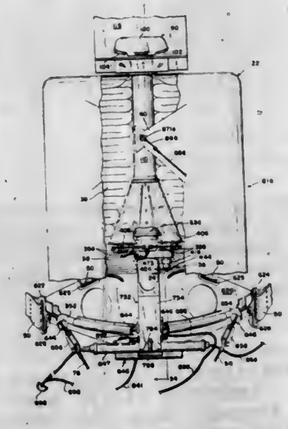
A signal representing a measured function of aircraft motion is passed through a high-pass filter to develop therefrom a signal free of any component representative of the mean value of the function and when this signal exceeds a predetermined value the gain of an amplifier in a control channel in the aircraft is reduced.

3,436,036
TAKEOFF AND LANDING PLATFORM FOR VERTICAL TAKEOFF AND LANDING PLANES
Gero Otto Madelung, Munich, Germany, assignor to Entwicklungsring Sud GmbH, Munich, Germany, a corporation of Germany
Filed Oct. 13, 1966, Ser. No. 586,478
Claims priority, application Germany, Dec. 23, 1965, E 30,725
Int. Cl. B64f *1/00*
U.S. Cl. 244—114 **4 Claims**



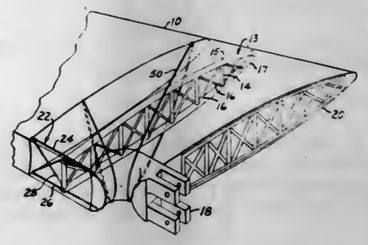
A jet stream dispersion takeoff and landing platform for vertical takeoff and landing airplanes including a flat plate member having an upper jet stream inlet side and a lower jet stream outlet side, supporting legs therefor, the plate member further having a plurality of openings therethrough with a downwardly opening closure for each of the openings and means on the outlet side limiting the downward movement of each closure.

3,436,037
APPARATUS FOR DEPLOYING AND OPENING PARACHUTES
Robert M. Stanley, Denver, Colo., assignor to Stanley Aviation Corporation, Aurora, Colo., a corporation of New York
Division of Ser. No. 470,111, July 7, 1965, and continuation-in-part of Ser. No. 605,121, Dec. 12, 1966. This application July 13, 1967, Ser. No. 653,204
Int. Cl. B64d *17/54, 25/08*
U.S. Cl. 244—122 **40 Claims**



An apparatus for forcibly deploying a parachute comprising a rocket secured to the parachute canopy by a towline. The rocket is adapted to be launched from a stored position in the pack and thereafter ignited to deploy the collapsed canopy and thus pay out the parachute suspension lines.

3,436,038
STRUCTURES
Robert E. Parsons, West Covina, Fred J. Darms, Upland, and William T. Cox, Pomona, Calif., assignors to Aerojet-General Corporation, El Monte, Calif., a corporation of Ohio
Filed Apr. 11, 1967, Ser. No. 630,116
Int. Cl. B64c *3/18, 1/26, 3/26*
U.S. Cl. 244—123 **10 Claims**

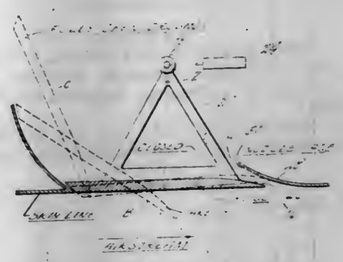


This invention relates to structural members such as spars for aircraft wings and the like.

According to the present invention a structure is provided, such as an aircraft wing, having one or more fittings by which the structure is to be supported by another structure, such as a fuselage. A plurality of structural members such as spars are connected to each fitting and radiate therefrom throughout the structure.

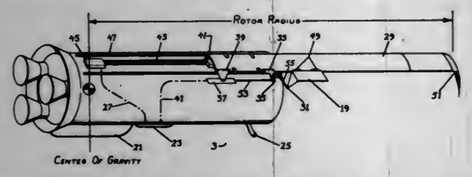
According to a preferred but optional feature of this invention the structural members connect with several other structural members, such as ribs, and include diagonal members formed between the ribs and the spars. The structural members radiated from the fitting may be continuously-wound filament rovings, and another feature is to decrease the number of rovings in the structural members as they recede from the fitting. The particular configuration of radiation provides an isotensoid support for the structure.

3,436,039
AIRCRAFT PRESSURIZATION OUTFLOW VALVE
Charles C. Seger, West Suffield, and Floyd R. Emmons, Granby, Conn., assignors to United Aircraft Corporation, East Hartford, Conn., a corporation of Delaware
Filed Apr. 24, 1967, Ser. No. 633,138
Int. Cl. B64d *13/04;* **B64c** *1/14, 23/00*
U.S. Cl. 244—129 **4 Claims**



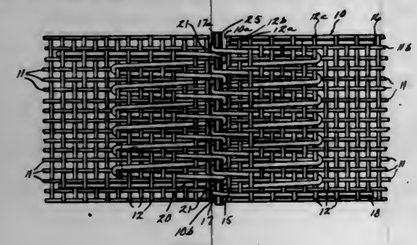
A flat plate-like valve element is pivotally mounted to be flush with the skin of the aircraft and serves as a variable area throttling valve to maintain the pressure in the cabin of the aircraft at a predetermined value. The side wall defining the opening in the skin together with the valve element defines a thrust nozzle in a given position and a shield to prevent "take-off bump" in another position.

3,436,040
AUTOROTATIVE RECOVERY SYSTEM
Jan M. Drees, Dallas, Tex., assignor to Bell Aerospace Corporation, Wheatfield, N.Y.
Filed Mar. 2, 1966, Ser. No. 531,300
Int. Cl. B64g 1/00; B64c 27/00
U.S. Cl. 244—138 4 Claims



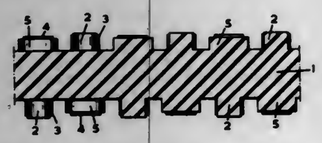
Rocket or the like is provided with self-rotative descent capabilities by adjoining and extending a rotor blade section therefrom which provides lift as assembly of rocket and blade rotate around center of gravity of assembly.

3,436,041
SEAM CONSTRUCTION WITH HEAT SHRINKABLE LOOP ELEMENTS
Herbert C. Haller, Appleton, Wis., assignor to Appleton Wire Works Corp., Appleton, Wis., a corporation of Wisconsin
Filed Mar. 31, 1967, Ser. No. 627,389
Int. Cl. B21f 27/08, 27/14
U.S. Cl. 245—10 4 Claims



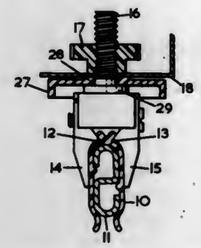
A seam construction for joining together adjacent ends of a woven wire belt, or similar item, in which each end has a heat shrinkable plastic thread member laced thereabout to form projecting loops which are enmeshed or interleaved with a connecting pin member inserted through the loops, after which the looped filaments are heat shrunk to tighten the seam and enable the belt to be closely applied about an object.

3,436,042
VIBRATION DAMPENING PADS
Willy Van Goubergen, Brussels, Belgium, assignor to N.V. Imexin S.A., Brussels, Belgium, a corporation of Belgium
Filed Mar. 27, 1967, Ser. No. 626,048
Claims priority, application Netherlands, Apr. 5, 1966, 6604539
Int. Cl. E02d 27/44
U.S. Cl. 248—22 1 Claim



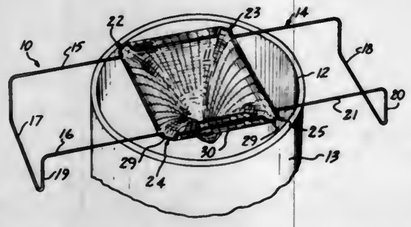
A rubber or plastic pad is provided with groups of elevations of different heights, combining frictional grip on adacent surfaces with high dampening characteristics under varying loads. When the elevations are on both faces of the pad, elevations of similar height on opposite faces are preferably offset relative to each other to lengthen the path of travel of vibrations.

3,436,043
HANGER FOR AN INVERTED CHANNEL SECTION INSULATING SHEATH CONTAINING AN ELECTRICAL CONDUCTOR
John Michael Hollander, Kenilworth, England, assignor to E.M.S. Electrical Products Limited, Kenilworth, England
Filed Apr. 26, 1967, Ser. No. 633,831
Claims priority, application Great Britain, May 21, 1966, 22,739/66
Int. Cl. F16l 3/00
U.S. Cl. 248—63 3 Claims



An inverted channel-shaped insulating sheath for an overhead electrical conductor is grippingly supported by a holder formed in two parts which are mutually tilted about a fulcrum by a screw, and one of which has integral suspension means.

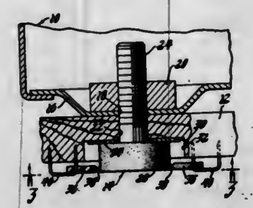
3,436,044
STRAINER SUPPORT
Jerry A. Martinson, P.O. Box 766, Williston, N. Dak. 58801
Filed Oct. 31, 1966, Ser. No. 590,602
Int. Cl. B01d 23/28
U.S. Cl. 248—94 3 Claims



A strainer support for a strainer composed of stretchable material. The support has a rectangular frame with four blunt projections with outwardly and downwardly extending faces. The strainer has a rolled end which is stretched about the projections.

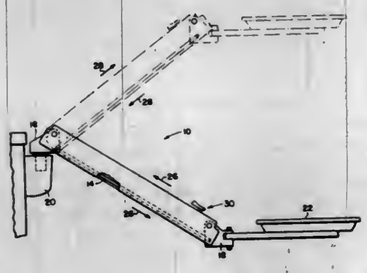
3,436,045
APPLIANCE LEVELING FOOT AND SHIPPING PALLET BOLT
Warren E. Anspaugh, Eaton, Ohio, assignor to General Motors Corporation, Detroit, Mich., a corporation of Delaware
Filed July 10, 1967, Ser. No. 652,298
Int. Cl. F16b 41/00; B65d 19/44; B60p 7/08
U.S. Cl. 248—119 3 Claims

An appliance leveling foot which is especially adapted to be used as a shipping bolt when the appliance is secured to a wooden shipping pallet. The shipping foot includes a molded rubber covering on a bolt head. The molded covering has two integral tabs connected to it through thinned frangible portions. In shipment, the appliance is placed on the pallet with the leveling feet threaded into the suitable sockets in the appliance bottom panel. This



secures the pallet to the appliance. With the leveling foot in place, the tabs are stapled to the pallet allowing the bolts and appliance to move relative to the pallet while preventing rotation of the leveling feet thereby avoiding the possibility of their working loose during shipment.

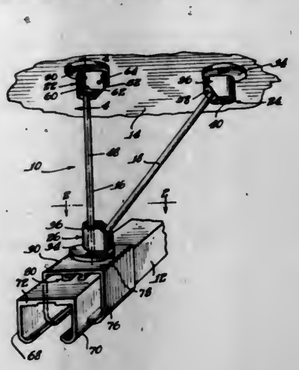
3,436,046
INFINITE POSITIONING MECHANISM FOR A MOVABLE ARM
John J. Valeska, Rochester, N.Y., assignor to Ritter Pfaudler Corporation, Rochester, N.Y., a corporation of New York
Filed Sept. 1, 1967, Ser. No. 665,141
Int. Cl. A47f 5/13
U.S. Cl. 248—284 7 Claims



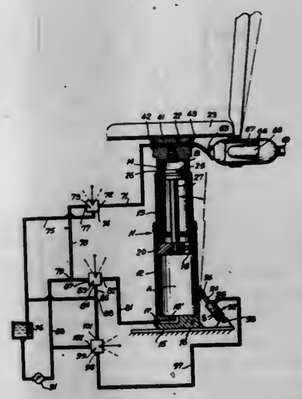
A movable arm, for use in combination with a dental console, supports an instrument tray outwardly spaced from the console. The arm, movable in both horizontal and vertical planes carries a friction lock, which permits free upward movement of the arm but locks instantly when the upward movement is stopped and the arm begins to fall by gravity. The lock has a manual release for disengaging the lock to move the arm to a lower level. The lock is operable over the entire range of vertical movement of the arm so that the arm can be positioned at any point within the range of vertical movement.

3,436,047
MOUNTING ASSEMBLY
Robert E. Foltz, Sterling, Ill., assignor to Lawrence Brothers, Inc., Sterling, Ill., a corporation of Illinois
Filed Apr. 10, 1967, Ser. No. 629,533
Int. Cl. E04g 17/18
U.S. Cl. 248—317 7 Claims

This invention relates to a mounting assembly including a plurality of mutually interchangeable mounting brackets for suspending a track from a support surface and bracing the track against movement relative to the support surface.



3,436,048
SEAT ASSEMBLY FOR VEHICLES
Edward M. Greer, Beverly Hills, Calif., assignor to Greer Hydraulics, Inc., Los Angeles, Calif., a corporation of New York
Filed June 5, 1967, Ser. No. 643,490
Int. Cl. A47b 95/00; A61g 15/00; B60n 1/02
U.S. Cl. 248—397 10 Claims

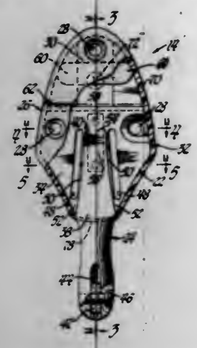


This invention relates to the art of seat assemblies and more particularly to a seat assembly for a vehicle designed to move over rough terrain and including adjustable yieldable means for supporting the seat and adjustable means independent of said yieldable means for varying the height of the seat.

3,436,049
BREAKAWAY MIRROR SUPPORT
James H. de Claire, East Detroit, La Verne B. Ragsdale, Birmingham, and Raymond G. Sprecher, Detroit, Mich., assignors to General Motors Corporation, Detroit, Mich., a corporation of Delaware
Filed May 29, 1967, Ser. No. 641,958
Int. Cl. B60r 1/04
U.S. Cl. 248—479 4 Claims

A rear view mirror support bracket wherein the mirror support arm is connected to the mounting base by later-

ally spaced vertically extending shear sections and a horizontally extending web section, all of which are designed to fracture under predetermined loading conditions. The



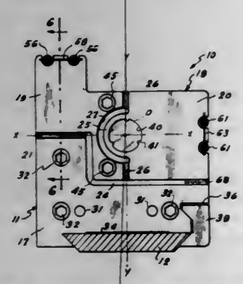
support arm is hinged by a metal strap to the mounting base after fracture and the fractured sections are sheathed by a resilient covering to prevent frontal exposure of sharp or jagged edges.

3,436,050

ADJUSTABLE MOUNT FOR OPTICAL ELEMENT

Edward Camp Tibbals, Jr., Boulder, Colo., assignor, by mesne assignments, to Alexander Dawson, Inc., Mahwah, N.J., a corporation of Delaware

Filed May 4, 1967, Ser. No. 636,095
Int. Cl. A47g *1/24*
U.S. Cl. 248—487 **11 Claims**



A mount for a mirror or other optical element of an optical system, for example, in an interferometer, includes a one-piece, grooved and slotted support plate constituting a base portion which may be displaceable parallel to the axis of the optical system and a section for carrying the optical element which is angularly displaceable relative to the base portion at thin webs defining orthogonally related axes intersecting at the center of such element and lying in a common plane generally perpendicular to the optical axis, and differential screws acting against the support plate for selectively causing fine, continuous angular adjustment of the element carrying section about each of those orthogonally related axes, thereby to precisely angularly position the optical element relative to the optical axis.

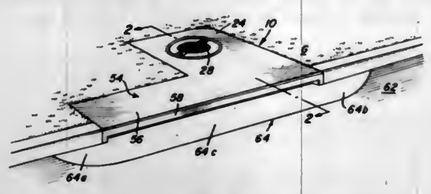
3,436,051

FORM FOR CONCRETE STRUCTURES AND PARTICULARLY CONCRETE CATCH BASIN UNITS

Tadao Nakahara, 47—137 Kam Highway, Kaneohe, Hawaii 96744

Filed Sept. 19, 1966, Ser. No. 580,220
Int. Cl. B29c *1/00*
U.S. Cl. 249—1 **18 Claims**

Form construction for forming catch basin units including a first form means having spaced inner and outer forms retained vertically for the reception of cementitious material therebetween, laterally extending second form means comprising a channel-like form for defining a



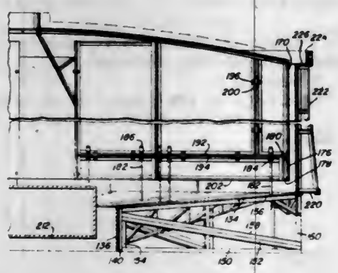
trough communicated with the section formed by the first form means, and third form means for positioning over the first and second formed sections for the formation of a top slab thereover.

3,436,052

MOLD FOR FORMING MONOLITHIC CONCRETE CYLINDRICAL BUILDING

Ricardo J. Nevarez Ocampo, Mexico City, Mexico, assignor to Technical Investment Corporation, Miami, Fla., a corporation of Florida

Filed Nov. 2, 1967, Ser. No. 680,103
Int. Cl. E04g *11/02*
U.S. Cl. 249—27 **6 Claims**



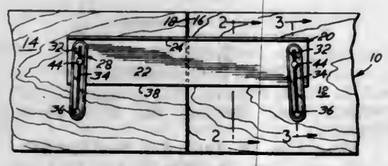
A building construction of monolithic reinforced concrete having a single pedestal-type support resting upon the ground surface. A novel form arrangement is employed for enabling the complete building to be formed in a single operation by employing a form which will completely form all components of the building and be subsequently removed for re-use. The building is capable of being constructed entirely by rather unskilled laborers by virtue of the specific construction of the form and the simplicity of use of the form in constructing a building.

3,436,053

APPARATUS FOR USE IN FORMS FOR CONCRETE

James E. Person, 1822 E. Main, Auburn, Wash. 98002 and Robert E. Person, 9002 Fruitland Ave., Puyallup, Wash. 98371

Filed Aug. 15, 1966, Ser. No. 572,517
Int. Cl. E04g *9/08*
U.S. Cl. 249—192 **7 Claims**



This disclosure is for apparatus for making forms for concrete. It comprises a combination of a drawbar and

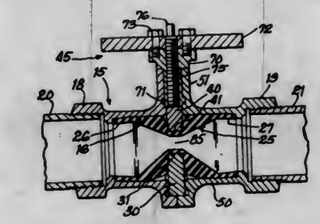
shoes for drawing closer together adjacent panels and also for drawing closer together opposed panels so as to make a more substantial and a better form for receiving concrete.

3,436,054

LINE VALVE OF THE COMPRESSIBLE-TUBE TYPE

George S. Cole, 400 N. Michigan Ave., Chicago, Ill. 60611, and Richard L. Ritzenthaler, Evanston, Ill. (400 N. Michigan Ave., Chicago, Ill. 60611)

Filed Aug. 15, 1966, Ser. No. 572,405
Int. Cl. F16k *7/06*
U.S. Cl. 251—8 **6 Claims**



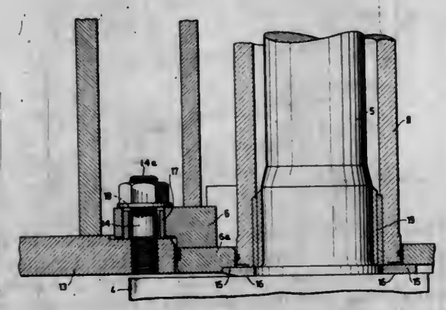
A line valve of the compressible-tube type wherein a resilient tube is compressed or pinched in its central region between a transverse abutment and a movable control element. The resilient tube has walls of increased thickness in regions adjacent the abutment and movable control element. The tube at its ends abuts annular shoulders in a valve housing, and the spacing between the shoulders is slightly less than the axial length of the tube when undistorted, whereby the tube is compressed axially in the housing, insuring desired sealed relationship between tube and housing. The interior housing walls inwardly of the annular shoulders taper to a reduced diameter adjacent the shoulders, further cooperating to establish a sealed relationship between tube and housing.

3,436,055

MOUNTING DEVICE FOR WICKET GATES OF A TURBINE

Arne Herman Lindquist, Trollhattan, Sweden, assignor to Nydqvist & Holm Aktiebolag, Trollhattan, Sweden, a corporation of Sweden

Filed Mar. 16, 1966, Ser. No. 534,854
Claims priority, application Sweden, Mar. 18, 1965, 3,541/65
Int. Cl. F16k *1/16, 13/00*
U.S. Cl. 251—305 **5 Claims**



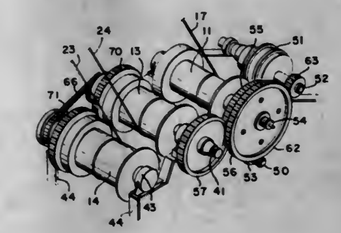
A mounting device in which the wicket gate of a turbine is pivotally and axially displaceably mounted between a head cover and a bottom ring. An adjustment means on the head cover permits adjustment of the spatial position of the head cover so that the total width of gaps between the end faces of the wicket and the head cover and the bottom ring respectively is at a minimum and selectively divided between the upper and the lower gap thereby reducing water seepage past the wicket when the same is closed upon shutdown of the turbine.

3,436,056

DRIVE SYSTEM FOR YARDER USED IN DOUBLE MAIN LINE LOGGING

James R. Thompson, Seattle, Wash., assignor to Washington Iron Works, Seattle, Wash., a corporation of Washington

Filed Sept. 7, 1967, Ser. No. 666,098
Int. Cl. B66d *1/26*
U.S. Cl. 254—185 **8 Claims**



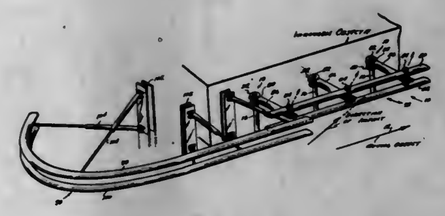
A drive system for a yarder having two main drums and a haulback drum and used with a skidder carriage in double main line skidder logging, permitting an operator to operate the main drums either independently of or together with the haul-back drum, the system obtaining counter rotations of the main drums in said independent operation and like rotation in the all-drive operation, and providing in the all-drive operation an infinite ratio between the speed of the haul-back drum and that of the main drums.

3,436,057

ENERGY-ABSORBING BARRIER DEVICE

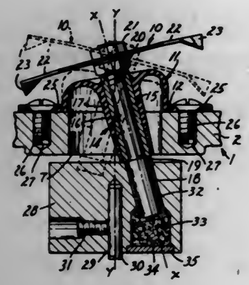
Bernard Mazelsky, 2106 Dancove Drive, West Covina, Calif. 91790

Filed Aug. 10, 1967, Ser. No. 659,758
Int. Cl. E01f *15/00;* **A01k** *3/00;* **F16d** *63/00*
U.S. Cl. 256—13.1 **8 Claims**



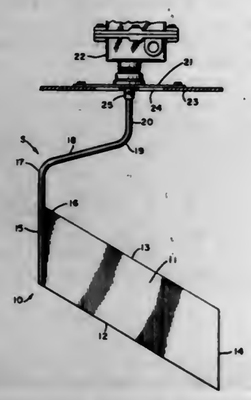
A highway barrier includes rotary shock attenuators which are connected to a guardrail by radial arms. These arms are swing to actuate the attenuators when the guardrail is subjected to an oblique impact. The attenuators absorb energy by rolling tubes about their own axes. The tubes are partially flattened sufficiently to radially bend and stress different portions of the material thereof beyond their elastic limits, in tension and compression.

3,436,058
LIQUID IMPELLING MEANS AND SEAL THEREFOR
George W. Murphy, Minneapolis, Minn., assignor to K & K Manufacturing, Inc., Rogers, Minn., a corporation of Minnesota
Filed Dec. 8, 1967, Ser. No. 689,173
Int. Cl. B01f 7/22
U.S. Cl. 259—99 11 Claims



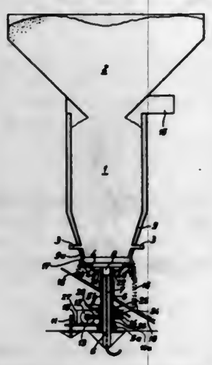
A flexible diaphragm seal having a core sealed thereto and normally coaxial therewith and a marginal portion for sealing engagement with a liquid chamber wall having an opening therethrough, to close said opening. The core has inner and outer end portions at opposite sides of the seal, the inner end portion having an impeller wobbler thereon and the outer end portion projecting through the wall opening. Drive means, operatively engaging said core outer end portion, angularly displaces said core from the normal axis of the seal and imparts non-rotary wobbling movement to the impeller wobbler substantially on said normal axis of the seal.

3,436,059
ROTARY INDICATOR PADDLE
Thomas Alexander Donaldson, Newark, Del., assignor to J. M. Huber Corporation, Locust, N.J., a corporation of New Jersey
Filed Mar. 3, 1966, Ser. No. 531,384
Int. Cl. B01f 7/16; G01f 23/22
U.S. Cl. 259—135 1 Claim



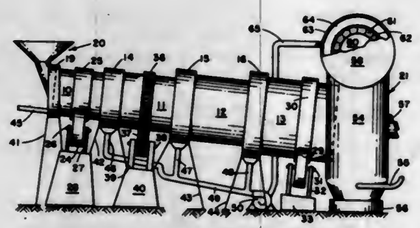
A rotary paddle capable of being inserted through a relatively small opening in a tank and having an effective cross section to be retarded by powdery material to thereby provide an indication of the quantity of material in that portion of the tank is disclosed.

3,436,060
DEVICE FOR THE PERIODIC DELIVERY OF PREHEATED MATERIAL
Otto George Lellep, La Masea, Calif., and Bernd Helming, Neubeckum, Germany, assignors to Polysius G.m.b.H., Neubeckum, Germany
Filed June 21, 1967, Ser. No. 647,865
Claims priority, application Germany, July 7, 1966, P 39,893
Int. Cl. F27b 1/00; B66c 17/08
U.S. Cl. 263—29 3 Claims



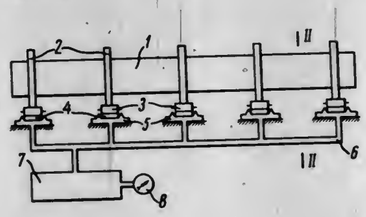
A device for the periodic delivery of preheated material comprising a kiln having a lower portion which is provided with a burner for heating material in the kiln and which has a bottom opening, a closure for such opening which is slidably and rotatably mounted on a substantially vertical axis, and driving mechanism for simultaneously lowering and rotating the closure to form an annular discharge aperture between the closure and the bottom opening of the kiln, including a support tube fixed to the lower side of the closure, and a vertical fixed column on which the support tube is slidable and which is provided with a channel for feeding a fluid under pressure to the space inside the support tube between the upper end of the column and the lower side of the closure.

3,436,061
ROTATING SECTIONED FURNACE
Robert E. Zinn, Lexington, Mass., assignor to Arthur D. Little, Inc., Cambridge, Mass., a corporation of Massachusetts
Filed May 25, 1967, Ser. No. 641,322
Int. Cl. F27b 7/36, 7/02
U.S. Cl. 263—32 23 Claims



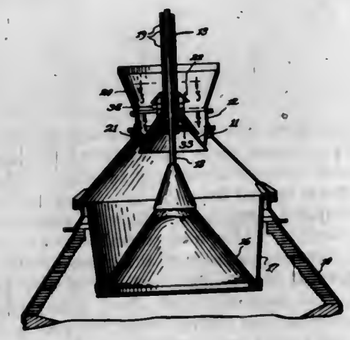
This invention relates to a furnace adapted to effect reactions between solid matter, or semi-solid matter, and a fluid. The furnace is particularly suited to burning or reacting those solid materials which could plug or damage a grate by overheating, oxidation or otherwise. The furnace is constructed of segments in telescoping relationship positioned at an angle with the horizon. The segments may or may not be axially aligned. Each segment is rotated for stoking action and discharges the solid material by gravity into the succeeding segment in a manner to permit the introduction of fluid under the solids as they are transferred from segment to segment. The furnace is particularly suited for use as an incinerator or as a pyroprocessing kiln, including reduction and oxidation as well as many additive reactions involving gases, liquid and solid reactants.

3,436,062
SUPPORTING DEVICE FOR ROTARY MULTIPLE-SUPPORT KILNS
Georgy Vladimirovich Raevsky, per Mechnikova 3, kv. 6, Kiev, U.S.S.R.
Filed Feb. 28, 1967, Ser. No. 619,295
Int. Cl. F27b 7/22; F16c 41/02
U.S. Cl. 263—33 4 Claims



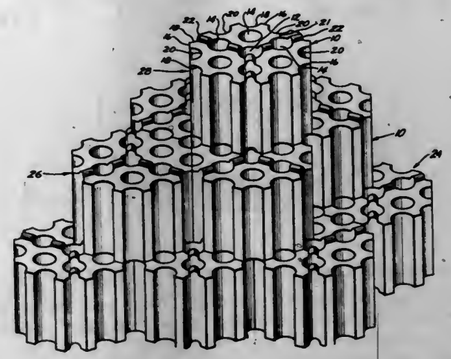
A kiln in which the rotatable body is provided with a plurality of rings with each ring resting upon a set of rollers for supporting the rotatable body. A damping pneumatic cushioning means is provided for each set of rollers and a pneumatic system connects the cushioning means whereby each set of rollers is capable of upward and downward movements as well as inclined movement in a vertical plane parallel to the longitudinal axis of the rotation of the body for providing uniform contact between the sets of the rollers and the rings.

3,436,063
BLAST FURNACE SHROUD
William J. Woodworth and Stanley P. Hayden, Chicago, Ill., assignors to Inland Steel Company, Chicago, Ill., a corporation of Delaware
Filed Mar. 9, 1967, Ser. No. 621,996
Int. Cl. F27b 1/20; F27d 3/10, 1/18
U.S. Cl. 263—50 13 Claims



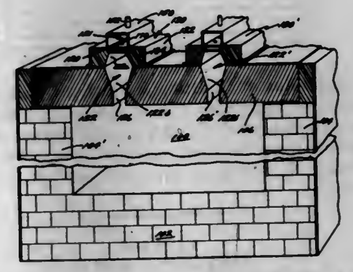
A protective shroud for covering a damaged bell of a blast furnace, said shroud preferably comprising top and bottom shroud members each having walls which slope downwardly and outwardly when the shroud is installed in a blast furnace.

3,436,064
CHECKERBRICK AND CHECKERWORK CONSTRUCTION FOR REGENERATORS
Charles R. Hauth, Upper St. Clair, Pittsburgh, and Larry L. Sheatsley, Bethel Park, Pa., assignors to Dresser Industries, Inc., Dallas, Tex., a corporation of Delaware
Filed Oct. 10, 1967, Ser. No. 674,327
Int. Cl. F23l 15/02
U.S. Cl. 263—51 7 Claims



The present invention relates to improvements in heat exchangers and is directed particularly to improved design for checkerbrick and checkerwork construction for blast furnace stoves. Specifically, in an assembly of checkers, the invention is directed to multi-sided checkerbrick having symmetrically arranged internal apertures and external grooves and which is divided into equal segments by projections and complementary recesses to permit staggering of courses of checkerbrick throughout the vertical extent of the construction while maintaining alignment of the apertures in the checkerbrick and formed by combinations of checkerbrick.

3,436,065
METHOD OF DRYING A FOUNDRY LADLE
Charles S. Flynn, 2991 Sherwood Court, Muskegon, Mich. 49441
Original application Oct. 21, 1965, Ser. No. 499,799, now Patent No. 3,390,944, dated July 2, 1968. Divided and this application Jan. 29, 1968, Ser. No. 721,909
Int. Cl. F26b 3/02
U.S. Cl. 263—52 1 Claim



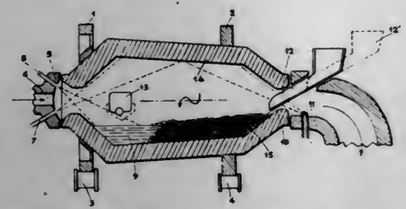
A method of drying a foundry ladle by forming a continuous stream of hot gas by forcing a mixture of combustion gases continuously through a uniform refractory felt layer, continuously combusting the gases as they emerge, enclosing the hot combustion gases temporarily in a pressure chamber and continuously ejecting the hot combustion gases through restricted outlet means directly into the ladle.

3,436,066

ROTARY FURNACE ENABLING MELT TO BE OBTAINED CONTINUOUSLY FROM LIQUID STEEL OR IRON

Jean Bouchet, Clery-Saint-Andre, Loiret, France, assignor to Societe Metallurgique d'Imphy, Paris, France, a company of France

Filed May 2, 1966, Ser. No. 546,780
Claims priority, application France, May 7, 1965, 16,260
Int. Cl. C21c 5/38; C21b 13/08; F27b 7/36
U.S. Cl. 266—18 4 Claims



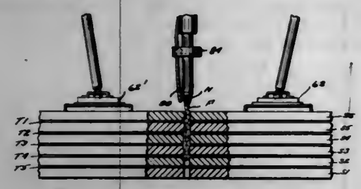
A rotary furnace producing a continuous melt for liquid steel or iron has a burner at one end and a chute for feding ore at the other end. Two jets of pure industrial oxygen discharge adjacent the burner, one directed upwardly to direct the burner gases toward the upper part of the furnace and the other directed toward the surface of the bath. A third jet of pure industrial oxygen is located at the other end of the furnace and is directed toward the interior and toward the top of the furnace.

3,436,067

STACK CUTTING APPARATUS WITH ADJUSTABLE COOLANT MEANS

Robert W. Dodge, 40 Pleasant St., Wenham, Mass. 01984, and George E. Williams, 463 Elliott St., Beverly, Mass. 01915

Application Apr. 28, 1965, Ser. No. 451,520, now Patent No. 3,338,757, dated Aug. 29, 1967, which is a continuation-in-part of application Ser. No. 390,579, Aug. 19, 1964. Divided and this application Mar. 14, 1967, Ser. No. 630,488
Int. Cl. B26f 1/26, 3/08
U.S. Cl. 266—23 3 Claims



An apparatus for cutting a stack of sheets in which the means for supplying a flow of coolant into the cut includes a reservoir of coolant, conduit means for conveying coolant from the reservoir, and means for adjustably positioning the discharge assembly conduit in relation to the jet flame.

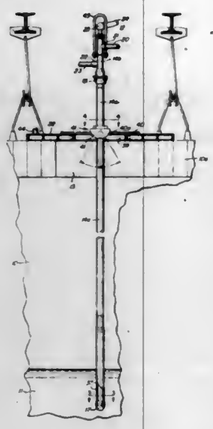
3,436,068

OXYGEN LANCE

George C. Beals and Kendal M. Ogilvie, Salt Lake City, Utah, and Lyle E. Mulholland, Hayden, Ariz., assignors to Kennecott Copper Corporation, New York, N.Y., a corporation of New York

Filed Oct. 14, 1965, Ser. No. 496,119
Int. Cl. C21c 7/00; B05b 15/08, 15/00
U.S. Cl. 266—34 13 Claims

An oxygen lance for the injection of oxygen into a molten material. The lance is of concentric tubular construction and includes a non-ferrous immersible lower portion, including a gas-injection tip, a universal pendulous mounting to support the lance from a furnace roof and a swivel joint connecting the upper and lower portions of the outer tube of the lance shank. The universal pendulous



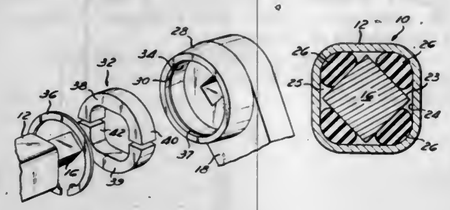
mounting permits the lance to swing when contacted by solid masses floating in the molten material. The swivel joint perimts the direction of the discharge of oxygen into the molten material to be changed while the lance remains in place.

3,436,069

BEARING ASSEMBLY FOR ELASTIC JOINTS

Curtis W. Henschen, % Henschen Industrial Corporation, Jackson Center, Ohio 45334

Filed Mar. 13, 1967, Ser. No. 622,666
Int. Cl. B60g 11/18; F16f; B62d
U.S. Cl. 267—57.1 10 Claims



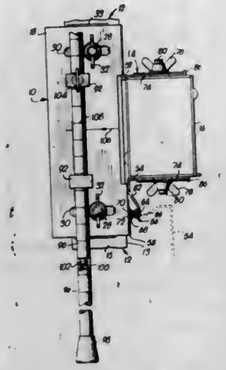
In combination with an elastic torsion joint having concentrically arranged inner and outer tubular members of a polygonal cross-sectional configuration with the inner member being spaced from the outer member by a plurality of elongated cushioning rollers disposed between an external surface on the inner member and a pair of intersecting internal surfaces of the outer tubular member for the purpose of yieldingly resisting relative rotation of the inner and outer members about a common axis, a load supporting arm connected at one end to the inner member and having an internally cylindrical housing portion surrounding one end of the outer member to define a bearing race therebetween in which is mounted a split bearing element having an outer surface slidingly engaging the interior of the housing portion and having a polygonally-shaped inner surface non-rotatably engaging the exterior of the outer member.

3,436,070

JIG FOR ELECTRICAL OUTLET BOXES

Charles H. Utley, R.F.D. 1, Rayville, Mo. 64084, and Jerry R. Sanson, Polo, Mo. 64671

Filed May 31, 1966, Ser. No. 553,888
Int. Cl. B25b 11/00, 1/00; B23q 3/02
U.S. Cl. 269—8 5 Claims



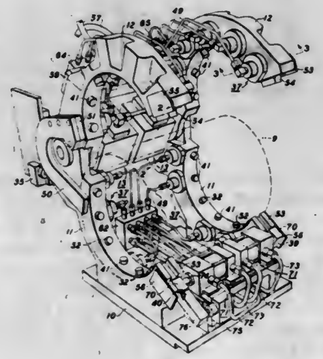
A jig for supporting an electric outlet box is releasably attached to a stud by a pair of spaced wings relatively biased toward each other and the jig has an adjustable support for holding the outlet box at a selected position during mounting of the box to the stud comprising a pair of brackets, each with a shiftable adjustment plate for carrying the box and retaining means such as a magnet on each of the plates for preventing relative movement of the outlet box.

3,436,071

WORK HOLDER

Thomas L. Petruccelli, Webster, N.Y., assignor to Xerox Corporation, Rochester, N.Y., a corporation of New York

Filed Apr. 4, 1966, Ser. No. 540,070
Int. Cl. B25b 1/00, 1/24, 5/16
U.S. Cl. 269—20 12 Claims



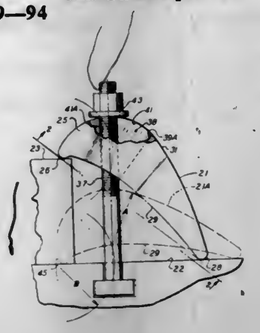
Apparatus for supporting a thin walled or distortable work element in non-deformed posture against the forces generated by a machine tool.

3,436,072

SELF-ADJUSTING WORKPIECE CLAMP

Bert N. Svenson, 10747 Spry St., Norwalk, Calif. 90650

Filed Sept. 14, 1965, Ser. No. 487,199
Int. Cl. B23q 3/02
U.S. Cl. 269—94 5 Claims



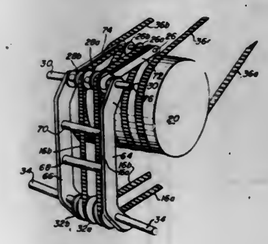
An arcuate workpiece clamp for use with a post secured to the work rest. The clamp has a central aperture opening upwardly to an arcuate horizontal surface of the clamp, and opening downwardly in a restricted throat approximately the diameter or cross-section of the fixed bolt. The opening in the clamp body may be restricted by the walls of the aperture or by resilient restrictors adapted to bear against the bolt. The restriction acts to continuously adjust the clamp with respect to the post such that the ratio of clamp load upon the workpiece to the load upon the work rest is as nearly constant as possible. Each extreme of the clamp body has a bearing end adapted to contact either the workpiece or the work rest. The contacting surface of each bearing end may be contoured or curved to shift the point of contact with respect to the workpiece or the work rest such that the previously mentioned load ratio remains constant. The radius of the arcuate upper clamp body surface is defined by a radius drawn from a center that is above the tangent plane common to the bearing ends of the workpiece.

3,436,073

STACKER

Newton Christmas, 912 S. Elm, Mount Prospect, Ill. 60056

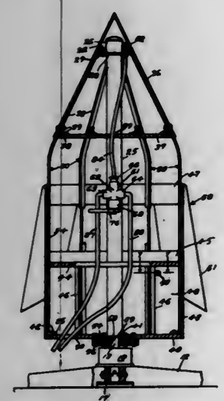
Filed Oct. 16, 1967, Ser. No. 675,411
Int. Cl. B65h 29/12
U.S. Cl. 271—76 8 Claims



This disclosure relates to a stacker for stacking successive signatures of printed material as they issue from a web offset press. The stacker incorporates a break-away type release for disengaging the feed belts which normally function to carry the signatures around a turn-around drum. The release mechanism may be set to function when a predetermined tension on the belts is exceeded during a jammed condition, thereby protecting such belts and permitting manual correction of the jammed condition. The

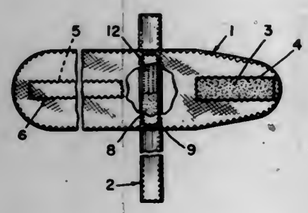
stacker is provided with a variable speed drive, which controls the speed of all of the conveying functions of the stacker.

3,436,074
FLUID DRIVEN ELEVATING AMUSEMENT DEVICE
Philander C. Knox III, 507 N. Boston Ave., De Land, Fla. 32720
Filed Aug. 5, 1966, Ser. No. 570,618
Int. Cl. A63g 1/44
U.S. Cl. 272—7 5 Claims



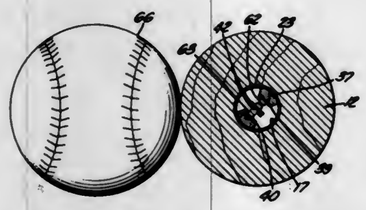
A passenger carrying toy simulating a space ship or rocket which may be operated by water pressure from a garden hose connected to a conventional domestic outlet to cause the space ship to ascend. Control means in the passenger compartment and operated by one of the passengers regulates the flow of the water into and out of an expansible chamber to control the ascent and descent of the vehicle or to enable it to remain stationary in any position of its travel. Water discharged during descent of the vehicle may be conveyed through a second hose to a lawn sprinkler.

3,436,075
BOWLING BALL GRIP POSITION INDICATOR
Charles H. Robinson, 1814 Lake St., Glendale, Calif. 91201
Filed Apr. 19, 1965, Ser. No. 449,091
Int. Cl. A63b 69/40
U.S. Cl. 273—26 2 Claims



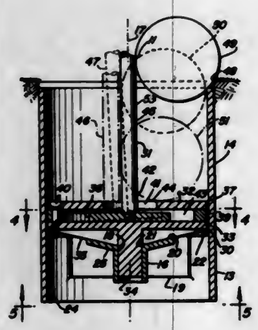
A position indicating means for hand and arm position determination in games and sports characterized by an infinitely adjustable wristband and a pair of pointer elements separately detachably mountable on the wristband in selected positions either lengthwise or transversely of the length of the wristband to indicate to the user a correct position of the hand and arm in a movement in the game or sport in which the user is engaged.

3,436,076
PSYCHOLOGICAL TRAINING DEVICE FOR A SPORT
Richard P. Barthol, 13141 Addison St., Sherman Oaks, Calif. 91403
Filed Oct. 18, 1965, Ser. No. 496,984
Int. Cl. A63b 69/00
U.S. Cl. 273—26 4 Claims



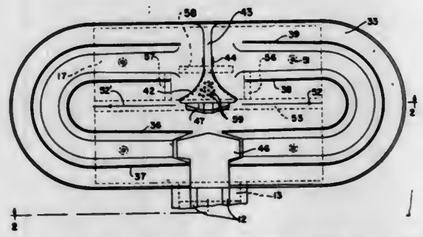
The invention is a device for the purpose of assisting and training an individual in any sport wherein a ball is contacted by a playing implement. In nearly all sports of this type it is imperative that the player concentrate on keeping his eye on the ball. The invention provides a means for providing for a signal preferably by way of a flash of light at the time of impact of the implement with the ball and at that position. The signal by way of a flash of light reinforces the player's capability and will to concentrate on keeping his eye one the ball at the time of impact and thereby his ability improves.

3,436,077
GOLF HOLE MARKER
James R. Geram, 4020 Lynn Ora Drive, Pensacola, Fla. 32504
Filed Sept. 29, 1967, Ser. No. 671,862
Int. Cl. A63b 57/00
U.S. Cl. 273—34 10 Claims



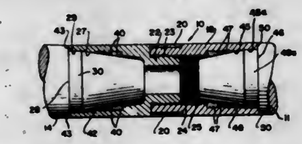
The disclosure relates to a golf hole marker which is useful for marking golf holes in practice putting greens and which has a movable standard for the hole identification component of the market, the standard being shiftable in the hole liner or cup so as to facilitate the entry of the golf ball into the liner. The marker has a base component which is supported on the floor or base portion of the cup and the base component can be withdrawn from the liner when the marker is removed. This base component of the marker supports an assembly that includes the standard and is connected to the assembly in a manner such that the assembly can be shoved or moved laterally of the medial axis of the liner by the ball as it enters the opening in the cup. The assembly has a support for the standard which rests and is slidably on an upper face of the base component and a retainer that loosely connects the base component and the assembly is also provided. The retainer permits the assembly to move laterially of the medial axis of the liner when the need arises and also permits the standard to tilt on the face of the base.

3,436,078
RACK FOR BOWLING BALLS AND THE LIKE
Ralph Grimes, 207 W. Plum St., Georgetown, Ohio 45121
Filed Nov. 25, 1966, Ser. No. 596,860
Int. Cl. A63d 5/02
U.S. Cl. 273—47 4 Claims



A ball storage rack including a pair of U-shaped tracks. Located centrally between the tracks is a horn having an element thereon from arresting balls received from a ball return track. A spur of the horn prevents balls from moving past the terminal ends of the storage tracks and a fan blows air through perforations in the horn.

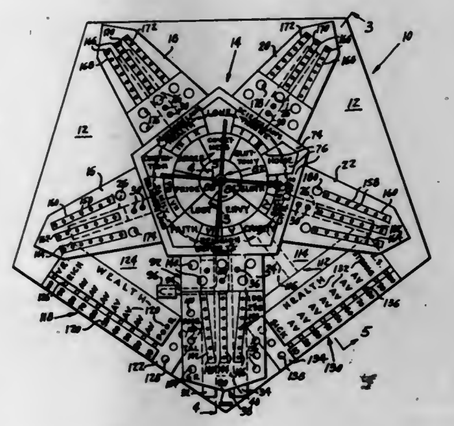
3,436,079
BILLIARD CUE
Foster W. Berry and Kenneth O. Cogger, Muskegon, Mich., assignors to Brunswick Corporation, a corporation of Delaware
Filed Mar. 9, 1966, Ser. No. 532,987
Int. Cl. A63d 15/08
U.S. Cl. 273—68 3 Claims



A jointed billiard cue having two sections separably connected by a separable two-part joining device. The two parts of the joining device are associated one with each of the cue sections and are internally tapered to coact with a taper at the end of the cue sections. The tapers of the cue sections are greater than the tapers of the joining members to permit a glue-line build-up. Mating surfaces on the cue sections and the joining device parts provide both concentricity and axial alignment between the cue sections and joining parts.

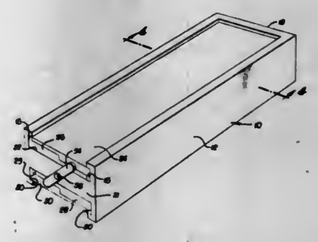
3,436,080
AMUSEMENT DEVICE COMPRISING MARKER HOLDING PLAYING BOARDS AND MARKER DISPENSING MEANS
Thomas Peter Schultz, 2404 Cardinal Lane, St. Joseph, Mo. 64503
Filed Oct. 12, 1965, Ser. No. 495,062
Int. Cl. A63f 3/00
U.S. Cl. 273—135 2 Claims

An amusement apparatus comprising a base member having disposed centrally thereof a device for delivering to a remote point on said member a series of differently colored and numbered markers, a plurality of spaced playing boards extending radially outwardly from said device, each of said boards having means for holding said markers thereon, and one board also having a counting means thereon, other members having counting means thereon carried by said base member on opposite sides of said one board, and a spinner-type chance device mounted above the marker delivering device. The markers



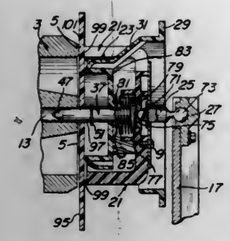
are distributed among the playing boards in accordance with playing rules, and the several counting means are adjusted according to the relative values of the markers so distributed. Indicia applied to the several parts of the apparatus are such that the results of its use may arbitrarily be assumed to indicate the health and wealth status of the user, and the spinner is then used to select by chance factors which are arbitrarily designated as the causes of any deficiency of such status.

3,436,081
GAME EQUIPMENT
Sandor A. Ungar, 6524 Long Ridge Ave., Van Nuys, Calif. 91401
Filed June 26, 1967, Ser. No. 648,603
Int. Cl. A63f 1/10, 9/00; B65d 5/52
U.S. Cl. 273—148 1 Claim



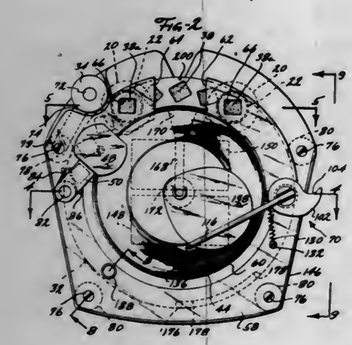
A plurality of flat oblong pieces bearing various identifications in combination with a rectangular box with interlocking top covers and bottom covers, each cover being formed with bases on their respective bottoms and longitudinal ledges on their respective sides. Upon removal from the box, the covers stand upright and their ledges provide support for, and maintain, the oblong pieces in a substantially vertical position.

3,436,082
AUTOMATIC PHONOGRAPH RECORD CLAMPING AND SPEED CONTROLLING MECHANISM
Harry H. Bostrom, Chicago, and Albert G. Katzmarek, Evanston, Ill., assignors to The Seeburg Corporation, Chicago, Ill., a corporation of Delaware
Filed May 6, 1966, Ser. No. 548,275
Int. Cl. G11b *15/46*
U.S. Cl. 274—10 6 Claims



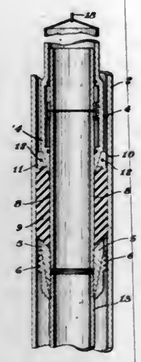
A record clamping and center-hole speed sensing arrangement, in which a record clamping element on a clamp arm bears against the record at a spot immediately opposite a supporting area on the record turntable during the play of any record, is provided. To permit the uniform displacement of the clamp arm required in this arrangement, a speed sensing member mounted on the clamp arm is reciprocably movable relative to the clamp arm and the clamping element.

3,436,083
SOUND REPRODUCER AND STEREOSCOPE COMBINATION
Charles A. Elwell, Gardena, Calif., assignor to The Toy Development Center, Inc., Beverly Hills, Calif., a corporation of California
Filed June 25, 1964, Ser. No. 377,929
Int. Cl. G11b *17/06, 3/60;* G09f *27/00*
U.S. Cl. 274—14 8 Claims



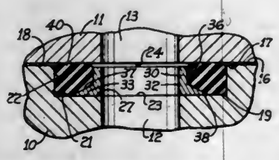
A disk having stereoscopic pairs of transparencies for viewing in a holder. The disk has a phonograph record rotatable on it with recordings relating to the different views and a stop cam fixed to the record spindle. When the disk and record are placed in the holder a motor is positioned to drive the record and a phonograph needle can be moved to engage the cam to reproduce the recording related to the transparencies placed in viewing position by rotating the disk and cam. Moving the needle against the cam also starts the motor.

3,436,084
PACKER FOR WELL TREATMENT
Leo A. Courter, Oklahoma City, Okla., assignor to The Dow Chemical Company, Midland, Mich., a corporation of Delaware
Filed Jan. 10, 1966, Ser. No. 519,588
Int. Cl. F16j *15/04, 15/56, 33/03*
U.S. Cl. 277—116.2 7 Claims



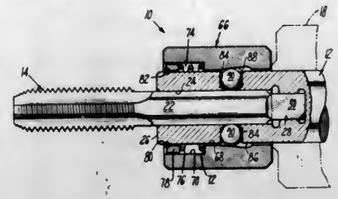
An improved packer, for controlling fluid-flow in a pipe, having an outwardly expanding deformable substantially cylindrical packing element wherein said element is reinforced and inhibited from undesirable longitudinal movement (sometimes called creeping or flow) when subjected to pressure differential by having arcuate segments provided by a series of vertical cuts along a circumferential edge, plates molded into the vertical mating end faces of each arcuate segment, said faces of each segment having either horizontal taps therein or channels drilled therethrough and either a series of slideable pins or a stretchable strand positioned in said taps or through said channel, respectively.

3,436,085
SEALING STRUCTURE EMBODYING DEFORMABLE RING
Edwin C. Polk, Lyndhurst, Ohio, assignor to Cleveland Technical Center, Inc., Cleveland, Ohio, a corporation of Delaware
Filed Jan. 19, 1966, Ser. No. 521,736
Int. Cl. F16j *15/00;* F16k *41/00*
U.S. Cl. 277—165 7 Claims



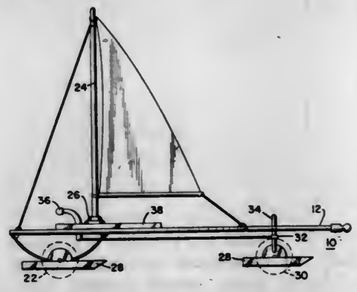
A sealing structure for sealing against the escape of fluid the juncture between two adjoining members that define a passage through which fluid passes, which sealing structure embodies a recess in one of the members adjacent to the juncture, a supporting ring in the recess having an inner opening that is a continuation of the passage and a frusto-conical outer surface portion, and a deformable sealing ring surrounding the supporting ring and forced against the outer wall of the recess and the surface of the member other than the one with the recess at the juncture to provide a seal. The supporting ring minimizes turbulence of fluid flowing past the juncture and also provides improved sealing.

3,436,086
TOOL HOLDER
John C. Glenzer, Lathrup Village, Mich., assignor to The Hanson Whitney Company, Hartford, Conn., a corporation of Connecticut
Filed May 31, 1966, Ser. No. 553,870
Int. Cl. B23b *31/22, 5/34, 31/16*
U.S. Cl. 279—30 2 Claims



A tool holder particularly useful in multiple spindle machine tools includes a spindle having a longitudinal bore at its free end for receiving a tool shank, the spindle being radially apertured for confining movable locking ball elements. A coaxial cylindrical axially sidable sleeve fits around the spindle and includes an internal ramp disposed to wedge the locking balls radially inwardly against a tool shank within the spindle bore when the sleeve is biased toward its rearmost position. The sleeve is provided with an annular recess at the free end to house a coil biasing spring which is seated against a retaining ring secured by an O ring positioned in a peripheral groove near the free end of the spindle so that the sleeve may be assembled and removed over the free end of the spindle without removal of the spindle from the machine.

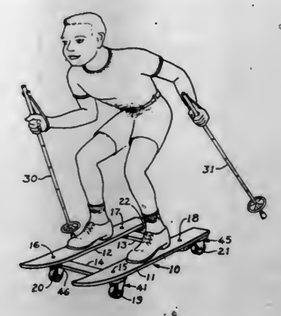
3,436,087
TRAILER CONVERSION KIT
Jesse D. Noland, 2411 McElderry St., Baltimore, Md. 21205
Filed Oct. 24, 1965, Ser. No. 504,361
Int. Cl. B62b *13/18, 19/04, 15/00*
U.S. Cl. 280—8 3 Claims



This device is a collection or kit of specialized parts comprising sail, plurality of runners, cables, steering devices, and associated clamps that allows the modification of an existing boat carrying trailer, so that it can operate as an iceboat.

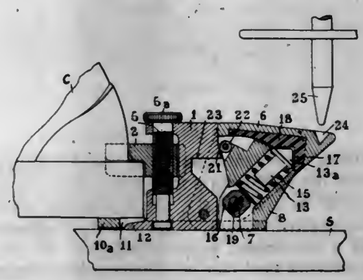
3,436,088
ROLLER SKIS
Maurice H. Kunselman, 114 S. Tampa Lane, Oak Ridge, Tenn. 37830
Filed June 19, 1967, Ser. No. 646,894
Int. Cl. A63c *17/00, 17/02, 17/18*
U.S. Cl. 280—11.1 2 Claims

A recreational vehicular device of parallelogram frame construction comprising a first pair of parallel elongated planar ski members pivotably connected in spaced apart relation by two transverse frame members, thereby allowing advancement of one ski member relative to its companion ski member while maintaining their parallel relation, demountable wheel means secured non-pivotally on the underside of the rear end of each ski member, and demountable wheel means non-pivotally secured in spaced



apart relation on the underside of the forward transverse connecting frame member, these forward wheels revolving with the forward transverse connecting frame member as one ski member is advanced relative to the other ski member, thereby effecting a directional change in travel of the device. Runners are provided as substitutes for the wheels when traveling over ice, snow or a like surface.

3,436,089
SAFETY SKI BINDER
Jean Joseph Alfred Beyl, 1 Rue Devieux Robelin, Nevers, Nievre, France
Filed Jan. 11, 1967, Ser. No. 608,670
Claims priority, application France, Jan. 25, 1966, 47,032
Int. Cl. A63c *9/082*
U.S. Cl. 280—11.35 6 Claims



A ski boot heel binding for a ski includes a base fastened to the ski. The base carries a first pivot pin upon which is pivoted a support member carrying a second pivot pin. A heel gripping member is pivoted on the second pivot pin. A spring-loaded piston normally urges the support member against the rear face of the heel gripping member to lock the ski boot heel.

3,436,090
SKI POLE
Robert B. Lange, P.O. Box 741, Dubuque, Iowa 52001, and Roderick Hebron, 1607 29th St., Vernon, British Columbia, and David Jacobs, R. Rte. 1, Nelson, British Columbia, Canada
Filed Aug. 16, 1966, Ser. No. 572,776
Int. Cl. A63c *11/22*
U.S. Cl. 280—11.37 10 Claims

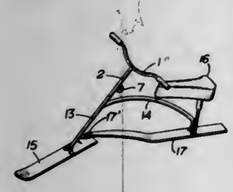
A ski pole having a molded plastic elongated handle with upper and lower supporting projections to provide

support to the upper and lower surfaces of the skier's hand and a strap connected at one end to the upper



supporting projection and at the other end to the lower supporting projection so that the strap together with the handle circumscribe the skier's hand.

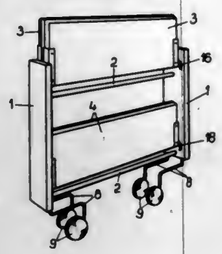
3,436,091
SLIDECRAFT
Erich Brenter, Heide 163, Hallein, Austria
Filed Feb. 10, 1967, Ser. No. 615,244
Claims priority, application Austria, Feb. 10, 1966, A 1,233/66
Int. Cl. B62b *13/04*
U.S. Cl. 280—16 **6 Claims**



Ski coaster with seat-supporting frame forming a bearing journal for a steering post whose lower end is hingedly connected to a front ski, the top of the steering post being telescopically received in a tubular extension integral with a handlebar; upon detachment of this handlebar, the steering post can be downwardly extracted from the frame and reinserted from above in an inverted position in which the front ski overlies the seat.

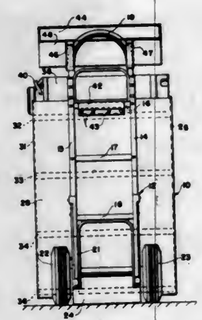
3,436,092
COLLAPSIBLE SERVING CART
Udo Werner, Solingen-Ohligs, Germany, assignor to Bremshey & Co., Solingen-Ohligs, Germany, a firm
Filed Nov. 22, 1967, Ser. No. 685,089
Claims priority, application Germany, Dec. 31, 1966, B 90,555
Int. Cl. B62d *21/14;* **B62b** *1/04, 3/02*
U.S. Cl. 280—36 **10 Claims**

A collapsible serving cart wherein table top members are capable of being swung between collapsed, rest positions where they are in vertical planes and horizontal, operative positions where they are in horizontal planes. The table top members are carried by a frame means, and four roller assemblies are provided to support the serving cart for rolling movement. Four arms are respectively operatively connected with the roller assemblies and extend laterally therefrom to the frame means, and a connecting means connects a pair of these arms with one of the table top members to swing the arms outwardly away from the frame means in response to swinging of



this one table top member from its vertical inoperative position to its horizontal operative position and for swinging the arms back in toward the frame means in response to return of the table top member from its horizontal operative position to its vertical rest position.

3,436,093
RACK FOR CYLINDRICAL CONTAINERS
Morris F. Ruffley, Jr., Silverton, Ohio, assignor to The Coca-Cola Bottling Works Company, Cincinnati, Ohio, a corporation of Ohio
Filed May 11, 1967, Ser. No. 637,797
Int. Cl. B62b *1/00, 7/02, 1/06*
U.S. Cl. 280—47.27 **6 Claims**

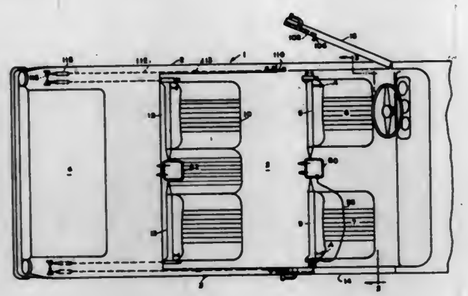


A rack for a hand truck which is arranged to support a plurality of cylindrical containers which includes a channel-shaped body, spaced parallel bars linking the flanges of the body, each container being adapted to rest on one of the bars and against the web of the body, and means for hanging the rack on the hand truck.

3,436,094
SAFETY HARNESS FOR OCCUPANTS OF POWER DRIVEN VEHICLES
Michael V. McKeon, 1940 Broadway NE., Salem, Oreg. 97303
Filed May 22, 1967, Ser. No. 639,982
Int. Cl. B60r *21/10*
U.S. Cl. 280—150 **6 Claims**

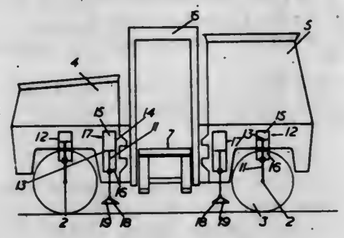
Safety harness incorporated in a power driven vehicle during the course of its construction and associated with each vehicle seat for transmitting the forces of an occupant's momentum, upon vehicle crash impact in any direction, against the harness for absorption by shock

absorbers within the vehicle and utilization of such forces to prevent the vehicle doors from bursting open. The harness belt in contrast to the conventional two-piece lap strap is of one-piece construction with only one securable terminal end instead of two parts buckled or interconnected intermediate their ends. The effective



length of the harness belt can be quickly, conveniently and accurately adjusted for the seat occupant by one hand motion without unfastening the belt, in contrast to conventional seat belts which require both hands for buckle manipulation, then the adjustment and finally reuniting the two free ends of the belt.

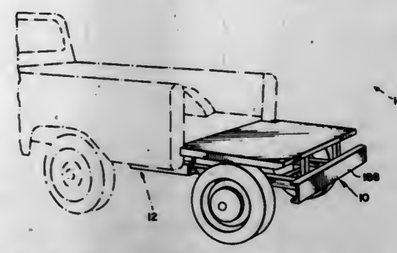
3,436,095
VEHICLE JACKING SYSTEMS
Peter John Preston, Bletchley, England, assignor to Lancer Machinery Limited, Leighton Buzzard, England, a corporation of Great Britain
Filed Jan. 10, 1967, Ser. No. 608,440
Claims priority, application Great Britain, Jan. 21, 1966, 2,905/66
Int. Cl. B60s *9/10;* **B66f** *3/46*
U.S. Cl. 280—150 **5 Claims**



This invention relates to jacking systems comprising first and second fluid-pressure operated jacking devices connected in parallel by a fluid path and each adapted for independent connection to a source of pressure fluid, a nonreturn valve being provided in the fluid path to permit pressure fluid actuating the first jacking device to actuate the second jacking device when the pressure fluid in the former is at least equal to that in the latter.

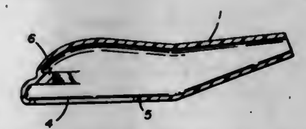
3,436,096
TANDEM AXLE ACCESSORY FOR PICKUP TRUCKS
Gail E. Rogge, Ida Grove, Iowa 51445
Filed June 21, 1967, Ser. No. 647,772
Int. Cl. B60r *27/00;* **B60p** *3/40, 3/42*
U.S. Cl. 280—150 **2 Claims**

A combination pickup, camper house body, and tandem axle support for a camper house in which the tandem



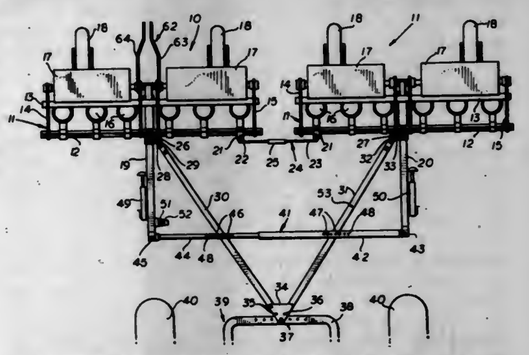
axle support is rigidly secured to the rear of the pickup for supporting a part of the camper house is disclosed.

3,436,097
BOOT FOR ONE OR MORE SEAT BELTS
William C. Love, Tallmadge, Ohio, assignor to Steere Enterprises Inc., Tallmadge, Ohio, a corporation of Ohio
Filed June 22, 1967, Ser. No. 647,974
Int. Cl. B60r *21/10*
U.S. Cl. 280—150 **4 Claims**



A boot to cover one or more anchor plates to which seat belts are fastened, is closed at the toe. There is a large opening in the sole of the boot so that after the boot is slidably mounted around one or more seat belts and the anchor plate or plates have been engaged with a bolt in the floor of an automobile or other vehicle, the boot can be slid down the belts to cover the bolt head and the anchor plate or plates. There is a lug inside of the toe of the boot which protrudes between the top anchor plate and the head of the bolt, or between two anchor plates and holds the boot in place.

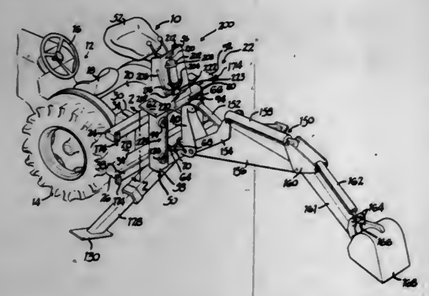
3,436,098
FLEXIBLE DUPLEX HITCH
John W. Orendorff, Downers Grove, Charles Boetto, Naperville, and Ingemar R. Andersson, Westmont, Ill., assignors to International Harvester Company, Chicago, Ill., a corporation of Delaware
Filed Aug. 11, 1967, Ser. No. 659,911
Int. Cl. B60d *1/02*
U.S. Cl. 280—412 **5 Claims**



A duplex hitch for a pair of transversely aligned implements permitting vertical flexibility of the implement

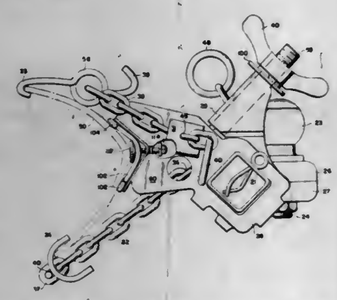
units and in which the units have their inner ends connected for independent vertical movement and the spacing is maintained between the ends of the draft tongues by a cross brace also secured to forward converging hitch bars for connection of the implement units to a common point on the tractor, the rear ends of the hitch bars being pivotally connected to the implement units adjacent the center lines thereof, the cross brace and one of the hitch bars being disconnectable from its implement unit and foldable with the other hitch bar to a parallel position alongside the hitch bar of the other unit to serve as the draft means for both units arranged in tandem.

3,436,099
LOCKING APPARATUS FOR SIDE SHIFTABLE EXCAVATOR
Elton B. Long, Burlington, Iowa, assignor to J. I. Case Company, Racine, Wis., a corporation of Wisconsin
Filed Nov. 7, 1967, Ser. No. 681,162
Int. Cl. B60d *7/00*
U.S. Cl. 280—456 **1 Claim**



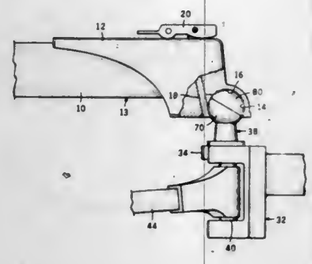
A mechanical locking mechanism for securing a mobile frame of a side shiftable evacuating device to an immobile frame of the device in any one of an infinite number of positions. The mechanism includes pressure pads adapted to be forced into engagement with bearing surfaces of rails forming part of the immobile frame. The pads are pressured through a mechanical force supplied by the operator and transmitted to the pads by grease contained in suitable lines.

3,436,100
ARTICULATED BUMPER HITCH
John C. Abromavage, Jamison, and Harry J. Reichardt, Philadelphia, Pa., assignors to Arcoa, Incorporated, Portland, Oreg., a corporation of Oregon
Filed May 23, 1967, Ser. No. 640,703
Int. Cl. B60d *1/00, 1/06*
U.S. Cl. 280—502 **5 Claims**



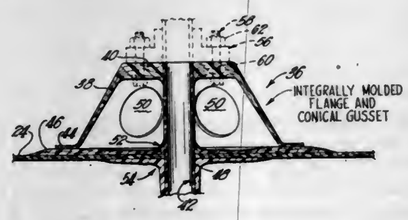
A bumper hitch assembly, particularly a temporary or "rental" hitch assembly which is easily fastenable to various types of automobile bumpers.

3,436,101
LUBRICATING HITCH BALL DEVICE
Roy R. Hanson, 155 Cumberland, Maryland Heights, Mo. 63042
Filed May 4, 1967, Ser. No. 636,132
Int. Cl. B60d *1/06, 53/04;* **F16c** *11/06*
U.S. Cl. 280—511 **8 Claims**



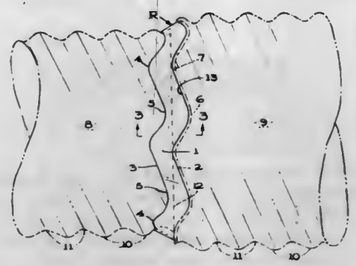
A hitch ball for use in towing vehicular trailers and including a canted hemisphere on which a hemispherical cap is mounted for rotation thereon. Internally, the canted hemisphere and cap are provided with a common grease reservoir from which grease exudes across the surfaces forming the juncture of the canted hemisphere and rotatable cap. The grease so exuded finds its way across the hemispherical surfaces through the wiping action of a mating coupler member forming part of the trailer tongue. A pair of spring bars are pivotally attached to the hitch ball mount for swinging movement in a horizontal plane and at their opposite ends are drawn up toward the trailer tongue by means of chains so as to more evenly distribute the tongue weight of the trailer between the front and rear axles and the automobile.

3,436,102
FITMENTS FOR FILAMENT WOUND VESSELS
Thomas J. Shelly, Granville, Ohio, assignor to Owens-Corning Fiberglas Corporation, a corporation of Delaware
Filed Sept. 23, 1966, Ser. No. 581,644
Int. Cl. F16c *13/04, 35/00, 55/00*
U.S. Cl. 285—114 **14 Claims**



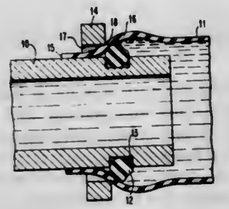
Fitments of reinforced resin for filament wound vessel walls, including a truncated conical wall with the minor diameter at the top and forming a thickened integral pipe connecting flange and the major diameter at the bottom forming a radially outwardly extending flange for joining to the wall, and with a segment of pipe having one end in the top flange and the other end through a cut hole in the vessel wall, whereby stresses applied to the flange are absorbed over a substantial annular area of the vessel wall.

3,436,103
TRANSITION FITTING FOR CORRUGATED PIPE
Robert F. Stoll, Girard, and Albion K. Snellings, Canfield, Ohio, assignors to Republic Steel Corporation, Cleveland, Ohio, a corporation of New Jersey
Filed June 23, 1967, Ser. No. 648,410
Int. Cl. F16l *15/00, 25/00*
U.S. Cl. 285—177 **3 Claims**



A coupling member for joining the opposed ends of two pipe sections of unequal diameters. The coupling member has a generally frusto-conically shaped body engaging the exterior of the smaller pipe and the interior of the large pipe. At least one end edge of the coupling member is scalloped so as to mate with crests and valleys of one of the pipe sections which is helically corrugated.

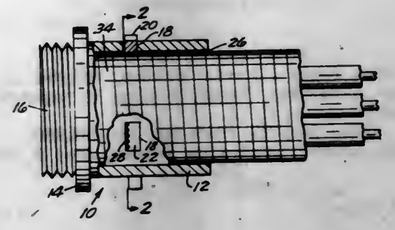
3,436,104
TUBE COUPLING
James S. Jackson, Fishkill, and Morton D. Reeber, Shrub Oak, N.Y., assignors to International Business Machines Corporation, Armonk, N.Y., a corporation of New York
Filed Sept. 25, 1967, Ser. No. 670,281
Int. Cl. F16l *33/16, 17/00*
U.S. Cl. 285—242 **2 Claims**



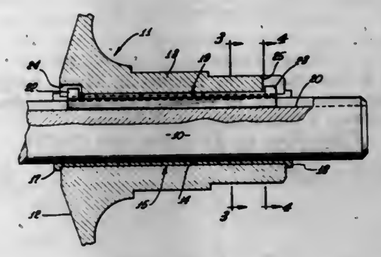
A coupling structure for joining a flexible tube end fitted around the end of a preferably rigid central tube. A first collar is mounted around the end portion of the central tube. The end of the flexible tube fits over the central tube end and the first collar. A second collar is mounted on the flexible tube intermediate the second tube edge and the first collar. The second collar opening is smaller than the perimeter of the flexible tube around the first collar. Fluid pressure in the coupled tubes extends the flexible tube which draws the second collar toward the first collar.

3,436,105
CONNECTOR
John Miklya, 529 11th Ave. N., South St. Paul., Minn. 55075
Filed Oct. 22, 1965, Ser. No. 501,929
Int. Cl. F16l *39/00*
U.S. Cl. 285—321 **2 Claims**

A versatile connector for attachment to members of generally circular cross-section, especially electrical conduit or cable. The connector has a socket for receiving the circular member, the socket being provided with a plurality of aligned equidistantly spaced circumferential apertures in the wall, into which fits a spring member having radially inwardly urged protrusions mating with and extending through the apertures. The protrusions have gripping contact points, such as "teeth" which are oriented away from the open end of the socket. The teeth will slide with respect to the circular member when inserted into the socket, but normally will engage the surface of the member when an attempt is made to withdraw it from the socket. The ends of the spring member are spreadable, so as to permit lifting of the protrusions freeing the circular member for removal.



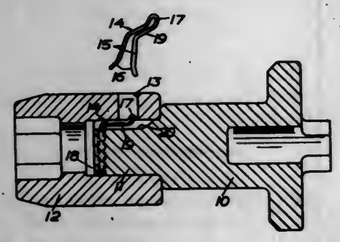
3,436,106
KEY DRIVE FOR SLIDING HUBS
Frederick O. Luenberger, Los Angeles, Calif., assignor to Emerson Electric Co., a corporation of Missouri
Continuation of application Ser. No. 340,052, Jan. 24, 1964. This application Dec. 17, 1965, Ser. No. 527,628
Int. Cl. F16d *1/06;* **B60b** *27/06*
U.S. Cl. 287—52.05 **9 Claims**



2. In apparatus of the class described: a shaft member having an axis of rotation; a member slidably mounted on the shaft member; said members having substantially cylindrical internal and external surfaces defining between them a substantially cylindrical boundary region; key means made of moldable plastic material having a low coefficient of friction with respect to the material of one of said members and a low shear strength characteristic as compared to the material of said one of said members; means coupling the key means to the said other of said members for axial movement therewith; said key means having a portion projecting from said other member beyond said boundary region; said one member having a recess forming a keyway opening at said boundary region and having surfaces extending parallel to said axis; said projecting portion of said key means having surfaces fitting said surfaces of said keyway whereby said members are coupled for transmission of torque between them; said fitting surfaces of said key means and said keyway having a configuration in a transverse cross-sectional plane comprising two or more substantially straight and substantially contiguous lines all of which are so angled with

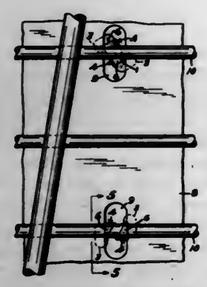
respect to the said cylindrical surfaces of said members that any normal to any of said lines that extends toward said boundary region does not intersect any other line, said lines are at least two in number and with adjacent lines being located respectively on opposite sides of a radial plane thru the axis of the shaft and extending at an acute angle with respect thereto.

3,436,107
RETAINING MEANS
Karl Gösta Kärdén, Nacka, Sweden, assignor to Atlas Copco Aktiebolag, Nacka, Sweden, a corporation of Sweden
Filed May 23, 1966, Ser. No. 551,980
Claims priority, application Sweden, June 3, 1965, 7,266/65
Int. Cl. F16b *17/00*; F16d *1/06*
U.S. Cl. 287—53 5 Claims



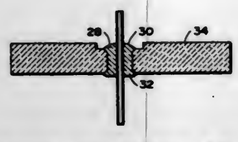
This invention relates to retaining means for removably retaining a socket element on the outer polygonal end of a drive shaft by releasable engagement of said retaining means with an abutment in said socket element.

3,436,108
FRACTIONAL TURN CLIP
Harold S. van Buren, Jr., Lexington, Mass., assignor, by mesne assignments, to United-Carr Incorporated, Boston, Mass., a corporation of Delaware
Filed Mar. 16, 1967, Ser. No. 623,586
Int. Cl. F16b *1/00, 3/00, 5/00*
U.S. Cl. 287—189.35 6 Claims



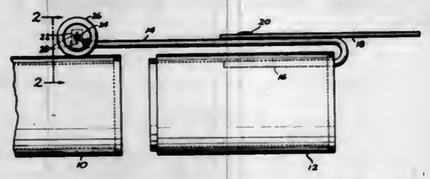
A unitary clip having a flat base and a pair of laterally spaced, oppositely directed hooks which are adapted to be passed through an apertured panel and snapped over the sides of a rod, the base being disposed at an acute angle to the longitudinal axis of the rod. The base is thereafter rotated through a fractional turn until it lies generally parallel the longitudinal axis of the rod whereby the hooks are cammed over the surface of the rod remote from the panel and the base is locked against the panel surface remote from the rod.

3,436,109
STRESSED HERMETIC SEAL AND METHOD OF MAKING SAID SEAL
Guenter H. Loose, Bradford, Pa., assignor to Corning Glass Works, Corning, N.Y., a corporation of New York
Filed Dec. 15, 1965, Ser. No. 514,092
Int. Cl. F16b *11/00*
U.S. Cl. 287—189.365 7 Claims



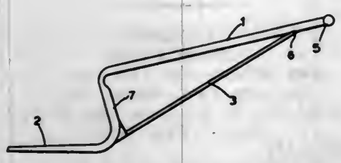
A stressed, vacuum-tight hermetic seal between relatively thin glass-ceramic bodies and metal members wherein such members are commonly used as lead-through connectors and terminals for electronic components, the seal employing a bushing between the glass ceramic body and metal member having a coefficient of thermal expansion intermediate the thermal expansion coefficients of the glass-ceramic and the metal. Also, the method of forming such a seal is disclosed.

3,436,110
PIPE LAYING TOOL
William L. Kahlor, Rte. 5, Box 364A, Oregon City, Oreg. 97045
Filed Feb. 13, 1967, Ser. No. 615,616
Int. Cl. B65g *7/12, 9/00*
U.S. Cl. 294—15 1 Claim



A tool for laying short lengths of heavy sewer pipe or the like in connecting engagement with other lengths already in position comprises an elongated lever arm having on one end wheels which track on the upper surface of a laid length of pipe. A hook intermediate the ends of the lever arm engages a second length of pipe and enables lifting it and moving it in an axial direction into coupling engagement with the first length.

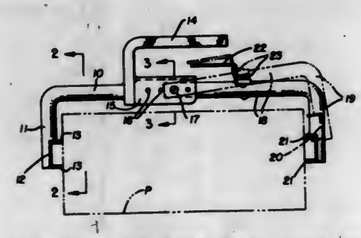
3,436,111
HANDLIFTING TOOLS
Arthur Keith England, Langdale, Jordans, Beaconsfield, Buckinghamshire, England
Filed May 5, 1967, Ser. No. 636,425
Int. Cl. A01b *1/02, 1/22*; B25g *3/34*
U.S. Cl. 294—49 4 Claims



A hand tool such as a spade, shovel or fork for moving materials in which, in order to reduce the effort and bending required by the operator to lift a given load, the

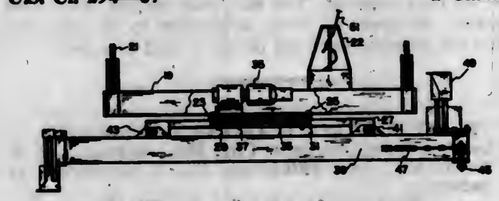
handle is offset from the plane of the blade or tines, and a strengthening stay is provided between the blade or tines and handle.

3,436,112
LIFTER AND CARRIER
Tony A. Pasquine, 1750 Lucretia Drive, Girard, Ohio 44420
Filed Sept. 29, 1967, Ser. No. 671,764
Int. Cl. B65g *7/12*
U.S. Cl. 294—62 4 Claims



A lifter and carrier for small heavy boxes including pivoted arms with opposed jaws and a handle on one of the arms adjacent the pivot.

3,436,113
ROTATABLE AND CONVERTIBLE LIFTING SPREADER
Charles H. Zweifel, Oakland, and George W. Cooper, San Leandro, Calif., assignors to Pacific Coast Engineering Company, a corporation of California
Filed June 6, 1967, Ser. No. 643,993
Int. Cl. B66c *1/42*
U.S. Cl. 294—67 2 Claims



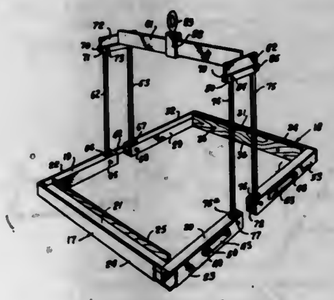
A lifting spreader having upper and lower assemblies interconnected by a rotatable frame supported from the upper assembly by a combination gear-bearing with the lower assembly pin connected to the rotatable frame.

3,436,114
FILAMENT WOUND PRODUCT AND METHOD FOR MAKING THE SAME
Henry F. Lange and Harold E. Phipps, Bristol, Tenn., assignors to Universal Moulded Fiber Glass Corp., a corporation of Delaware
Filed Sept. 25, 1967, Ser. No. 670,362
Int. Cl. B66c *1/12*; D04h *3/12*
U.S. Cl. 294—74 4 Claims



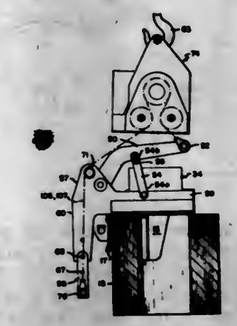
An article of manufacture and the method for obtaining the same includes an eye formed on one end and a connector type fitting on the other end of a rigid filament wound reinforced plastic tube.

3,436,115
ARTICLE HANDLING APPARATUS
William J. Colen, 11248 Jamestown, Dallas, Tex. 75230
Filed Dec. 4, 1967, Ser. No. 687,621
Int. Cl. F66c *1/22*; B65g *7/00*
U.S. Cl. 294—87 19 Claims



A device for lifting articles, such as a stack of bricks, tile and the like, having a pair of U-shaped gripping members positionable about the stack of bricks, each having longitudinal parallel side members and a connector member extending perpendicularly between outer ends thereof, the adjacent side members being pivotally connected intermediate their ends by pivot and spacer bars which hold them against lateral displacement relative to one another and cause the gripping members to pivot upwardly about the axes of the pivotal connections of the side members with the pivot and spacer bars and the connector members of the two gripping members to exert upwardly and inwardly directed forces at opposite ends of the bottom layer of the bricks when an upward force is exerted on the inner ends of the side members.

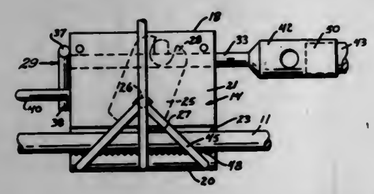
3,436,116
TILTABLE LIFTING TONGS
John R. Anderson, Swissvale Borough, Pa., assignor to Heppenstall Company, a corporation of Pennsylvania
Filed July 12, 1967, Ser. No. 652,837
Int. Cl. B66c *1/22*; B66f *9/18*
U.S. Cl. 294—103 7 Claims



Lifting tongs of the type having opposed grappling jaws for grasping and releasing a load and having a power driven sling for tilting the tongs while suspending them above ground level. The sling is in the form of parallel pairs of roller chains and wire ropes arranged on either side of the tongs and reaved between idler and drive pul-

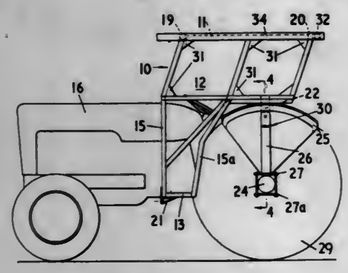
leys supported in a housing disposed above the tongs and adapted at its upper portion to be engaged with a crane hook. The sling can be selectively driven to tilt the tongs from a downward position to a sideward position, such tilting occurring with the center of gravity of the tongs remaining at all times substantially in the same vertical plane.

3,436,117
ROD RETRIEVAL TOOL
Chester A. Truman, 2528 Garland Ave., W., Spokane, Wash. 99205
Filed July 13, 1967, Ser. No. 653,074
Int. Cl. E21c *19/02*; E21b *31/00*
U.S. Cl. 294—104 4 Claims



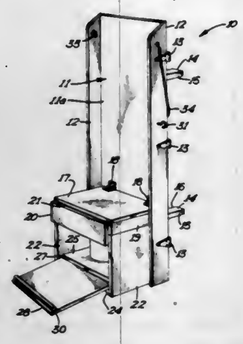
A tool for recovering broken lengths of flexible unjointed rod from a pipeline including a spiral guide to direct the length of rod into a throat formed within a grooved housing. The housing is rotated, pushed or pulled to recover the rod length. A pivoted jaw is adapted to engage the rod and move it along the pipe. The jaw mechanism serves both to grip the rod and to impart movement to the tool.

3,436,118
TRACTOR CABS
Alexander Duncan, Inchbroom, Nigg, Kincardineshire, Scotland
Filed Dec. 23, 1966, Ser. No. 604,376
Claims priority, application Great Britain, July 27, 1966, 33,779/66
Int. Cl. B62d *25/06*
U.S. Cl. 296—102 1 Claim



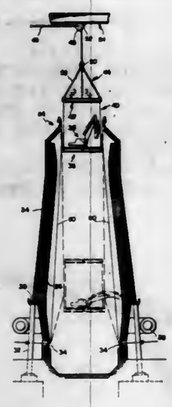
The invention consists in a tractor cab provided with a fabricated frame anchored at its forward end to the chassis of the tractor and supported over the rear axle by two side supports each comprising a straight upright which extends close to the inner face of the adjacent wheel wing or guard. Each upright has a sole plate anchored to the rear axle casing and a strut member which extends into the well of the adjacent wheel. The lower end of the strut member is anchored to the said casing while its upper end bears on the outer face of the adjacent wheel wing or guard. Each upright and strut with wheel wing or guard sandwiched therebetween are secured together by bolts and nuts.

3,436,119
COMBINATION ICE FISHING CHAIR AND SLED
George E. Lehmann, Box 154, Ceylon, Minn. 56121
Filed July 21, 1967, Ser. No. 655,030
Int. Cl. A47c *7/00, 31/00, 13/00*; A47d *1/04*; B62b *15/00, 17/00, 13/00*
U.S. Cl. 297—217 5 Claims



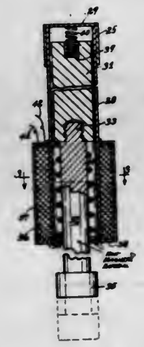
A combination ice fishing chair and sled device, including a backrest member having a seat member and a pair of seat support members hingedly connected with the backrest member. A pair of wing members hingedly connected to the back member and serving as side protectors when the device is used as a chair, and serving as runners when the device is used as a sled. A floor member hinged to the backrest member and a footrest member hinged to the floor member. The seat, seat support, floor, and footrest members all being collapsible to lie upon the backrest member when the device is used as a sled.

3,436,120
BLAST FURNACE TEARDOWN APPARATUS
John Armstrong, Michigan City, Ind., assignor to J. J. Grady Co., Inc., Pittsburgh, Pa., a corporation of Indiana
Filed Aug. 13, 1964, Ser. No. 389,432
Int. Cl. E21b *35/02*
U.S. Cl. 299—70 6 Claims



1. An improved apparatus for tearing down the lining in the shell of a blast furnace comprising: a platform; means for raising and lowering said platform within a furnace; means for stabilizing the platform at a desired location; and power operated teardown means rotatably mounted on said platform and capable of tearing down the lining of said furnace throughout its circumference, said second recited means including a plurality of elongated cables secured to an upper portion of the furnace and extending towards the bottom thereof, with means attached to said platform for connecting the platform with said elongated cables.

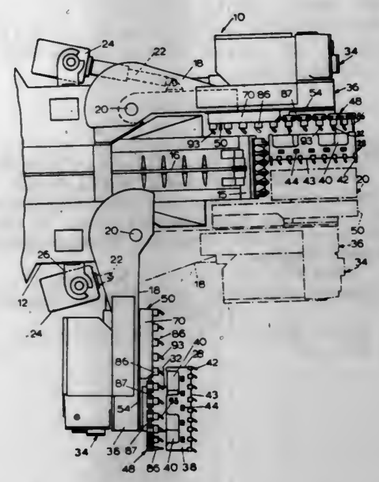
3,436,121
ELECTRICALLY ACTUATED DEMOLITION DEVICE
Wesley B. Cunningham, 2 Morris St., Charleston, W. Va. 25301
Filed May 2, 1967, Ser. No. 635,596
Int. Cl. E21b *1/00*
U.S. Cl. 299—70 6 Claims



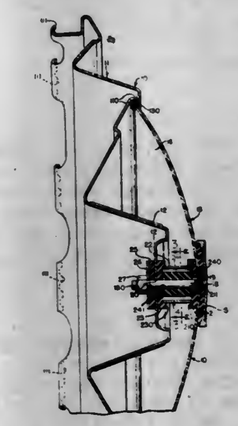
A demolition device mounted on mobile equipment, consisting of a main boom having an end boom pivoted thereto, both booms being provided with hydraulic position-controlling cylinders. The end boom is provided with a pivoted scoop, likewise controlled by a hydraulic cylinder. The end boom has a depending casing rigidly secured thereto, the casing containing a magnetic plunger to which is attached a depending non-magnetic shaft extending slidably through the bottom of the casing and provided on its bottom end with a striking head. The plunger is biased upwardly by a coiled spring in the lower end of the casing, surrounding the shaft. A solenoid winding is mounted on the lower end of the casing in a position to exert magnetic attraction on the plunger and to drive it downwardly when the solenoid winding is energized, causing the striking head to deliver an impact therebeneath. Another coiled spring is mounted between the top end of the plunger and the top wall of the casing to cushion upward return of the plunger when the solenoid winding is deenergized. A switch-controlled energizing circuit is connected to the solenoid winding.

3,436,122
TRIM CHAIN ASSEMBLY FOR DRUM CUTTER MINER
Neal W. Densmore, 452 Wendy Way, Franklin, Pa. 16323
Filed Dec. 19, 1966, Ser. No. 602,843
Int. Cl. E21c *27/26, 25/10, 13/00*
U.S. Cl. 299—73 4 Claims

A trim chain assembly for a drum cutter mining machine wherein a trim chain is driven by a sprocket coaxially rotatable with each drum cutter and is provided with channeled guides having an opening in a plane parallel to the plane of the sprocket rotation. The channel being further characterized by a throat portion leading from the opening to a wider base portion and the trim chain being slidably captively received in the channel.



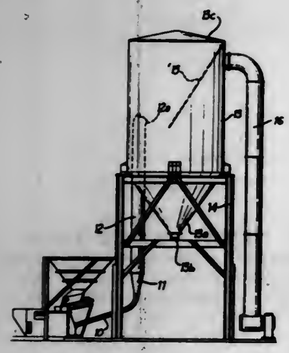
3,436,123
VEHICLE WHEEL TRIM
Charles B. Aske, Jr., Birmingham, Mich., and Edward L. Wood, Gig Harbor, Wash., assignors to Gar Wood Industries, Inc., a corporation of Michigan
Filed Apr. 18, 1967, Ser. No. 631,712
Int. Cl. B60b *7/00*; B60r *13/00, 19/00*
U.S. Cl. 301—37 3 Claims



A vehicle wheel trim assembly preferably consisting of a reflective metal wheel cover element including means for securing the same to a vehicle wheel, and a transparent ornamental dome shape plastic bubble type disc element of a selected color disposed over a substantial central portion of said wheel cover element providing a jewel-like effect, the said plastic disc bearing at its outer periphery against the wheel cover with its central portion spaced therefrom, and means securing said ornamental bubble type disc to said metal wheel cover at the central portions thereof including means permitting the

flexing of said wheel cover and said ornamental bubble type disc with respect to each other whereby to permit the vehicle wheel and the wheel trim assembly elements to weave, deflect, expand and contract with respect to each other responsive to severe road shocks and temperature changes, all without damage to the said bubble type ornamental disc.

3,436,124
TREATMENT OF GRANULAR, CRUSHED, POWDERED OR LIKE MATERIALS
Harry Smith, Heap Cottage, 174 Bury Old Road, Heywood, Lancashire, England, and James W. Wootton-Davies, Green Bank, Green St., Walshaw, near Bury, Lancashire, England
Filed May 19, 1967, Ser. No. 639,817
Claims priority, application Great Britain, May 21, 1966, 22,744/66
Int. Cl. B65g *53/14, 53/60;* F26b *17/10*
U.S. Cl. 302—36 2 Claims



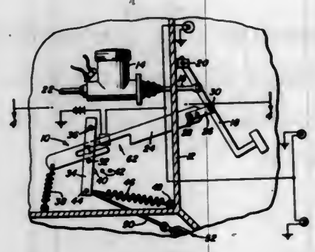
The method and apparatus for treating granular, crushed or powdered materials, wherein the material is introduced into a duct through which a high velocity gas stream is moving, the material being placed in suspension in said gas stream and being treated and simultaneously conveyed to a discharge area where it is separated from said gas stream.

3,436,125
MATERIAL TRANSPORTING DEVICE
Roger B. Doherty and James N. Moon, both of Box 790, Franklin, Pa. 16323
Filed Jan. 11, 1968, Ser. No. 697,086
Int. Cl. B65g *53/24*
U.S. Cl. 302—58 7 Claims



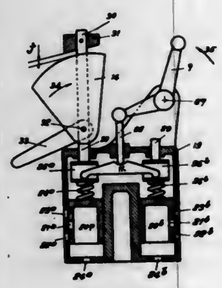
A transporting device for granular or pulverant material having means for improving the flow of material therethrough.

3,436,126
SAFETY CONNECTION BETWEEN VEHICLE FOOT AND EMERGENCY BRAKE SYSTEMS
Robert W. Mousley, 1396 W. 64th Terrace, Hialeah, Fla. 33012
Filed Oct. 11, 1966, Ser. No. 585,851
Int. Cl. B60t *13/74;* F16d *65/14*
U.S. Cl. 303—2 8 Claims



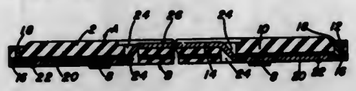
A means for automatically actuating the mechanical braking system of an automotive vehicle upon the failure of the hydraulic braking system of the vehicle. The aforementioned means is associated with the actuating foot pedal for the hydraulic brake system whereby upon abnormal travel of the actuating pedal an associated lever means picks up, and upon the next stroke of the brake actuating pedal, applies the vehicle's mechanical brakes to assist in stopping the vehicle.

3,436,127
BRAKING APPARATUS FOR VEHICLES
Edmond Henry-Biabaud, Paris, France, assignor to Societe Anonyme Andre Citroen, Paris, France, a French company
Filed Jan. 19, 1967, Ser. No. 610,273
Claims priority, application France, Jan. 27, 1966, 47,472
Int. Cl. B65t *13/00;* B60t *8/18*
U.S. Cl. 303—7 8 Claims



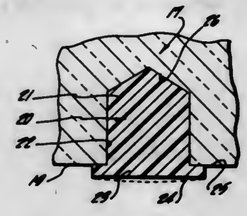
A braking system for a tractor and trailer combination in which the braking force exerted on each of two axles of the tractor will be determined by the degree of deceleration thereof. The forward axle brakes and the rear axle brakes are energized with fluid from separate cylinders, the cylinders being actuated by an equalizing rod pushed toward them to operate the brakes, the cylinder in communication with the tractor's rear axle being capable of limited movement so that when a predetermined force is exerted at the center of the equalizing rod, any additional force will result only in movement of the piston in the forward brake cylinder.

3,436,128
BELT FOR SNOWMOBILES
Evariste Boulanger, La Guadeloupe, Quebec, Canada
Filed May 4, 1967, Ser. No. 636,054
Claims priority, application Canada, Oct. 29, 1966, 974,404
Int. Cl. B62d *55/08;* F16g *1/12, 5/10*
U.S. Cl. 305—38 3 Claims



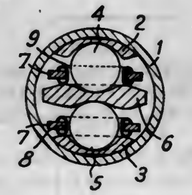
An endless drive belt for snowmobiles, having a plurality of elongate reinforcing rods positioned transversely to the direction of travel of the belt. The central portion of each rod being offset from the end sections and passing through apertures provided in the belt, wherein the central portion of the rods are positioned on the ground-contacting side of the belt and the end sections of the belt are positioned on the non-ground-contacting side.

3,436,129
BEARING
Robert A. James, 3302 Bounty Circle, Huntington Beach, Calif. 92647
Filed Jan. 9, 1967, Ser. No. 608,214
Int. Cl. F16c *33/22, 33/26;* E01d *19/06*
U.S. Cl. 308—3 8 Claims



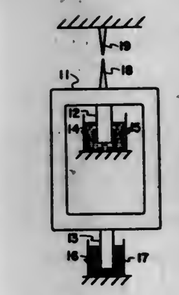
A bearing suitable for use as a bridge bearing in which a plurality of tetrafluoroethylene bearing inserts are disposed in a carrier member having a bearing interface surface, each insert having a head defining a bearing end spaced from the interface surface and an elongate body which has a normal relaxed volume, prior to mounting to the carrier member, greater than a receiving cavity formed in the carrier member and into which the insert body is subsequently forced.

3,436,130
BALL-TYPE TRANSMISSION APPARATUS
Roger Henri Ernest Grebert, Paris, France, assignor to Societe Industrielle de Mecanique et de Materiel d'Equipment, Suresnes, Hauts-de-Seine, France
Filed Oct. 11, 1966, Ser. No. 585,968
Claims priority, application France, June 23, 1966, 66,728
Int. Cl. F16c *19/02, 33/44*
U.S. Cl. 308—6 4 Claims



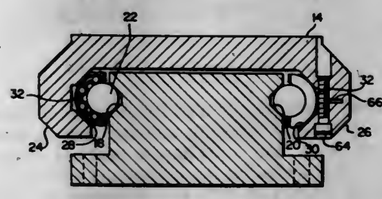
A ball-type transmission apparatus in which a flexible strip slides between two rows of balls enclosed in a flexible sheath, each row of balls being retained in a ball cage which comprises a flexible band having holes in which the balls are positioned. The bands are prevented from contacting the central strip or the sheath and friction between the bands and the balls is reduced by eyelets which are placed within the holes and which project in a direction perpendicular to the bands.

3,436,131
INSTRUMENT BEARING
Tenny D. Lode, Madison, Wis., assignor to Rosemount Engineering Company, Minneapolis, Minn., a corporation of Minnesota
Filed Jan. 13, 1965, Ser. No. 425,156
Int. Cl. F16c *35/00, 39/00*
U.S. Cl. 308—10 7 Claims



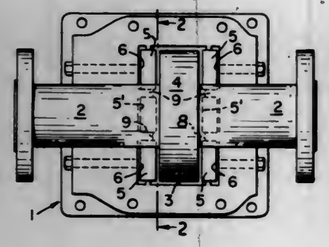
A free turning support mechanism which is supported vertically by liquid floatation and which is gently constrained from movement in a horizontal plane by means of a force field requiring no solid connection between the support mechanism and a stationary member. Electrically conducting liquid pools are provided for making electrical connection to a pair of conducting leads to the support mechanism without disturbing the free turning characteristics.

3,436,132
SLIDE ASSEMBLY
Mordechai Wiesler, Lexington, Mass., assignor, by mesne assignments, to Teledyne, Inc., Hawthorne, Calif., a corporation of Delaware
Filed May 2, 1966, Ser. No. 546,624
Int. Cl. F16c *17/00, 21/00, 19/00*
U.S. Cl. 308—6 1 Claim



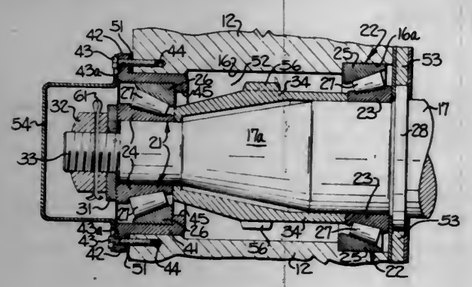
A low friction slide assembly is provided for unrestricttd travel over the length of supporting and cooperating rods. The assembly comprises male and female members, the male member being formed withoutwardly facing grooves supporting cylindrical rods of any desired length. The female member is formed withinwardly facing grooves which seat recirculating linear bearing bushings of semicircular configuration. The bearings engage the rods for linear movement relative thereto. Means are provided for preloading the slide assembly including all of the bearings by a single adjustment for each pair of bearings.

3,436,133
REMOVABLE STOP FOR THRUST BEARING SHOE
Sidney W. Newell, 1301 Grand St., Alameda, Calif. 94501
Filed Apr. 17, 1967, Ser. No. 631,370
Int. Cl. H02k *17/00, 47/18, 47/22*
U.S. Cl. 308—166 3 Claims



A thrust bearing wherein the area of the thrust shoes is increased, thereby increasing the capacity of the thrust bearing, by the addition of segmental thrust shoes in heretofore relatively inaccessible areas, which areas are now made readily accessible by a removable thrust shoe stop.

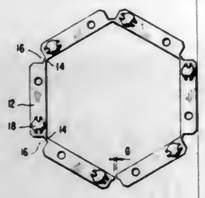
3,436,134
WHEEL ASSEMBLY
Thomas J. Gordon, Decatur, Ga., assignor to Transport Engineering, Inc., Charlotte, N.C., a corporation of North Carolina
Continuation-in-part of application Ser. No. 566,598, July 20, 1966. This application Nov. 29, 1966, Ser. No. 597,736
Int. Cl. F16c *33/00*
U.S. Cl. 308—190 5 Claims



A wheel assembly mounted for rotation on an end portion of an axle comprising inboard and outboard antifrictional radial and axial thrust bearings engaging the axle and surrounded by the hub of the wheel and means carried by the hub of the wheel engaging the outer races of the bearings ot vary the distance between the outer races of the bearings for preloading the bearings.

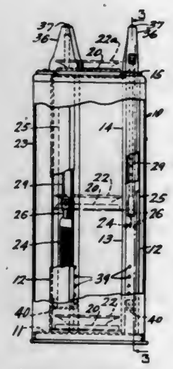
3,436,135
BENDABLE THRUST BEARING RETAINER
Arthur L. Bomberger, Lancaster, Pa., assignor to National Bearings Company, Lancaster, Pa., a corporation of Delaware
Filed Aug. 16, 1967, Ser. No. 660,949
Int. Cl. F16c *19/20, 33/42*
U.S. Cl. 308—201 3 Claims

A bendable thrust bearing retainer is capable of being formed into a substantially circular shape of various sizes. The retainer includes a series of single ball containing planar link members integrally connected by deformable segments of reduced width formed by a notched area between successive links. The retainer may be shaped into a



circular form in the plane of its links by bending the deformable segments and enlarging the notched areas which will be arranged around the outer periphery of the formed retainer.

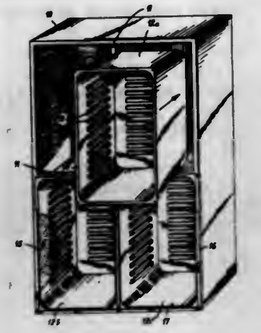
3,436,136
STORING AND DISPENSING APPARATUS
Ian C. McKechnie, Scottsdale, Ariz., assignor to United Service Equipment Co., Inc., Palmer, Mass., a corporation of Delaware
Filed June 5, 1967, Ser. No. 643,511
Int. Cl. B65g *1/16, 11/10;* A47f *1/00*
U.S. Cl. 312—71 10 Claims



Apparatus for storing and dispensing stacked articles wherein the uppermost one of the stacked articles occupies a predetermined vertical position. The articles are carried on a platform and the weight of the articles is counterbalanced by a plurality of springs. The effective spring lengths are adjustable to accommodate articles of varying unit weights.

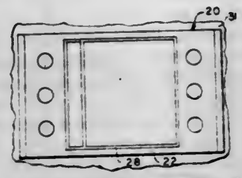
3,436,137
INTERIOR APPOINTMENTS OF STORAGE FURNITURE AND CELLS THEREFOR
Jean Ranger, Rte. de Concise, Montmorillon, Vienne, France
Filed May 8, 1967, Ser. No. 636,766
Claims priority, application France, May 11, 1966, 61,126
Int. Cl. F25d *11/00;* A47b *81/00, 53/00*
U.S. Cl. 312—214 6 Claims

An article of furniture having an outer support member or frame in which is secured a shell adapted to receive shelves or the like. The shell is fitted within the support member in such a manner as to provide a space



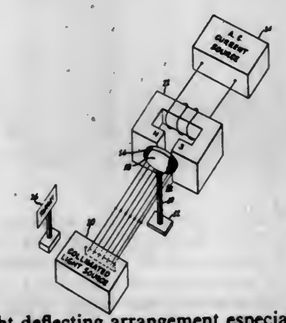
therebetween. In this space there is injected an expandable plastic material such as polyurethane.

3,436,138
MOUNTING ARRANGEMENT FOR A WALL CABINET
Erhard O. Ressler, West Chester, Ohio, assignor to Avco Corporation, Cincinnati, Ohio, a corporation of Delaware
Filed Aug. 17, 1967, Ser. No. 661,386
Int. Cl. A47b *67/02;* A47f *5/08*
U.S. Cl. 312—242 7 Claims



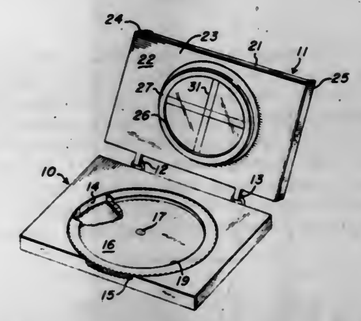
A mounting arrangement for a wall cabinet which includes a plate mounted on a wall, the plate having upper and lower flanges, a frame in the cabinet having a flange which overlies the upper flange of the mounting plate to support the cabinet on the mounting plate, and clamp means on the frame engageable with the lower flange of the mounting plate to draw the cabinet against the wall.

3,436,139
TORSIONAL LIGHT DEFLECTOR
William H. Barkow, Pennsauken, N.J., assignor to Radio Corporation of America, a corporation of Delaware
Filed July 20, 1965, Ser. No. 473,329
Int. Cl. G02b *17/00;* H04n *3/00;* H01j *3/14*
U.S. Cl. 350—6 4 Claims



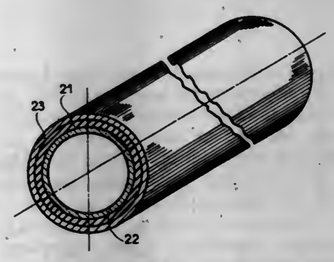
A light deflecting arrangement especially useful in high speed, large angular deflection scanning systems comprising a longitudinal member of material having a first torsion resonant frequency, a light reflecting surface attached to the member to form a deflector assembly therewith having a second torsion resonant frequency substantially equal to one-third the torsion resonant frequency of the longitudinal member, and means for applying a torsion force to the member to rotate the aforementioned surface.

3,436,140
HOLDER FOR CONTAMINATION SAMPLING PATCH
Thomas J. Lord, Middletown, Ohio, assignor to United Aircraft Products, Inc., Dayton, Ohio, a corporation of Ohio
Filed Nov. 9, 1966, Ser. No. 593,194
Int. Cl. G02b *21/34*
U.S. Cl. 350—94 8 Claims



A holder having the character of a microscope slide adapted to receive a filter patch for particulate counting in which the patch is protected from atmospheric contamination and other introduced error while exposing the patch for full surface, low tolerance counting.

3,436,141
HOLLOW WAVE GUIDE WITH SELECTIVELY REFLECTING INNER FACE
Georges Comte, Saint-Leu-la-Foret, France, assignor to Compagnie Generale d'Electricite, La Boetie, France, a French corporation
Filed Feb. 25, 1965, Ser. No. 435,153
Claims priority, application France, Feb. 26, 1964, 965,220
Int. Cl. G02b *5/14;* H01p *3/14, 3/20*
U.S. Cl. 350—96 3 Claims



A hollow wave guide for light rays the internal face of which is coated with a light absorbing layer which, in turn, is provided with a semireflecting layer. Rays of grazing incidence are reflected by the last-named layer, others are transmitted and absorbed by the first-named layer.

3,436,142

FIBER OPTICAL IMAGE-CONDUCTING DEVICES EMBODYING VARYING CONTROLLED STRAY LIGHT ABSORBING MEANS

Walter P. Siegmund, Woodstock, Conn., and Noble S. Williams, Sturbridge, Mass., assignors, by mesne assignments, to American Optical Company, Southbridge, Mass., a corporation of Delaware

Filed May 17, 1965, Ser. No. 456,249
Int. Cl. G02b 5/14, 5/22; C03b 37/00
U.S. Cl. 350—96 7 Claims



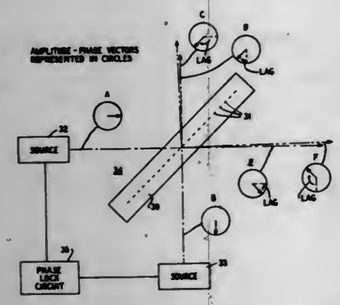
Fiber optical image-conducting device of different thicknesses in different parts considered in the longitudinal direction thereof, and including thin elongated light-absorbing means dispersed and uniformly spaced throughout the cross sectional area of the fiber optical device and extending longitudinally from end-to-end thereof, such absorbing means being of such varying controlled stray light-absorbing characteristics as to provide uniform transmission of optical energy through all parts thereof.

3,436,143

GRID TYPE MAGIC TEE

Charles G. B. Garrett, Morristown, N.J., assignor to Bell Telephone Laboratories, Incorporated, New York, N.Y., a corporation of New York

Filed Nov. 30, 1965, Ser. No. 510,655
Int. Cl. G02b 5/30, 27/28
U.S. Cl. 350—147 8 Claims



1. Apparatus comprising first and second sources propagating input radiant energy beams with like polarization and wavelength towards a region of intersection and a metallic grid disposed at said intersection and having parallel elongated elements of width d nonobliquely oriented with respect to said polarization, the normal to the plane of said grid being oriented at an angle θ with respect to the directions of each of said beams to provide like propagation directions for the transmitted component of one of said beams and the reflected component of the other, the angle θ lying in a plane orthogonal to the direction of elongation of said elements, the ratio of each wavelength, λ, to the element center-to-center spacing, a, lying in the range $1+\sin\theta<\lambda/a<9\cos\theta$, the ratio of a to the grid parameter D being appropriate for splitting the beam into equal transmitted and reflected components, where D is d when the elements are elongated parallel to the polarization and D is $(a-d)$ when the elements are elongated orthogonal to the polarization.

3,436,144

PHOTOCHROMIC MATERIALS AND DEVICES CONTAINING A SOLUTION OF COMPLEX METAL CYANIDE IONS AND ORGANIC DYE INDICATORS

Richard J. Hovey, Worcester, Mass., assignor, by mesne assignments, to American Optical Corporation, Southbridge, Mass., a corporation of Delaware

Filed Sept. 28, 1965, Ser. No. 490,917
Int. Cl. G02f 1/28, 1/36
U.S. Cl. 350—160 15 Claims



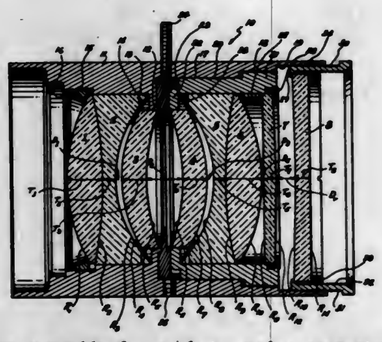
A photochromic solution is provided to display reversible photo dissociation in response to increase and decrease in the incidence of ultraviolet light. The solution contains a complex metal cyanide, such as, the octacyanomolybdate ion, $Mo(CN)_8^{-4}$, and an organic dye indicator. The photosensitive element in the system is the octacyanomolybdate ion, $Mo(CN)_8^{-4}$, which upon irradiation with ultraviolet light dissociates a cyanide ion, CN^-. In aqueous solution the dissociated cyanide ions are immediately hydrolyzed yielding an excess of hydroxyl ions which in turn cause the pH of the solution to rise. Since the organic dye indicators are sensitive to a change in pH, a color change results.

3,436,145

FOCUSING LENS PAIR COMBINED WITH PHOTOCOPYING OBJECTIVE

Edwin W. Bechtold, Middle Village, N.Y., assignor to The Ednalite Corporation, Westchester County, N.Y., a corporation of New York

Filed Sept. 17, 1964, Ser. No. 397,116
Int. Cl. G02b 9/62, 9/04; G03b 27/52
U.S. Cl. 350—215 2 Claims



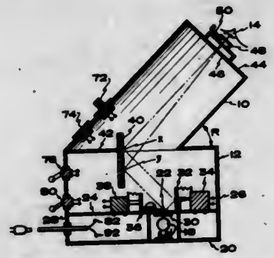
A lens assembly for a photocopying apparatus comprises a prime lens system having a number of lens elements all in fixed positions to each other to provide corrections for spherical and chromatic aberrations and curvature of field with a predetermined object-to-image distance, and plano-concave and plano-convex power lens elements of equal and opposite power arranged in axial alignment with the prime lens system with their concave and convex surfaces confronting and each having a ratio of focal length to useful aperture of at least 22, one of the power lens elements being fixed relative to the prime lens system and the other power lens element being axially movable for varying the air space therebetween, preferably by no more than 0.125 inch, for correspondingly adjusting the object-to-image distance of the lens assembly exactly to the requirements of the photo-copying apparatus.

3,436,146

RETINAL IRRADIATION MEASURING DEVICE

Harold Y. Minas, 2201 23rd Ave., Sacramento, Calif. 95822

Continuation-in-part of applications Ser. No. 488,177, Sept. 17, 1965, and Ser. No. 585,011, Oct. 7, 1966. This application Nov. 29, 1966, Ser. No. 597,808
Int. Cl. A61b 3/06
U.S. Cl. 351—1 9 Claims



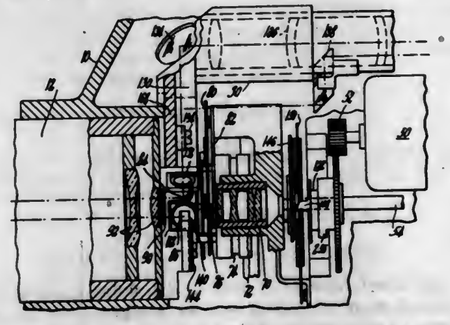
A device for measuring retinal irradiation which includes a casing having an opening into which an individual may look, a variable intensity light source positioned in the casing behind a barrier with an indicium lighted by the light source and a reflecting mirror positioned in the casing between the barrier and the opening for providing a reflected image of the indicium which can be seen by an individual looking into the casing. The mirror can be adjustably mounted in the casing and a translucent plate can be positioned between the light source and the indicium in the barrier.

3,436,147

CAMERA EXPOSURE CONTROL ARRANGEMENTS

Robert E. French, Weston, Mass., assignor, by mesne assignments, to Atlas-Rand Corporation, Clifton, N.J., a corporation of New Jersey

Continuation of application Ser. No. 181,101, Mar. 20, 1962. This application Dec. 7, 1965, Ser. No. 517,151
Int. Cl. G03b 7/10
U.S. Cl. 352—141 10 Claims



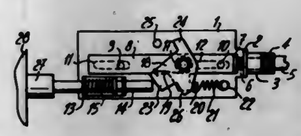
A motion picture camera includes a lens system in which is disposed a stationary vane structure that includes two tabs that are mounted substantially on the arcuate center line of the aperture of a cooperating movable vane that is driven by a galvanometer. Mounted immediately in front of each tab is a 0.094" x 0.094" mirror. Light is reflected by the upper mirror into a viewfinder system and by the lower mirror onto a photoconductor which controls the galvanometer.

3,436,148

SINGLE FRAME DRIVE CONTROL FOR KINEMATOGRAPHIC CAMERAS

Michel Zimmer, Yverdon, Vaud, Switzerland, assignor to Paillard S.A., Vaud, Switzerland, a company of Switzerland

Filed June 16, 1966, Ser. No. 557,932
Claims priority, application Switzerland, July 2, 1965, 9,323/65
Int. Cl. G03b 21/38
U.S. Cl. 352—169 5 Claims



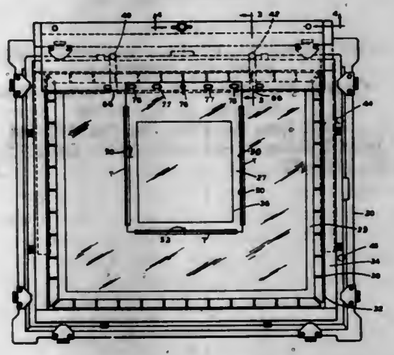
An attachment for kinematographic cameras which permits the taking of a succession of single pictures by the momentary blocking of the usual manual release member which controls the release of the film drive mechanism. The attachment is mounted on the camera in such a manner that a rod which is normally spring urged away from the release member can be urged against it by manual actuation of a cable acting on the rod through a releasable coupling means to thus achieve the desired condition for taking a single picture.

3,436,149

CHASE ADAPTER FOR PHOTOCOMPOSING

Ralph C. Wicker, Rochester, N.Y., assignor to Wicker Research, Inc., Rochester, N.Y., a corporation of New York

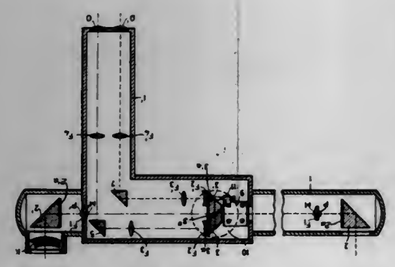
Filed Nov. 22, 1965, Ser. No. 509,030
Int. Cl. G03b 27/02, 27/32, 21/00
U.S. Cl. 355—85 7 Claims



An adapter for a photocomposing chase having register pins for precision location on the chase support mechanism of a photocomposing apparatus, the chase having a frame, and a glass plate to which negatives may be adhesively taped. The adapter consists of a rigid plate having apertures therein for precision engagement with the chase register pins thereby locating the adapter in fixed relation with the chase, a thin plate extending from the rigid plate to a marginal edge of the glass plate of the chase and having a plurality of aligned upstanding pins adjacent an edge thereof to temporarily receive a negative having

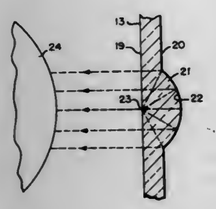
an accurately punched marginal edge corresponding to the pins, and a mechanism to increase the spacing between the plates to facilitate placement and removal of the adapter from the chase.

3,436,150
OPTICAL RANGEFINDER DEVICE INCLUDING MEANS FOR ADJUSTING THE LEAD ANGLE
Norbert Gunther, Aalen, Otto Schreiber, Heidenheim (Brenz), Wilhelm Rubl, Aalen, and Otto Griebisch, Oberkochen, Germany, assignors to Carl Zeiss-Stiftung, doing business as Carl Zeiss, Heidenheim (Brenz), Wurttemberg, Germany, a corporation of Germany
Filed June 30, 1965, Ser. No. 468,528
Claims priority, application Germany, June 30, 1964, Z 9,302
Int. Cl. G01c *3/14*
U.S. Cl. 356—12 **2 Claims**



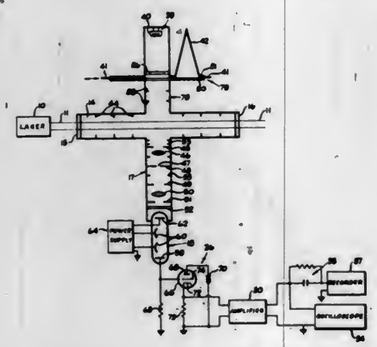
Optical rangefinder provided with a reflection system for the adjustment of a lead angle. The rangefinder includes two telescope systems each of which is provided with an eyepiece and an objective lens, each of said objective lenses having a mark fixed thereon. The reflection prism system is pivotally arranged between said objective lenses. It serves for altering the target line in lateral direction and for reflecting the light beam from said marks. A rotative adjustment of said reflection prism system effects an adjustment of the lead angle.

3,436,151
SPECTACLE MOUNTED INFINITY SIGHT FOR AN ATHLETE
Charles W. Conrose, Sr., 534 Backus Road, Webster, N.Y. 14580
Filed June 24, 1964, Ser. No. 377,544
Int. Cl. G01n *21/04*; G02c *7/02*; G01c *15/12*
U.S. Cl. 356—72 **2 Claims**



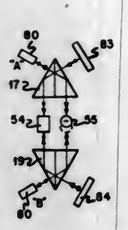
To enable a golfer to hit a ball more accurately one of the lenses of his spectacle has a straight line scribed on its rear face and the front face of this lens is formed with a convex segmental cylindrical boss which is silvered so that it serves as a reflecting surface to reflect the line, so that when the golfer looks down at the ball he sees the image of this line. By aligning the image of the line between the ball and the hole, for instance, he then knows where to stroke the ball to putt it into the hole.

3,436.152
METHOD AND APPARATUS FOR MEASURING THE POWER IN A LIGHT BEAM
Dinsdale M. J. Compton, Del Mar, and Herschel R. Snodgrass, La Jolla, Calif., assignors, by mesne assignments, to Gulf General Atomic Incorporated, San Diego, Calif., a corporation of Delaware
Filed Mar. 31, 1965, Ser. No. 444,319
Int. Cl. G01j *1/00*; G01n *21/26*; H01s *3/00*
U.S. Cl. 356—104 **8 Claims**



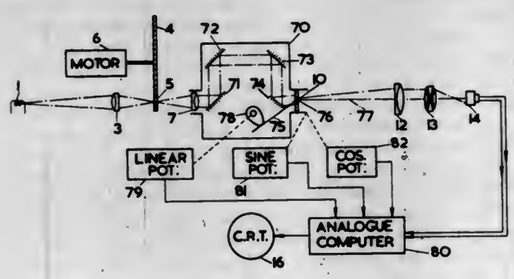
A method and apparatus for measuring the power in an intense light beam such as a laser beam are provided. The beam is directed through a gas having known light scattering properties so as to scatter a small fixed proportion of the beam. A detector detects a predetermined portion of the scattered light to provide an indication of the beam power. A standard light source is used to produce a comparison signal to give an absolute measurement of the beam power.

3,436,153
OBJECT MEASURING BY INTERFEROMETRY
Richard R. Baldwin, Clinton, Tenn., assignor to the United States of America as represented by the United States Atomic Energy Commission
Filed Oct. 5, 1965, Ser. No. 493,278
Int. Cl. G01b *9/02*
U.S. Cl. 356—106 **3 Claims**



An interferometer is used to determine cross-sectional dimensions of objects of various configurations to within about 10 microinches of the actual dimension. The objects, one of which is of known cross-sectional dimensions, are placed between light-beam-splitting prisms disposed in a mirroring relationship. One of the objects is moved in one direction towards one of the prisms until a zero order fringe is viewed through this prism indicating equidistant spacing of the objects from the prism. The same object is then moved in measured increments in the opposite direction until the zero order fringe occurs in the other prism. The measured distance through which the object is moved between the zero order fringes when substracted from the known cross-sectional dimension of one of the objects provides the cross-sectional dimension of the other object.

3,436,154
APPARATUS FOR, AND METHODS OF, TESTING LENSES
Lionel Richard Baker, Orpington, Hastings Charles Maxim Bertoya, South Norwood, London, John Raymond Mann, Orpington, and James Norwood Whyte, Otford, near Sevenoaks, England, assignors to National Research Development Corporation, London, England
Filed May 28, 1965, Ser. No. 459,629
Claims priority, application Great Britain, May 29, 1964, 22,343/64
Int. Cl. G01b *9/00*
U.S. Cl. 356—124 **11 Claims**



Apparatus for testing lenses to detect defects or aberrations in different parts of the lens by scanning the lens with a pencil beam of light and electro-optically displaying the deviations of the pencil beam which has passed through the lens and impinged upon a position-sensitive photo responsive element. The scanning may be accomplished by reflecting a beam of light from an appropriate source with a rotating polygon shaped carrier having a number of mirrors each displaced a given angular distance from its neighbor in two directions so that the entire lens is scanned in successive lines during a complete revolution. Alternatively, two oscillating mirrors may be used. The pencil beam can be chopped to provide a series of light pulses incident on the lens and the electrical signals utilized to control the displacement on a cathode ray tube so that the number and extent of the defects can be readily seen by visually inspecting the deviations of the displaced spots from the center of the cathode ray screen.

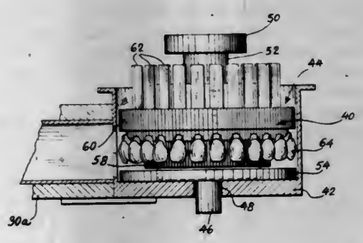
3,436,155
DRILLING AND TAPPING AID IN THE FORM OF AN APERTURED CARD HAVING A REFLECTIVE AND MAGNETIC FACE
Oliver W. Perin, Jr., 1200 Hollywood Ave., Cincinnati, Ohio 45224
Filed Oct. 18, 1965, Ser. No. 496,982
Int. Cl. G01b *11/26, 5/14*; G01c *1/00*
U.S. Cl. 356—138 **1 Claim**

A drilling angle indicator comprises a flat platen having a reflective flat surface and an opposite nether face parallel with said flat surface a fixed pre-magnetized flat magnetic-rubber lamination on the nether face for contact with the workpiece and the platen further having a plurality of different sized substantially round apertures therein remote from the marginal portions of the platen to receive



a drill directed through one of the apertures from the reflective surface.

3,436,156
DENTAL COLOR MATCHING GUIDE
Hans Adler, 269 Riverside Drive, New York, N.Y. 10025; Norman Horowitz, 111—21 77th Road, Forest Hills, N.Y. 11375; and Philip Spigner, 1460 Park St., Atlantic Beach, N.Y. 11509
Filed Apr. 8, 1966, Ser. No. 541,383
Int. Cl. G01j *3/52*
U.S. Cl. 356—192 **6 Claims**

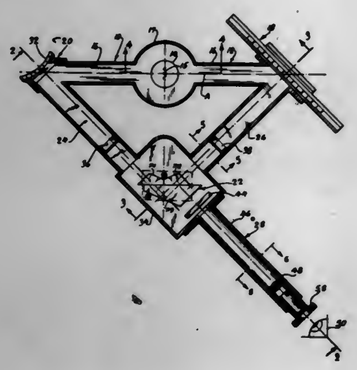


1. A dental color matching guide comprising a plurality of sample teeth and a simulated gum background therefor, a mounting provided for said sample teeth and simulated gum background, and a housing provided for said mounting, said housing having a window formed therein and said mounting being adjustably movable relative to said window to expose selected sample teeth through said window, the housing being a generally cylindrical receptacle and the mounting being a turntable rotatably mounted in said housing coaxially therewith, said sample teeth being arranged circumferentially of said turntable, and said window being formed in the cylindrical side wall of said housing, whereby the turntable may be rotated within the housing to selectively position the sample teeth in registration with said window, the simulated gum background consisting of a gum-colored annular member mounted on said turntable concentrically therewith and adjacent to and concentrically with the sample teeth mounted on said turntable.

3,436,157
COLOR AND SURFACE STRUCTURE COMPARATOR
Hans Adler, 260 Riverside Drive, New York, N.Y. 10025; Norman Horowitz, 111—21 77th Road, Forest Hills, N.Y. 11375; and Philip Spigner, 1460 Park, St., Atlantic Beach, N.Y. 11509
Filed Apr. 8, 1966, Ser. No. 541,384
Int. Cl. G01j *3/52*
U.S. Cl. 356—192 **6 Claims**

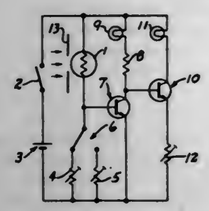
1. A dental color and surface structure comparator, comprising:
a light source,

a color guide, and
an optical system;
means for positioning said color guide for exposure to said light source and optical system;
means for positioning a dental specimen for exposure to said light source and optical system;



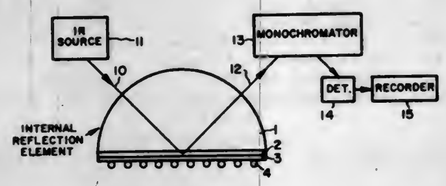
said optical system being adapted to produce adjacent correctly oriented images of said color guide and dental specimen for visual comparison;
said optical system including at least two diversion prisms;
the prism angles being 45°, 90°, 112.5° and 112.5°, respectively.

3,436,158
EXPOSURE METER USING TWO INDICATOR LAMPS
Helmut Schmitt, Hausen, Germany, assignor to P. Gossen & Co. G.m.b.H., Erlangen, Bavaria, Germany
Filed Feb. 23, 1968, Ser. No. 707,792
Claims priority, application Germany, Feb. 25, 1967, G 49,412
Int. Cl. G01j *1/44*
U.S. Cl. 356—226 **9 Claims**



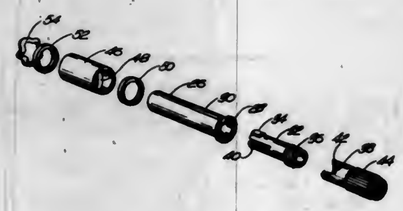
The voltage drop of a photoresistor circuit is fed to the input of a two-stage transistor amplifier in the collector output circuits of which two indicator lamps are disposed. The state of these lamps is observed which indicate proper adjustment at equal brightness or need for additional adjustment in one direction depending on the brightness or darkness of one of the lamps. In front of the photoresistor a light attenuator is disposed, the instantaneous position of which represents the light intensity falling on the photoresistor. The attenuator which may be in the form of a stop or diaphragm is coupled with the setting or computing parts of a camera or with a computing ring in the case of an exposure meter.

3,436,159
INTERNAL REFLECTION ELEMENT FOR SPECTROSCOPY WITH FILM OPTICAL CAVITY TO ENHANCE ABSORPTION
Nicolas J. Harrick, Ossining, and Arthur F. Turner, Rochester, N.Y.; said Arthur F. Turner assignor to Bausch & Lomb Incorporated, Rochester, N.Y., a corporation of New York, and said Nicolas J. Harrick, assignor to North American Philips Co., Inc., New York, N.Y., a corporation of Delaware
Filed Feb. 4, 1966, Ser. No. 525,223
Int. Cl. G02b *27/32, 1/10, 5/14*
U.S. Cl. 356—256 **6 Claims**



1. An internal reflection element for use in internal reflection spectroscopy, comprising a substantially radiation transparent body having a relatively high index of refraction, a frustrated total reflection film having a relatively low index of refraction on a surface portion of said body, and an interference film having a relatively high index of refraction on the frustrated total reflection film, said body being positioned to receive a beam of radiation and impinge same through the frustrated total reflection film and the interference film on the outer surface of the latter at an angle exceeding the critical angle so as to cause said beam to be totally reflected from that outer surface except as attenuated by the presence of an absorbing medium on said outer surface said frustrated total reflection film having characteristics, including thickness, for producing substantial amplitude matching of beam components, and said interference film having characteristics, including thickness, for producing substantial phase matching of said beam components.

3,436,160
RETRACTABLE WRITING INSTRUMENT
Raymond A. Lanoie, East Greenwich, R.I., assignor to Lew Mfg. Co., Coventry, R.I., a corporation of Rhode Island
Filed Aug. 8, 1966, Ser. No. 570,990
Int. Cl. B43k *7/12*
U.S. Cl. 401—116 **3 Claims**



A retractable writing instrument having a cartridge that projects through a barrel of the instrument and is interconnected to a carrier adjacent to the rear end thereof, the carrier having a lug formed thereon that is received in a slot formed in a sleeve that is held in a relatively fixed position, and the lug being further received

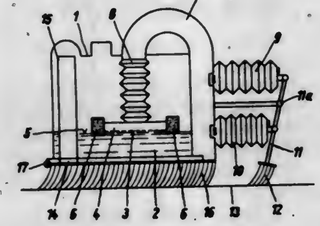
in a helical track that is formed interiorly of an operating member that is located in coaxial relation on the sleeve, the operating member being held against axial movement but being rotated for producing a corresponding axial movement of the carrier and the cartridge interconnected thereto.

3,436,161
DEFORMABLE FLUID APPLICATOR
Peter Charos, Fordham Road, Hampton Bays, N.Y. 11946
Filed Nov. 9, 1966, Ser. No. 594,311
Int. Cl. B43k *7/10*; B43m *11/02*; B44d *3/28*
U.S. Cl. 401—147 **12 Claims**



A liquid applicator having a working portion which, when compressed against a surface member, dispenses an amount of liquid from a reservoir of the applicator and applies the same under pressure to the surface member.

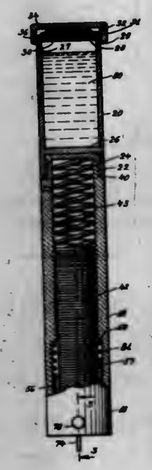
3,436,162
APPARATUS FOR PRODUCING AND DISCHARGING A FOAM OF A LIQUID
Egon Nohl and Gertrud Nohl, née Köfler, Wiener-Neustadt, Austria, assignors to Rewo Chemische Fabrik G.m.b.H., Schluchtern, Germany, a corporation of Germany
Filed Apr. 11, 1967, Ser. No. 630,105
Claims priority, application Austria, Apr. 19, 1966, A 3,663/66; Apr. 26, 1966, A 3,925/66
Int. Cl. A46b *11/02*
U.S. Cl. 401—188 **12 Claims**



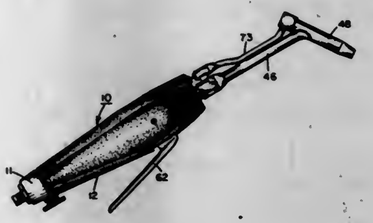
Apparatus for producing and discharging a foam of a liquid cleaning or treatment agent, comprising a container adapted to receive the liquid in which is retained a hollow body having outlet openings formed therein, and connected to a compressed gas source, the container also having a foam outlet pipe located therein for discharge of the foam, in which the outlet openings of the hollow body are located and kept directly above the liquid to be foamed.

3,436,163
BINGO GAME MARKER
Joseph J. Calabrese, 1941 65th St. 11204, and Lillian Gang, 3100 Ocean Parkway 11235, both of Brooklyn, N.Y.
Filed May 8, 1967, Ser. No. 636,756
Int. Cl. B43k *29/20*; G07d *9/00*
U.S. Cl. 401—195 **2 Claims**

A dual bingo game marker that selectively drops a disc-shaped marker on the number or that marks the numbers with ink or colored water during the playing of the game. The game marker comprises a casing providing a supply of disc-shaped markers and providing a supply of ink or colored water. Trigger levers with actuating means are provided for supporting the discs in spring-pressed stacked formation so that the bottommost disc is adapted to fall by gravity onto a number on a bingo card.



3,436,164
PIEZOELECTRICALLY IGNITED GAS TORCH
Theodore F. Deucher, Parma, Ohio, assignor to Clevite Corporation, a corporation of Ohio
Filed Mar. 15, 1967, Ser. No. 623,293
Int. Cl. F23q *7/12*
U.S. Cl. 431—255 **21 Claims**

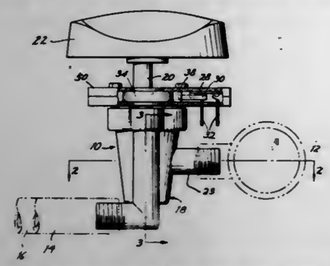


A piezoelectric self-igniting gas torch has a bare, needle type, electrode within the nozzle with the remainder of the lead wire located out of contact with the gas. The mechanical connection between the handle and the nozzle portion is by means of a bayonet type coupler whereas the electrical junction consists of a voltage breakdown control gap.

3,436,165
SPARK IGNITION DEVICE WITH A GAS CONTROL VALVE AND A SWITCH
Robert C. Gehrke, Kutztown, Pa., assignor to Caloric Corporation, Topton, Pa., a corporation of Pennsylvania
Filed Apr. 25, 1967, Ser. No. 633,550
Int. Cl. F23q *7/12*
U.S. Cl. 431—256 **5 Claims**

A single shaft is rotatable in one direction to open a

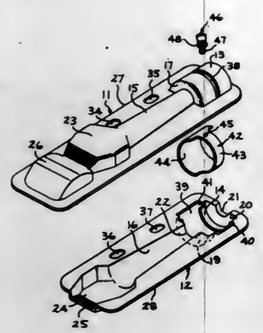
gas valve and simultaneously to close a switch momentarily to energize a spark-producing device to ignite the gas.



Rotation of the shaft in the opposite direction closes the valve or cock and re-sets the switch.

3,436,166
GAS BURNER WITH CAPTURED SHUTTER
Clifford E. Erickson, Chicago, Ill., assignor to General Electric Company, a corporation of New York
Filed Oct. 30, 1967, Ser. No. 679,049
Int. Cl. F23d *13/40*; F16k *13/00*
U.S. Cl. 431—354 **7 Claims**

A gas burner housing includes a mixing chamber having an air inlet. A shutter is inserted into the chamber through the burner wall after assembly of the housing and is

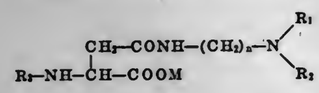


movable within the chamber to vary the effective size of the air inlet.

CHEMICAL

3,436,167
HAIR DYEING COMPOSITIONS CONTAINING AMPHOTERIC SURFACE ACTIVE AGENTS
Gregoire Kalopissis and Andre Viout, Paris, France, assignors to L'Oreal, Paris, France
No Drawing, Original application June 21, 1965, Ser. No. 465,757, now Patent No. 3,331,781, dated July 18, 1967. Divided and this application Apr. 12, 1966, Ser. No. 558,181
Claims priority, application France, Feb. 15, 1962, 888,177
Int. Cl. A61k *7/12*; D06p *3/02*
U.S. Cl. 8—10.1 **8 Claims**

A hair dyeing composition comprising a water solution containing an effective amount of at least one surface active substance having the formula:



in which $R_1—N—R_2$ is selected from the group consisting of lower di-alkyl amines in which R_1 and R_2 are each alkyl groups having up to four carbon atoms, morpholino and piperidino, n is an integer having a value of between 2 and 5 inclusive, R_3 is an aliphatic hydrocarbon comprising 10 to 18 carbon atoms, and M is a substance selected from the group consisting of sodium, hydrogen, potassium and ammonium, and a dye suitable for use on the hair.

3,436,168
NEUTRAL DEVELOPING OF AZOIC COLORS
Clemens Streck, Loudonville, N.Y., assignor to GAF Corporation, New York, N.Y., a corporation of Delaware
No Drawing. Filed June 17, 1965, Ser. No. 464,826
Int. Cl. D06p *5/06, 1/02*
U.S. Cl. 8—45 **12 Claims**

A neutral developing composition and a process for employing the same, such composition comprising a coupling component, a diazo amino compound, a volatile oxygen-containing, water soluble nitrogenous organic base, and a sulfonated long chain alkyl carboxylic acid.

3,436,169
CONTINUOUS DYEING OF ACRYLIC FIBER MATERIAL
Jakob Zurbuchen, Basel-Land, and Jakob Bindler, Riehen, Switzerland, assignors to J. R. Geigy A.G., Basel, Switzerland
No Drawing. Continuation-in-part of applications Ser. No. 373,053, and Ser. No. 373,054, June 5, 1964. This application Dec. 2, 1965, Ser. No. 511,238
Claims priority, application Switzerland, June 11, 1963, 7,282/63, 7,283/63; Dec. 10, 1964, 15,954/64, 15,955/64
Int. Cl. D06p *3/76, 3/70*
U.S. Cl. 8—55 **35 Claims**

1. A process for the continuous dyeing of acrylic fiber materials, comprising

(A) impregnating acrylic fiber material having acid dyesites with thickened aqueous acid liquor of basic dyestuff, at a temperature below the drawing temperature of the dyestuff, which liquor contains

(I) a dye assistant composition consisting essentially of:

(α) a water-soluble salt of a saturated aliphatic monocarboxylic fatty acid having 8 to 14 carbon atoms with a mono- to divalent cation selected from the group consisting of alkali metal ion, ammonium ion, lower alkyl-substituted ammonium ion, hydroxy-lower alkyl-substituted ammonium ion, and,

for every 3 parts by weight of (α) in said composition at least one part of a member selected from the class consisting of (β) polyglycolether, (γ) amide and (β/γ) polyglycolether-amide mixtures,

said polyglycolether (β) being obtained as

(i) condensation product of a member selected from the group consisting of a saturated fatty alcohol of from 8 to 14 carbon atoms and a saturated fatty acid of from 8 to 14 carbon atoms, and, per mol of said member, 4 to 12 equivalents of ethylene oxide, or as

(ii) condensation product from the reaction product of a higher fatty alcohol of from 8 to 20 carbon atoms and an aliphatic polyamine having at least 2 and not more than 4 basic nitrogen groups separated from each other by from 2 to 3 carbon atoms, in a molar ratio of about 1:1 to 1:2 and, per mol of said reaction product, from 10 to 60 mol of ethylene oxide, 0 to 2 mol of propylene oxide and 0 to 2 mol of styrene oxide,

said amide (γ) being that of a saturated aliphatic monocarboxylic acid having from 8 to 14 carbon atoms amidified by a member selected from the group consisting of mono- and di-hydroxy-lower alkyl-amines and lower alkyl ethers thereof, in a molar ratio of (acid):(amine) of 1:1 to about 1:2,

which dye assistant composition is added in an amount of at least about 2 grams per liter of said impregnation liquor;

(II) acid-medium-compatible thickener in sufficient amount to impart to the resulting impregnation liquor a viscosity of at least about 30 centipoises;

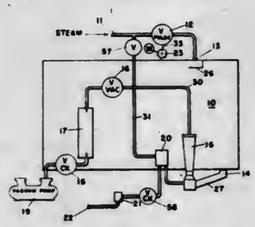
(III) a water-soluble strong acid in sufficient amount to impart to said liquor a pH up to about 4,

(B) removing excess liquor from the impregnated acrylic fiber material to leave on every 100 parts by weight of the said material at least about 80 parts by weight of liquor;

(C) steaming the resulting impregnated material, and

(D) rinsing the steamed material and drying the same.

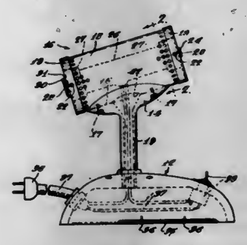
3,436,170
METHOD OF STERILIZING UTILIZING STEAM
Alvin Lodge, Erie, Pa., assignor to American Sterilizer Company, Erie, Pa., a corporation of Pennsylvania
Filed Jan. 5, 1965, Ser. No. 423,446
Int. Cl. A61l *1/00*
U.S. Cl. 21—56 **1 Claim**



A process of sterilizing with steam wherein air is removed from a closed chamber, while simultaneously and intermittently introducing steam to said chamber during said air removal in pulses for a predetermined time, the time between said pulses increasing during said predetermined time, and then introducing steam to said chamber continuously for sterilization for a time sufficient to effect sterilization of the article.

3,436,171
DEVICE FOR STERILIZING INOCULATION NEEDLES AND LOOPS
Theodore E. Welchselbaum, St. Louis, and Philip L. Varney, Florissant, Mo., assignors to Biological Research, Inc., a corporation of Delaware
Filed June 25, 1965, Ser. No. 466,931
Int. Cl. A61l *3/00*
U.S. Cl. 21—85 **4 Claims**

A device for sterilizing inoculating needles and loops which is capable of igniting microorganisms on the needles and loops while preventing spattering of the microorganisms to the surrounding atmosphere. The device comprises an electrically heated combustion chamber open at one end for receiving the inoculating needles and loops. The other end of the chamber is inclined downwardly and is provided with retaining means for preventing the needles and loops from sliding out. The retaining means is provided with a combustion air inlet which is covered with a spatter shield preventing spattering of microorganisms through the inlet but having air passages allowing air flow to the inlet.



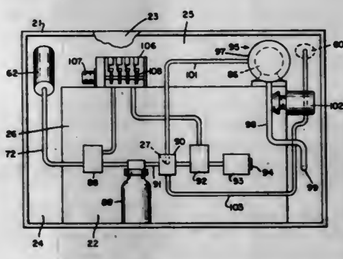
ERRATUM

For Class 21—93 see:
Patent No. 3,436,173

3,436,172
METHOD OF MAKING HYDRAZINIUM DIPERCHLORATE
John E. Paustian, Whippany, Marvin M. Fein, Westfield, and Murray S. Cohen, Morristown, N.J., assignors to Thiokol Chemical Corporation, Bristol, Pa., a corporation of Delaware
No Drawing. Filed Apr. 3, 1962, Ser. No. 184,666
Int. Cl. C01b *11/18*; C01c *1/28*; C06c *1/02*
U.S. Cl. 23—85 **4 Claims**

1. The method of modifying the form of irregular crystals of anhydrous hydrazinium diperchlorate to make the crystals more regular which comprises contacting said crystals with aqueous perchloric acid of a concentration of at least 70 percent by weight.

3,436,173
APPARATUS FOR PORTABLE, HIGH CONCENTRATION GAS STERILIZATION
Frank E. Power, Ashland, Mass., assignor, by mesne assignments, to Minnesota Mining and Manufacturing Company, St. Paul, Minn., a corporation of Delaware
Filed Dec. 7, 1964, Ser. No. 416,432
Int. Cl. A61l *3/00*
U.S. Cl. 21—93 **9 Claims**



A portable, self-contained apparatus for improved rapid gaseous sterilization. Ethylene oxide is automatically introduced, from cartridges, into an evacuated chamber containing the items to be sterilized. The items can be auto-

matically cold sterilized in about three hours or hot sterilized in about forty-five minutes. High concentrations of ethylene oxide can be utilized without danger of explosion.

3,436,174

SYNTHETIC MORDENITE AND PREPARATION THEREOF

Leonard B. Sand, Holden, Mass., assignor to Norton Company, Worcester, Mass., a corporation of Massachusetts

Continuation of application Ser. No. 264,523, Mar. 12, 1963. This application Oct. 18, 1967, Ser. No. 676,228
Int. Cl. C01b *33/28*
U.S. Cl. 23—113 6 Claims

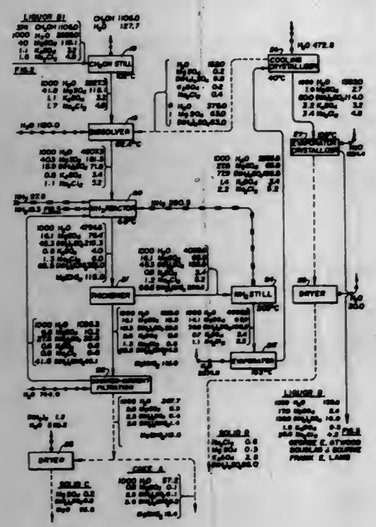
Synthetic mordenite, capable of intracrystalline adsorption of benzene and molecules larger than 5 A. is prepared by hydrothermal synthesis in a water, soda, alumina, silica system including sodium silicate at temperatures below 260°, with a batch composition mole ratio of water to soda of from 6 to 300; with the water to soda ratio not exceeding 180 when temperatures below 200° C. are employed. Acid treatment of the product can reduce the aluminum content of the crystals, which are useful for ion exchange, adsorption and catalytic applications.

3,436,175

METHOD OF PRODUCING AMMONIUM SULFATE, POTASSIUM SULFATE AND MAGNESIUM OXIDE FROM LANGBEINITE

George E. Atwood, Sahuarita, Ariz., and Douglas J. Bourne and Frank E. Lamb, Carlsbad, N. Mex., assignors to Duval Corporation, Houston, Tex., a corporation of Texas

Filed June 19, 1964, Ser. No. 376,316
Int. Cl. C01c *1/24*; C01d *5/00*; C01f *5/02*
U.S. Cl. 23—119 17 Claims



13. The process of producing potassium sulfate, magnesium oxide and ammonium sulfate from langbeinite comprising the steps of:

hydrating the langbeinite with water to dissolve substantially all of the langbeinite and crystallize a portion of the langbeinite as leonite,

separating the leonite from the potassium magnesium sulfate mother liquor,

mixing the potassium magnesium sulfate mother liquor with methanol to crystallize leonite therefrom,

separating the leonite from the methanol magnesium sulfate mother liquor,

dissolving the leonite in water,

removing water from the leonite solution to crystallize potassium sulfate from the solution,

separating the potassium sulfate from the magnesium potassium sulfate mother liquor,

mixing a portion of the methanol magnesium sulfate liquor with ammonia to crystallize magnesium hydroxide,

separating the magnesium hydroxide from the magnesium ammonium sulfate-ammonium hydroxide mother liquor,

separating ammonia from said mother liquor,

removing water from said mother liquor to crystallize ammonium sulfate,

separating the ammonium sulfate from the ammonium sulfate mother liquor,

drying a portion of the magnesium hydroxide to magnesium oxide,

mixing the ammonium sulfate mother liquor and a portion of the magnesium hydroxide and water and recovering ammonia from the mixture,

mixing the resulting magnesium sulfate liquor with a portion of the methanol magnesium sulfate liquor from a previous step with sodium chloride and additional methanol to crystallize sodium sulfate, and

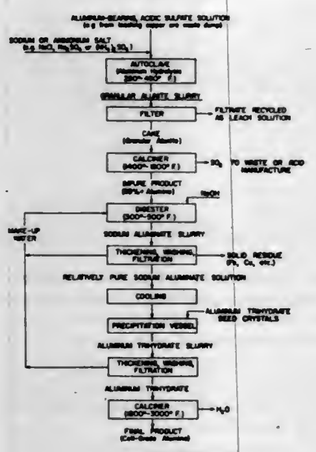
separating the sodium sulfate from the mother liquor.

3,436,176

PROCESS OF PRODUCING HIGH PURITY ALUMINA FROM ALUMINUM-BEARING, ACIDIC, SULFATE SOLUTIONS

Henry Rush Spedden and Alfred Kenneth Schellinger, Salt Lake City, Utah, assignors to Kennecott Copper Corporation, New York, N.Y., a corporation of New York

Filed Mar. 14, 1966, Ser. No. 533,965
Int. Cl. C01f *7/34*, *7/02*
U.S. Cl. 23—143 8 Claims



Aluminum-bearing, acidic sulfate solutions are heated in the presence of sodium and/or ammonium salts at autogenous pressure to hydrolize the aluminum values and form a granular alunite precipitate. The precipitate is calcined to form a crude alumina product which is then digested in a strong caustic solution and purified in accordance with the well-known Bayer procedure to produce high-purity alumina.

3,436,177

CONTINUOUS PROCESS FOR REMOVING MULTIVALENT IMPURITIES FROM COPPER-BEARING LEACH SOLUTIONS

Henry Rush Spedden and Alfred Kenneth Schellinger, Salt Lake City, Utah, assignors to Kennecott Copper Corporation, New York, N.Y., a corporation of New York

Continuation-in-part of application Ser. No. 533,965, Mar. 14, 1966. This application Feb. 28, 1968, Ser. No. 709,140
Int. Cl. C22b *15/08*
U.S. Cl. 23—172 10 Claims

Acid sulfate leach solutions contaminated with relatively high concentrations of iron and aluminum are subjected to elevated pressure and temperature conditions to cause the precipitation, due to hydrolysis, of both iron and aluminum precipitates and the regeneration of sulfuric acid. The leach solution is simultaneously contacted with oxygen to adjust the level of ferric ions remaining in the treated solution. The process also effects the removal from the leach solution of other multivalent contaminants such as arsenic and manganese. After being conditioned by the removal of impurities and the generation of acid, the leach liquor is suitable for recycle for use in leaching further metal values from ore dumps or vats. The precipitate may be processed for the recovery of iron, aluminum. or other valuable constituents.

3,436,178

METHOD OF OBTAINING CONCENTRATED POTASSIUM HYDROXIDE IN A COLORLESS CONDITION

Italo Ferrara, Siracusa, Italy, assignor to Sincat-Società Industriale Catanese S.p.A., Palermo, Italy, a corporation of Italy

Filed Sept. 12, 1966, Ser. No. 578,846
Claims priority, application Italy, Sept. 14, 1965, 20,479/65, 20,480/65
Int. Cl. C01d *1/04*
U.S. Cl. 23—184 7 Claims

Method of discoloring potassium hydroxide after concentration thereof by evaporation wherein a reducing agent from the group of alkali-metal citrates and tartrates (preferably sodium citrate or sodium potassium tartrate) is added to the potassium hydroxide as it emerges from a nickel concentrating vessel at a temperature between 250° C. and 300° C. (preferably above 270° C.). The proportion of citrates or tartrates preferably is in the range of 0.001 to 0.01% by weight.

3,436,179

METHOD OF PREPARING SINTERED MASSES OF ALUMINUM NITRIDE

Shigetomo Matsuo, Tokyo, and Yosiaki Matsuki and Katsutoshi Komeya, Kawasaki-shi, Japan, assignors to Tokyo Shibaura Electric Co., Ltd., Kawasaki-shi, Japan, a corporation of Japan

Filed July 21, 1965, Ser. No. 473,800
Claims priority, application Japan, July 27, 1964, 39/42,014
Int. Cl. C01b *21/06*; B22f *1/00*
U.S. Cl. 23—192 2 Claims

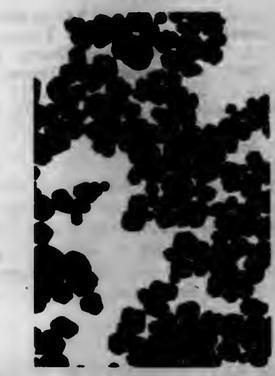
Method of producing compact sintered aluminum nitride, comprising steps of pressure molding a mixture of alumina, carbon and aluminum powders into desired shape and gradually increasing temperature to about 1750° C. in a nitrogen atmosphere.

3,436,180

PROCESS FOR MAKING TITANIUM DIOXIDE USING CARBON MONOXIDE CONTAINING INORGANIC ASHES

Robert Jean Mas and André Louis Michaud, Thann, France; said André L. Michaud, assignor to Fabriques de Produits Chimiques de Thann et Bolte Postale, Thann, France

Filed Aug. 1, 1966, Ser. No. 569,153
Claims priority, application France, Aug. 4, 1965, 27,182
Int. Cl. C01g *23/04*
U.S. Cl. 23—202 2 Claims



A process for producing pigmentary titanium dioxide by reacting titanium tetrachloride, oxygen or an oxygen containing gas, independently producing a gas mixture containing carbon monoxide by the incomplete combustion of a combustible mixture of 10 to 100% by weight of charcoal so as to produce carbon monoxide containing from 50 to 200 milligrams per cubic meter thereof of basic inorganic ash; mixing the carbon monoxide with the reactants; reacting the reactants in the vapor phase at a temperature of 1000° C. to 1400° C. to provide an additional source of heat for reaction and recovering the titanium dioxide so formed.

3,436,181

PROCESS FOR MANUFACTURING CARBON DISULPHIDE

Jean Berthoux, Decines, Jean-Pierre Quillet, Lyon, and Gerard Schneider, Caluire, France, assignors to Progil, Paris, France, a corporation of France

No Drawing. Filed Dec. 29, 1966, Ser. No. 605,555
Claims priority, application France, Apr. 7, 1966, 47,139; Nov. 11, 1966, 47,948
Int. Cl. C01b *17/20*
U.S. Cl. 23—206 6 Claims

Process for manufacturing carbon disulphide by the reaction of sulphur with an olefin or diolefin in gaseous phase without a catalyst, the sulphur may be diluted with carbon disulphide and/or hydrogen sulphide and the olefin or diolefin may be diluted with an inert gas.

3,436,182

PROCES FOR PREPARING SYNTHETIC DIAMOND BY USING DIRECT ELECTRIC CURRENT FOR HEATING

Hideo Inazuka, 1082 Kugahara-cho, Ohta-ku, Tokyo, Japan, and Masao Wakatsuki, 1296 Tokaichiba-cho, Kohoku-ku, Yokohama-shi, Japan

Continuation-in-part of application Ser. No. 446,644, Apr. 8, 1965. This application May 3, 1968, Ser. No. 726,383
Claims priority, application Japan, Apr. 11, 1964, 39/20,321, 39/20,322
Int. Cl. C01b *31/06*
U.S. Cl. 23—209.1 2 Claims

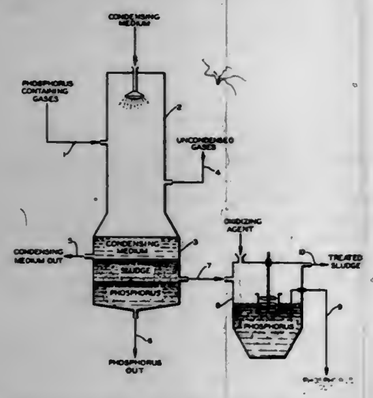
In the synthesis of diamond by using combined raw

materials of a carbonaceous substance and a catalyst metal at high pressure and temperature, passing a D.C. electric current through the raw materials to heat them, an improved process characterized by dividing the above mentioned process of a diamond synthesis into two steps; first, passing the D.C. current through the raw materials in one direction during one period of time; and second, passing the D.C. current through them in the reverse direction during the succeeding period of time.

3,436,183
METHOD FOR PREPARING DIAMOND CRYSTALS
Masao Wakatsuki and Toshio Aoki, Yokohama-shi, and Nobuyuki Wakamatsu and Shinichiro Takasu, Tokyo, Japan, assignors to Tokyo Shibaura Electric Co., Ltd., Kawasaki-shi, Japan, a corporation of Japan
Filed July 25, 1966, Ser. No. 567,743
Claims priority, application Japan, July 31, 1965, 40/46,423
Int. Cl. C01b *31/06*
U.S. Cl. 23—209.1 6 Claims

A method of producing diamond crystals from a carbonaceous material which is subjected to a temperature of over 1,200° C. and a pressure of over 50,000 atm. in the presence of niobium metal with or without at least one metal selected from the group consisting of copper, silver, gold, aluminum, zinc and tin, mixed or alloyed therewith.

3,436,184
PROCESS FOR RECOVERING PHOSPHORUS FROM SLUDGE
John A. Hinkebein, Manchester, Mo., assignor to Monsanto Company, St. Louis, Mo., a corporation of Delaware
Filed Aug. 25, 1964, Ser. No. 391,895
Int. Cl. C01b *25/02*
U.S. Cl. 23—223 7 Claims

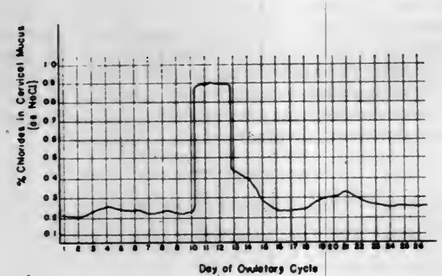


The phosphorus content of sludge is reduced by admixing a water-soluble inorganic hexavalent oxy-chromium compound with the sludge to improve the separation of phosphorus contained in the sludge.

3,436,185
SPOT TEST TO DIFFERENTIATE BETWEEN ALLOYS, 90–10 COPPER-NICKEL AND 70–30 COPPER-NICKEL
David M. Zall, Anne Arundel County, Md., assignor to the United States of America as represented by the Secretary of the Navy
No Drawing. Filed July 20, 1966, Ser. No. 566,714
Int. Cl. G01n *31/22, 31/00*
U.S. Cl. 23—230 7 Claims

1. A spot test for distinguishing between alloys of copper and nickel by means of color development which comprises the steps of:
contacting the surface of a specimen of a copper and nickel alloy of unknown composition with concentrated ammonium hydroxide solution; and
reacting said contacted solution with a saturated acetone solution of 5-(p-dimethyl aminobenzylidene) rhodanine whereby the resulting color will be yellow in the case where said alloy is Monel and scarlet red in the case where said alloy is copper-nickel.

3,436,186
TEST METHOD FOR ASSESSING OVULATORY FUNCTION
Daniel J. McSweeney and Anthony J. Sbarra, Milton, Mass., assignors to Consolidated Laboratories, Inc., Chicago Heights, Ill., a corporation of Illinois
Filed Feb. 21, 1964, Ser. No. 346,475
Int. Cl. G01n *31/00*
U.S. Cl. 23—230 16 Claims



Diagnostic test method for determining ovulatory function which comprises withdrawing a sample of a body fluid selected from cervical, nasal, and salivary mucus in which the chloride ion concentration is related to ovulatory function, and determining the chloride ion concentration of said body fluid as an indicator of the state of the ovulatory function at that time.

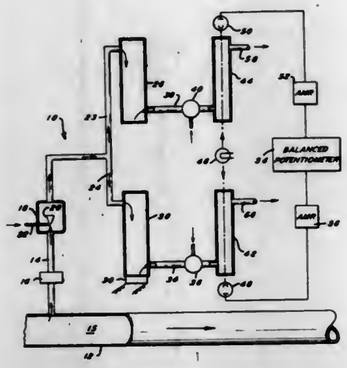
3,436,187
METHOD OF ESTIMATING THYMOL TURBIDITY EMPLOYING POLYSTYRENE LATEX SUSPENSIONS AS STANDARDS
Patrick V. Ferro, Miami, and Anna B. Ham, Coral Gables, Fla., assignors to Dade Reagents, Inc., Miami, Fla., a corporation of Florida
No Drawing. Filed Mar. 3, 1965, Ser. No. 436,909
Int. Cl. G01n *31/00*
U.S. Cl. 23—230 2 Claims

Latex particle suspensions for use as standards in a method of estimating the thymol turbidity level of human sera. Each of such standards consists of an aqueous suspnesion of monodisperse latex particles of a size falling within the range of 0.3 to 1.5 microns in diameter and having a density no greater than approximately 1.05.

3,436,188
APPARATUS AND METHOD FOR DETECTION OF ALIPHATIC HYDROCARBON IN WATER
Charles A. Boyd and Herbert Kartluke, West Chester, Pa., assignors to Aeroprojects Incorporated, West Chester, Pa., a corporation of Pennsylvania
Filed Aug. 17, 1965, Ser. No. 480,454
Int. Cl. G01n *29/02, 9/00*
U.S. Cl. 23—230 15 Claims

Method and apparatus for detecting the presence of aliphatic hydrocarbons in a body of water. The body of water is separated into two samples, ultrasonic cavitation

is induced in one of the samples to form hydrogen and hydroxyl ions and a compound between the aliphatic hydrocarbon and the hydroxyl ions. Such compound is then reacted with a reagent to form a reaction product. The



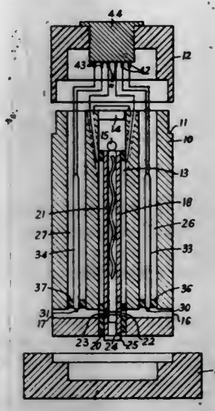
amount of hydrocarbon in the body of the water is then determined by comparing the reaction product of one sample with the other, or detecting the amount of hydrogen ions.

3,436,189
SPOT TEST TO DIFFERENTIATE BETWEEN ALLOYS, 90–10 COPPER NICKEL AND 70–30 COPPER NICKEL
David M. Zall, Anne Arundel County, Md., assignor to the United States of America as represented by the Secretary of the Navy
No Drawing. Filed July 20, 1966, Ser. No. 566,715
Int. Cl. G01n *31/22, 31/00*
U.S. Cl. 23—230 6 Claims

1. A spot test for distinguishing between alloys of copper and nickel by means of color development which comprises the step of:
contacting the surface of a specimen of a copper and nickel alloy of unknown composition with a solution of ammonium chloride in concentrated ammonium hydroxide for a period of several minutes whereby the resulting color will be blue in the case where said alloy is copper-nickel and colorless in the case where said alloy is Monel.

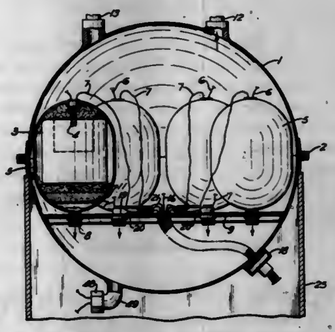
3,436,190
DEVICE FOR THE DETERMINATION OF THE CONCENTRATION OF A CHEMICAL COMPOUND IN A LIQUID
Philip Thorpe Priestley, Walter Sidney Sebborn, and Raymond Frank William Selman, Harrow, Middlesex, England, assignors to Eastman Kodak Company, Rochester, N.Y., a corporation of New Jersey
Filed Jan. 13, 1965, Ser. No. 425,161
Claims priority, application Great Britain, Jan. 17, 1964, 2,171/64
Int. Cl. G01n *33/00*
U.S. Cl. 23—253 3 Claims

A process and apparatus adapted for continuously measuring and indicating by thermometric analysis, the concentration of a compound dissolved in a continuously flowing liquid. The liquid containing the dissolved compound is continuously contacted with a liquid containing a reagent in stoichiometric excess. The temperature of these liquids before mixing is continuously measured. The liquids are then permitted to react and the temperature of the then thoroughly-reacted flowing liquids is continuously measured again. The resulting calorific change



is proportional to the concentration of the reaction product formed and thus indicates the concentration of the compound.

3,436,191
OXYGEN GENERATOR
Miles J. McGoff, Warrendale, and Verne K. Heckel, Prospect, Pa., assignors to Mine Safety Appliances Company, a corporation of Pennsylvania
Filed June 30, 1966, Ser. No. 561,774
Int. Cl. B01f *7/00*
U.S. Cl. 23—281 10 Claims

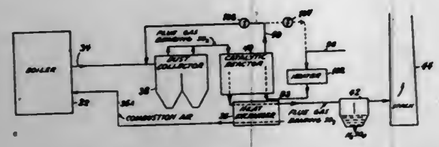


1. An oxygen generator comprising a pressure vessel provided with an oxygen outlet, a plurality of oxygen generating candles disposed therein, an igniter for each candle, and means responsive to oxygen pressure inside said vessel for activating a different igniter every time said pressure drops below a predetermined minimum, whereby said candles are burned in succession as needed.

3,436,192
CATALYTIC APPARATUS FOR REMOVING SULPHUR DIOXIDE FROM FLUE GAS
Per Hilmer Karlsson, Dobbs Ferry, N.Y., assignor, by mesne assignments, to The Air Preheater Company, Inc., a corporation of Delaware
Filed June 22, 1964, Ser. No. 376,760
Int. Cl. B01j *9/08;* B01d *53/34*
U.S. Cl. 23—288 2 Claims

A system for the continuous removal of sulphur dioxide from the exhaust gases generated by the combustion

of fossil fuels in a boiler furnace. The system includes a sectionalized catalytic reactor to convert sulphur dioxide to sulphur trioxide; the reactor having flue gases passing



through one section thereof and a purging gas through a second section thereof, said sections being independent of one another.

3,436,193
PLUTONIUM SUBLIMATION
Albert A. Chilenskas, Chicago, Ill., assignor to the United States of America as represented by the United States Atomic Energy Commission
No Drawing. Filed Mar. 12, 1968, Ser. No. 712,391
Int. Cl. C01g 43/06, 56/00, 1/00
U.S. Cl. 23—326 9 Claims

Plutonium hexafluoride is separated from volatile fission product fluorides by freezing the fluorides and subliming the plutonium hexafluoride from the solid.

3,436,194
PROCESS FOR PREPARING NITROSYL HYDROGEN PYROSULFATE
Giuseppe Ribaldone, Gallarate, Varese, Franco Smai, Novate Milanese, and Carmine Garbuglio, Milan, Italy, assignors to Montecatini Edison S.p.A., Milan, Italy
No Drawing. Filed June 16, 1964, Ser. No. 375,622
Claims priority, application Italy, July 8, 1963, 14,329/63
Int. Cl. C01b 17/98; C07b 29/00
U.S. Cl. 23—357 9 Claims

A process for the preparation of nitrosyl hydrogen pyrosulfate wherein nitrosyl hydrogen sulfate is reacted with a sulfonating agent having substantially the formula $ClSO_3H$ and containing reactive sulfur trioxide, or with sulfur trioxide, the nitrosyl hydrogen sulfate and reactive sulfur trioxide being present in a molar ratio ranging between substantially 1:1 and 1:5, and recovering the nitrosyl hydrogen pyrosulfate as a compound from the reaction mixture.

3,436,195
SYNERGISTIC ANTI-ICING COMPOSITION
Robert H. Rosenwald, Western Springs, and Wayne J. Faust, Arlington Heights, Ill., assignors to Universal Oil Products Company, Des Plaines, Ill., a corporation of Delaware
No Drawing. Filed Dec. 4, 1967, Ser. No. 687,507
Int. Cl. C10l 1/22, 1/26, 1/18
U.S. Cl. 44—72 8 Claims

Synergistic anti-icing composition of (1) alkyl acid phosphate salt of N-alkyl-diamino-alkane and alkyl acid phosphate salt of alkyl-monoamine nd (2) polyhydroxy alcohol.

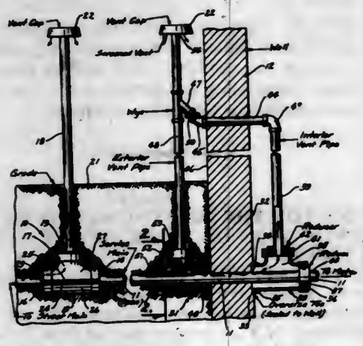
3,436,196
DRY-SEAL PRESSURE-TYPE GASHOLDER PROVIDED WITH HOOK LIFT STRUCTURES
John H. Wiggins, P.O. Box 418, Menlo Park, Calif. 94025
Filed Feb. 23, 1965, Ser. No. 434,557
Int. Cl. F17b 1/20, 1/08
U.S. Cl. 48—178 7 Claims

There is disclosed a dry-seal pressure-type gasholder including an annular side wall within which is disposed a piston and one or more fender and backstop structures disposed between the side wall and the piston with sealing curtains interconnecting the adjacent ones of the side wall and the fender and backstop structures and the piston, a first set of hooks pivotally mounted on the fender and backstop structure adjacent to the piston and engage-



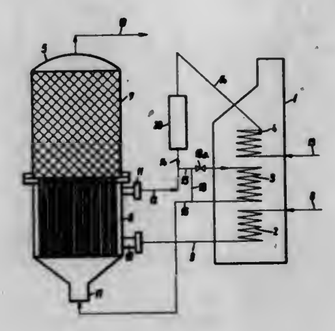
able therewith so that lifting of the piston lifts the adjacent fender and backstop structure, and other sets of hooks pivotally mounted on the other fender and backstop structures and engageable with the adjacent fender and backstop structure disposed inwardly with respect thereto to be lifted thereby.

3,436,197
ESCAPED GAS VENTING APPARATUS
Kenneth C. Borst, 2104 3rd St., Perry, Iowa 50220, and Roscoe C. Barnes, Lafayette, Ind.; said Barnes assignor to said Borst
Filed Sept. 13, 1967, Ser. No. 667,503
Int. Cl. F17d 3/00
U.S. Cl. 48—192 7 Claims



This invention relates generally to apparatus for venting escaping gas, and particularly to a combination of two traps for a gas line between a building and a gas service main, one trap attached exteriorly and adjacent to the building foundation wall; another trap attached interiorly to the wall and sealed off from the atmosphere interior of the wall; each trap interconnected by vents exposed to the atmosphere, thereby permitting the trapped gas to escape.

3,436,198
PROCESS FOR THE MANUFACTURE OF METHANE-RICH GASES
Gerhard Baron, Frankfurt am Main, Erwin Ehrhardt, Sprendlingen, and Horst Bechthold, Frankfurt am Main, Germany, assignors to Metallgesellschaft Aktiengesellschaft, Frankfurt am Main, Germany
Filed Aug. 5, 1965, Ser. No. 477,616
Claims priority, application Germany, Aug. 5, 1964, M 61,993
Int. Cl. C10g 11/28
U.S. Cl. 48—214 3 Claims



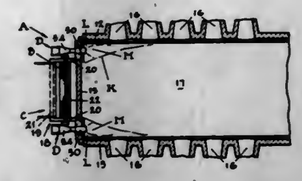
Methane-rich gas is produced from hydrocarbons having 3–10 carbon atoms and an upper boiling point of 200° C. by contacting the hydrocarbon in vapor phase, together with water vapor, in a first catalytic stage at an initial temperature of up to about 450° C. Hydrocarbon compounds are cracked, producing hydrogen in the gas mixture. The catalyst is maintained at a temperature of less than about 550° C. by heating. The effluent gas of the first stage is contacted with a more active catalyst in the second stage at a temperature of about 460–540° C. Short-chain hydrocarbon compounds are cracked and hydrogenation occurs, producing methane.

3,436,199
PROCESS FOR REJUVENATING SPENT GLASS POLISHING AGENTS
Walter L. Silvernail, West Chicago, Ill., assignor, by mesne assignments, to American Potash & Chemical Corporation, a corporation of Delaware
No Drawing. Filed July 15, 1964, Ser. No. 382,951
Int. Cl. B24d 17/00
U.S. Cl. 51—293 5 Claims

A process for increasing the polishing efficiency of spent glass polishing slurries. A spent polishing slurry is contacted with a flocculating agent to cause the solids in the slurry to coalesce or flocculate. The flocculated solids are washed and redispersed with water to provide a rejuvenated glass polishing slurry.

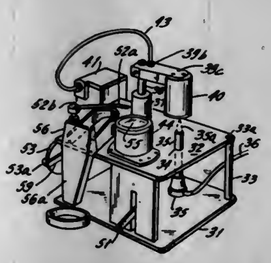
3,436,200
METHOD OF FEEDING GLASS BATCH MATERIAL
James T. Zellers, Jr., Charleston, W. Va., assignor to Libby-Owens-Ford Company, a corporation of Ohio
Filed Apr. 22, 1965, Ser. No. 449,951
Int. Cl. C03b 3/00, 5/00
U.S. Cl. 65—17 3 Claims

Supplying glass-making materials to a tank-furnace containing a mass of molten glass by depositing a continuous layer of raw batch materials on the molten glass in a charging area of reduced width extending outwardly from the melting zone thereof and advancing the layer into the melting zone, and depositing glass cullet on the



molten glass in the corners of the melting zone outwardly beyond the edges of the advancing layer of batch materials.

3,436,201
DEVICE FOR GLASS GLAZING ELECTRONIC HOUSING MEMBERS
Shigeru Tsuji, Kazutami Hayashi, Kouichi Kadowaki, and Katsuo Sato, Tokyo, Japan, assignors to Nippon Electric Company, Limited, Tokyo, Japan
Continuation-in-part of application Ser. No. 287,863, June 14, 1963, now Patent No. 3,308,525. This application Jan. 12, 1967, Ser. No. 608,885
Claims priority, application Japan, June 16, 1962, 37/25,188
Int. Cl. C03b 23/20, 9/44
U.S. Cl. 65—155 11 Claims

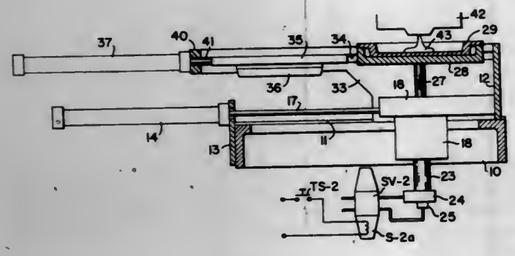


This invention describes novel apparatus useful in the encapsulation and hermetic sealing of sensitive components such as, for example, semiconductor devices, transistors, integrated circuits, and so forth. Apparatus is provided for either fully automatically or semiautomatically sorting the encapsulation members as to ranges of thickness, glazing substantially large batches of the encapsulation members along their mating surfaces by virtue of a loading, heating and cooling operation; for performing the final encapsulation procedure including a heating phase, which procedure is capable of performing encapsulation on large batches of devices. Additional methods and apparatus are provided for subsequent procedures such as testing for air tightness, marking to indicate the identification of leads, and mounting for expediting handling, shipping and assembly activities.

3,436,202
VERTICAL INDEX PRESS FOR PRESS FORMING GLASS ARTICLES
Chester A. Andrysick, Corning, N.Y., assignor to Corning Glass Works, Corning, N.Y., a corporation of New York
Filed Aug. 10, 1965, Ser. No. 478,561
Int. Cl. C03b 7/00, 11/00, 11/16
U.S. Cl. 65—164 4 Claims

Method and apparatus for press-forming glass articles

from relatively low viscosity glass by indexing a plunger in floating suspension above a charge mold, raising the mold into pressing engagement with the plunger by means



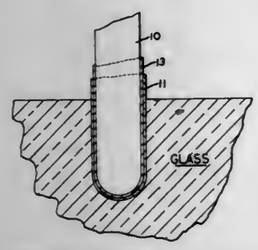
of a pressing cylinder, and lowering the mold after a press and dwell period by means of an index cylinder concentric with said pressing cylinder.

3,436,203

COATED REFRACTORY FOR CONTACTING MOLTEN GLASS AND METHOD OF MAKING

Jimmy C. C. Wu, Kowloon, Hong Kong, assignor to Owens-Illinois, Inc., a corporation of Ohio

Filed May 29, 1964, Ser. No. 371,230
Int. Cl. C03b *39/00*
U.S. Cl. 65—374 **10 Claims**



A metal-lined, refractory material resistant to high-temperature, molten glass and which is protected from electrolytic deterioration by a protective metal-oxide interliner disposed or bonded interfacially between the refractory material and a noble metal or noble metal alloy liner. The metal-oxide interliner is characterized by having an electrical resistivity selectively matched with that of the metal liner to provide an interfacial electrical contact potential therebetween which, when contacted by molten glass seeping or leaking through the metal liner, will be less than about 0.06 D.C. volt. The metal-lined refractory material is produced by coating a high-temperature refractory material with at least one of several disclosed adherent metal-oxides possessing an electrical resistivity of less than 1×10^3 ohms per cubic centimeter at 1,000° C. and less than 1×10^2 ohms per cubic centimeter at 1,300° C., and by applying an adherent noble metal or noble metal alloy coating over the metal-oxide coating to thereby form a refractory material having a protective metal-oxide interliner sandwiched between the high-temperature, refractory material and the noble metal or noble metal alloy which exhibits an interfacial electrical contact potential between the metal-oxide interliner and the noble metal or noble metal alloy which when contacted by molten glass is less than 0.06 D.C. volt.

3,436,204

MANGANESE TRACE METAL SUPPLEMENT STABILIZED WITH HEXAMETAPHOSPHATE

Elwood V. White, Bellingham, Wash., assignor to Georgia-Pacific Corporation, Portland, Oreg., a corporation of Georgia

No Drawing. Continuation-in-part of application Ser. No. 310,459, Sept. 20, 1963. This application Sept. 15, 1966, Ser. No. 579,519
Int. Cl. C05; A01n *7/00;* **C01b** *25/30*
U.S. Cl. 71—1 **20 Claims**

1. A trace metal supplement composition which comprises a manganese salt of a member selected from the group consisting of sulfonated lignins and sulfonated tannins, plus a water-soluble hexmetaphosphate in an amount sufficient to stabilize the manganese from precipitation.

3,436,205

PROCESS FOR PRODUCING GRANULAR NITRIC PHOSPHATE FERTILIZER WITH HIGH PHOSPHATE AVAILABILITY

Charles H. Davis, Muscle Shoals, Ala., assignor to Tennessee Valley Authority, a corporation of the United States

Filed Aug. 26, 1965, Ser. No. 482,953
Int. Cl. C05b *11/06*
U.S. Cl. 71—39 **2 Claims**

A nitric phosphate process for production of granular fertilizers from nitric acid, phosphate rock, phosphoric acid, sulfuric acid, and ammonia. Phosphate rock is reacted with the acids in two extraction tanks and then the resulting extract is reacted with part of the ammonia in a preneutralizing tank. Slurry from the preneutralizing tank is fed to a TVA-type rotary drum where the remaining ammonia and recycled fines are added and granulation is attained. The granulator product is dried, cooled, and screened. Oversize material is crushed and recycled back to the ammoniator-granulator along with the undersize material. Typical grades are 20–20–0, 26–13–0, 14–28–0, and 15–15–15. Product appearance and storage characteristics are excellent.

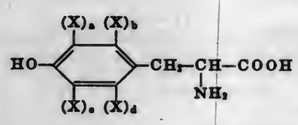
3,436,206

HALOTYROSINES AS PLANT ROOT GROWTH STIMULANTS

Shukuo Kinoshita, Tokyo, and Noboru Mukai, Kawasaki-shi, Japan, assignors to Kyowa Hakko Kogyo Co., Ltd., Tokyo, Japan, a corporation of Japan

No Drawing. Filed Oct. 5, 1965, Ser. No. 493,229
Claims priority, application Japan, Oct. 9, 1964, 39/57,298
Int. Cl. A01n *5/00*
U.S. Cl. 71—77 **13 Claims**

A method for promoting the growth of plants which comprises treating the plants with a tyrosine derivative having the formula,



wherein X is halogen and *a*, *b*, *c* and *d* are 0 or 1, the sum total of *a*, *b*, *c* and *d* being integers from 1 to 4.

3,436,207

CONTROL OF UNDESIRABLE VEGETATION

Edward J. Soboczenski, Chadd's Ford, Pa., assignor to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware

No Drawing. Filed Feb. 23, 1965, Ser. No. 434,701
The portion of the term of the patent subsequent to Feb. 15, 1983, has been disclaimed and dedicated to the Public
Int. Cl. A01n *9/22, 7/00;* **C07d** *51/34*
U.S. Cl. 71—92 **9 Claims**

The invention relates to the use of 3-substituted-5,6-substituted - 2,4 - pyrimidinediones as herbicides for the control of undesired vegetation. Typical compounds useful in the method of this invention are 3-cyclohexyl-5,6-dihydro - 7 - methyl-5-cyclopenta[D]pyrimidine-2,4(1H, 3H)-dione and 3-sec-butyl-5,6-dihydro-7-methyl-5-cyclopenta[D]pyrimidine-2,4(1H,3H)-dione.

3,436,208

HERBICIDAL N,N-DIALKENYL-3-CHLORO-BENZAMIDES AND METHOD

Alan J. Lemin, Richland Township, Kalamazoo County, Mich., assignor to The Upjohn Company, Kalamazoo, Mich., a corporation of Delaware

No Drawing. Filed Mar. 22, 1961, Ser. No. 97,445
Int. Cl. A01n *7/00, 9/20;* **C07c** *103/30*
U.S. Cl. 71—118 **6 Claims**

1. N,N-dialkenyl-3-chlorobenzamide wherein alkenyl is of from 3 to 4 carbon atoms, inclusive.

6. The method of preventing germination of plant seeds and controlling pre-emergence growth of plants which comprises interfusing soil with a herbicidally effective amount of N,N-dialkenyl - 3 - chlorobenzamide wherein alkenyl is of from 3 to 4 carbon atoms, inclusive, and a solid particulate carrier therefor.

3,436,209

PRODUCTION OF RIMMED STEELS

Matthew Stanley Lojas, Harvey, Ill., assignor, by mesne assignments, to Metallurgical Exoproducts Corporation, McKees Rocks, Pa., a corporation of New Hampshire

No Drawing. Filed Oct. 31, 1966, Ser. No. 590,550
Int. Cl. C21c *7/00;* **B22d** *27/18*
U.S. Cl. 75—53 **2 Claims**

A rimming agent for addition to molten steel as the steel is teemed into an ingot mold comprising at least 40 percent reactive carbon and preferably 40 to 60 percent reactive carbon, 5 to 20 percent calcium or sodium fluoride, 5 to 20 percent sodium carbonate and 0 to 20 percent aluminum.

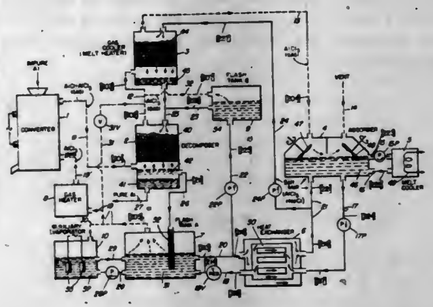
3,436,210

SUBHALIDE REFINING OF ALUMINUM

Ernest William Dewing and Norman W. F. Phillips, Arvida, Quebec, Canada, assignors to Aluminium Laboratories Limited, Montreal, Quebec, Canada, a corporation of Canada

Filed Nov. 8, 1965, Ser. No. 506,811
Int. Cl. C22b *21/06*
U.S. Cl. 75—68 **26 Claims**

In aluminum refining operation where impure aluminum is treated at high temperature in a converter with gaseous normal aluminum halide, e.g. trichloride, and the resulting gaseous aluminum monohalide, e.g. monochloride, is decomposed to yield pure aluminum and restored normal halide gas, procedure and apparatus here provide absorption of the restored halide in molten salt. From the enriched molten salt a restored flow of hot gaseous normal halide, at suitably higher pressure, for the converter, is evaporated with heat brought from the decomposer, e.g. by molten salt traversing the latter. Delivery of restored halide flow at high temperature is promoted by transfer of heat to the enriched salt from lean salt returning to the absorber, while further utilization of decomposer heat for such purpose is aided by circulating a part of the returned lean salt for heating by the halide gas out of the decomposer with direct or indirect transfer of such heat into the enriched salt. Further arrangements of salt melt flow and control may coact to afford high temperature of the re-established halide gas, including transfer of heat thereto from the hot melt traveling from the decomposer to the halide evaporation stage.

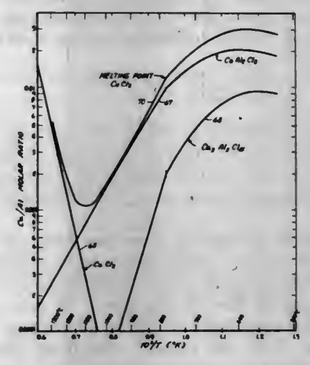


3,436,211

PROCEDURES FOR REMOVING IMPURITIES FROM ALUMINUM TRICHLORIDE GAS

Ernest William Dewing, Arvida, Quebec, Canada, assignor to Aluminium Laboratories Limited, Montreal, Quebec, Canada, a corporation of Canada

Filed Oct. 28, 1966, Ser. No. 590,282
Int. Cl. C22b *5/18, 21/02;* **B01d** *53/00*
U.S. Cl. 75—68 **13 Claims**

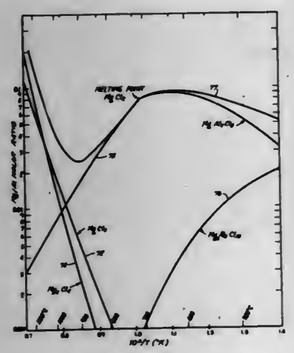


1. A method of removing, from a gas flow comprising aluminum trichloride gas and advancing along a defined path, at least one metal chloride of the class consisting of calcium chloride and magnesium chloride present in volatilized state in said flow and having an effective vapor pressure minimum therein at a temperature above the melting point of said one chloride, said method comprising:

(a) conducting said flow into extended surface contact with heat transfer material at a preselected locality in said path at which said flow is at an initial temperature different from the temperature of said effective vapor pressure minimum, while

(b) maintaining said heat transfer material at a predetermined temperature closer than said initial flow temperature to the temperature of said effective vapor pressure minimum, for altering the temperature of said flow in the direction of said predetermined temperature to effect condensation of said one chloride

from said flow at said preselected locality, said temperature of said effective vapor pressure minimum being in a range between about 900° C. and about 1100° C., said initial flow temperature being in a range between about 600° C. and about 1300° C., said predetermined temperature corresponding to a selected value of effective vapor pressure of said one chloride in said flow, lower than the value of effective vapor pressure corresponding to said initial flow temperature; and



(c) transferring said one chloride in condensed state from said preselected locality to a locality external to said path.

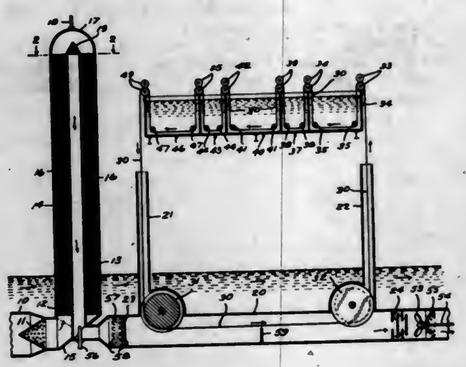
3,436,212
FLUX FOR TREATING ALUMINUM
Paul D. Hess, Lower Burrell, Pa., assignor to Aluminum Company of America, Pittsburgh, Pa., a corporation of Pennsylvania
No Drawing. Filed Nov. 22, 1966, Ser. No. 596,084
Int. Cl. C22b *21/06, 9/10, 9/12*
U.S. Cl. 75—68 7 Claims

1. A flux composition useful for treating a molten body of aluminum, said flux composition consisting essentially of 30 to 90 percent potassium chloride, 5 to 40 percent aluminum fluoride, and 5 to 40 percent potassium fluosilicate.

4. A method of treating a molten body of aluminum having on its surface a layer of dross containing molten aluminum entrapped therein, comprising:
(a) applying a flux to the layer of dross, said flux consisting essentially of 30 to 90 percent potassium chloride, 5 to 40 percent aluminum fluoride, and 5 to 40 percent potassium fluosilicate,
(b) maintaining said flux in contact with said layer of dross for about 5 to about 30 minutes to separate the entrapped molten aluminum from said dross, and
(c) thereafter removing the aluminum depleted dross.

3,436,213
METHOD FOR RECOVERING METALS FROM SEA WATER
Edward O. Norris, 9 Ledgemoor Lane, Westport, Conn. 06880
Continuation-in-part of application Ser. No. 587,624, Oct. 18, 1966. This application Apr. 4, 1967, Ser. No. 628,458
Int. Cl. C22b *7/00*; B01j *1/04*
U.S. Cl. 75—101 13 Claims

The invention is directed to a method and means for recovering metal ions and/or colloids from sea water. The method involves passing the sea water, usually by means of naturally flowing currents, in contact with

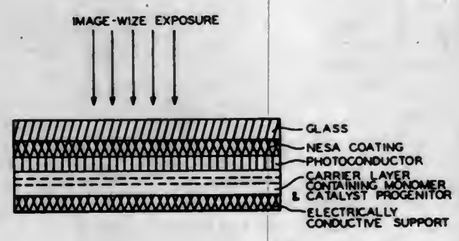


metal ions which are more electropositive than the ions to be adsorbed, and subsequently recovering the adsorbed ions to enable the metal content thereof to be extracted.

3,436,214
COLUMBIUM BASE ALLOY
Mortimer Schussler, Mundelein, Ill., assignor to Union Carbide Corporation, a corporation of New York
No Drawing. Continuation-in-part of application Ser. No. 353,252, Mar. 19, 1964. This application Mar. 22, 1967, Ser. No. 625,026
Int. Cl. C22c *27/00*
U.S. Cl. 75—174 3 Claims

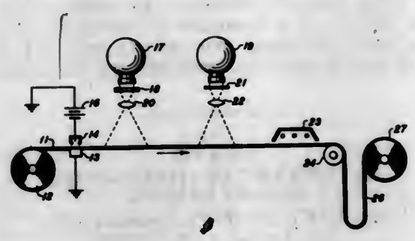
A columbium base alloy is provided which consists essentially of, by weight, about 5 percent vanadium, about 1 percent zirconium, from about .005 to about .04 percent carbon with the balance being columbium and incidental adventitious impurities. The resultant alloy is both cold rollable and ductile.

3,436,215
PHOTOPOLYMERIZATION INITIATED BY ELECTROLYSIS OF A CATALYST PROGENITOR EXPOSED THROUGH A PHOTOCONDUCTIVE LAYER
Steven Levinos and Albert S. Deutsch, Vestal, N.Y., assignors to GAF Corporation, New York, N.Y., a corporation of Delaware
Filed Feb. 16, 1966, Ser. No. 527,951
Int. Cl. G03g *7/00*
U.S. Cl. 96—1 23 Claims



Process for the preparation of a polymeric resist image is described. A multilayered structure is provided comprising a photoconductive layer and a layer containing a vinyl monomer and a catalyst progenitor. These layers are sandwiched between two conducting layers. Simultaneous exposure to light and application of an electric field causes electrolysis of the catalyst progenitor to initiate polymerication of the monomer layer in the exposed areas.

3,436,216
IMAGE STORAGE COMPRISING A THERMOPLASTIC DEFORMATION PATTERN
John C. Urbach, Penfield, N.Y., assignor to Xerox Corporation, Rochester, N.Y., a corporation of New York
Filed Aug. 2, 1965, Ser. No. 476,533
Int. Cl. G03g *13/22*
U.S. Cl. 96—1.1 9 Claims



1. A method of image storage and reproduction comprising forming a thermoplastic deformation pattern on an imaging member, said pattern being composed of a periodic carrier at the resonant frequency for said member, said carrier being amplitude modulated with an image signal to be reproduced, projecting said pattern with a coherent light source and demodulating the image signal from the carrier in the projected beam by spatial filtering.

3,436,217
HIGHLY SENSITIVE DIRECT POSITIVE PHOTOGRAPHIC MATERIAL WITH EXTREMELY STEEP GRADATION
Walter Kleist, Leverkusen, Franz Moll and Peter Kruck, Cologne-Stammheim, and Ehrhard Hellmig, Leverkusen, Germany, assignors to Agfa Aktiengesellschaft, Leverkusen, Germany, a corporation of Germany
No Drawing. Filed Mar. 25, 1964, Ser. No. 354,773
Claims priority, application Germany, Apr. 9, 1963, A 42,845
Int. Cl. G03c *5/54*
U.S. Cl. 96—29 6 Claims

Very high contrast images are made by silver salt diffusion method with a light-sensitive silver halide emulsion in which 10–40 mol percent of the silver halide is silver bromide, the remainder being silver chloride, and the emulsion contains a material that keeps it from hardening by aldehyde, the emulsion being coated on a thin hardened gelatin intermediate layer which in turn is coated on a supported hardened gelatin transfer layer containing development nuclei and blue toner. The emulsion can be slightly fogged.

3,436,218
PROCESS FOR PRODUCING COLOR PHOTOGRAPHS
Paul Dreyfuss, Basel, and Walter Anderau, Munchenstein, Switzerland, assignors to Ciba Corporation, New York, N.Y., a corporation of Delaware
No Drawing. Continuation-in-part of application Ser. No. 34,389, June 7, 1960. This application May 21, 1965, Ser. No. 457,838
Claims priority, application Switzerland, June 12, 1959, 74,358/59
Int. Cl. G03c *7/16*
U.S. Cl. 96—53 8 Claims

The present invention provides an improvement in a process for producing color photographs by the silver dye bleach method. The improvement comprises treating photographic layers containing gelatine, a metallizable azo dyestuff fast to diffusion, being freed from metallic silver by oxidation, with a water soluble compound of a metal having an atomic number of at least 24 and at most 29. The photographs have an improved fastness to light which also is manifested by pure colors free from stain.

3,436,219
COLOR PHOTOGRAPHIC MATERIAL
Yasushi Ohyama, Takatsuki-shi, and Sadayuki Miyazawa, Kyoto, Japan, assignors to Mitsubishi Paper Mills, Ltd., Tokyo, Japan, a corporation of Japan
No Drawing. Filed Feb. 16, 1966, Ser. No. 527,761
Claims priority, application Japan, Feb. 26, 1965, 40/10,661
Int. Cl. G03c *1/40*
U.S. Cl. 96—77 4 Claims

A color photographic material comprises a support and a plurality of multi-layered photographic coatings on the support consisting essentially of at least two sets of combinations of a silver halide sensitive emulsion layer and an underlying image-receiving layer for the diffusion-transfer-reversal process, dyed with appropriate dyestuffs for the silver-dye-bleach process. The sets are superimposed one upon another with the interposition of an image receiving layer as an interlayer between superposed sets, the interlayer containing a silver nucleating agent, such as colloidal particles of precious metals or insoluble metal sulfides or oxides.

3,436,220
PREPARATION OF PHOTOGRAPHIC SILVER HALIDE EMULSIONS UTILIZING POLYOXALKYLENATED GELATING DERIVATIVES
Fritz Dersch, Binghamton, and Sally L. Paniccia, Endwell, N.Y., assignors to G.A.F. Corporation, New York, N.Y., a corporation of Delaware
No Drawing. Filed Nov. 27, 1964, Ser. No. 414,425
Int. Cl. G03c *1/72*
U.S. Cl. 96—94 8 Claims

A method for preparing silver halide dispersions by mixing aqueous solutions of silver nitrate and alkali metal halides in the presence of a polyoxyalkylenated derivative of gelatin to form a silver halide-polyoxyalkylenated gelatin dispersion, followed by coagulation and recovery of the dispersion.

3,436,221
LIGHT-SENSITIVE SILVER HALIDE PRINT-OUT EMULSIONS
Joseph A. Sprung, Binghamton, N.Y., assignor to GAF Corporation, New York, N.Y., a corporation of Delaware
No Drawing. Filed June 1, 1964, Ser. No. 371,814
Int. Cl. G03c *1/28*
U.S. Cl. 96—108 4 Claims

Preparation of improved print-out emulsion by sequential addition to light-sensitive gelatin-silver bromide emulsion, at a pH up to 5, of KI, $Pb(NO_3)_2$ and KBr.

3,436,222
PROCESS FOR PREPARING A PHOTOGRAPHIC EMULSION
Ramsis Gobran, St. Paul, and Ronald F. Ofstead, Maplewood, Minn., assignors to Minnesota Mining and Manufacturing Company, St. Paul, Minn., a corporation of Delaware
No Drawing. Filed Feb. 26, 1965, Ser. No. 435,676
Int. Cl. G03c *1/72*
U.S. Cl. 96—114 6 Claims

1. A method for preparing a photographic emulsion containing silver halide crystals which comprises pre-

paring an aqueous solution of a halide salt of a polymeric polyamine having a molecular weight greater than about 1000 and containing about 3 to 50 percent by weight of amino nitrogen, and adding thereto an aqueous solution of a soluble silver salt.

3,436,223

CURVULARIN-CONTAINING ANIMAL FEED FOR PROMOTING GROWTH AND INCREASING FEED EFFICIENCY

Herbert L. Wehrmeister, Terre Haute, Ind., assignor to Commercial Solvents Corporation, New York, N.Y., a corporation of Maryland

No Drawing. Filed June 29, 1966, Ser. No. 561,353
Int. Cl. A23k *1/22*
U.S. Cl. 99—2 3 Claims

Curvularin is added to animal feed in amounts effective to promote growth and increase the feed efficiency of meat-producing animals.

3,436,224

PREPARATION OF AN ALCOHOLIC DRY BEVERAGE POWDER

Harold E. Bode, Rm. 308, Schofield Bldg., Cleveland, Ohio 44115

No Drawing. Filed Aug. 10, 1964, Ser. No. 388,695
Int. Cl. C12g *3/00*
U.S. Cl. 99—31 5 Claims

An alcoholic dry beverage powder is prepared by dehydrating a vapor-sorbable, particulated, starch based polysaccharide material to a moisture content of less than 0.75%, cooling the dehydrated material in an anhydrous medium, and exposing the dehydrated material to anhydrous ethanol, and one or more anhydrous food beverage flavors from the group comprising carbon dioxide and aroma volatiles from cereals, fruits, or vegetables.

3,436,225

METHOD OF TREATING BEER WITH ADSORBING AGENTS

Karl J. Raible, Munich, Germany, assignor to Aktiengesellschaft fur Brauerelindustrie, Basel, Switzerland

No Drawing. Filed July 27, 1964, Ser. No. 385,476
Claims priority, application Germany, Aug. 2, 1963, A 43,747
The portion of the term of the patent subsequent to Dec. 29, 1981, has been disclaimed
Int. Cl. C12h *1/04*
U.S. Cl. 99—48 19 Claims

A process for the combined treatment of beer with aluminum silicates together with silica gel having specific physical properties.

3,436,226

METHOD FOR CONTINUOUS LAUTERING

Orland O. Schaus, Toronto, Ontario, Canada, assignor to Canadian Breweries Limited, Toronto, Ontario, Canada

Filed Apr. 5, 1965, Ser. No. 445,384
Int. Cl. C12c *7/14, 7/16;* B01d *33/24*
U.S. Cl. 99—52 2 Claims

A method of continuously lautering brewer's mash including the steps of forming a bed of mash which will not crack by depositing the mash on a continuously rotating annular rigid foraminous table, spraying the mash with an extracting liquid, filtering the extracting liquid by means of the bed of mash, collecting the extracting liquid after it falls through the foraminous table, and removing the extracted mash from the table.

3,436,227

METHOD FOR REDUCING FOAM IN INSTANT COFFEE

Robert J. Bergeron, Springfield Township, Hamilton County, Eddy R. Hair, Colerain Township, Hamilton County, and Frederick M. Joffe, Cincinnati, Ohio, assignors to The Folger Coffee Company, Cincinnati, Ohio, a corporation of Ohio

No Drawing. Filed Jan. 3, 1966, Ser. No. 517,927
Int. Cl. C23f *1/08*
U.S. Cl. 99—71 4 Claims

An instant coffee product containing an effective amount for reducing foam and coffee scum in the reconstituted liquid coffee (i.e., 10–2000 p.p.m. by weight of the dry instant coffee) of a hydrocarbon substituted polycarboxylic acid. Preferred defoaming agents are malic stearate, tartaric mono- and distearate and lauryl malonic acid.

3,436,228

METHOD OF TREATING DOUGH BEFORE BAKING

Joseph M. Lind, 400 N. Sycamore Ave., Los Angeles, Calif. 90036

Filed Aug. 13, 1965, Ser. No. 480,255
Int. Cl. A21d *6/00*
U.S. Cl. 99—90 6 Claims

A mass of leavened dough is proofed and then the temperature of selected surface area portions is changed sufficiently to arrest all further fermentation at those areas while applying pressure to those areas to change the shape of the mass, then baking the mass. The temperature change may be either by heating or cooling and the pressure may be mere surface area pressure or cutting.

3,436,229

METHOD OF COOKING POTATO CHIPS TO INCREASE FLUFFINESS AND PREVENT BROWNING

Thomas W. Simpson, Harrisburg, Pa., assignor to J. D. Ferry Co., Inc., Harrisburg, Pa., a corporation of Delaware

Continuation-in-part of application Ser. No. 526,438, May 4, 1966. This application Apr. 27, 1967, Ser. No. 634,273
Int. Cl. A23l *1/12*
U.S. Cl. 99—100 5 Claims

A process for continuously cooking potato chips in which the chips are removed from the cooking oil with a moisture content greater than desired in the finished product. After removal from the oil, the chips are transferred into a chamber having an atmosphere of controlled dryness and temperature at a pressure below atmospheric pressure, and the chips are dried within this chamber to the desired moisture content of the finished product.

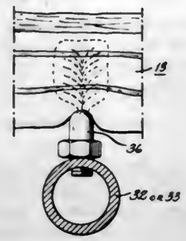
3,436,230

PROCESS FOR CURING A MEAT PRODUCT

Clarence Michael Harper, Jr., 12975 Dunn Court, Plymouth, Mich. 48170, and George Fox Harrington, 4708 N. Kenmore Road, Indianapolis, Ind. 46226

Continuation of application Ser. No. 432,158, Feb. 12, 1965, which is a continuation-in-part of application Ser. No. 106,145, Mar. 31, 1961. This application Dec. 13, 1966, Ser. No. 700,335
Int. Cl. A23b *1/10, 1/00*
U.S. Cl. 99—159 8 Claims

The disclosure of the specification relates to a process for curing a meat product by contacting the surface of the meat product with a stream of meat-curing-liquid which is discharged from a nozzle with sufficient energy to penetrate but without causing visible degradation of the surface.

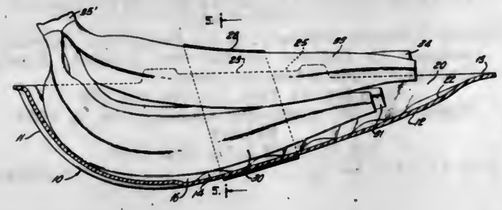


3,436,231

PACKAGING OF BANANAS FOR SHIPMENT AND CONTROLLED RIPENING

Alfred C. Bruce, 72 Rose Hill Road, Southport, Conn. 06490, and Thomas M. Britt, 585 Navesink River Road, Red Bank, N.J. 07701

Filed Aug. 23, 1965, Ser. No. 481,540
Int. Cl. B65b *25/04;* A23b *7/14*
U.S. Cl. 99—171 5 Claims



Small groups of bananas are retained in a concave shell made from foamed plastic which protects the group from contact with other such groups and their packaging container. Each shell substantially encloses its group and is provided with channel defining embossments which raise the fruit from the surface of the shell to expose a maximum of the surface of the fruit to ripening gases.

3,436,232

PROCESS FOR STORING UNCOOKED DOUGH MODELS AND PACKAGE

Robert B. Taylor, 1009 W. Berry St. 46804, and Robert G. Walker, 4217 Buell Drive 46807, both of Fort Wayne, Ind.

Filed June 9, 1965, Ser. No. 462,506
Int. Cl. B65b *25/16*
U.S. Cl. 99—172 5 Claims

A number of uncooked dough models are sized and hermetically sealed within a package formed by fusing two sheets of impervious material with inner surfaces coated with .0015 to .001 inch of paraffin. The package is frozen. The dough is defrosted and proofed while still within the package.

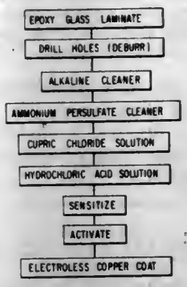
3,436,233

METHOD AND COMPOSITION FOR AUTO-CATALYTICALLY DEPOSITING COPPER

Henry Jackson, Vestal, N.Y., assignor to International Business Machines Corporation, New York, N.Y., a corporation of New York

Filed May 27, 1964, Ser. No. 370,504
Int. Cl. C09d *5/08;* B44d *1/20*
U.S. Cl. 106—1 16 Claims

A composition for stabilizing electroless copper plating solutions comprising an alkali metal carbonate or bicarbonate, an alkali metal thiocyanate, a sulphur containing compound and optionally a wetting agent and an alkali metal thiosulphate.



3,436,234

DUPLICATING INK

Jack H. Terry, Pittsford, N.Y., and Ernest R. Mueller, Columbus, Ohio, assignors, by mesne assignments, to Xerox Corporation, Rochester, N.Y., a corporation of New York

No Drawing. Filed Apr. 29, 1965, Ser. No. 451,988
Int. Cl. C09d *11/10*
U.S. Cl. 106—20 3 Claims

A pressure transfer ink made up of two or more pigment particles of differing average particle sizes in a specific ratio range dispersed in a substantially solid pressure transferable vehicle including an adhesive resin in proportions sufficient to attain maximum transferability without smudging and the transfer process of using the ink.

3,436,235

COLLOIDAL SILICA COMPOSITIONS CONTAINING SET INDICATOR

Charles E. Baer, Jr., Birmingham, William Evans, Warren, and Eugene Malinowski, Detroit, Mich., assignors to Eutectic Engineering Company, Detroit, Mich., a corporation of Michigan

No Drawing. Continuation-in-part of application Ser. No. 511,491, Dec. 3, 1965. This application Oct. 26, 1967, Ser. No. 678,215
Int. Cl. B28b *7/34*
U.S. Cl. 106—38.3 2 Claims

Aqueous colloidal silica compositions containing a water-sensitive, organic, color-indicating dye such as β-resorcinolphthalein sodium, which changes color as the colloidal silica dries, are useful in preparing molds to be used for precision investment casting by the shell process and solid mold process. Use of the dye-containing silica compositions in preparing molds by an expendable pattern process for precision investment casting provide a quick and accurate method by which the hardening of the coatings can be determined visually.

3,436,236

REFRACTORY COMPOSITION

Erwin J. Gamber, North Royalton, and Roger R. Rauschenbach, Cleveland, Ohio, assignors to Aluminum Company of America, Pittsburgh, Pa., a corporation of Pennsylvania

No Drawing. Filed Dec. 1, 1966, Ser. No. 598,188
Int. Cl. C04b *11/00*
U.S. Cl. 106—56 5 Claims

A non-fired refractory is made by combining colloidal silica sol with gypsum plaster and fused silica, or other refractory filler. The set and dried refractory may be employed where improved resistance to attack by molten aluminum or alloys thereof is desired.

3,436,237

COKE BONDED BASIC REFRACTORY

James A. Crookston and William R. Gritton, Mexico, Mo., assignors, by mesne assignments, to A. P. Green Refractories Co., Mexico, Mo., a corporation of Missouri

No Drawing. Filed Oct. 25, 1966, Ser. No. 589,228
Int. Cl. C04b 35/02, 35/06
U.S. Cl. 106—58 2 Claims

A coke bonded refractory product having tar impregnated into interstices of the matrix, the product having a density of 180–192 lbs./ft.^{3}, a modulus of rupture of 2000–4000 p.s.i., substantially no apparent porosity and a residual carbon value of 4%–7%.

3,436,238

LIGHTWEIGHT REFRACTORY BRICK AND AGGREGATE

George H. Criss, Bethel Park, Pa., assignor to Dresser Industries, Inc., a corporation of Delaware

Filed July 23, 1965, Ser. No. 474,285
Int. Cl. C04b 35/68, 35/66
U.S. Cl. 106—64 7 Claims

Method of making a lightweight refractory aggregate analyzing about 50 to 60% SiO_2, 40 to 50% Al_2O_3, between 2.5 and 7.5% other oxides, total alkalies and alkaline earth oxides less than about 1%, titania less than about 2% in a rotary kiln at temperatures in excess of 2900° F. Lightweight fireclay brick including said lightweight refractory aggregate and lightweight monolithic refractory compositions including said lightweight aggregate.

3,436,239

CARBOXYLIC ACID ESTER TREATED PIGMENTS

Raoul Feld, Cleethorpes, Grimsby, England, assignor to Laporte Titanium Limited, London, England, a British company

No Drawing. Filed June 30, 1965, Ser. No. 468,622
Claims priority, application Great Britain, July 22, 1964, 29,608/64
Int. Cl. C09c 1/36, 3/00
U.S. Cl. 106—300 11 Claims

The invention relates to the treatment of pigment to improve the gloss and hiding power of a paint or lacquer in which the pigment is incorporated and to improve the dispersibility of the pigment in the paint or lacquer vehicle. The treatment agents comprise esters of carboxylic acid containing at least two hydroxy groups and at least one carboxylic acid group, all of the carboxylic groups being esterified.

3,436,240

PROCESS FOR MAKING HIGH VOLATILE CARBON BLACKS

Joe Young Rogers, Jr., and William H. Lewis, Pampa, Tex., assignors to Cabot Corporation, Boston, Mass., a corporation of Delaware

No Drawing. Filed Dec. 28, 1965, Ser. No. 517,089
Int. Cl. C09c 1/48; C01b 31/00
U.S. Cl. 106—307 4 Claims

Process for increasing the volatile content of carbon black wherein the carbon black is first oxidized with molecular oxygen to a volatile content of about 7 to 13% by weight and further oxidized with vaporized nitric acid or nitric oxide vapors at a temperature between 400° F. and 600° F.

3,436,241

PROCESS FOR TREATING PIGMENT PARTICLES

George G. Durrant, Falchenham Cottage, Stallingborough Road, Healing, Lincolnshire, England

No Drawing. Filed Aug. 4, 1966, Ser. No. 570,164
Claims priority, application Great Britain, Aug. 20, 1965, 35,848/65
Int. Cl. C09c 3/00, 3/02
U.S. Cl. 106—308 9 Claims

A process for treating pigment particles by contacting the pigment particles with a cycloalkane compound having the formula

$$HO—R—(C_nH_{2n}OH)_m$$

wherein R is a cycloalkane nucleus, n is an integer of at least 1, m is an integer of at least 2, and the hydroxyl group is attached directly to a ring carbon atom of said cycloalkane nucleus.

3,436,242

METHOD OF MAKING LUMINESCENT DIAL WITH RESIN AND FLUORESCENT TOP LAYER

Hubert Schaffner, Saint-Imier, Switzerland, assignor to Fluckinger & Cie, Saint-Imier, Switzerland, a Swiss body corporate

No Drawing. Filed Oct. 13, 1965, Ser. No. 495,732
Claims priority, application Switzerland, Oct. 19, 1964, 13,540/64
Int. Cl. C09k 1/12
U.S. Cl. 117—8 4 Claims

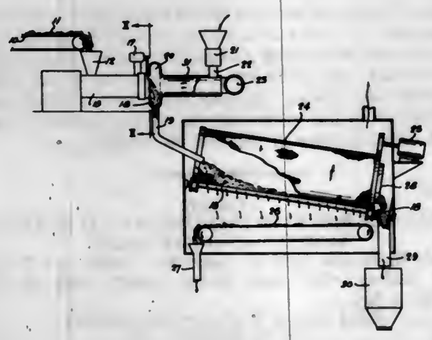
An improved method for producing luminescent dial markers by arranging on a dial a layer of a luminescent product, covering the luminescent layer with a layer of a transluscent hardenable resin to which has been added a fluoroescent substance such as zinc sulphide and hardening the resin layer.

3,436,243

RUBBER PARTICLES COATED WITH STARCH AND TALC

Gerhard Kruger, Weinheim an der Bergstrasse, Germany, assignor to Polymer Corporation Limited, Sarnia, Ontario, Canada, a body corporate

Filed Jan. 14, 1965, Ser. No. 425,446
Claims priority, application Canada, Feb. 4, 1964, 894,818
Int. Cl. B44d 1/22; B44c 1/08
U.S. Cl. 117—16 5 Claims



Rubber particles are coated with a mixture of talc and corn starch to render them less tacky and easier to handle and store.

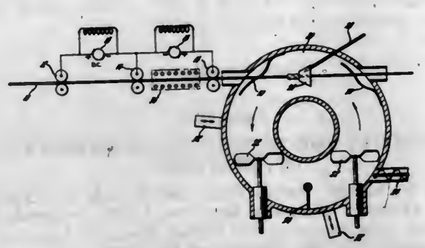
3,436,244

FUSION COATING OF METAL ARTICLES

Anthony G. Yokawonis, Rochester, N.Y., assignor to General Motors Corporation, Detroit, Mich., a corporation of Delaware

Filed June 29, 1965, Ser. No. 467,933
Int. Cl. B44c 1/08
U.S. Cl. 117—18 9 Claims

In a preferred embodiment an elongated metallic article is coated by passing it through a vertically disposed doughnut-shaped vessel wherein thermoplastic coating powder is suspended and whirled around the vessel in the circumferential direction. An elongated article such as tubing, pipe or wire is heated to a temperature above the melting point of the coating material and then passed



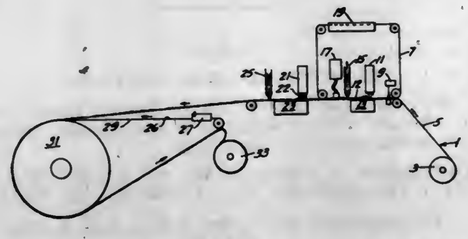
through the vessel in a manner such that some of the powder contacts the surface, is melted by the heat and fuses to the article thereby coating it. The rest of the powder continues to recycle within the vessel.

3,436,245

FLOCK-COATED SUBSTRATE AND METHOD OF MAKING THE SAME

Roger V. Grundman, Roseville, Minn., assignor to Minnesota Mining and Manufacturing Company, St. Paul, Minn., a corporation of Delaware

Filed Nov. 8, 1965, Ser. No. 506,652
Int. Cl. B44d 1/52; C23d 5/08; B44c 1/08
U.S. Cl. 117—25 11 Claims



Flock coated substrates formed by coating the individual fibers of an open fabric substrate with a pressure-sensitive adhesive without closing the openings of the substrate, applying a fibrous flock coating to the substrate, applying a settable liquid adhesive such as a two-part polyurethane to the side of the substrate opposite the flock coating and passing the adhesive through the openings in the substrate to embed the substrate and the ends of the fibers attached thereto, and then curing the adhesive.

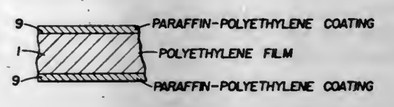
3,436,246

HEAT-SEALABLE POLYETHYLENE SHEETING HAVING THINLY ROLLED COATING OF POLYETHYLENE ADMIXED WITH PARAFFIN

Robert F. Williams, Jr., and David E. Strebe, Rochester, N.Y., and Kenneth G. Surridge, deceased, late of Rochester, N.Y.; said Williams assignor to Eastman Kodak Company, Rochester, N.Y., a corporation of New Jersey

Filed May 19, 1966, Ser. No. 600,674
(Filed under Rule 47(a) and 35 U.S.C. 116)
Int. Cl. B44d 1/24; B32b 27/08, 33/00
U.S. Cl. 117—65.2 5 Claims

Polyolefin sheets and films having improved heat sealing characteristics and improved clarity can be made by coating them with a blend containing paraffin and polyethylene in weight ratios, respectively, of from 25:75 to 75:25, and then compression rolling the resulting coated polyolefin sheet or film. Coated sheets or films can be heat sealed (for example, with another polyolefin sheet or film) at temperatures that are at least 25° C. lower



than temperatures that would be required for heat sealing in the absence of the special coating of this invention.

3,436,247

FATTY ACID ALKANOLAMIDE AND ALKANOLAMINE COATING FOR FIBERBOARD AND CONTAINER FORMED THEREFROM

Harry E. Dunholter, Toledo, Ohio, assignor to Owens-Illinois, Inc., a corporation of Ohio

No Drawing. Continuation-in-part of Ser. No. 474,518, July 23, 1965. This application July 11, 1966, Ser. No. 564,000
Int. Cl. B05c 7/00; C03c 17/18
U.S. Cl. 117—95 16 Claims

This invention relates to an anti-abrasive paper, an anti-abrasive coating for paper, and anti-abrasive containers. More specifically, the invention at hand relates to the use of mixtures of fatty acid alkanolamides and alkanolamines as non-abrasive coatings for paper. The above-described coating composition can be used in conjunction with a viscosity improver. In use, relatively small quantities of the anti-abrasive coating compositions of this invention are applied to those areas of a container which come into contact with products being shipped therein. The coating composition of this invention minimizes the possibility of damage occurring to articles being shipped by the abrasive contact of the container with said article.

3,436,248

FLAME SPRAYING EXOTHERMICALLY REACTING INTERMETALLIC COMPOUND FORMING COMPOSITES

Ferdinand J. Dittrich, Bellmore, and Arthur P. Shepard, Flushing, N.Y., assignors to Metco, Inc., a corporation of New Jersey

Application Mar. 25, 1965, Ser. No. 442,727, now Patent No. 3,322,515, dated June 30, 1967, which is a continuation-in-part of application Ser. No. 343,705, Feb. 10, 1964. Divided and this application May 26, 1966, Ser. No. 592,238
Int. Cl. C23c 7/00, 13/02
U.S. Cl. 117—105 27 Claims

Method of coating a surface by flame spraying two or more components which will react with one another during the flame spraying to form an intermetallic compound.

3,436,249

ALUMINISING POWDER

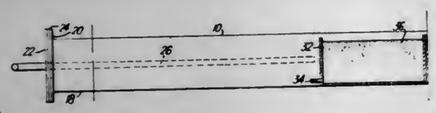
George Lambert, Spondon, Derby, and Anthony Alastair Baxter Tennett, Chellaston, Derby, England, assignors to Rolls-Royce Limited, Derby, England, a British company

Filed Feb. 23, 1966, Ser. No. 529,298
Claims priority, application Great Britain, Apr. 20, 1965, 16,676/65
Int. Cl. C23c 13/02; C09d 5/10
U.S. Cl. 117—107.2 4 Claims

The invention relates to a mixture for aluminising gas

turbine blades, and to a method of aluminising using the mixture, the mixture comprising by weight:

	Percent
Powdered aluminum	0.05–5
Sodium fluoride or potassium fluoride	0.5–5
Potassium hydrogen difluoride	0.05–5
Ammonium chloride	0.05–5



the balance being calcined alumina and minor impurities.

3,436,250

METHOD FOR RETAINING FLAME AND SOIL RESISTANCES TO FABRICS

Hiroyuki Yamaguchi, Kyoto, and Mituho Takada, Ibaragishi, Japan, assignors to Asahi Kasei Kogyo Kabushiki Kaisha, Osaka, Japan, a corporation of Japan

No Drawing. Filed Aug. 12, 1965, Ser. No. 479,301
Claims priority, application Japan, Aug. 25, 1964, 39/47,856; Mar. 3, 1965, 40/11,888
Int. Cl. C08j *1/38;* C09d *5/18;* B32b *5/02*
U.S. Cl. 117—137 10 Claims

A method in which flame and soil resistance of fabrics are retained without yellowing or lowering of the strength of the fabrics by treating fabrics containing cellulose or protein fibers with an aqueous solution of a composition consisting of a condensed phosphoric acid and a tertiary amine or quaternary ammonium compound, the relative proportion of the phosphoric acid to the amine or ammonium compound being such that for each atom of phosphorous there is 0.5 to 2 atoms of nitrogen and subjecting the thus treated fabrics to a heat treatment at 110°–170° C. for 30 seconds to 30 minutes.

3,436,251

PROCESS FOR RENDERING PAPER ABRASION RESISTANT, ADHESIVE AND WATER-REPELLENT EMPLOYING SILOXANE COMPOSITION

David M. Rees, Whitchurch, Cardiff, Glamorgan, Wales, assignor to Midland Silicones Limited, Reading, Berkshire, England

No Drawing. Filed July 29, 1965, Ser. No. 475,874
Int. Cl. D21h *1/40;* B32b *29/06*
U.S. Cl. 117—155 29 Claims

Paper is rendered adhesive, water-repellent and abrasion resistant by coating the paper with a mixture of alkylhydrogensiloxane polymer, hydroxy- or alkoxy-end-blocked diorganosiloxane polymer and aminoalkoxysilane and curing the mixture.

3,436,252

PAPER RELEASE COMPOSITION

Charles G. Neuroth, Blissfield, Mich., assignor to Stauffer Chemical Company, New York, N.Y., a corporation of Delaware

No Drawing. Filed Apr. 13, 1967, Ser. No. 630,515
Int. Cl. C08d *13/16;* C08g *47/02*
U.S. Cl. 117—155 7 Claims

The invention relates to a paper release composition comprising curable grafted polysiloxanes having terminal hydroxy groups or groups which are hydrolyzable by ambient moisture. In general, the curable grafted polysiloxanes are mixed with a liquid medium, applied to a substrate and thereafter cured to form a coating which will impart release characteristics thereto.

3,436,253

ALLOYS FOR IMPROVING PROPERTIES OF GRAPHITE

Royal W. Kelsey, Santa Clara, and Donald D. Crooks, and Henry T. Sumsion, San Jose, Calif., assignors, by mesne assignments, to the United States of America as represented by the Secretary of the Navy

No Drawing. Original application Nov. 27, 1963, Ser. No. 326,643. Divided and this application Apr. 13, 1966, Ser. No. 566,452
Int. Cl. F02c *7/30;* B32b *15/16;* C22c *25/00*
U.S. Cl. 117—160 1 Claim

1. A composite article for use under conditions of elevated temperatures comprising

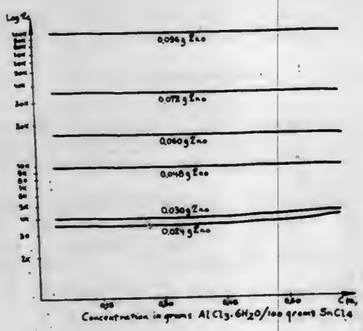
a substrate of graphite coated and impregnated with a layer of alloy material having a composition of from about one to twenty weight percent beryllium, balance being a material selected from the group consisting of zirconium and titanium said article being characterized by an increase in strength and resistance to air corrosion and erosion.

3,436,254

ELECTRICAL FILM RESISTORS

Bertrand Alain Dreyfus, Sevres, France, assignor to Societe d'Electronique et d'Automatisme, Courbevoie, Hauts-de-Seine, France

Continuation of application Ser. No. 459,035, May 26, 1965. This application Feb. 16, 1968, Ser. No. 706,189
Claims priority, application France, June 2, 1964, 976,774
Int. Cl. H01b *1/02;* B44d *1/08;* C23c *7/00*
U.S. Cl. 117—201 7 Claims



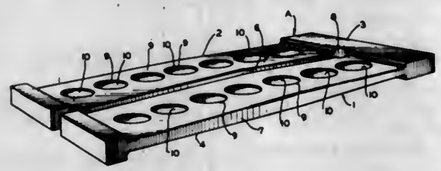
Controlled modification of the range of values of resistance of tin oxide electrical film resistors is obtained by introducing, in the tin compound solution used to spray on a heated substrate for creating such films, an oxidizing agent that compensates for, in a degree depending upon its proportion, the default of oxygen in the resulting tin oxide.

3,436,255

ELECTRIC RESISTANCE HEATERS

Darrel M. Harris, Kirkwood, Mo., and Donald E. Westhoff, St. Louis, Mo., assignors to Monsanto Company, St. Louis, Mo., a corporation of Delaware

Filed July 6, 1965, Ser. No. 469,695
Int. Cl. B44d *1/18;* C23c *13/00;* B05c *7/02*
U.S. Cl. 117—201 16 Claims



A heating element having a pair of longitudinally extending legs connected by a bight portion for supporting semiconductor materials in epitaxial deposition furnaces. The heating element is provided with a plurality of recesses, each of which is sized to support a semiconductor wafer. The recess is slightly diametrally smaller than the wafer so that only the peripheral margin of the wafer bottom wall resides in contact with the upper surface of the heating element. In order to accommodate wafers of diametrally reduced sizes, a ring-type insert is provided for removable insertion into each of the recesses so that smaller diameter wafers can be supported on the ring-type insert. Furthermore, the invention contemplates a number of embodiments where the wafer may be supported in such manner that its upper surface is parallel to the exterior surface of the heating element, where the upper surface is spaced slightly above the upper surface of the heating element and where the wafer is located in supportive engagement with the upper surface of the heating element. In like manner, a vertically disposed heating element having the plurality of recesses is also provided.

3,436,256

METHOD OF FORMING A SUPERCONDUCTING METALLIC FILM

Constantine A. Neugebauer, Schenectady, N.Y., assignor to General Electric Company, a corporation of New York

Continuation-in-part of application Ser. No. 331,034, Dec. 16, 1963. This application June 1, 1964, Ser. No. 372,737
Int. Cl. B44d *1/18, 1/34, 1/092*
U.S. Cl. 117—213 16 Claims

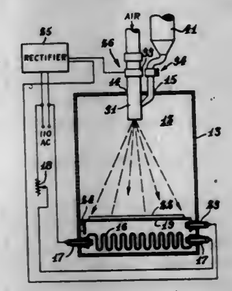
1. A method of forming a superconductive metallic film on a substrate which comprises positioning at least one substrate within a chamber, evacuating said chamber to a pressure in the range of 1×10^{-9} to 5×10^{-8} millimeters of mercury, positioning a metallic member containing a high melting point superconductive metal within said chamber, positioning a second lower melting point superconductive metal within said chamber, heating at least a part of said first superconductive metal to at least its melting point, evaporating an initial portion of the first resutling molten metal within said chamber thereby gettering oxygen and oxygen containing compounds therein, heating said second metal to its evaporation temperature, subsequently evaporating an additional portion of said first molten metal and condensing said molten metal on said substrate, and coevaporating at least a portion of said second metal and condensing said second molten metal simultaneously on said substrate in a ratio of 1 to 3 of said second lower melting point metal to said first high melting point metal thereby forming on said substrate a superconductive metallic film.

3,436,257

METAL SILICATE COATING UTILIZING ELECTROSTATIC FIELD

Thomas E. Myers, St. Charles, Ill., assignor to Norma J. Vance

Filed July 30, 1964, Ser. No. 386,213
Int. Cl. B44d *1/18*
U.S. Cl. 117—213 17 Claims



A method and apparatus for applying a conductive coating of a metal silicate on a non-conducting plate, in which a metal salt is sprayed on a heated surface of the plate, in an electrostatic field.

3,436,258

METHOD OF FORMING AN INSULATED GROUND PLANE FOR A CRYOGENIC DEVICE

Constantine A. Neugebauer, Schenectady, John R. Rairden III, Albany, and Reuben E. Joynson, Jr., Schenectady, N.Y., assignors to General Electric Company, a corporation of New York

Filed Dec. 30, 1965, Ser. No. 517,608
Int. Cl. B44d *1/18, 1/34*
U.S. Cl. 117—217 3 Claims

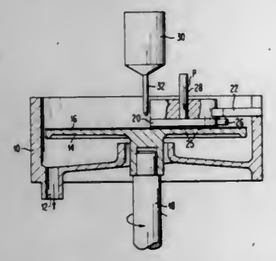
Insulated ground planes for cryogenic devices are formed by depositing a superconductive film of niobium or tantalum in a thickness between 400 A. and 5,000 A. upon a glass or metallic substrate and subsequently anodizing the film, as deposited, in an oxidizing electrolyte to form an oxide insulating layer in a thickness greater

than 30 A. The oxide insulating layer also can be formed on the superconductive film by heating the film in air at a temperature below 300° C.

3,436,259
METHOD FOR PLATING AND POLISHING A SILICON PLANAR SURFACE

Joseph Regh, Wappingers Falls, Gene A. Silvey, Poughkeepsie, and James R. Gardiner, Wappingers Falls, N.Y., assignors to International Business Machines Corporation, Armonk, N.Y., a corporation of New York

Filed May 12, 1966, Ser. No. 549,586
Int. Cl. C23c *17/02*; B44d *5/10, 5/12*
U.S. Cl. 117—227 11 Claims



1. A method for polishing a silicon planar surface to a high degree of surface perfection suitable for epitaxial deposition comprising:

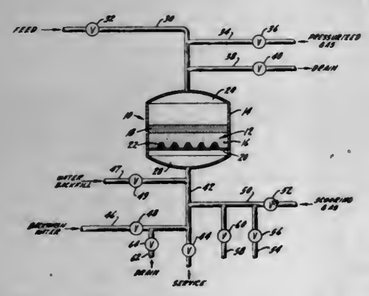
maintaining the said silicon surface continuously wetted with an excess quantity of a displacement plating solution having a pH less than 7 containing a cupric cation and fluoride anion to cause a displacement plating of the cation onto the said silicon surface in the form of the metal; and

continuously wiping the said silicon surface with a firm surface using a substantial pressure while maintaining a relative movement between the said silicon surface and said firm surface to remove the plated said metal from the high points of said silicon surface.

3,436,260
METHOD FOR CLEANING FILTER BED FOR SUGAR LIQUOR

Joseph H. Duff, Basking Ridge, N.J., assignor, by mesne assignments, to Union Tank Car Company, Chicago, Ill., a corporation of Delaware

Filed Sept. 23, 1964, Ser. No. 398,699
Int. Cl. C13d *3/12*; B01d *23/24, 23/16*
U.S. Cl. 127—55 4 Claims



A filter bed, preferably having a lower sand layer and an upper anthracite layer, is regenerated by stopping the flow of sugar liquor to the tank and first draining any remaining sugar liquor, preferably under pressurized gas to facilitate removal. The tank is then filled with water, which is preferably heated to a temperature of about 150–180° F. to immerse the filter bed in the water. This water is then also removed by draining, preferably under the influence of pressurized gas. The tank is then filled with backwashing water to a level sufficient to immerse the filter bed, and a scouring gas is passed upwardly through it to dislodge impurities. Backwash water is then passed upwardly through the filter bed to remove further impurities, and any backwash water remaining in the tank is drained prior to resuming the service cycle.

3,436,261
REMOVAL OF CORROSION PRODUCTS FROM METAL SURFACES

Allison S. Mitchell, Duncan, Okla., assignor to Halliburton Company, Duncan, Okla., a corporation of Delaware

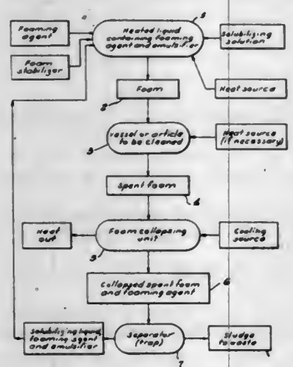
No Drawing. Filed Jan. 26, 1965, Ser. No. 428,193
Int. Cl. C23g *1/02*; B08b *5/00, 3/08*
U.S. Cl. 134—3 2 Claims

Corrosion products are removed from metal surfaces by contacting the surface with hydrogen chloride gas and allowing the hydrogen chloride gas to react with the surface to produce a soluble reaction product and then applying a solvent for the reaction product to the surface in an amount sufficient to dissolve and remove substantially all of the reaction product.

3,436,262
CLEANING BY FOAM CONTACT, AND FOAM REGENERATION METHOD

Curtis W. Crowe, Tulsa, Okla., and Roger G. Duranleau, Blacksburg, Va., assignors to The Dow Chemical Company, Midland, Mich., a corporation of Delaware

Filed Sept. 25, 1964, Ser. No. 399,231
Int. Cl. B08b *3/00, 7/00*
U.S. Cl. 134—10 8 Claims



The cleaning of a solid surface is accomplished by foam contact. A liquid containing a foaming agent and a foam stabilizing agent is heated to generate a foam, the foaming agent being a liquid which converts to a gas at the advanced temperature attained, and the foam stabilizing agent being capable of decreasing the surface tension of the foam so formed. After foam contact with the solid surface, the foam is subjected to a temperature sufficiently low to collapse at least a portion of the foam due to at least a substantial portion of the foaming agent resuming the liquid state at the lower temperature. The collapsed foam is then refoamed by reheating.

3,436,263
METHOD OF CLEANING LARGE STORAGE TANKS FOR PETROLEUM PRODUCTS

Lynn A. Strenkert, Norwalk, Conn., and William H. Carls, Western Springs, Ill., assignors to The Perolin Company, Inc., New York, N.Y., a corporation of Delaware

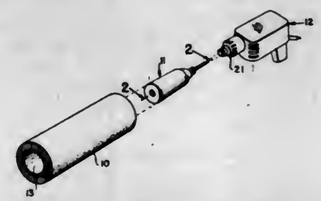
No Drawing. Filed May 13, 1965, Ser. No. 455,630
Int. Cl. B08b *9/08, 3/10*
U.S. Cl. 134—22 4 Claims

In a process for cleaning petroleum deposits from storage tanks, including tanker cargo holds which may be of 1,000 to 2,000 ton and higher cargo capacity, involving the steps of applying a liquid chemical cleaning material to inner tank surfaces, allowing a residence time for optimum action of such cleaning material, and then washing with water to remove chemical and dislodged deposits from tank surfaces; the improvement for providing uniform application of cleaning material to all inner tank surfaces including inaccessible surfaces of structural and support members, that comprises generating a dispersion of said cleaning material within said tank in the form of a wet fog having a particle size predominantly in the 10 to 40 micron range.

3,436,264
APPARATUS FOR CLEANING PAINT ROLLER COVERS

Dewey R. Allen, P.O. Box 797, 1518 Fordham, Perryton, Tex. 79070

Filed Sept. 20, 1965, Ser. No. 488,493
Int. Cl. B08b *1/04, 3/08*
U.S. Cl. 134—33 2 Claims

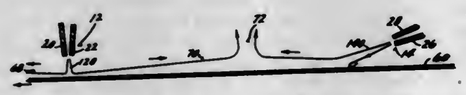


A paint roller cover cleaning device comprising a shaft and a plastic cylindrical body attached to the shaft between a head and adjustable nut along the shaft so that the plastic body expands to the proper diameter as it is longitudinally compressed for insertion into the paint roller cover bore so that paint is pushed out of the bore as the device is inserted and the cover is held tightly for rotation.

3,436,265
PRESSURE GRADIENT WEB CLEANING METHOD

Thomas A. Gardner, 513 Clark St., Neenah, Wis. 54956

Original application Aug. 19, 1963, Ser. No. 302,978, now Patent No. 3,239,863. Divided and this application Jan. 8, 1965, Ser. No. 424,246
Int. Cl. B08b *3/02*
U.S. Cl. 134—37 3 Claims



The cleaning of a longitudinally moving web is accomplished by directing a transverse gas jet of at least 10,000 f.p.m. normally against the web and a second transverse gas jet at an acute angle to the movement of said web and toward said first-mentioned jet in the direction of web movement, and collecting from the vicinity of the web between the gas jets the gas from the second-mentioned jet and that component of the gas of the first-mentioned jet which travels counter to the direction of web movement. The first-mentioned gas jet originates at a distance from the web which is no more than 1.0 inch therefrom and the ratio of its cross sectional area at its origin to the distance of its point of origin from the web is within the range of 0.02 to 1 and 0.15 to 1. The angle of the second gas jet with respect to the web is within the range of 5 to 25 degrees.

3,436,266
METHOD OF TREATING STORAGE BATTERY PLATES

Herbert Haebler, Frankfurt am Main, Germany, assignor to Varta Aktiengesellschaft, Frankfurt am Main, Germany

No Drawing. Continuation-in-part of application Ser. No. 630,170, Mar. 20, 1967. This application Oct. 30, 1967, Ser. No. 679,241
Claims priority, application Germany, Nov. 2, 1966, V 32,245
Int. Cl. H01m *35/02, 39/00*
U.S. Cl. 136—27 10 Claims

Storage battery plates and particularly the negative plates of lead-acid storage batteries are impregnated with boric acid by filling a container such as a battery housing, in which the battery plates are located in formed condition, with an aqueous solution of boric acid, and subjecting the negative plate or plates while in contact with the boric acid solution for a short period of time to anodic polarization.

3,436,267
PROCESS FOR THE PRODUCTION OF ELECTRICALLY ACTIVE HIGH-VALENT NICKEL COMPOUNDS

Peter Faber, Kahl am Main, Germany, assignor to Rheinisch-Westfalisches Elektrizitatswerk Aktiengesellschaft, Essen, Germany, a corporation of Germany

Filed Oct. 23, 1965, Ser. No. 504,263
Claims priority, application Germany, Mar. 24, 1965, R 40,191
Int. Cl. H01m *43/04*
U.S. Cl. 136—29 8 Claims

A method of making a nickel hydroxide with the apparent formula NiOOH and a higher valent state than nickel-II hydroxide, especially for use as the active material of an electrode for an alkaline accumulator, wherein the dry nickel-II hydroxide is treated, preferably in an agitated condition or a gas vortex, with ozone in a gas stream at a temperature of 20° C. to 110° C. until the nickel-II hydroxide is converted into a black mass of the higher-valent state compound.

3,436,268
FUEL CELL

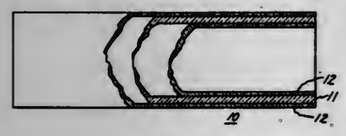
Charles N. Satterfield, South Lincoln, and John O. Smith, Swampscott, Mass., and Kenneth L. McHugh, Kirkwood, Mo., assignors to Monsanto Research Corporation, St. Louis, Mo., a corporation of Delaware

No Drawing. Filed Dec. 21, 1962, Ser. No. 246,349
The portion of the term of the patent subsequent to May 24, 1983, has been disclaimed
Int. Cl. H01m *27/04, 29/00*
U.S. Cl. 136—86 4 Claims

1. The process for conversion of chemical energy directly into electrical energy which comprises continuously introducing an aqueous solution of mono-olefinic aliphatic hydrocarbon of 2 to 4 carbon atoms as fuel at one of a pair of spaced electrodes, which electrodes are in electrical

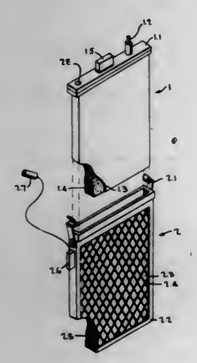
contact with each other through an undivided aqueous electrolyte, while continuously introducing at the other of said pair of electrodes an aqueous solution of oxidizing agent selected from the class consisting of hydrogen peroxide, reducible inorganic oxides and oxy acids, and the alkali metal and alkaline earth metal salts of said oxy acids.

3,436,269
ELECTRICAL DEVICE COMPRISING METAL OXIDE-CONTAINING SOLID ELECTROLYTE AND ELECTRODE
Stephan P. Mitoff, Elnora, N.Y., assignor to General Electric Company, a corporation of New York
Filed June 10, 1965, Ser. No. 462,851
Int. Cl. H01m 27/22
U.S. Cl. 136—86 4 Claims



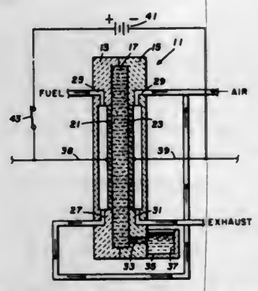
Nonporous electrode construction for a high temperature fuel cell is described wherein the electrode displays mixed conductivity (ionic and electronic) when in use, because of its composition. The composition consists of a solid stabilized oxide-ion material having at least partially dissolved therein from 2 weight percent to 40 weight percent of uranium dioxide and a metal oxide selected from the group consisting of iron oxide, cobalt oxide, nickel oxide, titanium oxide, zinc oxide, titanium oxide-iron oxide, zinc oxide-iron oxide, and zinc oxide-lead oxide.

3,436,270
OXYGEN DEPOLARIZED CELL AND METHOD OF PRODUCING ELECTRICITY THEREWITH
Harry G. Oswin, Chauncey, and Stewart M. Chodosh, Lack Success, N.Y., assignors to Leesona Corporation, Warwick, R.I., a corporation of Massachusetts
Filed Dec. 30, 1965, Ser. No. 517,603
Int. Cl. H01m 27/06
U.S. Cl. 136—86 20 Claims



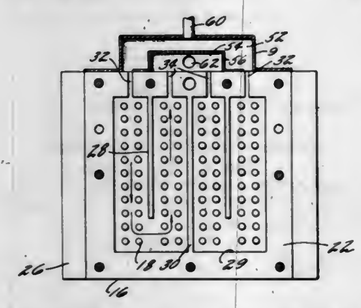
An improved air or oxygen depolarized cell for the electrochemical generation of electrical energy is described. The cell utilizes an envelope cathode in which a removable, consumable metal anode is retained. Accordingly, the cell can be mechanically recharged by removing an expended anode and inserting a fresh anode. The anode comprises a top portion and a body portion with the top portion including means associated with the body portion for withdrawing electrical current from the cell.

3,436,271
METHOD OF IMPROVING THE PERFORMANCE OF FUEL CELLS
David F. Cole and Isaac Trachtenberg, Dallas, Tex., assignors to Texas Instruments Incorporated, Dallas, Tex., a corporation of Delaware
Filed July 7, 1965, Ser. No. 470,115
Int. Cl. H01m 29/02, 23/00
U.S. Cl. 136—86 12 Claims



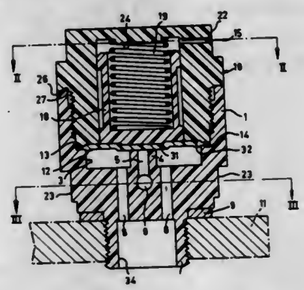
Disclosed is a method of improving the performance of fuel cells which comprises passing a current through the cell from an external source in the same direction that the current is produced by the normal electrochemical action of the cell for a period of time no less than the time required for the rate of change of voltage of the anode of the cell with respect to time at constant current to pass from a negative value to a value no less than zero. The fuel cell is preferably of the molten carbonate electrolyte type.

3,436,272
STACKED FUEL CELLS
Raymond L. Gelting, Manchester, Conn., assignor to United Aircraft Corporation, East Hartford, Conn., a corporation of Delaware
Filed Oct. 12, 1966, Ser. No. 586,252
Int. Cl. H01m 27/02
U.S. Cl. 136—86 5 Claims



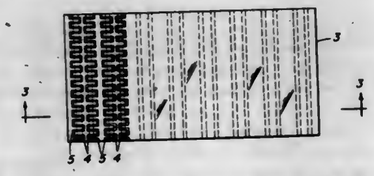
1. A fuel cell assembly having a plurality of individual cells in stacked relation, each cell including spaced oxidant and fuel electrodes having an electrolyte space therebetween, chambers on the sides of the electrodes opposite to the electrolyte space for oxidant and fuel gas respectively, one of said chambers for each cell having a plurality of passages formed therein through which the gas is guided within the chamber, each of said passages having an inlet and an outlet at the periphery of the cell such that when the cells are arranged in a stack all of the openings will be located in respective rows in one side surface of the stack, and a cover plate attached to the stack of cells along said one surface of the stack and having a chamber therein in a position to overlie and communicate with all of the inlet passages in one of the rows of openings.

3,436,273
SAFETY VALVE INTENDED MAINLY FOR ELECTRIC BATTERIES
Jean Louis Gratzmuller, 4 Rue Maryse Hilas, Levallois, France
Filed July 19, 1966, Ser. No. 566,348
Claims priority, application France, July 22, 1965, 25,564
Int. Cl. H01m 1/06
U.S. Cl. 136—178 13 Claims



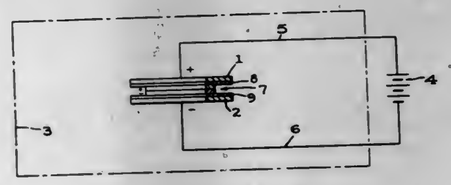
A battery pressure cap comprising a first hollow body having a threaded upper portion and a bottom having a radial inwardly extending peripheral portion and a threaded lower extremity adapted to screw in a threaded opening in a battery, and having an inner chamber with a valve seat, said seat having an axial channel communicating with the outside and at least one longitudinal channel connecting therewith and communicating with the inside of the battery, said seat extending on a level approximately even with said peripheral portion; a hollow cover having a lower threaded portion adapted to engage the upper threaded portion of said hollow body the respective threads being of opposite direction; a channel in said cover communicating with the exterior, a hollow membrane guide slidingly mounted in said cover housing a return spring therein, one end of said spring bearing against said housing and the other end bearing against said cover a membrane mounted on said seat and having edges secured between corresponding surfaces of said cover and said body, said membrane guide urging said membrane against said seat, and a vent chamber defined by said valve seat, said inwardly peripheral portion and said seat.

3,436,274
SOLID BACKED THERMOPILE
Philippe Villers, Wilton, Conn., assignor to Barnes Engineering Company, Stamford, Conn., a corporation of Delaware
Filed May 25, 1965, Ser. No. 458,736
Int. Cl. H01v 1/02
U.S. Cl. 136—224 6 Claims



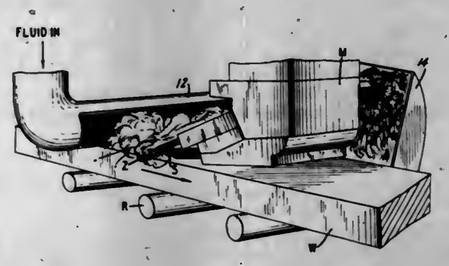
A thermopile is described responding to electromagnetic radiation comprising a substrate of material of high thermal diffusivity, sufficiently thick to form a heat sink, the material being transparent to radiations for which the thermopile is to be used. The substrate is provided with raised and depressed areas forming ridges and grooves, the raised areas either being part of the substrate itself or other material of high thermal conductivity. A thin film of electrically insulating material is stretched across the substrate bridging across the grooves, and thermopiles are formed on the side of the film opposite the heat sink, the active junctions being on the portions over the grooves and the inactive junctions over the ridges. The film bridging the grooves is blackened in the area underneath the active junctions. The thermopile responds to radiation passing through the substrate or directly irradiating the active junctions, or both.

3,436,275
METHOD OF TREATING SOLAR CELLS
Thomas K. Tsao, 4306 Sarasota Place, and Michael Yu, 4307 Yates Road, both of Beltsville, Md. 20705
Filed Mar. 3, 1965, Ser. No. 436,877
Int. Cl. H01l 7/18
U.S. Cl. 148—1.5 11 Claims



A method of treating solar cells to improve the current response characteristics thereof comprising (1) placing a solar cell in an electric field of the same polarity as the cell (2) simultaneously subjecting the solar cell to constant heat and (3) maintaining the solar cell in the electric field at elevated temperature to obtain the desired current response characteristics.

3,436,276
SLAG REMOVAL METHOD DURING THERMOCHEMICAL SCARFING
Ivan P. Thompson, Hillside, N.J., assignor to Union Carbide Corporation, a corporation of New York
Filed May 19, 1966, Ser. No. 551,367
Int. Cl. B23k 7/00
U.S. Cl. 148—9.5 3 Claims



1. In a thermochemical scarfing process wherein an oxidizing gas is directed from a scarfing unit against a reaction zone of molten metal on the surface of a metal body to produce a thermochemical reaction thereon, and relative movement is produced between such scarfing unit and the body for continuing such reaction along the length of such surface, the improvement in trapping and disposing of the molten slag produced during such reac-

tion from the scarfing area which comprises: positioning a deflector surface across the path of relative movement at a point adjacent the reaction zone and in the path of the slag produced, and flowing a fluid stream over said surface to maintain the same wetted.

3,436,277
METHOD OF PROCESSING METASTABLE BETA TITANIUM ALLOY

Howard B. Bomberger, Jr., East Liverpool, and Donald B. Warmuth, Warren, Ohio, assignors to Reactive Metals, Inc., a corporation of Delaware

Filed July 8, 1966, Ser. No. 564,455
Int. Cl. C22f 1/18; C21d 1/56; C22c 15/00
U.S. Cl. 148—12.7 4 Claims

A method of processing a metastable beta titanium alloy which contains 0.8 to 1.8% aluminum, 7.5 to 8.5% vanadium, 4.5 to 5.5% iron and up to about 0.5% oxygen. The alloy is subject to a final hot-working at a temperature above its beta transus of about 1520° F. Thereafter it may be solution heat-treated, quenched, aged, or cold-worked and annealed. Method produces an improved microstructure and finer grain size over conventional practice of conducting the final hot-working at a temperature below the beta transus.

3,436,278
GLYCOL SOLDERING FLUXES

Richard M. Poliak, Johnson City, N.Y., assignor to International Business Machines Corporation, Armonk, N.Y., a corporation of New York

No Drawing. Filed Aug. 8, 1966, Ser. No. 570,752
Int. Cl. B23k 35/36
U.S. Cl. 148—23 2 Claims

A fluxing composition having particular value in soldering electrical connections and characterized by good adherence and easy removal of flux residue without corrosion, comprising from about 0.5 to 5% by weight of glutamic acid hydrochloride, from about 32% to 69% by weight of a polyglycol solvent selected from the group consisting of polyethylene glycol, polypropylene glycol and their mixtures and the balance water. An alkyl alcohol diluent for the solvent may be added in an amount of from about 19% to 25% by weight. Isopropyl alcohol is preferred. A minor amount of urea may also be added to supplement the glutamic acid hydrochloride. In place of the polyglycol solvent, from about 5% to 45% by weight of a polyoxyalkylene ether may be used.

3,436,279
PROCESS OF MAKING A TRANSISTOR WITH AN INVERTED STRUCTURE

Thomas Klein, Horley, England, assignor to North American Philips Company, Inc., New York, N.Y., a corporation of Delaware

Filed Dec. 16, 1964, Ser. No. 418,696
Claims priority, application Great Britain, Dec. 17, 1963, 49,770/63
Int. Cl. H01l 7/44, 7/46
U.S. Cl. 148—175 4 Claims

A process of making an inverted epitaxial transistor starting with a substrate containing both types of impurities with one type predominating. An epitaxial layer containing a smaller concentration of said one type impurity is vapor deposited on the body, under such conditions as to cause the opposite type impurity in the body to diffuse outwardly into the epitaxial layer but only for a distance less than the whole thickness of the layer to convert an interior portion of the epitaxial layer to the opposite type conductivity. The surface portion of the epitaxial layer remains unconverted and thus of one type conductivity. Thus, two p-n junctions are established in the structure defining three regions alternating in conductivity type. Next, connections are made to the original body to form an emitter, to the converted interior portion to form a base, and to the unconverted epitaxial portion to form a collector, so that in operation the collector junction becomes back biased to collect carriers, and the emitter junction becomes forward biased to inject carriers into the base region to be collected by the collector.

3,436,280
METHOD OF PRODUCING A VARIABLE CAPACITANCE DIODE

Masaichi Shinoda, Sagamihara-shi, Japan, assignor to Fujitsu Limited, Kawasaki, Japan, a corporation of Japan

Filed June 27, 1966, Ser. No. 560,599
Claims priority, application Japan, June 30, 1965, 40/39,496
Int. Cl. H01l 7/46
U.S. Cl. 148—178 2 Claims

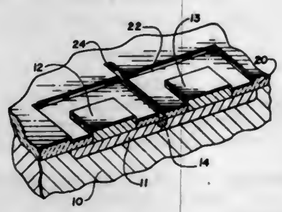


Described is a method of producing a germanium variable capacitance diode, which comprises alloying a pellet consisting of a carrier selected from the group consisting of lead, indium and mixtures thereof, antimony, gallium and tin to an n-type germanium wafer, whereby the antimony distribution function is changed by the quantity of tin. The alloy pellet consists, in atom percent, of about 5 to 50% tin, 0.1 to 4% gallium, 0.05 to 3% antimony and the remainder selected from lead, indium and mixtures thereof. The alloy temperature of 550 to 750° C. is maintained from 5 to 100 minutes.

3,436,281
FIELD-EFFECT TRANSISTORS

Will F. Parmer, Dallas, Tex., assignor to Texas Instruments Incorporated, Dallas, Tex., a corporation of Delaware

Original application Aug. 14, 1962, Ser. No. 216,843. Divided and this application Oct. 1, 1965, Ser. No. 509,233
Int. Cl. H01l 7/44, 11/00
U.S. Cl. 148—187 3 Claims



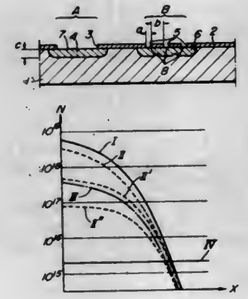
A process is disclosed for manufacturing a field-effect transistor utilizing oxide masking techniques for diffusing impurities into one surface of a semiconductor wafer to form a thin enclosed surface layer of opposite conductivity type from the wafer. A further oxide masking and diffusion step is effected to define a narrow elongated surface region at the one surface, the major portion of this elongated area being within the enclosed surface layer, but having extended portions lying outside of the enclosed surface area which make non-rectifying contact to

the undiffused portion of the wafer surface so that this surface region divides the surface layer into source and drain regions, which are electrically connected within the wafer only by a thin channel underlying the surface region and so that the wafer and the surface region provide the lower and upper gates for the field-effect transistor.

3,436,282
METHOD OF MANUFACTURING SEMICONDUCTOR DEVICES

Koichiro Shoda, Suita-shi, Japan, assignor to Matsushita Electronics Corporation, Osaka, Japan, a corporation of Japan

Filed Oct. 17, 1966, Ser. No. 587,129
Claims priority, application Japan, Dec. 10, 1965, 40/76,832
Int. Cl. H01l 19/00, 7/44
U.S. Cl. 148—187 1 Claim



A method of manufacturing semiconductor devices by (1) providing on the surface of a semiconductor substrate a mask in which a plurality of openings are formed such that the widths of the portions of the mask between the openings are less than twice a predetermined depth of diffusion and (2) diffusing an impurity through the openings into the substrate to the predetermined depth to form diffused regions contiguous to each other.

3,436,283
METHOD OF ETCHING AND SOLUTION THEREFOR

William A. Chrisley, 720 Twin Hills Drive, El Paso, Tex. 79912

No Drawing. Filed Apr. 23, 1965, Ser. No. 450,515
Int. Cl. C23f 1/02
U.S. Cl. 156—14 3 Claims

An etching solution for photoengraving containing typically 5 to 18% by volume nitric acid, a water insoluble organic liquid substantially unreactive with the nitric acid, a cationic emulsifying agent in an amount not in excess of 1% by weight of the solution, and a non-ionic emulsifying agent in an amount of not more than 1% by weight of the solution.

3,436,284
METHOD FOR THE PREPARATION OF ATOMICALLY CLEAN SILICON

Donald L. Klein, New Providence, N.J., assignor to Bell Telephone Laboratories, Incorporated, New York, N.Y., a corporation of New York

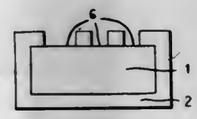
No Drawing. Filed Apr. 23, 1965, Ser. No. 450,504
Int. Cl. C23f 1/00; C01b 33/02
U.S. Cl. 156—17 4 Claims

Atomically clean silicon surfaces may be attained by quenching a freshly etched silicon surface in a concentrated solution of iodine in an anhydrous solvent.

3,436,285
COATINGS ON GERMANIUM BODIES

John George Wilkes, Hatch End, England, assignor to North American Philips Company, Inc., New York, N.Y., a corporation of Delaware

Filed Sept. 2, 1965, Ser. No. 484,707
Claims priority, application Great Britain, Sept. 4, 1964, 36,290/64
Int. Cl. H01l 7/50
U.S. Cl. 156—17 7 Claims

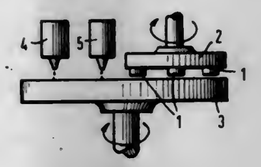


A method of removing tetragonal germanium dioxide from the surface of a germanium body in which the dioxide is reduced with titanium and the reaction products removed.

3,436,286
POLISHING METHOD FOR THE REMOVAL OF MATERIAL FROM MONOCRYSTALLINE SEMICONDUCTOR BODIES

Herbert Lange, Ubersee am Chiemsee, Germany, assignor to Siemens Aktiengesellschaft, a corporation of Germany

Continuation-in-part of application Ser. No. 355,338, Mar. 27, 1964. This application Apr. 17, 1967, Ser. No. 633,669
Claims priority, application Germany, Mar. 28, 1963, S 84,437
Int. Cl. B08b 3/08; C23f 1/02
U.S. Cl. 156—17 15 Claims



Polishing method for removing material from surfaces of monocrystalline semiconductor bodies includes simultaneously supplying at least two different, coactively polishing chemical agents, specific for etching the semiconductor bodies, at a given rate to spaced locations on the upper surface of a rotary, substantially horizontal platform, and bringing a surface of a semiconductor body into engagement with the upper surface of the rotary platform so that it is repeatedly subjected to each of the different chemical polishing agents. The method also includes removing the polishing agents from the rotary platform at approximately the same rate as they are supplied thereto.

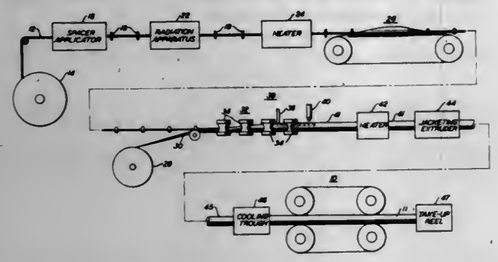
3,436,287
COAXIAL CABLE MANUFACTURING METHOD

Alfred S. Windeler, Madison, N.J., assignor to Bell Telephone Laboratories, Incorporated, New York, N.Y., a corporation of New York

Filed July 2, 1965, Ser. No. 469,291
Int. Cl. H01b 13/22; B32b 1/10
U.S. Cl. 156—54 13 Claims

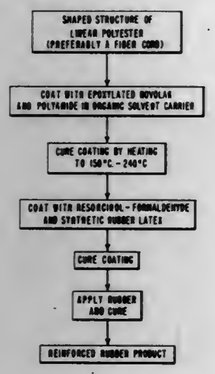
Coaxial cable is manufactured by surrounding a center conductor with a compressed dielectric material having an elastic memory and, after forming a loosely fitting outer conductor about the compressed material, heating the

material so it expands and fills the space between the conductors. The space between the conductors may receive a



welding shoe that protects the material while a seam is welded on the outer conductor during the forming process.

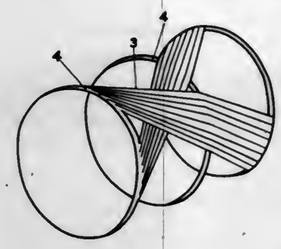
3,436,288
PROCESS FOR BONDING RUBBER TO POLYESTER STRUCTURES
Hugh T. Patterson, Greenville, N.C., assignor to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware
Filed Jan. 5, 1965, Ser. No. 423,528
Int. Cl. B29h *7/22;* **B32b** *27/38;* **C09j**
U.S. Cl. 156—142 **5 Claims**



The process for bonding rubber to polyester cords comprising coating the cord with an organic solvent solution containing a specific epoxylated novolak resin and a polyamide resin reaction product of polymeric fat acids having at least two carboxyl groups and polyalkylene polyamines having two primary amine groups and a plurality of secondary amine groups, heating the coated cords to cure the coating, overcoating the structure with a specific latex mixture, drying and curing the overcoating, and then applying and curing a layer of rubber on the coated structure.

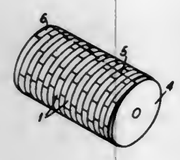
3,436,289
METHOD OF MAKING A CORRUGATED TUBE OF FIBER-REINFORCED PLASTIC MATERIAL
John Gordon Hardwick, Kidderminster, England, assignor to Imperial Metal Industries (Kynoch) Limited, London, England, a corporation of Great Britain
Filed Jan. 28, 1965, Ser. No. 428,712
Claims priority, application Great Britain, Feb. 4, 1964, 4,665/64
Int. Cl. B65h *81/00;* **B31c** *13/00*
U.S. Cl. 156—175 **4 Claims**

A corrugated tube made of reinforced plastic is made by: providing a mandrel having a series of axially-spaced, radially-projecting ridges; helically winding at least one layer of filament around the mandrel at such an angle that the filaments run from ridge to ridge in a series of straight-line paths; impregnating the layer of filaments; and removing the mandrel from the resulting tube. The



ridged mandrel may be formed by helically winding a flexible rod or band on a cylindrical member or by providing a series of axially spaced-apart discs on the cylindrical member.

3,436,290
METHOD OF MAKING SHEET MATERIALS OF DESIRED SIZE FROM SMALLER SHEETS JOINED TOGETHER
Edgar Wilhelm Reissner, Lydney, England, assignor to Factories Direction Limited, Lydney, England
Filed June 18, 1965, Ser. No. 464,948
Int. Cl. B27d *5/00*
U.S. Cl. 156—193 **4 Claims**

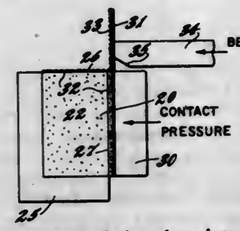


The invention relates to the manufacture of sheet materials, such as veneers, by joining relatively small sheets of the material together so as to produce sheets of a required size. The said relatively small sheets are joined together end to end, preferably by means of an adhesive paper tape, to form a continuous strip. The continuous strip is bound helically onto a body and helical coils are joined together, preferably by another adhesive paper tape, to form a hollow shell. The shell is cut in a direction lengthwise of the shell, preferably in such a way that the cut line intersects the joints between neighboring coils at right-angles, to produce a substantially rectangular sheet.

3,436,291
METHOD OF BONDING A METAL PLATE TO A REFRACTORY BRICK WITH A CHLOROPRENE-PHENOLIC ADHESIVE
Philip C. McShane, Ellicott City, Md., assignor to General Refractories Company, Philadelphia, Pa., a corporation of Pennsylvania
Original application Feb. 11, 1965, Ser. No. 431,819, now Patent No. 3,334,460, dated Aug. 8, 1967. Divided and this application May 23, 1967, Ser. No. 640,632
Int. Cl. B32b *15/16*
U.S. Cl. 156—212 **3 Claims**

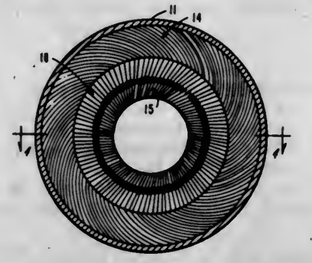
A metallic plate is attached and secured to two adjoining refractory brick faces by first coating the brick faces and a surface of a flat plate with a chloroprene-

phenolic adhesive, bringing a portion of the flat plate into contact with one face of the brick, and then bending



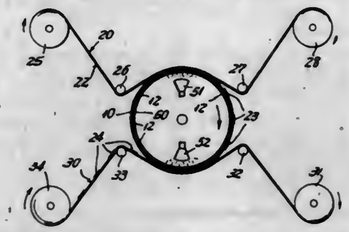
the remaining portion of the plate into contact with the adjoining face of the brick.

3,436,292
METHOD FOR FABRICATING ABLATIVE STRUCTURES
Donald Monroe Hatch, Harbor City, and Walter W. Wood, Inglewood, Calif., assignors to Hitco, a corporation of California
Filed Apr. 30, 1964, Ser. No. 363,738
Int. Cl. B29c *1/14*
U.S. Cl. 156—222 **9 Claims**



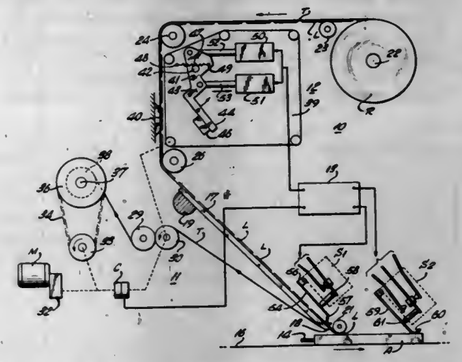
Ablative structures are prepared by laying up panels of at least two dissimilar high-temperature resistant materials impregnated with a thermally curable resin so that the panels are at least partially interleaved and curing the resin and densifying the structure under increased temperature and pressure conditions.

3,436,293
THERMOGRAPHIC DUPLICATING PROCESS
Douglas A. Newman, Glen Cove, N.Y., assignor to Columbia Ribbon and Carbon Manufacturing Co., Inc., Glen Cove, N.Y., a corporation of New York
Filed Oct. 15, 1965, Ser. No. 496,527
Int. Cl. B41m *5/26*
U.S. Cl. 156—240 **9 Claims**



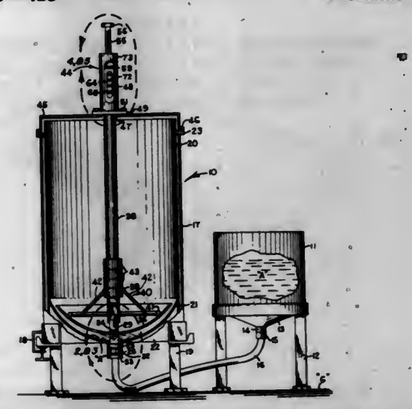
A thermographic duplicating process in which infrared radiation-absorbing images present on a plastic film master sheet are reproduced on a succession of copy sheets. The unimaged side of the master sheet is smooth and impervious and accepts wax imaging composition in areas corresponding to the original images and cleanly releases such composition to a copy sheet under the effects of heat, so that the master can be reimaged to produce as many copies as desired.

3,436,294
TAPE-MOUNTED LABEL DISPENSING AND APPLYING APPARATUS
Herbert W. Marano, Summit, N.J., assignor to Flinchbaugh Products, Inc., Red Lion, Pa., a corporation of Pennsylvania
Filed May 7, 1964, Ser. No. 365,658
Int. Cl. B65h *25/14;* **G05g** *15/00;* **B32b** *31/20*
U.S. Cl. 156—351 **13 Claims**



An apparatus for applying pressure sensitive labels from a label carrying tape to moving objects includes an applicator arm terminating in a separator edge and a take-up roll drawing the tape around the separator edge, the take-up roll being connected through an electrically actuated clutch and brake to a drive motor. The clutch actuated coil is connected through a relay switch to a source of current, and the relay solenoid is connected through a silicon-controlled rectifier and an object sensing switch to a source of current. A label sensing element applies a control signal to the silicon-controlled rectifier through a transistor whose collector is connected directly to the silicon-controlled rectifier gate electrode. The object sensing switch is mechanically actuated and the label sensing switch may be mechanically or electrically actuated.

3,436,295
DISPLACEMENT APPARATUS FOR INSTALLING RIGID OR SEMI-RIGID INSULATION IN THE HEAD END OF A ROCKET MOTOR CASE
Martin T. Olliff, Jr., Julius E. Lloyd, Charles F. Williams, and John K. Edmondson, Huntsville, and William B. Brooks, Guntersville, Ala., assignors to Thiokol Chemical Corporation, Bristol, Pa., a corporation of Delaware
Filed Dec. 8, 1965, Ser. No. 512,371
Int. Cl. B29d *3/02*
U.S. Cl. 156—423 **6 Claims**



An apparatus for installing insulation in the head end of a rocket motor case including a support for retaining

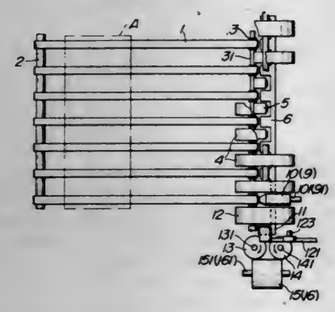
the rocket motor case in a vertical position, an assembly for feeding an adhesive into the head end, forcing the insulation into contact with the adhesive and aligning the insulation in proper position in the head end.

3,436,296

APPARATUS FOR FORMING CORRUGATIONS ON CYLINDRICAL ENVELOPES OF PAPER

Shohachi Masai, Shigemitsu Kawakami, and Tsugio Okamoto, Nobeoka-shi, Japan, assignors to Asahi Kasei Kogyo Kabushiki Kaisha, Osaka, Japan, a corporation of Japan

Filed Nov. 3, 1965, Ser. No. 506,173
Claims priority, application Japan, Nov. 14, 1964, 39/64,084
Int. Cl. B31f 1/22
U.S. Cl. 156—585 4 Claims



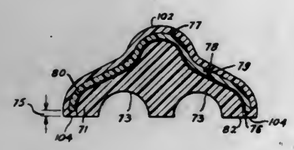
An apparatus for forming corrugations on cylindrical envelopes of paper or like material, wherein a flattened envelope paper carried on a conveyor belt is pinched between squeeze rolls and holding plates and forced into a narrow space defined by said squeeze rolls, said holding plates and a squeeze member surrounding the lower portions of said squeeze rolls and the entirety of said holding plates, in such a manner that the upper half of said envelope paper is continuously advanced by said squeeze rolls while the lower half of the envelope paper is held from advancing by the friction between it and the squeeze member, whereby corrugations are formed on the pheriphery of the envelope paper, said corrugated envelope paper being drawn longitudinally by means of carry rolls to be further squeezed and then passed through vertical and horizontal rolls for further squeezing action by which the corrugations are firmly fixed in place.

3,436,297

REINFORCED VINYL PLASTIC STRIPPING

Charles Brooks and Thomas A. Sutton, both of 76 N. 4th St., Brooklyn, N.Y. 11211

Filed Jan. 2, 1964, Ser. No. 335,328
Int. Cl. B32b 3/30
U.S. Cl. 161—119 8 Claims



1. A reinforced extruded plastic stripping devoid of side beading for application and mounting upon flat sheet materials as a decorative trim by dielectric sealing, said stripping having deep longitudinally extending recessing for taking up the plastic softened and flowing during the dielectric sealing operation, said extruded strip having a flat bottom face with at least one upwardly and longitudinally deep extending groove and recess extending substantially upwardly into the body of the strip above said flat face, the strip having relatively straight lower sides and a curved convex upwardly projecting top portion and the cross-section of the strip having a maximum thickness adjacent the central portion thereof and being of decreasing thickness toward the straight sides, a covering strip covering the entire top portion of the extruded strip and extending downwardly along the side portions but terminating a substantial distance above the flat face of the extruded strip, said covering strip consisting of polyethylene terephthalate having a thin under-surfacing of vacuum deposited metal, said covering strip extending over and down along said straight sides but terminating substantially above the flat bottom side, said elongated recesses and grooves extending up into the body of the stripping to abut the lower edge of the covering having sufficient volume to receive all molten plastic polymer in the space below the lower edge of the covering strip along the straight sides, and when said excess material is all taken up, the lower edges of said covering strip being in contact with the surface to which the plastic strip is attached by dielectric sealing.

3,436,298

FUSED FIBERS OF MONOOLEFIN POLYMERS AND METHOD OF MANUFACTURE

George C. Oppenlander, Embreeville, Pa., and Walter W. Thomas, West Park, Del., assignors to Hercules Incorporated, a corporation of Delaware

No Drawing. Filed Dec. 28, 1965, Ser. No. 517,107
Int. Cl. B32b 27/02, 5/22; D04h 1/04
U.S. Cl. 161—150 9 Claims

1. As an article of manufacture, an assemblage of fibers comprising fibers of polymer of an α-monoolefin containing from about 0.2% to about 10%, based on the weight of the polymer, of a carboxylic acid salt of a metal selected from the group consisting of calcium, barium, iron, nickel, and cobalt, said salt having a melting temperature below the temperature at which the fiber is spun, said fibers being heat-bonded to other fibers in said assemblage at points of contact therewith.

3,436,299

POLYMER BONDING

George W. Halek, New Providence, and Frank M. Berardinelli, South Orange, N.J., assignors to Celanese Corporation of America, New York, N.Y., a corporation of Delaware

No Drawing. Filed Dec. 17, 1965, Ser. No. 514,651
Int. Cl. B32b 27/42, 27/08
U.S. Cl. 161—160 14 Claims

1. A process for bonding an oxymethylene polymer to a solid surface, which comprises contacting said oxymethylene polymer in the presence of azobisformamide with said solid surface, and heating the contacting materials at an elevated temperature to adhere the oxymethylene polymer to the solid surface.

9. An article prepared by the process of claim 1.

3,436,300

EXTENDED PROTEIN GLUES

Fred Bryner, Midland, Mich., assignor to The Dow Chemical Company, Midland, Mich., a corporation of Delaware

No Drawing. Filed Oct. 1, 1964, Ser. No. 400,942
Int. Cl. C09j 1/02
U.S. Cl. 161—210 5 Claims

Protein glues can be formulated into highly effective adhesives for wood products, such as plywood, by the incorporation of a finely divided, water-insoluble polyvalent metal carbonate in an amount from about 0.2 up to 3 parts by weight, per part by weight of the protein glue base. Other ingredients of the complete formulation include from about 0.05 to about 0.3 part by weight of calcium hydroxide and from about 0.05 to about 0.35 part by weight of an alkali metal silicate. Such extenders have been discovered to substantially improve the properties of casein glues.

3,436,301

COPOLYESTER COMPOSITION

John J. McHale, Blackwood, N.J., assignor to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware

No Drawing. Continuation-in-part of application Ser. No. 308,321, Sept. 12, 1963. This application Feb. 27, 1964, Ser. No. 347,679
Int. Cl. C09j 3/14; B32b 7/12, 9/04
U.S. Cl. 161—226 4 Claims

This invention relates to a new copolyester and to laminated shoe assemblies in which the shoe sole is adhesively bonded to the shoe upper with a copolyester of this invention. More particularly, this invention relates to a thermoplastic esterification product of a mixture of dicarboxylic acids and an aliphatic diol wherein the dicarboxylic acids are a mixture of terephthalic acid, isophthalic acid, and a C_6–C_{36} aliphatic dicarboxylic acid and wherein the major molar portion of the aliphatic diol is a butane diol.

3,436,302

METHOD OF BLEACHING GROUNDWOOD PULP WEB WITH ACID

Herman R. Goodwald and Dale L. Schechter, Midland, Mich., assignors to The Dow Chemical Company, Midland, Mich., a corporation of Delaware

No Drawing. Filed Sept. 2, 1965, Ser. No. 484,726
Int. Cl. D21c 9/14
U.S. Cl. 162—71 9 Claims

A process for bleaching groundwood pulp which comprises: contacting a pulp mass in the form of a damp sheet with an aqueous acidic bleaching solution (0.01 to 1.0 normal) at about room temperature for a period of time from about thirty to ninety seconds, rinsing the so-bleached sheet with an aqueous solution having a pH of from about 7–9 and drying the sheet at a temperature of from about 100° to 300° C.

3,436,303

WATER-LAID LEATHER SUBSTITUTE CONTAINING LEATHER FIBERS, STAPLE FIBERS AND POLYURETHANE AQUEOUS SLURRY AND METHOD FOR MAKING SAME

Albert E. Raymond, Roseville, and William J. Fraser, Forest Lake, Minn., and Frank Swedish, Jr., Hudson, Wis., assignors to Minnesota Mining and Manufacturing Company, St. Paul, Minn., a corporation of Delaware

No Drawing. Filed Sept. 16, 1965, Ser. No. 487,890
Int. Cl. D21h 3/40
U.S. Cl. 162—123 11 Claims

Leather substitutes formed from aqueous slurry containing a major portion of globular nonfibrous elastomeric polyurethane material and a minor portion of fibrous material, at least one-third of the fibrous material being leather fibers and the remainder being staple fibers such as nylon fibers, such slurry being formed into a sheet by deposition on a papermaking screen, said sheet then being dried and preferably heated to at least 120° C.

3,436,304

METHOD FOR MANUFACTURING NONWOVEN FIBROUS PRODUCTS FROM GEL FIBERS

Thomas C. Spence, Yorktown, Va., assignor to The Dow Chemical Company, Midland, Mich., a corporation of Delaware

No Drawing. Continuation-in-part of applications Ser. No. 457,139, and Ser. No. 457,178, May 19, 1965. This application July 26, 1966, Ser. No. 567,846
Int. Cl. D21h 5/12; D04h 13/00
U.S. Cl. 162—146 14 Claims

This invention provides nonwoven fibrous sheets made of gel fibers, which are self-bonded to each other at points of interfiber contact and which may thereafter be dried so as to irreevrsibly collapse the gel fibers to produce a dry nonwoven fabric. A process is provided wherein a web of gel fibers is formed and subjected to a combination of pressure and temperature for a short period of time which does not dry the fibers but produces interfiber bonding such that the web when resaturated with water has a tensile strength of at least 0.034 lb./in./oz./sq. yd.

3,436,305

STARCH POLYETHYLENIMINOTHIOURETHANE ADDITIVES FOR PAPER

George C. Maher, Dunlap, Ill., assignor to the United States of America as represented by the Secretary of Agriculture

No Drawing. Filed May 5, 1966, Ser. No. 547,720
Int. Cl. D21h 3/48; C08b 19/04
U.S. Cl. 162—175 3 Claims

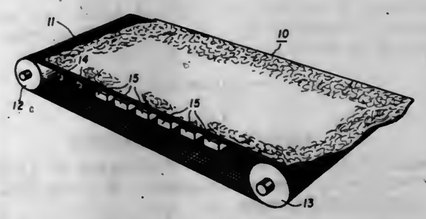
Paper exhibiting markedly improved strength properties is produced by adding to a cellulosic pulp 2.5–10 percent based on the dry pulp weight of a starch thiourethane, produced by reacting lowly substituted starch xanthate with about 3.5 stoichiometric equivalents of 100,000 molecular weight polyethylenimine, and then adjusting the pH with acid to precipitate the starch thiourethane upon the cellulosic fibers.

3,436,306

SUCTION BOX COVER

Rolf R. Haberecht, Ronald C. Bracken, and James W. McCrary, Richardson, Tex., assignors to Texas Instruments Incorporated, Dallas, Tex., a corporation of Delaware

Filed Dec. 3, 1965, Ser. No. 511,546
Int. Cl. D21f 1/50
U.S. Cl. 162—374 4 Claims



A method for depositing silicon carbide on a silicon substrate to form a composite suction box cover for Fourdrinier paper-making machines. A suction box cover comprising a cast silicon blank and having an impervious, dense coating of silicon carbide deposited thereon.

3,436,307

COMPOSITE GREEN STRUCTURES FOR NUCLEAR FUEL ELEMENT

James R. Johnson, White Bear Lake, and Harold G. Sowman, Maplewood, Minn., assignors to Minnesota Mining and Manufacturing Company, St. Paul, Minn., a corporation of Delaware

Original application July 9, 1964, Ser. No. 381,411. Divided and this application Sept. 22, 1966, Ser. No. 596,032

Int. Cl. G21c *3/02, 3/04*

U.S. Cl. 176—69 4 Claims



Green structures adapted to be fired to form metallic nuclear fuel elements, comprising laminates of sheets of powdered metal and an organic binder and sheets of powdered metal having fissionable fuel distributed therein, and a plastic binder; the fuel-containing sheets are covered with the plastic metallic sheets and bonded therewith to form a unitary green structure under conditions under which the sheets remain isotropic. The green structures are adapted to firing whereby they are converted to sintered metallic fuel elements in which the fissionable fuel is in effect distributed inside of a unitary metallic sheet in a predetermined location. After firing, the metallic portion has uniform grain structure throughout and boundaries of the original sheets cannot be distinguished.

3,436,308

PROCESS FOR PRODUCING L-GLUTAMIC ACID

Yuichi Noguchi, Tetsuo Uno, Yoshita Kubota, and Hiroshi Hosoda, Hofu-shi, Japan, assignors to Kyowa Hakko Kogyo Co., Ltd., Tokyo, Japan, a corporation of Japan

No Drawing. Filed Apr. 22, 1965, Ser. No. 450,168

Claims priority, application Japan, Apr. 22, 1964, 39/22,387; June 27, 1964, 39/36,271

Int. Cl. C12d *13/06*

U.S. Cl. 195—29 13 Claims

The present disclosure is directed to a process of producing L-glutamic acid in high yields which comprises culturing any microorganism capable of producing L-glutamic acid in an aqueous nutrient medium under aerobic conditions in the presence of one or more esters of a monohydric alcohol having about three to ten carbon atoms and a lower saturated carboxylic acid, including alkyl-substituted derivatives of said acid, in an amount sufficient to increase the yield of L-glutamic acid produced. Advantageously, the ester is employed in an amount of about 0.01 to 1.0 percent by weight.

3,436,309

MODIFYING STARCHES

August F. Ottinger and Paul R. Graham, St. Louis, Mo., assignors to Monsanto Company, St. Louis, Mo., a corporation of Delaware

No Drawing. Filed Feb. 4, 1966, Ser. No. 538,526

Int. Cl. C08b *25/02;* C12c; C12k *1/10*

U.S. Cl. 195—31 9 Claims

Compositions comprising (a) an alpha-olefin-maleic copolymer and (b) certain amylase/protease enzymes which are useful in the preparation of resin-modified converted starch sizing compositions.

3,436,310

HYDROLYSIS OF THE ACETOXYMETHYL GROUP AT THE 3-POSITION OF THE CEPHALOSPORIN NUCLEUS

Benjamin Harry Arnold, Slough, and Norman Haddow, Iver Heath, England, assignors to Glaxo Laboratories Limited, Greenford, England, a British company

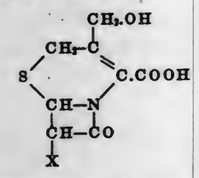
No Drawing. Filed Oct. 23, 1965, Ser. No. 504,200

Claims priority, application Great Britain, Oct. 30, 1964, 44,429; Oct. 19, 1965, 3,614

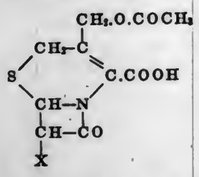
Int. Cl. C12d *9/00;* C07d *93/02*

U.S. Cl. 195—36 18 Claims

A compound of the formula



in which X represents an acylamino or an amino group is made by enzymatic hydrolysis of a compound of the formula



in which X is as defined above using an esterase derived from a species of the genus Rhizobium, the hydrolysis being carried out in aqueous medium at a pH between 5 and 8 and at a temperature between 20 and 45° C.

3,436,311

FUNGAL POLYSACCHARIDE COMPOSITION AND METHOD FOR MAKING SAME

Robert B. Ferguson, St. Paul, and Jack D. Westover, Burnsville, Minn., assignors to The Pillsbury Company, Minneapolis, Minn., a corporation of Delaware

Filed Feb. 28, 1966, Ser. No. 538,445

Int. Cl. C12k *1/10;* C08b *19/00*

U.S. Cl. 195—52 25 Claims

A dried homogenized fungal polysaccharide composition having an enhanced hydration rate is produced by subjecting an aqueous suspension of a fungal polysaccharide and hyphae to a shearing force to disassociate the hyphal aggregates in said suspension.

3,436,312

CARBONIZATION OF BAGASSE

Manuel F. Leonor, New York, N.Y., assignor to Emilia Robertson, New York, N.Y.

No Drawing. Filed Aug. 29, 1962, Ser. No. 220,153

Int. Cl. C10l *9/02;* C10b *57/04*

U.S. Cl. 201—25 4 Claims

1. The process of converting without briquetting a green bagasse having a residual sugar content into a carbonized bagasse of high bulk density, comprising the steps of:

(a) treating the green bagasse with an acid in a concentration bringing about hydrolysis and partial carbonization of the bagasse to an extent sufficient to increase its bulk density to about 30% to 50% higher than the bulk density of green bagasse based on drying both to the same moisture content,

(b) separating the bagasse residue from the liquor produced by the acid treatment, and

(c) heating the separated bagasse residue in the substantial absence of oxygen to produce a fully carbonzide bagasse of high bulk density.

3,436,313

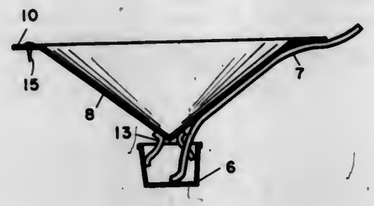
SURVIVAL STILL FOR OBTAINING POTABLE WATER

Cornelius H. M. van Bavel and Ray D. Jackson, Tempe, Ariz., assignors to the United States of America as represented by the Secretary of Agriculture

Filed Oct. 21, 1965, Ser. No. 500,438

Int. Cl. B01d *3/00*

U.S. Cl. 202—83 1 Claim



Survival device for use for travelers in arid regions, which enables one to obtain potable water from soil, plant materials, contaminated water, etc. A pit is dug in the soil and preferably lined with plant material. A sheet of clear plastic is disposed in the pit, forming a cone with its apex down. A receptacle is placed at the base of the pit under the the apex. Sunlight passing through the sheet vaporizes moisture in the soil or plant material, this moisture condensing on the sloping surface of the conical sheet and flowing to the apex thereof, from which it drops into the receptacle. A hose may be provided so that water may be sucked out of the receptacle without disturbing the arrangement.

3,436,314

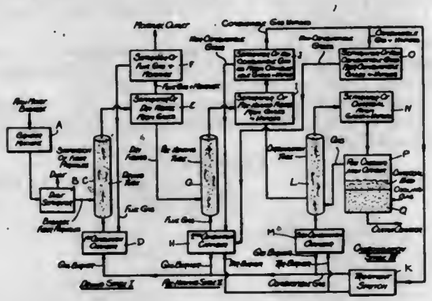
TECHNIQUE FOR CONVERTING BAGASSE AND OTHER MOIST PLANT SUBSTANCES INTO CHARCOAL

Manuel F. Leonor, 509 W. 122nd St., New York, N.Y. 10027

Filed July 23, 1964, Ser. No. 384,710

Int. Cl. C10b *57/10, 57/02*

U.S. Cl. 202—117 6 Claims



A system for converting moist plant matter into charcoal, wherein the matter in particulate form is introduced in a suspended state into a drying tube supplied with a flue gas to dry the particles, the dried particles being introduced in a suspended state into a preheating tube supplied with a flue gas for heating the particles to a temperature effecting partial carbonization thereof to produce heated, partially-carbonized particles which are then introduced in a suspended state into a carbonization tube supplied with a flue gas heating the particles to a temperature effecting complete carbonization thereof.

3,436,315

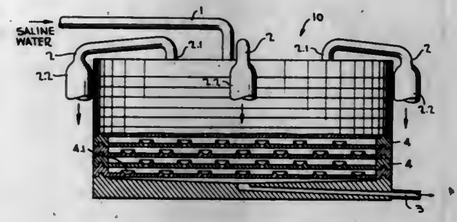
SOLAR HEATED COLUMN STILL

Ernest B. Ackerman, Denver, Colo., assignor to Spectra International, Inc., Cheyenne, Wyo., a corporation of Wyoming

Filed Nov. 23, 1966, Ser. No. 596,689

Int. Cl. C02b *1/06;* B01d *3/32*

U.S. Cl. 202—153 4 Claims



An apparatus for recovering fresh water from saline water is described comprising a closed container adapted to be heated by solar energy, the top portion having a centrally located entry passage for saline water and a plurality of circumferentially spaced vapor exhaust tubes having a downwardly disposed expanded section communicating with the top portion, a base portion having a water exit passage and a plurality of porous replicated metal plates interlocked by suitable means to form the outer wall of the apparatus. The apparatus provides a large surface area for retaining saline water and forms a tortuous path for the flow of water from said entry passage to said exit passage.

3,436,316

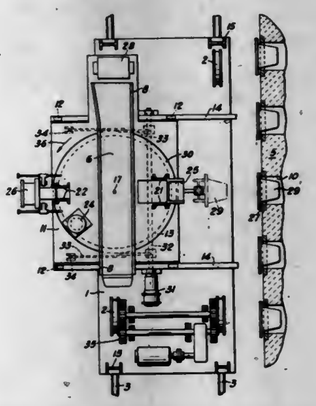
COKE GUIDE CAR

Johannes Lorrek, Mulheim (Ruhr), Germany, assignor to Heinrich Koppers Gesellschaft mit beschrankter Haftung, Essen, Germany

Filed July 15, 1965, Ser. No. 472,151

Int. Cl. C10b *43/04, 25/14*

U.S. Cl. 202—241 7 Claims

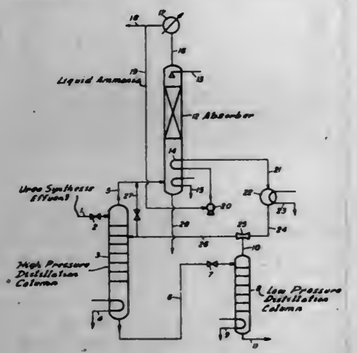


A coke guideway, a door extracting machine, a door jamb cleaning machine, and a door cleaning apparatus are all mounted on a single movable car. After the car is spotted in front of a coke chamber to be pushed, the door can be removed, rotated and cleaned; the coke guide is aligned with the coke chamber and coke can be pushed as the door is being cleaned. After the coke has been pushed, the door jamb may be cleaned and then the door can be replaced.

3,436,317
TREATMENT OF UNREACTED SUBSTANCES IN UREA SYNTHESIS

Eiji Otsuka, Fujisawa, Shigeru Inoue, Kamakura, and Kazumichi Kanai, Fujisawa, Japan, assignors to Toyo Koatsu Industries, Incorporated, Tokyo, Japan, a corporation of Japan

Filed Oct. 17, 1967, Ser. No. 675,962
Claims priority, application Japan, Oct. 25, 1966, 41/69,994
Int. Cl. B01d 5/00, 3/34
U.S. Cl. 203—42 7 Claims

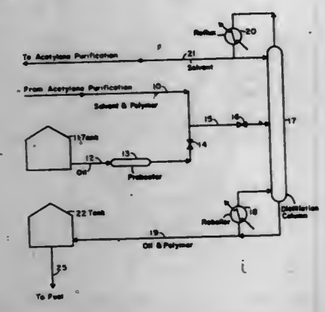


Urea synthesis effluent is passed into a high pressure distillation zone from which bottoms liquid is introduced into a low pressure distillation zone in which zone liquid bottoms rich in urea are separated. Overhead vapors from both distillation zones are passed to an absorber. Pure ammonia vapor from the top of the absorber is condensed with a portion of the condensed ammonia being revaporized in heat exchange with absorbate, being further heated and then passing through an ejector where it aspirates overhead vapor from the low pressure distillation column. Aspirated gaseous mixture and high pressure distillation column overhead is passed to the absorption zone.

3,436,318
SOLVENT PURIFICATION BY DISTILLATION WITH A HYDROCARBON OIL

John Arnold Glass, Texas City, Tex., assignor to Monsanto Company, St. Louis, Mo., a corporation of Delaware

Filed Oct. 25, 1967, Ser. No. 677,942
Int. Cl. B01d 5/00
U.S. Cl. 203—52 5 Claims

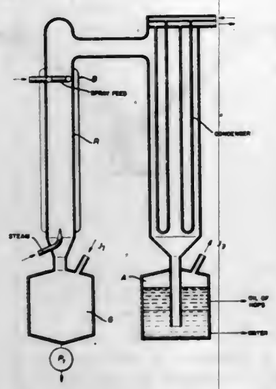


A process for purification of solvents used for the purification of acetylene by absorption and which contain acetylenic polymers which comprises adding to said solvent a miscible hydrocarbon oil in an amount of from 1 to 15% by weight of the combined weight of solvent and oil and separating the solvent from the oil-solvent mixture by distillation.

3,436,319
THIN LAYER STEAM DISTILLATION OF HOP OIL EXTRACT

Louis Anton Freiherr von Horst and Maximilian Kellner, Coburg, Germany, assignors to Irmgard F. von Horst, Coburg, Germany

Filed Apr. 27, 1965, Ser. No. 451,169
Claims priority, application Germany, Aug. 8, 1964, H 53,485
Int. Cl. B01d 3/38, 3/04
U.S. Cl. 203—89 3 Claims

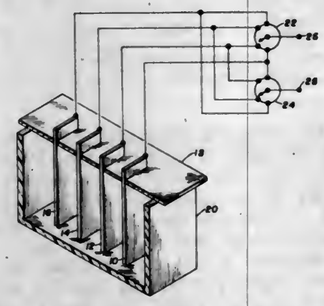


Improved process of recovering oil of hop from a solvent extract of hops by steam distillation in a novel manner, namely by passing the hop extract downwardly in a thin layer along an externally heated surface countercurrently to the upwardly flowing steam in an oxygen-free atmosphere. This process has the advantage of completely recovering the oil of hop from the steam distillate and simultaneously producing a residual hop extract containing other components of said extract in substantially unaltered form. If the temperature of the starting solvent extract of hops is between about 80° C. and about 135° C., partial isomerization of the humulones to the isohumulones which are important brewing additives, takes place.

3,436,320
METHOD AND APPARATUS FOR DETERMINATION OF REDOX CURRENT IN REDOX SOLUTIONS

Glenn A. Marsh, Crystal Lake, Ill., assignor, by mesne assignments, to Union Oil Company of California, Los Angeles, Calif., a corporation of California

Continuation-in-part of application Ser. No. 322,281, Nov. 8, 1963. This application May 20, 1965, Ser. No. 457,453
Int. Cl. B01k 3/02
U.S. Cl. 204—1 13 Claims

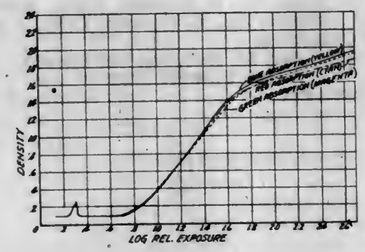


A method and apparatus for determining the redox current and the corrosion current in a redox solution comprising applying less than about 0.03 volt to electrodes comprised of a corrodible metal to be tested and a reference electrode, applying the same D.C. voltage to an inert electrode and a reference electrode and measuring the currents.

3,436,321
DEVELOPER COMPOSITIONS AND THEIR USE IN ELECTROLYTIC ELECTROPHOTOGRAPHY

Donald K. Meyer, West St. Paul, and Robert F. Coles, North St. Paul, Minn., assignors to Minnesota Mining and Manufacturing Company, St. Paul, Minn., a corporation of Delaware

Filed Sept. 13, 1966, Ser. No. 579,114
Int. Cl. G03g 9/00
U.S. Cl. 204—18 6 Claims



1. An electrolytic electrophotographic developer which comprises at least two dyestuffs of the formula:

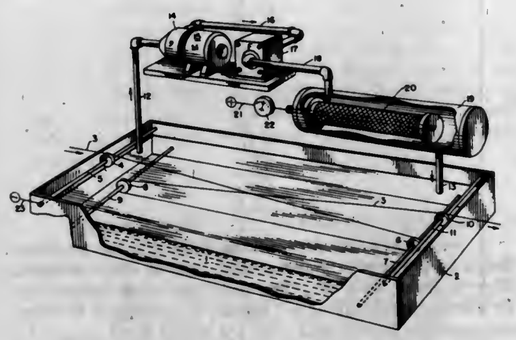
$$D—[NH(CH_2)_n]_pNR(CH_2)_mNR'_2$$

wherein D is a chromogenic radical, R is an alkyl radical having from 6 to 12 carbon atoms, R' is methyl or ethyl, n is 2 or 3 and p is 0 or 1, which dyestuffs are soluble in water at a pH below about 6 and are insoluble at a pH above 7.

3,436,322
PLATING APPARATUS AND PROCESS

Louise L. Good, 8040 Falmouth Ave., Playa Del Rey, Calif. 90291; Robert L. Whitney, 4146 Beethoven Ave., Mar Vista, Los Angeles, Calif. 90066; Raymond B. Good, 6667 W. 87th St., Los Angeles, Calif. 90045; and Ambrose L. Pietrowicz, 3200 W. 99th St., Inglewood, Calif. 90305

Filed Aug. 19, 1965, Ser. No. 480,937
Int. Cl. C23b 5/68, 5/58, 5/28
U.S. Cl. 204—28 6 Claims

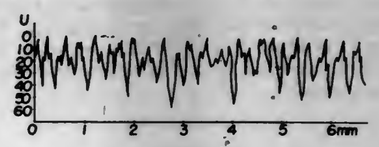


Gold is electrodeposited on an article having an electrically conducting surface by continuously passing said article such as a wire through an electroplating bath of electrolyte containing the metal to be deposited, applying a cathodic charge to said article externally of said electrolyte, and continuously circulating said electrolyte from said bath through a zone remote from the article being plated located externally of said bath and containing an anode remote from the article being plated.

3,436,323
ELECTROLYTIC METHOD FOR PREPARING MANGANESE DIOXIDE

Keiichi Shimizu and Tatsuya Takekawa, Tokyo, Nobuo Tamaki, Amagasaki-shi, Takashi Takasue, Saitama-ken, Toshio Suemoto and Kazuo Mase, Takehara-shi, Japan, assignors to The Furukawa Electric Co., Ltd., and Mitsui Mihonbashi Muromachi, Tokyo, Japan, both corporations of Japan

Filed July 25, 1966, Ser. No. 568,370
Int. Cl. B01k 3/04, 3/06
U.S. Cl. 204—96 14 Claims

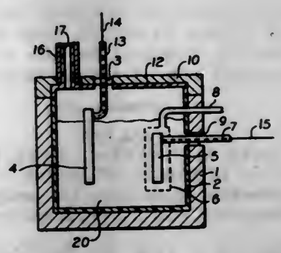


Method of preparing manganese dioxide by electrolysis of an aqueous solution containing sulfuric acid and manganese sulfate wherein the improvement resides in the use of an anode which is titanium, zirconium or tantalum having a finely and sharply indented adventurine surface.

3,436,324
CORROSION-ENDANGERED PARTS OF APPARATUS USED IN ALKALI METAL CHLORIDE ELECTROLYSIS HAVING PROTECTIVE COVERING OF POST-CHLORINATED PVC

Karl Hass, Niederkassel, Walter Kolhagen, Cologne-Dellbrick, Gunther Czehovsky, Niederkassel, and Hans-Ewald Konermann, Oberlar, Germany, assignors to Dynamit Nobel Aktiengesellschaft, Troisdorf, Bezirk Cologne, Germany

Filed May 2, 1966, Ser. No. 548,028
Claims priority, application Germany, Apr. 30, 1965, D 47,153
Int. Cl. B01k 1/00
U.S. Cl. 204—128 8 Claims



8. A process for production of chlorine comprising electrolyzing alkali metal chloride in an electrolysis cell thereby producing a corrosive reaction environment, said cell including equipment exposed to the corrosive reaction environment, said equipment including a tank holding the alkali metal chloride bath, electrodes disposed in the tank, conduit for conveyance of electrolysis material, and conductors connected to said electrodes, at least part of said equipment being susceptible to corrosion and having a protective covering consisting essentially of post-chlorinated polyvinyl chloride polymer.

3,436,325
APPLICATION OF IRRADIATED MELTED WAX-POLYETHYLENE BLENDS TO SOLIDS

Alfred Aufhauser, 345 E. 56th St., New York, N.Y. 10022

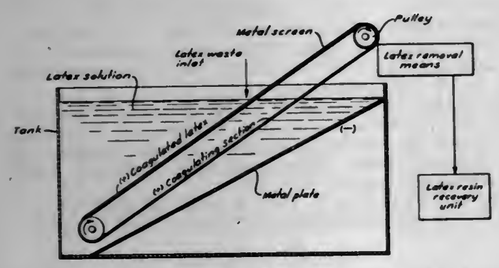
No Drawing. Continuation of application Ser. No. 529,960, Aug. 22, 1955. This application Jan. 8, 1963, Ser. No. 250,025
Int. Cl. C08f *1/16*; B01j *1/10*
U.S. Cl. 204—159.2 6 Claims

1. In a process wherein a hydrocarbon wax having a softening point between about 130° F. and 200° F. is blended with solid polyethylene, said polyethylene constituting from about 2% to about 25% by weight of the blend, the blend is applied to a solid substance by contacting said substance with said blend while said blend is at a temperature above the melting point of the blend, and said solid substance having said blend applied thereto thereafter is cooled to a temperature below said melting point; the improvement which comprises subjecting said blend prior to its said application to said substance to ionizing irradiation with high energy electrons, the dosage being from about 2 to about 200 megarads, thereby improving the compatibility and homogeneity of the blend for use as aforesaid.

3,436,326
REMOVAL OF WASTE SOLIDS FROM AQUEOUS SYSTEMS

Kenneth E. Stober, Gales Ferry, Conn., assignor to The Dow Chemical Company, Midland, Mich., a corporation of Delaware

Filed Dec. 28, 1964, Ser. No. 421,320
Int. Cl. C23b *13/00*; B01k *5/00*; B01d *13/02*
U.S. Cl. 204—180 5 Claims

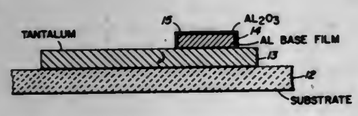


An electrically charged, continuous belt-like metallic screen is run through an aqueous waste with the screen electrophoretically picking up the latex solids. Then the solids are removed before the screen re-enters the waste.

3,436,327
SELECTIVE SPUTTERING RATE CIRCUIT FORMING PROCESS

William L. Shockley, Richardson, Tex., assignor to Collins Radio Company, Cedar Rapids, Iowa, a corporation of Iowa

Filed July 18, 1966, Ser. No. 565,928
Int. Cl. C23c *15/00*
U.S. Cl. 204—192 3 Claims

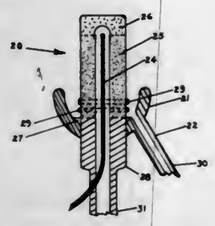


1. In the production of thin film circuitry, pattern forming of circuit films through selective removal of circuit thin film metal as determined by the different sputter rate of a plurality of materials and the patterns of original deposition and overlay of the materials; wherein at least two materials used in forming the circuit have different sputtering removal rates when submitted to sputtering as a cathode in a sputtering process circuit; the thin film circuit buildup being processed is positioned as a cathode in a sputtering process circuit and a voltage is applied for maintaining the sputtering process removal of metal from the circuit buildup for a process interval of time providing metal removal as desired; and wherein one of said materials is tantalum; and wherein another of said materials is aluminum.

3,436,328
APPARATUS FOR GAS DETECTION

William H. Ward, Jr., El Segundo, Calif., assignor to General Monitors, Inc., El Segundo, Calif., a corporation of Connecticut

Filed Apr. 19, 1965, Ser. No. 449,089
Int. Cl. B01k *3/02*
U.S. Cl. 204—195 6 Claims

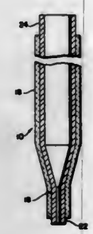


Apparatus for detecting a gaseous component by dissolving it in an electrolyte and measuring the electrical properties of the electrolyte with the dissolved gas therein. A plurality of electrodes are provided which are contacted by a film of said electrolyte, with electrical characteristic measuring means being connected to said electrodes for measuring the electrical characteristics of said film.

3,436,329
MICROELECTRODE AND METHOD OF MAKING SAME

Alan R. Kahn and Stanford B. Spracklen, Fullerton, Calif., assignors to Beckman Instruments, Inc., a corporation of California

Filed Dec. 11, 1964, Ser. No. 417,628
Int. Cl. C23c *13/02*; B01k *3/04*
U.S. Cl. 204—195 9 Claims

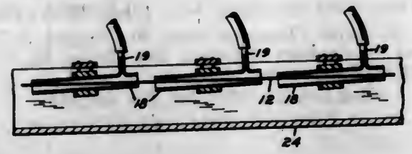


A microelectrode for making intra-cellular measurements of living plants and animal cells in which a quartz fiber is drawn to a very fine point and then coated with an electrochemically active metal. A coating of a dielectric material is provided over the metal layer except for portions at each end of the quartz fiber, thus exposing a small layer of metal at the fine tip of the fiber which is adapted to contact cells and plant and animal tissues. Additional metal and dielectric coatings may be provided for measuring various chemical parameters.

3,436,330
ELECTROPLATING APPARATUS

Malor Wright, Lexington, and James W. Healy, Wakefield, Mass., assignors to United-Carr Incorporated, Cambridge, Mass, a corporation of Delaware

Filed July 15, 1965, Ser. No. 472,095
Int. Cl. C23b *5/68*
U.S. Cl. 204—207 6 Claims

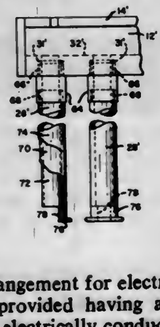


An electroplating apparatus for a continuous wire comprising supply means, guide means, reagent tubes, electroless plating means and electrolytic plating means, said reagent tubes being orientated angularly in relationships to the horizontal wire, and said wire being treated in the reagent tubes and then electroless plated without contacting any surface.

3,436,331
ELECTRO-CHEMICAL MACHINING ELECTRODE

Thomas R. Dietz, Penn Hills, and Charles R. Gordon, Philadelphia, Pa., assignors to Heppenstall Company, a corporation of Pennsylvania

Filed Sept. 3, 1965, Ser. No. 484,795
Int. Cl. C23b *5/74*
U.S. Cl. 204—224 5 Claims



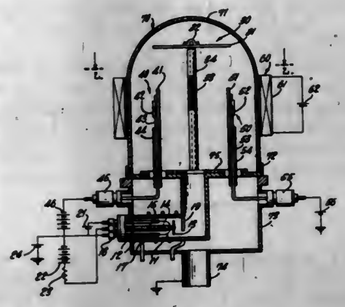
An electrode arrangement for electro-chemical machining equipment is provided having a manifold member fabricated from an electrically conductive material, a plurality of elongated electrode shanks formed from an electrically conductive material and removably and interchangeably joined at their ends to said manifold member in communication therewith, means for supplying an electrolyte fluid to said manifold, a like plurality of generally tubular electrode tips respectively and mechanically detachably joined to the other ends of said electrode shanks, and an insulating covering for each of the inner and outer surfaces of said tubular electrode shanks, each of said electrode shanks having a plurality of closely spaced circumferential ridges formed substantially along the length thereof to promote adherence of the associated insulated coverings.

3,436,332
STABILIZED LOW PRESSURE TRIODE SPUTTERING APPARATUS

Zenjiro Oda, Koichi Saito, Tatsuo Asamaki, and Tokio Mori, Tokyo, Japan, assignors to Nippon Electric Company Limited, Tokyo, Japan, a corporation of Japan

Filed July 12, 1966, Ser. No. 564,698
Claims priority, application Japan, July 15, 1965, 40/42,815
Int. Cl. C23c *15/00*
U.S. Cl. 204—298 3 Claims

1. In a cathode sputtering apparatus comprising: an enclosure; means for evacuating said enclosure and providing an ionizable atmosphere therein; an ion target of the material to be sputtered mounted in the enclosure; means for mounting a substrate in the enclosure with the surface of the substrate extending substantially parallel and spaced from said target; means in said enclosure for sustaining an electrical discharge between and generally axially parallel to the surface of said target and said substrate, said means including an anode and a thermionic

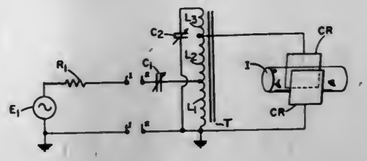


cathode for emitting electrons, said anode and said cathode being separate and independent from said substrate and said target; the improvement wherein said means for sustaining said discharge includes a positively biased starting electrode disposed in immediately adjacent spaced relationship with said thermionic cathode and in the path of said electrons, whereby a steady sputtering operation is provided at reduced gas pressure within the envelope.

3,436,333
IMPEDANCE MATCHING NETWORK FOR GAS REACTION APPARATUS

Harvey James Beaudry, El Sobrante, Calif., assignor to Laboratory for Electronics, Inc., Boston, Mass., a corporation of Delaware

Filed Aug. 23, 1966, Ser. No. 574,462
Int. Cl. B01k *1/00*
U.S. Cl. 204—312 2 Claims



1. In an apparatus for reacting a gas with a non-gaseous substance, including an RF source and means to generate an RF field for ionizing the gas, the combination with said source and said field generating means of a coupling network to transfer RF power from source to gas through the medium of said field generating means, said coupling network comprising:

(a) a variable capacitor to compensate for changes in the load presented by said field generating means,

(b) transformer means to increase the effective value of said capacitor and to transform the resistive component of the load impedance to a value more nearly equal to that of the source, said transformer means having a primary winding coupled to said source, a first secondary winding coupled to said field generating means, and a second secondary winding coupled to said capacitor, and

(c) another variable capacitor connected in series between said source and said primary winding to compensate for the inductance of said primary winding.

3,436,334

STABLE HYDROCARBON LUBRICATING OILS AND PROCESS FOR FORMING SAME

Bernard A. Orkin, Cherry Hill, and Milton Braid, Barrington, N.J., assignors to Mobil Oil Corporation, a corporation of New York

No Drawing. Filed Apr. 12, 1967, Ser. No. 630,207
Int. Cl. C10g *23/04, 23/02, 31/14*
U.S. Cl. 208—18 15 Claims

Hydrocarbon lubricating oil resistant to deterioration upon exposure to light and air is formed by contacting high boiling hydrocarbons with hydrogenation/dehydrogenation catalysts and hydrogen with hydrogen consumption, and thereafter dehydrogenating the resulting product on contact with a metal oxide or with a metal and oxygen.

3,436,335

SERIAL REFORMING WITH A RARE EARTH METAL IN ALL BUT LAST STAGE

John Maziuk, Green Fields, N.J., assignor to Mobil Oil Corporation, a corporation of New York

No Drawing. Filed Mar. 25, 1966, Ser. No. 537,272
Int. Cl. C10g *39/00, 35/08*
U.S. Cl. 208—65 8 Claims

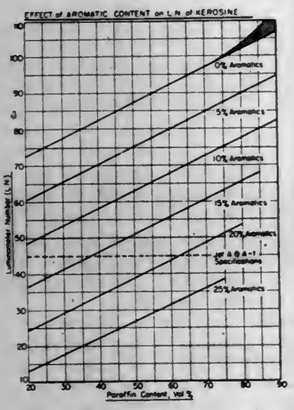
A naphtha hydrocarbon is catalytically reformed by sequentially passing the hydrocarbon through a plurality of catalyst beds. The last bed contains a catalyst comprising an acid anion and a hydrogenation-dehydrogenation metal on an alumina containing support. The remaining beds contain a catalyst comprising an acid anion, a rare earth metal, and a hydrogenation-dehydrogenation metal on an alumina containing support.

3,436,336

PROCESS FOR PREPARING LOW FREEZE POINT HYDROCARBON FUELS

Henry R. Ireland, West Deptford Township, Gloucester County, N.J., assignor to Mobil Oil Corporation, a corporation of New York

Filed June 6, 1967, Ser. No. 643,924
Int. Cl. C10g *39/00, 23/04*
U.S. Cl. 208—66 1 Claim



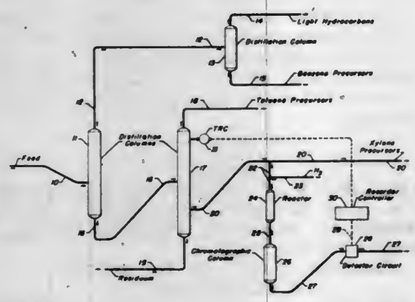
Hydrocarbon fuels, particularly jet fuels, are prepared by catalytically isomerizing paraffin rich, kerosine hydrocarbon fractions to form isomerates and catalytically hydrogenating the entire isomerate. Kerosine hydrocarbon fractions containing excessive sulfur, nitrogen, arsenic and/or lead are pretreated catalytically with hydrogen before isomerization.

3,436,337

SYSTEM AND METHOD FOR FRACTIONATION

David M. Boyd, Clarendon Hills, Ill., assignor to Universal Oil Products Company, Des Plaines, Ill., a corporation of Delaware

Filed July 31, 1967, Ser. No. 657,312
Int. Cl. C10g *7/00;* B01d *3/42;* C07c *15/00*
U.S. Cl. 208—92 13 Claims



System and method for fractionating a hydrocarbon feed mixture such as one containing toluene and xylene precursors. The distillation of this mixture is controlled by sampling one product stream, converting the precursors therein to the corresponding aromatic hydrocarbon via catalytic means, resolving the effluent from the conversion zone via chromatographic means and using a signal generated from the chromatographic means to vary at least one operating condition, such as temperature, on the distillation column.

3,436,338

HYDROCONVERSION OF HYDROCARBONS

Roy E. Pratt, Groves, and Frederick K. Hahn, Port Arthur, Tex., assignors to Texaco Inc., New York, N.Y., a corporation of Delaware

No Drawing. Filed Dec. 23, 1965, Ser. No. 516,082
Int. Cl. C10g *13/06*
U.S. Cl. 208—110 9 Claims

Hydrocracking catalysts which have been partially deactivated by polycyclic aromatic hydrocarbons present in the charge stock are reactivated by introducing a feed having a lower polycyclic aromatic content.

3,436,339

REMOVAL OF IRON CONTAMINANTS FROM HYDROCARBON OILS

Charles E. Rudy, Jr., El Cerrito, Calif., assignor to Chevron Research Company, San Francisco, Calif., a corporation of Delaware

No Drawing. Filed June 28, 1967, Ser. No. 649,451
Int. Cl. C10g *17/06*
U.S. Cl. 208—252 9 Claims

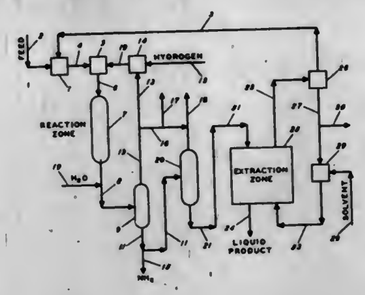
A process for the selective removal of iron from iron-contaminated oils by contacting the oils with dilute sulfuric acid, containing 0.1–5 weight percent H_2SO_4. Other metals in the oils are essentially unaffected by the acid.

3,436,340

DENITRIFICATION PROCESS WITH RECYCLE OF EXTRACTED NITROGEN COMPOUNDS

Robert L. Jacobson, Pinole, Calif., assignor to Chevron Research Company, San Francisco, Calif., a corporation of Delaware

Filed Dec. 5, 1966, Ser. No. 598,985
Int. Cl. C10m *23/02, 17/04, 31/14*
U.S. Cl. 208—254 4 Claims



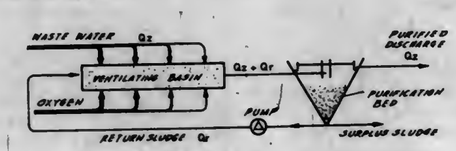
A process for denitrification which permits higher yields at milder conditions and comprises hydrodenitrification of a portion of the feed oil under specified conditions, solvent extraction of the remaining nitrogen compounds, and recycle of the extracted nitrogen compounds to the hydrodenitrification step.

3,436,341

METHOD AND APPARATUS FOR WATER PURIFICATION

Carl-Georg Benthe, Oppenweiler, Germany, assignor to Schumacher'sche Fabrik, Bietigheim, Wurttemburg, Germany

Filed Dec. 15, 1966, Ser. No. 601,995
Claims priority, application Germany, Dec. 22, 1965, Sch 38,234
Int. Cl. C02c *1/06*
U.S. Cl. 210—7 11 Claims



A process and an arrangement for the biologilcal purification of waste water. Waste water and oxygen are added at spaced points to a stream of activated sludge. The amount of waste water and oxygen added decreases in the direction of flow; the proportion of waste water added at such point to the total amount of solids in the mixture at the respective point is constant for all points and the amount of oxygen added at each point is proportional to the amount of waste water added at the respective point.

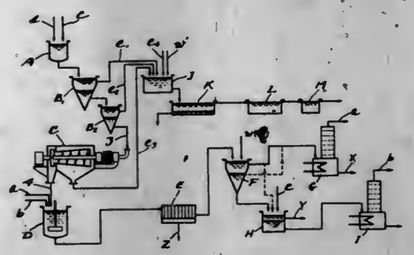
3,436,342

DISPOSAL OF WOOL RINSINGS

Goro Fujiwara, Neyagawa, Takeshi Oda, Hirakata, Nobuyoshi Todo, Ibogawacho, and Yukio Yajima, Kobe, Japan, assignors to Kanematsu Woollen Mills Ltd., a corporation of Japan, and Takuma Boiler Mfg. Co., Ltd., Osaka, Japan

Filed Dec. 22, 1965, Ser. No. 516,214
Int. Cl. B01d *11/04*
U.S. Cl. 210—21 8 Claims

Method of disposing of wool rinsings in which the wool rinsings are first acidified by a mineral acid to a pH of from 3 to 4 such as to separate the waste water from sludge, the sludge is then centrifuged by a horizontal centrifugal decanter to remove additional water, and a combination solvent comprising a first solvent which is soluble in water for dissolving soap, and a second solvent which is insoluble in water for dissolving wool grease, is



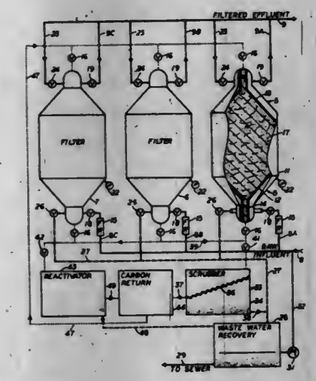
used to dissolve the wool grease and soap contained in the sludge with the remaining materials filtrated, and water is added to the combined solvent to separate the solvent containing the wool grease from the solvent containing the soap, then the wool grease and soap are distilled from the solvents.

3,436,343

SIMULTANEOUS FILTERING FOR REMOVAL OF TASTE, ODOR AND TURBIDITY

Delbert D. Smith, Santa Barbara, Calif., assignor to Aqua Filter, Inc., Santa Barbara, Calif., a corporation of California

Filed Dec. 17, 1963, Ser. No. 331,298
Int. Cl. B01d *15/06, 15/00;* C02c *5/02*
U.S. Cl. 210—32 2 Claims



1. The method of operating a plurality of water filter elements having pressure vessels containing granulated carbon to obtain continuous filtering of water under pressure without interruption of filtering flow comprising:
(a) confining a mass of activated carbon in the pressure vessels;
(b) flowing raw water through at least one of said filter elements;
(c) indicating the pressure drop across each filter element;
(d) stopping flow through any one of said filter elements wherein the pressure drop exceeds a preselected value;

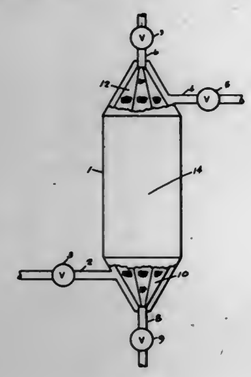
(e) backwashing in place with clean water any such filter element indicating excessive pressure drop until the backwash water is clear;
(f) restoring raw water flow through the backwashed filter elements;
(g) hydraulically flowing to a scrubber the granular carbon of any filter element wherein backwashing fails to restore the pressure drop to that of clean carbon;
(h) scrubbing said hydraulically flowed carbon and hydraulically returning it to the filter element;
(i) restoring raw water flow through the filter element having scrubbed carbon;
(j) testing the filtered water for taste and odor removal;
(k) hydraulically flowing to a reactivator the granular carbon of any filter which has lost its ability to substantially remove taste and odor;
(l) reactivating said carbon to restore its ability to remove taste and odor;
(m) hydraulically returning the reactivated carbon to the filter element; and
(n) restoring raw water flow through the filter element having the reactivated carbon.

3,436,344

PROCESS FOR REMOVING IMPURITIES FROM A FLUID STREAM

Thomas F. Canning, John A. P. Rooney, and Frank L. Phillips, Trona, Calif., assignors, by mesne assignments, to American Potash & Chemical Corporation, a corporation of Delaware

Filed Nov. 27, 1963, Ser. No. 326,512
Int. Cl. B01d 15/06, 15/02
U.S. Cl. 210—39 3 Claims



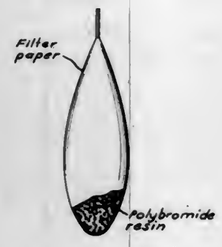
2. In a process for removing impurities from a fluid stream by passing said stream through an adsorbent zone which is substantially completely filled with adsorbent solids and which has a first side and a second side, the improved method of replacing contaminated solids in said zone which comprises the steps of:
(a) interrupting the flow of said fluid stream through said zone,
(b) washing contaminated solids from said first side of said zone by applying water pressure to said second side, thereafter
(c) introducing a water slurry of fresh adsorbent solids into said second side of said zone in a quantity sufficient to substantially refill said zone,
(d) removing the water introduced with said slurry from said second side and
(e) resuming the passage of the fluid stream through said zone.

3,436,345

WATER TREATMENT WITH POLYBROMIDE RESIN PACKETS

Robert D. Goodenough, John Place, and Albert A. Gunkler, Midland, Mich., assignors to The Dow Chemical Company, Midland, Mich., a corporation of Delaware

Filed June 22, 1967, Ser. No. 648,052
Int. Cl. C02b 3/08, 1/62
U.S. Cl. 210—62 8 Claims



Water porous packets of a strong base quaternary ammonium anion-exchange resin containing bromine in polybromide form are useful for controlling microorganisms in aqueous solutions.

3,436,346

PROCESS FOR PREPARING FILTERABLE AQUEOUS POLYSACCHARIDE SOLUTIONS

Jack D. Westover, Burnsville, and Robert B. Ferguson, St. Paul, Minn., assignors to The Pillsbury Company, Minneapolis, Minn., a corporation of Delaware

No Drawing. Continuation-in-part of application Ser. No. 538,445, Feb. 28, 1966. This application June 10, 1968, Ser. No. 735,530
Int. Cl. C08b 19/00
U.S. Cl. 252—8.55 10 Claims

Aqueous suspensions of fungal mycelium and polysaccharide having a backbone chain of beta 1,3 anhydro D-glucopyranose units and appendant beta 1,6 anhydro D-glucopyranose groups are not suited to permeate microsized pores. By homogenizing an aqueous suspension containing at least 0.5 to about 2.5 weight percent polysaccharide with fungal mycelium, diluting the homogenized aqueous solution to viscosity of about 1 to about 30 cps. and removing the fungal mycelium therefrom, aqueous polysaccharide solutions adapted to readily pass through pores of less than 10 microns are provided.

3,436,347

OVERBASED METAL SULFONATE COMPLEXES AND MINERAL OIL COMPOSITIONS CONTAINING THE SAME

Ferdinand P. Otto and Richard S. Herd, Woodbury, N.J., assignors to Mobil Oil Corporation, a corporation of New York

No Drawing. Filed May 23, 1963, Ser. No. 282,548
Int. Cl. C10m 1/40
U.S. Cl. 252—33.3 22 Claims

20. A diesel mineral lubricating oil containing a minor proportion, sufficient to improve the anti-wear characteristics, increase the high temperature oxidation stability and inhibit the deposit forming characteristics thereof, of an oil-soluble liquid, metal formate-overbased metal sulfonate complex reaction product, the metal component of which is selected from the groups consisting of barium, calcium and strontium and which possesses a metal content at least 200 percent higher than that of the corresponding normal metal sulfonate salt, obtained by reacting in liquid solvent a metal carbonate-overbased metal sulfonate, the metal component of which is selected from the groups consisting of barium, calcium and strontium and which possesses a metal content at least 200 percent higher than that of the corresponding normal metal sulfonate salt, with formic acid in a proportion sufficient to substantially completely convert the metal carbonate component of said metal carbonate-overbased metal sulfonate complex to metal formate.

22. The diesel mineral lubricating oil composition of claim 20, which also contains a small amount of a sulfurized calcium phenate-calcium carbonate complex wherein the amount of said complex in admixture with the metal formate-overbased metal sulfonate complex in a lubricating oil is sufficient to decrease the formation of deposits.

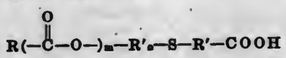
3,436,348

ESTER BASE LUBRICATING OIL CONTAINING A STABILIZING MIXTURE OF ALKALI METAL ORGANIC COMPOUND AND AN AROMATIC AMINE

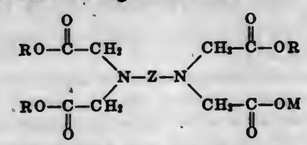
Tai S. Chao, Homewood, and Howard J. Matson, Harvey, Ill., and Manley Knonaas, Hammond, Ind., assignors to Sinclair Research, Inc., New York, N.Y., a corporation of Delaware

No Drawing. Continuation-in-part of application Ser. No. 411,718, Nov. 17, 1964. This application Oct. 20, 1966, Ser. No. 587,990
Int. Cl. C10m 1/38, 1/32, 1/20
U.S. Cl. 252—33.6 19 Claims

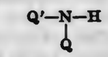
1. A normally liquid lubricating oil composition consisting essentially of a major amount of a normally liquid carboxylic acid ester base oil of lubricating viscosity having dissolved therein amounts from about 0.005 to 5 weight percent of an ester base oil soluble alkali metal organic compound selected from the group consisting of:
alkali metal salts of fluorine-/bromine- or iodine-containing monocarboxylic acids,
alkali metal salts of chlorine-containing lower fatty acids,
alkali metal salts of phenols having 7 to about 24 carbon atoms and containing one or more alkyl or amido substituents,
alkali metal salts of aliphatic ketones having about 5 to 22 carbon atoms,
alkali metal salts of Schiff's bases having about 4 to 30 carbon atoms and which are condensation products of aldehydes or ketones with primary amines,
alkali metal salts of sulfur-containing monocarboxylic acids having the formula:



wherein R is alkyl of 6 to 20 carbon atoms, R' is alkylene of 1 to 8 carbon atoms, m is 0 or 1, n is 0 or 1, and m equals n, and
alkali metal salts having the formula:



wherein M is an alkali metal, R is a non-olefinic, non-acetylenic hydrocarbon radical having on the average about 3 to 18 carbon atoms and Z is an alkylene radical of 1 to 20 carbon atoms;
and from about 0.05 to 5 weight percent of an ester base oil soluble aromatic amine having the general formula:



wherein Q is a non-olefinic, non-acetylenic, monovalent hydrocarbon radical of 1 to 20 carbon atoms and Q' is a non-olefinic, non-acetylenic aromatic hydrocarbon radical of 6 to 16 carbon atoms, said amounts being effective to retard oxidation of said ester-based fluid at a temperature of 450° F.

3,436,349

LIQUID DIELECTRIC BLENDS

Sven A. Olund, San Rafael, Calif., assignor to Chevron Research Company, a corporation of Delaware

No Drawing. Filed Nov. 30, 1964, Ser. No. 414,860
Int. Cl. H01b 3/20, 3/22, 3/30
U.S. Cl. 252—63 4 Claims

A dielectric liquid for use in high-voltage electrical equipment to impregnate insulation, formed by blending an insulating mineral oil characterized by a flash point higher than about 280° F. and a power factor of less than 0.3% at 100° C. with polybutene, the composition being essentially free of ionic impurities.

3,436,350

PREVENTING SILICA BAKE-ON DEPOSITS FROM SILICATE DETERGENT COMPOSITION

Donald J. Schwedler, West Covina, Calif., assignor to Clifford E. Schiffer, doing business as Calusa Associates

No Drawing. Filed Oct. 26, 1964, Ser. No. 406,544
Int. Cl. C11d 3/06, 3/08, 7/56
U.S. Cl. 252—135 4 Claims

4. A method of preventing silica-bake-on deposits from mechanical dishwashing machine detergents comprising using a dishwashing composition consisting essentially of from 10–46 parts of a phosphate selected from the group consisting of sodium dihydrogen phosphate, disodium phosphate, trisodium phosphate and sodium tripolyphosphate, 22–36.8 parts of an alkali metal silicate selected from the group consisting of orthosilicate, sesquisilicate, metasilicate and silicate liquid and from 27–48.2 parts of a boron containing compound selected from the group consisting of boric acid and alkali metal borates, all of said parts being by weight of the composition.

3,436,351

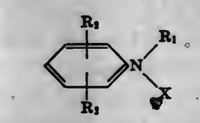
ALKYLBENZENE SULFONATE HAVING IMPROVED COLOR, ODOR AND HEAT STABILITY

Robert B. Doan, Drexel Hill, and Robert C. Taylor, King of Prussia, Pa., assignors to Atlantic Richfield Company, Philadelphia, Pa., a corporation of Pennsylvania

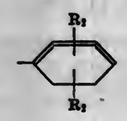
No Drawing. Filed Nov. 10, 1966, Ser. No. 593,319
Int. Cl. C11d 3/065, 3/02, 1/28
U.S. Cl. 252—137 11 Claims

1. A stabilized alkylbenzene sulfonate composition comprising in parts by weight 100 parts alkylbenzene sulfonate, and
(a) from 0.001 to 1 part of an organic compound having a structural formula selected from the group consisting of:

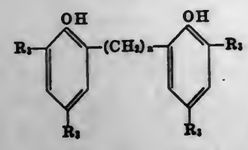
(I)



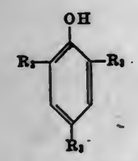
wherein R_1 is hydrogen or an alkyl radical containing from one to ten carbon atoms; X is an alkyl radical containing from one to ten carbon atoms or the radical



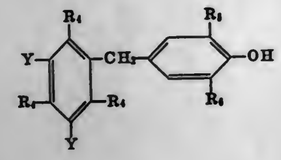
and each R_2 is either hydrogen or an alkyl radical and the sum of the carbon atoms from both R_2 groups does not exceed ten per phenyl radical,

(2) 

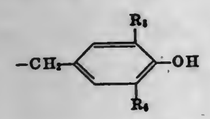
wherein n is an integer ranging from 1 to 3 and each R_3 is either hydrogen or an alkyl radical containing from one to four carbon atoms, and the molecule has at least two alkyl carbon atoms supplied by one or more of the R_3 radicals,

(3) 

wherein each R_3 is either hydrogen or an alkyl radical containing from one to four carbon atoms and the molecule has at least two alkyl carbon atoms supplied by one or more of the R_3 radicals,

(4) 

wherein R_4 is either hydrogen or a methyl radical; Y is either hydrogen or the radical



R_5 is an alkyl radical containing from one to four carbon atoms, and R_6 is either an R_5 or hydrogen,

(5) mixtures thereof,

(b) from 0.2 to 10 parts of a water soluble inorganic salt selected from the group consisting of $XHCO_3$, X_2CO_3, $X_4P_2O_7$, X_2HPO_4, X_3PO_4, $X_5P_3O_{10}$, X_2SiO_3, X_4SiO_4 and $X_2B_4O_7$, and mixtures thereof wherein X is either sodium, potassium or ammonium.

3,436,352

ADSORBENT FOR AMMONIA GAS

William H. Revoir, West Hartford, Conn., and Wesley M. Gardner, Whitinsville, Mass., assignors, by mesne assignments, to American Optical Company, Southbridge, Mass., a corporation of Delaware

Filed Aug. 31, 1966, Ser. No. 576,342
Int. Cl. C09k 3/00
U.S. Cl. 252—193 4 Claims

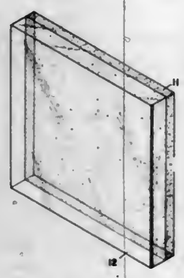
A material for adsorbing ammonia gas from a stream of air consisting essentially of carbon impregnated with a nickel salt such as nickel.

3,436,353

PHOTOTROPIC COMPOSITIONS

John F. Dreyer and Donald H. Baltzer, Cincinnati, Ohio, assignors to Polacoat Incorporated, Blue Ash, Ohio

Filed Oct. 22, 1959, Ser. No. 847,926
Int. Cl. C09k 1/02; G02b 1/04; G03c 1/00
U.S. Cl. 252—300 1 Claim



Phototropic chemical systems and optical devices utilizing such systems. A normally colorless phototropic composition comprising several bis(p-aminophenyl)vinyl carbonium dyestuffs forming a neutral shade when irradiated.

3,436,354

PRODUCTION OF A SOLUTION CONTAINING RADIOACTIVE TECHNETIUM

Wayne J. Gemmill, Sr., Milford, Pa., Paul A. King, Warwick, N.Y., and Victor J. Molinski, Ridgewood, N.J., assignors to Union Carbide Corporation, a corporation of New York

No Drawing. Filed Jan. 17, 1967, Ser. No. 609,760
Int. Cl. C09k 3/00; C22b 61/04; B01j
U.S. Cl. 252—301.1 9 Claims

A process for producing solutions containing radioactive technetium-99m. The process comprises recovering technetium-99m from a solution containing molybdenum-99 using an organic solvent as an extracting medium, drying the organic solvent containing technetium-99m, evaporating the organic solvent, and then taking up the technetium-99m in a solvent.

3,436,355

PROCESS FOR MAKING CAPSULES AND METHOD OF MAKING PREMIX USED THEREIN

Joseph A. Bakan, Dayton, Ohio, assignor to The National Cash Register Company, Dayton, Ohio, a corporation of Maryland

No Drawing. Continuation of application Ser. No. 67,158, Nov. 4, 1960. This application Apr. 18, 1966, Ser. No. 543,433
Int. Cl. B01j 13/02; A61k 3/07; C09g 3/00
U.S. Cl. 252—316 15 Claims

A process for making capsules in which a temperature gelable organic polymeric wall material, for example, gelatin, a liquid or solid water-immiscible nucleus material, for example, an oil, and a phase-separation inducing material, for example, a salt such as ammonium sulfate are dispersed in an aqueous vehicle below the liquefying temperature of the wall material. The temperature of the system is raised to a point at which the polymeric material becomes a liquid coacervate phase and the system is agitated to disperse in the aqueous vehicle the nucleus material as small bits and the coacervate phase as minute units which deposit on and wrap the small bits of the nucleus material. With agitation, the system is cooled below the gelling point of the wall material to form self-sustaining capsules which may be isolated or employed in the aqueous vehicle.

3,436,356

METHOD OF PREPARING AN AGENT FOR PREVENTING CONTAMINATION OF AIR BY CARBON MONOXIDE

Tsutomu Kato, Hamamatsu-shi, Japan, assignor of one-third each to Daiichi Tanso Kogyo Kabushiki Kaisha, Fukurol-shi, and to Tamachi Denki Kabushiki Kaisha, Minato-ku, Tokyo, Japan, both corporations of Japan

No Drawing. Filed July 14, 1965, Ser. No. 472,044
Claims priority, application Japan, July 22, 1964, 39/41,275; Apr. 7, 1965, 40/20,011
Int. Cl. B01j 11/32
U.S. Cl. 252—450 2 Claims

A method of preparing oxidizing granular catalyst for preventing contamination of air by carbon monoxide which is characterized by press-molding a mixed fine powder of activated zeolite ore, pure manganese oxide and pure copper oxide.

3,436,357

CATALYST AND CONVERSION OF ORGANIC COMPOUNDS IN THE PRESENCE THEREOF

Charles J. Plank, Woodbury, and Edward J. Rosinski, Almonesson, N.J., assignors to Mobil Oil Corporation, a corporation of New York

No Drawing. Filed May 17, 1962, Ser. No. 195,430
The portion of the term of the patent subsequent to July 7, 1981, has been disclaimed
Int. Cl. B01j 11/40
U.S. Cl. 252—455 25 Claims

1. A catalytic composition comprising a finely divided crystalline aluminosilicate having a silica to alumina mole ratio in excess of 3 distributed throughout and held suspended in a matrix therefor, wherein the negative electrovalence of the silica and alumina of said aluminosilicate is balanced by ions of at least one member selected from the group consisting of metals below sodium in the electromotive series, calcium, ammonium, hydrogen and combinations of such ions with one another.

3,436,358

REFORMING WITH A NICKEL AND NICKEL OXIDE CATALYST ON A MAGNESIUM-ALUMINATE-SPINEL CONTAINING SUPPORT

Poul Thygesen, Bagsvaerd, Denmark, assignor to Haldor Frederik Axel Topsoe, Hellerup, Denmark

No Drawing. Filed Dec. 16, 1963, Ser. No. 330,531
Claims priority, application Denmark, Dec. 29, 1962, 5,675/62
Int. Cl. B01j 11/22
U.S. Cl. 252—466 4 Claims

The present invention relates to a process of reforming gas mixtures containing hydrogen and carbon monoxide in the gaseous phase by an oxygen-containing gas using a catalyst of the nickel type on a porous carrier or support, the latter at least predominantly or exclusively consisting of MgO and Al_2O_3, having in considerable degree a spinel structure and being at least 30% by weight of the support, as well as the catalysts themselves, and methods of making the catalysts, and using them.

3,436,359

POLYETHER POLYPRIMARY POLYAMINES AND ELASTOMERIC PRODUCTS THEREOF

Allen J. Hubin, White Bear Lake, and Samuel Smith, Roseville, Minn., assignors to Minnesota Mining and Manufacturing Company, St. Paul, Minn., a corporation of Delaware

No Drawing. Filed Oct. 14, 1965, Ser. No. 496,139
Int. Cl. C08g 23/12, 30/00, 25/00
U.S. Cl. 260—2 12 Claims

A water insoluble polyether polyamine having a molecular weight of at least 3500 and having a primary amino terminal group attached directly to each end of a polyether moiety containing recurring groups of which at least a major portion consists of oxytetramethylene recurring units and at most a minor portion consists of oxyalkylene or thioalkylene recurring units having from 2 to 6 straight chain carbon atoms, at least half of said primary amino terminal group having the structure $-OC_4H_8NH_2$, said polyether moiety having less than about three percent by weight of secondary amino nitrogen atoms and less than about 0.3 percent by weight of tertiary amino nitrogen atoms in its essentially linear chain. Also includes the reaction products of such polyether polyamines with epoxy resins, isocyanates, dicarboxylic acids or diacyl halides.

3,436,360

POLYMERIZATION OF ALKYLENE OXIDES USING A BINARY CATALYST SYSTEM OF ZIRCONIUM TETRAISOPROPOXIDE AND AN ORGANOMETALLIC COMPOUND

Hideo Tomomatsu, Austin, Tex., assignor to Jefferson Chemical Company, Inc., Houston, Tex.

No Drawing. Filed Aug. 21, 1967, Ser. No. 661,840
Int. Cl. C08g 23/14
U.S. Cl. 260—2 6 Claims

High molecular weight polymers having a high degree of crystallinity are obtained from the polymerization of cyclic alkylene oxides employing a binary catalyst system consisting of an organometallic compound of the formula MZX_{y-1} wherein M is a metal of Group II or III, Z is a hydrocarbon; X is hydrogen, halogen, Z, alkoxy or aryloxy, and y is an integer equal to the valence of M and zirconium tetraisopropoxide. Cyclic alkylene oxides employed are those containing oxygen-carbon rings consisting of one oxygen atom in a ring with two or three carbon atoms.

3,436,361

QUICK DRYING URETHANE COATINGS

George S. Wooster, Hamburg, N.Y., assignor to Allied Chemical Corporation, New York, N.Y., a corporation of New York

No Drawing. Filed June 9, 1966, Ser. No. 556,269
Int. Cl. C08g 22/24, 22/06; C09d 3/72
U.S. Cl. 260—18 7 Claims

Novel urethane coating compositions characterized by excellent hardness and rapid drying properties derived from the reaction of methylene-bis(4-cyclohexylisocyanate) with a mixture of polyols comprising an aliphatic polyol and an oxyalkylene ether of an aromatic diol.

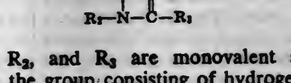
3,436,362

HALOGEN-CONTAINING POLYMERS AND POLYOLEFINS STABILIZED WITH URACILS

Dieter H. A. Hayer, Stuttgart-Bad Cannstatt, and Lore Grozinger, Stuttgart-Feuerbach, Germany, assignors to G. Siegle & Co. G.m.b.H., Stuttgart, Germany

No Drawing. Filed Feb. 6, 1967, Ser. No. 614,001
Claims priority, application Germany, Feb. 12, 1966, S 101,985
Int. Cl. C08f 45/60, 45/58
U.S. Cl. 260—23.7 5 Claims

Polymers are stabilized against the deleterious effects of light and heat by incorporating therewith an effective amount of a compound having the general formula:

(3)  (4)

(2) (5)

(1) (6)

wherein R_1, R_2, and R_3 are monovalent substituents selected from the group consisting of hydrogen, halogen,

hydroxyl, alkyl, aryl, aralkyl, acyl, amino, aminoalkyl, aminoaryl and hydrazino groups. In one preferred variant of the invention, the polymer may be polyvinyl chloride and the stabilizer of the invention incorporated therewith may be 1,3-dimethyl-6-aminouracil.

3,436,363

POLYMERIZATION OF ETHYLENE IN AQUEOUS SYSTEM

Arthur F. Helin, Kansas City, Mo., assignor, by mesne assignments, to Gulf Oil Corporation, Pittsburgh, Pa., a corporation of Pennsylvania

No Drawing. Continuation of application Ser. No. 44,839, July 25, 1960. This application Apr. 8, 1968, Ser. No. 719,716

Int. Cl. C08f 1/13, 15/02, 37/00

U.S. Cl. 260—29.6 9 Claims

Ethylene polymers are prepared by an emulsifying polymerization process in the absence of an emulsifying agent.

3,436,364

STABILIZED SOLUTIONS OF COPOLYMERS FROM ACRYLONITRILE AND VINYLIDENE CHLORIDE

Heino Logemann, Leverkusen-Schlebusch, Ernst Roos, Cologne-Flittard, and Carlhans Suling, Leverkusen, Germany, assignors to Farbenfabriken Bayer Aktiengesellschaft, Leverkusen, Germany, a corporation of Germany

No Drawing. Filed July 29, 1965, Ser. No. 475,845

Claims priority, application Germany, Aug. 24, 1964, F 43,815; Aug. 25, 1964, F 43,821; Aug. 27, 1964, F 43,835, F 43,837

Int. Cl. C08f 45/44, 45/56, 45/62

U.S. Cl. 260—32.6 8 Claims

There is disclosed a process for stabilizing solutions of copolymers of acrylonitrile and vinylindene chloride that contain 20 to 60% of chlorine against the action of heat. According to the invention solutions of such copolymers in polar organic solvents are stabilized by means of a zinc salt of one of the following: alkyl sulfuric acids, aryl sulfonic acids free of hydroxyl groups on the α-carbon atoms thereof, carboxylic acids having 1 to 10 carbon atoms, inorganic acids and mercaptans, the salts being employed in an amount of 0.5 to 1.5% by weight based on the copolymer.

The resulting solutions and/or films and fibers produced therefrom do not undergo discoloration either in the spinning process or in the further working of the films and fibers.

3,436,365

METHOD FOR FORMING SOLUTIONS OF POLYESTER RESIN IN LIQUID POLYMERIZABLE ETHYLENICALLY UNSATURATED MONOMERS

Arthur Weber, Wyckoff, and Francis R. Hill, Florham Park, N.J., and David Rowe, South Gate, Calif., assignors to Interchemical Corporation, New York, N.Y., a corporation of Ohio

Filed Oct. 20, 1965, Ser. No. 498,586

Int. Cl. B01f 3/10; C08g 21/02

U.S. Cl. 260—33.6 9 Claims

A process for dissolving polyester resin in styrene or similar liquid monomer by feeding molten polyester into a relatively hot mixing zone containing styrene or other similar liquid monomer, continuously removing some of the blend from the mixing zone to a storage and cooling tank containing styrene or other liquid monomer, and continuously replenishing the monomer in the mixing zone by feeding back the relatively lean mixture of polyester in monomer from the storage tank until the polyester/monomer ratio in the storage tank is at the desired figure.

3,436,366

SILICONE POTTING COMPOSITIONS COMPRISING MIXTURES OF ORGANOPOLYSILOXANES CONTAINING VINYL GROUPS

Frank J. Modic, Scotia, N.Y., assignor to General Electric Company, a corporation of New York

No Drawing. Filed Dec. 17, 1965, Ser. No. 514,650

Int. Cl. C08g 47/06

U.S. Cl. 260—37 2 Claims

Silicone potting compositions useful in the formation of molds comprise a diorganovinyl chain-stopped diorganopolysiloxane having a viscosity of from about 50,000 to 750,000 centistokes, an organopolysiloxane copolymer of trimethylsiloxane units, methylvinylsiloxane units, and SiO_2 units, a liquid organohydrogenpolysiloxane, and a platinum catalyst. These materials are characterized by unusually high tear strengths.

3,436,367

PROCESS AND COMPOSITION FOR IMPROVING METAL MARKING PROPERTIES IN POLYESTER RESIN LOW GLOSS COATINGS

James R. McInerney, San Salvador, El Salvador, assignor to The Sherwin-Williams Company, Cleveland, Ohio, a corporation of Ohio

No Drawing. Filed Aug. 4, 1967, Ser. No. 658,334

Int. Cl. C08g 51/04, 39/00; B44d 1/36

U.S. Cl. 260—40 14 Claims

Coating composition containing polyester resin, secondary or tertiary amine marproofing additive, and pigment in an organic liquid or vehicle or thermoplastic resin organosol. The composition is applied to substrates and baked to cure the resin. Improved metal-marking properties are achieved which increase mar resistance of flexible films during subsequent forming of the substrate against hard surfaces. The composition and process are useful for coil coating operations for producing metal stock having decorative or protective finish.

3,436,368

DI-(4-PIPERIDYL)-ALKANES AS RUBBER ANTIOZONANTS

Robert W. Murray, Warren N.J., assignor to Bell Telephone Laboratories, Incorporated, Murray Hill, N.J., a corporation of New York

No Drawing. Filed Apr. 28, 1967, Ser. No. 634,462

Int. Cl. C08c 11/52; C07d 29/02

U.S. Cl. 260—45.8 4 Claims

Di-(4-piperidyl)-alkanes have been found to give protection against ozone cracking of butadiene rubbery polymers and are essentially non-discoloring and non-staining.

3,436,369

POLYOLEFINS STABILIZED WITH SUBSTITUTED METHYLENE PIPERIDINE METHYLENE PIPERIDINE-1-OXIDES

Atsushi Kitaoka, Nobeoka, and Keisuke Murayama, Syoji Morimura, Saburo Akagi, Tomoyuki Kurumada, and Ichiro Watanabe, Tokyo, Japan, assignors to Sankyo Company Limited, Tokyo, Japan, and Asahi Kasei Kogyo Kabushiki Kaisha, Osaka Prefecture, Japan

No Drawing. Filed July 12, 1967, Ser. No. 652,701

Claims priority, application Japan, July 15, 1966, 41/46,349

Int. Cl. C08f 45/60

U.S. Cl. 260—45.8 6 Claims

Polyolefins, particularly polyethylenes and polypropylene are stabilized against photo-deterioration under the exposure to light by having incorporated therein at least one compound selected from the 2,2,6,6-tetramethyl-4-

substituted methylene piperidine-1-oxides in a sufficient amount to inhibit such deterioration.

3,436,370

UNSATURATED ETHYLENE-PROPYLENE RUBBERS STABILIZED WITH N,N-SUBSTITUTED DIAMINES

Harald Blumel, Marl, Germany, assignor to Chemische Werke Huls A.G., Marl, Germany

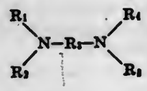
No Drawing. Continuation-in-part of application Ser. No. 495,695, Oct. 13, 1965. This application Oct. 11, 1966, Ser. No. 585,776

Claims priority, application Germany, Oct. 16, 1964, C 34,115; Oct. 12, 1965, C 37,125, C 37,126

Int. Cl. C08f 45/60

U.S. Cl. 260—45.9 12 Claims

For stabilizing and preventing crack growth in unsaturated ethylene/propylene vulcanized rubbers, the use of a stabilizing agent of the formula:



wherein

R_1 and R_2 each represents alkyl, or hydroxyalkyl of 1–16 carbon atoms,

R_3 represents alkylene of 1–16 carbon atoms, and

R_4 and R_5 each represents hydrogen, alkyl of 1–16 carbon atoms, or hydroxyalkyl of 1–16 carbon atoms.

3,436,371

PEROXIDIC CURING OF POLYMERS

John Ware, 72 Myrtle Ave., Westport, Conn. 06880

No Drawing. Filed Oct. 21, 1965, Ser. No. 500,301

Int. Cl. C08f 45/72; C08g 51/74

U.S. Cl. 260—46.5 2 Claims

The curing of a polymer containing a peroxide curing agent therefor dispersed therein is improved by the presence of a compound which contains a benzylic carbon which is reactive with the peroxide to produce a free benzylic radical at the site of the benzylic carbon when said compound is present in an amount that is consistent with substantial curing of the polymer induced by the peroxide cross-linking agent and that is effective to substantially retard the rate of curing of the polymer at a temperature at which substantial curing would occur in the absence of the compound.

3,436,372

POLYAMIDE-ACID AND POLYIMIDE POLYMERS CROSSLINKED WITH SELECTED HYDRAZINES AND HYDRAZIDES

Erhard F. Hoegger, Ardentown, Wilmington, Del., assignor to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware

No Drawing. Filed May 2, 1966, Ser. No. 546,561

Int. Cl. C08g 20/32; C09j 3/16

U.S. Cl. 260—65 3 Claims

Crosslinked aromatic polyamide-acid and polyimide polymers crosslinked with hydrazines and hydrazides, which are effective adhesives for other polyimides and polyamides.

3,436,373

PHENOL-FORMALDEHYDE-ALIPHATIC AMINE CONDENSATION PRODUCTS

Eugene F. Cox, Charleston, and Robert J. Knopf, St. Albans, W. Va., assignors to Union Carbide Corporation, a corporation of New York

No Drawing. Filed Apr. 16, 1965, Ser. No. 448,859

Int. Cl. C08g 23/12, 9/34

U.S. Cl. 260—51.5 11 Claims

Ternary condensation products produced by reacting a phenol, formaldehyde and a primary aliphatic amine at a temperature below about 110° C. are reacted, below about 110° C., with a vicinal epoxide to produce a heat-stable addition product that is useful in the production of urethane polymers.

3,436,374

TRIOXANE COPOLYMERS AND PROCESS OF PRODUCING THE SAME

Wolfgang von der Emden and Ernst-Ulrich Köcher, Leverkusen, Germany, assignors to Farbenfabriken Bayer Aktiengesellschaft, Leverkusen, Germany, a German corporation

No Drawing. Filed Apr. 27, 1965, Ser. No. 451,323

Claims priority, application Germany, June 27, 1964, F 43,287

Int. Cl. C08g 9/04, 1/04

U.S. Cl. 260—67 8 Claims

Copolymers of trioxane and an aliphatic diazo compound and process of producing the same by reaction in the presence of a cationic catalyst at a temperature between 20 and 110° C.

3,436,375

PREPARATION OF OXYMETHYLENE POLYMERS IN THE PRESENCE OF POLYHYDRIC COMPOUNDS

Francis B. McAndrew, Springfield, N.J., assignor to Celanese Corporation, New York, N.Y., a corporation of Delaware

No Drawing. Filed Dec. 14, 1965, Ser. No. 513,855

Int. Cl. C08g 1/04, 1/14

U.S. Cl. 260—67 9 Claims

An oxymethylene polymer having improved flow properties and molding processability is prepared by polymerizing an oxymethylene polymer-forming material, e.g., trioxane, in the presence of a polyhydric compound containing at least three hydroxy groups, e.g., trimethylolpropane.

3,436,376

POLYESTERS

Irl N. Duling, West Chester, Pa., assignor to Sun Oil Company, Philadelphia, Pa., a corporation of New Jersey

No Drawing. Continuation-in-part of application Ser. No. 303,405, Aug. 20, 1963. This application May 19, 1967, Ser. No. 639,635

Int. Cl. C08g 17/08

U.S. Cl. 260—75 4 Claims

Polyester compositions resulting from the reaction of naphthalene dicarboxylic acid and 1,2-propane diol.

3,436,377

POLYMERS WITH HIGH HEAT DISTORTION TEMPERATURES PREPARED FROM EPOXYPOLYBUTADIENE HARDENED WITH POLYOLS AND ANHYDRIDES

Walter Dittmann and Horst Krämer, Marl, Germany, assignors to Chemische Werke Huls A.G., Marl, Germany

No Drawing. Filed July 16, 1965, Ser. No. 472,693

Claims priority, application Germany, July 21, 1964, C 33,456

Int. Cl. C08g 23/06, 23/22

U.S. Cl. 260—78.4 12 Claims

A hardened polymer particularly useful for coatings, said polymer comprising a hardener such as a polybasic carboxylic acid or anhydride, and an epoxidized polybutadiene having a degree of epoxidation of at least 60% of the double bonds, corresponding to at least 15% by weight of oxygen, and being produced from a liquid polybutadiene having at least 60% of its double bonds in the cis-configuration and a molecular weight of about 250 to 25,000.

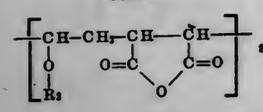
3,436,378
NOVEL INTERPOLYMERS USEFUL AS THICKENING AGENTS

Julian Louis Azorlosa, Dover, Del., and Earl Pierce Williams, Pen Argyl, and Nathan D. Field, Allentown, Pa., assignors to GAF Corporation, a corporation of Delaware

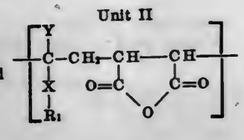
No Drawing. Filed June 14, 1966, Ser. No. 557,361
Int. Cl. C08f *15/40, 15/14*
U.S. Cl. 260—78.5 **11 Claims**

Anhydride interpolymers consisting essentially of the structural units:

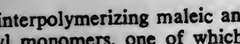
Unit I



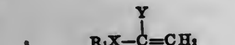
and Unit II



obtained by interpolymerizing maleic anhydride with two different vinyl monomers, one of which is a vinyl ether of the structural formula:



and the other of which is a vinyl monomer of the structural formula:



R_1=Organic radical of C_6 to C_{36} carbon atoms.
Y=Hydrogen, halogen, lower alkyl or phenyl.
X=O, S, carboxy, carbonamido or a chemical bond.
R_2=lower alkyl or $(CH_2CH_2O)_q$ $(CH_2)_m$ CH_3; q=1 to 3, m=0 to 3.

3,436,379
PROCESS FOR THE PRODUCTION OF COPOLYMERS

James Keith Hambling, Windsor, and Ieuan Jenkin Thomas, Sunbury-on-Thames, Middlesex, England, assignors to The British Petroleum Company Limited, London, England, a company of England

No Drawing. Filed Aug. 5, 1964, Ser. No. 387,783
Claims priority, application Great Britain, Oct. 18, 1963, 41,212/63
Int. Cl. C08f *1/72, 15/40*
U.S. Cl. 260—80.7 **5 Claims**

1. A process for the production of a copolymer which process comprises: contacting from 70 to 96.9 mol percent of 4-methylpentene-1 and from 0.1–20 mol percent of a member selected from the group consisting of isoprene and butadiene, with from 3–10 mol percent of isobutene at a temperature in the range 0°—120° C. in the presence of 0.25–10% by weight of a Friedel-Crafts catalyst, expressed as a percentage by weight of the total weight of monomers.

3,436,380
POLYMERIZATION AND RECOVERY OF OLEFIN POLYMERS

Joseph W. Davison, Bartlesville, Okla., assignor to Phillips Petroleum Company, a corporation of Delaware

Filed Nov. 12, 1964, Ser. No. 410,426
Int. Cl. C08f *1/42, 1/88, 1/06*
U.S. Cl. 260—80.78 **8 Claims**

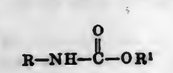
A slurry process for polymerizing mixtures of olefins with a coordination catalyst wherein either one of the monomers or the low molecular weight hydrocarbon diluent used to control the polymerization reaction is used as the wash liquid to remove catalyst residue and unreacted monomers from the polymer slurry and the wash liquid containing catalyst and unreacted monomers is recycled to the reaction zone.

3,436,381
POLYMERIZABLE CARBAMATES CONTAINING NITROGEN AND FLUORINE

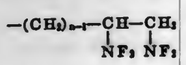
Samuel F. Reed, Jr., Huntsville, Ala., assignor to Rohm & Haas Company, Philadelphia, Pa., a corporation of Delaware

No Drawing. Filed Oct. 24, 1961, Ser. No. 147,713
Int. Cl. C08f *3/90, 15/02;* C07c *125/04*
U.S. Cl. 260—86.1 **10 Claims**

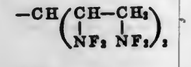
1. A monomer of the general formula



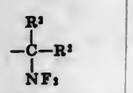
in which R is selected from the group consisting of vinyl, acryloyl, methacryloyl and ethacryloyl, and R^1 is selected from the group consisting of



in which n is an integer from 1 to 5,



and



in which R^2 is selected from the group consisting of hydrogen and lower alkyl containing 1 to 4 carbon atoms and R^3 is selected from the group consisting of hydrogen and lower alkyl containing 1 to 4 carbon atoms.

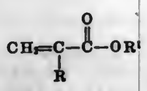
10. Copolymers of the monomers of claim 1 with a polyethylenically unsaturated compound selected from the group consisting of divinylbenzene, trivinylbenzene, divinylnaphthalene, glycol diacrylates, glycol dimethacrylates, ethers of polyhydric alcohols, said polyethylenically unsaturated compound being present in an amount of 1% to 30% on the weight of the monomer mixture.

3,436,382
COMPOUNDS CONTAINING NITROGEN AND FLUORINE

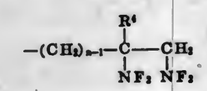
Samuel F. Reed, Jr., Huntsville, Ala., assignor to Rohm & Haas Company, Philadelphia, Pa., a corporation of Delaware

No Drawing. Filed Oct. 24, 1961, Ser. No. 147,714
Int. Cl. C08f *3/64, 3/68;* C07c *109/00*
U.S. Cl. 260—86.1 **12 Claims**

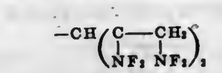
1. Compounds of the formula



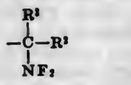
in which R is selected from the group consisting of hydrogen, methyl and ethyl, and R^1 is selected from the group consisting of



in which n is an integer from 1 to 5 and R^4 is selected from the group consisting of H and CH_3,



and



in which R^2 is selected from the group consisting of hydrogen and lower alkyl containing 1 to 4 carbon atoms, and R^3 is selected from the group consisting of hydrogen and lower alkyl containing 1 to 4 carbon atoms.

11. Copolymers of the monomers of claim 1 with monoethylenically unsaturated compounds selected from the group consisting of alkyl acrylates, alkyl methacrylates, vinyl ethers, vinyl esters, styrene, vinyl toluene, vinyl naphthalene, acrylonitrile, methacrylonitrile and mixtures thereof.

3,436,383
POLYMERIZATION PROCESS

Stephen O'Brien, William Henry Janes, Keith Andrew Taylor, and Peter Frank Todd, Runcorn, England, assignors to Imperial Chemical Industries Limited, Millbank, London, England, a corporation of Great Britain

No Drawing. Filed May 25, 1966, Ser. No. 552,685
Claims priority, application Great Britain, June 1, 1965, 23,357/65
Int. Cl. C08f *1/30;* C07f *11/00*
U.S. Cl. 260—88.7 **11 Claims**

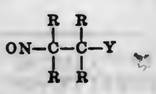
A process for polymerization of substituted alkenes by contacting the alkene with an organo-metallic compound of a metal of Groups IV–A to VI–A, which contains at least one π-allylic ligand, and isolating the polymer produced.

3,436,384
REACTING NITRIC OXIDE WITH OLEFINS AND PRODUCTS PRODUCED THEREFROM

George H. Crawford, Jr., White Bear Lake, Minn., assignor to Minnesota Mining and Manufacturing Company, St. Paul, Minn., a corporation of Delaware

No Drawing. Filed July 3, 1959, Ser. No. 824,769
Int. Cl. C08f *27/08;* C07c *79/12*
U.S. Cl. 260—91.1 **46 Claims**

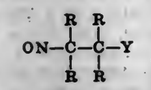
1. A new halogen-substituted organic compound of the formula:



in which R is selected from the group consisting of an alkyl radical of not more than 5 carbon atoms, hydrogen, chlorine and fluorine and at least two R's are halogens at least one of which is fluorine, and in which Y is selected from the group consisting of a nitroso radical and a nitro radical.

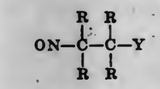
11. A process for producing fluorine-substituted organic adducts which comprises reacting nitric oxide with a halogen-substituted monoolefin containing not more than 12 carbon atoms per molecule and having at least two halogen atoms selected from the group consisting of chlorine and fluorine attached to the doubly bonded carbon atoms at least one of which is a fluorine atom in a mol ratio of at least 1:1 at a temperature between about 10 and about 100° C. and recovering adduct as a product of the process.

17. A copolymer in which the recurring units are derived from monomers consisting essentially of a polymerizable ethylenically unsaturated organic compound having not more than 10 carbon atoms per molecule and a compound of the formula:



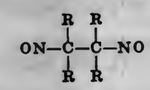
in which R is selected from the group consisting of an alkyl radical of not more than 5 carbon atoms, hydrogen, chlorine and fluorine and at least two R's are halogens at least one of which is fluorine, and in which Y is selected from the group consisting of a nitroso radical and a nitro radical.

31. A process for producing a copolymer which comprises copolymerizing an ethylenically unsaturated organic compound having not more than 10 carbon atoms per molecule with a fluorine-substituted organic compound of the formula:



in which R is selected from the group consisting of an alkyl radical of not more than 5 carbon atoms, hydrogen, chlorine and fluorine and at least two R's are halogen at least one of which is fluorine and in which Y is selected from the group consisting of a nitroso radical and nitro radical, at a temperature about —65° and about 100° C.

45. A process for cross-linking which comprises reacting at a temperature about 150° F. a cross-linking agent selected from the group consisting of a dimercaptan and an amine with a copolymer of a fluorine-containing ethylenically unsaturated olefin having not more than 10 carbon atoms per molecule and a compound of the formula:



in which R is selected from the group consisting of an alkyl radical of not more than 5 carbon atoms, hydrogen, chlorine and fluorine and at least two R's are halogens at least one of which is fluorine.

3,436,385
METHOD OF POLYMERIZING VINYL CHLORIDE

Alexis Mathieu, Brussels, Belgium, assignor to Solvay & Cie, Brussels, Belgium, a Belgian corporation

No Drawing. Filed Sept. 9, 1966, Ser. No. 578,145
Claims priority, application Belgium, Sept. 30, 1965, 670,326
Int. Cl. C08f *1/11*
U.S. Cl. 260—92.8 **3 Claims**

A vinyl chloride polymer is obtained in the form of highly porous granules by polymerizing vinyl chloride in an aqueous medium containing a dispersing agent which is a copolymer of vinyl pyrrolidone and alkyl acrylate.

3,436,386
PURIFICATION OF POLYOLEFINS

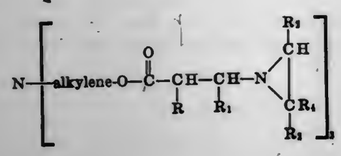
Elwin A. Harris, Wilmington, Del., assignor to Hercules Incorporated, a corporation of Delaware

No Drawing. Filed Apr. 16, 1965, Ser. No. 448,876
Int. Cl. C08f *27/00, 1/88*
U.S. Cl. 260—93.7 **15 Claims**

An improved polyolefin work-up process is taught which comprises quenching the polymerization slurry with butanol to deactivate the catalyst, then prior to water washing, treating the slurry with a small amount of an alkylene oxide in the presence of a small amount of water. The resulting polymers exhibit substantially less corrosivity to metal than do those treated by previously known aqueous work-up techniques.

3,436,387
POLYVALENT ALKYLENEIMINE ESTERS AND PROCESS THEREFOR
Joseph Adrian Hoffman, Bridgewater Township, Somerset, N.J., assignor to American Cyanamid Company, Stamford, Conn., a corporation of Maine
No Drawing. Continuation-in-part of application Ser. No. 345,849, Feb. 19, 1964. This application Feb. 5, 1965, Ser. No. 430,758
Int. Cl. C07d *23/06;* C08c *11/52*
U.S. Cl. 260—239 4 Claims

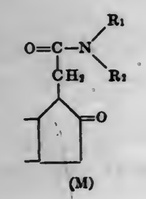
This invention relates to 2,2′,2″-nitrilotrialkyl triesters of 1-aziridinepropionic acids, the esters having the formula:



wherein "alkylene" has 2–6 carbon atoms; R and R_1 are hydrogen, lower alkyl or phenyl; R_2 is alkyl and R_3 and R_4 are hydrogen or lower alkyl. The esters are useful as cross-linking agents, particularly for elastomers.

3,436,388
NOVEL 16-OXO-21-OIC ACID DISUBSTITUTED AMIDES OF THE PREGNANE SERIES
John E. Pike, Kalamazoo, and William P. Schneider, Kalamazoo Township, Kalamazoo County, Mich., assignors to The Upjohn Company, Kalamazoo, Mich., a corporation of Delaware
No Drawing. Continuation-in-part of application Ser. No. 458,426, May 24, 1965. This application Sept. 30, 1966, Ser. No. 583,473
Int. Cl. C07c *173/10, 169/36*
U.S. Cl. 260—239.5 15 Claims

The novel compounds of this invention have, in ring D the structure



(M)

wherein R_1 and R_2 are each selected from the group consisting of

(1) alkyl radicals containing from 1 to 12 carbon atoms, inclusive,
(2) cycloalkyl radicals containing from 5 to 6 carbon atoms, inclusive,
(3) aryl radicals,
(4) aralkyl radicals containing from 7 to 9 carbon atoms, inclusive,
(5) substituted alkyl radicals containing from 1 to 6 carbon atoms, inclusive, and

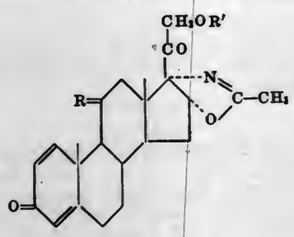
R_1 and R_2 taken together are selected from the group consisting of

(1) an alkylene chain containing from 2 to 5 carbon atoms, inclusive,
(2) an alkylene chain containing 4 carbon atoms interrupted by an oxygen atom, and
(3) an alkylene chain containing 4 carbon atoms interrupted by a nitrogen atom,

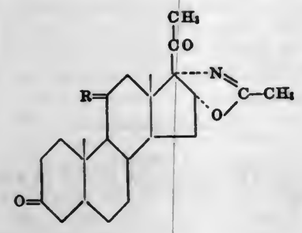
and methods used in the preparation thereof.

3,436,389
STEROID-(17α,16α-d)OXAZOLINES AND METHOD FOR THEIR PREPARATION
Giangiacomo Nathansohn and Giorgio Winters, Milan, Italy, assignors to Lepetit S.p.A., Milan, Italy
No Drawing. Filed Mar. 30, 1966, Ser. No. 538,574
Claims priority, application Great Britain, Apr. 22, 1965, 17,027/65; Aug. 20, 1965, 35,865/65
Int. Cl. C07c *173/10, 169/34;* A61k *17/00*
U.S. Cl. 260—239.55 3 Claims

Steroids having a high degree of gluco-corticoid and anti-inflammatory activity and of the formula



wherein R is O or H(β-OH), while R′ is H or acyl, are produced by reacting steroid-oxazolines of the formula



with 2 equimolecular amounts of bromine in dioxane, heating the obtained 2,4-dibromo derivative with a mixture of lithium bromide and carbonate, and subjecting the obtained 1,4-diene to 21-acyloxylation through the 21-iodo derivative.

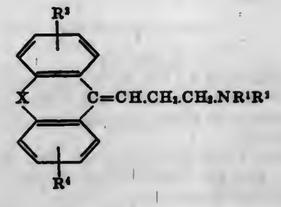
3,436,390
4,4-DIHYDROXY-2-BUTENOIC ACID LACTONES
Yvon Lefebvre, Pierrefonds, Quebec, and Jean Marie Ferland, Ville St. Leonard, Quebec, Canada, assignors to American Home Products Corporation, New York, N.Y., a corporation of Delaware
No Drawing. Continuation-in-part of application Ser. No. 552,397, May 24, 1966. This application Apr. 10, 1967, Ser. No. 629,400
Int. Cl. C07c *173/00;* A61k *17/00*
U.S. Cl. 260—239.57 25 Claims

There are disclosed herein 4,4-dihydroxy-3-[3′-, 11′-, or 17′-substituted androstan- or 4′-androstan or 4′-estren- or 1′,3′,5′(10′)-estratrien- or 1′,3′,5′(10′),6′,8′(9′)-estrapentaen-17′-yl]-2-butenoic acid lactones and their corresponding 4-acylates, as well as 21-hydroxycard-20(22)-enolides and their 21-acylates. The compounds are prepared by oxidation with a peracid of the corresponding 17-[3′-furyl]-steroid derivatives which are also disclosed herein. The compounds are useful as estrogen, implantation inhibitors, uterotrophic, antigonadatrophic, cardiotonic, anti-inflammatory, androgenic, anabolic, cholesterol

lowering, and mineralocorticoid agents, and methods for their preparation and use are also given.

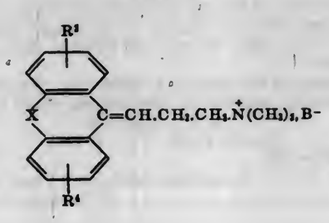
3,436,391
DIHYDROANTHRACENE COMPOUNDS
Torkil Holm, Copenhagen, Denmark, assignor to Kefalas A/S, Copenhagen-Valby, Denmark
No Drawing. Filed Jan. 17, 1963, Ser. No. 252,063
Claims priority, application Great Britain, Jan. 26, 1962, 3,176/62
The portion of the term of the patent subsequent to Sept. 15, 1981, has been disclaimed
Int. Cl. C07d *51/70;* C07c *87/24;* A61k *27/00*
U.S. Cl. 260—240 16 Claims

1. Method of producing compounds having the structural formula:



(I)

wherein X is a radical selected from the group consisting of —CH_2—CH_2—, —CH=CH— and —$C(CH_3)_2$—, ·NR^1R^2 is a radical selected from the group consisting of mono-(lower alkyl)amino, di-(lower alkyl) amino, a saturated five-membered amine and a saturated six-membered heterocyclic amine, and R^3 and R^4 are each selected from the group consisting of hydrogen, halogen, a lower-alkyl group, a lower alkoxy group, and non-toxic pharmaceutically acceptable acid addition salts thereof, comprising, mixing and reacting together a quaternary ammonium compound of the formula:



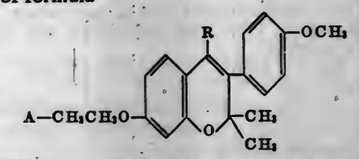
wherein X, R^3 and R^4 are as defined above and B^- is an inorganic anion with an amine of the formula HNR^1R^2, wherein ·NR^1R^2 is as defined above, and isolating the resulting compound of the Formula I.

3,436,392
10-AMINOPROPIONYLPHENOTHIAZINES
Alfred R. Maass, Swarthmore, Joseph Weinstock, Phoenixville, and Virgil D. Wiebelhaus, Springfield, Pa., assignors to Smith Kline & French Laboratories, Philadelphia, Pa., a corporation of Pennsylvania
No Drawing. Continuation-in-part of application Ser. No. 423,581, Jan. 5, 1965. This application Mar. 23, 1966, Ser. No. 536,643
Int. Cl. C07d *93/14;* C07c *101/00*
U.S. Cl. 260—243 13 Claims

10-aminopropionylphenothiazines having at least a 2-halogen substituent wherein the amino moiety may be primary, secondary or tertiary, including carboalkoxy and carbobenzoxy amino, and certain 5-oxidized products thereof have anti-inflammatory activity. The compounds are generally prepared by acylation of a 10-unsubstituted phenothiazine followed by appropriate oxidation.

3,436,393
4′-METHOXY-2,2,4-TRIALKYL-Δ³-ISOFLAVAN COMPOUNDS
Horace Albert De Wald, Ann Arbor, Mich., assignor to Parke, Davis & Company, Detroit, Mich., a corporation of Michigan
No Drawing. Filed Dec. 27, 1965, Ser. No. 516,684
Int. Cl. C07d *99/04, 7/20;* A61k *27/00*
U.S. Cl. 260—247.7 6 Claims

Novel 4′-methoxy-2,2,4- trialkyl-Δ³ - isoflavan compounds of formula



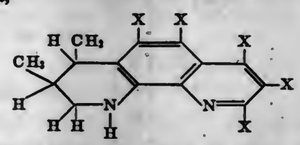
are provided by condensing a corresponding 7-hydroxy Δ³-isoflavan compound with a β-aminoethyl halide of formula, Hal—CH_2CH_2A; where A is dialkylamino, pyrrolidino, etc., and R is alkyl, cyclopropyl, CF_3 or C_2F_5. The products have pharmacological properties and are useful as antibacterial agents and as oral agents in the treatment of hypercholesteremia.

3,436,394
PROCESS FOR THE PRODUCTION OF 2,4-ALKYLAMINO-6-CHLORO-s-TRIAZINES
George A. Saul, Mobile, Ala., assignor to Geigy Chemical Corporation, Ardsley, N.Y., a corporation of New York
No Drawing. Filed Mar. 20, 1967, Ser. No. 624,199
Int. Cl. A01n *5/00;* C07d *55/20*
U.S. Cl. 260—249.8 16 Claims

2,4-alkylamino-6-chloro-s-triazines are prepared by reacting cyanuric chloride with lower primary or secondary alkyl amines followed by the addition of anhydrous ammonia to the system as an acid binding agent. The reactants are used in essentially stoichiometric amounts. The reactions are effected at low-to-moderate temperatures in essentially anhydrous, organic media inert to the reactants. An illustrative embodiment is the reaction of cyanuric chloride with monoisopropylamine in trichloroethylene using anhydrous ammonia as acid binding agent to yield 2,4-bis-isopropylamino-6-chloro-s-triazine.

3,436,395
PREPARATION OF ALKLATED 1,10-PHENANTHROLINES
Brian Colwell Ennis, Ripponlea, Victoria, and Henry Peter Crocker, North Balwyn, Victoria, Australia, assignors to Monsanto Chemicals (Australia) Limited, West Footscray, Victoria, Australia, a company of Victoria, Australia
No Drawing. Filed Sept. 8, 1964, Ser. No. 395,065
Claims priority, application Australia, Sept. 12, 1963, 35,321/63
Int. Cl. C07d *39/14, 33/54*
U.S. Cl. 260—288 3 Claims

1. A process comprising heating a phenanthroline of the formula,



wherein each X is selected from the group consisting of hydrogen, methyl and ethyl, in the presence of a mixture

of arsenic acid and a hydrohalic acid selected from the group consisting of hydrobromic and hydrochloric acids, said heating being at a temperature within the range of 110° C. to 130° C.

3,436,396

1,4 AND 1,5-BIS[γ-HYDROXY-γ,γ-DI-(2-PYRIDYLMETHYL)] - 5 - NORBORNENE - 2,3 - DICARBOXIMIDE AND DERIVATIVES THEREOF

Joseph Albert Meschino, North Wales, Richard Joseph Mohrbacher, Fort Washington, Chris Royce Rasmussen, Ambler, and James Nelson Plampin, Roslyn, Pa., assignors to McNeil Laboratories, Inc., a corporation of Pennsylvania

No Drawing. Continuation-in-part of application Ser. No. 563,684, July 6, 1966. This application Apr. 19, 1967, Ser. No. 631,900

Int. Cl. C07d *27/28, 27/54, 31/44*

U.S. Cl. 260—295 **7 Claims**

The compounds are of the class of 5-norbornene-2,3-dicarboximides which are useful for their central nervous system depressant activity.

3,436,397

DIBENZOCYCLOHEPTEN-5-YLIDENE THIAZOLIDINONES

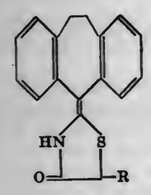
Martin A. Davis, Montreal, Quebec, and David J. Campbell, Pincourt, Quebec, Canada, assignors to American Home Products Corporation, New York, N.Y., a corporation of Delaware

No Drawing. Filed May 23, 1966, Ser. No. 551,950

Int. Cl. C07d *91/16;* **A61k** *27/00;* **A01n** *9/22*

U.S. Cl. 260—306.7 **5 Claims**

1. A compound of the formula



wherein R is selected from the group which consists of hydrogen and lower alkyl containing from one to four carbon atoms.

3,436,398

BENZHYDRYLIDENE THIAZOLIDINONES

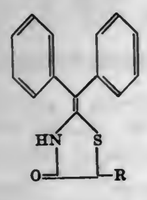
Martin A. Davis, Montreal, Quebec and David J. Campbell, Pincourt, Quebec, Canada, assignors to American Home Products Corporation, New York, N.Y., a corporation of Delaware

No Drawing. Filed May 23, 1966, Ser. No. 551,884

Int. Cl. C07d *91/16;* **A61k** *27/00;* **A01n** *9/22*

U.S. Cl. 260—306.7 **5 Claims**

1. A compound of the formula



wherein R is selected from the group consisting of hydrogen and lower alkyl containing from 1 to 4 carbon atoms.

3,436,399

CERTAIN DERIVATIVES OF IBOTENIC ACID

André Gagneux and Franz Häfliger, Basel, and Conrad Eugster, Wallisellen, Zurich, Switzerland, assignors to Geigy Chemical Corporation, Ardsley, N.Y., a corporation of New York

No Drawing. Continuation-in-part of application Ser. No. 473,155, July 19, 1965. This application May 31, 1966, Ser. No. 553,674

Claims priority, application Switzerland, June 4, 1965, 7,882/65

Int. Cl. C07d *85/22;* **A61k** *27/00*

U.S. Cl. 260—307 **6 Claims**

There are disclosed amino(3-hydroxy-5-isoxazolyl) acetic acid and derivatives thereof. The product can be prepared either by extraction or by synthesis, and utilities include anesthesia potentiation, mobility reduction, catatonic and sedative effects, tremorin tremor inhibition, and antiemetic activity.

3,436,400

AMINOBENZYLATED PHTHALOCYANINES

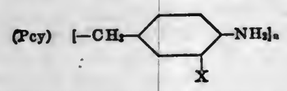
Harlan B. Freyermuth and David I. Randall, Easton, Pa., assignors to GAF Corporation, a corporation of Delaware

No Drawing. Filed Oct. 22, 1965, Ser. No. 502,412

Int. Cl. C09b *47/04, 62/10*

U.S. Cl. 260—314.5 **4 Claims**

A phthalocyanine compound useful as dyestuff and as an intermediate for the production of azo dyestuffs, fiber-reactive dyestuffs and the like having the formula



wherein Pcy represents a phthalocyanine dyestuff moiety, X represents H, sulfonic, or sulfamyl, and *n* has a value of 1 to 4.

3,436,401

BENZOLYAMINO-ANTHRAQUINONES

Xaver Pfister, Riehen, Basel, Switzerland, assignor to Sandoz Ltd. (also known as Sandoz A.G.), Basel, Switzerland

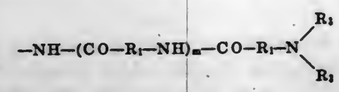
No Drawing. Filed Sept. 14, 1964, Sre. No. 396,421

Claims priority, application Switzerland, Sept. 13, 1963, 11,356/63, 11,357/63

Int. Cl. C09b *1/36, 1/42*

U.S. Cl. 260—326 **6 Claims**

Pigments free from sulfonic acid groups and having in their molecular structure a group of the formula



when used for the coloration of paper, natural and synthetic resins in the mass or in solution, rubber and plastics, and for the printing of textiles and paper, display good hiding power, good light fastness and excellent resistance to migration.

3,436,402

1,1 DIARYL-2-PROPYNYL CARBAMATES

Donald R. Cassady, Robert D. Dillard, and Nelson R. Easton, Indianapolis, Ind., assignors to Eli Lilly and Company, Indianapolis, Ind., a corporation of Indiana

No Drawing. Continuation-in-part of application Ser. No. 421,677, Dec. 28, 1964. This application Mar. 11, 1966, Ser. No. 533,405

Int. Cl. C07d *27/00;* **A61k** *27/00*

U.S. Cl. 260—326.3 **12 Claims**

1,1 diaryl-2-propynyl carbamates and 1,1 diaryl-allyl carbamates useful as anti-cancer agents, anti-fungi, pre-

vent the growth of bacteria and have antiviral activity. The propynyl carbamates are prepared by reacting a diarylethynyl carbinol with an isocyanate and other conventional procedures. The carbamates thus prepared may be hydrogenated to the corresponding allyl carbamates.

3,436,403

METHYLENATION METHOD

John W. Cornforth, Sittingbourne, England, assignor to Shell Oil Company, New York, N.Y., a corporation of Delaware

No Drawing. Filed Oct. 12, 1966, Ser. No. 586,036

Claims priority, application Great Britain, Oct. 13, 1965, 43,418/65

Int. Cl. C07d *13/10*

U.S. Cl. 260—327 **8 Claims**

Methylation of an ortho-dihydroxyaromatic compound or a hydroxyaromatic thiol by reaction with a methylene dihalide under alkaline conditions is improved by the use of a aprotic liquid having a dielectric constant, measured at 25° C., or at least 25 as solvent and reaction medium.

3,436,404

COMPOUNDS CONTAINING THE 2,5-DIOXABICYCLO[4.3.0]NONANE RING STRUCTURE AND METHODS OF PREPARATION

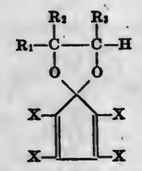
Wen-Hsuan Chang, Gibsonia, Pa., assignor to PPG Industries, Inc., a corporation of Pennsylvania

No Drawing. Continuation-in-part of application Ser. No. 234,846, Nov. 1, 1962. This application Apr. 10, 1967, Ser. No. 629,403

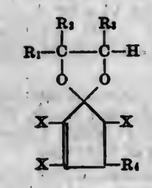
Int. Cl. C07d *13/04, 15/14, 15/12*

U.S. Cl. 260—340.3 **11 Claims**

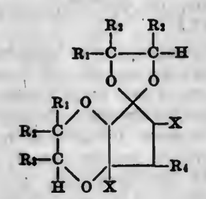
This application relates to compounds produced from the reaction of a hexahalocyclopentadiene and a polyol having hydroxyl groups on adjacent carbon atoms corresponding to the formulae:



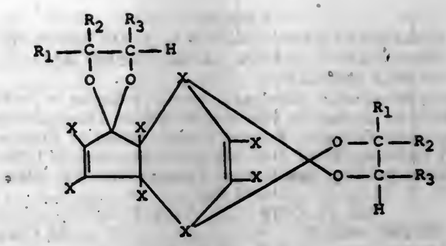
FORMULA A



FORMULA B

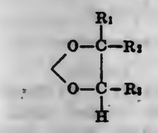


FORMULA C

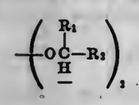


FORMULA D

In the above formulae, X represents chlorine or bromine and R_1, R_2, and R_3 are each selected from the class consisting of hydrogen and alkyl, cycloalkyl, aryl, alkoxyalkyl, aryloxyalkyl and hydroxyalkyl radicals usually having up to 20 carbon atoms, and preferably 1 to 10 carbon atoms. R_4 is either the structure:



or the structure:



where R_1, R_2 and R_3 are as above.

3,436,405

PROCESS FOR THE PREPARATION OF GIBBERELLIN ESTERS

Robert A. Gasser, McGaheysville, and Pascal W. Cooper, Harrisonburg, Va., assignors to Merck & Co., Inc., Rahway, N.J., a corporation of New Jersey

No Drawing. Continuation of application Ser. No. 391,034, Aug. 20, 1964. This application Feb. 20, 1967, Ser. No. 617,424

Int. Cl. C07d *5/32;* **A01n** *21/02*

U.S. Cl. 260—343.3 **6 Claims**

Process for the preparation of a gibberellin ester from the corresponding acid via reaction with an esterifying halide in the presence of a tertiary amine.

3,436,406

PRODUCTION OF α,α-DISUBSTITUTED-β-PROPIOLACTONES

Masataka Nakahara, Takatsuki, Yasuhiro Ogawa, Suita, Yasuhiro Iizuka, Toyonaka, and Yoshihiro Osada, Osaka-fu, Japan, assignors to Kanegafuchi Boseki Kabushiki Kaisha, Tokyo, Japan

No Drawing. Filed Apr. 25, 1966, Ser. No. 544,686

Claims priority, application Japan, May 4, 1965, 40/26,326; July 27, 1965, 40/45,720; Dec. 13, 1965, 40/76,951

Int. Cl. C07d *3/00*

U.S. Cl. 260—343.9 **7 Claims**

The present invention relates to a process of pyrolyzing β-acyloxy-α,α-disubstituted-propionic acids to the corresponding α,α-disubstituted-β-propiolactones in the presence or absence of a metal oxide or metal acetate catalyst.

3,436,407
HYDROXYFLAVIN 3,4-DIOLS, A METHOD OF PRODUCING THEM AND MEDICAMENT BASED THEREON

Jacques Masquelier, Bordeaux, France, assignor to Societe Civile de Recherche Pharmaceutique et Therapeutique, Bordeaux Gironde, France, a corporation of France

No Drawing. Filed Dec. 10, 1965, Ser. No. 513,118
Claims priority, application France, Dec. 14, 1964, 998,508
Int. Cl. C07d *7/24;* A61k *27/00*
U.S. Cl. 260—345.2 12 Claims

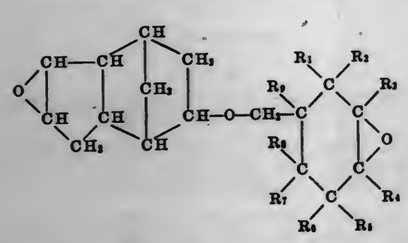
Hydroxyflavan 3,4-diols or leucoanthocyans are extracted in isolated but undergraded condition comprising the less polymerized forms of the hydroxyflavan 3,4-diols comprising, in particular, the monomer, the dimers, trimers, tetramers, and pentamers, while eliminating the more condensed forms ranging from tannin to phlobaphene, by successive stages of elimination of impurities. The compounds are active elements of a bioflavanoid or vitamin P factor, effective in the treatment of venous, vascular, and capillary diseases.

3,436,408
DIEPOXIDE ETHERS

Hans Batzer and Erwin Nikles, Basel, Switzerland, assignors to Ciba Limited, Basel, Switzerland, a Swiss company

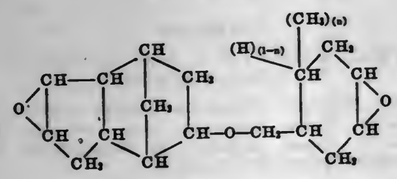
No Drawing. Filed Feb. 15, 1961, Ser. No. 89,374
Claims priority, application Switzerland, Feb. 25, 1960, 2,112/60
Int. Cl. C08g *22/14;* C07d *1/00, 1/18*
U.S. Cl. 260—348 4 Claims

1. A diepoxide compound of the formula

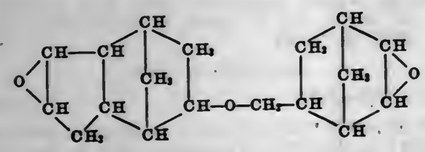


wherein R_1, R_2, R_3, R_4, R_5, R_6, R_8 and R_9 are each hydrogen, R_7 is a member selected from the group consisting of hydrogen and lower alkyl having 1 to 4 carbon atoms.

4. A compound selected from the group consisting of



and



wherein *n* has a value of 0 to 1.

3,436,409
EPOXIDATION PROCESS

Fred N. Hill and Joseph P. Henry, South Charleston, W. Va., assignors to Union Carbide Corporation, a corporation of New York

No Drawing. Filed Dec. 30, 1964, Ser. No. 422,442
Int. Cl. C07d *1/08*
U.S. Cl. 260—348.5 15 Claims

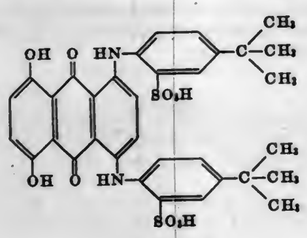
A process for producing an epoxide which comprises contacting an olefinically unsaturated compound containing at least one epoxidizable olefinic double bond with thallic oxide at a temperature of from about 75° C. to about 400° C., whereby at least a portion of the olefinically unsaturated compound is converted to its epoxide and at least a portion of the thallic oxide is reduced to thallous oxide. The thallous oxide may be regenerated to thallic oxide, which may be used to continue the epoxidation reaction.

3,436,410
1,4 - BIS - (2' - SULFO - 4' - TERT - BUTYLANILINO)-5,8-DIHYDROXY-ANTHRAQUINONE

Claus Weinand, Leverkusen, Klaus von Oertzen, Cologne-Stammheim, and Walter Hohmann, Leverkusen, Germany, assignors to Farbenfabriken Bayer Aktiengesellschaft, Leverkusen, Germany, a German corporation

No Drawing. Filed Apr. 1, 1965, Ser. No. 444,839
Claims priority, application Germany, Apr. 9, 1964, F 42,565
Int. Cl. C09b *1/34*
U.S. Cl. 260—373 1 Claim

A green dye having excellent fastness to washing and milling when dyed on wool, of the formula:



3,436,411
PROCESS FOR CLEAVING AN A-RING ETHER GROUP IN 13-ALKYLGONA (AND 8-ISOGONA)-1,3,5(10)-TRIENES AND DELTA-7-, DELTA-8(9)-, AND DELTA-8(9),14(15)-DEHYDRO DERIVATIVES THEREOF

Reinhardt P. Stein, Conshohocken, George C. Buzby, Jr., Philadelphia, and Herchel Smith, Wayne, Pa., assignors to American Home Products Corporation, New York, N.Y., a corporation of Delaware

No Drawing. Continuation-in-part of application Ser. No. 646,961, June 19, 1967, which is a continuation-in-part of application Ser. No. 559,175, June 21, 1966. This application Dec. 28, 1967, Ser. No. 694,036
Int. Cl. C07c *169/00, 171/00;* A61k *17/00*
U.S. Cl. 260—397.5 18 Claims

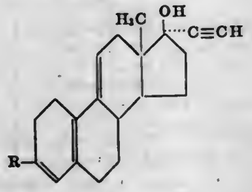
A-ring hydroxy-substituted 13-alkylgona (and 8-isogona)-1,3,5(10)-trienes and Δ^{7}-, $\Delta^{8(9)}$- and $\Delta^{8(9),14(15)}$-dehydro-analogs thereof are prepared by cleaving A-ring ether groups in the corresponding A-ring aromatic steroids with Grignard reagents at elevated temperatures. The products of the process are hormonally active, especially estrogenically and anti-lipemically active and also are useful as intermediates in the preparation of horomonally active steroids. Among the valuable products of the process is dihydroequilin.

3,436,412
POLYDEHYDRO 17α-ETHYNYLESTRAN-17β-OLS AND ESTERS

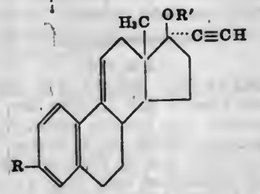
Leland J. Chinn, Morton Grove, Ill., assignor to G. D. Searle & Co., Chicago, Ill., a corporation of Delaware

No Drawing. Filed Sept. 26, 1966, Ser. No. 581,702
Int. Cl. C07c *169/08, 169/12*
U.S. Cl. 260—397.5 5 Claims

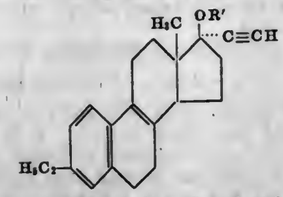
1. A compound of the formula



or



or



wherein R represents methyl or phenyl and R' represents hydrogen or acetyl.

3,436,413
PROCESS FOR THE ISOLATION OF PHOSPHATIDYL SERINE

Antonia Okany, Weston, Ontario, Canada, assignor to Canada Packers Limited, Toronto, Ontario, Canada

No Drawing. Filed Dec. 21, 1965, Ser. No. 515,465
Int. Cl. C07f *9/10*
U.S. Cl. 260—403 19 Claims

This invention relates to the extraction and recovery of phosphatidyl serine from mammalian brain tissue. The process of the invention involves three main steps: (1) extraction of the brain tissue and recovery of a total lipid extract, (2) precipitation of crude phosphatidyl serine from the total lipid extract, and (3) purification of the crude phosphatidyl serine. The method yields phosphatidyl serine, with only minor amounts of impurities, in the order of 0.2% of wet brain or greater. The product exhibits good blood anticoagulant activity in the thromboplastin generation test.

3,436,414
ORGANOLEAD CYANOGUANIDINE COMPOUNDS AND A METHOD FOR MAKING THEM

Calvin J. Worrel, Detroit, Mich., assignor to International Lead Zinc Research Organization, Inc., New York, N.Y., a corporation of New York

No Drawing. Filed Dec. 13, 1966, Ser. No. 601,347
Int. Cl. C07f *7/24*
U.S. Cl. 260—437 8 Claims

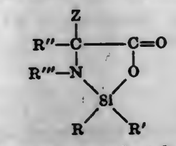
N-(trialkylplumbyl)cyanoguanidines and dicyanoguanidines and N-(triaromaticplumbyl)cyanoguanidines and dicyanoguanidines are novel organolead compounds wherein the tetravalent lead is attached to carbon and nitrogen. These compounds are prepared by reacting cyanoguanidine or dicyanoguanidine with trialkyl or triaromatic lead hydroxides in an organic solvent. The compounds are useful as antiwear additives for lubricants.

3,436,415
DIFUNCTIONAL OPTICALLY ACTIVE SILANES

Herman L. Finkbeiner and Johann F. Klebe, Schenectady, N.Y., assignors to General Electric Company, a corporation of New York

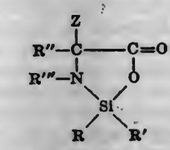
No Drawing. Filed Aug. 2, 1966, Ser. No. 569,566
Int. Cl. C07d *103/04*
U.S. Cl. 260—448.2 15 Claims

1. A sila-oxazolidone of the formula

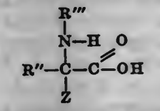


wherein R and R' are monovalent hydrocarbon radicals, halogenated monovalent hydrocarbon radicals and cyanoalkyl radicals, R'' and Z are hydrogen or monovalent hydrocarbon radicals, and R''' is a monovalent aryl group or substituted aryl group, R, R', R'', R''' and Z being free of active hydrogens as determined by the Zerewitinoff method.

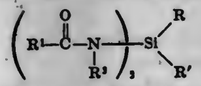
11. A method of producing an organosilane of the formula



where R and R' are monovalent hydrocarbon radicals, R'' and Z are hydrogen or monovalent hydrocarbon radicals and R''' is monovalent aryl or substituted aryl group, R, R', R'', R''' and Z being free of active hydrogen as determined by the Zerewitinoff method which comprises forming an admixture of an aminoacid of the formula



where R'', Z and R''' have the above-defined meanings and organosilicon compound of the formula



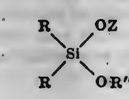
wherein R^1 and R^2 are monovalent hydrocarbon groups free of active hydrogen as determined by the Zerewitinoff method, and maintaining said admixture at a temperature at which said aminoacid and said organosilicon compound react to produce said organosilane.

3,436,416
OPTICALLY ACTIVE DIFUNCTIONAL ORGANOSILICON COMPOUNDS

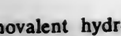
Herman L. Finkbeiner, R.D. 1, Charlton Road, Ballston Lake 12302, and Johann F. Klebe, 922 Morgan Ave. 12309, both of Schenectady, N.Y.

No Drawing. Filed Aug. 2, 1966, Ser. No. 569,618
Int. Cl. C07f *7/04, 7/18*
U.S. Cl. 260—448.8 7 Claims

1. An optically active organosilicon compound having the formula



wherein R is a monovalent hydrocarbon, halogenated hydrocarbon or cyanoalkyl group, R′ is a monovalent hydrocarbon, halogenated hydrocarbon or cyanoalkyl group and is a different group from R, R″ is a methyl group, or an

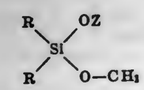


group where R‴ is a monovalent hydrocarbon, halogenated hydrocarbon or cyanoalkyl group, Z is a member of the class consisting of monovalent hydrocarbon radicals having a molecular weight greater than 15,



group and —Si—R^1_3 group where R^4 is a monovalent hydrocarbon radical and R^1 is a member of the class consisting of monovalent hydrocarbon radicals, halogenated monovalent hydrocarbon radicals and cyanoalkyl groups, R, R′, R″, R‴ and Z being free of active hydrogens as determined by the Zerewitinoff method.

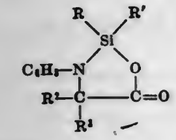
4. The proceess for the production of an optically active organosilicon compound of the formula



wherein R is a monovalent hydrocarbon radical, a halogenated monovalent hydrocarbon radical or a cyanoalkyl group, R′ is a different radical than R and is selected from the class consisting of monovalent hydrocarbon radicals, halogenated monovalent hydrocarbon radicals, and cyanoalkyl radicals, Z is a member of the group consisting of monovalent hydrocarbon radicals having a molecular weight greater than 15, a



group, where R^4 is a monovalent hydrocarbon radical, and Si—R^1_3 groups, wherein R^1 is a monovalent hydrocarbon radical, halogenated monovalent hydrocarbon radical or a cyanoalkyl group, R, R′ and Z being free of active hydrogens as determined by the Zerewitinoff method which comprises forming an admixture of an optically active sila-oxazolidone of the formula



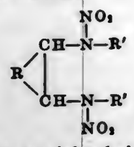
wherein R and R′ are as above-defined and R^2 and R^3 are different radicals selected from the group consisting of hydrogen and monovalent hydrocarbon radicals, and a compound of the formula

Z—OH

where Z has the above-defined meaning and maintaining said admixture at a temperature at which said ZOH and said sila-oxazolidone react to produce an intermediate reaction product, thereafter adding to said reaction mixture containing said intermediate reaction product from 2 to 5 moles of methanol per mole of said sila-oxazolidone starting material, and maintaining said mixture at a temperature of from 0 to 50° C. to produce said optically active organosilicon compound.

3,436,417
NITRAMINE COMPOUND
Stanley J. Strycker, Midland, Mich., assignor to The Dow Chemical Company, Midland, Mich., a corporation of Delaware
No Drawing. Filed May 31, 1966, Ser. No. 553,694
Int. Cl. C07c *111/00, 125/06;* **A01n** *5/00*
U.S. Cl. 260—468 **4 Claims**

1. Compound of the formula



wherein R represents straight-chain alkylene being of from 3 to 6, both inclusive, carbon atoms; and R′ represents a member, the same in each occurrence, selected from the group consisting of hydrogen, loweralkoxycarbonyl, alkali metal, and ammonium.

3,436,418
FLUORINATED AROMATIC ESTERS
Pietro de Pietri Tonelli and Giorgio Rossi, Milan, and Alberto Barontini, San Donato Milanese, Italy, assignors to Montecatini Edison S.p.A., Milan, Italy
No Drawing. Filed Dec. 8, 1964, Ser. No. 416,919
Claims priority, application Italy, Dec. 12, 1963, 25,486/63; Sept. 2, 1964, 18,816/64
Int. Cl. C07c *79/46, 149/32, 69/76*
U.S. Cl. 260—469 **12 Claims**

Described are fluorinated compounds of the formula

$$R—(O)_m—(CH_2)_n—COOCH_2CH_2F$$

wherein *m* is selected from zero and one, *n* is selected from zero and one, when $m \leq n = 1$, R is a member selected from the group consisting of phenyl, phenyl substituted with a substituent selected from those consisting of Cl, OCH_3 and NO_2 group, a diphenyl and a naphthyl nucleus, and when $m = n =$ zero, R is selected from the group consisting of styryl, mercaptotolyl and diphenylmethyl radical. These compounds are useful for disinfesting plants from mite and insect eggs.

3,436,419
DIFLUOROAMINOALKANE, PREPARED BY REACTING OXYGEN CONTAINING ORGANIC COMPOUNDS WITH HNF_2 AND SO_3
Richard P. Rhodes, Roselle, N.J., assignor to Esso Research and Engineering Company, a corporation of Delaware
No Drawing. Filed Mar. 12, 1962, Ser. No. 180,402
Int. Cl. C07c *85/08, 85/06, 85/02*
U.S. Cl. 260—583 **14 Claims**

1. Process for the synthesis of a high-energy organic compound containing an NF_2 group attached to a carbon atom which comprises, reacting an acyclic organic compound reactant having an oxygen-containing function of the group consisting of hydroxy, carbonyl oxygen, alkoxy, and carboxy functions with HNF_2 and SO_3 in liquid phase to replace said function by an NF_2 group linked directly to a carbon constituent to which oxygen of the function was directly linked.

12. 1,1,2,2-tetrakis-(NF_2) ethane.

13. 1,2,3,3-tetrakis-(NF_2) propane.

3,436,420
PROCESS OF MAKING ALIPHATIC AMINES
Zdzislaw F. Dudzinski, Clifton, N.J., assignor to Millmaster Onyx Corporation, New York, N.Y., a corporation of New York
No Drawing. Filed May 2, 1967, Ser. No. 635,357
Int. Cl. C07c *85/04*
U.S. Cl. 260—583 **3 Claims**

A process for making either primary, secondary or tertiary amines by reacting either ammonia, a primary amine or a secondary amine with a monochlorinated hydrocarbon having the chlorine attached to the penultimate carbon atom and derived from a hydrochlorinated alpha olefin, the reaction being effected in a solventless environment at a temperature of about 140° to 160° C. and a pressure of about 285 to 400 p.s.i.

3,436,421
SYNTHESIS OF DEHYDROIONONE
Ralph Lawrence Rowland, Winston-Salem, N.C., assignor to R. J. Reynolds Tobacco Company, Winston-Salem, N.C., a corporation of New Jersey
No Drawing. Continuation-in-part of application Ser. No. 440,601, Mar. 17, 1965. This application Mar. 14, 1967, Ser. No. 622,934
Int. Cl. C07c *49/44*
U.S. Cl. 260—587 **3 Claims**

Method of synthesizing dehydroionone wherein α-ionone is halogenated in the presence of a tertiary amine and the halogenated material is then dehydrohalogenated to form dehydroionone.

3,436,422
PROCESS FOR THE PURIFICATION OF FORMALDEHYDE
Ronald Harry Halliwell, Parkersburg, W. Va., assignor to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware
No Drawing. Filed Apr. 11, 1966, Ser. No. 541,492
Int. Cl. C07c *47/04, 45/24*
U.S. Cl. 260—606 **8 Claims**

1. In a process for the preparation of purified formaldehyde from a mixture comprising formaldehyde, water, an alcohol having an atmospheric boiling point of at least about 95° C. and being substantially free of any substitutent group other than hydroxyl group which is reactive with formaldehyde under process conditions, and the hemiformal reaction product of said alcohol and formaldehyde, which comprises vacuum dehydrating the mixture followed by pyrolyzing the dehydrated mixture and separating purified formaldehyde, the improvement which comprises adding at least one salt selected from the group consisting of alkali metal salts of formic and boric acid and partial salts of ethylene diamine tetraacetic acid, and mixtures thereof to said mixture prior to conducting the vacuum dehydrating, said salt being added in a catalytic amount.

3,436,423
PROCESS FOR PREPARING FORMALDEHYDE
Jakob Ackermann, Milan, Italy, assignor to Società Italiana Resine S.p.A., Milan, Italy
No Drawing. Filed June 27, 1966, Ser. No. 560,858
Claims priority, application Italy, July 2, 1965, 15,393/65
Int. Cl. C07c *45/00, 47/04*
U.S. Cl. 260—606 **2 Claims**

1. A process for preparing gaseous monomeric formaldehyde which comprises:

forming an emulsion of Formalin in an organic liquid carrier, said carrier being substantially immiscible with water, inert and a non-solvent with respect to paraformaldehyde, and substantially non-volatile at a temperature of 175° C., heating said emulsion in vacuo and evaporating water from the emulsion until a fine dispersion of solid paraformaldehyde particles in said carrier medium is obtained and passing said dispersion through a decomposition reactor maintained at a temperature of about 175° C. to 200° C. to thereby decompose the paraformaldehyde particles to gaseous monomeric formaldehyde.

3,436,424
PROCESS FOR PREPARING BIS(TRIFLUOROMETHYL)TRIOXIDE
Lowell Ray Anderson, Parsippany, and William B. Fox, Morristown, N.J., assignors to Allied Chemical Corporation, New York, N.Y., a corporation of New York
No Drawing. Filed Sept. 20, 1966, Ser. No. 580,621
Int. Cl. C07c *73/04*
U.S. Cl. 260—610 **4 Claims**

Bis(trifluoromethyl)trioxide is prepared by reacting carbonyl fluoride with oxygen difluoride in the presence of a catalyst selected from the group consisting of CsF, RbF, KF and NaF.

3,436,425
PROCESS FOR THE CONTINUOUS PREPARATION OF ADDITION PRODUCTS OF PROPYLENE OXIDE
Werner Stein, Erkrath-Unterbach, and Wilfried Umbach, Langenfeld, Germany, assignors to Henkel & Cie G.m.b.H., Dusseldorf-Holthausen, Germany, a corporation of Germany
Filed July 14, 1967, Ser. No. 653,359
Claims priority, application Germany, Sept. 1, 1966, H 60,398
Int. Cl. C07c *41/02, 41/10*
U.S. Cl. 260—613 **7 Claims**

This invention relates to a process for the continuous production of propyloxylated alcohols by

(a) Continuously passing a mixture of organic compounds having reactive hydrogen atoms selected from the group consisting of alcohols, phenols, addition products of ethylene oxide thereof and addition products of propylene oxide thereof, with propylene oxide in a molar ratio of 1:1 to 1:4 in the presence of the usual propyloxylation catalysts under a pressure at which the reaction mixture is kept in liquid form, through a jacketed reactor having a small cross-section compared to its length,

(b) Heating said mixture to such a degree that after traveling through the first half of said jacketed reactor, a temperature of about 170° to 260° C. is attained, and that in the second half of said jacketed reactor said mixture passes through a maximum temperature of between about 260° to 350° C.,

(c) Maintaining said mixture in said jacketed reactor for about 8 to 150 seconds,

(d) Maintaining the interval between the obtention of said maximum temperature and the time said mixture leaves said jacketed reactor between about 5% to 30% of the total duration of time said mixture is maintained in said jacketed reactor,

(e) Cooling said propyloxylated alcohol to a temperature below 180° C. after said propyloxylated alcohol leaves said jacketed reactor, and

(f) Recovering said propyloxylated alcohol.

3,436,426
PROCESS FOR THE CONTINUOUS PREPARATION OF ADDITION PRODUCTS OF ETHYLENE OXIDE
Hannes Fischer, Wiesbaden, and Werner Stein, Erkrath-Unterbach, Germany, assignors to Henkel & Cie G.m.b.H., Dusseldorf-Holthausen, Germany, a corporation of Germany
Continuation-in-part of application Ser. No. 530,832, Mar. 1, 1966. This application Nov. 13, 1967, Ser. No. 693,037
Claims priority, application Germany, Mar. 11, 1965, H 55,437
Int. Cl. C07c *41/04*
U.S. Cl. 260—613 **10 Claims**

This invention relates to a process for the continuous production of ethoxylated alcohols by (a) continuously

passing a mixture of organic compounds having reactive hydrogen atoms selected from the group consisting of alcohols, phenols, addition products of ethylene oxide thereof and addition products of propylene oxide thereof, with ethylene oxide in a molar ratio of 1:1 to 1:4 in the presence of the usual alkaline catalysts under a pressure at which the reaction mixture is kept in liquid form, through a jacketed reactor having a small cross-section compared to its length, (b) heating said mixture to such a degree that, after travelling through the first half of said jacketed reactor, a temperature of about 170 to 230° C. is attained, and that in the second half of said jacketed reactor said mixture passes through a maximum temperature of between about 240 to 330° C., (c) maintaining said mixture in said jacketed reactor for about 8 to 150 seconds, (d) maintaining the interval between the obtention of said maximum temperature and the time said mixture leaves said jacketed reactor between about 5% to 30% of the total duration of time said mixture is maintained in said jacketed reactor, (e) cooling said addition product to a temperature below 100° C., after said addition product leaves said jacketed reactor, and (f) recovering said addition product.

3,436,427

PREPARATION OF METHOXYACETALDEHYDE DIALKYLACETALS

Stanley B. Cavitt, Austin, Tex., assignor to Jefferson Chemical Company, Inc., Houston, Tex., a corporation of Delaware

Filed Nov. 28, 1966, Ser. No. 597,295

Int. Cl. C07c *41/10, 43/30*

U.S. Cl. 260—615 **2 Claims**

High yields of methoxyacetaldehyde dialkylacetals are obtained when the methoxyacetaldehyde is reacted with a lower alkyl alcohol under acetal reaction conditions in the presence of a chloroform azeotroping agent.

3,436,428

ALICYLIC GLYCOLS

Theodore E. Stanin, William H. Seaton, and Chapman M. Hale, Jr., Kingsport, Tenn., assignors to Eastman Kodak Company, Rochester, N.Y., a corporation of New Jersey

No Drawing. Filed Sept. 28, 1965, Ser. No. 491,028

Int. Cl. C07c *29/02, 35/18*

U.S. Cl. 260—617 **4 Claims**

2-(hydroxymethylcyclohexenyl) ethanols and 2-(hydroxymethylcyclohexyl) ethanols and methods for their preparation. The compounds of this invention are useful when esterified and polymerized to form adhesives.

3,436,429

HYDROGENATION PROCESS

Earl Dan Flickinger and Jessie Tom Isom, El Dorado, Kans., assignors to Skelly Oil Company, Tulsa, Okla., a corporation of Delaware

Filed Nov. 23, 1966, Ser. No. 596,612

Int. Cl. C07c *37/24, 39/04; 5/14*

U.S. Cl. 260—621 **4 Claims**

A process of treating a reaction mixture resulting from the production of phenol by oxidation of cumene and decomposition and dehydration of the reaction product wherein said reaction mixture is hydrogenated with a hydrogenation catalyst to separate cumene, phenol and acetone or isopropyl alcohol.

3,436,430

NONCATALYTIC PROCESS FOR MANUFACTURE OF CHLOROFLUOROALIPHATIC HYDROCARBONS

Larry Eugene Hall, Lizton, Ind., assignor to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware

No Drawing. Filed Jan. 11, 1967, Ser. No. 608,503

Int. Cl. C07c *21/18*

U.S. Cl. 260—653.4 **10 Claims**

A process for the manufacture of chlorofluoroaliphatic hydrocarbons by the noncatalytic reaction of aliphatic hydrocarbons or partially chlorinated aliphatic hydrocarbons with hydrogen fluoride and chlorine.

3,436,431

OLEFIN PRODUCTION

John Paton Candlin and William Henry Janes, Runcorn, England, assignors to Imperial Chemical Industries Limited, London, England, a corporation of Great Britain

No Drawing. Filed Apr. 4, 1966, Ser. No. 539,744

Claims priority, application Great Britain, May 13, 1965, 20,274/65; Sept. 20, 1965, 39,986/65

Int. Cl. C07c *11/18, 11/16;* C07f *15/00*

U.S. Cl. 260—666 **10 Claims**

A process for converting one or more dienes to higher molecular weight ethylenically unsaturated material by contacting the dienes with a carbonyl nitrosyl of a metal of Group VIII of the Periodic Table, e.g., iron dicarbonyl dinitrosyl.

3,436,432

PROCESS FOR ALKYLATION OF AROMATICS USING A HALOGEN-CONTAINING ALUMINOSILICATE-ALUMINA CATALYST

Roy T. Mitsche, Island Lake, Ill., assignor to Universal Oil Products Company, Des Plaines, Ill., a corporation of Delaware

No Drawing. Continuation-in-part of application Ser. No. 560,840, June 27, 1966. This application Mar. 29, 1968, Ser. No. 717,413

Int. Cl. C07c *3/56*

U.S. Cl. 260—671 **10 Claims**

Aromatic alkylation in contact with halogen-containing suspension of crystalline aluminosilicate in alumina matrix.

3,436,433

DEALKYLATION OF ALKYL SUBSTITUTED AROMATIC HYDROCARBONS

George R. Lester, Park Ridge, Ill., assignor to Universal Oil Products Company, Des Plaines, Ill., a corporation of Delaware

No Drawing. Filed Apr. 21, 1967, Ser. No. 632,527

Int. Cl. C07c *15/00, 15/04;* B01j *11/06*

U.S. Cl. 260—672 **8 Claims**

A process for dealkylating alkyl substituted aromatic hydrocarbons, particularly alkylbenzenes, utilizing a rhodium-iron-alkali metal-chromia-alumina catalyst composite.

3,436,434

DEALKYLATION OF ALKYL AROMATIC HYDROCARBONS

George R. Lester, Park Ridge, Ill., assignor to Universal Oil Products Company, Des Plaines, Ill., a corporation of Delaware

No Drawing. Filed Apr. 21, 1967, Ser. No. 632,528

Int. Cl. C07c *15/00, 15/04;* B01j *11/06*

U.S. Cl. 260—672 **8 Claims**

A process for dealkylating alkyl aromatic hydrocarbons, particularly alkylbenzenes, utilizing a rhodium-alkali metal-chromia-alumina catalyst composite.

3,436,435

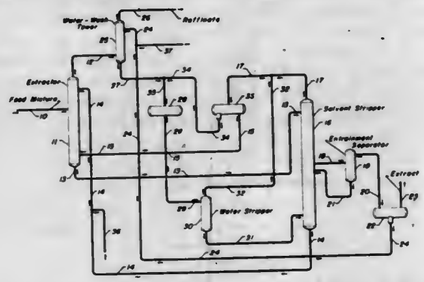
RECOVERY OF AROMATICS

Harry M. Van Tassell, Arlington Heights, Ill., assignor to Universal Oil Products Company, Des Plaines, Ill., a corporation of Delaware

Filed July 5, 1966, Ser. No. 562,712

Int. Cl. C07c *7/10, 7/06*

U.S. Cl. 260—674 **11 Claims**



An improved solvent extraction method for the recovery of aromatic hydrocarbons using an aqueous solvent system whereby solvent losses are minimized. The preferred solvent composition comprises 75% to 98% by weight polyalkylene glycol and 2% to 25% by weight water. The preferred aromatic hydrocarbon which is recovered is benzene. The benefits of the invention are achieved by the expedient of placing a separation means in the sidecut aromatic withdrawal stream from the aromatic hydrocarbon distillation zone and by an integrated system for handling the water recycle streams.

3,436,436

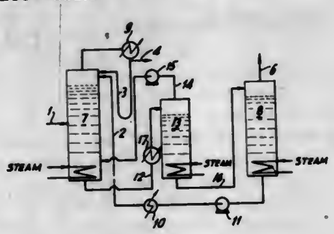
METHOD FOR SEPARATION OF CONJUGATED DIOLEFIN BY BACK WASH IN EXTRACTIVE DISTILLATION

Susumu Takao, Chigasaki-shi, and Hiroshi Hokari, Tokyo, Japan, assignors to Japanese Geon Co., Ltd., Tokyo, Japan

Filed Sept. 20, 1966, Ser. No. 580,717

Int. Cl. C07c *7/08, 11/16;* B01d *3/40*

U.S. Cl. 260—681.5 **8 Claims**



Method for the separation of conjugated diolefin from a C_4- or C_5-hydrocarbon mixture by fractionation of the hydrocarbon mixture to a more readily soluble hydrocarbon fraction and a less readily soluble hydrocarbon fraction. The hydrocarbon mixture is introduced to the intermediate portion of an extractive distillation zone wherein a polar solvent is flowed downwardly. In this manner, a less readily soluble hydrocarbon fraction is recovered as the top distillate of the zone while a more readily soluble hydrocarbon fraction together with the solvent is recovered as the bottom liquid of the zone. The bottom liquid is then transferred to a recovery zone which is operated at a lower pressure than the extractive distillation zone. An overhead vapor stream from the recovery zone is returned into the extractive distillation zone while the bottom liquid of the recovery zone is transferred to a stripping zone. The more readily soluble hydrocarbon fraction is recovered as the top distillate while the solvent is withdrawn as the bottom liquid.

3,436,437

PROCESS FOR RECOVERING HIGH PURITY ISOPRENE BY EXTRACTIVE DISTILLATION WITH METHOXYPROPIONITRILE

Mitsuo Asaka and Makoto Komatsu, Tokyo, and Susumu Jufiyama, Kodaira-shi, Japan, assignors to Japan Gas-Chemical Company, Inc., Tokyo, Japan, a Japanese corporation

Filed Nov. 15, 1966, Ser. No. 594,484

Claims priority, application Japan, Nov. 17, 1965, 40/70,711; May 2, 1966, 41/27,806

Int. Cl. C07c *7/04*

U.S. Cl. 260—681.5 **3 Claims**

A polymerization grade isoprene of high purity is recovered from a C_5 fraction of the by-product oil residue from the thermal cracking of petroleum by heating said C_5 fraction to remove cyclopentadiene contained therein as dimer, removing components boiling lower than acetylenes and isoprene by straight distillation, separating a diolefin fraction and a monoolefin fraction by extractive distillation and further distilling the diolefin fraction to obtain the high purity isoprene.

3,436,438

PROCESS FOR THE SEPARATION OF CONJUGATED DIOLEFINS

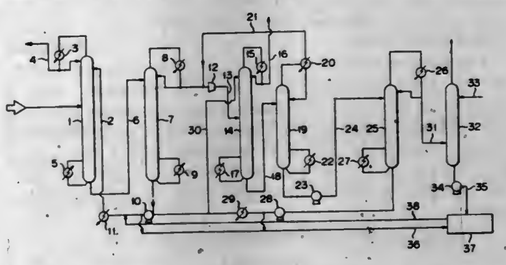
Susumu Takao, Chigasaki-shi, and Hiroshi Hokari, Tokyo, Japan, assignors to The Japanese Geon Co., Ltd., Tokyo, Japan, a Japanese corporation

Filed Dec. 27, 1966, Ser. No. 604,923

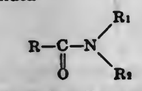
Claims priority, application Japan, Dec. 30, 1965, 40/81,401, 40/81,402

Int. Cl. C07c *7/08*

U.S. Cl. 260—681.5 **10 Claims**



Process for the separation of conjugated diolefin from a C_4 or C_5 hydrocarbon mixture containing the diolefin and higher acetylenes. According to the process, the hydrocarbon mixture is subjected in an extractive distillation column to extractive distillation with a solvent which mainly comprises an N-alkyl-substituted lower aliphatic acid amide. By means of the extractive distillation the diolefin is recovered in the form of a distillate and substantially free from the higher acetylenes. A liquid extract containing the higher acetylenes and the solvent is also recovered which extract is then subjected in a separate stripping column to stripping to recover the acetylenes and the solvent. The lower aliphatic acid amide used as solvent has the formula



wherein R and R_1 individually mean hydrogen or lower alkyl of 1 to 3 carbon atoms and R_2 is lower alkyl of 1 to 3 carbon atoms.

3,436,439

PREPARATION OF SILOXANE BLOCK COPOLYMERS

Carl M. Woods, Midland, Mich., assignor to Dow Corning Corporation, Midland, Mich., a corporation of Michigan

No Drawing. Filed Aug. 13, 1965, Ser. No. 479,614
Int. Cl. C08g 31/16, 31/32
U.S. Cl. 260—825 31 Claims

A method of preparing siloxane block copolymers is described. A polyorganosiloxane of 10 to 1,000 silicon atoms and 1.90 to 2.00 monovalent organic radicals per molecule,

$$R'_x(OR'')_ySiO_{\frac{4-x-y}{2}}$$

where x is 0.85 to 1.3, y is 0.15 to 3, R' is a monovalent organic radical and R'' is alkyl or hydrogen and ammonia are mixed in an inert organic solvent; the mixture is placed in a closed container and agitated until a siloxane block copolymer is produced; thereafter the volatile compounds are removed. Pourable fluid silixane block copolymers are also described in which the blocks are described as above except y is 0.3 to 1.5. This inexpensive and readily commercializable method produces siloxane block copolymers such as the pourable fluid siloxane block copolymers which can be cured at room temperature to high strength silicone rubber.

3,436,440

METHOD OF GRAFT-COPOLYMERIZATION OF MONOMERS ONTO DIENE-TYPE POLYMER

Shokichi Abe, Koichi Kakefuda, and Mitsuo Honjo, Hitachi-shi, Japan, assignors to Hitachi Chemical Company, Ltd., Tokyo, Japan

No Drawing. Filed May 13, 1965, Ser. No. 455,588
Claims priority, application Japan, May 14, 1964, 39/26,966
Int. Cl. C08f 15/40, 1/11
U.S. Cl. 260—880 9 Claims

The present disclosure is directed to an improved method for graft-copolymerizing a vinyl monomer onto a polymer in the form of a latex which comprises effecting the polymerization in the presence of a polymerization initiator soluble in the vinyl monomer and a suspending agent in an amount at least sufficient to convert the reaction product from the emulsion state to the suspension state.

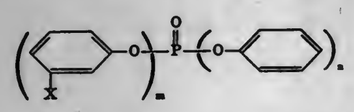
3,436,441

META-CHLORINATED OR BROMINATED PHENYL PHOSPHATES

Quentin E. Thompson, Belleville, Ill., assignor to Monsanto Company, St. Louis, Mo., a corporation of Delaware

No Drawing. Filed Dec. 24, 1964, Ser. No. 421,112
Int. Cl. C09f 9/12; C10m 3/40
U.S. Cl. 260—966 5 Claims

1. A compound represented by the structure



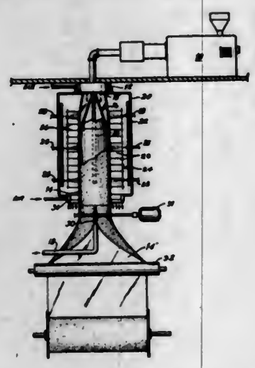
where X is selected from the group consisting of bromo and chloro, m is a whole number from 1 to 2, n is a whole number from 1 to 2 and the sum of $m+n$ is 3 and mixtures thereof.

3,436,442

PROCESS AND APPARATUS FOR MANUFACTURING FLOCKED FABRIC

Walter R. Saks, 77 Clinton St., Malverne, N.Y. 11565

Filed Oct. 12, 1965, Ser. No. 495,217
Int. Cl. B29d 9/08
U.S. Cl. 264—24 7 Claims



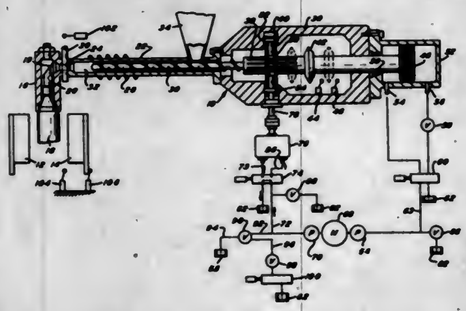
A process and apparatus for manufacturing flocked fabrics wherein a tubular plastic film is extruded and passed through an electrostatic flocking zone to deposit flock circumferentially about the exterior of the tubular plastic while the exterior surface is still tacky and while the interior surface is being cooled. A circumferential electrostatic flocking field is provided using a first electrode circumferentially enveloping the exterior surface of the film and a second electrode spaced interior of the tubular film. The material is subsequently slit to form a flocked fabric.

3,436,443

MOLDING APPARATUS AND METHOD

Herman R. Hutchinson, Wyncote, Pa., assignor to Pennsalt Chemicals Corporation, Philadelphia, Pa., a corporation of Pennsylvania

Filed May 11, 1965, Ser. No. 454,886
Int. Cl. B29c 17/04
U.S. Cl. 264—40 15 Claims



11. A method of controlling a transfer member in a molding machine comprising the steps of introducing molding material into a transfer cylinder of the molding machine, moving a transfer member within the cylinder so that it has a forward stroke and a return stroke, accumulating said molding material in one end of the cylinder to effect a return stroke of said member, compensating a forward stroke of said member in response to a previous return stroke of said member, said compensating step including moving said member during said previous return stroke with an initial first speed and then with a second speed less than said first speed and for a shorter period of time than said initial portion of the return stroke, whereby deviations from a norm with respect to the amount of molding material transferred from said cylinder by said member may be automatically compensated for.

3,436,444

METHOD FOR MAKING POROUS STRUCTURES

William R. Von Tress, Lake Jackson, and James H. Enos, Angleton, Tex., assignors to The Dow Chemical Company, Midland, Mich., a corporation of Delaware

No Drawing. Filed Oct. 11, 1965, Ser. No. 494,886
Int. Cl. B29d 27/08
U.S. Cl. 264—44 4 Claims

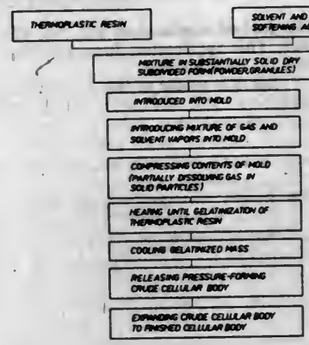
This invention relates to a novel process for making strong, durable porous bodies from calcined dolomite wherein predetermined amounts of dolomite and a carbonaceous fuel are blended and sufficient water added to produce a paste-like composition which is molded to a desired shape, dried and heated under controlled conditions at from about 3 to about 24 hours thereby burning out the carbonaceous fuel. Following this step, the material is heated at a minimum temperature of 2400° F. for a period of from about 0.1 to about 1 hour after which it is cooled.

3,436,445

METHOD OF PRODUCING CELLULAR BODIES

Emil Brunner and Hans Hasler, Sins, and Alfred Huber, Mettmenstetten, Switzerland, assignors to Lonza Ltd., Basel, Switzerland

Filed Aug. 26, 1965, Ser. No. 482,946
Claims priority, application Switzerland, Aug. 27, 1964, 11,251/64
Int. Cl. C08j 1/16; C08f 47/08
U.S. Cl. 264—50 7 Claims



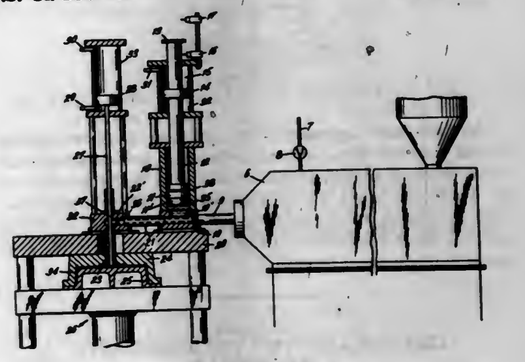
A closed-cell, gas containing cellular body of thermoplastic material is prepared by arranging in a mold a mass composed of substantially dry particles of solid thermoplastic material containing a solvent or swelling agent for the thermoplastic material, such compound being present in an amount sufficient to improve the gas-dissolving ability of the mass while retaining the substantially solid, dry condition of the same, introducing into the mold containing the mass a gaseous mixture of a gas which is insoluble at atmospheric pressure in the substantially dry, solid mass and of vapors of a solvent or swelling agent for the thermoplastic material, this gaseous mixture being introduced at a pressure sufficient to substantially evenly distribute the gaseous mixture in the substantially solid mass without causing complete dissolution thereof in the mass, compressing the contents of the mold and subjecting the same to an elevated temperature so as to cause gelatinization of the mass and dissolution of the gas therein, thereby forming a homogenous mass of thermoplastic material having the gas evenly distributed therethrough, and cooling the thus formed mass and releasing the pressure thereon and causing the mass to expand and thereby to form a closed-cell, gas-containing cellular body.

3,436,446

MOLDING OF FOAMED THERMOPLASTIC ARTICLES

Richard G. Angell, Jr., Bridgewater Township, Somerville, N.J., assignor to Union Carbide Corporation, a corporation of New York

Continuation-in-part of applications Ser. No. 291,898, July 1, 1963, and Ser. No. 364,382, May 4, 1964, and Ser. No. 453,130, May 4, 1965. This application June 8, 1966, Ser. No. 556,103
The portion of the term of the patent subsequent to Aug. 23, 1983, has been disclaimed
Int. Cl. B29f 1/00; B29d 27/00
U.S. Cl. 264—51 25 Claims



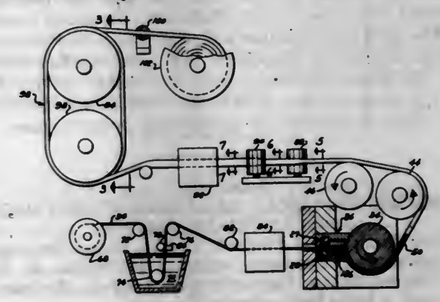
Method and apparatus for molding foamed plastic articles with a solid skin wherein a blowing agent and thermoplastic article are fluxed in an extruder and continuously fed to an accumulation zone all while being maintained at a temperature and pressure above the foaming temperature and pressure. The molten mixture is forced from the accumulation zone to a mold where it foams and communication between the mold and the accumulation zone is terminated at a point where the pressure is above the foaming pressure of the mixture thereby avoiding the formation of unfoamed or partly foamed material in the apparatus.

3,436,447

MANUFACTURE OF REINFORCED PLASTIC SLEEVING AND THE LIKE

Sylvester Martin Meitinger, Toledo, Ohio, assignor to Stauffer Chemical Company, New York, N.Y., a corporation of Delaware

Filed Apr. 19, 1966, Ser. No. 543,656
Int. Cl. B29h 9/11; B29d 23/05; B32b 31/30
U.S. Cl. 264—135 3 Claims

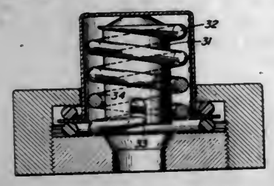


Method of making flexible reinforced plastic sleeving characterized in that the plastic is applied to the reinforcement, e.g., braided fiber glass or the like, while the latter is maintained in a flattened tubular form. Prior to the curing of the plastic, the flattened material is restored to a substantially tubular conformation.

3,436,448
METHOD AND APPARATUS FOR SPINNING UNIFORM FIBERS

Allan O. Mogensen, South Norwalk, and Herbert O. Naumann, Stamford, Conn., assignors to American Cyanamid Company, Stamford, Conn., a corporation of Maine

Filed Feb. 3, 1966, Ser. No. 524,939
Int. Cl. B29f 3/04
U.S. Cl. 264—176 7 Claims

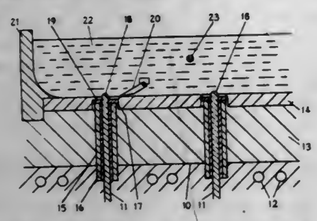


Method and apparatus for swirling a fiber-forming liquid polymer mass immediately prior to extruding such mass through a plurality of orifices in a single spinnerette in order to reduce thermal gradients and/or concentration gradients to minimize variations in size of fibers formed from the various orifices of the spinnerette. Two specific devices are disclosed.

3,436,449
GRANULATION OF THEROMPLASTIC MATERIALS

James Frederick Treu, Welwyn, and Joseph Edric Whitenstall, Harpenden, England, assignors to Imperial Chemical Industries Limited, London, England, a corporation of Great Britain

Filed Jan. 20, 1967, Ser. No. 610,643
Claims priority, application Great Britain, Feb. 3, 1966, 4,804/66
Int. Cl. B02c 18/12
U.S. Cl. 264—142 13 Claims



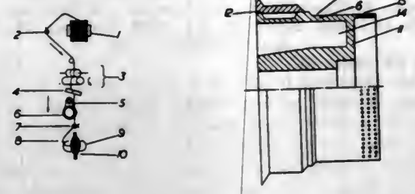
Underliquid die-face cutting apparatus in which the cutter plate is insulated from the polymer source and molten polymer passes between them through a metal conduit in thermal contact with the latter but thermally insulated from the former. Preferably the metal bushing is lined with an insulation material, a material also possessing lubricating properties, e.g., polytetrafluoroethylene. The liquid is used to cool the freshly cut polymer and it is preferred that it be water or an aqueous solution. The cutter is suitable for granulating polypropylene.

3,436,450
PROCESS FOR HEAT RELAXING STRETCHED POLYAMIDE FILAMENT

Hugo Specker and Dietrich Möhrle, Emmenbrucke, Lucerne, Switzerland, assignors to Societe de la Viscose Suisse, Emmenbrucke, Lucerne, Switzerland, a Swiss body corporate

Filed Jan. 19, 1965, Ser. No. 426,608
Claims priority, application Great Britain, Jan. 28, 1964, 3,710/64
Int. Cl. B29c 25/00; D01f 7/06
U.S. Cl. 264—237 7 Claims

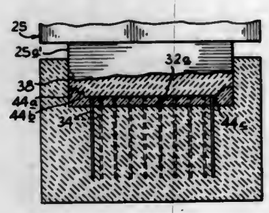
1. Process for the manufacture of polyamide filaments of low and uniform tendency to shrink which comprises causing freshly stretched filaments to move in four successive circumferential paths defined by four successive portions of a roller along the length of the roller, the filaments being stretched by movement in the first path which is at a temperature of at most 110° C., then being relaxed while moving in the second path which is of smaller diameter than the first at a temperature of 120 to 200° C., then being further relaxed while moving in the third path which is of smaller diameter than the second at a temperature at least 10° C. higher than the temperature of the second path and of 130° to 210° C., and finally being cooled in the fourth path which is of the same diameter as the third.



3,436,451
METHOD OF MAKING MOLDED CERAMIC ARTICLES

Robert E. Wasser, Orange, Calif., assignor to Servonic Instruments, Inc., Costa Mesa, Calif., a corporation of California

Continuation-in-part of application Ser. No. 456,330, May 17, 1965. This application June 29, 1966, Ser. No. 561,585
Int. Cl. C04b 35/60
U.S. Cl. 264—272 7 Claims



A method of making a molded ceramic body comprising the steps of: forming a mix of crystalline ceramic particles having a relatively high sintering and melting temperature and relatively low melting point non-crystalline particles convertible into a crystalline state when heated for a given time to a given temperature below the sintering and melting temperatures of the crystalline ceramic particles and above the melting temperature of the noncrystalline particles, placing the mix in a mold cavity which is open at one end and closed at the other end, the closed end of the cavity conforming in size and shape to the desired ultimate product, and subjecting the mix in the mold cavity to said given temperature for said given time which initially melts the noncrystalline particles and simultaneously applying pressure against the mix from the open end of the cavity to force the initially melted material and the crystalline particles carried by the melt throughout the closed end of the mold cavity and to subsequently crystallize a significant part of the melted noncrystalline material to form a hard, dense crystalline product while the pressure is maintained.

3,436,452
TREATMENT OF CAPSULES IN LIQUID TO INHIBIT CLUSTERING

Theodore Maierson, Dayton, Ohio, assignor to The National Cash Register Company, Dayton, Ohio, a corporation of Maryland

No Drawing. Filed Mar. 30, 1966, Ser. No. 538,578
Int. Cl. B29c 25/00
U.S. Cl. 264—344 6 Claims

A process is disclosed for treating water-swollen capsule walls en masse, in liquid treatment vehicle, to prevent the capsules from aggregating during an isolation and drying step. The treatment includes contact of the swollen capsule walls with cationic surfactant materials which have been dissolved or dispersed in the treatment vehicle.

3,436,453
SURFACE DYED EDIBLE GELATIN CAPSULE WITH PIGMENT MARKING

James G. Vincent, Jr., West Nyack, Lloyd Frank Hansen, Campbell Hall, Ernest Chu Yen, Orangeburg, and Arthur Sinclair Taylor, Spring Valley, N.Y., and George Spencer Bott, Westwood, N.J., and Martin Greif, Bronx, N.Y., assignors to American Cyanamid Company, Stamford, Conn., a corporation of Maine

Original application June 14, 1963, Ser. No. 287,829, now Patent No. 3,333,031, dated July 25, 1967. Divided and this application July 24, 1967, Ser. No. 655,563
Int. Cl. A61k 9/04; B44c 1/02
U.S. Cl. 424—6 1 Claim

Soft gelatin capsules, for medical usage, are dyed on the surface only, and are marked with a pigmented indicia which may be lighter in color than the surface, whereby the quantity of dye ingested in administration of the capsule is markedly reduced.

3,436,454
ANTIPYRETIC AND ANTIRHEUMATIC COMPOSITIONS CONTAINING AN ANIMAL MUCIN

Lucine Nouvel, 91 Ave. des Ternes, Paris 17°, France

No Drawing. Filed June 7, 1965, Ser. No. 462,095
Claims priority, application France, June 11, 1964, 977,900
Int. Cl. A61k 27/00, 15/12, 17/12
U.S. Cl. 424—10 8 Claims

1. A composition comprising a medicament selected from the group consisting of acetylsalicylic acid, an alkali metal salicylate, ascorbic acid, phenyl butazone and a corticosteroid, in admixture with an animal mucin selected from the group consisting of intestinal mucin and glandular mucin in an amount of from 0.05 to 0.5 g. of said mucin per dose of between 0.1 mg. to 1 g. of said medicament, the mucin containing from 0.3% to 5% by weight of sialic acid.

3,436,455
RESPIRATORY STIMULANT COMPRISING NEON

Richard A. Flinn, Emmaus, and Jack A. Young, Allentown, Pa., assignors to Air Products and Chemicals Inc., Philadelphia, Pa., a corporation of Delaware

No Drawing. Filed Mar. 5, 1963, Ser. No. 263,065
Int. Cl. A61k 13/00
U.S. Cl. 424—127 4 Claims

1. The method of stimulating mammals having lungs to inhale respiratory gas at a rate expressed in volumes per minute which is greater than normal, which method is characterized by providing to the lungs a respiratory gas mixture consisting essentially of: from 2 to about 80% neon; from 21 to 98% oxygen; an inert respiratory gas an anesthetic respiratory gas, and a medicant respiratory gas, the total concentration of inert, anesthetic, and medicant respiratory gases being less than nine times the volume concentration of the sum of the volume concentration of the mixture of neon and oxygen.

3,436,456
STABILIZED MANGANESE ETHYLENE BISDITHIOCARBAMATE AND PROCESS

Melis N. Louis and Deszö Weingarten, Vlaardingen, Netherlands, assignors to N.V. Fabriek Van Chemische Producten Vondelingenplaat, Rotterdam, Netherlands, a corporation of the Netherlands

No Drawing. Filed May 12, 1967, Ser. No. 637,904
Claims priority, application Netherlands, May 13, 1966, 6606622
Int. Cl. A01n 9/12; C07f 13/00
U.S. Cl. 424—249 4 Claims

Manganese ethylene bisdithiocarbamate and its formulations stabilized with dinitrosopentamethylene tetramine.

3,436,457
STABILIZED MANGANESE ETHYLENE BISDITHIOCARBAMATE AND PROCESS

Melis N. Louis and Deszö Weingarten, Vlaardingen, Netherlands, assignors to N.V. Fabriek Van Chemische Producten Vondelingenplaat, Rotterdam, Netherlands, a corporation of the Netherlands

No Drawing. Filed May 12, 1967, Ser. No. 637,901
Claims priority, application Netherlands, May 13, 1966, 6606629
Int. Cl. A01n 9/12; C07f 13/00
U.S. Cl. 424—249 4 Claims

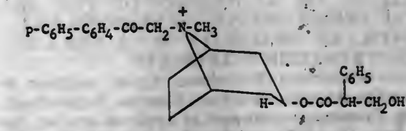
Manganese ethylene bisdithiocarbamate and its formulations stabilized with 1,3,5-tris(cyanomethyl)hexahydrotriazine.

3,436,458
ANTISPASMODIC AND GASTRIC ANTISECRETORY COMPOSITIONS CONTAINING ρ-PHENYLPHENACYL DERIVATIVES OF l-HYOSCYAMINE AND d,l-TROPYLATROPINE

Uberto Teotino and Davide Della Bella, Milan, Italy, assignors to Whitefin Holding S.A., Lugano, Switzerland

Original application Aug. 17, 1966, Ser. No. 572,983, now Patent No. 3,356,682, dated Dec. 5, 1967. Divided and this application Sept. 21, 1967, Ser. No. 669,659
Int. Cl. A61k 27/00
U.S. Cl. 424—265 7 Claims

Therapeutic compositions comprising new ρ-phenylphenacyl derivatives of l-hyoscyamine and d,l-tropylatropine having the formula:



wherein X is a halogen, and a pharmaceutical carrier provide antispasmodic and gastric antisecretory compositions having the same order of activity as atropine, but without its undesirable side effects.

3,436,459
FAT SOLUBLE VITAMIN COMPOSITIONS

Heinrich Kläui, Riehen, Switzerland, assignor to Hoffman-La Roche Inc., Nutley, N.J., a corporation of New Jersey

No Drawing. Filed Oct. 20, 1964, Ser. No. 405,287
Claims priority, application Switzerland, Nov. 1, 1963, 13,426/63
Int. Cl. A61k 15/02, 9/00
U.S. Cl. 424—284 8 Claims

Compositions containing fat soluble vitamins, a nonionic emulsifying agent and an ionic wetting agent form clear stable solutios when admixed either with water, an aqueous solution of a polyol or an aqueous solution of a hydrocolloid, or mixtures thereof are described.

3,436,460

METHODS OF CONTROLLING PROTOZOA INFECTIONS WITH N-SUBSTITUTED, 1,4- DIAMINO-2,3-ANTHRAQUINONEDICARBOXIMIDES

Donald C. Boughton, Kennett Square, Pa., assignor to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware

No Drawing. Continuation-in-part of application Ser. No. 596,820, Nov. 25, 1966. This application Jan. 16, 1968, Ser. No. 698,150

Int. Cl. A01n *9/22*

U.S. Cl. 424—274 5 Claims

This invention teaches a method for using anthraquinonedicarboximides as anti-protozoa agents. Representative of the compounds for use according to the method of this invention are compounds such as 1,4-diamino-N-(3-dimethylaminopropyl) - 2,3 - anthraquinonedicarboximide and 1,4-diamino-N-(2-aminopropyl)-2,3-anthraquinonedicarboximide.

3,436,461

USE OF ALKYLGUANIDINE SALTS AS VIRUCIDES

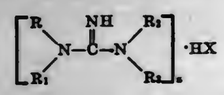
Frank Scotti, Wayne, N.J., assignor to American Cyanamid Company, Stamford, Conn., a corporation of Maine

No Drawing. Continuation-in-part of application Ser. No. 571,694, Aug. 11, 1966. This application Jan. 17, 1968, Ser. No. 698,388

Int. Cl. A61k *27/00*

U.S. Cl. 424—315 5 Claims

A method of inactivating lipophilic viruses such as Influenza A and *Herpes simplex* by contacting the virus with an alkylguanidine salt of the formula:



where R is a long chain aliphatic hydrocarbon radical of from 8 to 18 carbon atoms; R_1, R_2 and R_3 are hydrogen or R; X is an anionic salt forming group; and *n* is 1, 2 or 3. Typical salts are dodecylguanidine acetate or hydrochloride.

3,436,462

NORMALIZING OR REDUCTION OF THE ABNORMAL PERMEABILITY OF PERSONS HAVING CAPILLAR FRAGILITY WITH PARA-DIHYDROXYBENZENE SULFONATE

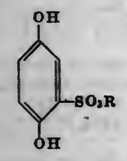
Antonio Esteve-Subirana, Barcelona, Spain, assignor to Laboratoires Om Societe Anonyme, Geneva, Switzerland

No Drawing. Continuation-in-part of applications Ser. No 202,981, June 18, 1962, and Ser. No. 329,391, Dec. 10, 1963. This application Feb. 1, 1966, Ser. No. 523,947

Int. Cl. A61k *27/00*

U.S. Cl. 424—316 6 Claims

Process of acting on the vascular wall of the blood system of ill persons to normalize the capillar fragility, or to reduce the abnormal permeability of the wall, by administering compounds of the formula:



R in the above formula may be sodium, calcium, ammonium, alkylammonium, or alkanolammonium.

3,436,463

PESTICIDAL COMPOSITIONS COMPRISING N-SUBSTITUTED GAMMA HYDROXYCARBOXYLIC ACID AMIDES

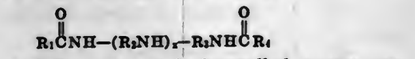
Raymond L. Mayhew, Summit, N.J., and Earl P. Williams, Argyl, Pa., assignors to G.A.F. Corporation, New York, N.Y., a corporation of Delaware

No Drawing. Continuation-in-part of application Ser. No. 143,040, Oct. 5, 1961. This application June 17, 1965, Ser. No. 464,847

Int. Cl. A01n *9/20*; C07c *103/44*

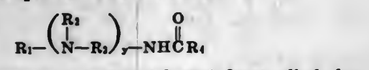
U.S. Cl. 424—320 14 Claims

1. An insecticidal composition comprising a toxic concentration of a compound of the formula



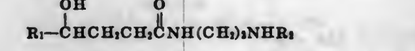
wherein R_1 and R_4 represent hydroxyalkyl groups containing 3 to 4 carbon atoms in which the hydroxyl group is situated in the gamma position to the carbonyl group, R_2 represents an alkylene group selected from the group consisting of CH_2, C_2H_4 and C_3H_6, R_3 represents an alkylene group containing 2 to 6 carbon atoms, and *x* is an integer from 0 to 3, and an inert insecticide adjuvant as carrier therefor.

2. An insecticidal composition comprising a toxic concentration of a compound of the formula



wherein R_1 represents a group selected from alkyl, hydroxyalkyl, aryl, alkylaryl, alicyclic and heterocyclic groups, R_2 represents a substituent selected from the group consisting of alkyl and hydroxyalkyl, R_3 represents an alkylene group selected from the group consisting of CH_2, C_2H_4 and C_3H_6, R_4 represents a hydroxyalkyl group containing 3 to 4 carbon atoms in which the hydroxyl group is situated in the gamma position to the carbonyl group, any *y* represents an integer from 1 to 4, and an inert insecticide adjuvant as carrier therefor.

3. An insecticidal composition comprising a toxic concentration of (1) a compound of the formula:



wherein R_1 represents a member selected from the group consisting of hydrogen and methyl, and R_2 is an alkyl group containing 8 to 23 carbon atoms; and (2) an inert insecticide adjuvant as carrier therefor.

3,436,464

METHOD OF DESTROYING FUNGI WITH NITROPHENYL SULFONYLETHYLENE

Giuseppe Losco, Milan, Italy, assignor to Montecatini Edison S.p.A., Milan, Italy, a corporation of Italy

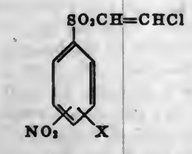
No Drawing. Original application Feb. 28, 1963, Ser. No. 261,819, now Patent No. 3,358,035, dated Dec. 12, 1967. Divided and this application May 26, 1967, Ser. No. 641,488

Claims priority, application Italy, Mar. 5, 1962, 4,249/62

Int. Cl. A01n *9/14*

U.S. Cl. 424—337 5 Claims

The invention describes the use of compounds of the formula



in which X is selected from the group consisting of H, Cl and NO_2 for destroying fungi and spores.

ELECTRICAL

3,436,465

METHODS AND ARRANGEMENTS FOR MELTING MATERIAL WHICH MELTS ONLY WITH DIFFICULTY

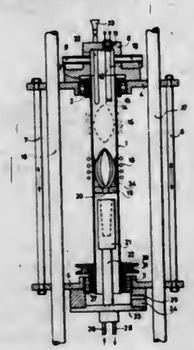
Jacob Willem de Ruiter and Anton Willemstein, Emmasingel, Eindhoven, Netherlands, assignors to North American Philips Company, Inc., New York, N.Y., a corporation of Delaware

Filed Nov. 17, 1965, Ser. No. 508,271

Claims priority, application Netherlands, Dec. 23, 1964, 6414964

Int. Cl. H05b *11/00, 7/18*

U.S. Cl. 13—1 9 Claims



1. A method of melting materials which melt only at relatively high temperatures comprising supplying gases suitable for producing an electric discharge in a working space surrounded by a sheath of high melting point material, maintaining said gas discharge in said sheath by the induction field of a high frequency coil, rotating said sheath while said melting materials are supplied to said working space in a pulverulent state, the speed or rotation being such that the material powder spreads along the inner side of said sheath to form a wall layer, and heating said wall layer to its melting temperature by the heat developed by said gas discharge.

3,436,466

COUPLER SYSTEM FOR ELECTRONIC ORGANS

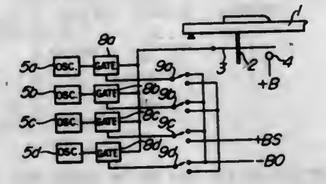
Ikutaro Kakehashi, B2–404, Jutakukodan Shirasagi-danchi, 1142, Nakamozucho, Sakai-shi, Japan

Filed Dec. 16, 1965, Ser. No. 514,215

Claims priority, application Japan, Dec. 21, 1964, 39/72,308

Int. Cl. G10h *1/00*

U.S. Cl. 84—1.01 4 Claims



A coupler system for electronic organs of an independent oscillation type in which, instead of conventional multistage key operated switches associated with mechanical couplers for controlling a multiplicity of oscillators, there are provided single stage key operated switches, electronic gating circuit means, such as transistors, and simple electrically operated coupler means, thereby to effectively control a large number of said oscillators in various manners.

3,436,467

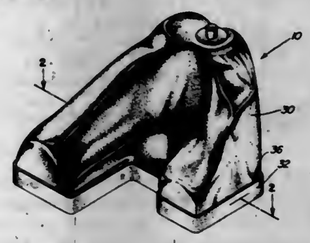
ELECTRIC SHIELD AND INSULATOR

Ralph S. Smith, Jr., Littleton, Colo., assignor to Honeywell Inc., Minneapolis, Minn., a corporation of Delaware

Filed Sept. 9, 1966, Ser. No. 584,032

Int. Cl. H05k *9/00*; F16q *15/02*; H04b *1/08*

U.S. Cl. 174—35 2 Claims



This application provides an irregularly shaped electrical structure that is constructed of components which emit electromagetic and/or electrostatic fields and other components that are adversely affected by these electromagnetic and/or electrostatic fields, a first and second sheet made of cellulose acetate or cellulose propionate, a ferrous or non-ferrous conductive foil sandwiched therebetween vacuum formed with the two sheets in snug surface to surface contact about and between the components that form the irregular shaped structure to respectively provide a shield that will prevent the respective electromagnetic-electrostatic and electrostatic fields from being transmitted to components that are otherwise adversely affected by these fields.

3,436,468

PLASTIC BODIES HAVING REGIONS OF ALTERED CHEMICAL STRUCTURE AND METHOD OF MAKING SAME

Rolf R. Haberecht, Richardson, Tex., assignor to Texas Instruments Incorporated, Dallas, Tex., a corporation of Delaware

Filed May 28, 1965, Ser. No. 459,553

Int. Cl. H05k *1/00*

U.S. Cl. 174—68.5 17 Claims

This specification discloses a method of forming intricate patterned circuits on a dielectric organic polymer characterized by exposing selected paths of the polymer to a high energy electron beam, followed by the step of electrolessly depositing the metal onto the paths that have been exposed to electron beams. The metal does not electrolessly deposit on the polymer generally but only along the paths exposed to the electron beam. Multiple layers of polymer may be stacked to form a stacked multi-layer circuit board. The circuit boards produced by the method are also disclosed.

3,436,469

METHOD FOR SYNCHRONIZING COLOR TELEVISION SIGNALS

Keito Nakazawa, Kawasaki-shi, Japan, assignor to The General Corporation, Kawasaki-shi, Kanagawa-ken, Japan

Filed Oct. 12, 1965, Ser. No. 495,092

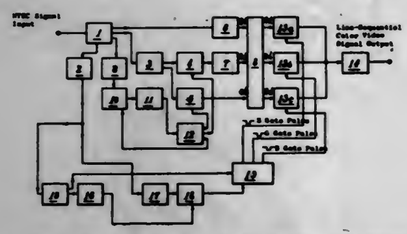
Claims priority, application Japan, Oct. 13, 1964, 39/57,948

Int. Cl. H04n *1/46, 9/02*

U.S. Cl. 178—5.2 3 Claims

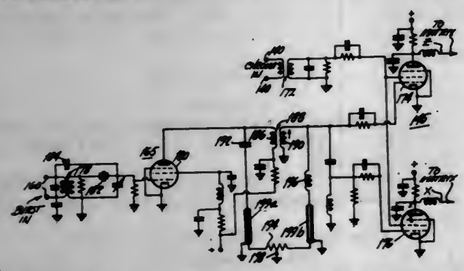
The present invention relates to synchronizing the primary colors in a line sequential color television system. The color synchronizing signal of the present invention is the same as the synchronizing signal often used in black

and white television. A pulse signal is sampled corresponding to the leading edge of a vertical synchronizing pulse. A color switching circuit produces a three stepped waveform of each color sequentially and means is provided for shifting the three stepped waveform to change the color switching sequence. A bi-stable multivibrator



may be used to sample the pulse signal corresponding to the leading edge of a vertical synchronizing pulse in an even number field. A mono-stable multivibrator may be used to increase the pulse width of a horizontal synchronizing pulse of an odd number field.

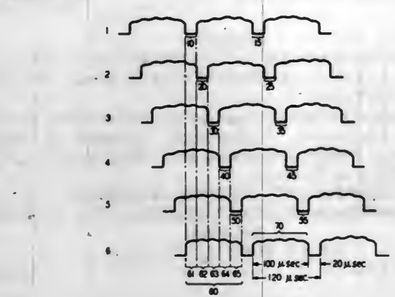
3,436,470
HUE ADJUST CIRCUIT FOR A COLOR TELEVISION RECEIVER
John A. Konkel, Indianapolis, Ind., and Frederick A. Joy, Evanston, Ill., assignors to Radio Corporation of America, a corporation of Delaware
Filed Apr. 20, 1966, Ser. No. 543,879
Int. Cl. H04n *5/44;* **H03d** *3/18;* **H03b** *3/00*
U.S. Cl. 178—5.4 **4 Claims**

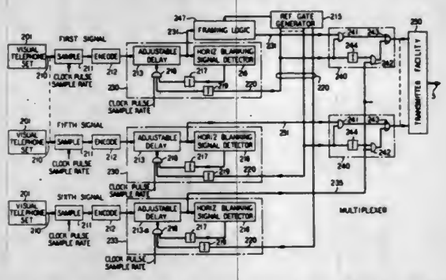


A hue adjust circuit for a color television receiver includes a capacitive element, a variable resistive element, and an inductive element connected in series across a circuit tuned to the color reference wave, with the movable tap or slider on the variable resistive element coupled to a point of reference potential. A pair of capacitive elements are additionally included to couple that point to the end terminals of the resistive element. By adjusting the position of the slider, the effective capacitance in the tuned circuit can be changed, and the reference wave can be shifted over a suitable angle to vary the hue of the reproduced color image.

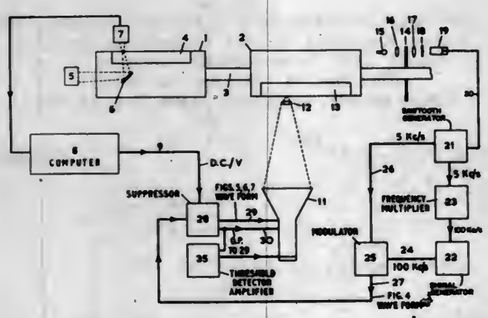
3,436,471
MULTICHANNEL TELEVISION TRANSMISSION SYSTEM UTILIZING THE BLANKING INTERVALS OF TRANSMITTED TELEVISION SIGNALS AS TIME SLOTS TO ACCOMMODATE ADDITIONAL TELEVISION SIGNALS
Frank W. Mounts, Murray Hill, N.J., and Birendra Prasada, Brighton, Mass., assignors to Bell Telephone Laboratories, Incorporated, Murray Hill, N.J., a corporation of New York
Filed June 1, 1966, Ser. No. 554,395
Int. Cl. H04n *7/00, 7/08;* **H04j** *3/02*
U.S. Cl. 178—6 **6 Claims**

A television transmission system wherein the horizontal blanking intervals of a plurality of television signals utilizing a like number of transmission channels are arranged in a juxtaposed ordered sequence such that successive portions of an additional television signal may be sequentially applied to each channel during said blanking interval.



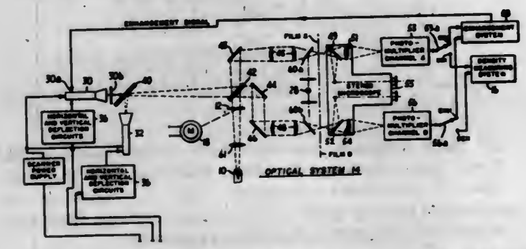


3,436,472
SCREENED PHOTO REPRODUCTION
Derek J. Kyte, 117 Valley Road, Chorleywood, Hertfordshire, England
Filed Sept. 16, 1965, Ser. No. 487,876
Claims priority, application Great Britain, Sept. 23, 1964, 38,781/64
Int. Cl. H04n *5/84, 7/00*
U.S. Cl. 178—6.7 **15 Claims**



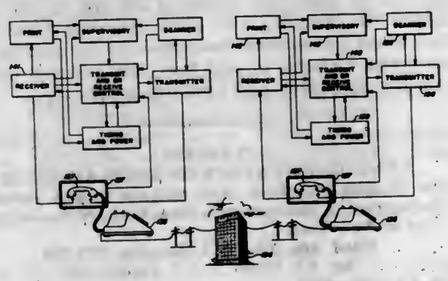
A photograph or the like to be made into a printing plate is put on a revolving drum and scanned to produce electrical signals representing a photograph. The electrical signals are fed through a computer to perform any required corrective or revisions in the reproduction ultimately produced. Electrical timing pulses are derived from the same rotating element carrying the drum. These pulses and the signal from the computer are sent to a suppressor connected to a cathode ray tube, the suppressor serving to divide the picture signals into dots as determined by the pulses. The dot illumination of the cathode ray tube is reproduced on a photo sensitive plate also drum mounted on the same rotating elements of the first drum. The size and density of the dots can be adjusted.

3,436,473
RECORD ANALYZING AND VIEWING APPARATUS
Renville H. McMann, Jr., New Canaan, Conn., assignor to Columbia Broadcasting System, Inc., New York, N.Y., a corporation of New York
Filed June 30, 1965, Ser. No. 468,233
Int. Cl. H04n *3/02, 3/28*
U.S. Cl. 178—6.8 **17 Claims**



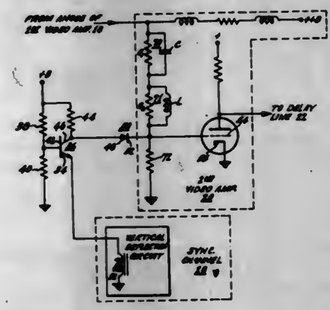
An apparatus and method for comparing and analyzing information contained on photographic film and the like, in which corresponding image areas to be compared are simultaneously scanned by a scanning beam of a given spectral content to generate video signals, the latter being compared to produce a difference signal. A second scanning beam of a different spectral content and scanning in synchronous registration with the first scanning beam is modulated in intensity by the difference signal. Light from the second scanning beam is directed to a viewing microscope, which also receives periodically illuminated images of the areas under comparison so that such area images and an image of the second scanning beam are superimposed in the microscope. This produces an image overlay of a distinctive color so that any differences of information in the areas may be readily discerned by visual inspection. When the image overlay is not desired, a periodically interrupted beam of light may be directed through the film and sensed by photodetectors to generate signals proportional to the optical density of the film.

3,436,474
FACSIMILE OPTIONAL DOUBLE SKIPPING
Waldemar Saeger, La Canada, and George T. Shimabukuro, Monterey Park, Calif., assignors to Xerox Corporation, Rochester, N.Y., a corporation of New York
Filed Oct. 1, 1965, Ser. No. 492,048
Int. Cl. H04n *3/16, 7/00*
U.S. Cl. 178—7.1 **4 Claims**



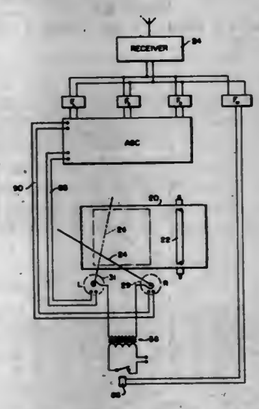
A graphic communication system for transmitting facsimile information or the like to a similar unit at a remote location. Specifically, by transmitting every second scan line of information, while maintaining horizontal resolution unaltered, the time required to transmit a document is halved, and provides intelligible facsimile copies where the original subject matter is in the nature of printing or typing. However, means are also included to prevent a single information bearing scan line from being skipped over.

3,436,475
BLANKING CIRCUITS FOR TELEVISION RECEIVERS
Thomas Anthony Zimmerman, Cincinnati, Ohio, and Thomas W. Burrus, Indianapolis, Ind., assignors to Radio Corporation of America, a corporation of Delaware
Filed Apr. 5, 1965, Ser. No. 445,451
Int. Cl. H04n *3/24;* **H01j** *29/74*
U.S. Cl. 178—7.5 **3 Claims**



Retrace blanking in a television receiver is achieved by the application of a pulse to a pulse amplifier, the output of which is coupled to the input of a video amplifier stage. The pulse amplifier is suitably biased relative to the magnitude and rate of decay of the applied pulse such that the pulse output therefrom is predetermined to coincide with and have a time duration substantially equal to the retrace interval.

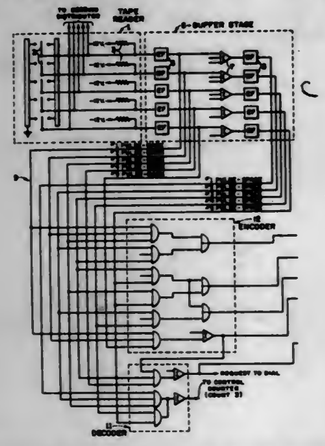
3,436,476
PYROGRAPHIC TYPE TELAUTOGRAPHIC RECORDER
Harold O. Bixby, 100 Memorial Drive, Cambridge, Mass. 02139
Filed Mar. 8, 1967, Ser. No. 621,584
Int. Cl. G08b *5/00, 5/22*
U.S. Cl. 178—18 **10 Claims**



A graphical recorder having a recording surface with electrodes above and below the recording surface, each electrode comprising a fine tension wire movable by a meter of the galvanometer type. Marking of the recording

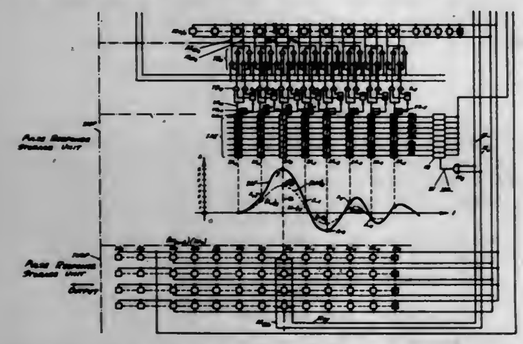
is accomplished by an electrical discharge between the wires. Radio transmitting and receiving equipment for operating the recorder are described.

3,436,477
AUTOMATIC DIALER
Robert J. Ghiringhelli, Richmond Hill, N.Y., assignor to The Western Union Telegraph Company, New York, N.Y., a corporation of New York
Filed Dec. 30, 1965, Ser. No. 517,545
Int. Cl. H04l 15/34, 15/24
U.S. Cl. 178—26 9 Claims

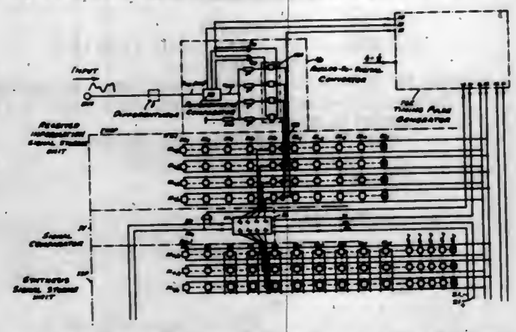


Code conversion means for converting simultaneous permutation tape code into sequential dial pulse code, includes a binary counter to convert the tape code into binary code potentials; a binary counter stores the potentials as a binary number; a readout means includes a clock pulse generator and a shift register to read out the stored count sequentially. The binary counter comprises a scale of sixteen counter.

3,436,478
DISTORTION CORRECTION APPARATUS FOR USE WITH TRANSMISSION CHANNELS OF LIMITED BANDWIDTH
Kurt Ehrat, Zurich, Switzerland, assignor to Gretag Aktiengesellschaft, Regensdorf, Switzerland
Filed July 19, 1965, Ser. No. 472,766
Claims priority, application Switzerland, July 23, 1964, 9,640/64
Int. Cl. H04l 25/06; H04b 1/10
U.S. Cl. 178—69 8 Claims

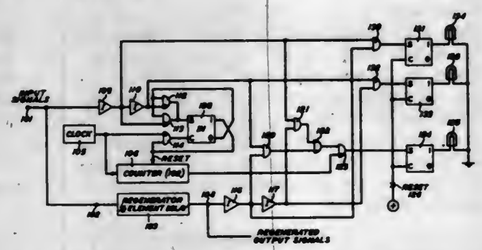


Receiver or series of information pulses distorted by the characteristics of a transmission channel of limited bandwidth, in which the series of information pulses is recovered by storing a reference pulse as distorted by the transmission channel as a reference pulse response function, storing the distorted information signal, forming a synthesis signal by superimposing a series of individ-



ual pulse response functions each proportional to the stored pulse response function, matching said synthesis signal to the stored information signal by adjusting the individual pulse response functions and deriving from said adjustments the series of information pulses.

3,436,479
CHECK CIRCUIT FOR COMPARING THE INPUT AND OUTPUT OF DATA REPEATERS
George P. Houcke, Tenafly, N.J., and Louis Prats, Queens Village, N.Y., assignors to Bell Telephone Laboratories, Incorporated, New York, N.Y., a corporation of New York
Filed Apr. 11, 1966, Ser. No. 541,775
Int. Cl. H04l 25/02, 25/20; H03k 5/20
U.S. Cl. 178—69 4 Claims

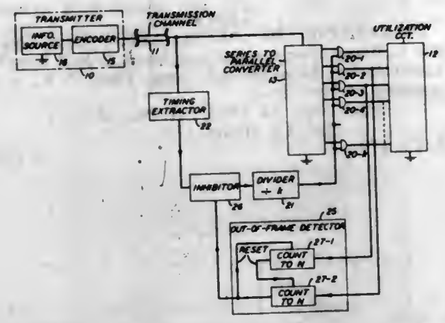


1. In a circuit for comparing the correspondence of a first non-return to zero binary data element train with a train having a relative delay of less than an element duration, error indicating means, a delay circuit having a delay interval exceeding an element interval, means responsive to each transition in said first train between elements having alternate ones of the binary conditions for resetting said delay circuit, means responsive to the time out of said delay circuit at the end of said delay interval for operating said error indicating means, and comparison means jointly responsive to the conditions of concurrent elements in said first train and said delayed train for controlling said operating means.

3,436,480
SYNCHRONIZATION OF CODE SYSTEMS
John W. Pan, Plainfield, N.J., assignor to Bell Telephone Laboratories, Incorporated, New York, N.Y., a corporation of New York
Filed Apr. 12, 1963, Ser. No. 272,588
Int. Cl. G08b 29/00; H04l 7/00
U.S. Cl. 178—69.5 7 Claims

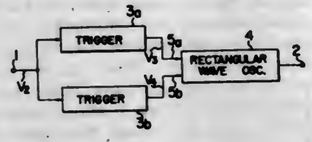
Apparatus for synchronizing or "framing" incoming code groups is provided in which the rate of occurrence of signals in certain selected digit positions of each code

group is monitored. The selected positions are associated with predetermined probabilities of signal occurrence



and deviation from the anticipated probabilites results in a regrouping of the code groups so that synchronization is effected.

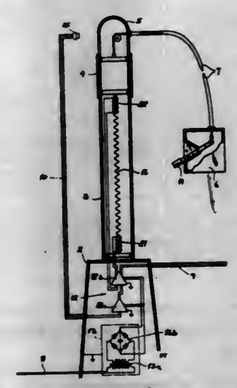
3,436,481
REGENERATION SYSTEM FOR A TRANSMITTED TELEGRAPH SIGNAL
Koji Tadenuma, Tokyo-to, Japan, assignor to Kokusai Denshin Denwa Kabushiki Kaisha, Tokyo-to, Japan, a joint-stock company of Japan
Filed Jan. 21, 1966, Ser. No. 522,235
Claims priority, application Japan, Jan. 25, 1965, 40/3,652
Int. Cl. H04l 25/20, 25/52
U.S. Cl. 178—70 3 Claims



1. A regenerating system for a transmitted telegraph signal, comprising an oscillator for generating a rectangular wave having a frequency substantially equal to the frequency of the code element of the transmitted telegraph signal; a level detector for detecting whether or not the instantaneous level of the transmitted telegraph signal exceeds a predetermined level range and for detecting the polarity of the excess level of the transmitted telegraph signal from the level range; control means for causing, only when the level detector detects that the instantaneous level does not exceed the level range, the oscillator to generate the rectangular wave having the frequency of the code element of the transmitted telegraph signal and for causing, when the level detector detects that the instantaneous level exceeds the level range, the oscillator to change the polarity of the rectangular wave in accordance with the polarity of said excess level, whereby a regenerated telegraph signal is derived from the oscillator.

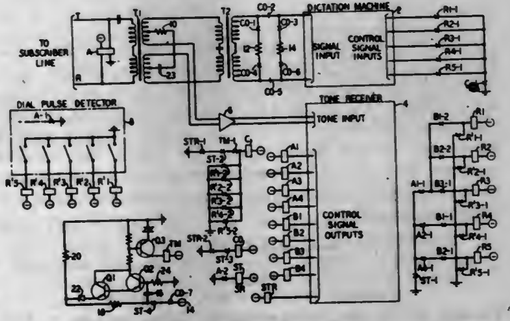
3,436,482
MICROPHONE ASSEMBLY WITH SELF-CONTAINED POWER SUPPLY
Ernst Pless and Rudolf Görike, Vienna, Austria, assignors to Akustische und Kino-Gerate G.m.b.H., Vienna, Austria, a corporation of Austria
Filed Apr. 16, 1965, Ser. No. 448,893
Claims priority, application Austria, Apr. 16, 1964, A 3,333/64
Int. Cl. H04m 1/00
U.S. Cl. 179—1 3 Claims

A microphone is supported on a stand which includes a tubular column rising from a base, the latter accommodating a power supply (line transformer or battery) connected to an amplifier which is located either in the base or in the column. This column also surrounds a reverberation unit in the form of an elongated coil spring inductively coupled at its end to the input and the output



of the amplifier, the resulting feedback being adjustable by varying the separation of the two coupling inductances with the aid of a sleeve slidable along a portion of the column.

3,436,483
RECORDED TELEPHONE DICTATION TRUNK CIRCUIT
Leslie L. Blane, Rumson, N.J., assignor to Bell Telephone Laboratories, Incorporated, New York, N.Y., a corporation of New York
Filed Feb. 26, 1965, Ser. No. 435,519
Int. Cl. H04m 11/10; G11b 5/06
U.S. Cl. 179—6 11 Claims

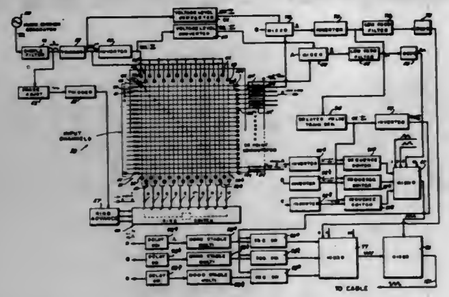


A recorded telephone dictation trunk circuit is disclosed in which the dictation machine is disconnected from the subscriber line a predetermined time after a control signal is received indicating a control operation to be performed on the machine. However, additional delay circuitry requires that the control signal continue for a further period of time before a command is actually applied to the machine. The signal from the subscriber received over the trunk circuit may be either a tone or dial pulse.

3,436,484
MULTICHANNEL COMMUNICATION SYSTEM
George A. Whitlow, Euless, Tex., assignor to Consolidated Electronics Corporation, Dallas, Tex., a corporation of Texas
Filed Mar. 18, 1964, Ser. No. 352,917
Int. Cl. H04j 1/08
U.S. Cl. 179—15 17 Claims

A communication system having a transmitter providing a plurality of input channels and means for sequen-

tially modulating consecutive half cycles of a carrier frequency with the signals from the input channels in predetermined sequence and a receiver having means for



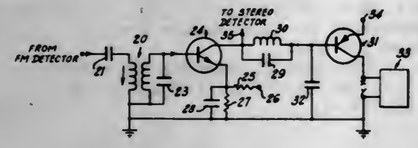
demodulating the carrier wave and transmitting the signals of the output channels to predetermined output channels of the receiver.

3,436,485

FREQUENCY DOUBLER, STEREO INDICATOR CIRCUITRY FOR FM RADIO RECEIVERS

Robert R. Eckenbrecht, Batavia, N.Y., assignor to Sylvania Electric Products Inc., a corporation of Delaware

Filed Sept. 20, 1966, Ser. No. 580,719
Int. Cl. H04j *1/00;* **H04b** *1/16*
U.S. Cl. 179—15 **7 Claims**



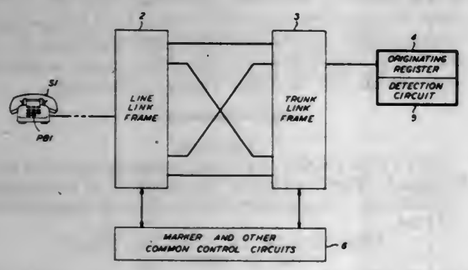
A series circuit arrangement including a parallel resonant tank circuit connected between the output of a frequency multiplier amplifier and the input of a switching amplifier. The frequency multiplier amplifier is operated class B or class C so that the output is rich in second harmonics of the input signal for which the parallel resonant tank circuit is tuned. The amplified input signal passes through the tank circuit and operates to control the switching amplifier.

3,436,486

ERROR DETECTION SYSTEM

Thomas R. Stevens, Reynoldsburg, Ohio, assignor to Bell Telephone Laboratories, Incorporated, New York, N.Y., a corporation of New York

Filed Dec. 21, 1965, Ser. No. 515,410
Int. Cl. H04m *3/02, 1/66*
U.S. Cl. 179—18 **7 Claims**



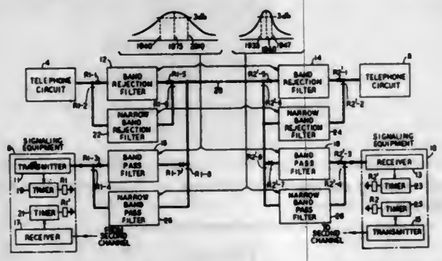
A register is provided which will reject a special signal which occurs at the wrong place in a sequence of signals, particularly a nondigital signal from a pushbutton signalling telephone.

3,436,487

TELEPHONE SIGNALING ARRANGEMENT

Leslie L. Blane, Rumson, N.J., assignor to Bell Telephone Laboratories, Incorporated, New York, N.Y., a corporation of New York

Filed Sept. 14, 1965, Ser. No. 487,114
Int. Cl. H04m *1/26, 3/00*
U.S. Cl. 179—84 **18 Claims**



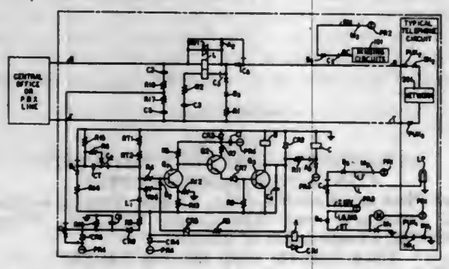
A telephone signaling arrangement is disclosed comprising a pair of telephone circuits and a pair of signaling equipment means for transmitting and receiving signals in the voice frequency band simultaneously with speech and over the same transmission channel as speech. When signaling is in progress, broad band rejection filters are connected between the transmission channel and each of the telephone circuits for rejecting all voice signals in the signaling frequency band, and broad band pass filters are connected between the transmission channel and each of the signaling equipment means for passing only signals of signaling frequencies. When no signaling is taking place, the broad band rejection filters are replaced by narrow band rejection filters to allow the passage of more speech signals, and the broad band pass filters are replaced by narrow band pass filters for passing only a subset of the signaling frequencies.

3,436,488

LINE CIRCUIT FOR A KEY TELEPHONE SYSTEM UTILIZING A SINGLE MULTIFUNCTION SUPERVISORY RELAY

Robert E. Barbato, Middletown, and David T. Davis, East Brunswick, N.J., assignors to Bell Telephone Laboratories, Incorporated, New York, N.Y., a corporation of New York

Filed Mar. 17, 1966, Ser. No. 535,162
Int. Cl. H04m *1/21*
U.S. Cl. 179—99 **8 Claims**



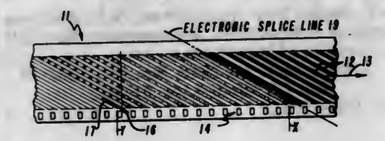
A single relay employed for line circuit supervision is responsive to polarity reversal or line current interruption from the central office in order to release a held line. The same relay detects ringing current and controls the holding function. Three transistors are employed in the circuit.

3,436,489

ERASING METHOD FOR VIDEO TAPE RECORDINGS

Norman F. Bounsall, Los Altos, Calif., assignor to Ampex Corporation, Redwood City, Calif., a corporation of California

Filed Jan. 3, 1966, Ser. No. 518,454
Int. Cl. G11b *5/02;* **H04n** *5/78*
U.S. Cl. 179—100.2 **5 Claims**



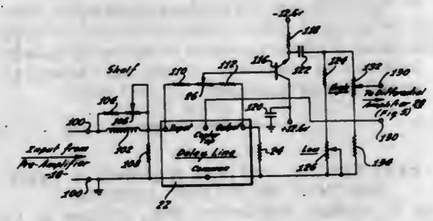
A method of editing a recorded video tape. Erasure of previously recorded tape is affected by recording the new signal directly thereover. Close registration between the locus of the recording heads in the previously recorded tracks is maintained by maintaining the head drum servo and capstan servo of the recording apparatus in a "playback" mode during recording of the new information over the old. The recording heads may be gated to a new video signal during select portions of select horizontal lines to realize special effects.

3,436,490

ADJUSTABLE EQUALIZER CIRCUIT FOR MAGNETIC REPRODUCER

Richard V. Roelofs, Granada Hills, Calif., assignor, by mesne assignments, to United Control Corporation, Redmond, Wash., a corporation of Delaware

Filed Nov. 16, 1964, Ser. No. 411,363
Int. Cl. G11b *5/00*
U.S. Cl. 179—100.2 **8 Claims**



A tape reproduce system having improved compensation for phase displacements. The system includes a reproduce head and an equalizer circuit having a delay circuit with a variable impedance coupled across the delay circuit for adjustably compensating for phase displacements of the high frequency signals from the reproduce head. The system of the invention produces an output signal having an essentially uniform high frequency response characteristic.

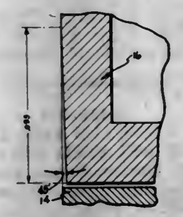
3,436,491

HELICAL SCAN RECORDER WITH TAPERED DRUM TO PREVENT OXIDE BUILD-UP

James E. Quinn, Wilmette, and Delmar R. Johnson, Des Plaines, Ill., assignors to Ampex Corporation, Redwood City, Calif., a corporation of California

Filed Dec. 27, 1966, Ser. No. 604,833
Int. Cl. G11b *5/30*
U.S. Cl. 179—100.2 **5 Claims**

1. A helical scanning assembly for use in magnetic tape recording and reproducing apparatus comprising a pair of substantially cylindrical, coaxial and closely spaced drums, and means for mounting one of said drums for rotation with respect to the other of said drums, said rotatable drum having an outer diameter with an inward taper in the direction of the other of said drums with said taper continuously extending to the edge of said rotating drum adjacent the other drum, whereby the outer diameter of the edge of the rotatable drum adjacent the other drum is less than the outer diameter of the other drum.

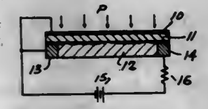


3,436,492

FIELD EFFECT ELECTROACOUSTIC TRANSDUCER

Cornelis W. Reedyk, Ottawa, Ontario, Canada, assignor to Northern Electric Company Limited, Montreal, Quebec, Canada

Filed Jan. 17, 1966, Ser. No. 521,029
Int. Cl. H04r *19/00*
U.S. Cl. 179—111 **11 Claims**



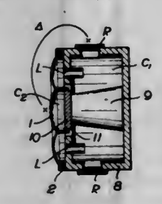
An electroacoustic transducer is disclosed consisting of a semiconducting body having a source and a drain electrode, a flexible insulating film stretched over the semiconductor body with a metallized layer formed on the side of the insulating film remote from the body. In a preferred embodiment of the invention the insulating film is an electret. The construction of a telephone microphone is disclosed in a cylindrical configuration using an electret and a circular semiconducting body with one terminal being positioned at the centre of the body and the other terminal at the periphery.

3,436,493

ELECTROACOUSTIC TRANSDUCER WITH UNILATERAL DIRECTIONAL CHARACTERISTIC

Bernhard Weingartner, Vienna, Austria, assignor to Akustische u Kino Gerate Gesellschaft m.b.H., Vienna, Austria

Filed Sept. 28, 1965, Ser. No. 490,994
Claims priority, application Austria, Oct. 16, 1964, A 8,819/64
Int. Cl. H04r *9/00, 1/04*
U.S. Cl. 179—115.5 **14 Claims**



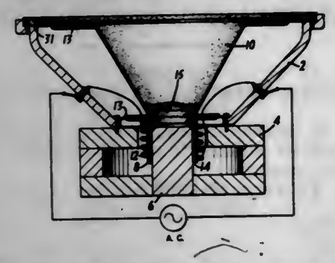
An electroacoustic transducer includes a diaphragm having forward and rear surfaces and a phase-shifting arrangement for transmitting sound to the rear surface of the diaphragm. The phase-shifting arrangement includes a first phase-shifting system consisting of a resistance and a compliance and effective in a lower sound frequency

range and includes a second phase-shifting system consisting of a mass and a compliance and effective in a higher sound frequency range, the two systems being connected in series with each other between a common rear sound inlet, for both lower and higher sound frequency ranges, and the rear surface of the diaphragm.

3,436,494
COMPLIANT ANNULUS FOR LOUDSPEAKER AND RELATED CIRCUIT

Rudolph T. Bozak, Darien, Conn., assignor to The R. T. Bozak Mfg. Company, a corporation of Connecticut

Filed Oct. 11, 1965, Ser. No. 494,628
Int. Cl. H04r 9/00, 9/06, 7/00
U.S. Cl. 179—115.5 11 Claims

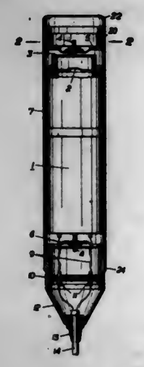


This invention relates to a speaker structure constructed to give linear response at low frequencies. This is accomplished by first providing a balance bridge circuit having a DC element therein which, upon application of a predetermined direct current, buoys up the speaker diaphragm to counterbalance and overcome sagging of the diaphragm. This buoying effect also centers the diaphragm along the speaker acoustical axis. Secondly, the diaphragm is provided with a compliant annulus support peripherally relieved to provide a plurality of leaf springs which provide excellent lateral restraining action upon the diaphragm and which increase the degree of compliance to give the desired linearity of diaphragm displacement.

3,436,495
RESILIENT MOUNTING FOR TUBULAR MICROPHONE

Rudolf Görike, Vienna, Austria, assignor to Akustische u. Kino-Gerate Gesellschaft m.b.H., Vienna, Austria

Filed Mar. 5, 1965, Ser. No. 437,424
Claims priority, application Austria, Mar. 20, 1964, A 2,450/64
Int. Cl. H04n 1/04
U.S. Cl. 179—146 20 Claims

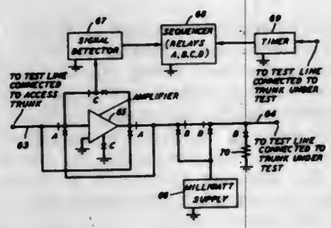


A microphone assembly includes a microphone which is surrounded by a tubular sleeve slightly spaced from the microphone. Two resilient mountings are disposed in the sleeve, each of the mountings having an outer rim anchored at a fixed location within the sleeve, a pin being secured to the microphone and being coaxial therewith.

3,436,496
SYSTEM INCLUDING A REVERSIBLE AMPLIFIER FOR TESTING ELECTRICAL TRANSMISSION MEDIA

James F. Ingle, New Providence, N.J., assignor to Bell Telephone Laboratories, Incorporated, New York, N.Y., a corporation of New York

Filed Mar. 29, 1966, Ser. No. 538,349
Int. Cl. H04b 3/46; H03f 21/00
U.S. Cl. 179—175.3 4 Claims

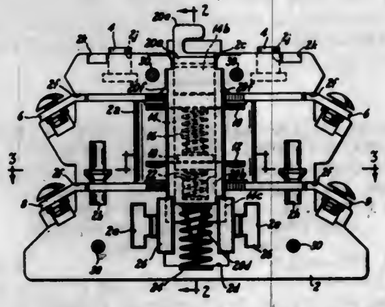


4. In combination
a first pair of terminals and a second pair of terminals, an amplifier,
a source of test tones, and
means responsive to waves received at said terminals to connect said amplifier to provide, on a selective basis, unity gain from said source to a first pair of said terminals, unity gain from said first pair of terminals to the second pair of terminals, unity gain from said second pair of terminals to said first pair of terminals and gain greater than unity from said second pair of terminals to said first pair of terminals,
said means further responsive to waves at a pair of said terminals to selectively connect said source to said second pair of terminals.

3,436,497
ELECTRICAL SWITCH HAVING A LOST MOTION OPERATOR ASSEMBLY

James E. Mading, Milwaukee, Wis., assignor to Cutler-Hammer, Inc., Milwaukee, Wis., a corporation of Delaware

Filed Aug. 31, 1967, Ser. No. 664,797
Int. Cl. H01h 15/00
U.S. Cl. 200—16 6 Claims



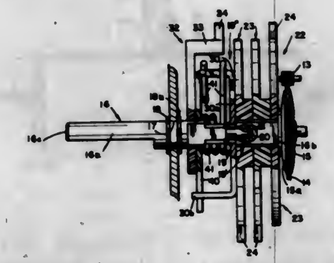
An electrical switch unit having a linearly movable contact carrier adapted to be mechanically driven by an electromagnetic contactor armature assembly against light spring pressure in the early part of the armature stroke to

immediately perform a contact function of an interlock and then drive a linearly movable spring biased slide bar to afford operation of shorter stroke auxiliary switches having their operators connected to the slide bar.

3,436,498
FLEX-SHAFT SWITCH

Stephen F. Murray and Benjamin F. Chestnut, Indianapolis, Ind., assignors to P. R. Mallory & Co. Inc., Indianapolis, Ind., a corporation of Delaware

Filed Feb. 15, 1967, Ser. No. 616,236
Int. Cl. H01h 7/08, 43/10
U.S. Cl. 200—38 7 Claims

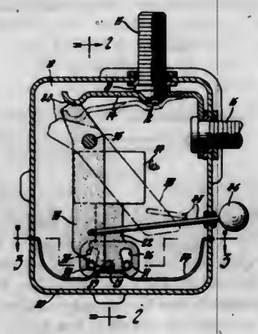


A drive shaft has two concentric sections each capable of independent rotation from the other. Programming means are attached to one of the sections, with momentary contact initiating means attached to the other. Means are provided to prevent rotation of one section while the other is rotated.

3,436,499
INERTIA-OPERATED SWITCH

Donald A. Butts, Saginaw, Mich., assignor to General Motors Corporation, Detroit, Mich., a corporation of Delaware

Filed Dec. 21, 1967, Ser. No. 692,391
Int. Cl. H01h 35/02, 35/14
U.S. Cl. 200—61.48 1 Claim

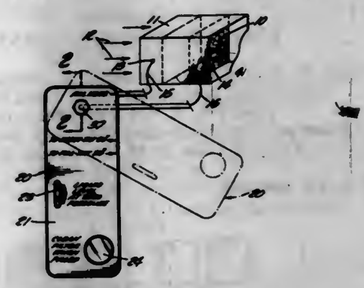


An electrical switch having a pair of spring biased normally open contacts maintained closed by a retaining arm member, rotatable about a pivot point, which is operable, upon the movement of an inertia weight, to open the contacts. A pawl located on one end of the retaining arm member is engaged by a trigger pin secured to the member which supports the inertia weight to maintain the retaining arm member in the position to close the switch contacts. Movement of the inertia weight will revolve the trigger pin out of engagement with the pawl, thereby permitting the force of the contact spring bias to rotate the retaining arm member about its pivot point and open the switch contacts.

3,436,500
RESETTABLE DIFFERENTIAL PRESSURE INDICATOR

Robert M. Culbert, Manhattan Beach, and Clifton C. Mugford, Palos Verdes, Calif., assignors to Farr Company, El Segundo, Calif., a corporation of California

Filed May 2, 1966, Ser. No. 546,810
Int. Cl. H01h 29/28; G01l 7/18
U.S. Cl. 200—81.6 14 Claims

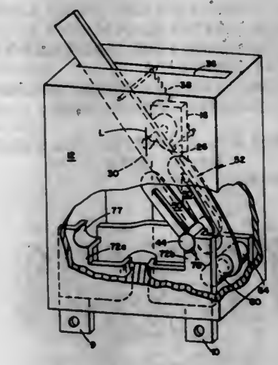


A device for indicating the attainment of a preselected differential pressure between two points, as on either side of an air filter, wherein the device housing has a vertical U-shaped tube portion partially filled with liquid and exposed on either side to the two pressures and there is an indicating chamber on the lower pressure side of the tube for receiving and containing the liquid upon occurrence of the pressure differential. The housing is pivotable to flow the liquid from the chamber back into the tube portion for resetting the device.

3,436,501
SNAP ACTION SWITCH USING OVERTRAVEL

Lyndon Walkup Burch, 3 River St. Place, Boston, Mass. 02108

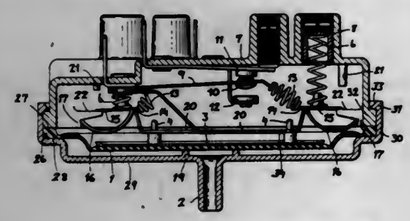
Filed July 25, 1966, Ser. No. 567,633
Int. Cl. H01h 21/40, 15/18
U.S. Cl. 200—68 12 Claims



Snap action switches are shown of the type having a snap member whose contact is snapped to break position by direct wiping and camming of the snap contact and whose actuator for the make position and the snap member are arranged for relative actuating and overtravel movement in a path at a substantial angle to the direction of the snap movement. An auxiliary surface disposed in the path of relative overtravel and a cooperating surface associated with the snap member are shown mutually constructed to engage and resist further relative overtravel movement and simultaneously increase the engagement for electric current flow between the terminals of the switch. Shown also are such a switch in which the snap member makes with a third contact after it breaks

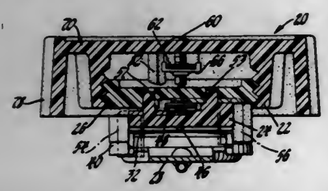
with a second, a portion of the third contact comprising the actuator for making with the second; and a spring biased carrier member for the snap element. A cooperating surface is also shown connected to one terminal and an auxiliary surface connected to the other terminal so that a second electrical path is formed between the terminals. Other features are shown.

3,436,502
ELECTRIC PRESSURE-CONTROL SNAP SWITCH
Ernst M. Egli, Zurich, Switzerland, assignor to Patinvest Patent- und Investment A.G., Chur, Switzerland
Filed Feb. 2, 1967, Ser. No. 613,499
Claims priority, application Germany, Feb. 8, 1966 and Feb. 15, 1966, P 38,726, Patent 1,939,186
Int. Cl. H01h *35/40*
U.S. Cl. 200—83 **10 Claims**



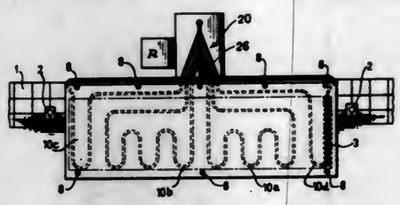
A snap-action diaphragm switch for controlling the pressure of liquids or gases, wherein the operation of at least one contact spring is controlled by a pressure-actuated diaphragm which acts upon an intermediate lever connected by a snap spring to the contact spring. The diaphragm is acted upon by an adjusting spring as well as by a compensating spring which act in different directions upon this lever and produce superimposed torques.

3,436,503
SWITCH OPERATED BY SNAP-ACTING DIAPHRAGM HAVING AN ECCENTRICALLY LOCATED CAM FOR MANUALLY OPERATING THE SWITCH
Floyd O. Moody, Dayton, Ohio, assignor to General Motors Corporation, Detroit, Mich., a corporation of Delaware
Filed Feb. 2, 1967, Ser. No. 613,572
Int. Cl. H01h *35/40*
U.S. Cl. 200—83 **3 Claims**



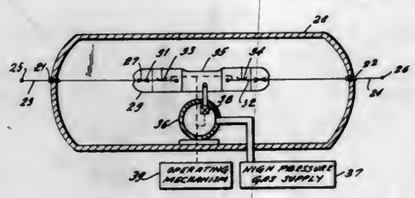
In the preferred form, one wall of an enclosed fluid pressure chamber is formed of a shallow frusto-spherical thin spring metal snap acting diaphragm. The enclosed chamber is mounted upon a support. The support has a passage through which a follower extends from the central portion of the diaphragm to a leaf spring contact for moving said contact member into engagement with a cooperating contact. A rotatable cup-shaped housing surrounds the contacts and is threaded upon the support. This housing carries a transverse leaf spring through which extends an exposed adjusting screw extending in alignment with and into contact with the follower contacting the leaf spring contact. The rotatable housing also is provided with an eccentrically located cam for manually operating the leaf spring contact.

3,436,504
SENSING DEVICE
Maurits Gatsonides, Bentveldweg 10, Aerdenhout, Netherlands
Filed Jan. 6, 1967, Ser. No. 607,776
Int. Cl. H01h *3/02, 7/00*
U.S. Cl. 200—86 **7 Claims**



The device comprises a foraminous plate which is bodily movable towards a wall of a swimming pool. An elastic tube in the space between the plate and the wall, and an elastic tube along the upper edge of the plate are connected to a pneumatically operated electirc switch which controls a timing apparatus. When a swimmer touches the plate, the air in the tubes operates the switch for accurately signaling or recording the swimming time.

3,436,505
SLIDE VALVE FOR GAS BLAST BREAKERS
Daniel H. McKeough, Pasadena, Calif., assignor to I-T-E Circuit Breaker Company, Philadelphia, Pa., a corporation of Pennsylvania
Filed May 4, 1966, Ser. No. 547,621
Int. Cl. H01h *33/82, 33/80*
U.S. Cl. 200—148 **12 Claims**

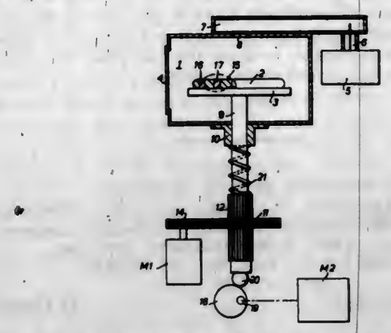


A high voltage high speed power circuit breaker having a sliding sleeve valve for the blast valve operated by an operating mechanism also connected to the movable contact of the circuit breaker. A movable baffle surrounds the movable contact and forms a gas blast channel. When the movable contact is opened, the baffle is moved to a retracted position.

3,436,506
ELECTRONIC HEATING APPARATUS
Peter Harold Smith, "Jangada," The Avenue, Maidenhead, Berkshire, England, assignor to Microtherm Limited, London, England, a corporation of England
Filed Apr. 11, 1966, Ser. No. 541,577
Claims priority, application Great Britain, Apr. 8, 1965, 14,913/65
Int. Cl. H05b *9/06*
U.S. Cl. 219—10.55 **11 Claims**

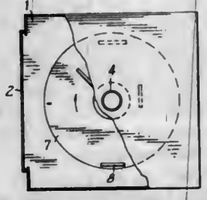
This disclosure relates to a microwave oven having a metallic heating chamber and a rotatable platform upon

which a food article is supported. The platform is simultaneously rotated and reciprocated while the food article



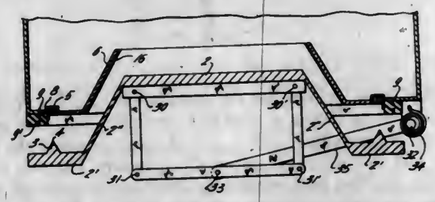
is being heated. The frequencies of rotation and reciprocation bear no simple relationship to each other.

3,436,507
DEVICE FOR HEATING NONMETALLIC MATERIALS, MORE PARTICULARLY FOODSTUFFS, BY MICROWAVE ENERGY IN A CAVITY RESONATOR
Herbert August Püschner, Osterholzer Heerstrasse 175, Bremen, Germany
Filed June 10, 1966, Ser. No. 556,734
Claims priority, application Germany, June 12, 1965, A 49,462
Int. Cl. H05b *9/06*
U.S. Cl. 219—10.55 **5 Claims**



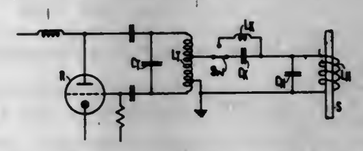
A microwave oven is fed from the top through an input coupling system connecting the heating chamber with the microwave generator. A sealed stirrer is in the heating chamber supported for rotation coaxially to the input coupling system and has a primary radiator and an array of secondary radiators so that rotation of the stirrer keeps the field in the oven essentially uniform.

3,436,508
CABINET AND DOOR CONSTRUCTION FOR MICROWAVE HEATING APPLIANCES
Karl Fritz, 26 Wendelsteinstr., 6200 Wiesbaden-Dotzheim, Germany
Filed Aug. 23, 1966, Ser. No. 574,475
Claims priority, application Germany, Aug. 26, 1965, F 30,213; May 27, 1966, F 46,989
Int. Cl. H05b *9/06*
U.S. Cl. 219—10.55 **6 Claims**



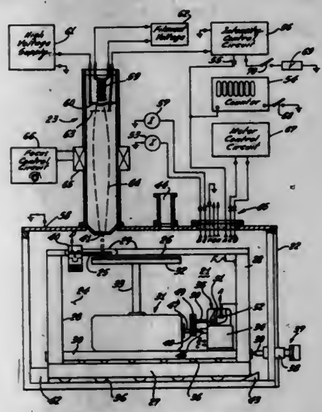
The door is formed with a projection, and the cabinet, in the region surrounding the door, has a lip which is spaced to form a wave guide of a characteristic impedance much lower than the resistance of the space within the cabinet, to detect still leaking radiation from the door, a radiation pickup loop, in the form of a conductor, is located on the cabinet just beyond the outer edge of the door opening, surrounding the door opening. For positive seating and minimum leaking, the door is hinged to the cabinet by a linkage which permits swinging of the door for a major extend, and perpendicular motion of the door with respect to the cabinet just before closing.

3,436,509
DEVICE FOR INDUCTIVELY HEATING SEMICONDUCTOR MATERIAL
Wolfgang Keller, Pretzfeld, and Otto Schmidt, Erlangen, Germany, assignors to Siemens Aktiengesellschaft, Erlangen, Germany
Filed July 7, 1966, Ser. No. 563,504
Claims priority, application Germany, July 9, 1965, S 98,088
Int. Cl. H05b *5/04, 9/02*
U.S. Cl. 219—10.77 **5 Claims**



Device for inductively heating semiconductor material includes a high-frequency generator having an oscillating circuit connected in the anode circuit of a transmitting tube, and a heating circuit at least critically coupled to the oscillating circuit. The heating circuit includes a coil adapted to surround the semiconductor material for heating the same inductively, and having a capacitance up to forty times greater than the capacitance of the tank circuit.

3,436,510
ELECTRON BEAM MACHINING APPARATUS FOR PRODUCING HIGH DEFINITION ENCODERS
Norman F. Fyler, Menlo Park, Calif., assignor to Litton Precision Products, Inc., San Carlos, Calif., a corporation of Delaware
Filed June 14, 1967, Ser. No. 646,425
Int. Cl. B23k *9/00*
U.S. Cl. 219—69 **8 Claims**



Fiducial marks of microscopic width are machined by an electron beam upon the surface of a disk carried upon a table. The electron beam is directed at an aperture mounted adjacent a disk through which a portion of the electron beam passes to machine the fiducial mark.

Control means including a shaft encoder are utilized to rotate the table and successively operate the beam to produce a plurality of fiducial marks upon the disk surface.

3,436,511
COATING COMPOSITION AND METHOD OF APPLYING

Ronald H. Rath, Indianapolis, Ind., assignor to Union Carbide Corporation, a corporation of New York

No Drawing. Filed Jan. 18, 1965, Ser. No. 426,394
Int. Cl. B23k 9/04
U.S. Cl. 219—76 7 Claims

A coating composition applied by an arc process having a rough modular finish which consists essentially of from 20 to 40 weight percent of at least a metal taken from the group consisting of chromium, nickel and aluminum with the remainder being at least one oxide taken from the class consisting of chromia, alumina and titania is provided.

3,436,512
METHOD OF SPRAY COATING GAS SEALS OF GAS TURBINES AND THE LIKE

Arthur T. Cape, Monterey, Calif., assignor to Coast Metals, Inc., Little Ferry, N.J., a corporation of Delaware

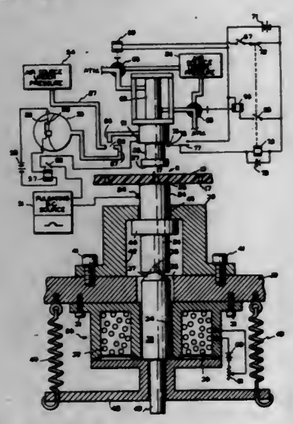
No Drawing. Continuation-in-part of application Ser. No. 459,075, May 26, 1965. This application Apr. 13, 1966, Ser. No. 542,227
Int. Cl. B23k 9/04; C22c 19/00; C09d 5/10
U.S. Cl. 219—76 2 Claims

A method, especially useful for coating the gas seals of gas turbines, in which mixtures of powders are sprayed, by means of a plasma arc gun, onto the surface to be coated, under temperature conditions such that one of the powders is melted or partially melted to provide a matrix, and the other powder remains unmelted, but the particles thereof are held tightly in the matrix, to supply a soft material in an otherwise hard mass.

3,436,513
INTERCONNECTING CONDUCTORS LOCATED ON OPPOSITE SIDES OF AN INSULATING BASE

Richard A. Harris, High Point, N.C., assignor to Western Electric Company, Incorporated, New York, N.Y., a corporation of New York

Original application Nov. 2, 1964, Ser. No. 408,305, now Patent No. 3,340,600, dated Sept. 12, 1967. Divided and this application Aug. 31, 1967, Ser. No. 680,593
Int. Cl. B23k 1/04
U.S. Cl. 219—85 6 Claims

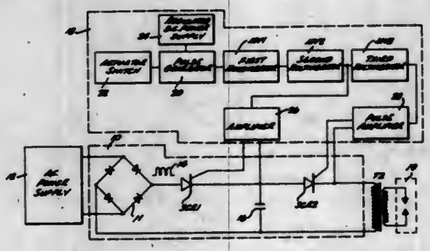


An apparatus for deforming and soldering a conductive eyelet to two conductors on oppoiste sides of an insulating board. The apparatus contains a ram for deforming an eyelet in a board supported on an anvil mounted on a ferromagnetic face plate. An electromagnet holds the face plate with sufficient force to just deform the eyelet. Additional force from the ram overcomes the force from the electromagnet to move the face plate and lessen the force on the board while a heating current is passed through the eyelet to solder the eyelet to conductors on the board.

3,436,514
WELDER POWER SUPPLY

Gordon E. Broomhall, Escondido, and Felix L. Ferranto, Vista, Calif., assignors to Hughes Aircraft Company, Culver City, Calif., a corporation of Delaware

Filed Jan. 21, 1966, Ser. No. 522,109
Int. Cl. B23k 11/24
U.S. Cl. 219—113 12 Claims

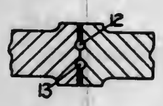


A welder power supply including first and second silicon controlled rectifier switches respectively coupled in the charging and discharging circuit for a capacitor. The capacitor is charged by a full wave rectified voltage when the first switch is conductive and discharged into the primary winding of a welding transformer when the second switch is conductive. In operation an actuator switch is closed to initiate operation of a pulse generator. A first timing circuit coupled to the pulse generator effects a first timing pulse, and second and third timing circuits each coupled between the first timing circuit and the respective control electrodes of the respective first and second switches each effect respective second and third timing pulses. The timing pulses ensure proper charging and discharging of the capacitor by preventing simultaneous conduction of the first and second switches and by disabling the actuator switch for a predetermined time.

3,436,515
ELECTRON BEAM WELDING

Lawrence Norman Sayer, Erdington, Birmingham, and Eric Clive Brown, Handsworth, Birmingham, England, assignors to Joseph Lucas (Industries) Limited, Birmingham, England

Filed Oct. 29, 1965, Ser. No. 505,637
Claims priority, application Great Britain, Dec. 11, 1964, 50,487/64
Int. Cl. B23k 15/00
U.S. Cl. 219—121 3 Claims

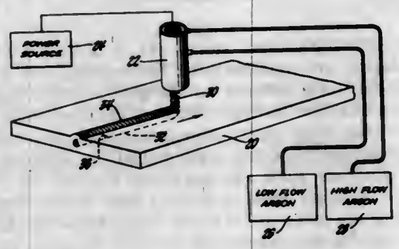


Two thick workpieces are arranged in abutting relationship so as to define a joint line therebetween. The workpieces are provided with a pair of recesses along the joint line and including a material therebtween. The two workpieces are then butt welded by directing an electron beam along the joint line from opposite sides of the two workpieces as far as the recesses respectively such that the two welds formed by the respective electron beams are prevented from impinging onto one another. The material between the pair of recesses may either be part of the workpieces themselves or an additional material inserted along the joint line between the two workpieces.

3,436,516
METHOD OF FORMING A CONTINUOUS ELONGATED PASSAGEWAY THROUGH METAL

Michael W. Swift, Speedway, Ind., assignor to General Motors Corporation, Detroit, Mich., a corporation of Delaware

Filed Feb. 9, 1966, Ser. No. 526,206
Int. Cl. B23k 9/16
U.S. Cl. 219—121 5 Claims

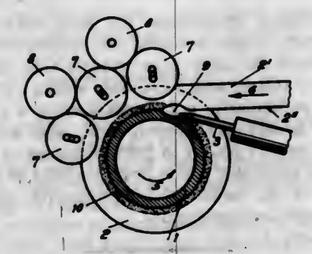


A method is disclosed for forming a continuous enclosed passageway in a metallic member of sufficient thickness to enfold a passageway. A plasma arc gun having predetermined parameter of electrical power and gas flow is employed to melt the surface of the workpiece to a depth of slightly more than the desired diameter of a resultant elongated passageway, but not entirely through the workpiece, such that as the molten metal hardens it leaves an opening at the lower end of the molten portion which becomes a continuous elongated passageway as the gun is moved across the surface of the workpiece in a desired configuration.

3,436,517
METHOD OF AND APPARATUS FOR MAKING FINNED TUBES

Edmond Pignal, Thonon-les-Bains, France, assignor to Biraghi (Societe Anonyme), Paris, France, a company of France

Filed Apr. 18, 1966, Ser. No. 543,166
Claims priority, application Switzerland, Apr. 26, 1965, 5,954/65
Int. Cl. B23k 9/12
U.S. Cl. 219—124 12 Claims

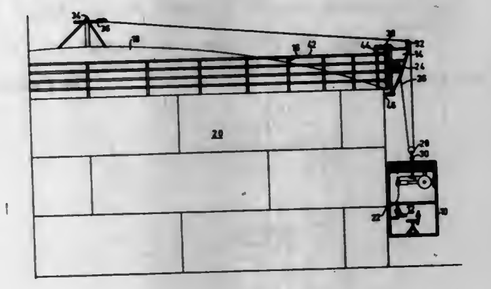


A method of and apparatus for making finned tubes wherein a continuous strip is fed edgewise and tangentially with respect to a rotating tube, a non-consumable welding electrode is disposed between the tube and the strip in the plane of the latter to simultaneously heat the strip and the tube; then, as the last step in the continuous operation, the strip is pressed onto the tube whereby a weld is obtained that is substantially symmetrical with respect to the strip.

3,436,518
APPARATUS FOR AUTOMATIC WELDING OF SHEET METAL SHELLS, ESPECIALLY CISTERN SHELLS

Knut Axel Waldemar Persson, Trollbacken, Sweden, assignor to AB Broderna Hedlund, Stockholm, Sweden

Filed Apr. 18, 1966, Ser. No. 543,215
Claims priority, application Sweden, Apr. 21, 1965, 5,170/65
Int. Cl. B23k 9/12
U.S. Cl. 219—126 6 Claims

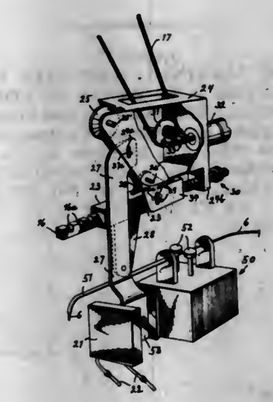


Large sheet metal tanks are welded by suspending a cage from a trolley running on the tank edge. The welder rides in the cage, which also supports a guide carriage for guiding welding material. The guide carriage is suspended from a carrier on the cage, and the carrier automatically follows the advance of the guide carriage.

3,436,519
SELF-LOCKING LEVER SYSTEM FOR SEAM WELDING DEVICES

Arnold Weisselberg and Horst Herfurth, Halle an der Saale, Germany, assignors to Zentralinstitut für Schweisstechnik der DDR, Halle an der Saale, Germany

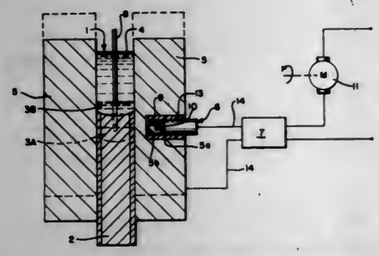
Filed Nov. 6, 1967, Ser. No. 680,840
Int. Cl. B23k 9/12
U.S. Cl. 219—126 11 Claims



Lever system, particularly for electric slag welding devices adapted for vertical or inclined seams, for applying pressure to form shoes engaging the elements to be welded together on both sides of the welding seam, for guiding the device along the edges of the elements while keeping the wire feed and nozzle means of the device centered with respect to the seam, regardless of variations in the gap

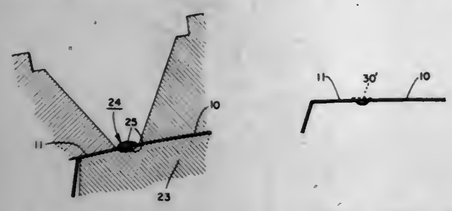
distance between the elements, and for providing uniform weight distribution of the welding device on the two sides of the seam, with facilities for adjusting the distance between two, preferably conical guide wheels engaging the edges of the elements, depending upon the thickness thereof.

3,436,520
CONTROL SYSTEM FOR ELECTRIC SLAG WELDING DEVICES
Walter Anders and Arnold Weisselberg, Halle an der Saale, Germany, assignors to Zentralinstitut fur Schweisstechnik der DDR, Halle an der Saale, Germany
Filed Apr. 29, 1968, Ser. No. 724,967
Int. Cl. B23k 9/12
U.S. Cl. 219—126 16 Claims



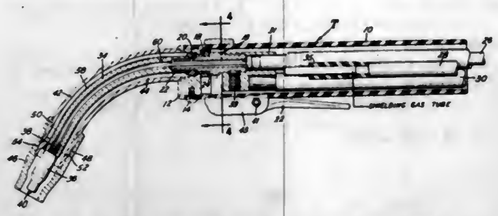
Control system, particularly for electric slag welding devices adapted for seams made between two elements to be welded together, comprising one or two jaw members contacting said elements in the area of the welding seam, temperature sensing means associated with or inserted in a recess of said jaw member, and control means for intermittently operating actuating means, forming part of the slag welding device, on effect of the temperature field formed in said jaw member, without making physical contact between the welding-seam area and the sensing means. The latter is preferably connected with an electric circuit, operates on account of deformation due to said temperature field, and may include a bimetallic contact, a temperature-responsive resistor or a deformable hollow member filled with a fluid that expands and thus actuates an electric contact.

3,436,521
METHOD OF MAKING COMPOSITE PANELS BY ELECTRIC-ARC BRAZE-WELDING
James D. Corrigan, Plain Hill, N.J., and Lester T. Bowers, Oreland, Richard C. Gilmour, Yeadon, and Robert A. Wolff, North Hills, Pa., assignors to The Budd Company, Philadelphia, Pa., a corporation of Pennsylvania
Filed Sept. 29, 1965, Ser. No. 491,172
Int. Cl. B23k 1/04, 1/10
U.S. Cl. 219—129 4 Claims



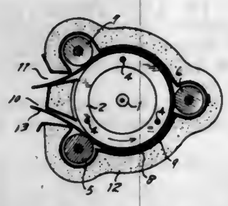
A method for joining preformed sheet steel panels by electric-arc braze-welding at temperatures below the melting point of the steel. A nonferrous filler metal is deposited on the adjacent edges and in the gap between the panels and the excess on the exposed surface is removed by machine scarfing and hand finishing.

3,436,522
GAS SHIELDED ARC WELDING TORCH
Donald W. Carkhuff, Jamesburg, and Thaddeus J. Wojciak, Clark, N.J., assignors to Union Carbide Corporation, a corporation of New York
Filed Dec. 15, 1964, Ser. No. 418,468
Int. Cl. B23k 9/12, 37/02
U.S. Cl. 219—130 6 Claims



An electric arc welding torch for welding with a consumable electrode includes an elongate arc shielding gas expansion chamber having a constant cross-sectional area which is free from obstruction throughout its length. A nozzle is connected to the outer end of the chamber wall and an electrode guide sleeve extends through the chamber. An insulating bushing formed with streemlined rib projections fits into a recess in the nozzle such that the ribs extend into the gas chamber to position the guide tube in a spaced concentric relationship with the chamber wall and to provide for a streamlined flow of gas through the chamber to the workpiece.

3,436,523
DEVELOPING MECHANISM FOR HEAT DEVELOPABLE LIGHT SENSITIVE COPY PAPER
Minoru Umahashi, Tokyo, and Hitoshi Yamakawa, Fujisawa, Japan, assignors to Kabushiki Kaisha Ricoh, Tokyo, Japan, a corporation of Japan
Filed July 19, 1967, Ser. No. 654,476
Claims priority, application Japan, July 27, 1966, 41/71,145
Int. Cl. H05b 3/44
U.S. Cl. 219—216 5 Claims

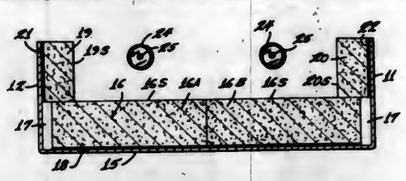


A developing mechanism for heat developable light sensitive copy paper arranged in the form of a cylinder around which the copy paper travels with the assistance of auxiliary rollers which coperate with a cylindrical surface and particularly, a cylinder having a rod-like heat generator axially arranged therein, and a plurality of annular members placed in parallel planes at right angles to the heat generator which units are held in a cylindrical arrangement by means of longitudinally arranged rods parallel to the heat generator.

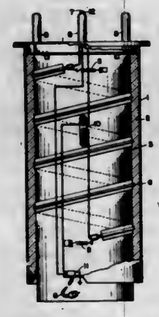
3,436,524
HEAT ENERGY RECEPTOR-RADIATOR WALL
Edward A. Pauls, Excelsior, Minn., assignor to Research, Incorporated, Minneapolis, Minn., a corporation of Minnesota
Filed June 5, 1967, Ser. No. 643,629
Int. Cl. H05b 3/40, 1/00
U.S. Cl. 219—347 9 Claims

A heat energy receptor-radiator wall for a heating device wherein the wall is composed of refractory material

attached to a support sheet by an elastomer and wherein said heating device is a radiant heater element(s) positioned to radiate heat in the direction of work in a heating zone defined by or partially or fully enclosed by the wall.



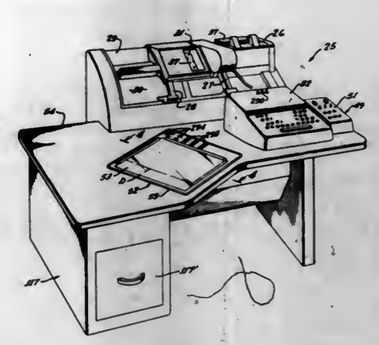
3,436,525
ELECTRICALLY HEATED DISH-DISPENSING APPARATUS
Arthur Stanford, Richmond, Va., assignor to American Machine & Foundry Company, a corporation of New Jersey
Filed Oct. 21, 1965, Ser. No. 499,512
Claims priority, application Great Britain, June 9, 1965, 24,384/65
Int. Cl. F27d 11/02
U.S. Cl. 219—385 2 Claims



A vertical stacked-article dispenser has tubular inner and outer housings arranged to form an annular space therebetween. A flexible electrical heating element is freely slidably disposed in a reflexed serpentine pattern, either zig-zag or as a helix or spiral, against the outer surface of the inner housing. At least one end of the helically or spirally disposed heating element is anchored by spring means to the inner housing. The annular space is filled with glass fiber insulation. A thermostatic switch responsive to the temperature of the inner housing and a manual off-on switch application of power to the heating element.

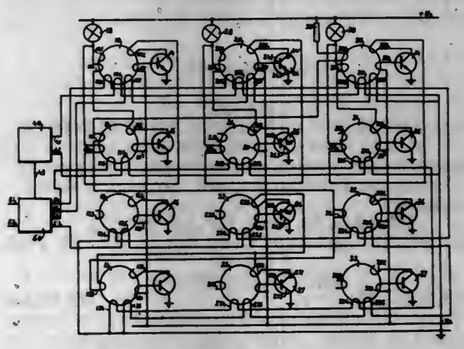
3,436,526
DATA SCANNING, INDICATING AND CONTROL APPARATUS
Donald R. Biegel and John W. Willis, Cupertino, Calif., assignors to Tab Products Co., San Francisco, Calif., a corporation of California
Continuation-in-part of application Ser. No. 222,842, Sept. 11, 1962. This application Aug. 13, 1964, Ser. No. 389,417
Int. Cl. G06f 3/10
U.S. Cl. 235—61.6 25 Claims

There is shown a data processing apparatus which includes a machine operated by a keyboard and adapted to record data on a data recording element in response to operation of the keyboard. Information on a source document is read by a human operator who operates the keyboard in accordance with such information, the document reading and keyboard operation being carried out in accordance with a predetermined program requiring a plurality of steps. A programming apparatus is included which comprises a rotary drive member and a flexible belt formed in a closed loop around the drive member. The belt is provided with a pattern of programming perforations, and a plurality of sensing means are provided which contact the surface of the belt and drop into the perforations as the sensing members are brought into registry



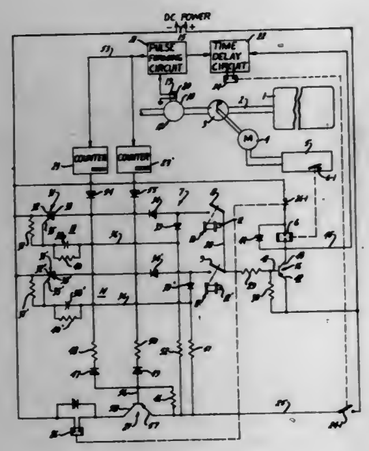
therewith. Visual signal means under control of belt perforations and associated sensing means are provided to visually signal the operator concerning the alpha-numeric condition of the keyboard, the length of field on the data recording element and the like. Additionally, automatic skip, automatic duplicate, automatic alpha-numeric shifting of the keyboard, and like functions of the data processing apparatus are controlled by the flexible belt.

3,436,527
DIGITAL COUNTER ARRANGEMENT
Jaroslav Matějka, Rakovnik, and Jiří Kaštovský, Prague, Czechoslovakia, assignors to Vyzkumny ustav matematickych stroju, Prague, Czechoslovakia
Filed Oct. 20, 1965, Ser. No. 498,476
Int. Cl. G06g 7/14
U.S. Cl. 235—92 6 Claims



A pair of bistable switching circuit elements is associated with each of a plurality of bistable switching circuit counter elements for counting pulses applied thereto. The states of the pair of elements are alternately switched in response to the actuation state of a counter element. Indicating devices are respectively actuated in response to the alternate actuation and deactuation of pairs of counter elements for a period coextensive with the lengths of the active periods of the counter elements.

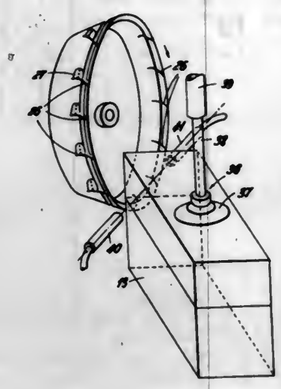
3,436,528
SELECTIVELY OPERABLE MULTIPLE LOADS
George A. Ciotti, Erie, and Keith N. Shade, Wesleyville, Pa., assignors to A. O. Smith Corporation, Milwaukee, Wis., a corporation of New York
Filed Oct. 22, 1965, Ser. No. 501,818
Int. Cl. G06g 7/14
U.S. Cl. 235—92 10 Claims



This disclosure relates to an electrical interlocking circuit for interconnection of a plurality of key lock units to a gasoline dispenser and a plurality of counters. Each switch circuit includes a silicon controlled rectifier having a self-triggering circuit and a separate holding circuit. The several counters have one side connected directly to the related individual control circuit such that each counter is operated through the corresponding silicon controlled rectifier and only one is operated at any given time. A disconnect circuit is also connected between the holding circuit and each of the trigger circuits to disable all other trigger circuits in response to establishment of one holding circuit. The holding circuit is controlled by a time delay circuit actuated by the output of the flow responsive means and by a common input to the self-triggering circuit.

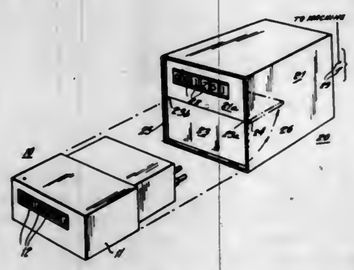
3,436,529
APPARATUS FOR COUNTING SHEETS WHILE MAINTAINING THEM IN A STACK
Kenneth Senior, Frinton-on-Sea, England, assignor to Vacuumatic Limited, Harwich, England, a British company
Filed Jan. 24, 1966, Ser. No. 522,672
Claims priority, application Great Britain, Jan. 25, 1965, 3,224/65
Int. Cl. G06c 29/00
U.S. Cl. 235—92 12 Claims

1. A sheet counting apparatus comprising: a support for a stack of sheets, a rotary element having its axis of rotation inclined to the length of the stack, which rotary element has a peripheral portion shaped to project between parts of adjacent sheets in the stack to separate them, which peripheral portion is formed with at least one slot through the thickness thereof and extending inwardly away from its outer edge, suction means associated with the rotary element for displacing a part of a sheet to a position where it passes through the slot from one side of the peripheral portion to the other as the rotary element rotates, means for effecting relative movement between the rotary element and the stack along the length thereof, whereby parts of the sheets in the stack are successively transferred from one side of the periph-



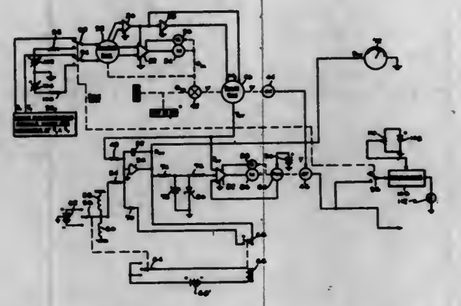
eral portion of the rotor to the other, and means for counting each displacement of a part of a sheet.

3,436,530
CONTROL DEVICE
Rudolf Faude, Fort Lee, Willi Haller, Teaneck, and Heinz Hengstler, Englewood, N.J., assignors, by mesne assignments, to Hecon Corporation, New Shrewsbury, N.J., a corporation of New Jersey
Filed Feb. 17, 1966, Ser. No. 537,597
Int. Cl. G06c 29/00
U.S. Cl. 235—92 22 Claims



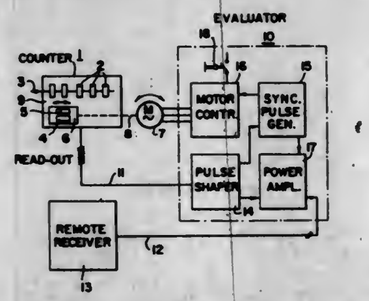
A control device for preventing unauthorized use of a machine and further for expediting cost accounting procedures by allocating cost to departments. The control device is coupled between the lower power source normally employed for energizing the machine and has its output coupled to the machine. The machine is prevented from being energized until an electronic key device is plugged into the control device. The control device is provided with a counter for counting the total number of intervals of time or the other productivity units of the machine. A variety of departments may be provided with an electronic counter device for insertion into the control device. Each of these units is provided with its own separate counter for counting those productivity units which that particular department has used. The control device may be provided with a virtually non-defeatable circuit which necessitates the provision of a compatible circuit component within the electronic key device which permits operation of the control device to couple energy from the local power source to the machine being controlled thereby. A cross check on the total number of productivity units allocated to or used by each department may be obtained by comparing the count in each such electronic key device against the counter provided in the control device.

3,436,531
TRACK FOLLOWER FOR CONTROLLING AIRCRAFT FLIGHT
Richard S. Throckmorton, Chatsworth, Los Angeles, Calif., assignor to Litton Systems, Inc., Beverly Hills, Calif.
Filed May 28, 1965, Ser. No. 459,542
Int. Cl. G06g 7/78
U.S. Cl. 235—150.26 10 Claims



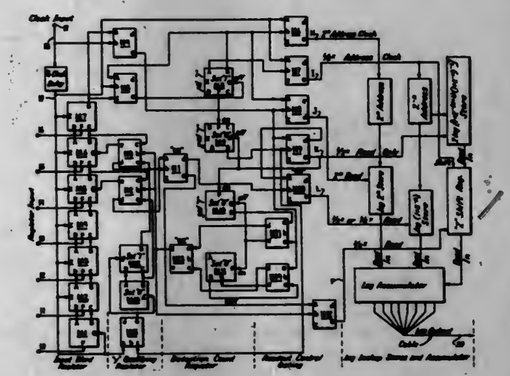
9. In a track follower for guiding a vehicle onto a predetermined track over the surface of the earth, means for generating a first signal, V_{CT}, which is a measure of the velocity component of said vehicle perpendicular to said track;
means for integrating said V_{CT} signal to generate a second signal D_{OT}, including means for adjusting D_{OT}, which is a measure of the distance said vehicle is from said track;
means for generating a third signal, Ψ, which is a measure of the azimuth of the track of said vehicle relative to the azimuth of said predetermined track;
means for scaling said first and second signals with predetermined constants k_2 and k_1 respectively;
and means for summing $\Psi+k_1D_{OT}+k_2V_{CT}$, in which k_1 and k_2 are predetermined constants, to generate a steering signal for said vehicle to intercept and follow said predetermined track.

3,436,532
COUNTING SIGNAL TRANSLATING SYSTEM
Chistof Gebauttel, Furth, Germany, assignor to Siemens Aktiengesellschaft, Erlangen, Germany
Filed Apr. 9, 1965, Ser. No. 447,039
Claims priority, application Germany, Apr. 11, 1964, S 90,497
Int. Cl. G06m 1/10
U.S. Cl. 235—154 10 Claims



A counting signal translating system comprises mechanically movable counter members each having positions and coordinated code groups of magnetic indicia corresponding to different counts. A readout device has magnetically responsive Hall sensors in proximity with the counter members and sequentially responsive to the magnetic indicia for producing corresponding readout pulses. Pulse shaping stages are connected to the sensors. A flip-flop timer sets the total time for readout of each complete pulse sequence and a flip-flop keyer has timing periods corresponding to the duration of the individual pulse step. A circuit including a power output stage and AND gates is connected to the pulse shaping stages. Inputs of the AND gates are connected to the pulse shaping stages and other inputs thereof are connected to the flip-flop timer and the flip-flop keyer.

3,436,533
DIGITAL LOG COMPUTER
Thomas M. Moore, Severna Park, and Edward C. Watters, Annapolis, Md., assignors, by mesne assignments, to the United States of America as represented by the Secretary of the Navy
Filed Nov. 29, 1965, Ser. No. 510,469
Int. Cl. G06f 5/00
U.S. Cl. 235—154 11 Claims



1. A digital log computer comprising:
an input digital register set for each digital word representative of a decimal number to be computed in a logarithm;
first and second digital address shift registers for each of two factors representative of the two most significant bits of a digital log series of predetermined bits;
a first and second log storage means connected respectively to said first and second digital address registers to convert said factors to digital numbers representative of the logarithms of said factors;
a low log store providing a digital number of low order factors representative of the lower order bits of said digital log series;
a third digital shift register coupled to said low order log store to read in said digital number of said low order factor;
a log accumulator coupled to said first and second log storage means and to said third digital register to accumulate digital words stored in said log storage means and said third digital register representative of the logarithm of a number;
a clock pulse source for producing clock pulses and delayed clock pulses;
a plurality of digital "1" detectors; and
a plurality of gating means interconnected with said input register, said first and second digital address shift registers, said first and second log storage means, said third digital shift register, said plurality of digital "1" detectors, and said clock pulse source to gate the most significant "1" of said input register to said first digital address shift register, to gate the second most significant "1" of said

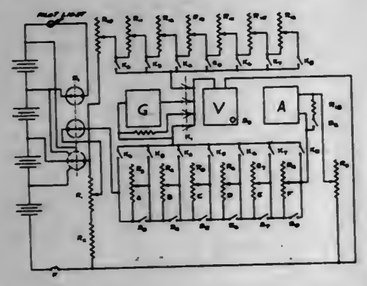
input register to said second digital address register, and to gate lower order digital "1" bits to said lower order log store and register to produce gated readout of said first and second log storage means and said third digital shift register into said log accumulator in accordance with the gating sequence of the most significant digital "1" readout of said number in said input register whereby said digital number representative of a decimal number in said input register is computed in a digital number representative of the logarithm of said decimal number on an output of said log accumulator.

3,436,534

ANALOG COMPUTER SYSTEM FOR SOLVING HEAT FLOW PROBLEMS

Richard W. Wallace, Pittsburgh, Pa., assignor to Dresser Industries, Inc., a corporation of Delaware

Filed Apr. 10, 1964, Ser. No. 358,729
Int. Cl. G06g *7/56*
U.S. Cl. 235—185 **3 Claims**



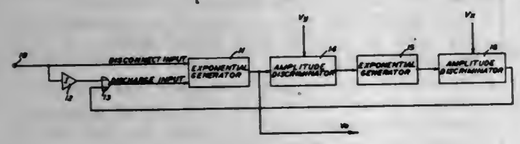
An analog computer for solving heat flow problems through a refractory structure in which adjustable resistance means are connected in series. The value of current flow through the resistance is the analog of heat flow. There is a constant voltage applied to the system and there is readout means directly readable in temperatures, for example, for the cold face of the structure.

3,436,535

MULTIPLYING CIRCUIT BASED ON AMPLITUDE TO TIME CONVERSION

Milton R. Sundquist, Burlington, N.C., assignor to Bell Telephone Laboratories, Incorporated, New York, N.Y., a corporation of New York

Filed May 12, 1966, Ser. No. 549,522
Int. Cl. G06g *7/16, 7/12*
U.S. Cl. 235—194 **4 Claims**



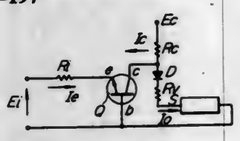
1. A combination comprising:
first and second generating means responsive to input voltages to produce output voltages that change exponentially with respect to time at substantially the same time constant,
means to apply an input voltage to said first generating means,
first amplitude discriminating means to apply an input voltage to said second generating means in response to the level of said first generating means output voltage passing a first predetermined level,
second amplitude discriminating means to apply a voltage to said first generating means to clamp its output voltage in response to said second generating means output voltage passing a second predetermined level, and
an output terminal connected to said first generator.

3,436,536

FUNCTION GENERATOR

Ryoichi Abe, Kodaira-shi, Japan, assignor to Hitachi Electronics Company, Ltd., Tokyo, Japan, a corporation of Japan

Filed Dec. 9, 1965, Ser. No. 512,674
Claims priority, application Japan, Dec. 19, 1964, 39/71,620
Int. Cl. G06g *7/26*
U.S. Cl. 235—197 **6 Claims**



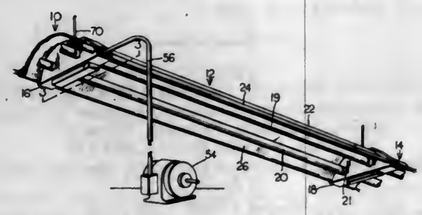
An arbitrary function generator is described for analog computers in which a grounded base transistor circuit having a segmented straight-line input/output characteristic is provided to approximately generate an output voltage as a function of an input voltage.

3,436,537

FLUORESCENT LIGHTING FIXTURE WITH WIREWAYS ON THE REFLECTOR

Edward T. Bostonian, 3522 15th Ave., Brooklyn, N.Y. 11218

Continuation-in-part of application Ser. No. 274,719, Apr. 22, 1963. This application July 5, 1967, Ser. No. 651,248
Int. Cl. F21s *3/14*
U.S. Cl. 240—9 **15 Claims**



A lighting fixture with one or several straight lighting tubes and one or several correspondingly shaped reflectors supported by and between two junction boxes. Connections between circuit components in or on the two boxes such as sockets, wire terminals, etc., are effected by wires extending through one or several conduits along the longitudinal edges of the reflectors. Some of the conduits may be used to house wires for carrying light current, and others to house wires carrying power current.

3,436,538

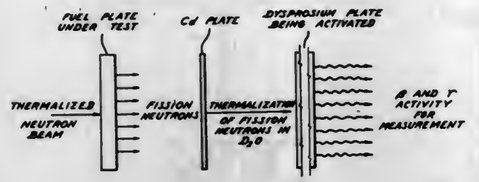
METHOD FOR MEASURING FISSIONABLE MATERIAL CONTENT OF FUELS

Demetrios L. Basdekas, San Antonio, Tex., assignor, by mesne assignments, to the United States of America as represented by the United States Atomic Energy Commission

Filed Feb. 1, 1966, Ser. No. 523,997
Int. Cl. G01t *3/00*
U.S. Cl. 250—83.1 **5 Claims**

The present invention relates to a method of measuring the content of fissionable material in nuclear fuel wherein

a thermal neutron beam is directed to the fuel plate. The thermal neutrons of the original beam transmitted through the fuel plate are eliminated by a neutron absorbing material and the fission neutrons produced in the fuel are thermalized to then activate a dysprosium plate thereby causing decay which emits beta and gamma radiation for measurement.

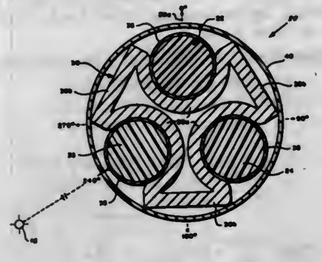


3,436,539

DIRECTIONAL AND RANGING SYSTEM EMPLOYING RADIATION DETECTORS

George E. Wilcox, Doylestown, Pa., assignor to the United States of America as represented by the Secretary of the Navy

Filed Dec. 27, 1965, Ser. No. 516,792
Int. Cl. G01t *1/16*
U.S. Cl. 250—83.3 **7 Claims**



Apparatus for ascertaining the bearing and range of a known, remotely located radiation source having three scintillation crystal type radiation detectors arranged in a triangular configuration and having shielding interposed therebetween which is appropriately shaped for controlling the bearing responsive output signals of three associated photomultiplier tubes which are connected to a multichannel signal processor which, in turn, is connected both to a three-wire magnetic compass indicator for indicating the bearing of the radiation source and to a voltmeter for indicating the range of the radiation source.

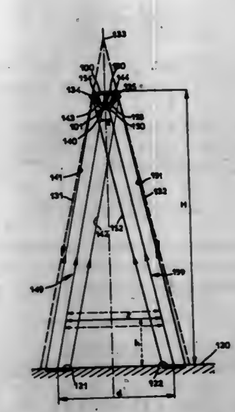
3,436,540

PHOTO-ELECTRICAL VEHICLE DETECTING DEVICE FOR TRAFFIC SURVEY

Paul Lamorlette, Paris, France, assignor to L'Eclairage des Vehicules sur Rail, Paris, France, a company of France

Filed Apr. 7, 1967, Ser. No. 629,252
Claims priority, application France, Apr. 8, 1966, 57,099
Int. Cl. G01t *1/16*
U.S. Cl. 250—83.3 **8 Claims**

This invention relates to a device for vehicle detection, which comprises one emitting unit radiating electromagnetic and notably infrared radiation, such as a gallium arsenide type diode, reflective and/or refractive optical means for directing said radiation onto the roadway in at least one beam concerning each involved traffic lane, and for each of said beams, at least one receiving unit,



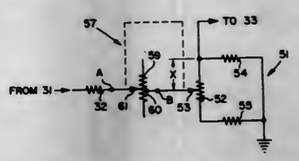
and notably a solid state photosensitive device, able selectively to identify the radiation reflected by said roadway and/or the radiation reflected by a vehicle.

3,436,541

COMPENSATED PARABOLIC NETWORK FOR PROVIDING 100% ADJUSTMENT IN A RECORDING RADIANT ENERGY ANALYZER

Attila D. Boronkay, La Habra, Calif., assignor to Beckman Instruments, Inc., a corporation of California

Filed June 16, 1967, Ser. No. 646,592
Int. Cl. G01t *1/16;* **G01r** *17/02*
U.S. Cl. 250—83.3 **5 Claims**



A ratio recording radiant energy analyzer is disclosed having a new and improved 100% adjustment for the recorder. A resistance network having a parabolic resistance as a function of the position of a slide wire is disclosed. A tapped potentiometer has its slider connected to receive the sample signal and its tap connected to the slider of the parabolic resistance network. The other side of the resistance network is connected to circuit ground. The parabolic resistance network is connected to the ratioing circuit.

3,436,542

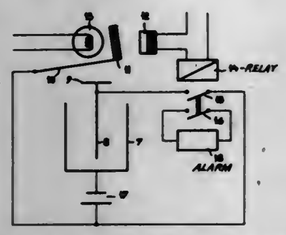
ELECTROMETER WITH AUTOMATIC DISCHARGE

Gilbert Ganouna-Cohen, Bagneux, Hauts-de-Seine, France, assignor to Commissariat à l'Energie Atomique, Paris, France

Continuation of abandoned application Ser. No. 299,218, Aug. 1, 1963. This application June 21, 1966, Ser. No. 559,340
Claims priority, application France, Aug. 8, 1962, 906,479
Int. Cl. G01t *1/16*
U.S. Cl. 250—83.6 **3 Claims**

An electrometer has a detector connected to a movable electrode. A stationary electrode is disposed adjacent the

movable electrode. A masking member is mounted on the movable electrode and so arranged so that movement thereof causes variable masking of a radiation source to



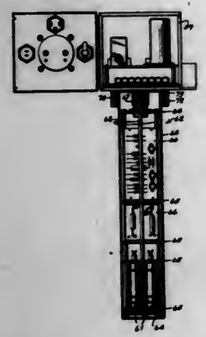
reduce the potential difference between the stationary electrode and the movable electrode after the electrodes have taken a predetermined positional relationship.

3,436,543

RADIOACTIVE RAY DETECTORS INCLUDING CASING CONSTRUCTED TO FACILITATE REPAIR AND CIRCUITRY FOR CONTROLLING ON-OFF SIGNAL

Thomas J. Radcliffe, Warrensville Heights, Daniel M. McElhaney, Jr., Euclid, and Daniel F. Havel, Cleveland, Ohio, assignors to Republic Steel Corporation, Cleveland, Ohio, a corporation of New Jersey

Original application Sept. 12, 1961, Ser. No. 137,588, now Patent No. 3,304,241, dated Feb. 14, 1967. Divided and this application July 7, 1966, Ser. No. 563,426
Int. Cl. G01t *1/18*
U.S. Cl. 250—83.6 4 Claims



Radioactive ray detector including first casing for wall mounting including on-off signal, and second casing attachable to first by electrical connector. Detector tube and circuitry located in second casing to facilitate repair of unit by replacement of second casing.

Circuitry includes monostable multivibrator controlled by detector tube and feeding an integrator, whose output is amplified and supplied to ON/OFF signal. Relationship of amplifier output to multivibrator output is such that intermittent reception of rays result in steady actuation of ray indicating signal.

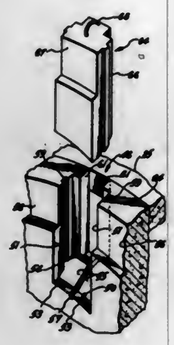
3,436,544

RADIATION SHIELD INCLUDING REMOVABLE PORTION

Walter A. Graf, Jr., Saratoga, Calif., assignor to General Electric Company, New York, N.Y., a corporation of New York

Filed Oct. 23, 1965, Ser. No. 503,569
Int. Cl. G21h *5/00*
U.S. Cl. 250—106 11 Claims

An improved means for passing service lines through a radiation shield surrounding a radioactive source is described. The shield includes a gap with a removable plug fitted therein, with a non-line-of-sight channel for



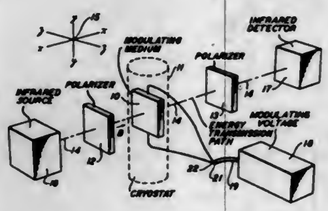
the service lines extending between the plug and wall. Several embodiments of the plug and plug guide means are also described.

3,436,545

INFRARED MODULATOR MAGNETICALLY BIASED TO CYCLOTRON RESONANCE CONDITION

Paul L. Richards, Summit, and George E. Smith, Berkeley Heights, N.J., assignors to Bell Telephone Laboratories, Incorporated, New York, N.Y., a corporation of New York

Filed Dec. 30, 1963, Ser. No. 334,146
Int. Cl. H04b *9/00*
U.S. Cl. 250—199 6 Claims



1. A controllable phase retardation device for infrared energy comprising:

a transmitting and rotating medium of semiconductive material having a plasma frequency ω_p less than the lowest frequency ω_g for which interband transitions occur,

means for applying a magnetic field to said medium of a strength defining a cyclotron resonance frequency ω_c for said medium in the infrared region of the spectrum between ω_p and ω_g,

means for applying to said medium said infrared energy of a frequency ω_o different from ω_c but between ω_p and ω_g,

and means for raising the carrier temperature within said medium independently of its lattice temperature,

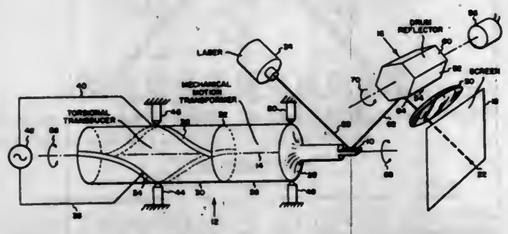
said last mentioned means comprising a voltage source connected across said medium, whereby the phase retardation undergone by said infrared energy propagating through said medium is controllable by varying the voltage source.

3,436,546

LASER BEAM DEFLECTOR

George Derderian, South Seaford, and Robert J. Klaiber, Belrose, N.Y., assignors to the United States of America as represented by the Secretary of the Navy

Filed Oct. 13, 1966, Ser. No. 587,382
Int. Cl. H04b *9/00*; H04n *3/08*; G02b *17/00*
U.S. Cl. 250—199 5 Claims



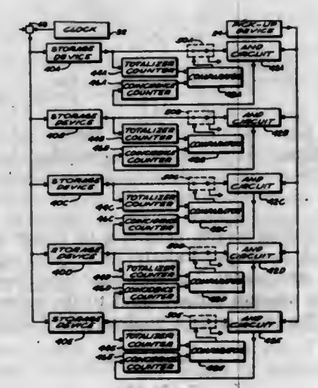
This invention relates to an improved flying spot type scanner providing sufficient beam deflection for use in projection devices requiring relatively large angles and ultrasonic speed and incorporates a piezoelectric drive horizontal scan laser beam deflection means including a mechanical motion amplitude transformer fixed to one end of a torsionally resonant piezoelectric transducer together with a rotatable vertical scan laser beam deflector and automatic indexing means positioned to receive the laser beam from said horizontal scan deflector and redirect said beam in two-dimensional scan.

3,436,547

PATTERN RECOGNITION SYSTEM EMPLOYING TIME-SEQUENCE SIGNALS

Mark E. Campbell, Whittier, Calif., assignor to North American Rockwell Corporation, a corporation of Delaware

Filed Dec. 22, 1965, Ser. No. 515,600
Int. Cl. G01j *1/20*
U.S. Cl. 250—203 9 Claims



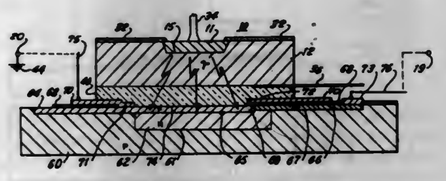
This invention relates to apparatus and methods for recognizing a pattern, and for providing information about the pattern; and is more particularly presented in terms of providing information about a star-pattern that will indicate the orientation and attitude of a spacecraft. The disclosure teaches that certain "scans," such as a spiral, will convert the subject pattern to a pattern-signal having time-sequenced signals that are characteristic of that pattern; and that the resultant pattern-signal remains substantially constant if the spacecraft should roll. Various embodiments and forms of equipment for achieving the desired result are discussed.

3,436,548

COMBINATION P-N JUNCTION LIGHT EMITTER AND PHOTOCELL HAVING ELECTROSTATIC SHIELDING

James R. Biard, Richardson, and Jerry D. Merryman, Dallas, Tex., assignors to Texas Instruments Incorporated, Dallas, Tex., a corporation of Delaware

Filed June 29, 1964, Ser. No. 379,443
Int. Cl. H01j *39/12*
U.S. Cl. 250—211 15 Claims



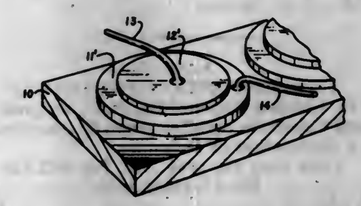
An opto-electronic device for transmitting electronic signals through the use of a semiconductor light source and a photosensitive semiconductor detector, the detector being constructed to provide electrostatic shielding to prevent the occurrence of signal disruptive distributed capacitance between the light source and the detector.

3,436,549

P-N PHOTOCELL EPITAXIALLY DEPOSITED ON TRANSPARENT SUBSTRATE AND METHOD FOR MAKING SAME

George R. Pruett, Richardson, Tex., assignor to Texas Instruments Incorporated, Dallas, Tex., a corporation of Delaware

Filed Nov. 6, 1964, Ser. No. 409,457
Int. Cl. H01l *15/02*; H01c *7/08*; H01j *39/12*
U.S. Cl. 250—211 5 Claims



1. The combination comprising:

(a) a crystalline substrate substantially transparent to a selected wavelength of radiation;

(b) a crystalline photosensitive device contiguous with at least part of one surface of said substrate and forming a monocrystalline extension of the lattice of said part of said substrate, said photosensitive device being responsive to said selected wavelength of radiation, and

(c) electrodes electrically connected with said photosensitive device.

4. The method of making a photosensitive device comprising the steps of:

(a) epitaxially depositing a monocrystalline layer of semiconductor material of a first conductivity-type on one surface of a crystalline semiconductor substrate to form a monocrystalline extension of the lattice of said substrate, said substrate having a greater band gap than said layer,

(b) diffusing conductivity-determining impurities of a second conductivity-type into the exposed surface of said layer to form a P-N junction within said layer, and

(c) attaching an electrode to each of the P-type portions and to the N-type portion of said layer.

3,436,550

ELECTRONIC PICK-UP TUBE FOR INCIDENT X-RAYS WITH IMAGE INTENSIFIER

Jack Finkle, 918 E. 14th St., Brooklyn, N.Y. 11230

Filed Sept. 5, 1963, Ser. No. 306,897
Int. Cl. H01j *31/50, 39/12*
U.S. Cl. 250—213 8 Claims

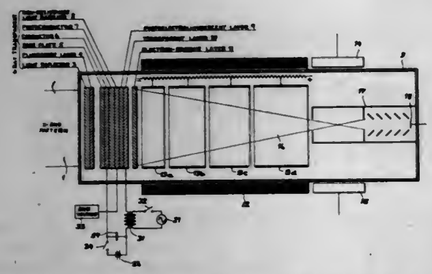


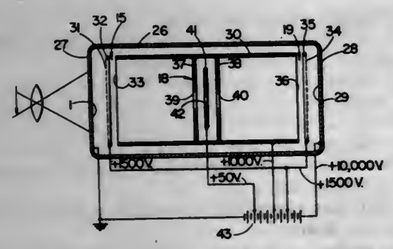
Image intensifier for electronic pick-up tube in which X-rays impinge upon a fluorescent layer whose luminous output stimulates the emission of electrons from a photocathode to generate an electron beam having the pattern of the incident radiation, the intensifier including a photoelectro-luminescent phosphor layer and a photoconductive layer with an intervening barrier layer between a pair of conductive layers connected across an alternating-voltage source; the barrier layer is opaque to visible light but transparent to the incident X-rays so that the latter excite the adjoining phosphor layer, this excitation being reinforced by the concurrently applied alternating field which varies locally in conformity with the conductivity pattern developed in the photoconductive layer on the other side of the barrier.

3,436,551

LOW DISTORTION PHOTOTUBE

Robert H. Clayton, Fayetteville, N.Y., assignor to International Telephone and Telegraph Corporation, Nutley, N.J., a corporation of Delaware

Filed Dec. 16, 1966, Ser. No. 602,328
Int. Cl. H01j *39/12*
U.S. Cl. 250—213 15 Claims



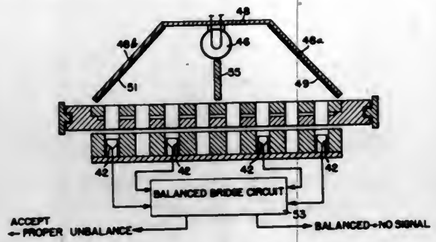
A low distortion phototube is provided which focuses an electron image created by a photocathode onto a phosphorescent screen by means of an Einzel lens interposed between two electrostatic focusing lenses which are in turn placed respectively equidistant from the photocathode and the phosphorescent screen to correct for pheripheral distortion.

3,436,552

PHOTOELECTRIC DOCUMENT TESTER USING LIGHT BEAMS OF COMPLEMENTARY COLOR

Jack E. Bayha, Chesterland, Ohio, assignor to Transmarine Corporation, Chesterland, Ohio, a corporation of Ohio

Filed Jan. 3, 1966, Ser. No. 518,107
Int. Cl. G01n *21/30*
U.S. Cl. 250—219 5 Claims



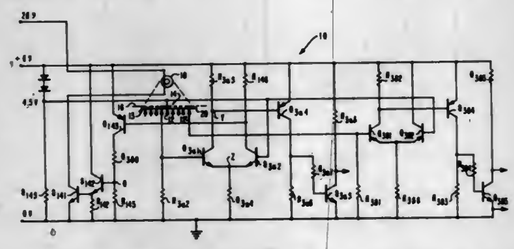
Apparatus for paper security validation which utilizes light passage through the security with different colored lights so that the light passage characteristics of the different colored lights can be compared to determine validation. Specifically, the invention calls for passing one color of light similar in color to the color of the security, and another color of light complementary to the color or the color of the security. The passage of these particular lights is then compared to determine validation. The unique feature of the invention is in realizing that different colored lights will react in different total absorbing characteristics with respect to the actual color of the security being validated.

3,436,553

RADIATION SENSITIVE LAMP REGULATOR FOR USE WITH A TAPE READER

Jeffrey M. Bevis, Long Beach, Calif., assignor to Chalco Engineering Corporation, Gardena, Calif.

Filed May 1, 1967, Ser. No. 635,120
Int. Cl. G01n *21/30;* G01j *1/32*
U.S. Cl. 250—219 9 Claims



This invention relates generally to a tape readout apparatus and more particularly to a lamp regulator for use with a tape reader. The regulator functions to dim the lamp by an amount proportional to the excess illumination from the lamp over a predetermined minimum light intensity.

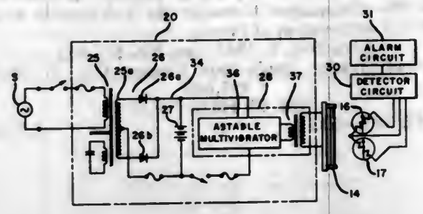
3,436,554

RADIATION SENSITIVE INTRUSION DETECTION SYSTEM

Robert E. James, Saratoga, and Clare G. Keeney, Campbell, Calif., assignors to Sylvania Electric Products Inc., a corporation of Delaware

Filed Dec. 30, 1965, Ser. No. 517,560
Int. Cl. H01j *39/12*
U.S. Cl. 250—221 4 Claims

A source of electrical energy for an AC lamp in a system requiring a constant light output from the lamp utilizes a storage battery connected between a primary source of alternating current and the lamp. The output of the source is rectified and applied to the battery and the output of the battery is converted to the alternating current for energizing the lamp. The battery is thus a combination voltage regulator and a standby power supply in event of a failure of the primary source.

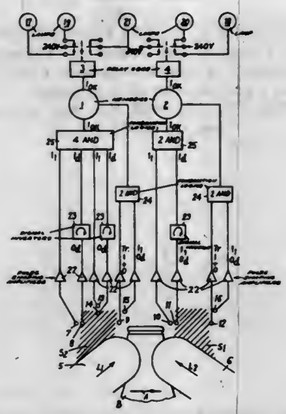


3,436,555

OVALITY MEASUREMENT APPARATUS COMPRISING TWO PHOTOELECTRIC GAUGING SYSTEMS HAVING AN ANGLE BETWEEN THEIR OPTICAL AXES OF THE ORDER OF 70°

David Blythe Foster, Windlesham, Surrey, England, assignor to North Atlantic Research Products Limited, London, England, a British company

Filed Aug. 23, 1965, Ser. No. 481,536
Claims priority, application Great Britain, Aug. 24, 1964, 34,599/64
Int. Cl. H01j *39/12;* G01n *21/30*
U.S. Cl. 250—223 5 Claims



This invention relates to the recognition and measurement of objects and constitutes the improvements of the system described in applicant's Patent No. 3,365,699, the present invention having for a particular object to extend the method described in the aforementioned patent for measurement of the ovality of an object, such as the neck of a glass bottle. This is achieved by the present invention by using two distinct and separate systems of apparatus of the kind described in the aforementioned patent but with these two systems scanning the object under scrutiny at two different angles. In practice, an angle of the order of 70° between the two light beams is particularly appropriate.

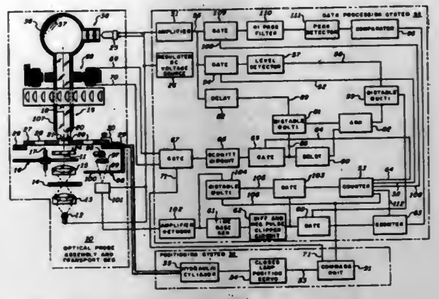
3,436,556

OPTICAL INSPECTION SYSTEM

Earl J. McCartney, Rockville Centre, N.Y., assignor to Sperry Rand Corporation, a corporation of Delaware

Filed Mar. 24, 1966, Ser. No. 537,228
Int. Cl. H01j *39/12*
U.S. Cl. 250—223 13 Claims

A noncontacting electro-optical inspection system for checking the location and measuring the diameter, symmetry and burr content of holes in material parts. A transport mechanism carries the part across the path of a light beam directed at a rotating electro-optic probe having an appropriately dimensioned and wavelength sensitive mask affixed thereto. Amplitude and frequency information imparted to the light as a hole traverses the beam is sensed by a photodetector in the probe and converted to an equivalent electrical signal which is then applied to a data processor wherein the signal is analyzed to obtain discrete information relating to the various hole parameters.

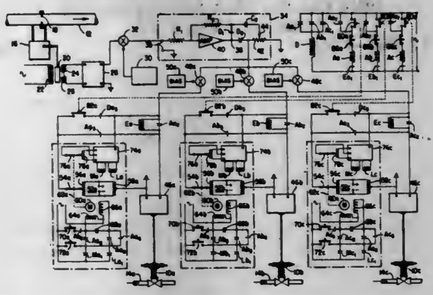


3,436,557

BUMPLESS TRANSFER SYSTEM FOR MULTIDRIVE CONTROL

Harold H. Koppel, University Heights, Ohio, assignor to Bailey Meter Company, a corporation of Delaware

Filed Sept. 17, 1965, Ser. No. 488,128
Int. Cl. H02j *1/00, 3/00*
U.S. Cl. 307—87 3 Claims



A control system providing common automatic and individual manual control for a plurality of final control elements including an equalizing circuit associated with each final control element which permits transfer of any one of the final control elements from automatic to manual operation and vice versa without introducing a bump or shock into the control system.

3,436,558

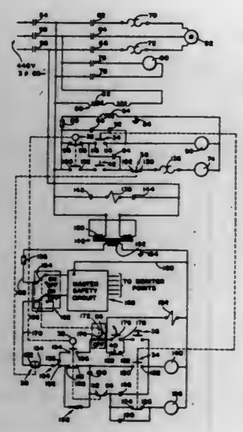
SAFETY SYSTEM FOR MOTOR OPERATED MACHINES

James Connell, Livonia, and Thomas G. Comerford, Rochester, N.Y., assignors to Eastman Kodak Company, Rochester, N.Y., a corporation of New Jersey

Filed Dec. 4, 1967, Ser. No. 687,798
Int. Cl. H02b *1/24;* H01h *19/64, 33/52*
U.S. Cl. 307—113 5 Claims

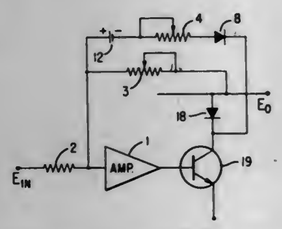
This invention relates to a safety arrangement for motor operated machines having a reciprocating member engaging a stationary member. During the machine setup operation, a clamping means controllable by a switch

means holds the work stock in fixed position. Additional switching arrangements, electrically interlocked with the clamping switch means are arranged so as to require the machine operator to physically employ both hands to



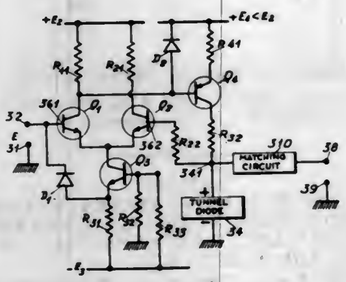
operate these switches simultaneously, in order to energize an electric motor for providing power to accomplish intermittent displacement of the reciprocating member for adjusting purposes.

3,436,559
STATIC FUNCTION GENERATOR
Philip I. Wajs, Euclid, Ohio, assignor to Bailey Meter Company, a corporation of Delaware
Filed Oct. 23, 1965, Ser. No. 503,529
Int. Cl. G06g *7/12*
U.S. Cl. 307—229 **18 Claims**



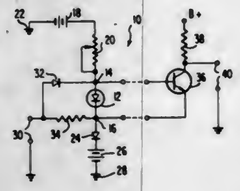
A feedback diode type function generator with a preselected transfer characteristic for input signals varying plus and minus of zero including a differential amplifier, a source of direct current voltage for adding a fixed voltage level to the input signal before amplification and for subtracting a fixed voltage level from the output signal, a resistive feedback loop for proportionally relating the output signal with the input signal and a plurality of diode feedback loops for changing the proportional relationship between the output and input signals. A power amplifier is connected to the output of the differential amplifier and a temperature compensating diode is connected to the output of the power amplifier in series opposition with the feedback diodes and in series with the resistive loop in order to minimize the effect of a temperature change in the feedback diodes. The voltage source back-biases the feedback diodes and forward-biases the temperature compensating diode to generate either an increasing or a decreasing transfer characteristic slope.

3,436,560
VOLTAGE LEVEL DETECTOR WITH TUNNEL DIODE
Jean Claude Marchais, Paris, France, assignor to CSF—Compagnie Generale de Telegraphie Sans Fil, a corporation of France
Filed Dec. 6, 1965, Ser. No. 511,852
Claims priority, application France, Dec. 7, 1964, 997,647
Int. Cl. H03k *19/10*
U.S. Cl. 307—322 **2 Claims**



A tunnel diode is continuously coupled to the signal input through a feedback loop; thus the voltage across the diode terminals follows the input voltage and the voltage jump across the diode terminals detects a fixed predetermined value of the input voltage, whatever the temperature.

3,436,561
VOLTAGE DEVIATION SENSOR
John C. De Fellipps and James L. Thomason, Denver, Colo., assignors to Martin-Marietta Corporation, Baltimore, Md., a corporation of Maryland
Filed Feb. 17, 1965, Ser. No. 433,366
Int. Cl. H03k *17/58*
U.S. Cl. 307—235 **6 Claims**

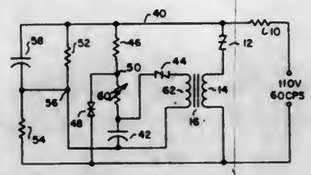


This circuit provides an indication whenever an input signal crosses either the upper or lower boundary of a preselected voltage range. A negative resistance device is maintained in one of its stable conduction modes with an upper and lower reference voltage level being established, one at each of its two terminals. The input signal is applied to both terminals of the negative resistance device, and the circuit is so arranged that if the input signal voltage either exceeds the upper limit or drops below the lower limit, the negative resistance device is thrown into its other stable conduction mode.

3,436,562
SOLID STATE POWER CONTROL CIRCUIT WITH COMPENSATION FOR LINE VOLTAGE VARIATION
John R. Harris, Jr., Dallas, Tex., assignor to Hunt Electronics Company, Dallas, Tex., a corporation of Texas
Filed Feb. 5, 1965, Ser. No. 430,541
Int. Cl. H03k *17/08*
U.S. Cl. 307—252 **10 Claims**

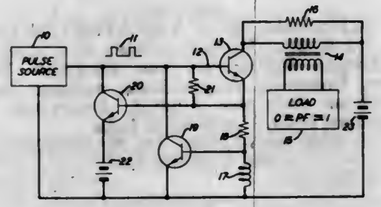
There is disclosed a power control circuit for the phase control of power with compensation for line voltage vari-

ation wherein the control signal applied for controlling the conduction of a power control switching device is generated by means including a Zener diode for providing a square wave signal of the same frequency as the alternating current supply voltage, a resistor-capacitor network for providing a second signal which is a function of the instantaneous amplitude of the applied alternating cur-



rent supply voltage, a capacitor which is charged to a voltage that is the difference in the voltage between the square wave signal and the second signal and means responsive to the charge on the capacitor for applying to the power control device the control signal.

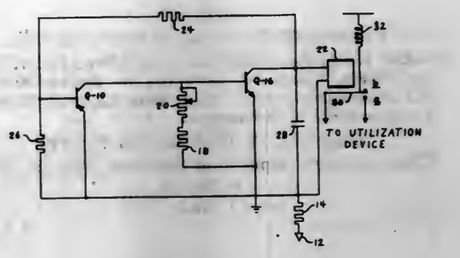
3,436,563
PULSE DRIVER WITH LINEAR CURRENT RISE
William M. Regitz, Colonia, N.J., assignor to Bell Telephone Laboratories, Incorporated, New York, N.Y., a corporation of New York
Filed Dec. 27, 1965, Ser. No. 516,312
Int. Cl. H03k *3/26, 5/08*
U.S. Cl. 307—270 **2 Claims**



In a pulse driver the emitter circuit of the output transistor includes a resistor and inductor in series. Two feedback transistors provide variable shunts of the input drive pulses. One, driven by the voltage across the inductor, limits the rate of increase of output current to a constant value. The second, driven by the voltage across the inductor and resistor, limits the output pulse amplitude to a constant value.

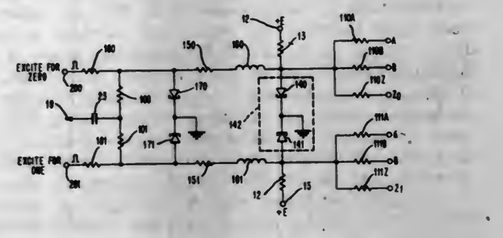
3,436,564
HIGHLY SENSITIVE CIRCUIT EMPLOYING THE TEMPERATURE SENSITIVE CHARACTERISTICS OF TWO TRANSISTORS TO CONTROL A SWITCHING DEVICE
Marlin S. Enders, 1655 Chalcedony St., Pacific Beach, Calif. 92109
Filed July 29, 1965, Ser. No. 475,652
Int. Cl. H03k *3/42, 19/14, 23/12*
U.S. Cl. 307—310 **8 Claims**

A highly sensitive, low cost, control circuit using the temperature sensitive characteristics of transistors by connecting two transistors of opposite conduction, a first combination sensing and bias offset transistor and a second combination sensing and bias offset transistor, with other circuit components to switch a load device in accordance with temperature sensed by the two transistors, the circuit effectivity being increased by the use of a circuit sensitizing resistor which provides rapid switching response



as the combination sensing and output transistor is switched into either the conducting or non-conducting state.

3,436,565
NONDESTRUCTIVE READ OUT TUNNEL DIODE MEMORY ELEMENT
William J. Bartik, Jenkintown, Pa., assignor to Sperry Rand Corporation, New York, N.Y., a corporation of Delaware
Filed Aug. 16, 1965, Ser. No. 479,858
Int. Cl. H03k *3/26, 19/08, 19/12*
U.S. Cl. 307—322 **1 Claim**



1. In combination, first and second tunnel diodes, each having an anode and a cathode, said tunnel diodes having widely differing peak current characteristics with said first tunnel diode having a higher peak current characteristic, bias means connected to the anode of said first tunnel diode to bias said first tunnel diode for bistable operation, input means connected to the anode of said first tunnel diode, excite circuit means connected directly to the anode of said second tunnel diode, inductor means having a single winding and resistor means serially connected to one another and between the anodes of said first and second tunnel diodes, said inductor and resistor means having values such that the R–L time constant thereof is sufficiently long in time duration to maintain and sustain the current flow through said second tunnel diode after the termination of an excite signal, and said inductor and resistor means further having impedance values such that if said first tunnel diode is operating in its high voltage state the voltage at its anode will cause said second tunnel diode to operate in its high voltage state and when said first tunnel diode is operating in its low voltage state the voltage at its anode will cause said second tunnel diode to operate in its low voltage state in the absence of an excite signal, and output signal means directly connected to said excite circuit means and to said anode of said second tunnel diode whereby an excite signal appears as an output signal of relatively short duration

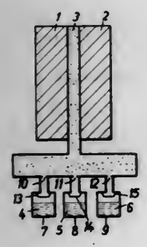
when said first tunnel diode is operating in its high voltage state and appears as an output signal of relatively long duration when said first tunnel diode is operating in its low voltage condition.

3,436,566

THERMIONIC ENERGY CONVERTER

Reinhart Langpape, Mannheim, and Alfred Jester, Speyer am Rhein, Germany, assignors to Brown Boveri & Cie Aktiengesellschaft, Mannheim-Kafertal, Germany, a corporation of Germany

Filed Dec. 28, 1965, Ser. No. 516,999
Claims priority, application Germany, Feb. 25, 1965, B 80,710
Int. Cl. H02k *7/00*
U.S. Cl. 310—4 8 Claims



A thermionic energy converter comprising an emitter electrode and a collector electrode with an interelectrode space therebetween. Means are provided to introduce caesium vapor in the interelectrode space at the operating temperature of the converter. In addition, individual storage containers, communicating with the interelectrode space, are provided for introducing into the space the vapor of at least one material selected from the group consisting of the alkaline earth metals calcium, strontium and barium and volatile compounds thereof. The volatile compound may be a halide of calcium, strontium or barium, plus at least one halogen element. Membranes are provided in the communicating paths between the interelectrode space and respective individual storage containers to selectively seal off vapors of respective materials in certain of the containers while passing through vapors of other selected materials in respective ones of the containers.

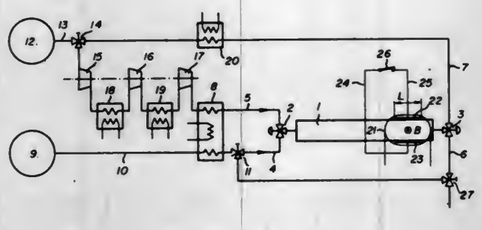
3,436,567

METHOD OF AND APPARATUS FOR HEATING A FLUID BY MEANS OF AN AUXILIARY FLUID AT HIGH PRESSURE

Eric Brocher, 108, chemin de la Montagne, Chene-Bougerie, Geneva, Switzerland

Filed July 26, 1966, Ser. No. 567,948
Claims priority, application Switzerland, July 27, 1965, 10,492/65
Int. Cl. H02n *4/02*
U.S. Cl. 310—11 9 Claims

1. A method of heating a fluid by means of a high pressure auxiliary fluid comprising the steps of:
(i) introducing the fluid to be heated into a shock tube,
(ii) introducing the auxiliary fluid at a higher pressure into the shock tube in a manner so as to generate a shock wave to compress the fluid to be heated in the shock tube, thereby to raise the temperature of the fluid to be heated to a level at which the electrical conductivity of the fluid to be heated is raised to at least 0.1 mho/m.,
(iii) expanding the electrically conductive fluid to be heated by passing the fluid to be heated through a magnetic field transverse to the general direction of flow of the fluid to be heated, and by passing the fluid to be heated simultaneously between two short-circuited electrodes disposed parallel to the magnetic field,
(iv) removing the fluid to be heated and the auxiliary fluid from the shock tube,



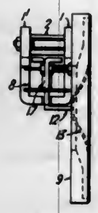
(v) separating the fluid to be heated from the auxiliary fluid,
(vi) reintroducing the fluid to be heated into the shock tube,
(vii) reintroducing the auxiliary fluid into the shock tube in a manner so as to generate a shock wave to compress the fluid to be heated in the shock tube, thereby to raise further the temperature of the fluid to be heated,
(viii) and repeating steps (iii), (iv) and (v).

3,436,568

ELECTROMAGNETIC VIBRATORY DEVICES

Ranjit Das Gupta, Mysore Jayasimha, Rau Somasekhara, Krishnappa Sitaramarao, and Rangaiyer Yegnanarayan, Dooravani, Nagar, India, assignors to Indian Telephone Industries Limited, Dooravani, Nagar, Bangalore, India, a company of India

Filed Apr. 19, 1966, Ser. No. 543,625
Int. Cl. H02k *33/18*
U.S. Cl. 310—25 3 Claims



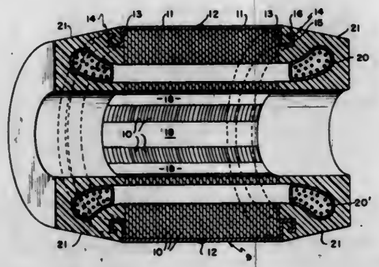
An electromagnetic vibratory device includes a base and a pair of magnetic pole pieces mounted thereon and having first ends extending toward each other and defining a pole piece gap. A magnetic armature has a pair of torsion arms extending laterally therefrom and secured to the base, the arms being secured to the base in a position wherein a free end of the armature extends into the gap and the opposite end of the armature is spaced from the permanent magnet toward the gap. The inner end of the armature is slit longitudinally to provide at least a pair of legs each extending at a fixed angle from the armature toward a respective pole piece and spaced from the permanent magnet toward the gap.

3,436,569

DYNAMOELECTRIC MACHINE STATOR ASSEMBLY WITH END TURN ENCAPSULATION

Robert J. Flaherty, Jr., 632 Binsted Road, Glen Burnie 21061, Henry P. Walker, 9412 Worth Ave., Silver Spring 20901, and John A. Kimball, Jr., Ferry Point Road, Rte. 3, Box 371, Annapolis, Md. 21403

Filed Oct. 26, 1966, Ser. No. 590,139
Int. Cl. H02k *1/04, 5/10*
U.S. Cl. 310—43 6 Claims



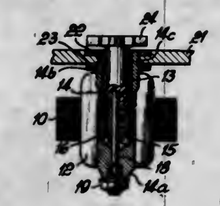
1. A lamination securing device for a stack of laminations for a dynamoelectric machine, comprising:
two end cups each having a tubular portion, the inside dimension of which is equal to the outside dimension of the stack, said tubular portion having a length one half the length of the stack, and being open at one end;
a flange at the other end of each tubular portion attached thereto extending inwardly perpendicular to said length of the stack to form a lamination securing portion; and
an encapsulation securing portion of said end cup attached to an inner part of said flange and extending outwardly along and away from the length of said stack to engage plastic encapsulating material.

3,436,570

ELECTRIC MOTOR WITH PERMANENT MAGNET ROTOR HAVING A FLUID IMPELLER AND HOLLOW BEARING

Kurt Engels, Schmurstrasse 30, Wuppertal-Barmen, Germany

Filed Feb. 8, 1966, Ser. No. 525,946
Int. Cl. H02k *5/16*
U.S. Cl. 310—46 7 Claims



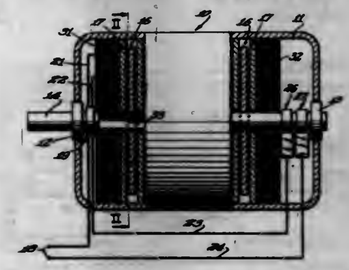
An electromagnetic driving unit or motor comprising two coils, spaced apart from each other, creating a magnetic field upon excitement on both sides of a common polarization axis. An armature, charged positively at one peripheral portion and negatively at an opposed peripheral portion, defining a pole axis, is rotatably mounted between the coils. A hollow bearing is secured between the coils and a bearing axle extends centrally therein on which the armature is mounted rotatably relative the hollow bearing on one side thereof. An aligning magnet is secured outside the polarization axis which causes, in the inoperative condition, a rotation of the armature to a rest position such that the pole axis of the armature is positioned at an acute angle relative the polarization axis of the coils. A fluid impeller may be provided on the end of the armature.

3,436,571

DYNAMOELECTRIC MACHINE HAVING CORRESPONDING FERROMAGNETIC COILS ON ALTERNATING ROTOR AND STATOR DISKS

Park French, Aurora, Ohio, assignor to TRW Inc., Cleveland, Ohio, a corporation of Ohio

Continuation-in-part of application Ser. No. 341,643, Jan. 31, 1964. This application Mar. 13, 1967, Ser. No. 642,981
Int. Cl. H02k *37/00*
U.S. Cl. 310—46 10 Claims



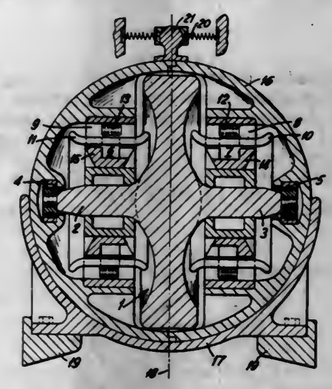
Dynamoelectric machines of the disk type wherein the rotor and stator disks contain coils preferably formed of alternating strips of ferromagnetic material and electrically conductive, nonmagnetic material.

3,436,572

ROTATIONAL ENERGY ACCUMULATOR, ESPECIALLY FOR ELECTRICALLY DRIVEN VEHICLES

Bjarne Storsand, Watt, Switzerland, assignor to Maschinenfabrik Oerlikon, Zurich, Switzerland

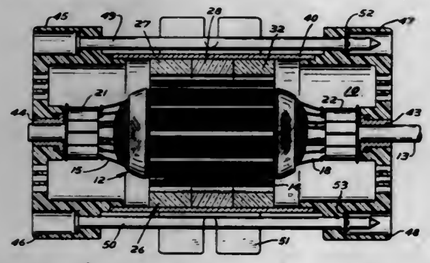
Filed Sept. 8, 1966, Ser. No. 578,066
Claims priority, application Switzerland, Sept. 16, 1965, 12,880/65
Int. Cl. H02k *7/02, 47/18, 47/30*
U.S. Cl. 310—74 12 Claims



A rotational energy accumulator unit for powering electric drives for vehicles includes a gas-tight casing, a flywheel mounted within said casing, and antifriction bearings rotatably supporting said flywheel for rotation about a horizontal axis at speeds of from 6000 to 12000 r.p.m. Winding-free rotors of homopolar-synchronous machines are rotatable with the flywheel, the machines being located within the sealed casing and one rotor being fixed to each of a pair of stub shafts of the flywheel. These machines operate as motors, during stops of the

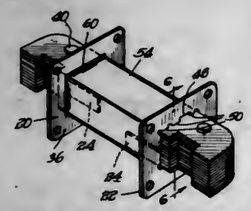
vehicle, to accelerate the flywheel, and operate as generators, during running of the vehicle, to provide the electric power for driving the vehicle. Means are provided to control precession of the accumulator unit. The casing is preferably spherical and mounted in a mating hemispherical mounting.

3,436,573
CONTROL APPARATUS
Erland K. Persson, Minneapolis, Minn., assignor to Electro-Craft Corporation, Hopkins, Minn., a corporation of Minnesota
Application June 4, 1964, Ser. No. 372,530, now Patent No. 3,335,350, dated Aug. 8, 1967, which is a continuation-in-part of application Ser. No. 205,911, June 28, 1962. Divided and this application Mar. 24, 1967, Ser. No. 646,777
Int. Cl. H02k 47/04, 47/14, 47/20
U.S. Cl. 310—113 2 Claims



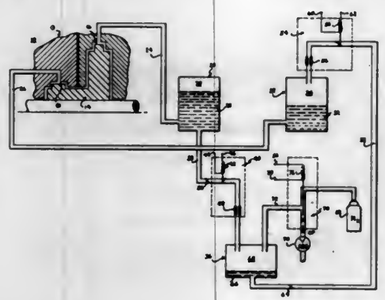
A motor generator in which physically interrelated motor and generator coil windings are disposed for motion adjacent and relative to a characterized source of magnetic energy of the class exhibiting the properties of isotropic barium ferrite. The substantial elimination of reactive forces from the motor winding upon the magnetic fields provided by the characterized source of magnetic energy results in a generated voltage that is directly proportional to the velocity of motion of the windings with respect to the source of magnetic energy and is substantially independent of the current flowing in the motor winding. Manufacturing and operating economies are achieved by virtue of simplified construction including symmetrical design of the end caps of the motor housing and shaft supports.

3,436,574
COIL BOBBIN WITH MAGNETIC CORE FOR DYNAMOELECTRIC MACHINES
Robert T. Larsson, Mount Prospect, Ill., assignor to Midland Engineering & Machinery Company, Rosemont-Des Plaines, Ill., a corporation of Illinois
Filed Apr. 25, 1966, Ser. No. 545,106
Int. Cl. H02k 1/18
U.S. Cl. 310—194 12 Claims



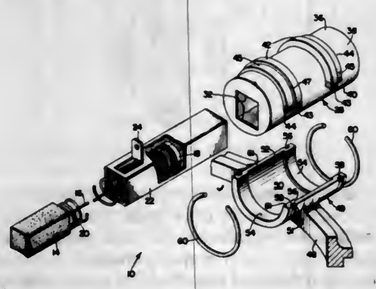
A magnetically susceptible laminated corepiece for an electric motor with insulating flanges placed over the corepiece for positioning a coil subsequently wound in place. The flanges have tabs that extend along the corepiece. An adhesively coated layer of insulation is wound on the corepiece over the tabs to lock the flanges in place and to insulate the winding from the corepiece.

3,436,575
CONDUCTIVE LIQUID METAL TRANSFER MEANS FOR PLURAL CURRENT COLLECTORS
Luke M. Harvey, Schenectady, N.Y., assignor to General Electric Company, a corporation of New York
Filed Sept. 30, 1966, Ser. No. 583,276
Int. Cl. H02k 13/00; H01r 39/30
U.S. Cl. 310—219 6 Claims



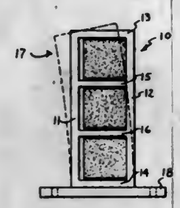
1. A conductive liquid metal current collector system comprising:
(a) first and second rotary liquid metal current collectors, said first collector being positioned radially outward relative to said second collector and said collectors being at different electrical potentials during normal operation;
(b) first and second reservoirs for conductive liquid metal in communication with said first and second collectors, respectively;
(c) a sump for conductive liquid metal in selective communication with both of said reservoirs and electrically insulated from each of said reservoirs; and
(d) means responsive to the presence of a high liquid level in said first reservoir to transfer liquid therefrom to said sump, means to transfer liquid to said second reservoir from said sump, and means for preventing simultaneous exchange of liquid between both of said reservoirs and said sump.

3,436,576
BRUSH HOLDER ASSEMBLY FOR ELECTRIC MOTORS
Elmer C. Klebe, Jr., Anderson, S.C., assignor to The Singer Company, New York, N.Y., a corporation of New Jersey
Filed Sept. 3, 1965, Ser. No. 485,032
Int. Cl. H01r 39/40
U.S. Cl. 310—239 2 Claims



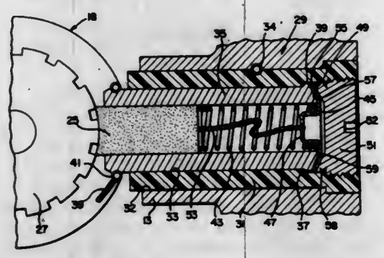
A brush holder assembly for an electric motor including a seat formed in the motor frame, which seat is designed to accept a brush holder tube, and clamping rings to hold the tube in place on the seat.

3,436,577
BRUSH HOLDER CONSTRUCTION
Frank T. De Wolf, Erie, Pa., assignor to General Electric Company, a corporation of New York
Filed Jan. 10, 1966, Ser. No. 519,691
Int. Cl. H02k 13/10; H01r 39/40
U.S. Cl. 310—246 5 Claims



A box-type brush support for dynamoelectric machines, in which a brush is pressed against a commutator, overcomes the effects of heating a reaction surface against which the brush bears by providing a wall opposite the reaction surface which is discontinuous, as by being slotted, for its entire length.

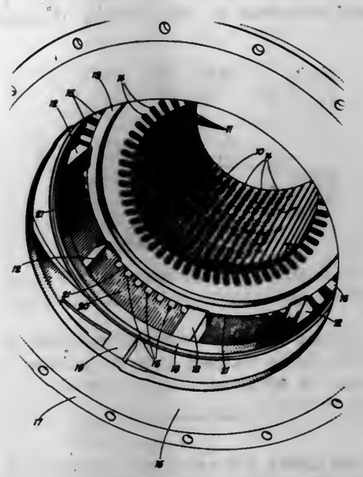
3,436,578
MOISTURE-PROOF ACCESSIBLE BRUSH HOLDER
Richard T. Walter, Baltimore, Md., assignor to The Black and Decker Manufacturing Company, Towson, Md., a corporation of Maryland
Filed Apr. 24, 1968, Ser. No. 723,710
Int. Cl. H02k 13/00; H01r 39/38
U.S. Cl. 310—247 13 Claims



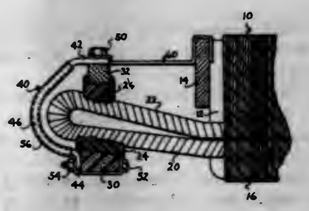
The device disclosed herein is a shunt-type brush holder assembly for an electric motor and includes a hollow, elongated, insulating body having an insulating plug threaded in one end thereof and which is accessible externally of the motor. A conductive sleeve is positioned within the body and is electrically connected to a connector slidable therein by a brush cap and a conventional pigtail. The brush is normally biased outwardly of the sleeve by a spring trapped between the brush and the cap while the plug and the cap cooperatively engage in assembly causing the plug to sealingly engage the body thereby preventing moisture from gaining access to the live metal parts.

3,436,579
STATOR CORE FOR DYNAMOELECTRIC MACHINES
Herbert A. Gaensbauer and Everett C. Elgar, Peterborough, Ontario, Canada, assignors to Canadian General Electric Company Limited, Toronto, Ontario, Canada, a corporation of Canada
Filed Aug. 21, 1967, Ser. No. 662,143
Int. Cl. H02k 1/12
U.S. Cl. 310—258 4 Claims

A dynamoelectric machine stator core comprising a stack of identical laminations and having rows of axially spaced integral projections on the outer periphery thereof in the path of axial coolant flow.



3,436,580
STATOR END TURN BRACING SYSTEM
Thomas E. Brennan, Schenectady, and Howard C. Ward, Jr., Albany, N.Y., assignors to General Electric Company, a corporation of New York
Filed Oct. 14, 1966, Ser. No. 586,752
Int. Cl. H02k 3/46
U.S. Cl. 310—260 2 Claims



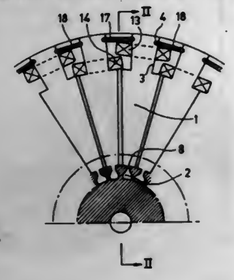
An axial restraint for the end turn support rings of a dynamoelectric machine takes the form of a plurality of circumferentially spaced supporting brackets, each secured at one end to the outer end turn support ring and extending around the nose of the end turns to an attachment to the inner end turn support ring. The restraint is a substantially C-shaped bracket spaced throughout its length from the end turns and fabricated of metallic strap material and including a covering of electrically insulating material.

3,436,581
LAMINATED FLAT DISC-SHAPED ROTORS
Wilhelmus Hendrikus van Donselaar, Emmasingel, Eindhoven, Netherlands, assignor to North American Philips Company, Inc., New York, N.Y., a corporation of Delaware
Filed Aug. 25, 1966, Ser. No. 574,965
Claims priority, application Netherlands, Sept. 23, 1965, 6512350
Int. Cl. H02k 1/22
U.S. Cl. 310—268 3 Claims

1. A laminated flat disc-shaped rotor for use in an electric machine, comprising a plurality of laminated rotor segments of ferromagnetic material, the laminations



of each segment being located on each side of a circular plate of nonmagnetizable material, said circular plate and each lamination of said plurality of segments being



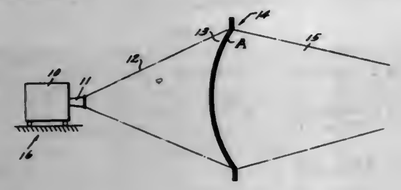
secured at one end in a rotor hub, the other end of said laminations being enclosed at their periphery by one or more rings of nonmagnetizable material.

3,436,582

PLASMA SEPARATOR ION ENGINE

Russell N. Edwards, Cincinnati, Ohio, assignor to General Electric Company, a corporation of New York

Filed Apr. 18, 1962, Ser. No. 188,335
Int. Cl. H05h *1/00, 3/00*
U.S. Cl. 313—63 2 Claims



1. A plasma separator ion engine comprising,
a high density neutral plasma source including a central current conductive rod,
a conductive shell spaced from and surrounding said rod to define an annulus therebetween,
a perforate screen of refractory metal of high work function heated by electric current at a potential less than the electrical breakdown potential of an alkali metal vapor to a temperature at which it emits significant quantities of electrons connected to and extending from said rod and disposed within said shell,
and means to direct said alkali metal vapor through said annulus and screen to produce by contact ionization an equal density of alkali metal ions and electrons for a balanced neutral plasma,
means to expand the neutral plasma in a beam into a low density area downstream of the source,
a separator system in said low density area to extract ions from the plasma,
and neutralizer means downstream of the separator to emit electrons into said ions and yield a high velocity plasma beam.

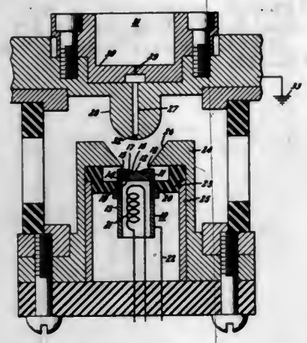
3,436,583

ELECTRON GUN

William C. Hughes, Scotia, N.Y., assignor to General Electric Company, a corporation of New York

Filed Mar. 15, 1966, Ser. No. 534,346
Int. Cl. H01j *29/46, 1/00, 29/56*
U.S. Cl. 313—82 6 Claims

An electron gun having an electron source which includes a disk of electron emitting material having a small projection on one face and an annular support underlying the disk periphery on the opposite face. The disk is capped by a cup-shaped member having an apertured end wall to receive the projection. A portion of the wall of the aperture formed by the cup-shaped member is



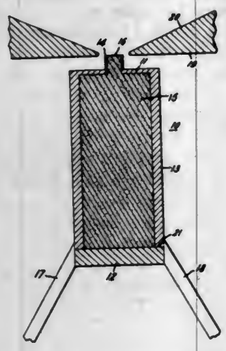
beveled outward in order to shape the emitted beam of electrons.

3,436,584

ELECTRON EMISSION SOURCE WITH SHARPLY DEFINED EMITTING AREA

William C. Hughes, Scotia, and Donald C. Peroutky, Schenectady, N.Y., assignors to General Electric Company, a corporation of New York

Filed Mar. 15, 1966, Ser. No. 534,345
Int. Cl. H01j *19/06, 19/10*
U.S. Cl. 313—346 5 Claims



An electron source including a sintered block of electron emitting material having a relatively large body portion with a small neck portion projecting from one end thereof. The sintered block is enclosed within a metal holder having the same general configuration as the block itself. Only the extreme end of the neck portion of the block, which is exposed, is subjected to an accelerating electrostatic field, thus limiting the electron emitting area of the source so as to produce a sharply defined electron beam.

3,436,585

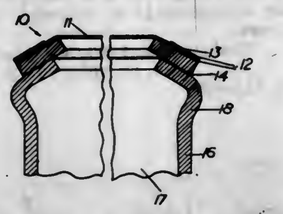
ELECTRON TUBE PLANAR GRID ELECTRODE

Hiromi Murakami, Tokyo, Japan, assignor to Nippon Electric Company, Limited, Minato-ku, Tokyo, Japan, a corporation of Japan

Filed Apr. 2, 1965, Ser. No. 445,012
Claims priority, application Japan, Apr. 20, 1964, 39/23,106
Int. Cl. H01j *1/46, 19/46, 19/28*
U.S. Cl. 313—348 9 Claims

An electron tube structure having a planar grid ring electrode brazed to a grid supporting member. The supporting member has a higher coefficient of thermal expansion than the grid ring at the brazing temperature so that

the supporting member is subjected to greater contraction than the grid ring upon cooling from the brazing temperature. This results in deformation of both the ring and the



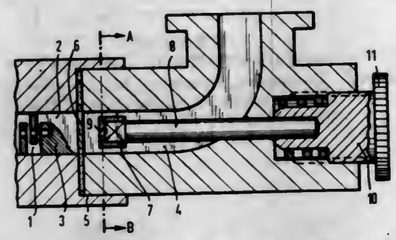
supporting member, causing an increase in tension on the grid wires of the ring, thus preventing sagging of the wires.

3,436,586

FREQUENCY MODULATION TUBE FOR THE GENERATION OR AMPLIFICATION OF MILLIMETER WAVES WITH A DELAY LINE ACTING AS A LINE RESONATOR

Franz Gross, Munich, Germany, assignor to Siemens Aktiengesellschaft, Munich, Germany, a corporation of Germany

Filed Jan. 12, 1966, Ser. No. 520,142
Claims priority, application Germany, Jan. 15, 1965, S 95,027
Int. Cl. H01j *25/34*
U.S. Cl. 315—3.5 7 Claims



A frequency modulation tube having an electron beam generator at one end and an electron collector at the other end with at least one delay line arranged therebetween. The delay line is permanently coupled by means of an intermediate hollow conductor portion and a vacuum tight decoupling window. The window is mounted to a rectangular cross-section decoupling conductor. The decoupling conductor is provided with a tuning rod which is slidably mounted in the longitudinal direction of the decoupling conductor. A metal body of rectangular cross-section is disposed on the free end of the tuning rod such that the ratios of the width of the metal body to the width of the hollow decoupling conductor, and the height of the metal body to the height of the decoupling conductor lie between 0.7 and 0.95.

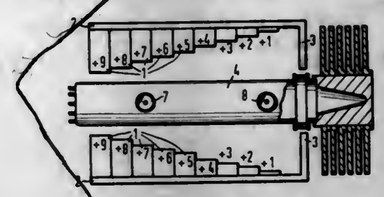
3,436,587

PERMANENT MAGNET SYSTEM FOR THE GENERATION OF A SUBSTANTIALLY HOMOGENEOUS MAGNETIC FIELD FOR THE BUNDLED GUIDANCE OF AN ELECTRON BEAM OVER A RELATIVELY LONG PATH, ESPECIALLY FOR TRAVELING WAVE TUBES

Paul Meyerer, Ottobrunn, Germany, assignor to Siemens Aktiengesellschaft, Munich, Germany, a corporation of Germany

Filed Jan. 21, 1966, Ser. No. 522,126
Claims priority, application Germany, Jan. 26, 1965, S 95,152
Int. Cl. H01j *25/34*
U.S. Cl. 315—3.5 6 Claims

A traveling wave tube having a series of permanent magnets disposed along the length of the tube, the magnets having decreasing length in a direction perpendicular to the tube axis and a diaphragm formed of mag-



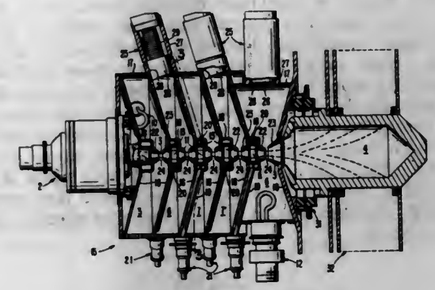
netically permeable material spaced axially from the adjacent magnet and extending transversely of the tube axis.

3,436,588

ELECTROSTATICALLY FOCUSED KLYSTRON HAVING CAVITIES WITH COMMON WALL STRUCTURES AND REENTRANT FOCUSING LENS HOUSINGS

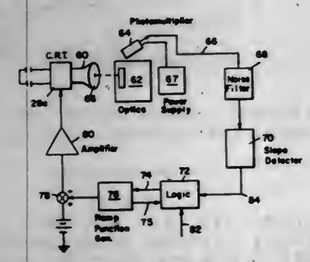
Johann R. Hechtel, Redwood City, Calif., assignor to Varian Associates, Palo Alto, Calif., a corporation of California

Filed Nov. 10, 1966, Ser. No. 593,422
Int. Cl. H01j *25/10, 23/08, 23/20*
U.S. Cl. 315—5.39 10 Claims



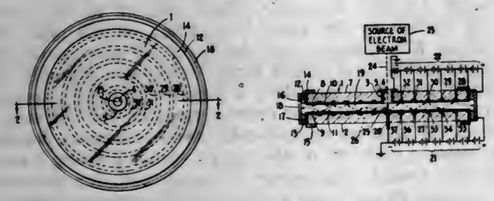
1. An electrostatically focused microwave tube apparatus including; means for forming and projecting a beam of electrons over an elongated beam path; means at the terminal end of the beam path for collecting and dissipating the energy of the beam; means forming a plurality of cavity resonators successively arranged along the beam path intermediate said beam forming means and said beam collecting means for electromagnetic interaction with the beam to modulate the beam with signal energy; means forming an output circuit coupled to the beam and excited by the signal modulation on the beam to extract R.F. energy from the beam for propagation to a utilization device; said means forming a plurality of cavity resonators including, a plurality of axially spaced transverse wall members defining common end wall structures for adjacent ones of said cavity resonators; means forming a plurality of electrostatic beam focusing lenses axially spaced apart along the beam path for focusing the beam through said cavity resonators; means forming a plurality of hollow lens housing structures carried from said transverse cavity wall members and axially projecting from said cavity wall members into said cavity resonators; and said lens housing structures containing said electrostatic beam focusing lenses, whereby the cavity resonator geometries defined by said common wall structures and said lens housing structures are structurally strong and provide improved electronic interaction impedances for the tube apparatus.

3,436,589
FOCUS MONITOR ARRANGEMENT
James Robbins Gaskill, Jr., Playa Del Rey, and George G. Vitt, Jr., Los Angeles, Calif., assignors to Hughes Aircraft Company, Culver City, Calif., a corporation of Delaware
Filed Jan. 12, 1967, Ser. No. 608,810
Int. Cl. H01j 31/26, 29/56
U.S. Cl. 315—10 8 Claims



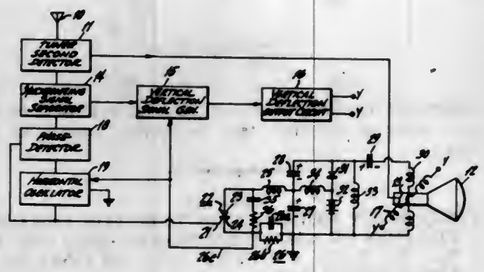
A cathode ray tube is provided having an electrically isolated beam limiting plate with an aperture therein interposed between the phosphor screen and second anode of the tube. In tube operation the electron beam is focused at the aperture and in the plane of the limiting plate resulting in a second focused condition at the phosphor screen. Focus occurring at the plane of the phosphor screen results in maximum electron beam intensity and maximum light flux output from the phosphor screen. Alternate monitoring devices are provided to scan the light output or the effective electron beam current. A controlled input is provided to the beam focusing device to periodically defocus the beam and in real time vary the controlled input signal to the focusing device until the optimum focus condition is reached and sensed by one of the monitoring devices. A stop and hold signal is then created at the controlled input. The tube is then conventionally operated until a second focus monitoring signal is instituted.

3,436,590
ELECTRON MULTIPLIER
Lozure G. Wolfgang, Donald R. Carlo, and Robert H. Clayton, Fort Wayne, Ind., assignors to International Telephone and Telegraph Corporation, Nutley, N.J., a corporation of Maryland
Filed Mar. 2, 1966, Ser. No. 531,232
Int. Cl. H01j 31/48
U.S. Cl. 315—11 11 Claims



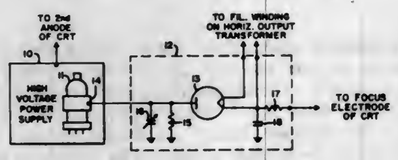
An electron multiplier includes two facing surfaces having secondary emissive material thereon. Electrons enter a central aperture in one surface and are accelerated by potential applied to a plurality of dynodes extending radially outward from the center between the two surfaces. A peripheral electrode collects the electrons.

3,436,591
ELECTRON BEAM DEFLECTION AND LOW VOLTAGE SUPPLY CIRCUIT
Gustave Louis Grundmann, Indianapolis, Ind., assignor to Radio Corporation of America, a corporation of Delaware
Filed Aug. 6, 1965, Ser. No. 477,718
Int. Cl. H01j 29/70
U.S. Cl. 315—27 7 Claims



A deflection circuit for a cathode ray tube includes a switching device such as a silicon controlled rectifier which is conductive during the retrace portion of each deflection cycle. A filter network comprising the parallel combination of a resistor and a capacitor is coupled in series with the switching device so as to develop a source of relatively low direct voltage for supplying additional circuits.

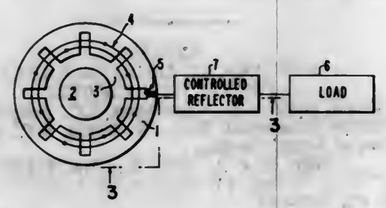
3,436,592
FOCUS CONTROL APPARATUS
Robert F. Tschannen, Lombard, Ill., assignor to Hazeltine Research, Inc., a corporation of Illinois
Filed June 11, 1965, Ser. No. 463,086
Int. Cl. H01j 29/56
U.S. Cl. 315—31 4 Claims



The cathode-ray tube focus apparatus of this invention includes a high voltage vacuum tube rectifier capacitively coupled to a focus voltage rectifier. A conductive metal band surrounding and in contact with the high voltage rectifier produces the capacitive coupling to the focus rectifier and the cathode ray tube focus electrode is coupled to the output of the focus rectifier through a resistor.

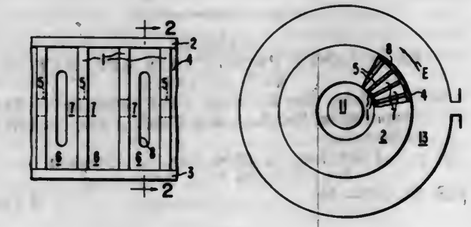
3,436,593
LOADING CONTROL FOR EXTERNALLY LOADED PERIODIC CIRCUITS AND TUBES USING SAME
Edward J. Cook, South Hamilton, Mass., assignor to Varian Associates, Palo Alto, Calif., a corporation of California
Filed Feb. 7, 1966, Ser. No. 525,600
Int. Cl. H01j 25/50
U.S. Cl. 315—39.53 5 Claims

A voltage tunable magnetron is disclosed. The magnetron includes a microwave periodic circuit disposed adjacent a stream of electrons for electronic interaction therewith to produce an output signal. A vacuum envelope structure encloses the circuit and electron stream and includes a wave permeable window portion through which microwave energy is extracted from the tube for transmission to a load. A coaxial output line is coupled to the tube via the intermediary of the wave permeable window portion such that the coaxial line includes a coupler segment portion external of the vacuum envelope. A dielectric sleeve is coaxially displosed within the coaxial coupler segment external of the vacuum envelope.



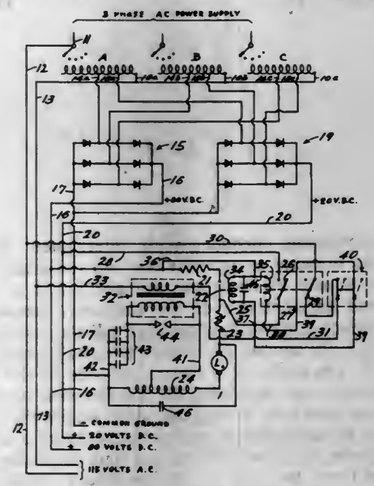
The sleeve is dimensioned to provide an impedance mismatch to form a wave reflector which may be controlled by changing the dimensions of the sleeve for controlling the loading and, thus, the tunable bandwidth of the periodic slow wave circuit as coupled to the load via the coaxial line coupler.

3,436,594
SLOW WAVE CIRCUIT HAVING AN ARRAY OF HALF WAVE RESONATORS COUPLED VIA AN ARRAY OF QUARTER WAVE RESONATORS
George K. Farney, New Providence, N.J., assignor to S-F-D Laboratories, Inc., Union, N.J., a corporation of New Jersey
Filed Dec. 15, 1965, Ser. No. 523,490
Int. Cl. H01j 25/50
U.S. Cl. 315—39.77 8 Claims



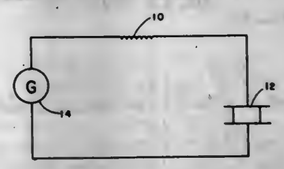
Slow wave circuits and microwave tubes utilizing same are disclosed. The slow wave circuits include an array of half wave resonators formed by an array of bars or other elongated conductive elements shorted together at both of their common ends to define the array of half wave resonators. Microwave energy is coupled to and from the array of half wave resonators via the intermediary of an array of quarter wave resonators formed by an array of quarter wavelength conductive members shorted together at one common end and connected at the other common end to the elongated conductive elements of the array of half wave resonators intermediate the length of the shorted elongated elements. In a preferred embodiment, a circular electric mode resonator is coupled to the composite slow wave circuit via the intermediary of coupling slots communicating through the shorted ends of the quarter wave resonators via an array of coupling slots communicating with alternate quarter wave resonators. Electromagnetic interaction is obtained between a wave traveling on the half wave resonator array and an electron stream disposed adjacent the array of half wave resonators.

3,436,595
ILLUMINATING LAMP POWER SUPPLY
Richard F. Kneisley, and Thomas R. Kneisley, Toledo, Ohio, assignors to The Kneisley Electric Company, Toledo, Ohio, a corporation of Ohio
Filed Oct. 23, 1965, Ser. No. 503,929
Int. Cl. H05b 37/02, 39/09
U.S. Cl. 315—165 4 Claims



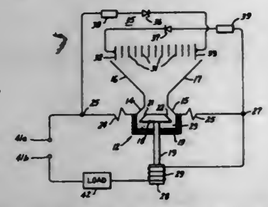
A power supply for gas-filled lamps requiring an initial pulse of high voltage and a continuing low voltage DC supply. The supply circuit includes a source of alternating current, and separate sources of high and low voltage current operably connected to a sparking device and a time delay relay such that initial energization of the device will apply a high voltage spark generated by the AC source across the lamps along with the high voltage direct current. The relay subsequently disconnects the AC source and the high voltage DC source and connects the low voltage DC supply to the lamp terminals.

3,436,596
COMPENSATION CIRCUIT FOR ELECTRO-LUMINESCENT LAMPS
Raymond V. Kline and Ronald A. Bross, Grand Rapids, Mich., assignors, by mesne assignments, to Lear Siegler, Inc., Santa Monica, Calif., a corporation of Delaware
Filed Aug. 31, 1960, Ser. No. 53,217
Int. Cl. H05b 41/16; G05j 1/00
U.S. Cl. 315—283 6 Claims



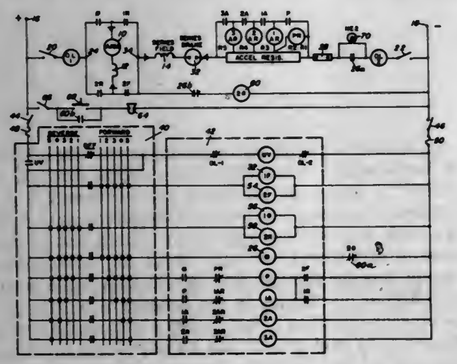
1. A control circuit for maintaining a constant intensity of luminescence from electroluminescent devices, comprising: a source of excitation voltage having a predetermined frequency, an electroluminescent device in series with said source; and means interposed in circuit between said source and said device for maintaining the current flowing through said device at a value which is not affected by changes in the impedance of said device, said means including a component which, at the operating frequency of said source, has an impedance much larger than that of said electroluminescent device such that said current is substantially determined solely by said component.

3,436,597
ELECTRIC CIRCUIT BREAKER WITH ASSISTED ARC INTERRUPTION
Ralph L. Hurtle, West Hartford, Conn., assignor to General Electric Company, a corporation of New York
Filed Aug. 24, 1967, Ser. No. 662,968
Int. Cl. H02h 7/16
U.S. Cl. 317—11 11 Claims



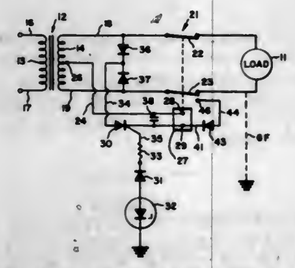
An alternating current circuit interrupter, including means for drawing an arc between two stationary spaced contacts; a pair of electrodes are positioned in the arc path, each adjacent one of the stationary contacts and each connected through a rectifier (diode) and resistor to the opposite contact or breaker terminal; when the arc strikes the electrodes, it is forced into one of the by-pass paths (which one depending on the direction of the current at the time) by the voltage drop across the arc; the arc then is extinguished except for a short arc in the gap between the aforesaid contact and electrode; in the preferred form, the total arc voltage before transfer to the by-pass path is greater than the line voltage, and the by-pass path has sufficient resistance to make the power factor essentially unity after transfer, with the result that the current is extinguished at the next succeeding voltage zero point of the system. In a second embodiment, the arc voltage developed does not exceed line voltage and interruption takes place at a second or third succeeding voltage-zero point. The resistors used in both embodiments may be standard resistors, but preferably are high positive temperature coefficient of resistance resistors, so that after the current is transferred to the by-pass path, the resistors heat and increase their resistance, reducing the current and further assisting interruption. The resistors are of high enough minimum (cold) value to protect the rectifiers from burn-out by excess current.

3,436,598
CONTROL SYSTEM SAFETY RELAY
John L. Guerrisi, 300 Eddington Ave., Harrisburg, Pa. 17111
Filed July 17, 1967, Ser. No. 653,800
Int. Cl. H02h 7/06
U.S. Cl. 317—13 11 Claims



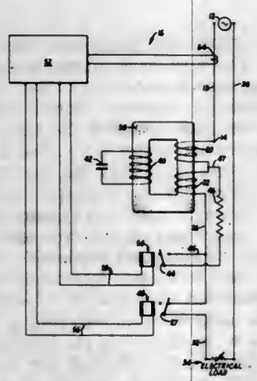
A protective relay for reversible motor-driven devices such as hoists, overhead cranes and the like which prevents operation of the motor in the event of failure in the direction control contacts. A relay coil is connected to the direction control contacts so as to be energized before the master controller is operated if any of the contacts have frozen shut. When energized, this relay coil opens a normally-closed contact to prevent operation of the motor and thus avoids possible motion of the hoist or crane in the wrong direction.

3,436,599
ELECTRICAL GROUND FAULT PROTECTIVE CIRCUIT
Charles J. Rogers, Sr., Charleston, S.C., assignor to C. J. Rogers Enterprises, Inc., Charleston, S.C., a corporation of South Carolina
Filed Sept. 9, 1966, Ser. No. 578,373
Int. Cl. H02h 1/02, 7/00
U.S. Cl. 317—18 7 Claims



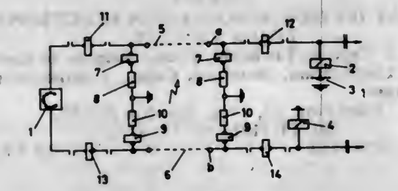
An electrical circuit for supplying power to a load connected through a switch and an isolation transformer to a source of electrical power which includes a grounded circuit connected to the transformer secondary winding through a relay coil for actuating the switch, a half-wave rectifier for reducing the voltage in the grounded circuit to a safe level and a Zener diode for further reducing the voltage in the grounded circuit by a predetermined voltage value.

3,436,600
REACTANCE PROTECTION APPARATUS AND METHOD
Eric A. Salo, San Lorenzo, Calif., assignor to Eryx Corporation, San Lorenzo, Calif., a corporation of California
Filed June 1, 1966, Ser. No. 554,554
Int. Cl. H02h 3/28, 7/26, 9/00
U.S. Cl. 317—20 5 Claims



A circuit overload protection system comprising a pair of inductively connected coils of equal reactance and opposite polarity adapted to be coupled into a circuit, and a selectively operable shunt to reduce the current through one of the coils upon the occurrence of an overloaded condition in the circuit. Operation of the shunt to reduce the current through one of the coils functions to increase the reactance of the protection system and, thus, decreases the load current of the circuit to which it is coupled. The system also includes a relay to disrupt the circuit in the event of a sustained overloaded condition after the reduction of the load current.

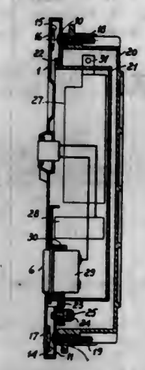
3,436,601
PROTECTION CIRCUITS FOR SIGNALLING LINES
Morgens Dyre, Gildbro, Nordborg, Denmark, assignor to Danfoss A/S, Nordborg, Denmark, a company of Denmark
Filed June 29, 1965, Ser. No. 467,964
Claims priority, application Germany, July 3, 1964, D 44,837
Int. Cl. H02h 1/04
U.S. Cl. 317—61.5 1 Claim



Protective circuit in which junctionless, nonrectifying, solid state switching elements are connected between conductors of a transmission line with ground connections to pass to ground transient voltage surges. Others of the switching elements are connected in series in the conductors to protect a substation set between the conductors. Each of the switching elements has a resistance and on application of a voltage exceeding a threshold value switches from a high-resistance to a low-resistance condition and when the current flowing through it falls below a predetermined holding value reverts to its high resistance condition. Resistors connected in series with the switching elements, at normal operating voltage and with the switching elements in their low-resistance condition, limit the current flow therethrough to a level below the holding value.

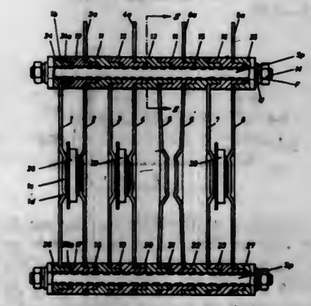
3,436,602
ELECTRIC WIRING DEVICE COMPRISING AUTOMATIC SWITCH AND SOCKET
Ermanno Bassani, Corso di Porta Vittoria 9, Milan, Italy
Filed Apr. 11, 1967, Ser. No. 630,037
Claims priority, application Italy, Apr. 12, 1966, 2,339/66
Int. Cl. H02b 1/04, 7/00
U.S. Cl. 317—99 6 Claims

A wiring device includes an outer housing having a first open side and an inner housing received in the outer housing and having a second open side facing in the same direction as the first open side. A cover plate overlies both of the open sides and is connected with both of the housings. The cover plate has a first aperture and spaced therefrom a plurality of second apertures all of which communicate with the interior of the inner housing. A multisection circuit breaker is mounted in the inner housing arranged to be connected to a source of electric energy and comprises actuating portions each of which controls one of the independently acting sections of the circuit breaker. The actuating portions are accessible through the first aperture. A plurality of electrical outlet devices are arranged in the inner housing electrically connected with the respective sections of the circuit breaker so that each outlet device is controlled by one of these sections;



the outlet devices are each accessible through one of the second apertures.

3,436,603
SEMICONDUCTOR ASSEMBLIES INCLUDING SEMICONDUCTOR UNITS WITH COOLING PLATES THEREFOR
Herbert Vogt, Munich, Germany, assignor to Siemens Aktiengesellschaft, Berlin, Germany
Filed Oct. 24, 1965, Ser. No. 504,303
Claims priority, application Germany, June 10, 1965, S 97,542; Aug. 20, 1965, S 98,953
Int. Cl. H02b 1/02
U.S. Cl. 317—100 18 Claims



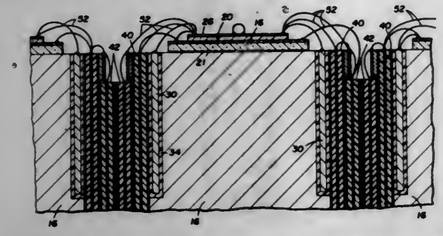
Semiconductor assembly includes at least one semiconductor unit having a disc-shaped housing including two metallic cover plates insulated from one another, and a semiconductor element slidably disposed between the cover plates, at least two resilient electrically conductive cooling plates having substantially central seat portions, spacer means of insulating material located between and engaging the cooling plates at two locations thereon disposed opposite one another respectively, and the spacer means having a thickness tending to urge the cooling plates to positions located a given distance from one another, the cover plates of the semiconductor unit housing being spaced from one another a distance greater than the given distance, the semiconductor unit being disposed between the cooling plates so that the cover plates of the housing are grippingly retained between the substantially central seat portions with a given pressure for affording relatively good thermal and electrical conduction from both sides of the semiconductor element to the cooling plates.

3,436,604

COMPLEX INTEGRATED CIRCUIT ARRAY AND METHOD FOR FABRICATING SAME

Tom M. Hyltin and Jack S. Kilby, Dallas, and Gerald Luecke and Harold D. Toombs, Richardson, Tex., assignors to Texas Instruments Incorporated, Dallas, Tex., a corporation of Delaware

Filed Apr. 25, 1966, Ser. No. 545,077
Int. Cl. H02b 1/04; H01l 19/00
U.S. Cl. 317—101 23 Claims



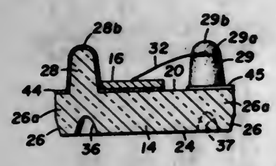
A modular integrated circuit array is disclosed including a plurality of integrated circuit chips on each module. Coaxial transmission lines are utilized for interconnecting the integrated circuit chips on different modules in the array and may also be utilized for interconnecting the integrated circuit chips on a single module. Alternatively, some or all of the intramodule connections may be provided utilizing strip transmission lines.

3,436,605

PACKAGING PROCESS FOR SEMICONDUCTOR DEVICES AND ARTICLE OF MANUFACTURE

Rafael Landron, Jr., Scottsdale, Ariz., assignor to Texas Instruments Incorporated, Dallas, Tex., a corporation of Delaware

Filed Nov. 23, 1966, Ser. No. 596,527
Int. Cl. H02b 1/04
U.S. Cl. 317—101 4 Claims



A circuit including a substrate having conductive pathways thereon and an associated header for an electronic device to be connected to the pathways are disclosed. The header includes an insulating body having opposed surfaces with a plurality of spaced pedestals extending from one surface to receive the electronic device therebetween on the one surface. Each pedestal has a rounded tip portion and at least two of the pedestals have intermediate bonding surfaces. A plurality of mutually electrically isolated metal films are provided for effecting the desired electrical connections.

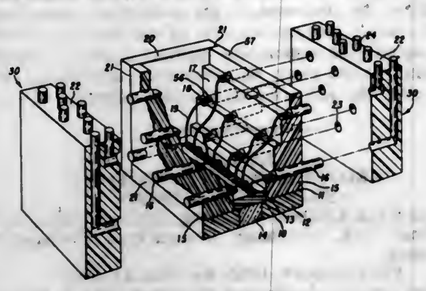
3,436,606

PACKAGED MULTILEAD SEMICONDUCTOR DEVICE WITH IMPROVED JUMPER CONNECTION

Bruce S. Reed, Dallas, and Dale T. Wingo, Richardson, Tex., assignors to Texas Instruments Incorporated, Dallas, Tex., a corporation of Delaware

Filed Apr. 3, 1967, Ser. No. 628,087
Int. Cl. H02b 1/04
U.S. Cl. 317—101 11 Claims

Disclosed is a packaged multilead semiconductor device including a plurality of circuit components in a wafer bonded to the mounting surface of a header. One or more terminal strips, each having a plurality of connections to which connection by jumpers are made from the components in the wafer, are bonded to the header substantially alongside the edges of the wafer, the major



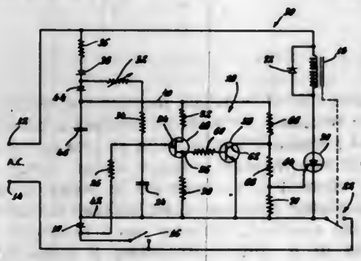
surfaces of each terminal strip being in a plane perpendicular to the mounting surface of the header.

3,436,607

DELAY ON DE-ENERGIZATION ELECTRONIC TIMER CIRCUIT

George J. Yagusic, Litchfield, Conn., assignor to General Time Corporation, Stamford, Conn., a corporation of Delaware

Filed Nov. 21, 1966, Ser. No. 595,993
Int. Cl. H01h 47/18, 47/32
U.S. Cl. 317—142 10 Claims



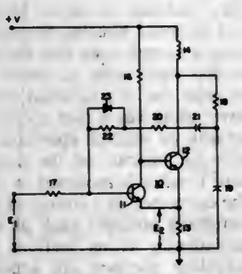
A delay on de-energization electronic timer using a single relay. The functions of the second relay normally employed to short out the timing capacitor and to initially energize the load controlling relay are performed by a single diode. This diode furnishes a path for energizing the load relay and blocks the path that would otherwise result shorting the timing capacitor after the ON-OFF switch is opened to initiate the timing interval.

3,436,608

TRIGGER CIRCUIT FOR INDUCTIVE LOAD

Paul W. Cauller, Greenwood, and Earle B. McDowell, Waynesboro, Va., assignors to General Electric Company, a corporation of New York

Filed Oct. 21, 1965, Ser. No. 499,769
Int. Cl. H01h 47/32
U.S. Cl. 317—148.5 4 Claims



The slow response time of a regenerative two transistor snap-action switch having an inductive load is overcome

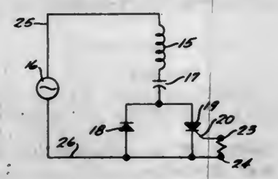
by energy storage. An RC network charges during switch off time to supply energy at turn-on to insure snap-action. The RC network also limits current flow into the first transistor during switch on time to prevent premature turn-off.

3,436,609

ELECTRONIC ALTERNATING CURRENT SWITCH

Raymond J. Francis, Brookfield, Wis., assignor to Curtis Development & Mfg. Co., Milwaukee, Wis., a corporation of Wisconsin

Filed Dec. 16, 1966, Ser. No. 602,315
Int. Cl. H01h 47/32
U.S. Cl. 317—148.5 16 Claims



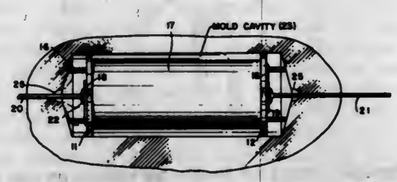
The electronic A.C. switching circuit disclosed herein controls application of power to an inductive load. The basic circuit has, in series with the load, a capacitor and a network including in parallel connection a diode rectifier and a gate-controlled, semi-conductor switch. Various elaborations of the basic circuit for specific uses are also disclosed.

3,436,610

ENCAPSULATED CAPACITOR

Lawrence R. Sparrow and Jerry Braiman, Indianapolis, Ind., assignors to P. R. Mallory & Co., Inc., Indianapolis, Ind., a corporation of Delaware

Continuation of application Ser. No. 372,611, June 4, 1964. This application Dec. 21, 1967, Ser. No. 692,614
Int. Cl. H01g 9/08
U.S. Cl. 317—230 13 Claims



An encapsulated electrolytic capacitor comprising a spindle including a pair of flanges. A capacitor body is convolutely wound on the spindle. The capacitor body further includes an electrolyte which has been introduced to the capacitor body through at least one of said flanges. A substantially solid mass of material substantially encapsulates said spindle means and the capacitor body.

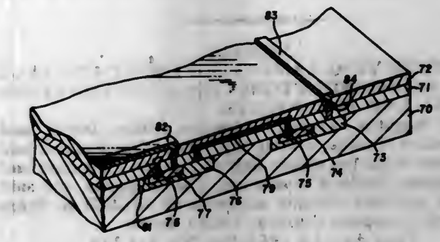
3,436,611

INSULATION STRUCTURE FOR CROSSOVER LEADS IN INTEGRATED CIRCUITRY

Thomas R. Perry, Dallas, Tex., assignor to Texas Instruments Incorporated, Dallas, Tex., a corporation of Delaware

Filed Jan. 25, 1965, Ser. No. 427,831
Int. Cl. H01l 3/00
U.S. Cl. 317—234 5 Claims

Crossover lead arrangements for integrated circuits having multiple levels of conductive leads separated by insulating layers at the surface of a semiconductor substrate wherein an insulating layer spaced from the sub-



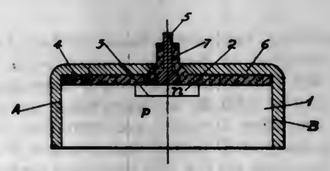
strate surface preferably comprises a photo-definable material.

3,436,612

SEMI-CONDUCTOR DEVICE HAVING DIELECTRIC AND METAL PROTECTORS

Jean Grosvalet, Paris, France, assignor to CSF—Compagnie Generale de Telegraphie sans Fil, a corporation of France

Filed Dec. 2, 1965, Ser. No. 511,040
Claims priority, application France, Dec. 3, 1964, 997,223
Int. Cl. H01l 5/00, 3/00
U.S. Cl. 317—234 2 Claims



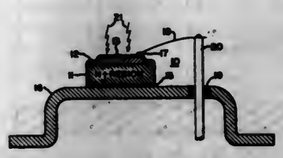
A semi-conductor device includes a p-n junction. A dielectric layer protects said junction against the ambient atmosphere. A conducting layer covers the dielectric layer and the outer walls of the device which are not protected by the dielectric layer.

3,436,613

HIGH GAIN SILICON PHOTODETECTOR

Glen C. Gerhard, Camillus, and Samuel W. Ing, Webster, N.Y., assignors to General Electric Company, a corporation of New York

Filed Dec. 29, 1965, Ser. No. 517,366
Int. Cl. H01l 15/02
U.S. Cl. 317—234 8 Claims



The silicon photodetector herein described utilizes intfinsic rather than junction photoconductive properties. It has a first layer which is degeneratively doped and which provides an electrical contact to a thin epitaxial layer in which photodetection takes place, followed by a third layer which is optically transmissive and provides the second electrical contact to the epitaxial layer. The epitaxial layer is moderately doped and has strong gold compensation, below the level, however, that would create

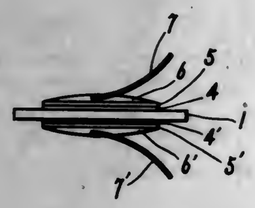
junction regions. These and other measures provide for both sensitive and high speed photodetection at normal ambient temperatures.

3,436,614

NONRECTIFYING LAMINATED OHMIC CONTACT FOR SEMICONDUCTORS CONSISTING OF CHROMIUM AND 80% NICKEL

Hiroshi Nagatsu, Yoshiaki Mimura, Hideo Izumi, and Yoshihiro Masuda, Tokyo, Japan; said Nagatsu and said Mimura assignors of one-half to Nippon Telegraph and Telephone Public Corporation, Tokyo, Japan, and said Izumi and said Masuda assignors of one-half to Shiba Electric Company Limited, Tokyo, Japan

Filed Apr. 18, 1966, Ser. No. 543,333
Claims priority, application Japan, Apr. 20, 1965, 40/22,980
Int. Cl. H01l *1/14, 3/00, 11/02*
U.S. Cl. 317—234 2 Claims



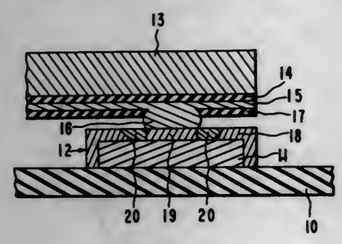
A non-rectifying laminated ohmic contact for semiconductors, designed to have a lead soldered thereto, comprises a first thin metal layer vapor deposited in direct surface contact with the semiconductor and comprising an alloy consisting of nickel and chromium and containing substantially 80% nickel, and a second thin metal layer vapor deposited on the first layer and comprising a metal selected from the group consisting of gold, silver, copper, zinc, tin and lead.

3,436,615

CONTACT METAL SYSTEM OF AN Al LAYER ADJACENT TO SEMI-CONDUCTOR AND A LAYER OF Au-Al INTERMETALLICS ADJACENT TO THE CONDUCTIVE METAL

Malcolm J. Finlayson, Cupertino, Calif., assignor to Fairchild Camera and Instrument Corporation, Syosset, N.Y., a corporation of Delaware

Filed Aug. 9, 1967, Ser. No. 659,513
Int. Cl. H01l *3/06*
U.S. Cl. 317—234 5 Claims



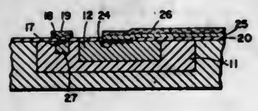
A contact metal system for making electrical contact between a semiconductor wafer and a conductive metal bonded to a substrate. The structure includes a layer of gold aluminum intermetallics and a layer of aluminum, the aluminum layer being adjacent to the semiconductor wafer and the intermetallic layer being adjacent the conductive metal on the substrate.

3,436,616

OHMIC CONTACT CONSISTING OF A BILAYER OF GOLD AND MOLYBDENUM OVER AN ALLOYED REGION OF ALUMINUM-SILICON

Donald S. Jarrad, Tempe, Ariz., assignor to Motorola, Inc., Franklin Park, Ill., a corporation of Illinois

Filed Feb. 7, 1967, Ser. No. 614,472
Int. Cl. H01l *3/08*
U.S. Cl. 317—234 5 Claims



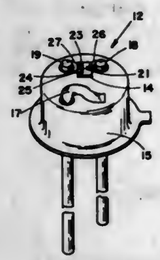
An ohmic contact for a semiconductor structure including an alloy of aluminum and the semiconductor material, with successive layers of molybdenum and gold in substantially ohmic contact therewith. The molybdenum layer has a sufficient thickness to segregate the alloy portion from the gold.

3,436,617

SEMICONDUCTOR DEVICE

Lee M. Farrar, Scottsdale, and Lowell E. Clark, Phoenix, Ariz., assignors to Motorola, Inc., Franklin Park, Ill., a corporation of Illinois

Filed Sept. 1, 1966, Ser. No. 576,598
Int. Cl. H01l *5/00*; H03k *19/08*
U.S. Cl. 317—235 8 Claims



A unijunction transistor having an emitter on one face and a plurality of low resistivity regions suitable for base one contacts on the same face at preselected distances from the emitter. Electrical contact is made to the emitter and to at least one of the low resistivity regions completing a device having preselected electrical characteristics. The base two contact may be made to an opposed major face of the device.

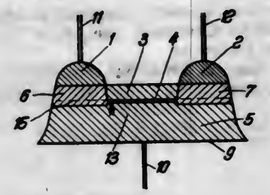
3,436,618

JUNCTION TRANSISTOR

Ernst Fröschle, Ulm (Danube), Germany, assignor to Telefunken Aktiengesellschaft, Berlin, Germany

Continuation of application Ser. No. 46,678, Aug. 1, 1960. This application Sept. 8, 1966, Ser. No. 578,099
Claims priority, application Germany, Aug. 6, 1959, T 17,044
Int. Cl. H01l *5/02, 11/06*
U.S. Cl. 317—235 22 Claims

A pn-junction transistor having a semiconductor crystal body including two zones of one conductivity type as emitter and collector zones separated by a zone of opposite conductivity type. Two separate electrodes are provided, the same being ohmically connected to the base zone at spaced apart points. One of the two electrodes is



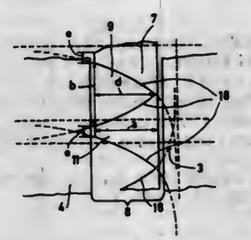
electrically interconnected with the emitter zone, so that an electrical field is provided in the base for the purpose of restricting the emission current flow from said emitter zone.

3,436,619

INSULATED GATE FIELD-EFFECT TRANSISTOR WITH WIDENING CURRENT PATH BETWEEN SOURCE AND DRAIN

Gesinus Diemer, Emmasingel, Eindhoven, and Felix van der Maesen, Geldrop, Netherlands, assignors to North American Philips Company, Inc., New York, N.Y., a corporation of Delaware

Filed Feb. 3, 1966, Ser. No. 524,705
Claims priority, application Netherlands, Feb. 17, 1965, 6501947
Int. Cl. H01l *11/14*
U.S. Cl. 317—235 7 Claims



A semiconductor device of the insulated gate, field-effect transistor type in thin-film form employing a semiconductor layer defining a current-carrying portion between source and drain electrodes. Means are provided for causing the current-carrying portion to widen in a direction from the source to the drain, the widening occurring in a direction transverse to the current-carrying direction. Among the advantages obtained is a more uniform electric field in the current-carrying region which reduces local high field strengths and hot spots. In a preferred arrangement, the control or gate electrode contains notches which narrow in the direction from the source to the drain.

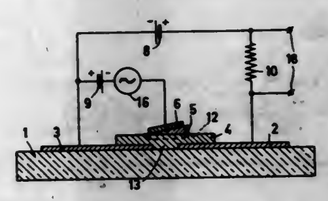
3,436,620

TAPERED INSULATED GATE FIELD-EFFECT TRANSISTOR

Gesinus Diemer, Emmasingel, Eindhoven, and Felix van der Maesen, Geldrop, Netherlands, assignors to North American Philips Company, Inc., New York, N.Y., a corporation of Delaware

Filed Feb. 3, 1966, Ser. No. 524,925
Claims priority, application Netherlands, Feb. 17, 1965, 6501946
Int. Cl. H01l *11/14*
U.S. Cl. 317—235 6 Claims

A field-effect transistor of the insulated gate type in which the thickness of the insulator increases in a substantially linear manner in a direction from one electrode to the opposite electrode. For a device operated in the depletion mode, the increase in thickness is from the source electrode to the drain electrode. For a device operated in the enhancement mode, the increase in thickness is from the drain electrode to the source electrode.



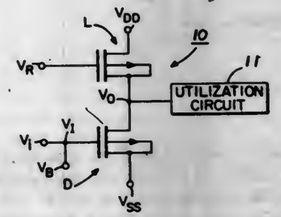
Improved performance is obtained as a result of the field intensity being made more homogeneous in the semiconductive layer portion in which the current flows.

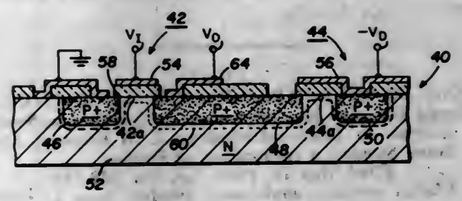
3,436,621

LINEAR AMPLIFIER UTILIZING A PAIR OF FIELD EFFECT TRANSISTORS

Robert H. Crawford, Richardson, Tex., assignor to Texas Instruments Incorporated, Dallas, Tex., a corporation of Delaware

Filed Dec. 16, 1966, Ser. No. 602,220
Int. Cl. H01l *11/14*
U.S. Cl. 317—235 8 Claims





This invention relates generally to semiconductor devices, and more particularly relates to an A.C. amplifier having a substantially constant linear response over a relatively wide temperature range that is formed by a pair of field effect transistors.

3,436,622

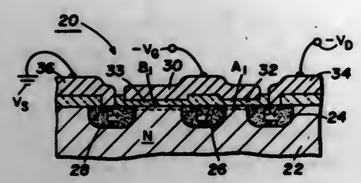
COMPOUND CHANNEL INSULATED GATE TRIODE

Raymond M. Warner, Jr., Dallas, Tex., assignor to Texas Instruments Incorporated, Dallas, Tex., a corporation of Delaware

Filed Dec. 20, 1966, Ser. No. 603,335
Int. Cl. H01l *11/00*
U.S. Cl. 317—235 6 Claims

This invention relates to insulated gate field effect transistor devices and specifically discloses the use of metal-oxide-semiconductor field effect transistor devices connected in series upon a single chip each transistor

having a common gate and operating in the enhancement mode. The dimensions of the respective channels are controlled to provide the field effect transistor nearest the



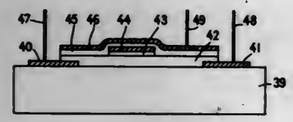
power supply with a larger transconductance so as to flatten the current voltage characteristics of the series and provide what is termed a compound channel triode.

3,436,623

INSULATED GATE FIELD EFFECT TRANSISTOR WITH PLURAL OVERLAPPED GATES

Andrew Francis Beer, Pound Hill, England, assignor to North American Philips Company, Inc., New York, N.Y., a corporation of Delaware

Filed Dec. 22, 1966, Ser. No. 603,906
Claims priority, application Great Britain, Dec. 22, 1965, 54,333/65
Int. Cl. H01l *13/00*
U.S. Cl. 317—235 4 Claims



Insulated gate field effect and thin film transistors having plural overlapped gates to reduce the gate-drain capacitance. In a preferred arrangement, a signal gate does not overlap the source and drain, but a screening gate overlaps the latter.

3,436,624

SEMICONDUCTOR BI-DIRECTIONAL COMPONENT

Harald Heinrich Kurt Wessmeyer, Nynashamn, Sweden, assignor to Telefonaktiebolaget L M Ericsson, Stockholm, Sweden, a corporation of Sweden

Filed May 10, 1966, Ser. No. 549,054
Claims priority, application Sweden, June 1, 1965, 7,142/65
Int. Cl. H01l *3/00, 15/00;* H03k *17/56*
U.S. Cl. 317—237 5 Claims



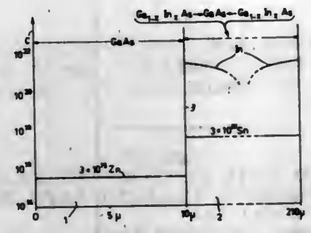
A semiconductor bi-directional component is fabricated by adhering a layer of electrical insulating material on the flat surface of a metallic plate electrode. There is an aperture through the insulating material. The aperture houses a solid-state body of semiconductor material which has one end in contact with the metallic plate electrode. The top of the insulating layer is covered with a metallic surface which is in contact with the other end of the solid-state body. The ohmic state of the solid-state body is controlled by the voltages applied across the solid-state body.

3,436,625

SEMICONDUCTOR DEVICE COMPRISING III–V EPITAXIAL DEPOSIT ON SUBSTITUTIONAL III–V SUBSTRATE

Peter Colin Newman, Crawley, England, assignor to North American Philips Company, Inc., New York, N.Y., a corporation of Delaware

Filed Aug. 2, 1966, Ser. No. 569,644
Claims priority, application Great Britain, Aug. 19, 1965, 35,625/65
Int. Cl. H01l *3/00, 15/00*
U.S. Cl. 317—237 12 Claims



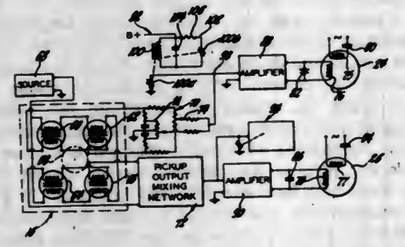
A semiconductor device comprising a III–V compound or substituted compound epitaxially deposited on a substituted III–V compound substrate formed by diffusion of a III or V element, especially useful as a photosensitive device or opto-electronic transistor.

3,436,626

MASS CENTERING APPARATUS WITH MEANS TO SENSE MASS DISPLACEMENT FROM THE CENTER OF GRAVITY AND SERVO RECENTERING

Charles W. Phelps, Birmingham, Bert M. Morgan, Royal Oak, and Ronald F. Buck, Warren, Mich., assignors to General Motors Corporation, Detroit, Mich., a corporation of Delaware

Filed Oct. 6, 1964, Ser. No. 401,775
Int. Cl. G05b *5/01, 6/02*
U.S. Cl. 318—18 17 Claims



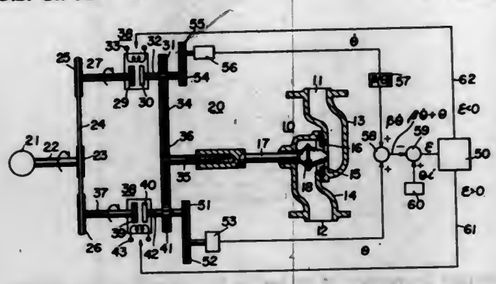
Apparatus for mass centering a workpiece on a workpiece holder, which is nonrotatably and pivotally supported at its center of gravity. An electromechanical pickup senses the angular inclination of the workpiece holder and develops corresponding error signals. Positioning motors then, in response to these error signals, maneuver the workpiece on the holder until the error signals are nulled and the workpiece holder is returned to its horizontal position. When these error signals are nulled, the mass center of the workpiece is aligned with the center of gravity of the holder. To avoid motor hunting and overshooting, compensating networks combine a guadrature component with the error signals and also periodically interrupt the application of the error signals to the motors. Thereafter and with the mass center so located, the workpiece and holder are lifted from the pivotal support and held in place for a machining operation.

3,436,627

SERVOCONTROL SYSTEM

Yoshihisa Miyazaki, Yokohama-shi, Moritada Kubo and Yukiharu Takahashi, Tokyo, and Tatsuya Uetani, Miura-gun, Kanagawa-ken, Japan, assignors to Tokyo Shibaura Electric Co., Ltd., Kawasaki-shi, Japan, a corporation of Japan

Filed July 29, 1965, Ser. No. 475,726
Claims priority, application Japan, Aug. 6, 1964, 39/44,164; Sept. 9, 1964, 39/51,794; Sept. 30, 1964, 39/55,532
Int. Cl. H02p *5/46*
U.S. Cl. 318—18 6 Claims



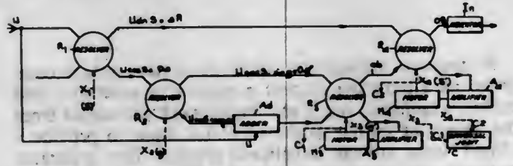
A servosystem wherein a drive motor also drives a tachometer which provides rotational speed information in one leg and a combination photo-potentiometer and light source providing positional information in a second leg. The signals provided by the photo-potentiometer and tachometer are interrelated to provide an error signal which is fed back to the drive motor.

3,436,628

ELECTROMECHANICAL DEVICE FOR CONTROLLING THE DIRECTION OF RADIATION OF A REFLECTOR

Pierre Metz, Paris, France, assignor to CSF—Compagnie Generale de Telegraphie sans Fil, a corporation of France

Filed Aug. 1, 1966, Ser. No. 569,205
Claims priority, application France, Aug. 6, 1965, 27,558
Int. Cl. G05b *11/32*
U.S. Cl. 318—18 4 Claims



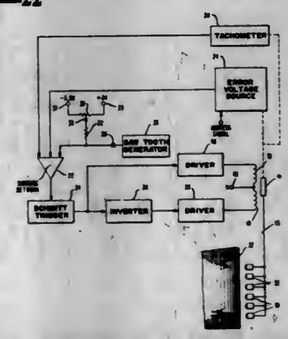
1. An electromechanical system for controlling the radiation direction of a radiating system comprising a reflector mounted on a universal joint having two rotation axes, namely an elevation angle axis and an azimuth axis, said system comprising:
   a reference voltage terminal;
   a first resolver having a radiation elevation angle indicative shaft;
   a first terminal coupled to said voltage terminal, a second and a third terminal;
   a second resolver having a radiation azimuth indicative shaft, a first terminal coupled to said first resolver second terminal, a second and a third terminal;
   algebraic adding means having a first input coupled to said second resolver second terminal, a second input and an output;
   means for applying said reference voltage to said second input;
   a third resolver having a shaft indicative of the direction of said azimuth axis, a first terminal coupled to said second resolver third terminal, a second terminal coupled to said adding means output, and a third terminal; and
   a fourth resolver having a shaft indicative of the direction of said elevation angle axis, a first terminal coupled to said first resolver third terminal, a second terminal coupled to said third resolver third terminal and a voltage indicative third terminal.

3,436,629

BALANCED VERTICAL POSITIONING SYSTEM

David G. Adler, Drexel Hill, Pa., assignor to Sperry Rand Corporation, New York, N.Y., a corporation of Delaware

Filed Oct. 6, 1965, Ser. No. 493,386
Int. Cl. H02p *1/46, 5/28, 7/36*
U.S. Cl. 318—22 2 Claims



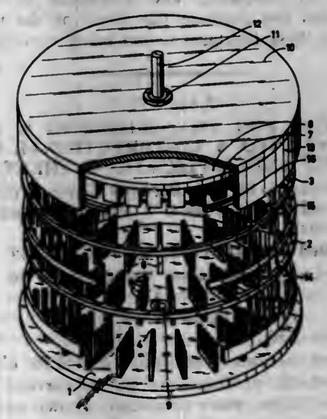
In order to compensate for the gravitational effect of a transducer which is arranged to move in an upward or downward direction, a bias level is applied to a pulse duration modulator. This enables more current to flow through either one of two coils so that gravitation and weight can be accounted for in the transducer moving mechanism.

3,436,630

ELECTROSTATIC SYNCHRONOUS MOTOR

Boudewijn Bollee, Emmasingel, Eindhoven, Netherlands, assignor to North American Philips Company, Inc., New York, N.Y., a corporation of Delaware

Filed Apr. 25, 1967, Ser. No. 633,440
Claims priority, application Netherlands, May 3, 1966, 6605934
Int. Cl. H02n *1/04*
U.S. Cl. 318—116 5 Claims



An electrostatic synchronous motor having tooth-shaped electrodes on the stator which cooperate with

adjacent tooth-shaped electrodes on the rotor. The motor includes at least two stator elements electrically insulated from one another which cooperate with at least one rotor element which is electrically insulated from both the stator elements.

3,436,631

SYSTEM FOR FORMING PILOT VOLTAGES FOR CONTROLLING ELECTRONIC COMMUTATION CHANNELS FOR INDUCTION MOTORS

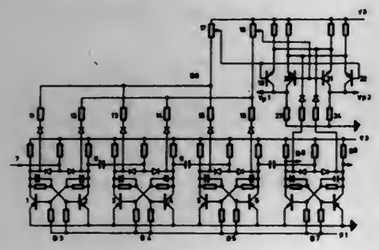
Robert Favre, Lausanne, Switzerland, assignor to Golay Buchle & Cie S.A., Lausanne, Switzerland

Filed Jan. 3, 1966, Ser. No. 518,440

Claims priority, application Switzerland, Jan. 6, 1965, 124/65; Oct. 11, 1965, 13,949/65

Int. Cl. H02k *29/02*; H02p *1/16*

U.S. Cl. 318—138 12 Claims



This disclosure relates to an apparatus for supplying polyphase current to the windings of a polyphase electric induction motor, including means for generating a plurality of step-wise pilot voltage pulses, these means including electronic switching means having a plurality of output states, each output state corresponding to a particular step of the step-wise pilot voltage pulses, the switching means being operable cyclically among its plurality of output states to generate periodically the step-wise voltage pulses, at least one channel of electronic commutation for each phase adapted to be connected to its corresponding phase of the windings and means for distributing the step-wise voltage pulses among the channels of commutation, each channel being uni-directional, and being controlled by the pilot voltage pulses to generate a driving current for its corresponding phase of the windings, the driving current corresponding in shape to the shape of the pilot voltage pulses, whereby the parameters of frequency and amplitude of the pilot voltage pulses can regulate the speed of the motor, at least one of these two parameters being variable.

3,436,632

UNDULATOR FOR TRANSFORMING A DIRECT CURRENT INTO A UNIDIRECTIONAL PULSED CURRENT AND APPLICATIONS THEREOF

Bernard Tisserant, 85 Rue Bernard Gante, Villemonble, France, and Julien Wuyts, 1 Place Normandie, Sarcelles, France

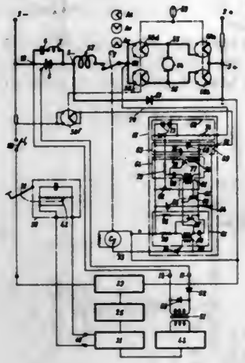
Filed June 18, 1965, Ser. No. 465,039

Claims priority, application France, June 30, 1964, 980,137

Int. Cl. H01h *47/00, 51/34*

U.S. Cl. 318—138 7 Claims

The present disclosure relates to a device for converting direct current into unidirectional pulsed current. A semiconductor thyratron, more commonly known as a silicon control rectifier, is pulsed on and off for gating the direct current to the load in the form of pulses. The silicon control rectifier is provided with a series capacitor and inductor which is connected in parallel with the silicon control rectifier. The series inductor and capacitor has such a



resonant frequency as to assure the cut-off of the silicon control rectifier in the absence of gating pulses.

3,436,633

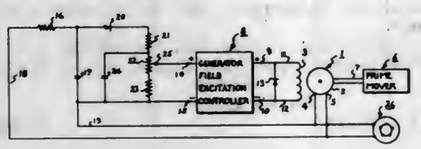
REGULATOR SENSING CIRCUIT FOR ALTERNATING-CURRENT GENERATOR

Stuart F. Hemmenway, Scotia, and George M. Rosenberry, Jr., Schenectady, N.Y., assignors to General Electric Company, a corporation of New York

Filed June 1, 1965, Ser. No. 460,255

Int. Cl. H02p *5/20, 7/32*; H02h *7/06*

U.S. Cl. 318—145 12 Claims



A constant voltage per cycle generator system comprises an alternating current generator, a generator field current regulator, and a sensing network connected from the generator output to the regulator input to provide a closed loop voltage regulated system. The generator possesses an approximately constant voltage per cycle output characteristic under conditions of constant magnitude field excitation. The field regulator is of the kind that can maintain a constant voltage output, independent of frequency, when the magnitude of generator output voltage is sensed at the regulator input. The sensing network that is provided from the generator output to the regulator input cooperates with these generator and regulator characteristics to restore the constant voltage per cycle characteristic of the generator to the system while retaining the voltage regulation feature for any output voltage variations caused by other than changes in frequency. In a particularly adaptable and economical embodiment of the invention, the sensing circuit of the system comprises a capacitive network, including a series capacitance and resistance connected in parallel with the generator output and means for applying a voltage to the input of the regulator that varies in magnitude in accord with variations in the magnitude of the voltage across the capacitance.

3,436,634

MOTOR SPEED CONTROL SYSTEM

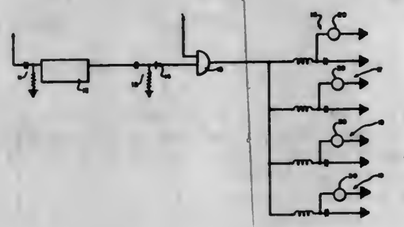
William W. Baldwin, 45 East End Ave., New York, N.Y. 10028; C. Dana McCoy, 1054 Barnegat Lane, Mantoloking, N.J. 08738; Milton Bodin, 176 Copley Ave., Teaneck Township, Bergen County, N.J. 07666; and Leon Zinn, 8 Circle Drive, Syosset, N.Y. 11791

Original application Apr. 1, 1964, Ser. No. 356,417.

Divided and this application Apr. 4, 1966, Ser. No. 540,084

Int. Cl. H02p *7/00*

U.S. Cl. 318—318 10 Claims



A motor control system for automatically controlling motor speed. A wave having a predetermined width and a tachometer generated frequency dependent signal are input into a coincidence circuit thus passing through an output signal of a particular frequency and into a plurality of tuned circuits where one of the tuned circuits will energize an associated locking relay which in turn inserts a predetermined value of resistance into the motor circuit.

3,436,635

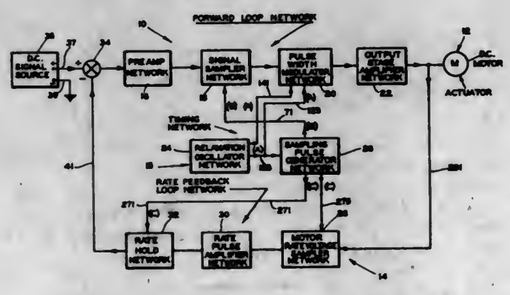
PULSE WIDTH MODULATED SERVO DRIVE CONTROL SYSTEM

Robert L. James, Bloomfield, and Harold Moreines, Springfield, N.J., assignors to The Bendix Corporation, a corporation of Delaware

Filed Sept. 2, 1965, Ser. No. 484,547

Int. Cl. H02p *1/54, 5/46*

U.S. Cl. 318—331 11 Claims



A pulse modulated servo drive control system in which energizing pulses are applied to a load winding of a direct current servomotor by a pulse width modulator in response to a direct current signal input and including means effective during intervals of interruption between the energizing pulses for sampling a back electromotive force generated in the load winding, means for storing the sampled electromotive force in a hold circuit, and means for generating a feedback signal voltage from the stored electromotive force which is periodically applied in opposition to the direct current signal input for damping the servomotor.

3,436,636

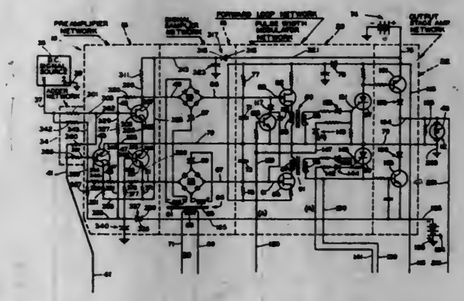
DIFFERENTIAL PREAMPLIFIER NETWORK FOR A SAMPLE-DATA MOTOR SPEED CONTROL

Robert L. James, Bloomfield, N.J., assignor to The Bendix Corporation, a corporation of Delaware

Filed Sept. 23, 1965, Ser. No. 489,627

Int. Cl. H02p *5/00, 7/00*; G05b *11/00*

U.S. Cl. 318—331 4 Claims



A preamplifier network for a variable speed reversible electric motor, including a dual summing means combining command and feedback voltages so as to provide a pair of resultant differential voltages effective at first and second channels leading to inputs of the preamplifier for modifying in one sense a voltage in a first output conductor leading from the preamplifier while modifying in an opposite sense a voltage in a second output conductor leading from the preamplifier.

3,436,637

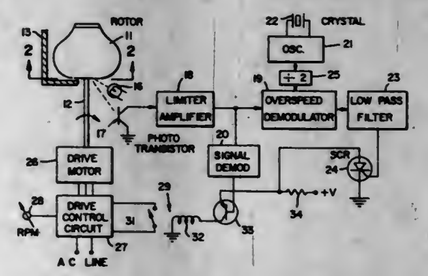
OVERSPEED SHUTDOWN SYSTEM FOR CENTRIFUGE APPARATUS

Robert J. Ehret, Los Altos, Calif., assignor to Beckman Instruments, Inc., a corporation of California

Filed July 29, 1966, Ser. No. 568,841

Int. Cl. H02p *7/36, 3/02*

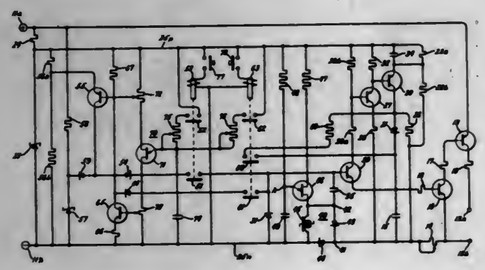
U.S. Cl. 318—449 3 Claims



An overspeed protection system for a centrifuge apparatus or the like including a transducer for providing an output signal whose frequency is a function of the rotational speed of the centrifuge rotor and a mixer for mixing the output signal with a standard reference frequency signal to provide a difference frequency signal. A low pass filter is coupled to the output of the mixer for passing the difference frequency signal when it falls below a predetermined frequency to means for disconnecting the drive

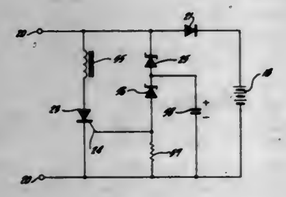
power to the centrifuge rotor. A detector is also provided to monitor the signal output of the transducer and disconnect the drive power in the event of a loss of signal.

3,436,638
ELECTRIC REGULATING MEANS HAVING A LONG MEMORY
Georges R. E. Lezan, Cherry Hill, N.J., assignor to General Electric Company, a corporation of New York
Filed Jan. 23, 1964, Ser. No. 339,735
Int. Cl. H02j; H03k 15/18, 17/00
U.S. Cl. 320—1 19 Claims



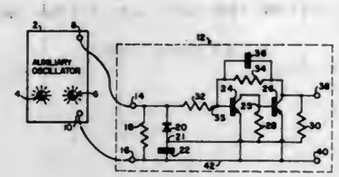
In controlling the output of an electric power supply as a function of an error signal obtained by comparing an electric quantity that represents the actual output with a reference quantity that represents the desired output, the energy drain on the reference quantity source is minimized by connecting gating means in series therewith to block any error signal except during short time intervals that recur at a predetermined rate.

3,436,639
VOLTAGE CUT-OFF CIRCUITS
Wilford B. Burkett, Pacific Palisades, and Robert V. Jackson, Los Angeles, Calif., assignors to McCulloch Corporation, Los Angeles, Calif., a corporation of Wisconsin
Continuation-in-part of application Ser. No. 530,129, Feb. 25, 1966. This application Mar. 6, 1967, Ser. No. 621,014
Int. Cl. H02j 7/10
U.S. Cl. 320—27 3 Claims



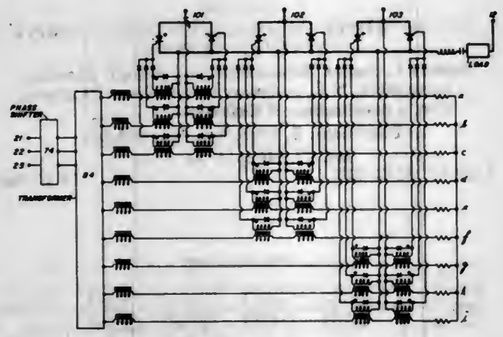
A voltage responsive cut-off circuit cuts off the charging current supplied to a battery by a variable direct-current source when the terminal voltage of the battery reaches a preselected value. The cut-off circuit is voltage-responsive and includes circuitry for limiting the current flow therethrough to prevent burning out the elements and further includes circuitry for bypassing the transient voltages so that the cut-off circuit will be responsive to the true direct-current voltage level across the battery.

3,436,640
FUNCTION GENERATOR APPARATUS
Raymond P. Murray, 28 Sierra Vista Drive, Monterey, Calif. 93940
Filed July 31, 1963, Ser. No. 299,128
Int. Cl. H02m 3/22, 5/40, 1/08
U.S. Cl. 321—2 13 Claims



13. In combination, an alternating frequency generator, an amplifier including at least one transistor electrically connected thereto, a shunt across the output of the generator having a rectifier and a capacitor in series therein, and a resistor connecting the shunt between the rectifier and the capacitor with the collector of the transistor.

3,436,641
SOLID STATE STATIC FREQUENCY MULTIPLIERS
Paul Peter Biringer, Toronto, Ontario, Canada, assignor to Ajax Magnethermic Corporation, Youngstown, Ohio, a corporation of Ohio
Filed Jan. 10, 1966, Ser. No. 519,601
Int. Cl. H02m 5/06, 5/30; H03k 17/66
U.S. Cl. 321—7 15 Claims

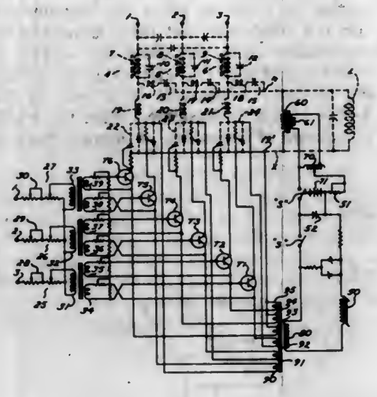


A static frequency multiplier and phase converter utilizing solid state switching elements, operation of the switching elements being independent of both the supply voltage and loading conditions. The output power may be easily controlled from zero to maximum without the use of moving parts such as tap changers.

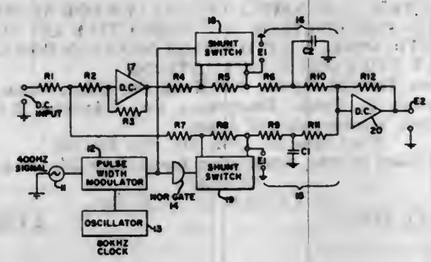
3,436,642
POLYPHASE TO SINGLE PHASE STATIC FREQUENCY MULTIPLIERS WITH SWITCHING DEVICES RESPONSIVE TO LOAD CONDITIONS
Robert Sidney Segsworth, Warren, Ohio, assignor to Ajax Magnethermic Corporation, Warren, Ohio, a corporation of Ohio
Filed Sept. 1, 1966, Ser. No. 576,596
Int. Cl. H02m 5/04, 5/30
U.S. Cl. 321—7 13 Claims

Static frequency multiplier supplied by a source of polyphase power and supplying a variable single phase

load. Control circuitry for the multiplier including solid state switching devices which are operated independently of the supply voltage but are responsive to load conditions.



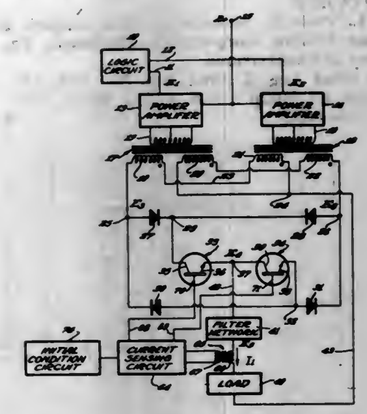
3,436,643
SOLID-STATE D-C TO A-C CONVERTER
Paul V. Castiglione, Endicott, N.Y., assignor to General Electric Company, a corporation of New York
Filed Jan. 10, 1967, Ser. No. 608,391
Int. Cl. H02m 1/12, 7/44, 7/68
U.S. Cl. 321—9 2 Claims



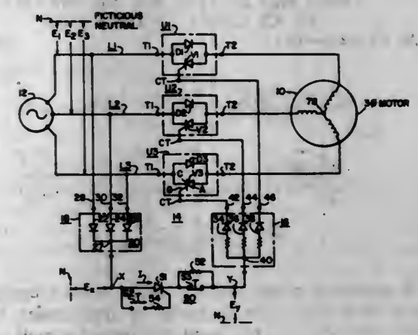
A reference A-C signal drives a pulse-width modulator which generates sinusoidally modulated pulse-width signals. These signals sample the D-C input. Output filtering produces the desired A-C signal at the reference frequency and with an amplitude proportional to the D-C input.

3,436,644
HIGH FREQUENCY MODULATED STATIC INVERTER
James E. Murray, University Heights, and Robert G. Klimo, Brooklyn, Ohio, assignors to TRW Inc., Cleveland, Ohio, a corporation of Ohio
Filed July 29, 1966, Ser. No. 568,947
Int. Cl. H02m 7/52
U.S. Cl. 321—18 13 Claims

A high frequency static inverter which has a high frequency source with an output which is divided into two paths with one path being phase shifted at a low frequency rate. The outputs of the two paths are supplied to transformers and a switching circuit to provide a high efficiency output.



3,436,645
FIRING CIRCUIT FOR CONTROLLED ELECTRONIC VALVES IN THE LINES OF A POLYPHASE SYSTEM
Frederick O. Johnson, Pitcairn, and John Rosa, Pittsburgh, Pa., assignors to Westinghouse Electric Corporation, Pittsburgh, Pa., a corporation of Pennsylvania
Filed July 19, 1966, Ser. No. 566,270
Int. Cl. G05f 5/00
U.S. Cl. 323—24 9 Claims

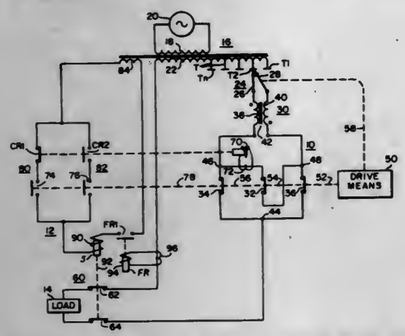


A firing circuit for controlled switching devices of the type which are normally nonconductive in one direction but may be rendered bidirectionally conductive by the application of firing signals to the control electrodes thereof. A device of the described type, or a plurality of devices to provide the same function, is connected in each phase of the polyphase system. The control electrode of the switching devices is connected to a different arm of a star network, which may be formed from diodes, whose common point is connected through a control switching arrangement to the common point of a second star network, which may comprise diodes, whose arms are connected to the source side of the respective ones of the polyphase lines.

3,436,646
LOAD TAP CHANGER SYSTEMS INCLUDING PROTECTIVE APPARATUS FOR MONITORING THE OPERATION OF THE TRANSFER SWITCHES

Herbert L. Prescott, Brookfield, Ohio, assignor to Westinghouse Electric Corporation, Pittsburgh, Pa., a corporation of Pennsylvania

Filed Aug. 2, 1966, Ser. No. 569,729
Int. Cl. H02p 13/06, 13/04; H02h 7/00
U.S. Cl. 323—43.5 9 Claims

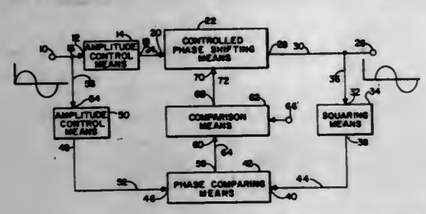


A tap changer system of the type which includes a single under-load transfer switch and two no-load transfer switches, including protective means which checks the tap changer system after each scheduled operation of the switches. If any of the switches fail to function, the protective means energizes signal means, to prevent the no-load transfer switches from being damaged due to opening or closing under load.

3,436,647
PHASE SHIFTING CONTROL BY PHASE COMPARISON OF SIGNALS

David H. Gobeli, Minneapolis, and Arthur H. Hardy, Jr., St. Paul, Minn., assignors to Honeywell Inc., Minneapolis, Minn., a corporation of Delaware

Filed May 25, 1966, Ser. No. 552,939
Int. Cl. G05f 1/68; H02p 9/00
U.S. Cl. 323—101 10 Claims



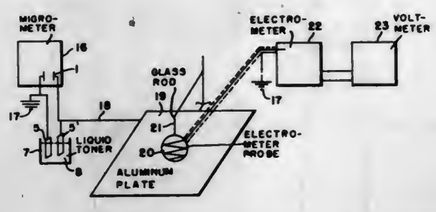
A precision phase shifting device which controls the phase shift over a wide range of frequencies by comparing the phase of the input and output signals and providing a control signal to a variable impedance when the phase shift varies from 90°.

3,436,648
PROCESS AND APPARATUS FOR EVALUATING LIQUID TONERS FOR ELECTROSTATIC PRINTING

Ki Tae Kim, Lincoln, Nebr., assignor to The Sherwin-Williams Company, Cleveland, Ohio, a corporation of Ohio

Filed Apr. 7, 1966, Ser. No. 540,942
Int. Cl. G01r 5/28, 31/00
U.S. Cl. 324—32 6 Claims

The process and apparatus disclosed herein comprise a method and apparatus for predetermining the suitability of a liquid toner for the electrostatic printing of paper. The process and apparatus involve the use of a condenser having a capacitance approximately equal to the charge density which will eventually be placed on the paper to be printed. This condenser is connected with a source of direct current in order to place the appropriate charge density on the condenser and then, simultaneously with the disconnection from the electrical source, the condenser is connected with two electrodes spaced from each other and partially submerged in a bath of the liquid toner. As the charge is dissipated from the condenser, it causes an amount of deposition of pigment from the toner

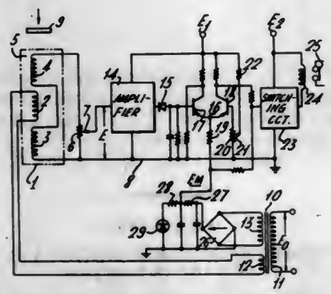


in accordance with the charge density on the condenser. Since the charge density on the condenser is equivalent to that on the paper to be used for the printing, the amount of deposition on the electrode is a measure of the amount that will be deposited on the paper using this same liquid toner. The amount of deposited pigment is measured by appropriate means, such as visual measurement or electrical means. This method of evaluating the liquid toner is an improvement over the prior art method of testing the efficacy of the toner by actual printing, which prior art method takes much longer and has various other disadvantages.

3,436,649
ELECTRICAL SENSING APPARATUS FOR SENSING THE PRESENCE OF A CONDUCTIVE OR MAGNETIC OBJECT WITH COMPENSATION FOR SUPPLY VOLTAGE FLUCTUATIONS

Saburo Takechi, Kyoto, and Kenji Ito, Shiga, Japan, assignors to Tateisi Electronics Co., Ukyo-ku, Kyoto, Japan, a corporation of Japan

Filed June 23, 1965, Ser. No. 466,285
Claims priority, application Japan, June 24, 1964, 39/49,696
Int. Cl. G01r 33/12, 33/00
U.S. Cl. 324—41 2 Claims

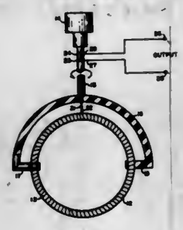


An electrical sensing apparatus in the nature of a proximity detector is disclosed herein, comprising a sensing head having a primary coil responsive to an alternating current source and one or more secondary coils inductively coupled to the primary coil whereby the voltage induced in the secondary is altered by entry of an object into the field generated by the sensing head. A differential amplifier is responsively coupled to the sensing head and generates a trigger signal indicating entry of an object into the field of the sensing head. The important feature of the apparatus resides in an improved arrangement in the differential amplifier which compensates for fluctuations in the alternating current source voltage which might otherwise result in false signals at the output. The differential amplifier consists of two signal translating devices such as transistors having their differential inputs connected to the sensing head and to a reference voltage, respectively. They each have a control terminal connected to a direct current source which itself is responsively coupled to the alternating current source so that fluctuations in the latter result in relative alterations in the D.C. bias voltages applied to the signal translating devices. That is the A.C. source voltage fluctuations result in compensating relative changes in the bias voltages in the signal translating devices so that an output trigger signal still occurs for the same degree of entry of an object into the sensing head field.

3,436,650
SPINNING LINE INTEGRAL MAGNETOMETER FOR MEASURING A CURRENT OR AN ELECTRIC FIELD

George F. Hinton, Severna Park, Md., assignor to the United States of America as represented by the Secretary of the Navy

Filed Sept. 30, 1965, Ser. No. 491,843
Int. Cl. G01r 33/02
U.S. Cl. 324—43 11 Claims



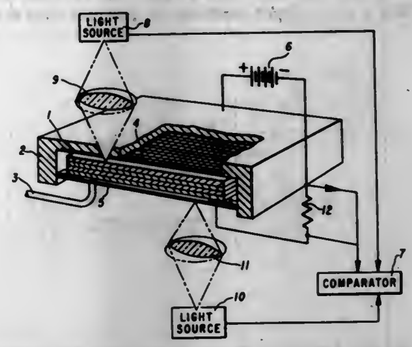
An instrument for measuring small electric currents in electrolytes, measuring ambient electric fields, and for detecting a non-potential term in the earth's magnetic field. The device includes a toroid of magnetically permeable material having a sensing coil wound thereon and means for rotating the toroid and coil assembly at a fixed angular rate. The device may include an elongated electrically conductive core received concentrically within the toroid for rotation therewith.

3,436,651
ELECTRONIC METHOD AND APPARATUS UTILIZING PHOTOEMISSIVE MEANS FOR TESTING CIRCUIT BOARD CONTINUITY

John D. Helms and Charles S. Williams, Dallas, Tex., assignors to Texas Instruments Incorporated, Dallas, Tex., a corporation of Delaware

Filed Dec. 23, 1966, Ser. No. 604,341
Int. Cl. G01r 31/02
U.S. Cl. 324—51 6 Claims

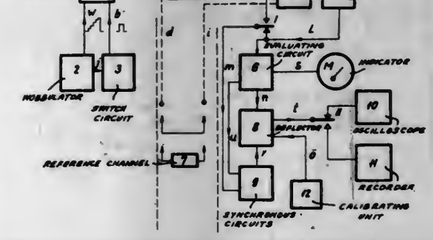
Disclosed is a method and apparatus for testing the continuity of the conducting leads of a circuit board by placing the board in an evecuated chamber between a photoemissive cathode and a charged grid; depleting electrons on one portion of the lead to be tested by radiating light energy of a suitable wavelength thereon, the electrons emitted from the circuit board being attracted to the charged grid; supplying electrons to another point on the board by radiating light on the portion of the photoemissive cathode over that point; and testing to determine whether a current flows between the photoemissive cathode and the charged grid. If the current does flow, continuity between the two points on the circuit board is indicated.



3,436,652
METHOD FOR MEASURING DELAY AND DISTORTION OF FREQUENCY COMPONENTS

György Asztalos, Budapest, Hungary, assignor to Meterimpex Magyar Muszeripari Kulkereskedelmi Vallalat, Budapest, Hungary

Filed May 10, 1966, Ser. No. 548,917
Int. Cl. G01r 27/02, 25/02
U.S. Cl. 324—57 4 Claims



The invention relates to a method for the measurement of group-running time. A triple signal sequence is applied to a circuit under test. The resultant time delay between a first signal sequence of a first frequency and a subsequent second signal sequence of a different frequency is compared with the time delay existing between the second signal sequence and a following third signal sequence of a frequency corresponding to the frequency of the first signal sequence. The relative phase lag is determined from the values of these two time delays.

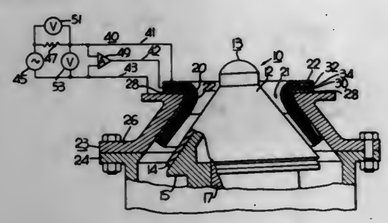
3,436,653
CAPACITANCE MEASURING MEANS FOR INDICATING CLEARANCE IN GYRATORY CRUSHER AND HAVING MEANS TO COMPENSATE FOR STRAY CAPACITANCE

Tom N. Thiele, Milwaukee, and Lawrence J. Ting, West Allis, Wis., assignors to Allis-Chalmers Manufacturing Company, Milwaukee, Wis.

Filed June 13, 1966, Ser. No. 556,941
Int. Cl. G01r 27/26; B02c 2/00
U.S. Cl. 324—61 14 Claims

Capacitance measuring means for indicating clearance between relatively movable gyratory crusher surfaces

which form a small variable air gap capacitor includes an insulation sandwich comprising an extended conductive electrode covered on both surfaces by insulation disposed between one crusher surface and the crusher, thereby forming a large shunt capacitor in parallel with the variable air gap capacitor, means to measure the capacitance of the variable air gap capacitor, and means for maintaining said electrode at the same potential as said one crusher surface to thereby prevent said shunt capacitor from influencing said measuring means.

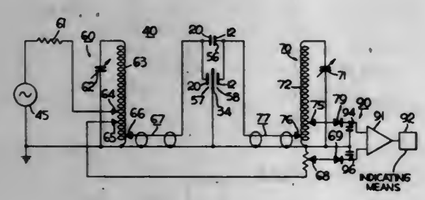


3,436,654

GYRATORY CRUSHER CLEARANCE MEASURING MEANS HAVING RESONANT COUPLING CIRCUITS

Tom N. Thiele, Milwaukee, and Lester O. Gerlach, Hales Corners, Wis., assignors to Allis-Chalmers Manufacturing Company, Milwaukee, Wis.

Filed Dec. 5, 1966, Ser. No. 599,065
Int. Cl. G01r 27/26
U.S. Cl. 324—61 15 Claims



A gyratory crusher having an electronic gap measuring circuit connected to the crushing surfaces of the crusher and to an insulated foil surrounding the outer crushing surface. The foil is connected to ground and a high frequency signal is applied between the foil and the surfaces. Input and output resonant circuits are connected and adjusted to obtain maximum power transfer. The input and output signals are tapped from the two resonant circuits and after rectification and filtering are received by a differential amplifier as inputs. The differential amplifier output indicates the capacitance, and therefore the clearance, between the crushing surfaces.

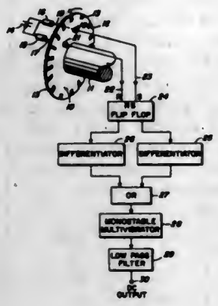
3,436,655

ROTATION MEASURING DEVICE FOR VERY SLOWLY ROTATING SHAFT

Michael W. Lundgreen, Cedar Rapids, Iowa, assignor to Collins Radio Company, Cedar Rapids, Iowa, a corporation of Iowa

Filed Apr. 20, 1966, Ser. No. 543,854
Int. Cl. G01r 11/00, 11/02; G01d 5/36
U.S. Cl. 324—70 3 Claims

Shaft rotation measuring means which eliminates errors caused by jitter or back-up of the shaft including a combination of disk having apertures mounted on the shaft, light source on one side of the disk and photoelectric cells on the other side of the disk. A set/reset flip-flop is connected to receive the electrical output of the photocells,



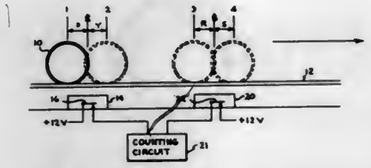
and means responsive to the output of the flip-flop indicates speed of rotation of the shaft by producing an analogous D.-C. output.

3,436,656

SPEED-MEASURING MEANS WITH POSITION-DETECTOR, ERROR-ELIMINATING MEANS

Walter A. Brand, Jr., Roanoke, Va., assignor to General Electric Company, a corporation of New York

Filed May 5, 1967, Ser. No. 636,341
Int. Cl. G01r 11/16
U.S. Cl. 324—70 3 Claims



For measuring vehicle speed, a system for determining the time required for a vehicle wheel to move from a position above a first detector to a position above a second detector. Each detector produces a first signal as the wheel approaches a location above the detector and a second signal as the wheel moves equally far beyond it. The first detector's first signal gates pulses to a counting chain whereas its second signal removes and resets the first chain bit and gates pulses to the second bit instead. Subsequently, the second detector's first signal gates pulses to the first bit again whereas its second signal halts count accumulation and permits reading of the chain without the first bit. The count read is inversely proportional to speed.

3,436,657

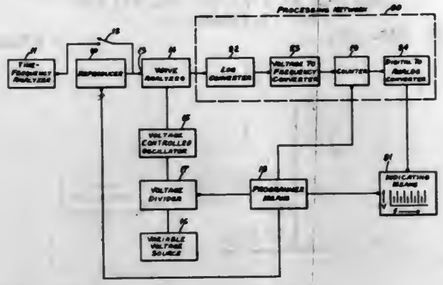
APPARATUS FOR HARMONIC ANALYSIS OF A COMPLEX WAVEFORM

Andrew Popoff, Rochester, N.Y., assignor to the United States of America as represented by the Secretary of the Navy

Filed Feb. 15, 1966, Ser. No. 529,177
Int. Cl. G01r 23/16, 27/02
U.S. Cl. 324—77 1 Claim

A harmonic analyzer for complex waveforms which includes apparatus for periodically reproducing said complex waveform and applying the same to an IF tuned

harmonic analyzer, whose input includes a VCO to which is supplied a step voltage. The output of the analyzer is log converted, frequency converted, counted and converted to an analog signal at an indicator. A programmer synchronizes the counting, start of the complex signal, the step voltage and the deflection of the indicator.

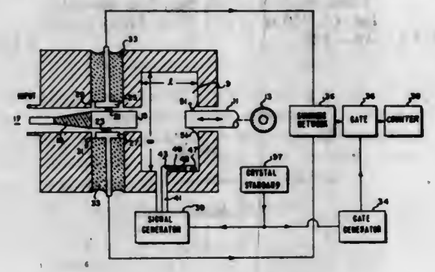


3,436,658

SIGNAL FREQUENCY CONVERTER HAVING A CAVITY FILTER AND MIXER

Richard D. Pering, Palo Alto, Calif., assignor to Hewlett-Packard Company, Palo Alto, Calif., a corporation of California

Filed Oct. 28, 1965, Ser. No. 505,562
Int. Cl. G01r 23/14
U.S. Cl. 324—79 4 Claims



A high frequency converter includes a cavity filter and mixer which receives an input signal frequency and a driving frequency for producing output modulation products from the input signal frequency and a harmonic of the driving signal that is selectable according to a substantially linear relationship between cavity resonance and translational position of a tuning plunger.

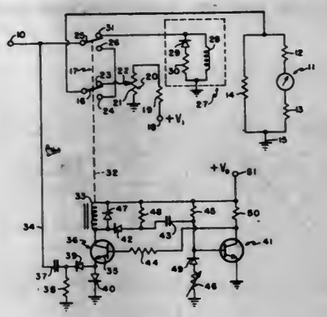
3,436,659

METER CIRCUIT INCLUDING SYNCHRONIZED SWITCHING MEANS FOR MEASURING THE "OFF" CURRENT IN A TRAIN OF PULSES

Stevan W. Speheger, Bluffton, Ind., assignor to Avco Corporation, Richmond, Ind., a corporation of Delaware

Filed Apr. 20, 1966, Ser. No. 543,851
Int. Cl. G01r 19/00, 19/60; H03k 17/00
U.S. Cl. 324—102 1 Claim

This is a metering system for measuring the magnitude of current from a pulse source during the "off" intervals of an incoming train of pulses from the source. It comprises selectors so arranged that during the "on" period of the pulse train a load is coupled to the pulse source and a source of reference current is coupled to a meter. During the "off" period of the pulses the pulse source is connected to the meter. The meter and the load have equivalent direct current resistance and the magnitude of the reference current is known, so that the readings of the meter during the "off" period furnish a comparison between the reference current and the "off" current of the incoming pulse train. These connecting operations are performed by selectors which are ganged and acuated by means synchronized to the repetition rate of the incoming pulses.

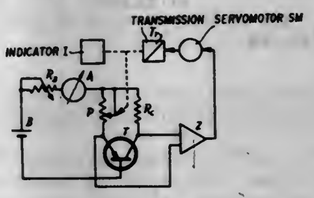


3,436,660

METHOD AND APPARATUS FOR DETERMINING THE SYMMETRY FACTOR OF A TRANSISTOR

Jiří Dostál, Prague, Czechoslovakia, assignor to Vyzkumny ustav matematickych stroju, Prague, Czechoslovakia

Filed Oct. 22, 1965, Ser. No. 504,292
Claims priority, application Czechoslovakia, Nov. 4, 1964, 6,126/64
Int. Cl. G01r 27/02
U.S. Cl. 324—158 6 Claims



A method and apparatus for measuring the symmetry factor of a transistor wherein the transistor is connected in a bridge circuit such that the base-emitter and base-collector junctions form two arms of the bridge, the two remaining bridge arms consisting of a fixed and an adjustable resistor. The adjustable resistor is varied to obtain a null at the output terminals of the bridge whereby its value at null is determinative of the symmetry factor.

3,436,661

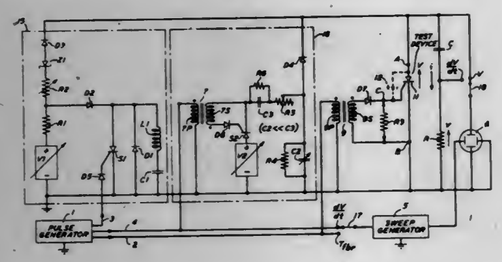
TEST SET FOR MEASURING THE RATE EFFECT AND THE FORWARD BLOCKING RECOVERY TIME OF THYRISTORS

John G. Gribbons, Rockaway, N.J., assignor to Bell Telephone Laboratories, Incorporated, Berkeley Heights, N.J., a corporation of New York

Filed June 22, 1966, Ser. No. 559,479
Int. Cl. G01r 31/22
U.S. Cl. 324—158 10 Claims

A test set for measuring the rate effect and the forward blocking recovery time of thyristors. The circuit

includes means for rapidly progressing through the three-step sequence of (1) passing current through the thyristor, (2) suddenly cutting the current off, and (3) after a measured time interval applying a voltage across the device at a rate of rise less than that which will turn on the fully recovered device. No current flows through the device during this time interval. The time interval is gradually shortened until the device conducts upon applying



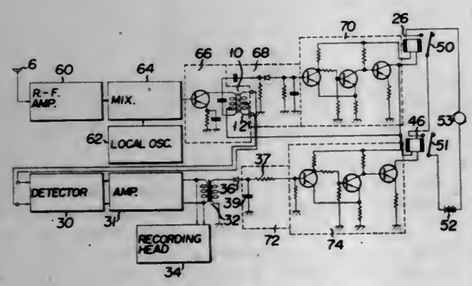
the voltage. This interval determines the forward blocking recovery time. The time interval is then set greater than this recovery time and a voltage is repeatedly applied to the device, its rate of rise being gradually increased until the device again starts to conduct. The rate of voltage rise when conduction begins determines the intrinsic *dv/dt* (rate effect) parameter.

3,436,662

CONTROL SYSTEM FOR DEACTIVATING REMOTE TAPE RECORDER IN ABSENCE OF AUDIO MODULATED SIGNAL

Masanaga Kobayashi, Suginami-ku, Japan, assignor to Crown Radio Corporation, Tokyo, Japan, a corporation of Japan

Filed Mar. 20, 1967, Ser. No. 624,551
Claims priority, application Japan, Mar. 22, 1966, 41/25,340
Int. Cl. H04b *13/00, 1/20, 1/02*
U.S. Cl. 325—66 4 Claims



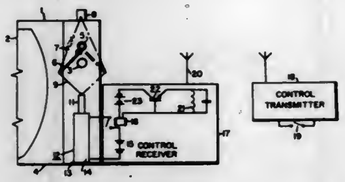
A magnetic recording device comprising a wireless microphone system which radiates electromagnetic carrier waves modulated by the aural signals and a receiving and recording system which receives the modulated waves and records the aural information in a magnetic tape. The receiving and recording system includes a first relay energized by said modulated waves and a second relay energized by the aural signal component contained in the modulated wave, whereby only when said first and second relays are both energized the magnetic tape driving motor is energized to record the aural informations on the magnetic tape.

3,436,663

REMOTE SOUND-CONTROL FOR BROADCAST RECEIVERS

Frederick W. Lyle, Swissvale, Pa.
(310 Washington Road, Wilkinsburg, Pa. 15221)

Filed July 14, 1965, Ser. No. 471,805
Int. Cl. H04b *1/06*
U.S. Cl. 325—392 3 Claims



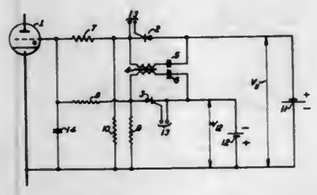
Arrangement, attachable without entering the enclosing walls conventional in home-type television receivers of a type in which the picture and sound are controllable by knobs external to the walls, this arrangement acting to the loudness of sound produced without affecting the picture, and being itself actuated by the viewer. In one modification the arrangement is actuated by a radiation receiver responding to remote radiation transmitter. In a econd modification the arrangement is actuated by a filamentary link running close across the floor to a remote viewer.

3,436,664

DEVICE FOR GRID CONTROL OF GAS-FILLED RECTIFIERS

Yakov Judelevich Solodukho, ul. Scherbakovskaya 26–30, kv. 5, and Boris Stepanovich Zamaraev, ul. Vostochnaya korpus 2, kv. 106, both of Moscow, U.S.S.R.

Filed Sept. 3, 1965, Ser. No. 484,839
Int. Cl. H03k *3/04, 3/06;* H01j *19/82*
U.S. Cl. 328—225 3 Claims



A device for the grid control of ionic converter rectifiers having at least two semiconductor controlled rectifiers inserted in the grid circuit of the gas-filled rectifiers and a capacitor and a ballast resistor also inserted in the grid circuit of said gas-filled rectifiers and interconnected such that when a positive gate pulse is applied to the grid of a gas-filled rectifier by one of said semiconductor controlled rectifiers, the negative blanking voltage is simultaneously interrupted by the other semiconductor controlled rectifier, and vice versa.

3,436,665

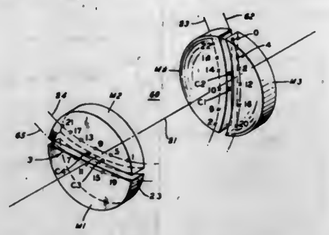
MULTIPLE PASS OPTICAL CELL FOR LASER AMPLIFIER

William W. Rigrod, Millington, N.J., assignor to Bell Telephone Laboratories, Incorporated, New York, N.Y., a corporation of New York

Filed May 28, 1965, Ser. No. 459,607
Int. Cl. H01s *3/00;* H03f *3/60;* G02b *5/10*
U.S. Cl. 330—4.3 6 Claims

A four-mirror optical arrangement in which four surfaces having spherical curvature are arranged in opposing pairs with the centers of curvature of each pair defining

lines which are orthogonally related. An injected light beam is incident on each mirror in a row of spots, the resultant folded beam path traversing a cylindrical volume, without beam path retracing, and with refocusing at least once for each four reflections.



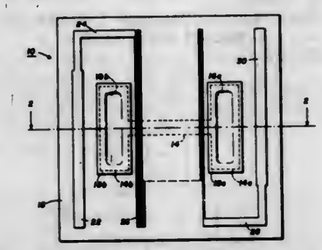
Optical feedback due to scattering at common reflection points on the mirror surfaces is reduced.

3,436,666

SOLID STATE TRAVELING WAVE AMPLIFIER

Richard N. Claytor, Dallas, and Frank E. Emery, Richardson, Tex., assignors to Texas Instruments Incorporated, Dallas, Tex., a corporation of Delaware

Filed June 5, 1967, Ser. No. 643,455
Int. Cl. H01s *4/00;* H03f *3/04*
U.S. Cl. 330—5 8 Claims



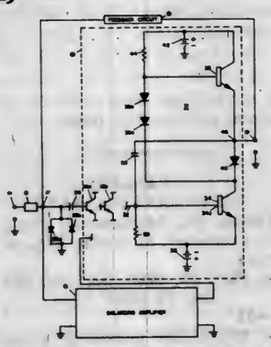
A traveling wave amplifier in which a beam of carriers is constrained within a narrow channel in a semiconductor substrate and a slow wave structure formed by a meandering microstrip transmission line formed on the surface of the semiconductor overlying channel.

3,436,667

PROTECTION CIRCUIT FOR AN AMPLIFIER SYSTEM

Leonard Kedson, Elberon, N.J., assignor to Electric Associates Inc., Long Branch, N.J., a corporation of New Jersey

Filed Dec. 8, 1964, Ser. No. 416,822
Int. Cl. H03f *1/02, 3/04*
U.S. Cl. 330—9 2 Claims



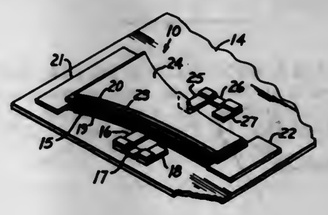
An output stage for an operational amplifier is provided having voltage and power outputs limited only by the values of the supply voltages applied to the stage including plural groups of semiconducter devices connected such that the polarity of the input to the stage may establish, depending on its magnitude, full conductivity of one or the other group of devices producing a symmetrical output signal of a magnitude approximately equal to the supply voltage or, reduced conductivity of one or the other group of devices producing thereby a symmetrical output whose magnitude is proportional to the input magnitude.

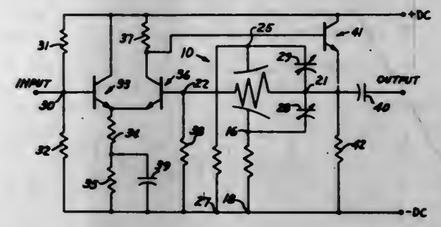
3,436,668

BROAD BAND AMPLIFIERS USING DISTRIBUTED RC NETWORK

Richard A. Russell, Pomona, Calif., assignor to Aerojet-General Corporation, El Monte, Calif., a corporation of Ohio

Filed Jan. 26, 1967, Ser. No. 611,945
Int. Cl. H03f *3/04, 3/68*
U.S. Cl. 330—21 8 Claims





This invention relates to broad band amplifiers, and particularly to broad band amplifiers utilizing a distributed network.

A broad band amplifier according to the present invention comprises a differential amplifier means having two inputs and an output. A distributed network having broad band attenuation characteristics interrelates the output and one of the inputs in negative feedback relationship so that the gain of the amplifier is at a maximum at two frequencies, one on either side of a center frequency, so that input signals at the other input having frequencies between the two frequencies are amplified.

3,436,669

NARROW BAND AMPLIFIERS USING DISTRIBUTED RC NETWORK

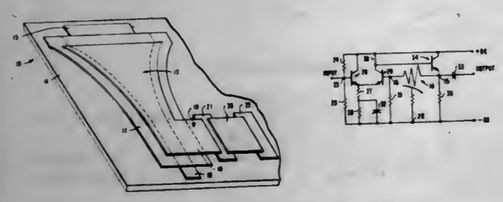
Richard A. Russell, Pomona, and Donald W. Lewis, Duarte, Calif., assignors to Aerojet-General Corporation, El Monte, Calif., a corporation of Ohio

Filed Jan. 26, 1967, Ser. No. 611,946
Int. Cl. H03f *3/04, 3/68*
U.S. Cl. 330—21 7 Claims

The present invention relates to narrow band amplifiers, and particularly to narrow band amplifiers utilizing a distributed parameter network.

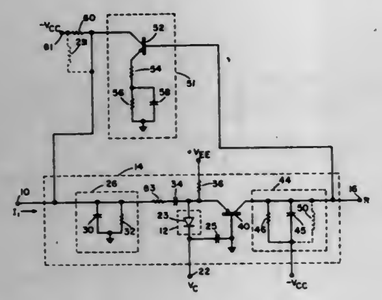
A narrow band amplifier according to the pesent invention comprises a differential amplifier means having two inputs and an output. A distributed network having

narrow band attenuation characteristics interrelates the output and one of the inputs in negative feedback relationship so that the gain of the amplifier is at a maximum



at the center frequency of the narrow band and signals at center frequency appearing at the other input are maximally amplified.

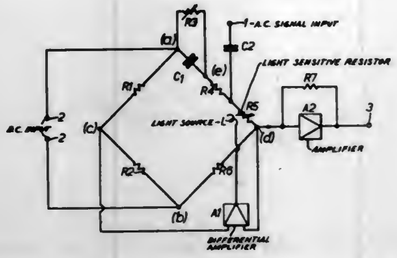
3,436,670
VARIABLE BANDWIDTH FILTER SYSTEM
James E. Solomon, Scottsdale, Ariz., assignor to Motorola, Inc., Franklin Park, Ill., a corporation of Illinois
Filed Dec. 14, 1966, Ser. No. 601,732
Int. Cl. H03f *1/08, 1/34*
U.S. Cl. 330—28 **9 Claims**



A closed loop feedback system connected as a variable bandwidth filter and having an overall transfer function which provides a relatively narrow bandwidth when a variable portion of the loop gain is small and a relatively large bandwidth when the variable portion of the loop gain is large. The denominator of the overall transfer function of the system is greater than a predetermined minimum value so that the gain of the system is substantially independent of an electronically controllable attenuation function. This function may be varied to vary the system bandwidth and is part of the forward loop of the system.

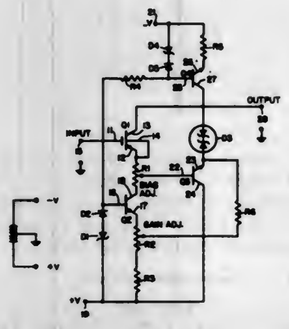
3,436,671
GAIN AND ATTENUATION CONTROL CIRCUIT ARRANGEMENTS
Roger Wakefield Fenton, Writtle, and George Leslie Cooper, Chelmsford, England, assignors to The Marconi Company Limited, London, England, a British company
Filed Jan. 7, 1966, Ser. No. 519,201
Claims priority, application Great Britain, Jan. 19, 1965, 2,377/65
Int. Cl. H03g *3/30*
U.S. Cl. 330—29 **11 Claims**

A remotely controllable gain control arrangement includes a Wheatstone bridge, one arm of which includes a remote adjustable resistance and an energy sensitive resistance such as a photosensitive resistor element. Preferably the bridge output is employed to control the photosensitive resistor to maintain bridge balance upon adjustment of the remote resistance. The photosensitive resistor is included in a voltage divider circuit included in



a channel to provide gain adjustment of wide band signals applied to the channel by adjustment of the remote resistance, controlling the resistance of the photosensitive resistance.

3,436,672
HIGH INPUT IMPEDANCE AMPLIFIER CIRCUIT
Arthur D. Delagrange, Silver Spring, Md., assignor to the United States of America as represented by the Secretary of the Navy
Filed Mar. 8, 1966, Ser. No. 534,978
Int. Cl. H03f *3/14*
U.S. Cl. 330—38 **7 Claims**

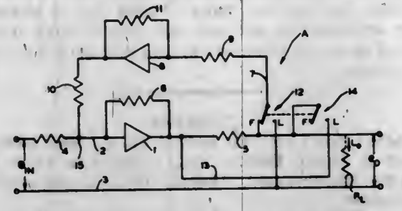


A high impedance amplifier circuit which uses as its input stage an insulated-gate, field-effect transistor as a source follower. A conventional emitter follower is cascaded with the insulated-gate, field effect transistor. Another conventional transistor is placed in the insulated-gate, field effect transistor's load circuit to serve as a constant-current source for providing a D.C. bias current thereto. One further conventional transistor is used to provide a D.C. bias current for the emitter follower. The amplifier circuit has unity gain, no phase inversion of the input signal and no D.C. offset.

3,436,673
CONVERTER CIRCUIT
Louis H. Fricke, Jr., Maplewood, Mo., assignor to Monsanto Company, St. Louis, Mo., a corporation of Delaware
Filed Nov. 22, 1965, Ser. No. 509,101
Int. Cl. H03f *1/14*
U.S. Cl. 330—51 **13 Claims**

A converter circuit for providing a load-independent voltage output and a load-independent current output. The circuit comprises an operational amplifier having a

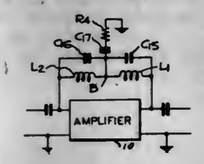
negative feedback circuit with a resistance included therein connected across the amplifier. A positive feedback circuit also having a resistance characteristic therein is connected across the amplifier. A type of sensing resistor is connected to the output of the amplifier for detecting the summation of the input voltage and the feedback voltage passing through the amplifier and thereby providing a load-independent current output. A switch is included in the circuit for shunting the positive feedback path and the sensing resistor in order to obtain a load-independent voltage output when the switch is in one position. As a second embodiment of the present invention, a second amplifier may be included in the feedback circuit.



3,436,674
GAIN CONTROL DEVICE FOR HIGH FIDELITY AUDIO SYSTEMS
George Alexandrovich, Richmond Hill, and Donald J. Plunkett, New Rochelle, N.Y., assignors to Fairchild Recording Equipment Corporation, Long Island City, N.Y., a corporation of New York
Continuation of application Ser. No. 195,637, May 17, 1962. This application Mar. 14, 1966, Ser. No. 536,566
Int. Cl. H03g *3/20;* **H03f** *17/00*
U.S. Cl. 330—59 **17 Claims**

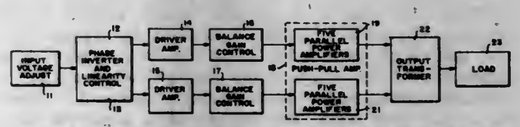
3. In a high fidelity audio system having an audio signal source and an amplifier for amplifying the audio signals from said source, a gain control device for controlling the dynamic range of the audio signals in said system, said device comprising a voltage divider circuit coupled between the output of said audio signal source and the input of said amplifier for controlling the voltage level of the audio signals applied to said amplifier from said source, said circuit comprising a resistor serially coupled between the output of said signal source and the input of said amplifier, a light-dependent resistor, and switch means having a first switch position for connecting said light-dependent resistor to shunt said first-named resistor and a second switch position for connecting said light-dependent resistor to shunt the input to said amplifier; a gaseous glow control lamp of the type adapted to rectify audio signals applied thereto; a lightproof enclosure enclosing said lgiht-dependent resistor and said control lamp; and coupling circuit means for coupling said control lamp across the output of said amplifier for energization thereby, whereby with said switch means in said first switch position an increase in the average signal level of the audio signals at the amplifier output causes an increase in the voltage level of the audio signals applied to the amplifier input, to thereby increase the gain of the system and expand the dynamic range of the audio signals, and with said switch means in said second posittion an increase in the average signal level of the audio signals at the amplifier output causes a decrease in the voltage level of the audio signals applied to the amplifier input, to thereby decrease the gain of the system and compress the dynamic range of the audio signals.

3,436,675
FEEDBACK STABILIZED AC AMPLIFIER
Wigand Lunau, Wulfrath, Germany, assignor to Rheinische Kalksteinwerke GmbH, Wulfrath, Germany
Filed Dec. 14, 1966, Ser. No. 601,751
Claims priority, application Germany, Dec. 14, 1965, R 42,207
Int. Cl. H03f *1/36, 3/36*
U.S. Cl. 330—97 **1 Claim**



A feedback stabilized AC amplifier having feedback circuitry from its output to its input, which feedback exhibits a low resistance to DC signals and a high resistance to AC signals in order to stabilize the operating point of the amplifier.

3,436,676
BROADBAND POWER AMPLIFIER
Rufus Lee Cook, Panama City, Fla., assignor to the United States of America as represented by the Secretary of the Navy
Filed Nov. 4, 1965, Ser. No. 506,906
Int. Cl. H03f *3/02, 3/68*
U.S. Cl. 330—117 **10 Claims**

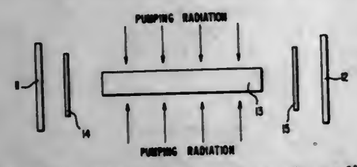


A broadband power amplifier having an input voltage regulation circuit, a phase inverter and linearity control circuit for converting the adjustable input voltage into a pair of oppositely phased electric signals, a pair of amplifiers for respectively amplifying said pair of electrical signals to a more useful level, a pair of balance gain control circuits for equalizing said pair of oppositely phased electrical signals, a pair of sets of five parallel power amplifiers for further amplifying said pair of equalized oppositely phased electrical signals to a more useful power level, respectively, and an output transformer connected to the outputs of said pair of sets of five parallel power amplifiers.

3,436,677
MAGNETO-OPTIC RADIATION CONTROL AND MODULATOR
Erhard Max, Werner W. Kulcke, and Kurt M. Kosanke, Wappingers Falls, N.Y., assignors to International Business Machines Corporation, New York, N.Y., a corporation of New York
Filed June 29, 1964, Ser. No. 378,683
Int. Cl. H01s *3/10, 3/09;* **G02f** *1/22*
U.S. Cl. 331—94.5 **5 Claims**

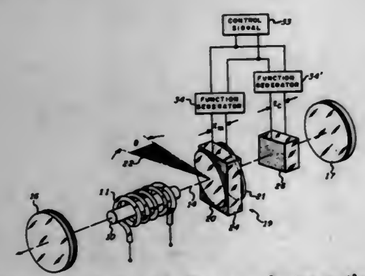
In a laser type device, magnetic reflectors are used to build up resonance. The radiation emitted in response to pumping radiation medium is non-linearly polarized, either naturally or by optical devices, and reflects off

the magnetic reflector an amount dependent upon direction of magnetization of the reflector. By changing the



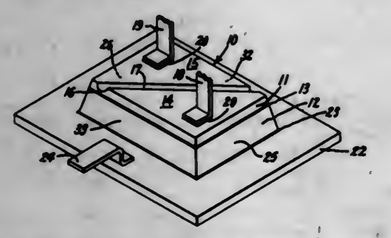
direction of the magnetization vector, the radiation output can be suppressed, thereby resulting in radiation modulation.

3,436,678
LASER CAPABLE OF CONTINUOUS FREQUENCY TUNING
James K. Sharp, Huntington, and Eo Vaher, Huntington Station, N.Y., assignors to Sperry Rand Corporation, Great Neck, N.Y., a corporation of Delaware
Filed July 19, 1965, Ser. No. 472,968
Int. Cl. H01s 3/08, 3/00
U.S. Cl. 331—94.5 9 Claims



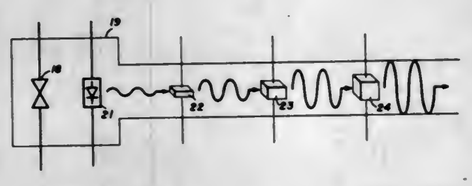
A laser apparatus including an electro-optic member and an electro-optic interferometer positioned internal to the laser cavity, the interferometer being operative to transmit one of the plurality of laser resonant modes and suppress the others. A control voltage applied to the electro-optic member enables it to sweep the frequency of the individual laser modes across the Doppler broadened linewidth of the active lasing medium while a control voltage applied to the interferometer enables it to track a desired laser mode, thereby providing a narrow band output signal capable of being tuned throughout a wide band continuous frequency range.

3,436,679
SEMICONDUCTOR JUNCTION LASER WITH ELECTRONICALLY DISPLACEABLE AND DEFLECTABLE BEAM
Gunther E. Fenner, Schenectady, N.Y., assignor to General Electric Company, a corporation of New York
Filed Mar. 7, 1966, Ser. No. 532,417
Int. Cl. H01s 3/00, 3/18
U.S. Cl. 331—94.5 20 Claims



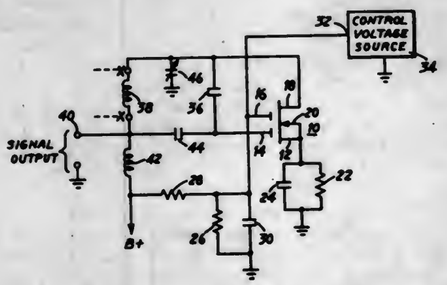
1. A semiconductor junction laser for emitting coherent radiation from a selectively controllable location along one surface of a pair of parallel reflecting surfaces of said laser, said laser comprising a monocrystalline body of direct transition semiconductive material having a pair of degenerate opposite conductivity type regions contiguous with and defining a thin junction region in said monocrystalline body, said junction region being disposed orthogonally between said pair of parallel reflecting surfaces of said laser, and at least one of said opposite conductivity type regions being divided into a plurality of zones separated by at least one strip of high resistance directed generally obliquely to said pair of parallel reflecting surfaces.

3,436,680
MILLIMETER MICROWAVE GENERATOR
Turner E. Hasty, Dallas, Tex., assignor to Texas Instruments Incorporated, Dallas, Tex., a corporation of Delaware
Filed June 16, 1967, Ser. No. 646,716
Int. Cl. H03b 5/12, 5/32
U.S. Cl. 331—107 6 Claims



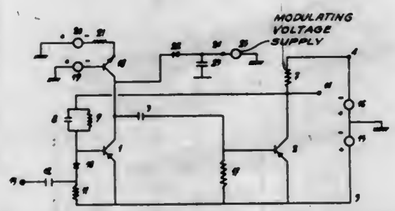
Apparatus for generating a millimeter microwave signal including a bulk negative resistance device operated in a transit time frequency mode and generating a signal having a fundamental frequency. A filter suppresses the fundamental and all harmonics below a given level from a signal generated by a harmonic generator responsive to the fundamental frequency produced by the transit time operated negative resistance device. A plurality of serial arranged bulk negative resistance devices operated in a limited space charge accumulation mode are responsive to and amplify the most significant harmonic passed by said filter.

3,436,681
FIELD-EFFECT OSCILLATOR CIRCUIT WITH FREQUENCY CONTROL
Oliver P. Hart, Berkeley Heights, N.J., assignor to Radio Corporation of America, a corporation of Delaware
Filed June 26, 1967, Ser. No. 648,775
Int. Cl. H03b 5/02
U.S. Cl. 331—117 4 Claims



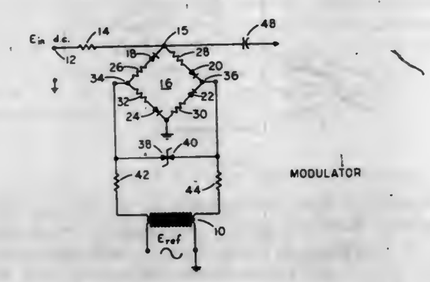
An oscillator circuit includes an insulated dual gate field-effect transistor. A frequency controlling voltage is applied to the second gate electrode of the transistor to effect a change in the frequency of oscillation.

3,436,682
MULTIVIBRATOR SYSTEM FOR PRODUCING WIDTH-MODULATED PULSES
Martin Birnbaum, Paris, France, assignor to Schneider Radio-Television, Ivry, Val-de-Marne, France, a corporation of France
Filed Dec. 1, 1965, Ser. No. 510,896
Claims priority, application France, Feb. 4, 1965, 4,346
Int. Cl. H03k 7/08
U.S. Cl. 332—9 3 Claims



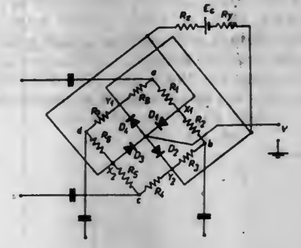
A multivibrator system having two transistors which are interconnected to operate in alternation. A condenser is connected between the transistors and it has a discharge period which defines the duration of the pulses. The collector of an auxiliary transistor is connected to the condenser while its base and emitter are connected to respective constant voltage sources. The modulating voltage supply is connected to the collector of the auxiliary transistor through the intermediary of a grounded condenser and a diode which are connected at a common point to said modulating voltage supply.

3,436,683
SIGNAL PROCESSING CIRCUIT
Bill A. Rogers, Sepulveda, Calif., assignor to The Bendix Corporation, a corporation of Delaware
Filed Oct. 22, 1965, Ser. No. 500,701
Int. Cl. H03c 1/54
U.S. Cl. 332—47 6 Claims



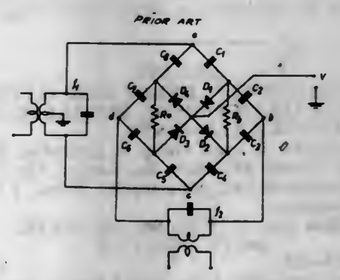
A diode-resistance bridge circuit is shown across which is connected either a direct current signal to be modulated or an alternating current signal to be demodulated. A pair of oppositely poled Zener diodes is connected in series across the opposite terminals of the bridge, and also connected across these same terminals is an alternating current reference voltage. This reference voltage is clipped by the Zener diodes such that it appears across the bridge as a square wave which causes the diodes of the bridge to conduct on alternate half cycles. When operating as a modulator, this action grounds the direct current input in synchronism with alternate half cycles of the reference voltage, thus acting like a "chopper." Operating as a demodultaor, it performs a phase comparison between the reference voltage and the alternating current input signals.

3,436,684
BRIDGE TYPE DEMODULATOR HAVING DIODES ADJUSTABLY OPERATED
Zdeněk Mack, Prague, Czechoslovakia, assignor to Tesla, narodni podnik, Prague, Czechoslovakia
Filed May 4, 1966, Ser. No. 547,577
Claims priority, application Czechoslovakia, May 10, 1965, 3,047/65
Int. Cl. H03c 1/54
U.S. Cl. 332—47 6 Claims



Each of the branches of a demodulator bridge circuit comprises a pair of resistors connected in series between a corresponding pair of junctures. At least one capacitor is connected in one of the branches in series with the resistors thereof and between a juncture and one of the resistors. One of the electrodes of each of a plurality of diodes connected to a corresponding one of the branches at a common point in the connection between the two components of the branch. The diodes are connected with each pair thereof connected in series between common points of opposite branches of the bridge circuit connected in opposed polarity relationship. The polarities of the diodes of one pair, connected to the common points, are opposite the polarities of the diodes of the other pair connected to the common points.

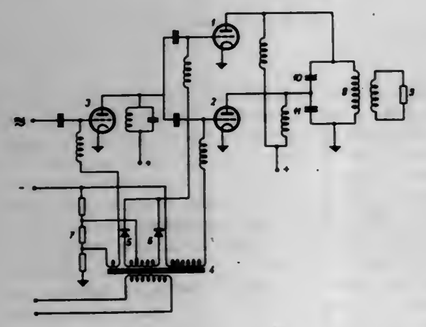
3,436,685
BRIDGE TYPE CROSS DEMODULATOR HAVING CAPACITIVE REACTANCE BRANCHES
Zdeněk Mack, Prague, Czechoslovakia, assignor to Tesla, narodni podnik, Prague, Czechoslovakia
Filed May 4, 1966, Ser. No. 547,578
Claims priority, application Czechoslovakia, May 6, 1965, 2,954/65
Int. Cl. H03c 1/54; H03d 3/18, 1/10
U.S. Cl. 332—47 6 Claims



Each of the branches of a demodulator bridge circuit comprises a capacitive reactance having two components connected in series between a corresponding pair of junctions. At least one of the components is a capacitor. One of the electrodes of each of a plurality of diodes is connected to a common point and the other electrode of each diode is connected to a corresponding one of the

branches at a common point in the connection between the two components of the branch. The diodes are connected with each pair connected in series between common points of opposite branches of the bridge circuit connected in opposed polarity relationship. The polarities of the diodes of one pair connected to the common points are opposite the polarities of the diodes of the other pair connected to the common points.

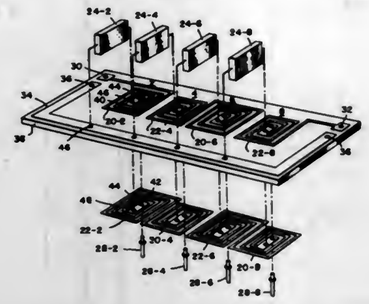
3,436,686
AMPLITUDE MODULATION CIRCUIT WITH HIGH POWER EFFICIENCY FOR TWO AMPLIFIERS
Jiří Vackář, Prague, Czechoslovakia, assignor to Tesla, narodni podnik, Prague, Czechoslovakia
Filed June 28, 1965, Ser. No. 467,302
Claims priority, application Czechoslovakia, July 15, 1964, 4,096/64
Int. Cl. H03c *1/02*
U.S. Cl. 332—64 **6 Claims**



A pair of grid-modulated high frequency amplifiers are driven by a common driving stage connected to their control grids. The output electrodes of the amplifiers are connected to a common load circuit having a pair of input terminals, a common load resistance and an impedance transforming network having two different transformation ratios connected to the input terminals and coupled to the load resistance. The amplifiers are modulated by a modulating power source having a pair of output leads each connected to a corresponding one of the control grids of the amplifiers and a rectifier connected in one of the output leads. The one of the output leads applies to the control grid of one of the amplifiers a rectified pulsating modulating voltage of negative polarity and the other of the output leads applies to the control grid of the other of the amplifiers a normal modulating voltage.

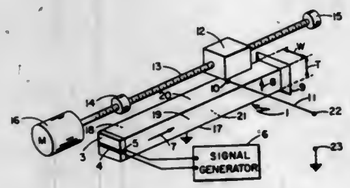
3,436,687
PRINTED CIRCUIT DELAY LINE HAVING MUTUALLY OPPOSED, SPIRALLED, INDUCTANCE ELEMENTS
John R. Andrews, Jr., and Philip A. Goldman, Framingham, and Chester M. Nibby, Jr., Saugus, Mass., assignors to Honeywell Inc., Minneapolis, Minn., a corporation of Delaware
Filed Dec. 27, 1966, Ser. No. 604,732
Int. Cl. H03h *7/30*
U.S. Cl. 333—29 **5 Claims**

A lumped parameter delay line of special construction having a cascaded series of *m*-derived T network filter sections. Each section includes a pair of inductive elements in the form of flat spiral coils disposed in axial alignment on opposite sides of an insulative board, the inner ends of the coils being joined through the board. Each section further includes a capacitor connected between the junction of its paired coils and a conductive strap common to all such sections. The paired spiral coils of a section evolve from their commn axis in opposite directions, as viewed from one side of the board, to provide a positive coefficient of coupling therebetween. Intermediate filter



sections are cascaded by having the outer ends of their paired coils extended to join the outer ends of the paired coils of the adjacent delay sections.

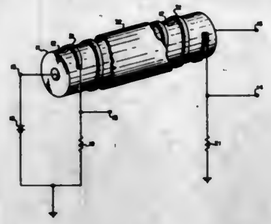
3,436,688
VARIABLE DELAY LINE WITH MOVABLE ELECTRODE
Raoul Michel Zilberstein, Sharon, Mass., assignor to Laboratory for Electronics, Inc., Boston, Mass., a corporation of Delaware
Filed May 24, 1966, Ser. No. 552,460
Int. Cl. H03h *7/30, 7/36*
U.S. Cl. 333—30 **11 Claims**



1. A variable delay line comprising: an acoustic wave propagating medium having piezoelectric properties; means to couple an acoustic wave to said propagating medium; and, a pair of electrodes cooperating with said medium to sense the acoustic wave propagating therein, at least one of said electrodes being moveable with respect to said acoustic wave propagating medium to provide an adjustable delay time.

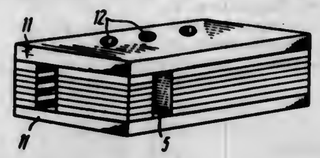
3,436,689
FIELD EFFECT DELAY LINE
Frederick R. Fluhr, Fort Foote Village, Md., assignor to the United States of America as represented by the Secretary of the Navy
Filed Nov. 2, 1964, Ser. No. 408,441
Int. Cl. H01l *15/00;* **H03k** *3/26*
U.S. Cl. 333—31 **1 Claim**

A field effect variable delay line formed from a solid cylinder of semiconductor material of one type of conductivity surrounded by a helix of semiconductor material of the opposite type. A distributed P-N junction is thus formed with means for reverse biasing said P-N



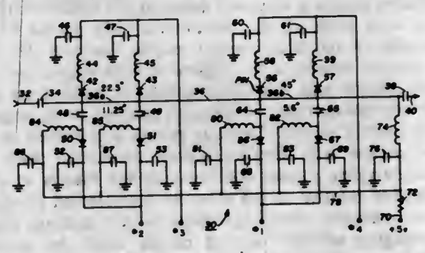
junction by applying a back voltage between said helix and an electrode on an end surface of the cylinder.

3,436,690
SLOW WAVE STRUCTURE FOR TUBES COMPRISING A STACK OF METAL LAMINATIONS PARALLEL TO THE AXIS OF THE ELECTRON BEAM
Mikhail Borisovich Golant, Ulitsa Vokzalnaya 17, kv. 137; Alexandr Andreevich Negirev, Ulitsa Institutskaya 8, kv. 53; Alexandr Semenovich Tager, Ulitsa Komsomolskaya 20–a, kv. 8; Alexandr Sergeevich Pobedonostsev, Ulitsa Institutskaya 29, kv. 12; Elena Aristarkhovna Zjulina, Ulitsa Institutskaya 27, kv. 7; and Galina Alexandrovna Samorodova, Ulitsa Institutskaya 12, kv. 7, all of Fryazino, Moskovskoi oblasti, U.S.S.R.
Filed Oct. 27, 1966, Ser. No. 589,909
Int. Cl. H03h *7/30;* **H01j** *25/34*
U.S. Cl. 333—31 **2 Claims**



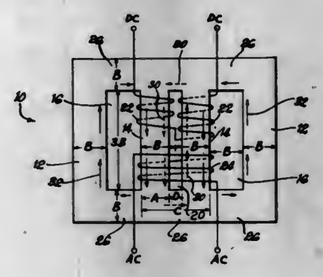
A multi-row retarding line unit for tubes comprising a stack of metal laminations arranged in intimate contact and soldered together and having different shape apertures forming passages for an electron beam, the plane of the laminations being parallel to the longitudinal axis of the electron beam.

3,436,691
DIODE LOADED LINE PHASE SHIFTER
William F. Hoffman, Garland, and Tom M. Hyltin, Dallas, Tex., assignors to Texas Instruments Incorporated, Dallas, Tex., a corporation of Delaware
Filed Dec. 30, 1966, Ser. No. 606,417
Int. Cl. H03h *7/30, 7/36*
U.S. Cl. 333—31 **15 Claims**



A binary phase shift network for microwave frequencies in which a quarter wavelength transmission line is loaded at the input end of a plurality of series shunt circuits, each shunt circuit including a diode and a reactance, either inductive or capacitive, such that when the diodes are reverse biased "off" in various combinations, various phase shift angles are produced over the quarter wavelength of transmission line.

3,436,692
SATURABLE REACTOR CONSTRUCTION
Joseph R. Walters, Elk Grove Village, Ill., assignor to Electran Manufacturing Company, Oak Park, Ill., a corporation of Illinois
Filed Aug. 4, 1966, Ser. No. 570,348
Int. Cl. H02p *13/04*
U.S. Cl. 333—76 **10 Claims**



A saturable reactor construction including a set of inner legs and a set of outer legs disposed on opposite sides of the inner set. Alternating and direct current windings are provided on the inner legs. The dimensions of the inner legs are such that the width of the inner legs is between 60 and 83.3 percent of the width of the outer legs. In addition, the space separating the inner legs is dimensioned to be less than the width of one of the inner legs.

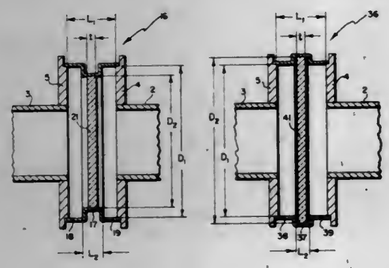
3,436,693
RADIO-FREQUENCY INTERFERENCE GUARD (R.I.G.)
Reginald I. Gray, Dahlgren, Va., assignor to Minister of Aviation in Her Majesty's Government of The United Kingdom of Great Britain and Northern Ireland, London, England
Original application Dec. 29, 1961, Ser. No. 163,162, now Patent No. 3,227,974, dated Jan. 4, 1966. Divided and this application Apr. 30, 1965, Ser. No. 459,976
Int. Cl. H01p *1/22*
U.S. Cl. 333—79 **5 Claims**



There is disclosed an attenuator for providing protection against spurious energies induced by electromagnetic and electrostatic fields comprising an insulated wire, outer

shield and shielding enclosure having an elongated metal barrier of either concentric tubes or of corrugated metal to increase the D.C. resistance of the shielding enclosure.

3,436,694
CONTROLLING GHOST-MODE RESONANT FREQUENCIES IN SEALED WAVEGUIDE WINDOWS
Richard M. Walker, Chestnut Hill, Mass., assignor to Microwave Associates, Inc., Burlington, Mass., a corporation of Massachusetts
Filed July 28, 1966, Ser. No. 573,150
Int. Cl. H01p *1/08*
U.S. Cl. 333—98 **4 Claims**

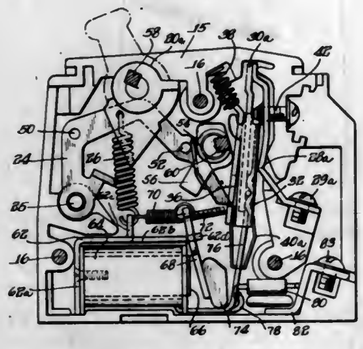


This invention relates to sealed waveguide windows of high-power handling capacity, and in particular to techniques and means for controlling ghost-mode resonant frequencies and shifting them out of the desired frequency range.

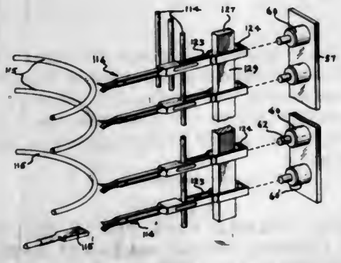
In windows of the type employing a section of circular waveguide with a disc of dielectric material transversely mounted in it, the invention discloses that ghost-mode resonant frequencies can be shifted, and broader useful frequency ranges can be made available, by providing a circular waveguide section in which the diameter of the intermediate portion housing the dielectric disc is different from the diameter of the two outer portions. Embodiments are disclosed in which the diameter of the intermediate portion is in one case larger, and in another case smaller than the diameter of the outer portions. In either case control is maintained over the VSWR through the diameter of the outer portions with respect to the transmission line in which the window is installed, and high-power window structures having frequency ranges without ghost-mode resonances between approximately 25% and 30% bands at S-band, with VSWR <1.30 are made possible.

3,436,695
ELECTRIC CIRCUIT BREAKER WITH SHUNT TRIP COIL
Edward P. Dessert, Cedar Rapids, Iowa, assignor to Square D Company, Park Ridge, Ill., a corporation of Michigan
Filed Feb. 15, 1965, Ser. No. 432,656
Int. Cl. H01h *77/02, 75/12*
U.S. Cl. 335—9 **9 Claims**

1. A molded-case electrical circuit breaker comprising a casing having at least two side-by-side compartments each having a pair of opposite ends, a pair of separable contacts disposed in a first of said compartments adjacent one end thereof, tripping means disposed in said first compartment adjacent the other end thereof, said tripping means being operative to effect separation of said contacts upon flow of excessive current therethrough, and actuating means disposed in a second of said compartments, said tripping means also being operable to effect separation of said contacts upon operation of said actuating means, said actuating means including an electrical coil disposed in said second compartment adjacent one end thereof corresponding to said one end of said first compartment, and said coil being energizable to effect operation of said actuating means and tripping means and separation of said contacts upon occurrence of a predetermined potential difference across said coil.

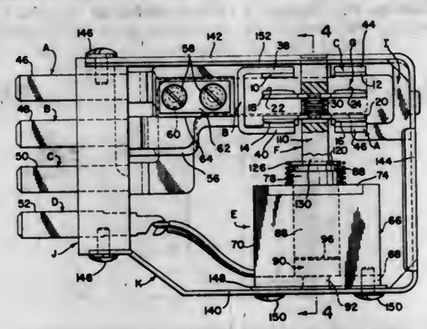


3,436,696
SELECTOR SWITCH PROVIDED WITH SELECTABLY ACTUABLE CONTACT MEANS
Raymond Melvin Carlisle, Linglestown, and Winfield Warren Loose, Reading, Pa., assignors to AMP Incorporated, Harrisburg, Pa.
Filed Aug. 21, 1964, Ser. No. 391,192
Int. Cl. H01h *67/02;* **G06f** *7/02*
U.S. Cl. 335—106 **16 Claims**



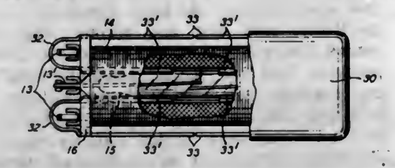
A selector switch or multi-circuit connector which comprises frame means on which a plurality of contact-carrying means is disposed side by side. A plurality of conductive means is disposed adjacent the contact-carrying means with each of the contact-carrying means having a plurality of movable contact means. Each of the movable contact means is in alignment with respective conductive means and conductor means is located on each of the contact-carrying means and adapted to be engaged by the contact means. Carriage means is mounted on the frame means with driving means associated with the contact-carrying means and the carriage means to drive one thereof relative to the other to pre-selected positions. Contact movable means is located on the carriage means for engaging selected contact means when the carriage means is opposite selected contact-carrying means to move the selected contact means into engagement with the conductor and conductive means to interconnect same.

3,436,697
ELECTROMAGNETIC LOAD RELAY HAVING AN INSULATED BARRIER BETWEEN CONTACTS
Robert Raymond Snyder, Moline, Ill., assignor to E. W. Bliss Company, Canton, Ohio, a corporation of Delaware
Filed Sept. 21, 1966, Ser. No. 581,070
Int. Cl. H01h *37/02, 15/02*
U.S. Cl. 335—115 **13 Claims**



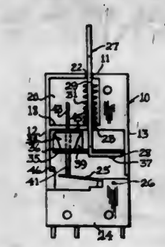
An electromagnetic load relay having a barrier located between the pairs of contacts, which serves to carry as well as electrically insulate the contact assemblies.

3,436,698
RELAY HAVING IMPROVED CONSTRUCTION
George E. Perreault, White Plains, N.Y., assignor to Bell Telephone Laboratories, Incorporated, Murray Hill, N.J., a corporation of New York
Filed Mar. 30, 1967, Ser. No. 627,199
Int. Cl. H01h *1/66*
U.S. Cl. 335—154 **8 Claims**



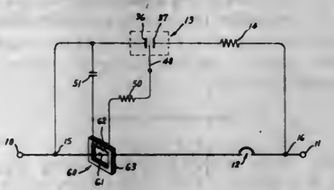
A relay comprising a relay switching assembly, a magnetic cover and magnetic return path members. The relay switching assembly uses a coil and sealed contacts and is capable of independent operation. The return path members magnetically couple the operative elements in the relay while performing mechanical functions.

3,436,699
MAGNETIC PULSE SWITCH ACTUATOR
Robert Main, Highland Park, Ill., assignor to Cherry Electrical Products Corporation, Highland Park, Ill., a corporation of Illinois
Filed July 31, 1967, Ser. No. 657,399
Int. Cl. H01h *5/00*
U.S. Cl. 335—188 **8 Claims**



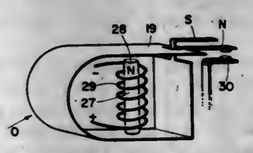
A housing for an actuator for a snap-action switch including a movable actuating lever carrying a magnet which retains for movement therewith an actuator pin operatable upon a spring-biased pivotal switch actuator which has a limited travel in comparison to the distance of travel of the magnet carrying actuating lever whereby the actuator pin is forcibly separated from the magnetic field of the magnet and independently returned to its original or unactuating position by the spring-biased switch actuator after pivoting the same through its limited distance of travel effecting a momentary pulsation of the snap-action switch associated therewith.

3,436,700
PARALLEL ASSISTED CIRCUIT INTERRUPTING DEVICE
Charles F. Hobson, Jr., Southington, Conn., assignor to General Electric Company, a corporation of New York
Filed May 19, 1967, Ser. No. 639,672
Int. Cl. H01h *9/30*
U.S. Cl. 335—201 **5 Claims**



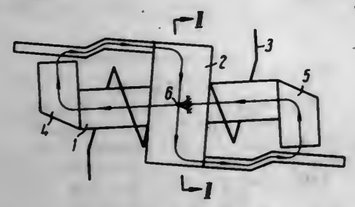
An electric circuit interrupter includes separable contacts and a "by-pass" path including a controlled breakdown gap device, which can be broken down or "triggered" by voltage applied between a "trigger" electrode and a main electrode. Triggering voltage is obtained from the secondary winding of a transformer whose primary winding is in series with the interrupter contacts. When the gap device fires, current by-passes the contacts and simultaneously eliminates the trigger voltage.

3,436,701
UNITARY ARMATURE RELAY HAVING CONSTANT ACTUATING TIME AND METHOD
Rodney Hayden, Stoney Creek, Ontario, Canada, assignor to United-Carr Incorporated, Boston, Mass., a corporation of Delaware
Filed Apr. 14, 1967, Ser. No. 630,954
Claims priority, application Canada, Feb. 28, 1967, 983,946
Int. Cl. H01h *9/00, 50/18*
U.S. Cl. 335—203 **3 Claims**



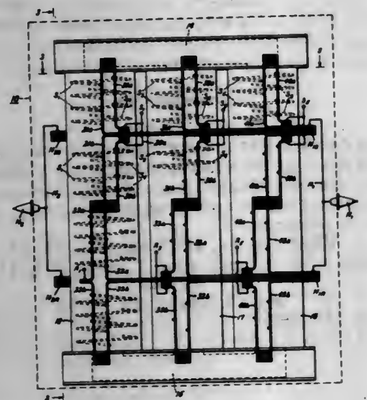
A relay having a unitary armature which is adapted to be connected to a direct current source. The armature is of a ferrous metal that is capable of being magnetized and includes a movable end which carries a contact and a detent spaced from and limiting movement of said end with a direct current passing through the contact, the movable end of the armature is constituted a magnetic pole and the detent an opposite pole. Thus magnetic properties are generated which, under certain conditions tend to cause the movable armature end to stick to the detent.

3,436,702
ROTARY ARMATURE ELECTROMAGNET
Boris Yakovlevich Zhezmer, Rizhsky proezd 11, kv. 23; Iosif Ivanovich Pak, Institutsky per. 38, kv. 1; and Anatoly Isaakovich Pruss, Bolshaya Cherkizovskaya ul. 9, korpus 1, kv. 156, all of Moscow, U.S.S.R.
Filed Jan. 7, 1966, Ser. No. 519,262
Int. Cl. H01f 7/08
U.S. Cl. 335—276 7 Claims



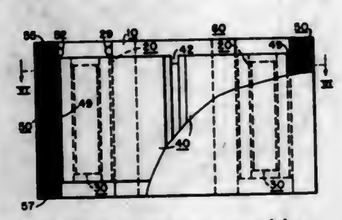
An electromagnet having a Z-shaped core including a rod with a coil wound thereon and pole shoes on the ends of the rod, there being a pivotally mounted Z-shaped armature at the center of the rod and embracing the coil, the armature having arms extending in opposite directions on opposite sides of the rod facing the shoes and define working gaps therewith.

3,436,703
INTERNAL BUS CONNECTION FOR HIGH CURRENT Y-CONNECTED TRANSFORMERS AND THE LIKE
Ralph G. Schlawin, Pittsfield, Mass., assignor to General Electric Company, a corporation of New York
Filed Oct. 20, 1967, Ser. No. 676,865
Int. Cl. H01f 33/00
U.S. Cl. 336—12 7 Claims



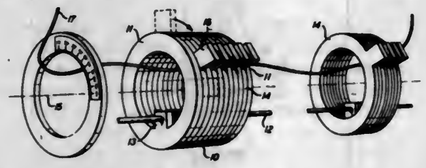
An improved internal arrangement of bus conductors for Y-connected high current power transformers. Each phase winding is formed by connecting in parallel circuit relation some or all of a plurality of axially spaced-apart coils in a cylindrical winding assembly. Parallel connection is made through axially parallel bus conductors at one side of the winding assembly. The bus conductors adjacent each winding or section thereof are in two aligned pairs having abutting ends midway between the ends of the winding section. Adjacent ends of one aligned pair of buses are spaced apart and adjacent ends of the other are bent over and extended transversely of the winding axes in parallel engaging relation. The conductors of each spaced-apart pair are connected together and to one line terminal; all the transversely extending pairs lie in parallel engagement and pass between the spaced line voltage pairs to constitute an enfolded composite neutral bus. A plurality of such bus arrays, each forming a separate neutral, can be arranged at one or both sides of a coplanar group of cylindrical windings and inductively coupled through an interphase transformer.

3,436,704
ELECTRICAL TRANSFORMER CONSTRUCTION
August I. Keto, Sharpsville, and Anthony J. Palumbo, Sharon, Pa., assignors to Westinghouse Electric Corporation, Pittsburgh, Pa., a corporation of Pennsylvania
Filed Oct. 12, 1966, Ser. No. 586,116
Int. Cl. H01f 15/14, 27/02
U.S. Cl. 336—70 8 Claims



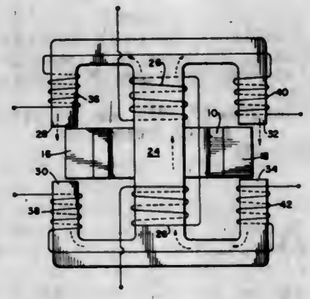
1. Electrical inductive apparatus comprising:
first, second and third winding structures disposed in spaced, adjacent, concentric relation, respectively;
said first, second and third winding structures each having a predetermined number of conductor turns formed of electrically conductive strip material having predetermined width dimensions;
said first, second, and third winding structures each having first and second coaxially disposed end surfaces formed by the edges of said electrically conductive strip material;
first and second solid insulating means disposed between said first and second winding structures, and between said space second and third winding structures, respectively; said first and second solid insulating means having first and second coaxially disposed end portions, first and second circumferentially spaced end portions, which form ducts extending between said first and second coaxially spaced end portions, and inner and outer major surfaces which have an electrically conductive means disposed thereon;
means electrically connecting the electrically conductive means on said inner and outer major surfaces to the winding structure immediately adjacent thereto; and
cast solid insulating means disposed about the first and second end surfaces of at least said second winding structure, and in the ducts formed by the circumferentially spaced end portions of said first and second solid insulating means.

3,436,705
VARIABLE PERMEABILITY DEVICE
James J. Munnelly, Parsippany-Troy Hills Township, Morris County, N.J., assignor to Bell Telephone Laboratories, Incorporated, Murray Hill, N.J., a corporation of New York
Filed Nov. 24, 1967, Ser. No. 685,678
Int. Cl. H01f 21/06
U.S. Cl. 336—132 8 Claims



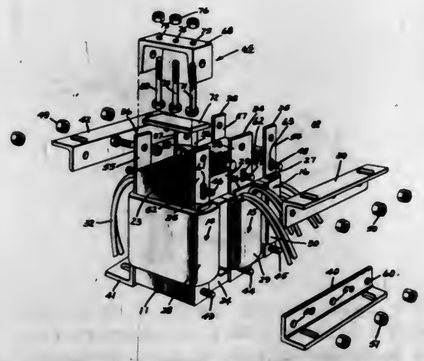
Stepless changes in the bilateral impedance of an inductor are effected independently of flux density by building laminated cores of material exhibiting a directionally dependent permeability. Selected ones of the core laminations are alignable with respect to the others which are fixed.

3,436,706
VARIABLE INDUCTOR HAVING ARMATURE MOVABLE IN AIR GAP
Elliott J. Siff, Bridgeport, and Irving Schaffer, Fairfield, Conn., assignors to American Chain & Cable Company, Inc., New York, N.Y., a corporation of New York
Filed July 28, 1965, Ser. No. 475,434
Int. Cl. H01f 21/06, 7/08, 5/00
U.S. Cl. 336—134 5 Claims



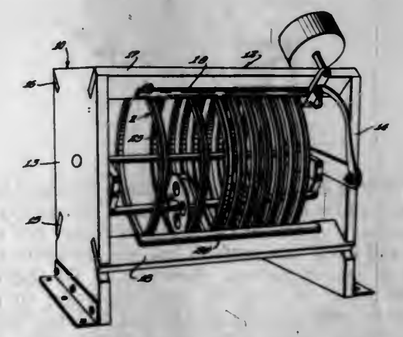
Pick-up means for a gyro wherein a stator is in the form of two coplanar E's with their center legs connected and outer legs defining a pair of gaps, four secondary coils are disposed on the respective four outer legs and a primary coil is disposed on the common center leg of the stator, and an armature free of magnetizing means is disposed such that its end portions can precess back and forth in planes bisecting the respective gaps.

3,436,707
ELECTRICAL INDUCTIVE APPARATUS WITH CLAMPING AND AIR-GAP ADJUSTING FRAME
Charles E. Derbyshire and Frank T. Andersen, Fort Wayne, Ind., assignors to General Electric Company, a corporation of New York
Filed Oct. 30, 1967, Ser. No. 679,001
Int. Cl. H01f 21/06
U.S. Cl. 336—134 6 Claims



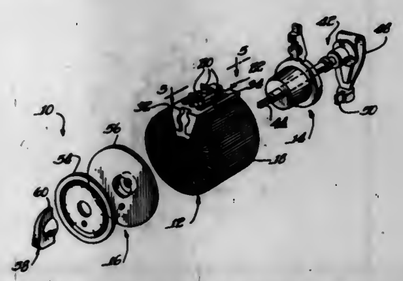
A dry type transformer with a clamping and air-gap adjusting frame. This frame includes front and rear clamping straps that extend in parallel relationship on each side of a leg of a magnetic core, the clamping straps having extensions that project upwardly above the upper yoke of the magnetic core. Crosshead members join the opposed extensions of the front and rear clamping straps to form a screw-press superstructure. Platens of the superstructure are disposed along the edges of the laminations of the upper yoke of the magnetic core with the heads of press bolts engaging the platens in screw-press relationship to selectively position the upper yoke with respect to one or more of the legs of the magnetic core thereby to permit adjustments to be made to the air gap of the magnetic core during assembly. During operation, the screw-press superstructure of the clamping and air-gap adjusting frame restrains edgewise movement of the laminations of the upper yoke to minimize noise during operation.

3,436,708
VARIABLE TRANSFORMER HAVING ONE COIL CONDUCTOR WITHIN THE OTHER
Porter F. Schultz, Jr., Liberty, Ill., assignor to Gates Radio Company, Quincy, Ill., a corporation of Illinois
Filed Dec. 19, 1966, Ser. No. 602,659
Int. Cl. H01f 29/06, 27/28
U.S. Cl. 336—139 3 Claims



A radio frequency tuning coil having first and second helical conductors wound in an ideal transformer relationship such that one of the conductors is physically embedded in the other. The two conductors are electrically isolated, and movable contact means are mounted internally of the helical coil structure for varying the effective inductance of the larger of the two conductors.

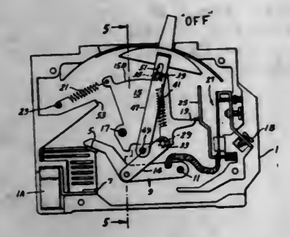
3,436,709
VARIABLE TRANSFORMER HAVING TERMINALS HELD BY CORE HOUSING
William W. Schapira, Skokie, and Louis H. Berkelhamer, Glencoe, Ill., assignors to Consolidated Electronics Industries Corp., Skokie, Ill., a corporation of Delaware
Filed May 22, 1967, Ser. No. 640,194
Int. Cl. H01f 15/10
U.S. Cl. 336—192 6 Claims



A variable transformer construction includes a housing for a magnetic core, the housing including a pair of rigid elements that have mounting sections. The mount-

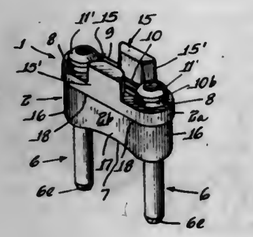
ing sections are provided with slots having a relatively narrow body section and a relatively wide head section inwardly of the body section. Terminal members are slidably mounted in the slots and include a relatively wide base section which is slidably received in the head section of the slot to retain the terminal members against outward movement relative to the housing.

3,436,710
ELECTRIC CIRCUIT BREAKER
Kenneth J. Stokes, Wethersfield, Conn., assignor to General Electric Company, a corporation of New York
Filed May 24, 1967, Ser. No. 641,009
Int. Cl. H01h *71/16*
U.S. Cl. 337—55 **7 Claims**



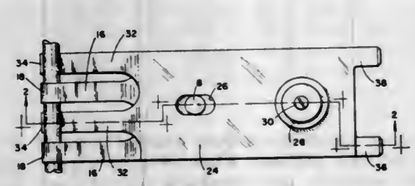
An electric circuit breaker includes a normally latched support member having upper and lower outwardly curved cam surfaces. A pair of cam follower rollers ride on the upper and lower cam surfaces and are interconnected by a pair of tension springs. Movement of the upper cam follower roller by manually operated means from one position to another on the cam surface causes corresponding movement of the other cam follower roller with a snap action, which movement is transmitted to a movable contact arm. When released by an overcurrent-operated latch, the support member is rotated by a bias spring while the upper cam roller is prevented by the manual operating member from moving with it, resulting in a change of the line of action of the spring with relation to the lower cam surface and opening of the contacts.

3,436,711
MINIATURE CURRENT OVERLOAD FUSE
John M. Borzoni, Des Plaines, Ill., assignor, by mesne assignments, to Littelfuse, Inc., a corporation of Texas
Filed Nov. 20, 1967, Ser. No. 684,408
Int. Cl. H01h *85/04*
U.S. Cl. 337—198 **13 Claims**



A minature current overload fuse is provided comprising an elongated body of insulating material and terminal pins extending transversely through the end portions of the insulating body, and projecting a relatively large distance beyond the inner side thereof. The opposite or outer ends of the terminal pins preferably project a small distance beyond the outer side of the insulating body. At least the outer side of the intermediate portion of the insulating body has on the opposite longitudinal margins thereof a pair of barrier-forming walls spaced apart a relatively small distance to prevent the entry therebetween of a human finger, or a barrier-forming wall or terminal pin of another similar fuse. A fuse link extends between the outer ends of the terminal pins which fuse link is sized to be dropped into place between the barrier-forming walls and soldered or welded to the terminal pins.

3,436,712
THERMAL CIRCUIT BREAKER
Paul R. Heaney, Rochester, N.Y., assignor to Eastman Kodak Company, Rochester, N.Y., a corporation of New Jersey
Filed June 27, 1967, Ser. No. 649,263
Int. Cl. H01h *37/76*
U.S. Cl. 337—405 **4 Claims**



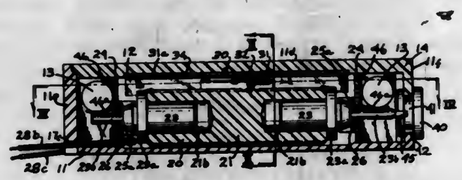
A thermal circuit breaker for opening an electrical circuit when the ambient temperature surrounding the circuit breaker exceeds a predetermined temperature.

3,436,713
CRYOGENIC RESISTANCE TEMPERATURE DETECTOR
Emanuel J. Di Nola, Briarcliff Manor, N.Y., assignor to Universal Oil Products Company, Des Plaines, Ill., a corporation of Delaware
Filed Nov. 2, 1966, Ser. No. 591,613
Int. Cl. H01c *7/00*
U.S. Cl. 338—28 **5 Claims**



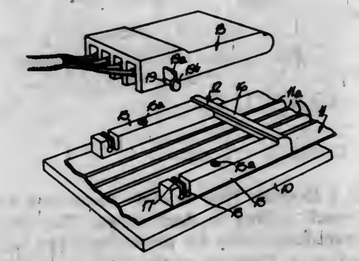
A cryogenic resistance temperature detector adapted to be immersed in cryogenic fluids comprising a hollow thermo-resistant smooth glass support and a resistance element which is held to the support by a coating capable of providing a resultant crystalline non-hygroscopic covering having a coefficient of expansion equivalent to the support and resistance element, and high strength.

3,436,714
VARIABLE RESISTANCE CONTROL HAVING A RESISTANCE WIRE SUPPORTING CYLINDRICAL SUBSTRATE
Robert W. Naylor, Weston, Ontario, Canada, assignor to CTS Corporation, Elkhart, Ind., a corporation of Indiana
Filed Dec. 29, 1966, Ser. No. 605,798
Claims priority, application Canada, Dec. 24, 1966, 978,898
Int. Cl. H01h *61/01*
U.S. Cl. 338—145 **24 Claims**



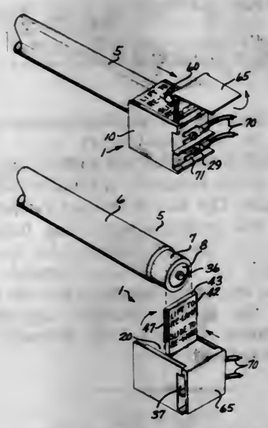
Control includes a resistance wire wound on a cylindrical substrate. Movable contactor comprises a contact wire disposed in a groove in the substrate and wipingly engaging the resistance wire as the cylindrical substrate is rotated. Rotation of the cylindrical substrate effects rectilinear movement of the contactor along a stationary collector electrically connected to and mechanicaly guiding the contactor. Tension members frictionally coupled with shafts supporting the substrate maintain a desired value of rotational torque of the control. Apertured end springs rotatably support the shafts supporting the rotatable substrate and complete the electrical circuit between terminal leads and the ends of the resistance wire. A knob rotatably supported by the housing is provided with a radially disposed slot in which a deformed end of one of the shafts is received.

3,436,715
CONNECTORS FOR USE WITH FLEXIBLE PRINTED CIRCUITS
Benjamin William Matthews, Birmingham, England, assignor to Joseph Lucas (Industries) Limited, Birmingham, England, a British company
Filed Sept. 21, 1966, Ser. No. 580,956
Claims priority, application Great Britain, Oct. 14, 1965, 43,575/65
Int. Cl. H05k *1/12;* **H01r** *13/54*
U.S. Cl. 339—17 **2 Claims**



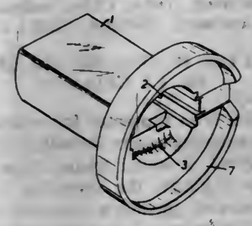
In a connector for a printed circuit, portions of the printed circuit are exposed on a board to which a frame is secured. The frame has a shoulder beneath which one end of a body is trapped, the other end of the body being secured to the frame by latch means including a post on the body and a slot in the frame, the arrangement being such that when the body is engaged with the frame conductors detachably engaged with the body make connections to the exposed portions of the printed circuit.

3,436,716
TUBE LAMP SOCKET FIXTURE WITH HINGED COVER PANELS
James W. Amis, Jr., Bellevue, and James B. Dobson, Seattle, Wash., assignors to Korry Manufacturing Co., Seattle, Wash., a corporation of Washington
Filed Oct. 5, 1967, Ser. No. 673,038
Int. Cl. H01r *33/10*
U.S. Cl. 339—54 **15 Claims**



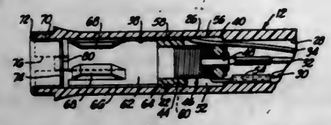
A socket structure for tubular electric lamps including a socket housing with bottom, end and two side walls. A cover system is removably attached through grooves and ribs to the housing to form a top cover panel and a terminal cover panel which are connected to one another by a hinge. The top cover panel may be articulated about the hinge to permit insertion or removal of the end of a tubular electric lamp. The terminal cover panel can be articulated about the hinge to provide easy access to the terminal connections at one end of the socket housing. In the preferred form the cover system is one piece with the hinge formed by molding a transverse groove into the cover piece between the top cover panel and the terminal cover panel portions.

3,436,717
HOLDER FOR AN ELECTRIC LAMP
Clarence Willans Heath, Bleasby, England, assignor to United-Carr Incorporated, Boston, Mass., a corporation of Delaware
Filed Feb. 6, 1967, Ser. No. 614,349
Claims priority, application Great Britain, Feb. 9, 1966, 5,677/66
Int. Cl. H01r *13/20, 13/62*
U.S. Cl. 339—65 **2 Claims**



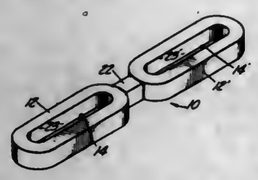
A lampholder has the inner surface of the lamp receiving cavity shaped to define inwardly sloping surfaces for orienting the lamp as it is inserted and guiding it into correct register with the cavity.

3,436,718
HANDLE FOR ELECTRIC SOLDERING IRON
Alvis R. Knowles, Torrance, Calif., assignor to Eldon Industries, Inc., Hawthorne, Calif., a corporation of California
Filed May 31, 1966, Ser. No. 554,059
Int. Cl. H01r 7/30
U.S. Cl. 339—110 8 Claims



A soldering iron has an electric heating element removable from an electrical socket within the tubular handle. The socket is mounted in a socket support retained within one end of the handle by a tubular socket retainer fixed in the handle. The socket retainer extends forwardly in the handle and provides supporting fingers to support and guide the heating element. An electrical conductor connected to the retainer extends outwardly through the other end of the handle to provide a grounding connection for the heating element supported in the fingers. The retainer prevents both forward and rotary movement of the socket support.

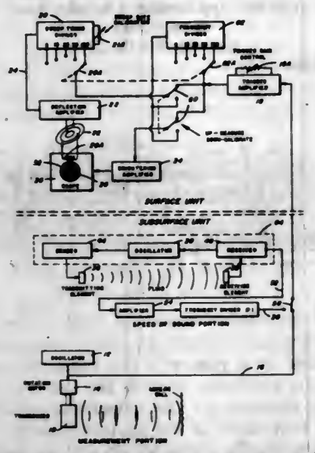
3,436,719
BATTERY CONNECTOR
Henry Scheinbaum, Los Angeles, Calif., assignor to Estee Battery Company, Los Angeles, Calif., a corporation of California
Filed Feb. 15, 1967, Ser. No. 616,215
Int. Cl. H01r 25/00, 13/26
U.S. Cl. 339—224 1 Claim



The device is a terminal connector formed of two similar slotted conductive bodies or pieces adapted to receive battery terminals. The two pieces have slots to fit positive and negative battery terminals respectively. The two pieces are joined by an intermediate straight piece of selected length, simply by lead burning or the like, to form a unitary connector of desired length which can accommodate itself to connecting batteries in various patterns or relationships.

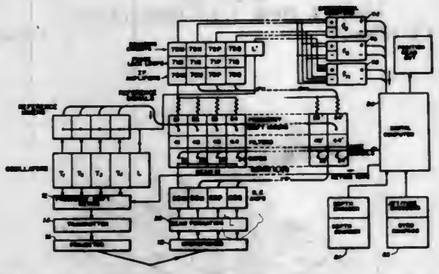
3,436,720
SONAR APPARATUS FOR MEASURING UNDERGROUND CAVERNS
Gerald D. Patterson, Tulsa, Okla., assignor to The Dow Chemical Company, Midland, Mich., a corporation of Delaware
Filed Oct. 10, 1966, Ser. No. 585,353
Int. Cl. G01s 9/66
U.S. Cl. 340—3 6 Claims

This invention is an apparatus for measuring an underground fluid containing cavern including means of calibration for the speed of sound transmission of the cavern fluid. More particularly, the invention is for a cavern measuring apparatus including indicator means for sequentially displaying lapsed time intervals, a sound transmitting element and a sound receiving element supported at a preselected distance from each other in the cavern fluid, transmitter and receiving means having connection to the sound transmitting element and sound receiving element including means of applying sound producing voltage pulses to said transmitting element in response to sound pulses received through the cavern fluid by said sound receiving element to establish a regenerated pulse repetition frequency signal proportional to the speed of the sound transmission of cavern fluid, means of applying the pulse repetition frequency signal to the indicator,



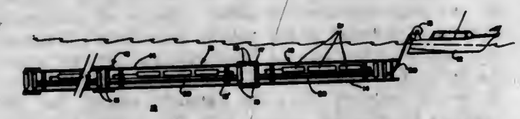
means of calibrating the indicator whereby the indicator may be regulated to display indicia of time elapsed for the transmission of sound in the cavern fluid, and measuring sound transmitting receiving means in the caverns providing elapsed time measuring signals in response to the sequential transmission of sound waves in the cavern fluid which signals may be applied to the calibrated indicator to display a calibrated outline of the cavern wall.

3,436,721
FAN BEAM ACOUSTIC DOPPLER NAVIGATION SYSTEM
Harold K. Farr, Westwood, Mass., assignor to General Instrument Corporation, Newark, N.J., a corporation of New Jersey
Filed Jan. 16, 1968, Ser. No. 701,811
Int. Cl. G01s 9/66
U.S. Cl. 340—3 22 Claims



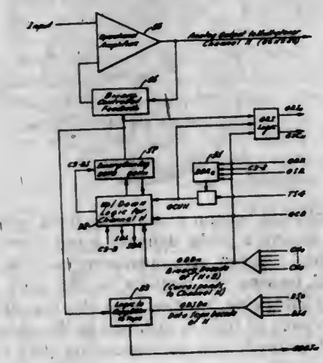
This is a Doppler type velocity measuring system for use by vessels sailing in deep water. The system comprises a transducer array for projecting a fan beam which is directed at a forward angle, and a receiving transducer array for receiving on a fan beam transverse to that of the transmitted beam and which intersects the latter on the ocean bottom. A receiver utilizes the Doppler difference in frequency to determine the velocity of the vessel. In preferred form there are four fan beam intersections, one pointing forward starboard, another pointing forward port, and another pointing aft starboard, and the fourth pointing aft port. The four received beams then may be used for measurement of both tracking or forward velocity, and drift velocity. In deep water the reverberation may exceed the desired signal reflected from the bottom. To overcome this I employ gating. I combine the advantage of pulses with the advantage of continuous transmission by using keying means to change the transmitted frequency cyclically. The receiver selects and separates the received frequencies, and gates them to minimize the effect of reverberation. There is only a single transmitting array and a single receiver array, together with beam steering means utilizing phase difference to steer the transmitting beam forward and aft, and to steer the receiving beams toward port and starboard, thus providing the desired four fan beam intersections, while using only two transducer arrays. The cabling of the transducers in each array is greatly simplified by appropriate selection of the phase difference being used.

3,436,722
EXTENDABLE INTRASECTION HYDROPHONE ARRAYS
Booth B. Strange, Houston, Tex., assignor to Western Geophysical Company of America, Los Angeles, Calif., a corporation of Delaware
Filed Apr. 1, 1968, Ser. No. 717,535
Int. Cl. H04b 13/00
U.S. Cl. 340—7 7 Claims



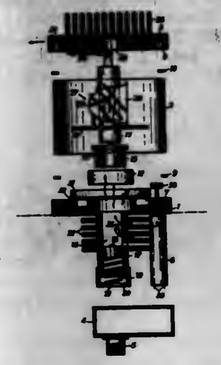
This invention relates to improved streamer cables for use in marine seismic exploration and, more particularly, to improved streamer sections each comprising at least two component arrays of hydrophones for detecting reflected seismic waves during marine exploration. Means are provided to detachably interconnect, at the end of each section, the component arrays to obtain composite intrasection arrays for optimum attenuation of noise and of unwanted signals, whereby desirable response curves can be selectively achieved.

3,436,723
DIGITAL RECORDING APPARATUS
Carl H. Savit, Van Nuys, Calif., assignor to Western Geophysical Company of America, Los Angeles, Calif., a corporation of Delaware
Filed Nov. 14, 1966, Ser. No. 593,781
Int. Cl. G01v 1/00
U.S. Cl. 340—15.5 6 Claims



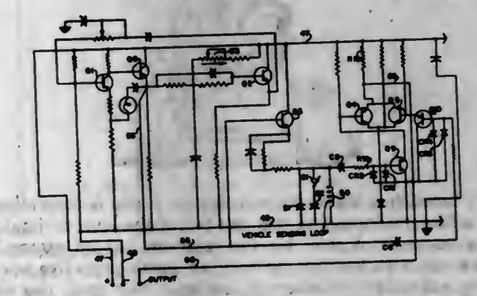
A method of digitally recording seismic data from a plurality of channels, each channel including a variable gain amplifier. The method includes the steps of recording on a tape with several recording tracks a digital indication of the initial gain value of each amplifier, sequentially digitizing the data output of each amplifier, providing a digital indication of a change in each amplifier gain, and recording the digitized data together with the digital indication of the change on the recording medium.

3,436,724
ANTICOLLISION NAVIGATIONAL LIGHTS
Pierre Edmond Tuffet, 7 Rue du Marechal Foch, Tarbes, Hautes Pyrenees, France
Continuation-in-part of application Ser. No. 502,017, Oct. 22, 1965. This application Jan. 24, 1967, Ser. No. 611,368
Claims priority, application France, Aug. 26, 1966, 74,212
Int. Cl. C08g 5/00; B60a 1/46; B64d 47/02
U.S. Cl. 340—25 9 Claims



An anticollision light for aircraft comprises a body including a cap and a base and a glass pane between the cap and the base that defines within it an enclosure for an iodine light. Apertures extend through the base and through the cap; and when the light is mounted on an aircraft, the enclosure communicates with the interior of the aircraft so that the relatively low pressure on the outside draws air up through the base to cool the enclosure and out through the cap. Heat-sensitive means adjacent the apertures regulate the opening of the apertures relative to the lamp temperature.

3,436,725
LOOP DETECTOR
Walter R. Spofford, Fayetteville, and Morton G. Davis, Camillus, N.Y., assignors to Crouse-Hinds Company, Syracuse, N.Y., a corporation of New York
Filed Jan. 3, 1966, Ser. No. 518,176
Int. Cl. C08g 1/01
U.S. Cl. 340—38 4 Claims



Disclosed is an improved self-adjusting circuit for a magnetic vehicle detector of the phase shift type wherein

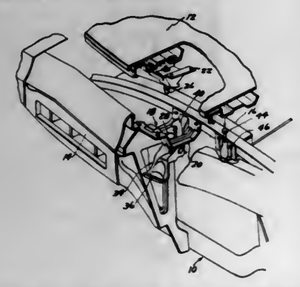
the bias for a variable threshold bistable circuit is provided by a resistor capacitor circuit having a long time constant which will respond to slow changes in the ambient conditions to maintain the bistable circuit in a first conductivity state but will not respond to a similar rapid change caused by a vehicle in the proximity to a buried loop which will cause the bistable circuit to switch to its second conductivity state to manifest the vehicle's presence for the duration of the vehicle's stay in the proximity of the loop, and a second timing circuit responsive to the second state of the bistable circuit operates to restore the bistable circuit to its first state so as to be receptive to a subsequent vehicle in the proximity of the loop while the first vehicle remains therein.

3,436,726

HOOD ACTUATED WARNING DEVICE FOR MOTOR VEHICLES

Albert O. Dentz, 19180 Appleton, Detroit, Mich. 48219

Filed Mar. 21, 1966, Ser. No. 535,749
Int. Cl. B60q 9/00
U.S. Cl. 340—52 4 Claims



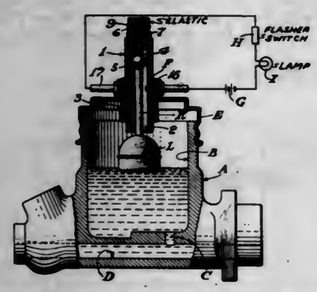
A warning device for indicating to the operator of a vehicle that the hood of the vehicle is not in its fully closed position at such times as the vehicle is being operated.

3,436,727

HYDRAULIC BRAKE LIQUID LOSS SIGNAL WITH MOISTURE EXCLUDING AIR VENT

Frank Pagano, Sr., Newark, N.J., Rose Pagano, Frank Pagano, Jr., and Robert Pagano, executors of said Frank Pagano, Sr., deceased, assignors to Surelock Manufacturing Co., Inc., Newark, N.J., a corporation of New Jersey

Filed Jan. 3, 1966, Ser. No. 518,105
Int. Cl. G08b 21/00
U.S. Cl. 340—59 1 Claim



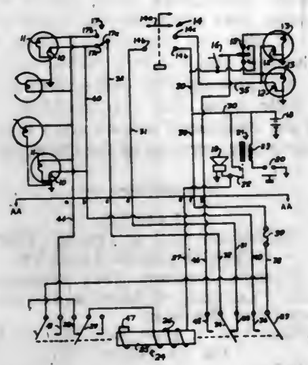
A liquid loss signal for a hydraulic brake is controlled by a float responsive to rise and fall of the level of liquid in a reservoir. A vent for the reservoir has an external valve seat with which cooperates an elastic cap valve normally seated by its inherent resiliency and upon rise of the liquid level being unseated by air pressure which escapes through an aperture in said cap valve.

3,436,728

VEHICLE LIGHT AND HORN SIGNALLING CONTROL SYSTEM

Philip J. Silverwood, New Gambier Road, Mount Vernon, Ohio 43050, and Foryst J. Winship, Columbus, Ohio (100 Tree Top Court, Timonium, Md. 21093)

Filed Oct. 22, 1965, Ser. No. 501,170
Int. Cl. B60q 1/52; G08b 7/06
U.S. Cl. 340—75 8 Claims



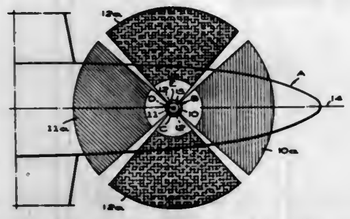
A visual signaling system for automotive vehicles for warning operators of other vehicles of proximate dangers is provided which utilizes the vehicle's illumination system comprising the headlights and the rear warning lights. This system provides an electrical circuit interconnected between the horn signaling system and the vehicle's illumination system with the system energized through actuation of the horn signaling system. The electrical circuit is interconnected to permit operation of the signaling system irrespective of the status of the circuit normally controlling the operation of the vehicle's illumination system and thus permits the vehicle operator to visually signal other vehicle operators through actuation only of the vehicle's horn signaling system.

3,436,729

MULTICOLORED ANTI-COLLISION BEACON FOR INDICATING POSITION AND RELATIVE DIRECTION OF VEHICLE TRAVEL

Raymond W. Zurcher, San Mateo, Calif., assignor of thirty percent each to Dean E. Barnette and Richard T. Preston, San Mateo, Calif.

Filed Dec. 14, 1965, Ser. No. 513,785
Int. Cl. B60q 1/26, 1/46
U.S. Cl. 340—87 4 Claims



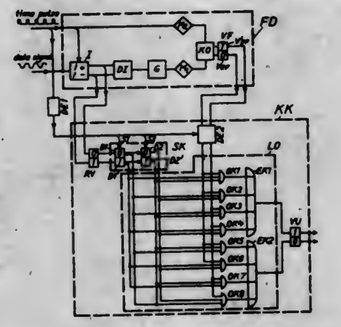
An anti-collision beacon mounted in fixed position on a vehicle and having a globe defining a red forward transparent section, a green aft transparent section, and opposite lateral transparent sections on the port and starboard sides contrasting in color with the forward and aft sections. A source of light is disposed in the globe, whereby beams of colored light corresponding with the colors of the transparent sections may be emitted through the latter so that the position and relative direction of travel of the vehicle may be determined by an observer in another vehicle or on the ground.

3,436,730

METHOD OF DETECTING AND CORRECTING AN ERROR IN POLARITY CHANGE IN A DATA TRANSMISSION SYSTEM

Walter Herbert Erwin Widel, Bandhagen, Sweden, assignor to Telefonaktiebolaget L M Ericsson, Stockholm, Sweden, a corporation of Sweden

Filed May 12, 1965, Ser. No. 455,194
Claims priority, application Sweden, May 28, 1964, 6,465/64
Int. Cl. G08b 29/00; G08c 25/00
U.S. Cl. 340—146.1 1 Claim



A data communication system comprises a transmitter which sends binary coded data elements represented by phase modulated differential coding signals to a receiver. In the receiver are means for detecting and converting double errors arising in the transmission because of the coding technique to single errors which can be detected and corrected by conventional parity checkers. The detecting and correcting means include integrating means for separately integrating the positive and negative lobes of the each received data element to produce two signals which are combined to produce a difference signal. The magnitude of the difference signal is compared with a predetermined threshold value. If the magnitude is less than the threshold value a signal is generated which activates means for reversing the sense of the related data signal element which thus reduces the double error to a single error.

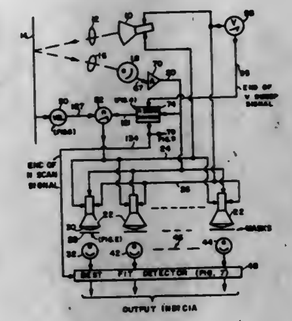
3,436,731

SYMBOL DETECTION

Curtis W. Fritze, St. Paul, and Howard L. Daniels, West St. Paul, Minn., assignors to Sperry Rand Corporation, New York, N.Y., a corporation of Delaware

Filed Mar. 11, 1960, Ser. No. 14,321
Int. Cl. G06k 7/10; H04q 3/04, 5/36
U.S. Cl. 340—146.3 4 Claims

2. Apparatus for detecting and indicating the presence on a document of anyone of a plurality of different symbols of known configuration comprising: means for effectively scanning a predetermined area of a document in a first direction with a beam of light; means for effecting movement of said beam in a direction substantially normal to said first direction; means responsive to the light reflected from said area for developing an electrical signal each time said beam crosses any part of a symbol on said document; a plurality of cathode-ray tubes equal in number to the number of discrete symbols to be detected; means for synchronizing the sweep voltages applied to said tubes with said scanning means for displaying in response to said electrical signal exceeding a predetermined threshold a replica of the symbols being scanned; a plurality of masks each having an aperture configuration corresponding to the configuration of said discrete symbols to be detected and disposed adjacent the faces of respective ones of said tubes; a plurality of sensing means for sensing the amount of light passing through apertures from said tubes, means connected to the outputs of said sensing means for developing an electrical signal proportional to the average value of the output signals from said sensing means; a plurality of comparators equal in number to the number of discrete symbols to be detected, each having a pair of input terminals one of which is connected to the output terminals of respective ones of said sensing means; and means connecting the other of said input terminals on all of said comparators to the output from said signal developing means to cause an output from anyone of said comparators whose first input terminal is receiving an output from said sensing means less in amplitude than the signal corresponding to said average value.

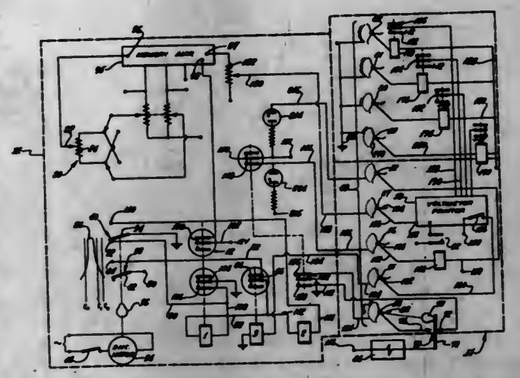


3,436,732

MULTIPLE SOURCE DATA COLLECTION SYSTEM

Arlen E. Charters, Santa Monica, Calif., assignor to Bio-Science Laboratories, Van Nuys, Calif., a corporation of California

Filed May 23, 1966, Ser. No. 552,100
Int. Cl. G11b 13/00
U.S. Cl. 340—172.5 21 Claims



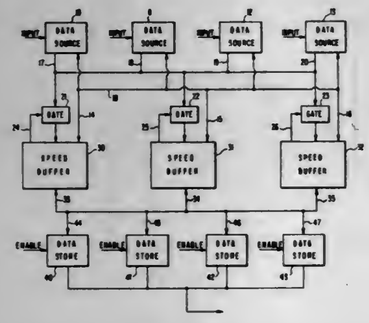
A single digital recorder cooperates with a series of separate analytical devices, each of which produces an output to be recorded. Each device has a control circuit including means storing the output produced by the corresponding device. Each control circuit signals desired use of the recorder. Logic circuits cause the stored outputs to be accepted by the recorder in accordance with its operating characteristics.

3,436,733

SUPERVISORY CONTROL REGISTER BUFFER

James G. Pearce and William W. Pharis, Rochester, N.Y., assignors to Stromberg-Carlson Corporation, Rochester, N.Y., a corporation of Delaware

Filed May 23, 1966, Ser. No. 552,223
Int. Cl. G11b *13/00*
U.S. Cl. 340—172.5 10 Claims



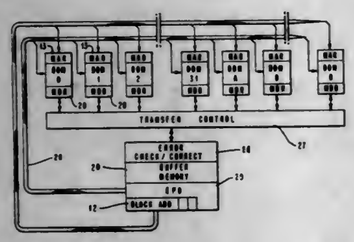
A speed buffer for transferring information from a plurality of registers or memory segments received on a time division multiplex basis to selected ones of a plurality of receiving registers or memory segments which have different availability times from the data sources.

3,436,734

ERROR CORRECTING AND REPAIRABLE DATA PROCESSING STORAGE SYSTEM

James H. Pomerene, Poughkeepsie, and Richard W. Melville, Candor, N.Y., assignors to International Business Machines Corporation, Armonk, N.Y., a corporation of New York

Filed June 21, 1966, Ser. No. 559,238
Int. Cl. G11b *13/00*
U.S. Cl. 340—172.5 5 Claims



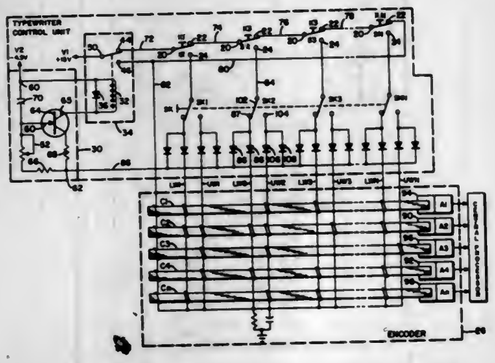
A storage system in a data processing system is comprised of *m* memory modules wherein each of the *m* memory modules contain a single binary bit of an *m*-bit word utilized in the data processing system. Each of the memory modules contains its own memory address register, control means, and read-out means which respond to address information from the data processing system for transferring data to or from the data processing system. Incorporated in the storage system is the capability of correcting errors in the data words. The resulting storage system configuration permits the continued use of the storage system during the time a faulty memory module is being removed and replaced.

3,436,735

KEYBOARD OPERATED REPEAT CIRCUIT FOR A DATA PROCESSING SYSTEM'S OPERATOR CONTROL UNIT

Roland L. Hoiseth, Minneapolis, Minn., assignor to Sperry Rand Corporation, New York, N.Y., a corporation of Delaware

Filed Sept. 1, 1966, Ser. No. 576,678
Int. Cl. G06f *3/02*
U.S. Cl. 340—172.5 10 Claims



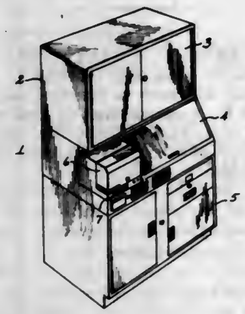
An electro-mechanical control system in an item of peripheral equipment associated with an electronic processing system, and in particular to a repeat circuit providing repeated emission of a digital code that is representative of the function, or character, of the activated keyboard key of a typewriter control unit.

3,436,736

AUTOMATIC DATA PROCESSING UNIT

William G. Platt, Stratford, and Henry G. Tucker, Norwalk, Conn., assignors to Remington Arms Company, Inc., Bridgeport, Conn., a corporation of Delaware

Filed Sept. 22, 1966, Ser. No. 581,281
Int. Cl. G11b *13/00*
U.S. Cl. 340—172.5 6 Claims



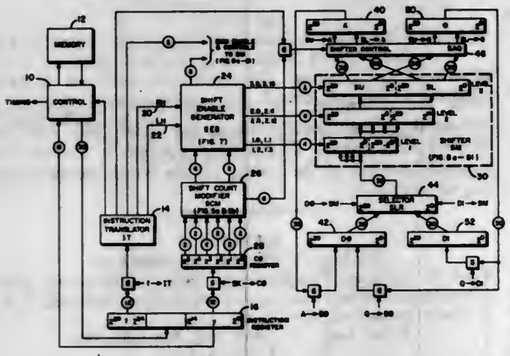
An automatic data processing unit for use with a drug dispensing machine. The basic dispensing machine is equipped to dispense drugs and to produce printed records of the delivery of such drugs only in response to introduction into the machine of embossed printing plates identifying patient, nurse, and drug. For automatic data processing the plates identifiying patient and drug are in addition provided with coded information in the form of code holes and transmit the data derived therefrom to one or more remoter stations during the interval in which the printed record is being produced in the machine.

3,436,737

SHIFT ENABLE ALGORITHM IMPLEMENTATION MEANS

Gary J. Iverson, White Bear Lake, and David M. Collins, St. Paul Park Village, Minn., assignors to Sperry Rand Corporation, New York, N.Y., a corporation of Delaware

Filed Jan. 30, 1967, Ser. No. 612,663
Int. Cl. G11b *13/00*
U.S. Cl. 340—172.5 15 Claims



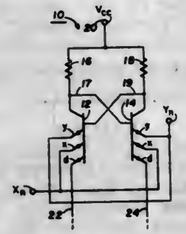
A shift enable signal generator for the arithmetic section of a digital computer whereby all possible shift count modifications are performed in parallel with the determination of the particular modification designated by the computer's instruction word.

3,436,738

PLURAL EMITTER TYPE ACTIVE ELEMENT MEMORY

Robert C. Martin, Dallas, Tex., assignor to Texas Instruments Incorporated, Dallas, Tex., a corporation of Delaware

Filed June 28, 1966, Ser. No. 561,196
Int. Cl. G11b *9/00*
U.S. Cl. 340—173 10 Claims



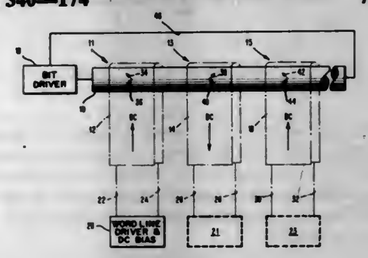
1. In a momory system, the combination of:
a plurality of binary storage means each comprised of first and second transistor means the collectors of which are connectable to a voltage supply and the bases and collectors of which are cross-coupled to provide regenerative switching, each transistor means having at least one address emitter and a write-read emitter,
address circuit means for selectively stopping the flow of current through all of the address emitters of a selected binary storage means to enable the binary storage means, and
write-read circuit means interconnecting all of the write-read emitters of the first transistor means and interconnecting all of the write-read emitters of the second transistor means for selectively establishing a voltage differential between the write-read emitters of the first transistor means and the write-read emitters of the second transistor means of the enabled binary storage means to switch one of the transistor means of the binary storage means "on" and the other "off", and for detecting the presence or absence of current through one of the write-read emitters of the enabled binary storage means.

3,436,739

MAGNETIC MEMORY DEVICE PROVIDING CREEP CONTROL

William J. Bartik, Jenkintown, Pa., assignor to Sperry Rand Corporation, New York, N.Y., a corporation of Delaware

Filed Oct. 1, 1963, Ser. No. 313,123
Int. Cl. G11b *5/00*
U.S. Cl. 340—174 7 Claims



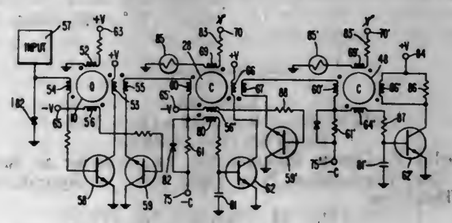
1. The memory arrangement comprising:
(a) a plurality of data storage elements;
(b) a plurality of flux generator means disposed in close proximity to said data storage elements, each different generator means being juxtaposed to a different one of said storage elements and,
(c) each said generator means being connected to an energizing means to generate a first magnetic field at said respective storage element;
(d) said magnetic field at a respective storage element being oriented in an opposite direction from the magnetic field at a next adjacent storage element;
(e) means further connected to each said flux generator means to selectively generate a second magnetic field at each said respective storage elements concurrent with but after the application of said first magnetic field;
(f) said second magnetic field being in the same direction as said first magnetic field.

3,436,740

VARIABLE COUNT STEP COUNTER

Roland Yii, Far Hills, N.J., assignor to Burroughs Corporation, Detroit, Mich., a corporation of Michigan

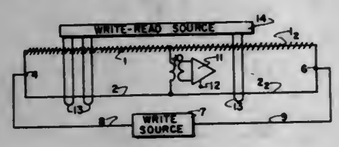
Filed June 8, 1964, Ser. No. 373,459
Int. Cl. G11b *5/00*
U.S. Cl. 340—174 3 Claims



The disclosure of the present invention describes a counter circuit which utilizes substantially square-loop magnetic cores, each capable of being stepped from one

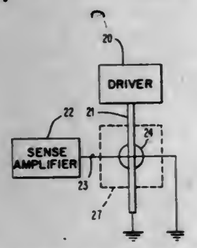
remanent state to the opposite state in a discrete number of incremental steps, and provides a stable transfer circuit, as well as an arrangement for varying the capacity of the individual count cores which finds special application in conjunction with a code converter.

3,436,741
NOISE CANCELLING ARRANGEMENTS FOR MAGNETIC WIRE MEMORIES
John M. Barrett, Northlake, Ill., assignor to Automatic Electric Laboratories, Inc., Northlake, Ill., a corporation of Delaware
Filed Aug. 10, 1964, Ser. No. 388,388
Int. Cl. G11b *5/00*
U.S. Cl. 340—174 **4 Claims**



The magnetic storage wires of a magnetic memory and their return conductors form transmission lines which are balanced so that the incident and reflected noise waves which are incrementally generated along a transmission line are combined and cancelled at the input to the sense amplifier.

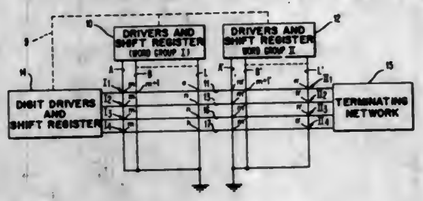
3,436,742
THIN MAGNETIC FILM MEMORY OPERATING IN THE TIME LIMITED MODE
William E. Flannery, Norristown, and Thomas J. Matcovich, Maple Glen, Pa., assignors to Sperry Rand Corporation, New York, N.Y., a corporation of Delaware
Filed Nov. 9, 1964, Ser. No. 409,828
Int. Cl. G11b *5/06*
U.S. Cl. 340—174 **20 Claims**



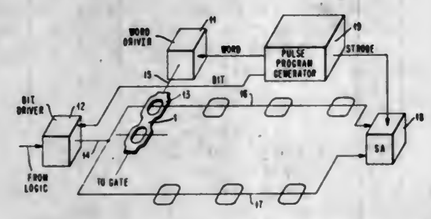
This invention relates to a non-destructive thin film memory device having the property of uniaxial anisotropy which operates in a time limited mode. In the time limited technique of operation, a pulse is coupled to the film which causes the film's magnetization to coherently rotate. The applied pulse causes the film's magnetization to rotate to an angle removed from the easy axis which enables two restore forces to effectively return the magnetization to the easy axis, namely, the trapped flux field and the anisotropy field.

3,436,743
MEMORY ORGANIZATION FOR PREVENTING CREEP
Carlos F. Chong, Philadelphia, Pa., assignor to Sperry Rand Corporation, New York, N.Y., a corporation of Delaware
Filed Dec. 21, 1964, Ser. No. 419,937
Int. Cl. G11b *5/00*
U.S. Cl. 340—174 **10 Claims**

In order to eliminate the effect of adjacent bit disturbs during the recording cycle of a memory wire having a continuously coated magnetic medium, the organization is arranged in one of two ways. In one way, the memory words are arranged along the wire memory and recording is accomplished bit serially so that adjacent bit disturbs are minimized. In a second way, the words are arranged conventionally along the drive line and are divided into groups. Every time a word is written into a word location of the group, all the words of the group are re-recorded.

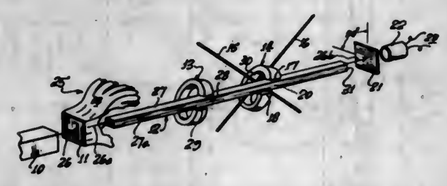


3,436,744
MEMORY PULSE PROGRAM
Fred E. Sakalay, Poughkeepsie, N.Y., assignor to International Business Machines Corporation, Armonk, N.Y., a corporation of New York
Filed Aug. 17, 1965, Ser. No. 480,380
Int. Cl. G11b *5/00*
U.S. Cl. 340—174 **5 Claims**



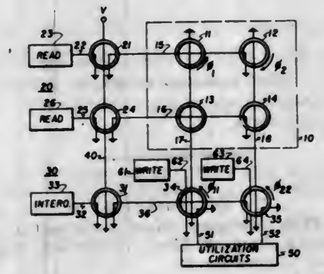
The invention provides a pulse program for a magnetic memory in which the time required for a sense amplifier to recover from the noise associated with a preceding write operation in preparation for a read operation is rereduced by extending the bit current of the write operation into the time for the following read operation so that the transient associated with turning off the bit current occurs only after the sensing operation.

3,436,745
INFORMATION, STORAGE AND RETRIEVAL DEVICE
Donald George Knox, Reseda, Calif.
(3134 W. Gelding, Drive, Phoenix, Ariz. 85023)
Filed June 4, 1965, Ser. No. 461,456
Int. Cl. G11b *5/00;* **G02b** *5/14;* **G02f** *1/22*
U.S. Cl. 340—174 **8 Claims**



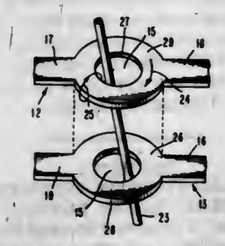
Information storage memory system comprising an optical fiber which has transmitted therethrough a polarized electromagnetic beam. The material of said fiber is of those that have a characteristic such that the plane of polarization in the fiber will be rotated in the presence of a magnet. A magnet gap is positioned around said fiber in such a manner as to create a component of the magnetic field thereby created parallel to said fiber and electromagnetic beam path. An optical analyzer is positioned in the path of said electromagnetic beam after the magnet, said analyzer either passes or prohibits the passing of the electromagnetic beam depending on its state of polarization. A sensor is provided after said analyzer to determine whether or not the beam is passing through the analyzer.

3,436,746
ELECTRICALLY ALTERABLE MEMORY SYSTEM HAVING AUTOMATIC REWRITE
Verner K. Rice, Lombard, Ill., assignor to Automatic Electric Laboratories, Inc., Northlake, Ill., a corporation of Delaware
Filed June 30, 1965, Ser. No. 468,244
Int. Cl. G11b *5/00, 5/12*
U.S. Cl. 340—174 **2 Claims**



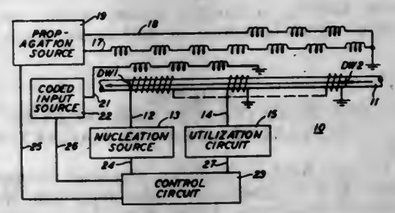
A core memory having only two conductors per bit location has automatic rewriting of information by employing a core buffer word between the memory array and the output circuits and utilizing the trailing edges of the reading pulses for controlling the reinsertion of information.

3,436,747
ORTHOGONAL MODE SWITCHING TRANSFORMER
John L. Anderson and Hans-Otto G. Leilich, Poughkeepsie, N.Y., assignors to International Business Machines Corporation, Armonk, N.Y., a corporation of New York
Filed July 1, 1965, Ser. No. 468,901
Int. Cl. G11b *5/00*
U.S. Cl. 340—174 **8 Claims**



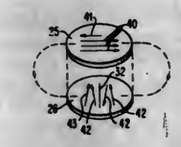
A controlled transformer particularly adapted for flat memory arrays is provided by a chain like magnetic film structure coupling flat, apertured, conductors connected as primary and secondary conductors and a third conductor positioned through the chain aperture and connected to provide a current coincident with a primary conductor current for presetting one of an array of such transformers and then operating the preset transformer to provide a current in its secondary conductor.

3,436,748
MAGNETIC DOMAIN WALL RECOGNIZER
Reginald A. Kaenel, Chatham, N.J., assignor to Bell Telephone Laboratories, Incorporated, New York, N.Y., a corporation of New York
Filed Aug. 30, 1965, Ser. No. 483,435
Int. Cl. G11b *5/06;* **G06k** *7/08;* **G06f** *7/02*
U.S. Cl. 340—174 **8 Claims**



A magnetic domain wall recognizer is described wherein first and second walls of a reverse-magnetized domain are moved toward one another in a magnetic medium in response to propagation fields representative of stored and incoming information respectively. If the stored and incoming information match, domain collapse is achieved at a central position in the magnetic medium in which the domain is formed for detection by an output coupling there.

3,436,749
THICK MAGNETIC FILM MEMORY DEVICE
Richard E. Matick, Peekskill, and Charles H. Sie, Briarcliff Manor, N.Y., assignors to International Business Machines Corporation, Armonk, N.Y., a corporation of New York
Filed Oct. 4, 1965, Ser. No. 492,740
Int. Cl. G11b *5/00*
U.S. Cl. 340—174 **20 Claims**



12. A magnetic memory device comprising:
a magnetic storage film having a coercive force along a given axis thereof and having sufficient thickness so that its self-demagnetizing field along said axis is at least equal to a large portion of its coercive force, said first film having a first stable state of extreme remanent magnetization along said axis representing a first binary digit and a second stable state of at least partial demagnetization representing a second binary digit,
a magnetic read film adjoining said storage film having a preferred easy axis of magnetization and transverse thereto a saturable hard axis of magnetization with negligible remanence, said second film having sufficient thickness so that its self-demagnetizing field is at least equal to a major portion of its coercive force and being arranged so that it can be saturated along its hard axis by the self-demagnetizing return flux of said first film when said first film is in its first stable state,
sensing means inductively related to said films in such a manner as to be linked by at least a portion of the return flux external to said films,

an electrical energizing means associated with said films including means for selectively placing said first film alternatively in its first stable state or in its second stable state,

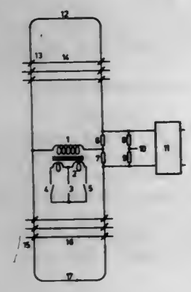
said energizing means also including nondestructive readout means for applying momentarily to said read film along its hard axis a magnetizing field insufficient to change the stable state of said storage film but sufficient to vary the net flux linking said sensing means when said storage film is in its second stable state, thereby to produce in said sensing means an output signal indicative of said second binary digit.

3,436,750

WRITE AND READ CIRCUIT ARRANGEMENT FOR A MAGNETIC STORAGE WITH MAGNETIZABLE CORES

Eelke Folkert Bakker, Hengelo, Overijsel, Netherlands, assignor to N.V. Hollandse Signaalapparaten, Hengelo, Overijsel, Netherlands, a firm of the Netherlands

Filed Apr. 1, 1966, Ser. No. 539,464
Claims priority, application Netherlands, Apr. 1, 1965, 6504349
Int. Cl. G11b *5/00*
U.S. Cl. 340—174 **3 Claims**



1. Write and read circuit arrangement for a magnetic storage device with magnetic cores, comprising a read and write winding threading all of said cores, each said write and read winding being divided into two parts, each of said parts being energized in parallel during the writing operation, each of said parts being connected by a resistance to one of the terminals of a supply source, said supply source consisting of the secondary winding of a pulse transformer, a read amplifier having a plurality of input terminals, the end remote from said source of each said resistance being connected to a separate input terminal of said read amplifier, a voltage divider bridging the input terminals of said read amplifier and connected in parallel to the two said resistances a point of constant potential, and means connecting the tapping point of said divider to said point of constant potential.

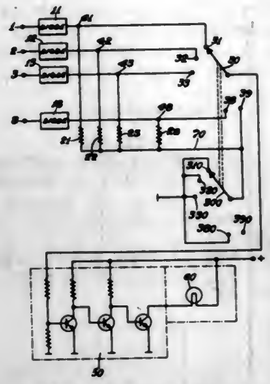
3,436,751

CIRCUIT ARRANGEMENT FOR INDICATING THE OCCURRENCE OF AN OVERLOAD CONDITION ON A PLURALITY OF INPUT POINTS

Jaroslav Hron, Jiří Kliment, Vladimír Kryzánek, Bohumil Mirtes, and Alois Vytiska, Prague, Czechoslovakia, assignors to Vyzkumny ustav matematickych stroju, Prague, Czechoslovakia

Filed July 26, 1965, Ser. No. 474,839
Int. Cl. G08b *21/00*
U.S. Cl. 340—248 **1 Claim**

A circuit arrangement for indicating the occurrence of an overload condition on a plurality of input points to be sensed includes a two-level change-over switch. For one position of the switch an output indication occurs whenever any one of a plurality of signals respectively applied to the input points exceeds a predetermined voltage threshold level. Each of the other positions of the switch



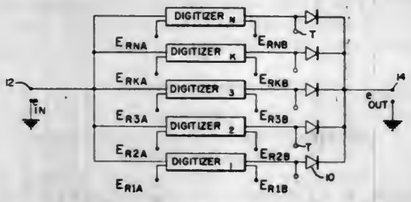
corresponds to a different one of the input points. For each of these latter positions an output indication occurs if the corresponding one of the respective input signals exceeds the noted level.

3,436,752

QUANTIZER

George E. Pihl, Abington, Mass., assignor to Miniature Electronic Components Corp., Holbrook, Mass., a corporation of Massachusetts

Filed June 19, 1964, Ser. No. 376,365
Int. Cl. H03k *13/254;* **H04l** *5/00*
U.S. Cl. 340—347 **20 Claims**



The specification describes a system for quantizing a varying analog signal in substantially real time. The system comprises a plurality of parallel-connected digitizing circuits which operate at different levels of input signal. Each circuit produces for the level of input signal at which it operates an output signal that is independent of the outputs produced by those digitizing circuits that operate at lower levels of input signal. Each digitizing circuit involves two different reference voltages which differ in value from one circuit to another according to the distribution of quantizing levels.

3,436,753

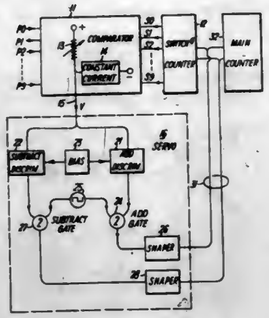
APPARATUS FOR COUNTING ELECTRICAL PULSES

George Sanderson Walker and Ronald Robert McLaren, Edinburgh, Scotland, assignors to Ferranti, Limited, Hollinwood, England, a company of Great Britain and Northern Ireland

Filed May 7, 1965, Ser. No. 453,945
Claims priority, application Great Britain, May 8, 1964, 19,255/64
Int. Cl. H04l *3/00;* **H03k** *13/00;* **G08c** *9/00*
U.S. Cl. 340—347 **12 Claims**

Apparatus is provided for counting electrical pulses which are received over three or more input lines which the pulses energise singly, sequentially and cyclically. A

follow-up servo is used to maintain the states of energisation of two sets of lines in step-by-step correspond-



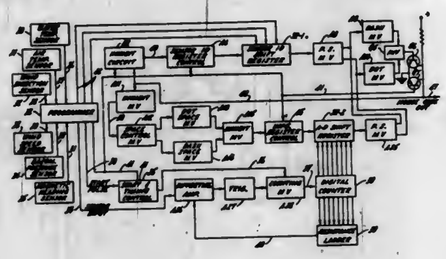
ence, and a bidirectional counter counts the pulses necessary to maintain the correspondence.

3,436,754

BINARY TO INTERNATIONAL MORSE CODE CONVERTER

Larry D. Powner, Indianapolis, Ind., assignor to the United States of America as represented by the Secretary of the Navy

Filed June 2, 1965, Ser. No. 460,603
Int. Cl. H04l *3/00;* **H03k** *13/00;* **G08c** *9/00*
U.S. Cl. 340—347 **9 Claims**



A binary to international Morse code converter having a plurality of condition sensing means providing analog voltages of the sensed conditions which analog voltages are matched in a resistance ladder and converted to binary values that are placed in a shift register and readout sequentially in Morse code, each with Morse code identification, until all condition sensing means are transmitted by radio link for remote reception.

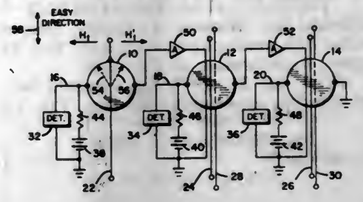
3,436,755

MAGNETORESISTIVE THIN FILM GRAY TO BINARY CODE CONVERTER

Charles H. Tolman, Bloomington, Minn., assignor to Sperry Rand Corporation, New York, N.Y., a corporation of Delaware

Filed June 24, 1965, Ser. No. 466,715
Int. Cl. G08c *9/04;* **H04l** *3/00;* **H03k** *13/254*
U.S. Cl. 340—347 **9 Claims**

A Gray code to binary code converter utilizing the magnetoresistive properties of thin ferromagnetic film is described. The converter includes a plurality of stages each including a thin ferromagnetic film arranged for receiving parallel input signals representing the word in Gray code and producing a corresponding number of output signals representing the word in binary code. A sense line which is electrically connected to the thin film ele-



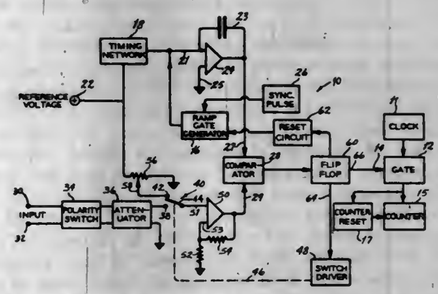
ments has a current source coupled to it such that changes in the resistance of the thin film element can be detected.

3,436,756

VOLTAGE TO TIME-INTERVAL CONVERTER

Ronald G. Myers, Bridgeton, Samuel C. Reid, St. Louis, and David M. Barton, Bridgeton, Mo., assignors to Monsanto Company, St. Louis, Mo., a corporation of Delaware

Filed Dec. 30, 1965, Ser. No. 517,568
Int. Cl. H03k *13/02;* **H04l** *3/00*
U.S. Cl. 340—347 **5 Claims**



1. A solid state electronic voltage to time-interval converter circuit comprising, in combination

means for internally generating a linear sweep voltage as a function of time,

means for internally generating a substantially fixed reference voltage,

means for receiving an externally generated analog voltage,

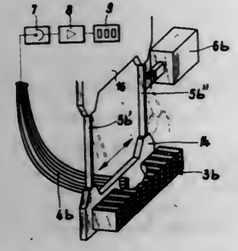
comparator means having first and second inputs and responsive to separate signals impressed thereon to generate an output signal when said separate inputs obtain a predetermined magnitude with respect to each other, said first input being connected to said linear sweep voltage generating means,

D.C. scaling amplifier means having an input and an output and being connected to deliver an amplified signal to said second input of said comparator means when a signal is applied to said input thereof, and

switching means connected to said input of said D.C. amplifier and operable between first and second pole positions for selectively applying said fixed reference voltage and said analog voltage to said scaling amplifier means, together with means operatively coupled to said comparator means output and responsive to output signals therefrom for selectively switching said switching means between said first and second pole positions,

whereby said comparator means provides spaced-apart pulses separated by a time interval corresponding to the magnitude of said analog voltage with respect to said reference voltage and such time interval is substantially unaffected by voltage drifts at said scaling amplifier means, said comparator means, and said linear sweep voltage generating means.

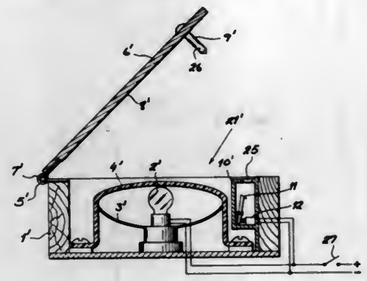
3,436,757
OPTICAL SCANNER CONVERTING ANALOG INTO DIGITAL EQUIVALENT
Erich Schwab, Bad Munster, Germany, assignor to Jos. Schneider Feinwerktechnik, G.m.b.H., Bad Kreuznach, Germany, a corporation of Germany
Filed Jan. 31, 1967, Ser. No. 612,947
Claims priority, application Germany, Feb. 17, 1966, Sch 38,509
Int. Cl. G02b 5/14; H01j 5/16
U.S. Cl. 340—347 10 Claims



Optical scanner for the conversion of an analog value, such as the physical dimension of an object to be measured, into its digital equivalent by means of a measuring bar which is illuminated by a light beam whose width in the longitudinal direction of the bar represents the analog value to be measured; the bar is composed of transverse sections alternately of relatively high light transmissivity (transparent or translucent) and of relatively low light transmissivity (e.g. opaque) which extend from the illuminated front face of the pulse to a rear face thereof along which an input of a photocell or similar photoelectric transducer is reciprocated to pick up luminous impulses for converting same into an electrical pulse train. As the transducer input sweeps along the bar, the length of the generated pulse train varies with the illuminated area of its front face and thus corresponds to the measured analog value which is represented in digital form by a preferably decadic pulse counter connected with the output of the transducer. The pulse counter may be controlled (e.g. reset to zero or stepped by one decade) by reference pulses of larger amplitude generated with the aid of two or more light sources shining upon spaced-apart light-conductive bar sections.

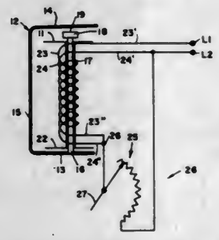
3,436,758
VEHICULAR WARNING DEVICE HAVING SPRING POSITIONED REFLECTING MEMBER
Klaus Kluth, Gallenkampstr. 10, Duisburg, Germany
Filed Feb. 23, 1967, Ser. No. 618,060
Int. Cl. G08b 5/00, 23/00; B60q 1/00
U.S. Cl. 340—376 8 Claims

Warning device adapted to be plated on the back of an automotive vehicle to indicate sudden stops or breakdowns, with one or more blinking lamps in an upwardly open housing normally overlain by a swingable lid; the lid, hinged onto a forward edge of the housing, is internally reflecting so that, when swung into an open position with an inclination of approximately 45°, it causes rear-



ward deflection of light rays coming from the housing which preferably includes a translucent shield for diffusing the light trained upon the lid. The release of this spring-loaded lid may occur, manually or automatically, simultaneously with the lighting of the lamps.

3,436,759
VARIABLE SOUND LEVEL BUZZER HAVING RESISTANCE CONTROLLED WINDING
Harold E. West, Du Quoin, Ill., assignor to P. R. Mallory & Co., Inc., Indianapolis, Ind., a corporation of Delaware
Filed May 23, 1967, Ser. No. 640,666
Int. Cl. G10k 9/12
U.S. Cl. 340—388 8 Claims

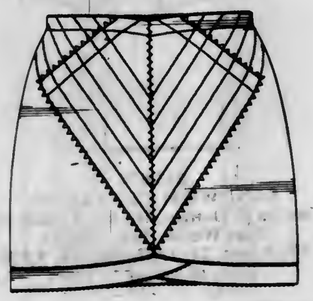


A bifilar winding is wound around a coil bobbin through which a pole piece is extended. A resistive element controls the voltage in one of the coils of the bifilar windings such that a magnetic flux is generated in the pole piece to attract an armature associated with the coil bobbin and pole piece.

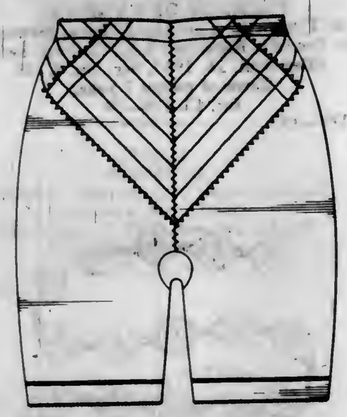
DESIGNS

APRIL 1, 1969

213,666
GIRDLE
Sallyann Z. Salisky, Garfield, N.J., assignor to International Playtex Corporation, Dover, Del., a corporation of Delaware
Filed Dec. 2, 1966, Ser. No. 4,900
Term of patent 14 years
Int. Cl. D2—02
U.S. Cl. D2—2



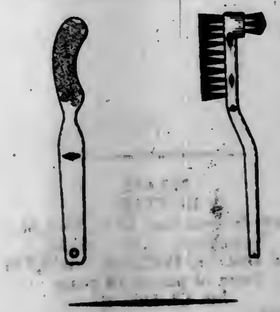
213,667
PANTY GIRDLE
Sallyann Z. Salisky, 69 Division Ave., Garfield, N.J. 07026
Original design application Dec. 2, 1966, Ser. No. 4,900. Divided and this application Apr. 5, 1968, Ser. No. 12,533
Term of patent 14 years
Int. Cl. D2—02
U.S. Cl. D2—4



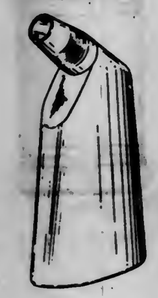
213,668
SKI HAT
Erma I. Porter, 4729 South 200 West, Ogden, Utah 84403
Filed Sept. 19, 1967, Ser. No. 8,650
Term of patent 14 years
Int. Cl. D2—03
U.S. Cl. D2—256



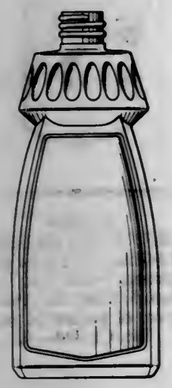
213,669
DENTURE BRUSH
Lloyd Miller, 2531 NE. 43rd St., Lighthouse Point, Fla. 33064
Filed Jan. 5, 1968, Ser. No. 10,063
Term of patent 14 years
Int. Cl. D4—02
U.S. Cl. D4—28



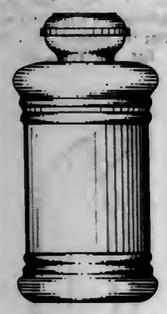
213,670
COMBINED BOTTLE AND CLOSURE THEREFOR
Richard John Waddington, Amersham, Peter Colin Webb, Secombe Green, near Ware, and Ralph N. Ashworth, Walton-on-Thames, England, assignors to Imperial Chemical Industries Limited, London, England, a corporation of Great Britain
Filed Oct. 27, 1967, Ser. No. 9,188
Claims priority, application Great Britain Apr. 28, 1967
Term of patent 14 years
Int. Cl. D9—01
U.S. Cl. D9—66



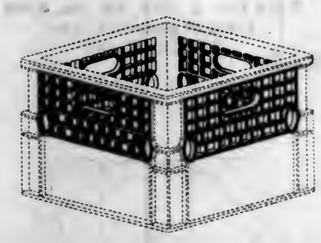
213,671
BOTTLE OR SIMILAR ARTICLE
Wilburn Q. Smith, Bartlesville, Okla., assignor to Phillips Petroleum Company, a corporation of Delaware
Filed Oct. 23, 1967, Ser. No. 9,124
Term of patent 14 years
Int. Cl. D9—*01*
U.S. Cl. D9—90



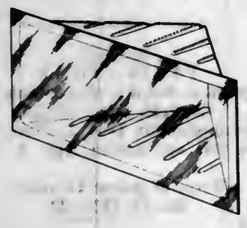
213,672
BOTTLE
Harry S. Dearling, 25 E. 83rd St., New York, N.Y. 10028
Filed Dec. 11, 1967, Ser. No. 9,736
Term of patent 14 years
Int. Cl. D9—*01*
U.S. Cl. D9—118



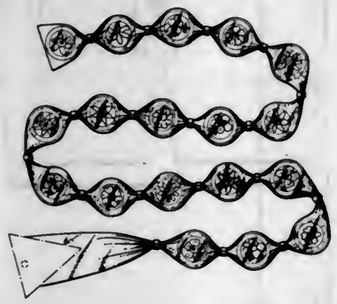
213,673
CRATE FOR MILK CONTAINERS OR THE LIKE
Houston Rehrig, Los Angeles, Calif., assignor to Rehrig Pacific Company, Los Angeles, Calif., a corporation of California
Filed Dec. 27, 1967, Ser. No. 9,946
Term of patent 14 years
Int. Cl. D9—*04*
U.S. Cl. D9—177



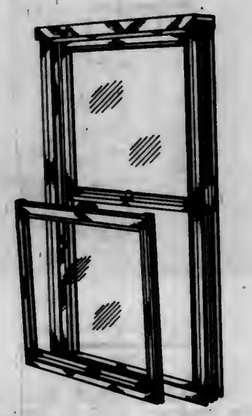
213,674
SANDWICH CONTAINER
Charles B. Dewees, Jr., 321 S. Main St., Fort Worth, Tex. 76104
Filed Dec. 20, 1967, Ser. No. 9,856
Term of patent 14 years
Int. Cl. D9—*06*
U.S. Cl. D9—180



213,675
PACKAGE OF CANDIES
Jacques de Tymowski, Carouge, Geneva, Switzerland, assignor to Produits Erismann S.A., Geneva, Switzerland
Filed Sept. 26, 1967, Ser. No. 8,748
Term of patent 7 years
Int. Cl. D9—*04*
U.S. Cl. D9—193



213,676
REPLACEMENT WINDOW AND SASH UNIT
Alexander J. Biro, Indiana, Pa., assignor to Season-All Industries, Inc., Indiana, Pa., a corporation of Pennsylvania
Continuation-in-part of design application Ser. No. 8,234, Aug. 11, 1967. This application Mar. 29, 1968, Ser. No. 11,194
Term of patent 14 years
Int. Cl. D25—*02*
U.S. Cl. D13—1



213,677
BUILDING
Ralph Robert Knapp, Evansville, Ind., assignor, by mesne assignments, to Farmer's Daughter, Inc., Evansville, Ind., a corporation of Indiana
Filed Mar. 29, 1968, Ser. No. 11,202
Term of patent 14 years
Int. Cl. D25—*04*
U.S. Cl. D13—1



213,678
BUILDING
William J. Hrabrick, 217 Shawnee Road, Ardmore, Pa. 19003
Filed June 17, 1968, Ser. No. 12,385
Term of patent 14 years
Int. Cl. D25—*04*
U.S. Cl. D13—1



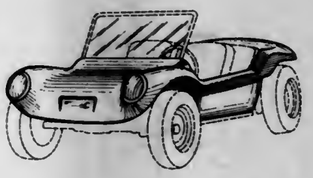
213,679
SNOWMOBILE TRANSPORTATION DOLLY
Frank W. Mayer, 1956 Cedar Drive, Grafton, Wis. 53024
Filed Oct. 13, 1967, Ser. No. 8,994
Term of patent 3½ years
Int. Cl. D12—*03, 13*
U.S. Cl. D14—3



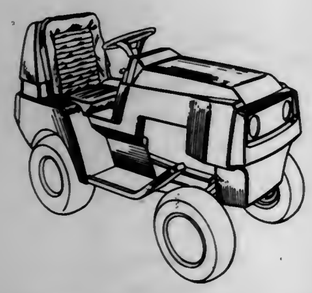
213,680
FOOD AND BEVERAGE DISPENSER
Billy J. Rogers, Central National Bank Bldg., Houston, Tex. 77002
Filed Apr. 3, 1968, Ser. No. 11,286
Term of patent 14 years
Int. Cl. D12—*13*
U.S. Cl. D14—3



213,681
AUTOMOTIVE VEHICLE
Leo J. Lyons, 2526 Lincoln Drive, San Bernardino, Calif. 92405
Filed May 31, 1968, Ser. No. 12,147
Terms of patent 7 years
Int. Cl. D12—*13*
U.S. Cl. D14—3



213,682
TRACTOR
George C. Clarke, Newark, Ohio, Joseph R. Mango, Midlothian, and Robert M. Goodman, Morton Grove, Ill., assignors to Roper Corporation, Kankakee, Ill., a corporation of Delaware
Filed July 18, 1968, Ser. No. 12,820
Term of patent 14 years
Int. Cl. D12—*09*
U.S. Cl. D13—3



213,683
VANITY CHAIR
Gerard K. Leistikow, Columbus, Ind., assignor to Hamilton Cosco, Inc., Columbus, Ind., a corporation of Indiana
Filed Jan. 25, 1968, Ser. No. 10,308
Term of patent 14 years
Int. Cl. D6—*01*
U.S. Cl. D15—1



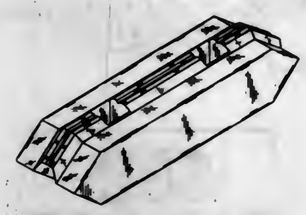
213,684
BAR STOOL
Alexander S. Barghout, 739 Boylston St., Milton, Mass. 02116
Filed Jan. 30, 1968, Ser. No. 10,357
Term of patent 14 years
Int. Cl. D6—*01*
U.S. Cl. D15—8



213,685
DRIVER'S SEAT FOR A COMMERCIAL VEHICLE
Chester J. Barecki, Grand Rapids, Mich., assignor to American Seating Company, Grand Rapids, Mich., a corporation of Delaware
Filed Feb. 26, 1968, Ser. No. 10,711
Term of patent 14 years
Int. Cl. D6—*01*; D12—*99*
U.S. Cl. D15—8



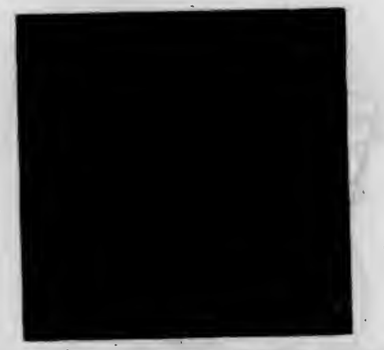
213,686
CONSTRUCTION BLOCK
Leon Frehner, 2129 S. 2000 East, Salt Lake City, Utah 84106
Filed May 31, 1968, Ser. No. 12,164
Term of patent 14 years
Int. Cl. D25—*01*
U.S. Cl. D18—2



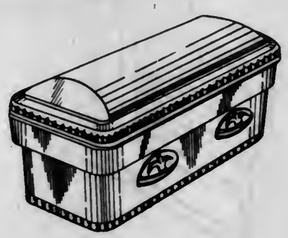
213,687
DECORATIVE FACING
George L. Bachner, Chicago, Ill., assignor to Majestic Tile Company, Melrose Park, Ill., a corporation of Delaware
Filed Jan. 16, 1967, Ser. No. 5,460
Term of patent 14 years
Int. Cl. D25—*01*
U.S. Cl. D18—2



213,688
CEILING PANEL OR SIMILAR ARTICLE
Bernard J. Gaffney, Stillwater, Minn., assignor to Conwed Corporation, St. Paul, Minn., a corporation of Delaware
Filed Mar. 6, 1968, Ser. No. 10,876
Term of patent 14 years
Int. Cl. D25—*01*
U.S. Cl. D18—2



213,689
COMBINATION CASKET AND BURIAL VAULT
Wesley M. Chandler, St. Paul, and Bernard T. Juba, White Bear Lake, Minn., assignors to Wilbert, Inc., Forest Park, Ill., a corporation of Illinois
Filed Mar. 20, 1968, Ser. No. 11,067
Term of patent 7 years
Int. Cl. D31
U.S. Cl. D19—1

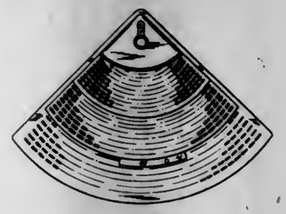


213,690
PORTABLE WATER SOFTENER
Robert J. Eckstrom, 8709 Able St. NE., Minneapolis, Minn. 55433
Filed Sept. 11, 1967, Ser. No. 8,552
Term of patent 7 years
Int. Cl. D23—*01*
U.S. Cl. D23—3



213,691
AQUARIUM FILTER
Arthur L. Rosenel, 11 5th Ave., New York, N.Y. 10003
Filed Jan. 2, 1968, Ser. No. 10,020
Term of patent 14 years
Int. Cl. D23—*01*
U.S. Cl. D23—4





213,692
FOUNTAIN
Thomas M. Hibben, 180 Old Farm Road, Northbrook, Ill. 60062
Filed Apr. 21, 1967, Ser. No. 6,778
Term of patent 14 years
Int. Cl. D23—*01*
U.S. Cl. D23—13

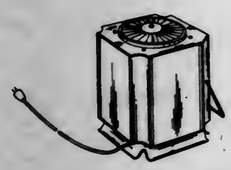




213,693
FOUNTAIN
Thomas M. Hibben, 180 Old Farm Road, Northbrook, Ill. 60062
Original design application Apr. 21, 1967, Ser. No. 6,778. Divided and this application Feb. 28, 1968, Ser. No. 12,063
Term of patent 14 years
Int. Cl. D23—*01*
U.S. Cl. D23—13



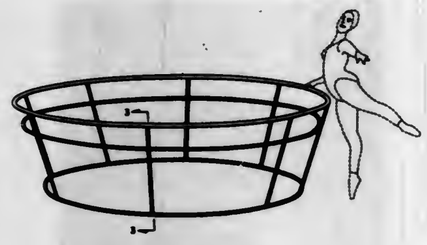
213,694
SPACE HEATER
William J. Baron, Champaign, Ill., assignor to Thermal Engineering & Design Company, Summit, Ohio, a corporation of Ohio
Filed Apr. 8, 1968, Ser. No. 11,349
Term of patent 14 years
Int. Cl. D23—*03*
U.S. Cl. D23—122



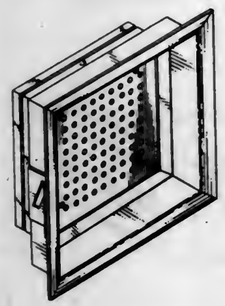
213,695
AIR-COOLED CONDENSING UNIT
James P. Soroos, Columbus, Ohio, assignor to Midland-Ross Corporation, Cleveland, Ohio, a corporation of Ohio
Filed Aug. 2, 1968, Ser. No. 13,010
Term of patent 14 years
Int. Cl. D23—*04*
U.S. Cl. D23—139



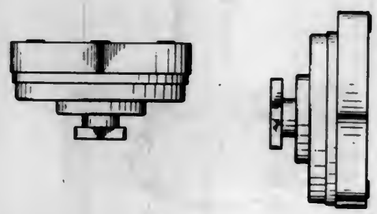
213,696
BALLET BARRE
Nicholas I. Nahumck, 271 S. Van Pelt St., Philadelphia, Pa. 19103
Filed Apr. 17, 1968, Ser. No. 11,486
Term of patent 14 years
Int. Cl. D21—*03*
U.S. Cl. D25—1



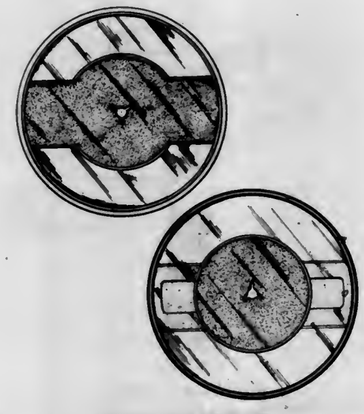
213,697
COMBINED MULTIPLE SOCKET PATCHBOARD AND FRAME
Robert Frederick Oxley, Priory Park, Ulverston, Lancashire, England
Filed Apr. 4, 1968, Ser. No. 11,303
Term of patent 7 years
Int. Cl. D13—*03*
U.S. Cl. D26—1



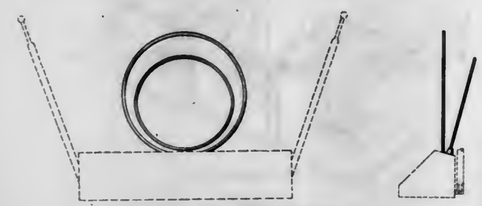
213,698
MARINE SWITCH
Roger Pelletier, 2560 Ocean Ave., Seaford, N.Y. 11783
Filed July 25, 1968, Ser. No. 12,891
Term of patent 14 years
Int. Cl. D13—*03*
U.S. Cl. D26—13



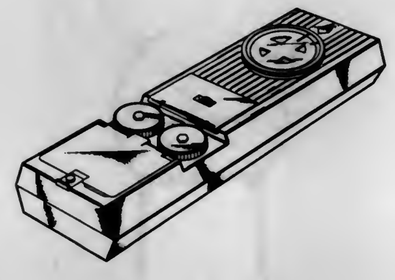
213,699
TAPE REEL OR SIMILAR ARTICLE
Clarence E. Bush, Indianapolis, Ind., assignor to Radio Corporation of America, a corporation of Delaware
Filed Jan. 2, 1968, Ser. No. 10,005
Term of patent 14 years
Int. Cl. D14—*01*
U.S. Cl. D26—14



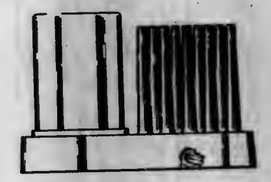
213,700
TELEVISION ANTENNA FOR INDOOR USE
Marvin P. Middlemark, 96 Stonehill Road, Old Westbury, N.Y. 11568
Filed Jan. 22, 1968, Ser. No. 10,263
Term of patent 14 years
Int. Cl. D14—*04*
U.S. Cl. D26—14



213,701
PORTABLE RADIO DIRECTION FINDER
John H. Leeming, Jr., 8641 N. 15th Drive, Phoenix, Ariz. 85021
Filed Feb. 23, 1968, Ser. No. 10,695
Term of patent 14 years
Int. Cl. D14—*99*; D10—*07*
U.S. Cl. D26—14



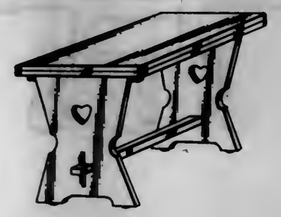
213,702
ELECTRONIC BATTERY CHARGER
Paul E. Brefka and Morris M. Knepp, Framingham, Mass., assignors, by mesne assignments, to Tyco Laboratories, Inc., Waltham, Mass.
Filed Feb. 26, 1968, Ser. No. 10,730
Term of patent 14 years
Int. Cl. D13—*02*
U.S. Cl. D26—15



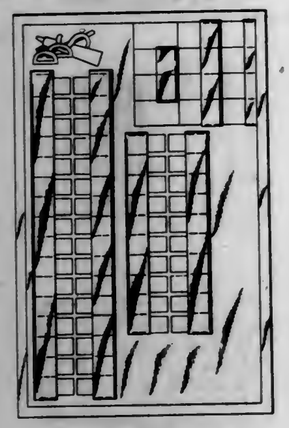
213,703
COMBINED FISH BOWL-ASHTRAY AND CIGAR LIGHTER
Richard E. Rice, 12832 Euclid Ave., East Cleveland, Ohio 44112
Filed Jan. 26, 1968, Ser. No. 10,329
Term of patent 14 years
Int. Cl. D30—*01*; D27—*03, 05*
U.S. Cl. D30—11



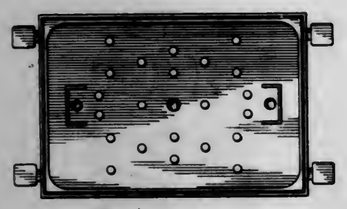
213,704
TRESTLE TABLE
Alexander S. Barghout, 739 Boylston St., Milton, Mass. 02116
Filed Mar. 18, 1968, Ser. No. 11,001
Term of patent 14 years
Int. Cl. D6—*01*
U.S. Cl. D33—14



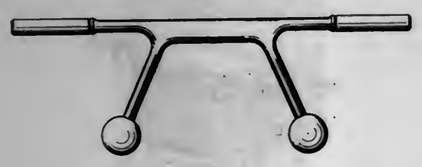
213,705
GAME BOARD
Arnold Rosenberg, 35 Pine St., Yonkers, N.Y. 10710
Filed Dec. 28, 1967, Ser. No. 9,959
Term of patent 14 years
Int. Cl. D21—*01*
U.S. Cl. D34—5



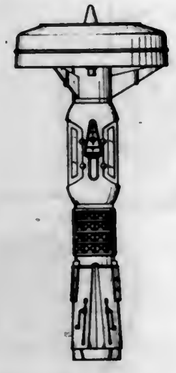
213,706
TILTABLE MARBLE GAME TABLE
Sandy F. Kraemer, 439 Edgewood Drive, Colorado Springs, Colo. 80907
Filed Jan. 24, 1968, Ser. No. 10,295
Term of patent 14 years
Int. Cl. D21—*01*
U.S. Cl. D34—5



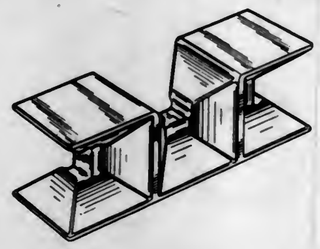
213,707
EXERCISING DEVICE
John A. Donato, 11039 Fitzwater Road, Brecksville, Ohio 44141
Filed Apr. 23, 1968, Ser. No. 11,580
Term of patent 14 years
Int. Cl. D21—*03*
U.S. Cl. D34—5



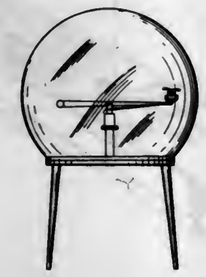
213,708
FAN TOY
Martin L. Blumenthal, Chatham Township, Morris County, N.J., assignor to De Luxetopper Corporation, a corporation of Delaware
Filed May 31, 1968, Ser. No. 12,144
Term of patent 7 years
Int. Cl. D21—*02*
U.S. Cl. D34—15



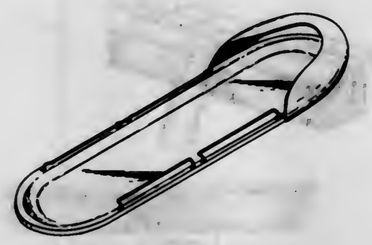
213,709
TOY BUILDING BLOCK
John A. Gale, 978 E. Shady Lane, Wayzata, Minn. 55391
Filed Feb. 28, 1968, Ser. No. 10,763
Term of patent 14 years
Int. Cl. D21—*02*
U.S. Cl. D34—15



213,710
HELICOPTER TOY
Peter Charles Jacobs, Edmonton, Alberta, Canada, assignor to Jaycopter Corporation Ltd., a corporation of Canada
Filed Apr. 8, 1968, Ser. No. 11,361
Claims priority, application Canada Dec. 7, 1967
Term of patent 14 years
Int. Cl. D21—*02*
U.S. Cl. D34—15



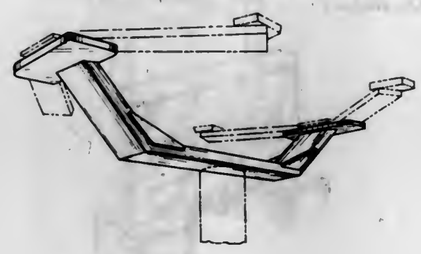
213,711
SLED
John R. Madison, Box 136A3, High Falls Road, R.D. 1, Catskill, N.Y. 12414
Filed Apr. 25, 1968, Ser. No. 11,625
Term of patent 14 years
Int. Cl. D12—*13*; D21—*02*
U.S. Cl. D34—15



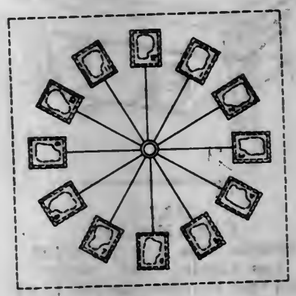
213,712
MOWER DRUM
Samuel G. Cassady, Tucker, Ga., assignor to John A. Chambliss, Chattanooga, Tenn.
Filed Dec. 11, 1967, Ser. No. 9,719
Term of patent 14 years
Int. Cl. D15—*03*
U.S. Cl. D40—1



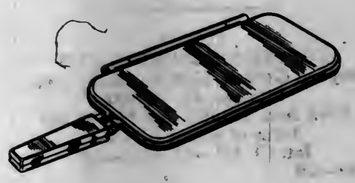
213,713
VEHICLE LIFT
Robert M. Tormey, 616 W. Siebenthaler Ave., Dayton, Ohio 45405
Filed Feb. 27, 1968, Ser. No. 10,751
Term of patent 14 years
Int. Cl. D12—*05*
U.S. Cl. D41—1



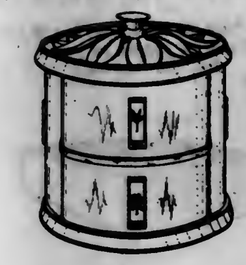
213,714
CLOCK FACE
Marion K. Summers, W. Commerce St., Brownstown, Ind. 47220, and Roy Lee Baker, Rural Route, Shipman, Ill. 62685
Continuation-in-part of design application Ser. No. 4,203, Oct. 10, 1966. This application Feb. 28, 1968, Ser. No. 10,769
Term of patent 14 years
Int. Cl. D10—*06*
U.S. Cl. D42—7



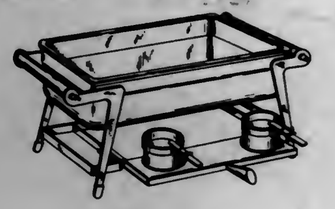
213,715
GRIDDLE
George T. Scharfenberg, 7601 Wayzata Blvd., Minneapolis, Minn. 55426
Filed June 12, 1968, Ser. No. 12,310
Term of patent 14 years
Int. Cl. D7—*02*
U.S. Cl. D44—1



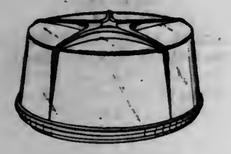
213,716
COMBINED CANISTER SET, BASE AND COVER THEREFOR
Jack Solomon, Brooklyn, N.Y., assignor to Lincoln Metal Products Corporation, New York, N.Y., a corporation of New York
Filed July 16, 1968, Ser. No. 12,792
Term of patent 14 years
Int. Cl. D7—*01*
U.S. Cl. D44—6



213,717
BUFFET CHAFER
Carl H. Richmeier, Jr., Sheboygan, Wis., assignor to The Vollrath Co., Sheboygan, Wis., a corporation of Wisconsin
Filed Aug. 12, 1968, Ser. No. 13,112
Term of patent 14 years
Int. Cl. D7—*04*
U.S. Cl. D44—15



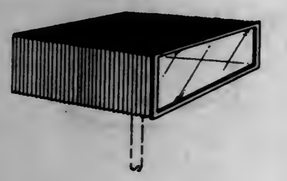
213,718
CAKE HOLDER
Beatrice Bliss, P.O. Box 47687, Los Angeles, Calif. 90047
Filed May 15, 1968, Ser. No. 11,947
Term of patent 14 years
Int. Cl. D7—*01*
U.S. Cl. D44—19



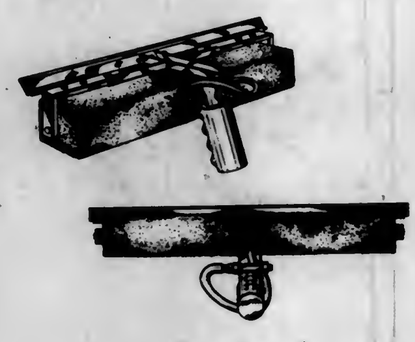
213,719
COFFEE MEASURING CUP
Stephen Gerlich, 5320 S. Albany Ave., Chicago, Ill. 60632
Filed June 7, 1968, Ser. No. 12,264
Term of patent 14 years
Int. Cl. D7—*03;* D10—*08*
U.S. Cl. D44—29



213,720
LIGHTING CASING
Edwin F. Osborne, Jr., Houston, Tex., assignor to Esquire, Inc., New York, N.Y., a corporation of Delaware
Filed Nov. 8, 1967, Ser. No. 9,331
Term of patent 14 years
Int. Cl. D26—*03*
U.S. Cl. D48—20



213,721
COMBINED WASHER AND WIPER UNIT
Francis E. Lorenz, Jr., 383 S. Brimhall, St. Paul, Minn. 55105
Filed Aug. 26, 1968, Ser. No. 13,264
Term of patent 14 years
Int. Cl. D7—*06*
U.S. Cl. D49—21



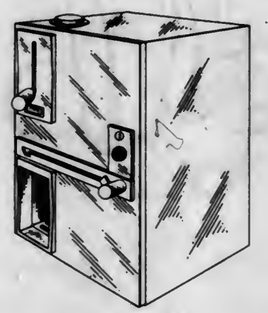
213,722
TOTE WASTE RECEPTACLE OR SIMILAR ARTICLE
Everett D. Earles, 2911 Harrison Road, and Robert L. Blackwell, 3129 Bagnal Drive, both of Columbia, S.C. 29204
Continuation-in-part of design application Ser. No. 4,469, Oct. 31, 1966, which is a continuation of design application Ser. No. 83,957, Feb. 24, 1965. This application Apr. 10, 1968, Ser. No. 11,398
Term of patent 14 years
Int. Cl. D7—*06*
U.S. Cl. D49—33



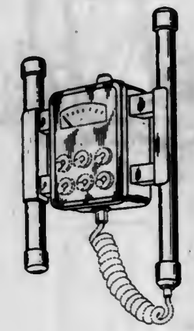
213,723
TONGUE-DEPRESSOR DISPENSER
Norbert Leopoldi, 4180 Marine Drive, Chicago, Ill. 60613
Filed May 29, 1968, Ser. No. 12,121
Term of patent 14 years
Int. Cl. D20—*02;* D9—*06*
U.S. Cl. D52—2



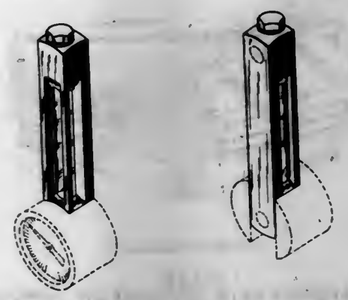
213,724
BEVERAGE VENDING MACHINE OR THE LIKE
William Heier, Warminster, Pa., assignor, by direct and mesne assignments, of fifty percent to William Heier, Harry Schwartz and Har-Wil Corporation, a corporation of Pennsylvania, and fifty percent to Automatic Retailers of America, Philadelphia, Pa., a corporation of Delaware
Filed Jan. 16, 1968, Ser. No. 10,189
Term of patent 14 years
Int. Cl. D20—*01*
U.S. Cl. D52—3



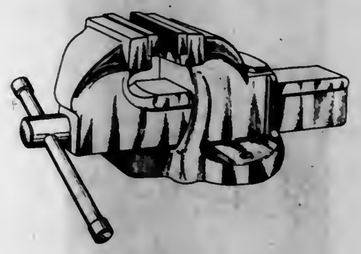
213,725
MAGNETIC FIELD SENSING APPARATUS
Barry D. Van Koevering, Saline, Mich., assignor to AZA Scientific, Inc., Saline, Mich., a corporation of Michigan
Filed Dec. 11, 1967, Ser. No. 9,728
Term of patent 14 years
Int. Cl. D10—*07*
U.S. Cl. D52—6



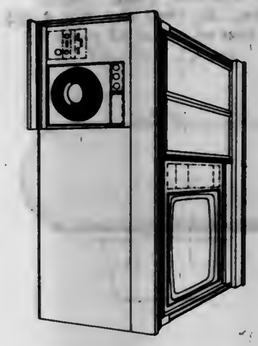
213,726
LIQUID GAUGE WITH MULTIPLE SIDE SIGHT OPENINGS
Gus J. Lukas and Floyd J. Bydalek, Manitowoc, Wis., assignors to Lube Devices, Inc., Manitowoc, Wis., a corporation of Wisconsin
Filed Mar. 27, 1968, Ser. No. 11,156
Term of patent 14 years
Int. Cl. D10—*08*
U.S. Cl. D52—6



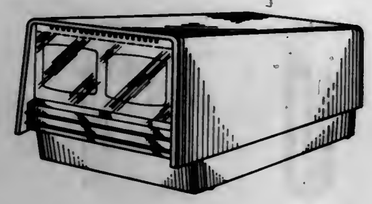
213,727
VISE
Gedalyahu Barvinek and Abraham Barvinek, both of 64 Harabi-Mebachrach St., Tel-Aviv, Israel
Filed Jan. 30, 1968, Ser. No. 10,356
Term of patent 7 years
Int. Cl. D8—*02*
U.S. Cl. D54—13



213,728
COMBINED COLOR TELEVISION SET AND SLIDE THEATER OR SIMILAR ARTICLE
James T. Asaki, Batavia, N.Y., assignor to Sylvania Electric Products Inc., a corporation of Delaware
Filed Aug. 13, 1968, Ser. No. 13,122
Term of patent 14 years
Int. Cl. D14—*03;* D16—*03*
U.S. Cl. D56—4



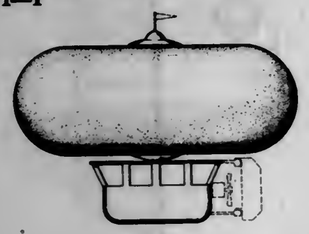
213,729
DUAL TUBE TELEVISION RECEIVER OR SIMILAR ARTICLE
Frederick E. Wahlenmaier, Norwalk, Richard H. Podoloff, Bethany, and Mace H. Bell, Rowayton, Conn., assignors to The Bunker-Ramo Corporation, Stamford, Conn., a corporation of Delaware
Filed Oct. 30, 1967, Ser. No. 9,213
Term of patent 14 years
Int. Cl. D14—*03*
U.S. Cl. D56—4



213,730
WRAPPING PAPER OR SIMILAR ARTICLE
Nathan Shapira, 555/308 Westwood Plaza, Los Angeles, Calif. 90024
Filed Aug. 9, 1967, Ser. No. 9,391
Term of patent 14 years
Int. Cl. D5—*03*
U.S. Cl. D59—2



213,731
AIRSHIP
William A. Hal, 508 Fawn Drive, San Anselmo, Calif. 94960
Filed Aug. 29, 1967, Ser. No. 8,424
Term of patent 14 years
Int. Cl. D12—*07*
U.S. Cl. D71—1



213,732
MANEUVERING SPACE VEHICLE OR SIMILAR ARTICLE
Loren E. Curriston, La Habra, and Heinz Fornoff, Glendale, Calif., assignors to North American Rockwell Corporation
Filed Aug. 30, 1967, Ser. No. 8,433
Term of patent 14 years
Int. Cl. D12—*07*
U.S. Cl. D71—1



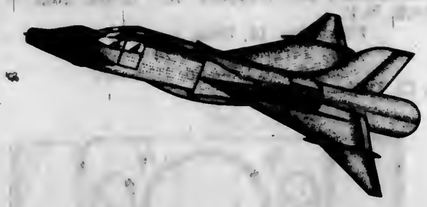
213,733
MANEUVERING SPACE VEHICLE OR SIMILAR ARTICLE
Loren E. Curriston, La Habra, and Heinz Fornoff, Glendale, Calif., assignors to North American Rockwell Corporation
Filed Aug. 30, 1967, Ser. No. 8,434
Term of patent 14 years
Int. Cl. D12—*07*
U.S. Cl. D71—1



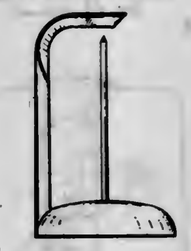
213,734
MANEUVERING SPACE VEHICLE OR SIMILAR ARTICLE
Loren E. Curriston, La Habra, and Heinz Fornoff, Glendale, Calif., assignors to North American Rockwell Corporation
Filed Aug. 30, 1967, Ser. No. 8,435
Term of patent 14 years
Int. Cl. D12—*07*
U.S. Cl. D71—1



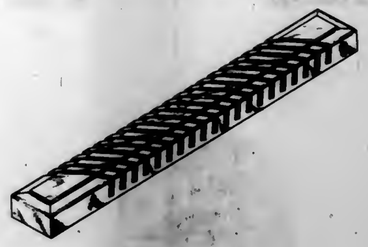
213,735
AIRCRAFT
Lawrence Bernard Rellis, 10460 SW. 163rd St., Miami, Fla. 33157
Filed Mar. 20, 1968, Ser. No. 11,043
Term of patent 14 years
Int. Cl. D12—*07*
U.S. Cl. D71—1



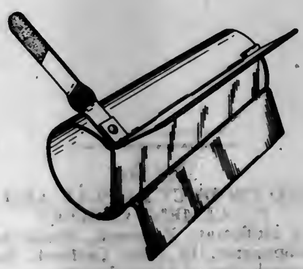
213,736
SAFETY SPINDLE
Jack D. Nelson 12620 NE. Wasco St., Portland, Oreg. 97230
Filed Oct. 17, 1967, Ser. No. 9,073
Term of patent 14 years
Int. Cl. D19—*02*
U.S. Cl. D74—2



213,737
DOCUMENT SORTING DEVICE
August F. Kohles, 1510 Locust, Denver, Colo. 80220
Filed Dec. 11, 1967, Ser. No. 9,718
Term of patent 14 years
Int. Cl. D14—*02*; D19—*99*
U.S. Cl. D74—2



213,738
DEPOSIT RECEPTACLE FOR NEWSPAPERS OR THE LIKE
Ernest R. Andis, 5125 Darby Place, Racine, Wis. 53402
Filed May 27, 1968, Ser. No. 12,096
Term of patent 14 years
Int. Cl. D6—*01*
U.S. Cl. D74—9



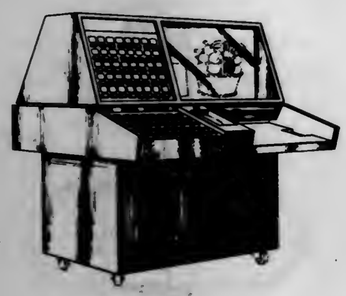
213,739
WRITING IMPLEMENT
Herbert Konwiser, Elmont, N.Y., assignor to K. C. Pen Co., Inc., Brooklyn, N.Y., a corporation of New York
Filed Oct. 12, 1966, Ser. No. 4,326
Term of patent 14 years
Int. Cl. D19—*06*
U.S. Cl. D74—17



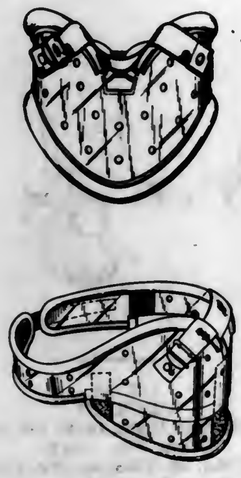
213,740
DISPLAY RACK
Murray Federman, Clifton, N.J., assignor to Glamorene Products Corporation, Clifton, N.J., a corporation of Delaware
Filed Oct. 13, 1967, Ser. No. 8,989
Term of patent 14 years
Int. Cl. D6—*01*
U.S. Cl. D80—10



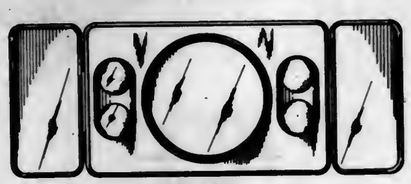
213,741
COMBINED PRODUCT DISPLAY AND ORDER PLACEMENT CABINET
Bruce Evans Holloway, Pepperell, Mass., assignor, by mesne assignments, to Fruit Orchard, Inc., Boston, Mass., a corporation of Massachusetts
Filed Apr. 30, 1968, Ser. No. 11,719
Term of patent 14 years
Int. Cl. D20—*02*
U.S. Cl. D80—11



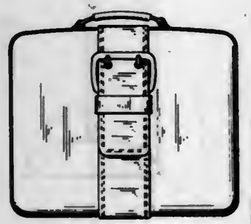
213,742
CERVICAL COLLAR
John L. Bond, P.O. Box 1306, North Wilkesboro, N.C. 28697
Continuation-in-part of design application Ser. No. 4,953, Dec. 7, 1966. This application Nov. 14, 1967, Ser. No. 9,518
Term of patent 14 years
Int. Cl. D24—*04*
U.S. Cl. D83—1



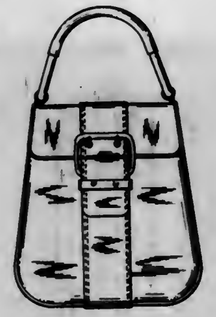
213,743
PORTABLE, ILLUMINABLE MIRROR
David Bezborodko, 255 W. 84th St. 10024, and Joseph Bezborodko, 629 Kappock St. 10400, both of New York, N.Y.
Filed May 15, 1968, Ser. No. 11,953
Term of patent 14 years
Int. Cl. D6—*06*; D26—*99*
U.S. Cl. D86—1



213,744
SOFT SIDE SUITCASE
Anthony N. D'Elia, Riverdale, and Edward M. Stolarz, Yorktown Heights, N.Y., assignors to Reliable Luggage, Inc., West Pittsburg, Pa., a corporation of Pennsylvania
Filed Nov. 14, 1967, Ser. No. 9,403
Term of patent 14 years
Int. Cl. D3—*01*
U.S. Cl. D87—5



213,745
CARRYING BAG OR SIMILAR ARTICLE
Anthony N. D'Elia, Riverdale, and Edward M. Stolarz, Yorktown Heights, N.Y., assignors to Reliable Luggage, Incorporated, West Pittsburg, Pa., a corporation of Pennsylvania
Filed Dec. 1, 1967, Ser. No. 9,610
Term of patent 14 years
Int. Cl. D3—*02*
U.S. Cl. D87—5



213,746
EXPANDABLE CARRYING BAG
Anthony N. D'Elia, Riverdale, and Edward M. Stolarz, Yorktown Heights, N.Y., assignors to Reliable Luggage, Incorporated
Filed Jan. 25, 1968, Ser. No. 10,314
Term of patent 14 years
Int. Cl. D3—*02*
U.S. Cl. D87—5



213,747
OPERATING LEVER CONSOLE
Sherwood B. Rose, 155 Woodmere Blvd., Woodsburgh, N.Y.
Filed Apr. 11, 1968, Ser. No. 11,412
Term of patent 14 years
Int. Cl. D12—*11, 14*
U.S. Cl. D90—1



213,748
TIRE
Raymond W. Evans, Jr., Cuyahoga Falls, Ohio, assignor to The B. F. Goodrich Company, New York, N.Y., a corporation of New York
Filed Mar. 20, 1968, Ser. No. 11,064
Term of patent 14 years
Int. Cl. D12—*14*
U.S. Cl. D90—20



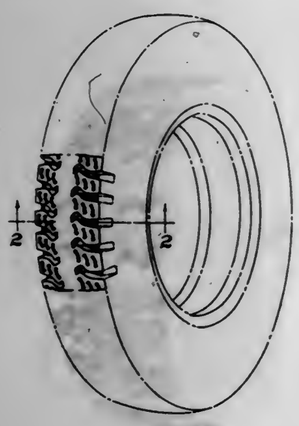
213,749
TIRE
Robert L. Marlowe, 2787 Boltz Road, Akron, Ohio 44313
Filed Apr. 12, 1968, Ser. No. 11,427
Term of patent 14 years
Int. Cl. D12—*14*
U.S. Cl. D90—20



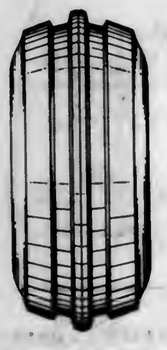
213,750
TIRE
Gary M. Tucker, Tallmadge, Ohio, assignor to The B. F. Goodrich Company, New York, N.Y., a corporation of New York
Filed Apr. 12, 1968, Ser. No. 11,428
Term of patent 14 years
Int. Cl. D12—*14*
U.S. Cl. D90—20



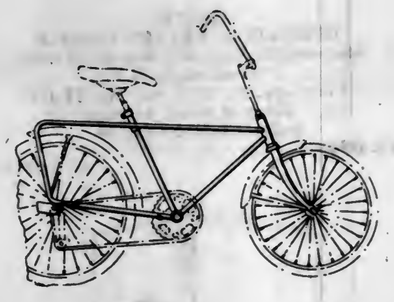
213,751
TIRE
Frank M. Mitch, 2065 Kenmery Road, Akron, Ohio 44313
Filed Apr. 30, 1968, Ser. No. 11,697
Term of patent 14 years
Int. Cl. D12—*14*
U.S. Cl. D90—20



213,752
TIRE
Raymond P. Hawkinson, Minneapolis, Minn., assignor to Paul E. Hawkinson Company, Minneapolis, Minn., a corporation of Minnesota
Filed May 1, 1968, Ser. No. 11,722
Term of patent 14 years
Int. Cl. D12—*14*
U.S. Cl. D90—20



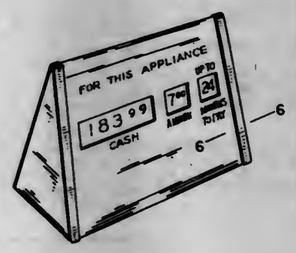
213,753
BICYCLE
Viktor Schreckengost, Cleveland, Ohio, assignor to The Murray Ohio Manufacturing Co., Nashville, Tenn., a corporation of Ohio
Filed June 13, 1968, Ser. No. 12,328
Term of patent 14 years
Int. Cl. D12—*11*
U.S. Cl. D90—20



213,754
BED SHEET OR SIMILAR ARTICLE OF BED LINEN
Emeric Kanitz, Paris, France, assignor to Cannon Mills Company, Kannapolis, N.C., a corporation of North Carolina
Filed July 31, 1967, Ser. No. 8,086
Term of patent 14 years
Int. Cl. D6—*09*
U.S. Cl. D92—26



213,755
PRICE INDICATOR SIGN
Robert J. Slavsky, Lathrup Village, Mich., assignor to Shaw & Slavsky, Inc., Detroit, Mich.
Filed Jan. 15, 1968, Ser. No. 10,173
Term of patent 7 years
Int. Cl. D20—*02, 03*
U.S. Cl. D96—12



LIST OF DEFENSIVE PUBLICATIONS

APPLICANTS TO WHOM

DEFENSIVE PUBLICATIONS WERE ISSUED ON THE 1ST DAY OF APRIL, 1969

"Published at the request of the applicant or owner in accordance with the Notice of April 11, 1968, 849 O.G. 1221. Identification is by serial number of the application."

Anderson, Billy D.: *See*—
Stranch, James G., and Anderson. 772,384.
Bleasdale, James L., to E. I. du Pont de Nemours and Co. Process for preparing polycarbonamide. 731,285, 4–1–69, Cl. 260—78.
Butler, Robert W., to Hercules Inc. Protective coating composition. 729,549, 4–1–69, Cl. 106—171.
Cecchini, Rolando A., to E. I. du Pont de Nemours and Co. Method and apparatus for automatically controlling viscosity in a polymerization process. 723,407, 4–1–69, Cl. 137—92.
Duke, Roy B., Jr., and M. A. Perry, to Eastman Kodak Co. Esters and method of production. 628,785, 4–1–69, Cl. 260—345.8.
Du Pont de Nemours, E. I., and Co.: *See*—
Bleasdale, James L. 731,285.
Cecchini, Rolando A. 723,407.
Jenkins, Francis E. 758,649.
Eastman Kodak Co.: *See*—
Duke, Roy B., Jr., and Perry. 628,785.
Fritz, Theodore C. Tow-treating process. 785,020, 4–1–69, Cl. 264—290.
Gott, Paul G.: *See*—
Martin, James C., and Gott. 622,446.
Hansen, Gunnar W. Air cleaner fuel vapor aspirator. 775,389, 4–1–69, Cl. 55—261.
Hercules Inc.: *See*—
Butler, Robert W. 729,549.
Klug, Eugene D. 729,458.
Jenkins, Francis E., to E. I. du Pont de Nemours and Co. Process for preparing polymer particles of 2–10 microns. 758,649, 4–1–69, Cl. 260—89.5.
Klug, Eugene D., to Hercules Inc. Protective coating composition. 729,458, 4–1–69, Cl. 106—171.
Martin, James C., and P. G. Gott. Process for preparing acylals of dialkylketenes. 622,446, 4–1–69, Cl. 260—340.2.
Mendola, Philip. Fastener for printed circuit boards. 781,089, 4–1–69, Cl. 339—17.
Perry, Milton A.: *See*—
Duke, Roy B., Jr., and Perry. 628,785.
Stranch, James G., and B. D. Anderson. Multicolor coating composition. 772,384, 4–1–69, Cl. 260—17.
Tholstrup, Clarence E. Substituted thiodiacyl hydraxides. 728,901, 4–1–69, Cl. 260—45.8.

LIST OF PLANT PATENTEES

TO WHOM

PATENTS WERE ISSUED ON THE 1ST DAY OF APRIL, 1969

NOTE.—Arranged in accordance with the first significant character or word of the name (in accordance with city and telephone directory practice).

Amling-De Vor Nurseries, Inc.: *See*—
Lammerts, Walter E. 2,876.
Anderson, Frederic W., to The Burchell Nursery, Inc., Apricot tree. 2,877, 4–1–69, Cl. 39.
Anderson, Frederic W., to Reedley Nursery, Inc. Nectarine tree. 2,878, 4–1–69, Cl. 41.
Anderson, Frederic W., to Reedley Nursery, Inc. Nectarine tree. 2,879, 4–1–69, Cl. 41.
Burchell Nursery, Inc., The: *See*—
Anderson, Frederic W. 2,877.
Lammerts, Walter E., to Amling-De Vor Nurseries, Inc. Rose plant. 2,876, 4–1–69, Cl. 11.
Reedley Nursery, Inc.: *See*—
Anderson, Frederic W. 2,878.
Anderson, Frederic W. 2,879.

LIST OF DESIGN PATENTEES

AZA Scientific, Inc.: *See*—
Van Koevering, Barry D. 213,725.
American Seating Co.: *See*—
Barecki, Chester J. 213,685.
Andis, Ernest R. Deposit receptacle for newspapers or the like. 213,738, 4–1–69, Cl. D74—9.
Asaki, James T., to Sylvania Electric Products, Inc. Combined color television set and slide theater or similar article. 213,728, 4–1–69, Cl. D56—4.
Ashworth, Ralph N.: *See*—
Waddington, Richard J., Webb, and Ashworth. 213,670.
Bachner, George L., to Majestic Tile Co. Decorative facing. 213,687, 4–1–69, Cl. D18—2.
Baker, Roy L.: *See*—
Summers, Marion K., and Baker. 213,714.
Barecki, Chester J., to American Seating Co. Driver's seat for a commercial vehicle. 213,685, 4–1–69, Cl. D15—8.
Barghout, Alexander S. Bar stool. 213,684, 4–1–69, Cl. D15—8.
Barghout, Alexander S. Trestle table. 213,704, 4–1–69, Cl. D33—14.
Baron, William J., to Thermal Engineering & Design Co. Space heater. 213,694, 4–1–69, Cl. D23—122.
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Bond, John L. Cervical collar. 213,742, 4–1–69, Cl. D83—1.
Brefka, Paul E., and M. M. Knepp, to Tyco Laboratories, Inc. Electronic battery charger. 213,702, 4–1–69, Cl. D26—15.
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Bush, Clarence E., to Radio Corp. of America. Tape reel or similar article. 213,699, 4–1–69, Cl. D26—14.
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Lukas, Gus J., and Bydalek. 213,726.
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Cassady, Samuel G., to J. A. Chambliss. Mower drum. 213,712, 4–1–69, Cl. D40—4.
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D'Elia, Anthony N., and E. M. Stolarz, to Reliable Luggage, Inc. Carrying bag or similar article. 213,745, 4–1–69, Cl. D87—5.
D'Elia, Anthony N., and E. M. Stolarz, to Reliable Luggage, Inc. Expandable carrying bag. 213,746, 4–1–69, Cl. D87—5.
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Dewees, Charles B., Jr. Sandwich container. 213,674, 4-1-69, Cl. D9—180.
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Eckstrom, Robert J. Portable water softener. 213,690, 4-1-69, Cl. D23—3.
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Evans, Raymond W., Jr., to The B. F. Goodrich Co. Tire. 213,748, 4-1-69, Cl. D90—20.
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Gaffney, Bernard J., to Conwed Corp. Ceiling panel or similar article. 213,688, 4-1-69, Cl. D18—2.
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Hawkinson, Raymond P., to Paul E. Hawkinson Co. Tire. 213,752, 4-1-69, Cl. D90—20.
Heier, William, 50% to W. Heier, H. Schwartz, and Har-Wil Corp., and 50% to Automatic Retailers of America. Beverage vending machine or the like. 213,724, 4-1-69, Cl. D52—3.
Hibben, Thomas M. Fountain. 213,692, 4-1-69, Cl. D23—13.
Hibben, Thomas M. Fountain. 213,693, 4-1-69, Cl. D23—13.
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Konwiser, Herbert, to K. C. Pen Co., Inc. Writing implement. 213,739, 4-1-69, Cl. D74—17.
Kraemer, Sandy F. Tiltable marble game table. 213,706, 4-1-69, Cl. D34—5.
Leistikow, Gerard K., to Hamilton Cosco, Inc. Vanity chair. 213,685, 4-1-69, Cl. D15—1.
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Lukas, Gus J., and F. J. Bydalek, to Lube Devices, Inc. Liquid gauge with multiple side sight openings. 213,726, 4-1-69, Cl. D52—6.
Lyons, Leo J. Automotive vehicle. 213,681, 4-1-69, Cl. D14—3.
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Mayer, Frank W. Snowmobile transportation dolly. 213,679, 4-1-69, Cl. D14—3.
Middlemark, Marvin P. Television antenna for indoor use. 213,700, 4-1-69, Cl. D26—14.
Midland-Ross Corp.: *See*—
Soroos, James P. 213,695.
Miller, Lloyd. Denture brush. 213,669, 4-1-69, Cl. D4—28.
Mitch, Frank M. Tire. 213,751, 4-1-69, Cl. D90—20.
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Nahumck, Nicholas I. Ballet barre. 213,696, 4-1-69, Cl. D25—1.
Nelson, Jack D. Safety spindle. 213,736, 4-1-69, Cl. D74—2.
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Oxley, Robert F. Combined multiple socket patchboard and frame. 213,697, 4-1-69, Cl. 26—1.
Pelletier, Roger. Marine switch. 213,698, 4-1-69, Cl. D26—13.
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Rice, Richard E. Combined fish bowl-ashtray and cigar lighter. 213,703, 4-1-69, Cl. D30—11.
Rickmeier, Carl H., Jr., to The Vollrath Co. Buffet chafer. 213,717, 4-1-69, Cl. D44—15.
Rogers, Billy J. Food and beverage dispenser. 213,680, 4-1-69, Cl. D14—3.
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Rosenberg, Arnold. Game board. 213,705, 4-1-69, Cl. D34—5.
Rosenel, Arthur L. Aquarium filter. 213,691, 4-1-69, Cl. D23—4.
Ross, Sherwood B. Operating lever console. 213,747, 4-1-69, Cl. D90—1.
Salisky, Sallyann Z., to International Playtex Corp. Girdle. 213,666, 4-1-69, Cl. D2—2.
Salisky, Sallyann Z. Panty girdle. 213,667, 4-1-69, Cl. D2—4.
Scharfenberg, George T. Griddle. 213,715, 4-1-69, Cl. D44—1.
Schreckengost, Viktor, to The Murray Ohio Mfg. Co. Bicycle. 213,753, 4-1-69, Cl. D90—20.
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Slavsky, Robert J. 213,755.
Slavsky, Robert J., to Shaw & Slavsky, Inc. Price indicator sign. 213,755, 4-1-69, Cl. D96—12.
Solomon, Jack, to Lincoln Metal Products Corp. Combined canister set, base and cover therefor. 213,716, 4-1-69, Cl. D44—6.
Soroos, James P., to Midland-Ross Corp. Air-cooled condensing unit. 213,695, 4-1-69, Cl. D23—139.
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Waddington, Richard J., P. C. Webb, and R. N. Ashworth, to Imperial Chemical Industries, Ltd. Combined bottle and closure therefor. 213,670, 4-1-69, Cl. D9—66.
Wahlenmeier, Frederick E., E. H. Podoloff, and M. H. Bell, to The Bunker-Ramo Corp. Dual tube television receiver or similar article. 213,729, 4-1-69, Cl. D56—6.
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TO WHOM

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Abe, Ryoichi, to Hitachi Electronics Company, Ltd.Function generator. 3,436,536, 04-01-69, Cl. 235-197.
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Abromavage, John C., and Reichardt, Harry J., to Arcoa Incorporated. Articulated bumper hitch. 3,436,100, 04-01-69, Cl. 280-502.
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Marvall, Ake Eugen, 3,436,033.
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Ackermann, Jakob, to Societa Italiana Resine S.p.A.Process for preparing formaldehyde. 3,436,423, 04-01-69, Cl. 260-606.
Addie, Albert N., and Hart, Jack P., to General Motors Corporation. Regenerator matrix frame. 3,435,888, 04-01-69, Cl. 165-009.
Addie, Albert N., and Rose, Charles L., to General Mtors Corporation. Regenerator matrix. 3,435,887, 04-01-69, Cl. 165-009.
Adler, David G., to Sperry Rand Corporation. Balanced vertical positioning system. 3,436,629, 04-01-69, Cl. 318-022.
Adler, Hans, Horowitz, Norman, and Spigner, Philip, to Baldwin, D. H., Company. Dental color matching guide. 3,436,156, 04-01-69, Cl. 356-192.
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Parsons, Robert E., Darms, Fred J., and Cox, William T., 3,436,038.
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Alexandrovich, George, and Plunkett, Donald J., to Fairchild Recording Equipment Corporation. Gain control device for high fidelity audio systems. 3,436,674, 04-01-69, Cl. 330-059.
Allen, Alec George:*See*—
Howard, John Christie, Howard, John Farquhar, Allen, Alec George, and Norman, Patrick Anthony 3,435,878.
Allen, Dewey R.Apparatus for cleaning paint roller covers. 3,436,264, 04-01-69, Cl. 134-033.
Allender, Forrest R., to Clayg Corporation, The. Rotary engine. 3,435,808, 04-01-69, Cl. 123-013.
Allgaier, Earl. Dual control vehicle brake system for driver training automobiles. 3,435,703, 04-01-69, Cl. 074-562.5
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American Sterilizer Company:*See*—
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Amis, James W., Jr., and Dobson, James B., to Littelfuse, Inc., Korry Manufacturing Co.Tube lamp socket fixture with hinged cover panels. 3,436,716, 04-01-69, Cl. 339-054.
Ammons, Robert L., to Eastman Kodak Company. Synthetic fiber sewing thread. 3,435,605, 04-01-69, Cl. 057-140.
Amori, Joseph A., to Rapid-Cleave Corporation. Suspension and control mechanism for shaker table. 3,435,690, 04-01-69, Cl. 074-061.
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Anderson, John L., and Leilich, Hans-Otto G., to International Business Machines Corporation. Orthogonal mode switching transformer. 3,436,747, 04-01-69, Cl. 340-174.
Anderson, John R., to Heppenstall Company. Tiltable lifting tongs. 3,436,116, 04-01-69, Cl. 294-103.
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Andryuick, Chester A., to Corning Glass Works. Vertical index press for press forming glass articles. 3,436,202, 04-01-69, Cl. 065-164.
Angell, Richard G., Jr., to Union Carbide Corporation. Molding of foamed thermoplastic articles. 3,436,446, 04-01-69, Cl. 264-051.
Anspaugh, Warren E., to General Motors Corporation. Appliance leveling foot and shipping pallet bolt. 3,436,045, 04-01-69, Cl. 248-119.
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Arnold, Benjamin Harry, and Haddow, Norman, to Glaxo Laboratories, Limited. Hydrolysis of the acetoxymethyl group at the 3- position of the cephalosporin nucleus. 3,436,310, 04-01-69, Cl. 195-036.
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Tickle, John Leslie, 3,435,600.
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Browning, Iben, Geiger, William J., and Strand, Edward R.Measuring method and apparatus. 3,435,667, 04-01-69, Cl. 073-065.

Bruce, Alfred C., and Britt, Thomas M.Packaging of bananas for shipment and controlled ripening. 3,436,231, 04-01-69, Cl. 099-171.

Bruce Berger Limited:*See*—
Ellis, Arthur J., 3,435,770.

Bruckner, Egon, and Westerboer, Ingo, to Oskar Vierling. Apparatus for measuring the rate of flow and direction of a gas stream. 3,435,676, 04-01-69, Cl. 073-189.

Brunette, Fredrick F.Bicycle tire display racks. 3,435,955, 04-01-69, Cl. 211-024.

Brunner, Emil, Hasler, Hans, and Huber, Alfred, to Lonza Ltd.Method of producing cellular bodies. 3,436,445, 04-01-69, Cl. 264-050.

Brunswick Corporation:*See*—
Berry, Foster W., and Cogger, Kenneth O., 3,436,079.

Bryner, Fred, to Dow Chemical Company, The. Extended protein glues. 3,436,300, 04-01-69, Cl. 161-210.

BST Co.:*See*—
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Bucher, Paul. Safety steering wheel. 3,435,701, 04-01-69, Cl. 074-552.

Buck, Ronald F.:*See*—
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Budd Company, The:*See*—
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Burch, Lyndon Walkup. Snap action switch using overtravel. 3,436,501, 04-01-69, Cl. 200-068.

Burger Eisenwerke Aktiengesellschaft:*See*—
Lohr, Alfred, Hennmann, Helmut, and Tropp, Karl, 3,435,754.
Lohr, Alfred, Hennmann, Helmut, and Tropp, Karl, 3,435,755.

Burke, Clarence J., and Grotjean, Milton O., to Garrett Corporation, The. Flask for making precision castings. 3,435,885, 04-01-69, Cl. 164-385.

Burkett, Wilford B., and Jackson, Robert V., to McCulloch Corporation. Voltage cut-off circuits. 3,436,639, , Cl. 320-027.

Burlington Industries, Inc.:*See*—
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Burrus, Thomas W.:*See*—
Zimmerman, Thomas Anthony, and Burrus, Thomas W. 3,436,475.

Bushway, Kenneth C., and Riselli, Nicholas V., to Goodrich, B. F., Company, The. Airbrake diaphragm. 3,435,734, 04-01-69, Cl. 092-103.

Busse, Ewald A.Apparatus for utilizing exhaust gases of an internal combustion engine, muffler and spark arrestor. 3,435,810, 04-01-69, Cl. 123-119.

Butts, Donald A., to General Motors Corporation. Inertia operated switch. 3,436,499, 04-01-69, Cl. 200-061.48

Buzby, George C., Jr.:*See*—
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Calabrese, Joseph J., and Gang, Lillian. Bingo game marker. 3,436,163, 04-01-69, Cl. 401-195.

Calco Engineering Corporation:*See*—
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Caldwell, William A., to L & H Manufacturing Co.Floatable trotline. 3,435,552, 04-01-69, Cl. 043-043.15

Calhoun, Waldo E.Fluid cushioned steering column. 3,435,700, 04-01-69, Cl. 074-493.

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Caloric Corporation:*See*—
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Calton, Marion R.:*See*—
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Davis, Martin A., and Campbell, David J. 3,436,398.

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Campbell, Richard S.Multi-base counter mechanism. 3,436,013, 04-01-69, Cl. 235-074.

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Candlin, John Paton, and Janes, William Henry, to Imperial Chemical Industries, Limited. Olefin production. 3,436,431, 04-01-69, Cl. 260-666.

Canning, Thomas F., Rooney, John A. P., and Phillips, Frank L., to American Potash & Chemical Corporation. Process for removing impurities from a fluid stream. 3,436,344, 04-01-69, Cl. 210-039.

Cannon, David R., to Reynolds Metals Company. Apparatus for developing a cylinder. 3,435,748, 04-01-69, Cl. 095-089.

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Cantwell, David B.Golf bag support. 3,435,866, 04-01-69, Cl. 150-001.5

Cape, Arthur T., to Coast Metals, Inc.Method of spray coating gas seals of gas turbines, and the like. 3,436,512, 04-01-69, Cl. 219-076.

Capitol Hardware Manufacturing Co., Inc.:*See*—
Berman, Marvin A., Levy, Paul M., and Mayer, Albert, 3,435,959.

Capstran, Richard E.Fixture assemblies for underfloor exhaust removal systems. 3,435,752, 04-01-69, Cl. 098-042.

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Carini, Alexander F., Wegener, Howard W., and Boynton, Kenneth G.Solder deposit and leveling machines. 3,435,801, 04-01-69, Cl. 118-063.

Carkhuff, Donald W., and Wojciak, Thaddeus J., to Union Carbide Corporation. Gas shielded arc welding torch. 3,436,522, 04-01-69, Cl. 219-130.

Carlisle, Raymond Melvin, and Loose, Winfield Warren, to AMP Incorporated. Selector switch provided with selectably actuable contact means. 3,436,696, 04-01-69, Cl. 335-106.

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Carls, William H.:*See*—
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Carlson, George N.Animated duck decoy. 3,435,550, 04-01-69, Cl. 043-003.

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Long, Elton B., 3,436,099.
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Cassady, Donald R., Dillard, Robert D., and Easton, Nelson R., to Lilly, Eli, and Company. 1,1 Diaryl-2-propynyl carbamates. 3,436,402, 04-01-69, Cl. 260-326.3

Castiglione, Paul V., to General Electric Company. Solid-state D-C to A-C converter. 3,436,643, 04-01-69, Cl. 321-009.

Castillo, Herman B., to Temprite Products Corporation. Heat exchange system. 3,435,627, 04-01-69, Cl. 062-197.

Caterpillar Tractor Co.:*See*—
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Caterpillar Tractor Co.:*See*—
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Caulier, Paul W., and McDowell, Earle B., to General Electric Company. Trigger circuit for inductive load. 3,436,608, 04-01-69, Cl. 317-148.5

Cauwe, Andre Paul, and VanBouwel, Leo Paul, to Gevaert-Afga N.V.Photographic material processing apparatus. 3,435,749, 04-01-69, Cl. 095-094.

Cavitt, Stanley B., to Jefferson Chemical Company, Inc.Preparation of methoxyacetaldehyde dialkylacetals. 3,436,427, 04-01-69, Cl. 260-615.

C.C.C. Safety Bath, Inc.:*See*—
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Celanese Corporation:*See*—
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Champion Laboratories, Inc.:*See*—
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Chang, Wen-Hsuan, to PPG Industries, Inc.Compounds containing the 2,5-dioxabicyclo[4.3.0] nonane ring structure and methods of preparation. 3,436,404, 04-01-69, Cl. 260-340.3

Chao, Tai S., Matson, Howard J., and Knonaas, Manley, to Sinclair Research, Inc.Ester base lubricating oil containing a stabilizing mixture of alkali metal organic compound and an aromatic amine. 3,436,348, 04-01-69, Cl. 252-033.6

Chapman, William L., to Continental Oil Company. Compressed air, pressure-sensing actuator. 3,435,797, 04-01-69, Cl. 114-235.

Charos, Peter. Deformable fluid applicator. 3,436,161, 04-01-69, Cl. 401-147.

Charters, Arlen E., to Bio-Science Laboratories. Multiple source data collection system. 3,436,732, 04-01-69, Cl. 340-172.5

Chatham, Newton L.Wire cable. 3,435,634, 04-01-69, Cl. 064-003.

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Chinn, Leland J., to Searle, G. D., & Co.Polydehydro 17α-ethynylestran-17β-ols and esters. 3,436,412, 04-01-69, Cl. 260-397.5

Chodosh, Stewart M.:*See*—
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Ciba Limited:*See*—
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Ciotti, George A., and Shade, Keith N., to Smith, A. O., Corporation. Selectively operable multiple loads. 3,436,528, 04-01-69, Cl. 235-092.

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Cleveland Technical Center, Inc.:*See*—
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Cock, Donald J., and Habgood, Gordon A., to Girling, Limited. Means for actuating a friction pad in a disc brake. 3,435,691, 04-01-69, Cl. 074-107.

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Cohen, Murray S.:*See*—
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Cole, David F., and Trachtenberg, Isaac, to Texas Instruments, Incorporated. Method of improving the performance of fuel cells. 3,436,271, 04-01-69, Cl. 136-086.

Cole, George S., and Ritzenthaler, Richard L.Line valve of the compressible-tube type. 3,436,054, 04-01-69, Cl. 251-008.

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Colen, William J.Article handling apparatus. 3,436,115, 04-01-69, Cl. 294-087.

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Conch International Methane Limited:*See*—
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Conley, Gerald Jay. Live bait holders. 3,435,553, 04-01-69, Cl. 043-049.8

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Conrose, Charles W., Sr.Spectacle mounted infinity sight for an athlete. 3,436,151, 04-01-69, Cl. 356-072.

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Coode, Edward John:*See*—
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Cook, Rufus Lee, to United States of America, Navy. Broadband power amplifier. 3,436,676, 04-01-69, Cl. 330-117.

Cooley, Henry A.Automotive cooling system flushing device. 3,435,847, 04-01-69, Cl. 137-612.1

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Corder, James T.Musical drum. 3,435,723, 04-01-69, Cl. 084-411.

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Cornelius, Richard T., and Snyder, Irving F., to Cornelius Company, The. Cup dispensing device. 3,435,985, 04-01-69, Cl. 221-194.

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Costa, Armando, and Cerutti, Giovanni, to Olivetti, Ing., C., & C. S.p.A.Bidirectional step by step feeding device for a record support, for example a punched tape. 3,435,692, 04-01-69, Cl. 074-125.5

Coulter, Earl E., Johnson, Lowell E., and Modrak, Thomas M., to Babcock & Wilcox Company, The. Vapor and liquid drum including cyclone separator. 3,435,598, 04-01-69, Cl. 055-424.

Courter, Leo A., to Dow Chemical Company, The. Packer for well treatment. 3,436,084, 04-01-69, Cl. 277-116.2

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Crane, H. W., Company:*See*—
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Crawford, George H., Jr., to Minnesota Mining and Manufacturing Company. Reacting nitrice oxide with olefins and products produced therefrom. 3,436,384, 04-01-69, Cl. 260-091.1

Crawford, Robert H., to Texas Instruments, Incorporated. Linear amplifier utilizing a pair of field effect transistors. 3,436,621, 04-01-69, Cl. 317-235.

Crawford, Thomas G., to Westinghouse Electric Corporation. Textile bobbin. 3,436,034, 04-01-69, Cl. 242-118.32

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Crowe, Curtis W., and Duranleau, Roger G., to Dow Chemical Company, The. Cleaning by foam contact, and foam regeneration method. 3,436,262, 04-01-69, Cl. 134-010.

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Mathey, Raymond, Picardat, Bernard, and Lecocq, Robert, 3,435,687.
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Cunningham, Wesley B. Electrically actuated demolition device. 3,436,121, 04-01-69, Cl. 299-070.

Curlator Corporation:*See*—
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Curtis Development & Mfg. Co.:*See*—
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D'Andrea, Anthony Thomas. Interchangeable foot lever mechanism for vending machines. 3,435,699, 04-01-69, Cl. 074-481.

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Daimler Benz Aktiengesellschaft:*See*—
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Danfoss A/S:*See*—
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Grundmann, Gustave Louis, to Radio Corporation of America. Electron beam deflection and low voltage supply circuit. 3,436,591, 04-01-69, Cl. 315-027.

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Hind, John D., and Seligman, Robert B., to Morris, Philip, Incorporated. Method of preparing a reconstituted tobacco sheet. 3,435,829, 04-01-69, Cl. 131-140.

Hines, John, to New England Lock and Hardware Co., The. Thumb knob attachment for mortise-type lock. 3,435,644, 04-01-69, Cl. 070-129.

Hinkebein, John A., to Monsanto Company0000000000. Process for recovering phosphorus from sludge. 3,436,184, 04-01-69, Cl. 023-223.

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Hirose, Yoshiyuki, and Hanaoka, Susumu, to Kabushiki Kaisha Daini Seikosha. Oil retainer for rotary shaft. 3,435,611, 04-01-69, Cl. 058-140.

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Hobson, Charles F., Jr., to General Electric Company. Parallel assisted circuit interrupting device. 3,436,700, 04-01-69, Cl. 335-201.

Hoegger, Erhard F., to DuPont de Nemours, E. I., and Company. Polyamide-acid and polyimide polymers crosslinked with selected hydrazines and hydrazides. 3,436,372, 04-01-69, Cl. 260-047.

Hoffman, Joseph Adrian, to American Cyanamid Company. Polyvalent alkyleneimine esters. 3,436,387, 04-01-69, Cl. 260-239.

Hoffman, William F., and Hyltin, Tom M., to Texas Instruments, Incorporated. Diode loaded line phase shifter. 3,436,691, 04-01-69, Cl. 333-031.

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Hollander, Milton Bernard, to Caterpillar Tractor Co.,. Friction welding. 3,435,509, 04-01-69, Cl. 029-470.3

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Honda, Soichiro, and Okamoto, Yoshinori, to Kabushiki Kaisha Honda Gijutsu Kenkyusho. Speed-change apparatus. 3,435,708, 04-01-69, Cl. 074-745.

Honeywell, Inc.:*See*—
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Hornung, Klaus, to Hoppers Company, Inc.,. Gas cleaning apparatus for coke oven batteries. 3,435,596, 04-01-69, Cl. 055-223.

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Horton, Francis B.Folding and stacking door means. 3,435,877, 04-01-69, Cl. 160-206.

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Hovey, Richard J., to American Optical Corporation,. Photochromic materials and devices containing a solution of complex metal cyanide ions and organic dye indicators. 3,436,144, 04-01-69, Cl. 350-160.

Howard, John Christie, Howard, John Farquhar, Allen, Alec George, and Neenan, Patrick Anthony, to Associated Electric Industries Limited. Method of casting metals by induction heating. 3,435,878, 04-01-69, Cl. 164-051.

Howard, John Farquhar:*See*—
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Hron, Jaroslav, Kliment, Jiri, Kryzanek, Vladimir, Mirtes, Bohumil, and Vytiska, Alois, to Vyzkumny ustav matematickych stroju. Circuit arrangement for indicating the occurrence of an overload condition on a plurality of input points. 3,436,751, 04-01-69, Cl. 340-248.

Huber, Alfred:*See*—
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Hughes Aircraft Company:*See*—
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Hughes, William C., to General Electric Company. Electron gun. 3,436,583, 04-01-69, Cl. 313-082.

Hughes, William C., and Peroutky, Donald C., to General Electric Company. Electron emission source with sharply defined emitting area. 3,436,584, 04-01-69, Cl. 313-346.

Humphreys, Donald R., to USM Corporation. Torque reactive wave generators. 3,435,706, 04-01-69, Cl. 074-640.

Hunkel, Ludwig. Hopper with vibratory means for uniform rate of material delivery. 3,435,993, 04-01-69, Cl. 222-195.

Hunt Electronics Company:*See*—
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Hurtle, Ralph L., to General Electric Company. Electric circuit breaker with assisted arc interruption. 3,436,597, 04-01-69, Cl. 317-011.

Hutchinson, Herman R., to Pennsalt Chemicals Corporation. Molding apparatus and method. 3,436,443, 04-01-69, Cl. 264-040.

Hyden, Alsie G.Resilient cover for golf bag strap. 3,435,867, 04-01-69, Cl. 150-001.5

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Hyltin, Tom M.:*See*—
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Koppel, Harold H., to Bailey Meter Company. Bumpless transfer system for multidrive control. 3,436,557, 04-01-69, Cl. 307-087.

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Kosanke, Kurt M.: *See*—
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Krenzler, Leo M. Foam-filled boat hull. 3,435,470, 04-01-69, Cl. 009-006.

Krone, Gustav, to Krone Kommanditgesellschaft. Building facing made of weather-resistant face plates. 3,435,573, 04-01-69, Cl. 052-272.

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Kruck, Peter: *See*—
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Kruger, Gerhard, to Polymer Corporation, Limited. Rubber particles coated with starch and talc. 3,436,243, 04-01-69, Cl. 117-016.

Kruse, Marvin A., to Crane, H. W., Company. Door operating mechanism. 3,435,558, 04-01-69, Cl. 049-200.

Kryzanek, Vladimir: *See*—
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Kueffer, Philippe G., to General Time Corporation. Frequency regulator for tuning fork drive system. 3,435,609, 04-01-69, Cl. 058-023.

Kueffer, Philippe G., to General Time Corporation. Frequency regulator for tuning fork drive system. 3,435,610, 04-01-69, Cl. 058-023.

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Kunselman, Maurice H. Roller skis. 3,436,088, 04-01-69, Cl. 280-011.1

Kuramochi, Shigeaki. Toy sewing machine. 3,435,789, 04-01-69, Cl. 112-169.

Kurpisz, Zenon Jan, Connor, Gerald James, and Curtis, James Patrick, to International Standard Electric Corporation. Method of making thyristors having electrically interchangeable anodes and cathodes. 3,435,515, 04-01-69, Cl. 029-580.

Kurumada, Tomoyuki: *See*—
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Esteve-Subirana, Antonio, 3,436,462.

Laboratory for Electronics, Inc.: *See*—
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Zilberstein, Raoul Michel, 3,436,688.

Lahti, Uolevi L. Semispherical loudspeaker. 3,435,910, 04-01-69, Cl. 181-031.

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Lambert, George, and Tennett, Anthony Alastair Baxter, to Rolls-Royce, Limited. Aluminising powder. 3,436,249, 04-01-69, Cl. 117-107.2

Lamorlette, Paul, to L'Eclairage des Vehicules sur Rail. Photo-electrical vehicle detecting device for traffic survey. 3,436,540, 04-01-69, Cl. 250-083.3

Lancer Machinery Limited: *See*—
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Landron, Rafael, Jr., to Texas Instruments, Incorporated. Packaging process for semiconductor devices and article of manufacture. 3,436,605, 04-01-69, Cl. 317-101.

Langdon, Howard H., to Curlator Corporation. Fiber distributing system. 3,435,484, 04-01-69, Cl. 019-065.

Lange, Henry F., and Phipps, Harold E., to Universal Moulded Fiber Glass Corp. Filament wound product and method for making the same. 3,436,114, 04-01-69, Cl. 294-074.

Lange, Herbert, to Siemens Aktiengesellschaft. Polishing method for the removal of material from monocrystalline semiconductor bodies. 3,436,286, 04-01-69, Cl. 156-017.

Lange, Robert B., Hebron, Roderick, and Jacobs, David. Ski pole. 3,436,090, 04-01-69, Cl. 280-011.37

Langpape, Reinhart, and Jester, Alfred, to Brown, Boveri & Cie Aktiengesellschaft. Thermionic energy converter. 3,436,566, 04-01-69, Cl. 310-004.

Lanoie, Raymond A., to Lew Mfg. Co. Retractable writing instrument. 3,436,160, 04-01-69, Cl. 401-116.

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Lehmann, George E. Combination ice fishing chair and sled. 3,436,119, 04-01-69, Cl. 297-217.

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Lellep, Otto George, and Helming, Bernd, to Polysius G.m.b.H. Device for the periodic delivery of preheated material. 3,436,060, 04-01-69, Cl. 263-029.

Lemin, Alan J., to Upjohn Company, The. Herbicidal N,N-dialkenyl-3-chlorobenzamides and method. 3,436,208, 04-01-69, Cl. 071-118.

Leonor, Manuel F., to Robertson, Emilia. Carbonization of bagasse. 3,436,312, 04-01-69, Cl. 201-025.

Leonor, Manuel F. Technique for converting bagasse and other moist plant substances into charcoal. 3,436,314, 04-01-69, Cl. 202-117.

Lepetit S.p.A.: *See*—
Nathansohn, Giangiacomo, and Winters, Giorgio, 3,436,389.

Lester, George R., to Universal Oil Products Company. Dealkylation of alkyl substituted aromatic hydrocarbons. 3,436,433, 04-01-69, Cl. 260-672.

Lester, George R., to Universal Oil Products Company. Dealkylation of alkyl aromatic hydrocarbons. 3,436,434, 04-01-69, Cl. 260-672.

Levinos, Steven, and Deutsch, Albert S., to GAF Corporation. Photopolymerization initiated by electrolysis of a catalyst progenitor exposed through a photo-conductive layer. 3,436,215, 04-01-69, Cl. 096-001.

LeVoy's Inc.: *See*—
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Lewry, Kenneth Martin, to Kearney & Trecker-C.V.A. Limited. Multiple operation machine tools. 3,435,498, 04-01-69, Cl. 029-033.

Lezan, Georges R. E., to General Electric Company. Electric regudating means having a long memory. 3,436,638, 04-01-69, Cl. 320-001.

Libbey-Owens-Ford Company: *See*—
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Lilly, Eli, and Company: *See*—
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Lind, Joseph M. Method of treating dough before baking. 3,436,228, 04-01-69, Cl. 099-090.

Lindenmaier, Ernst E., Jackel, Edgar, and Mathys, Ludwig G., to Krebs & Co. Ltd. Process and apparatus for the purification of the gases generated in the chlorinating treatment of aluminous melts. 3,435,592, 04-01-69, Cl. 055-071.

Lindner, Hellmuth Gustav, and Kotzerke, Wilfried Willy, to VEB Vereinigte Feinstrumpfwerke. Stitch cam and method of knitting semidrawn yarn. 3,435,636, 04-01-69, Cl. 066-057.

Lindquist, Arne Herman, to Nydavist & Holm Aktiebolag. Mounting device for wicket gates of a turbine. 3,436,055, 04-01-69, Cl. 251-305.

Link, Norman, to Link, O. P., Handle Company, Inc. Display means for tool handles. 3,435,945, 04-01-69, Cl. 206-046.

Link, O. P., Handle Company, Inc.: *See*—
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Linke, Alvin W., and Cantlin, John H. Dispersion ebullator. 3,435,682, 04-01-69, Cl. 073-368.2

Linsley, Douglas F. Rudder attachment for outboard engines. 3,435,799, 04-01-69, Cl. 115-018.

Liquid Carbonic Corporation: *See*—
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Lish Bros., Incorporated: *See*—
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Littelfuse, Inc., : *See*—
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Lode, Tenny D., to Rosemount Engineering Company. Instrument bearing. 3,436,131, 04-01-69, Cl. 308-010.

Lodge, Alvin, to American Sterilizer Company. Method of sterilizing utilizing steam. 3,436,170, 04-01-69, Cl. 021-056.

Logemann, Heino, Roos, Ernst, and Suling, Carlhans, to Farbenfabriken Bayer Aktiengesellschaft. Stabilized solutions of copolymers from acrylonitrile and vinylidene chloride. 3,436,364, 04-01-69, Cl. 260-032.6

Lohr, Alfred, Hemmann, Helmut, and Tropp, Karl, to Burger Eisenwerke Aktiengesellschaft. Roasting and broiling apparatus. 3,435,754, 04-01-69, Cl. 099-341.

Lohr, Alfred, Hemmann, Helmut, and Tropp, Karl, to Burger Eisenwerke Aktiengesellschaft. Serial roasting apparatus with product turner. 3,435,755, 04-01-69, Cl. 099-424.

Lojas, Matthew Stanley, to Metallurgical Exoproducts Corporation,. Production of rimmed steels. 3,436,209, 04-01-69, Cl. 075-053.

Long, Elton B., to Case, J. I., Company. Locking apparatus for side shiftable excavator. 3,436,099, 04-01-69, Cl. 280-456.

Lonza Ltd.:*See*—
Brunner, Emil, Hasler, Hans, and Huber, Alfred, 3,436,445.

Looker, Ivan L.Variable speed transmission. 3,435,709, 04-01-69, Cl. 074-752.

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Lopp, Charles R., and Ruspino, James G., to Whirlpool Corporation. Food waste disposer. 3,436,029, 04-01-69, Cl. 241-194.

Lord, Thomas J., to United Aircraft Products Inc.Holder for contamination sampling patch. 3,436,140, 04-01-69, Cl. 350-094.

Lorenzen, Edwin N., to Protex Industries Inc.Method and apparatus for measuring and dispensing liquids. 3,435,989, 04-01-69, Cl. 222-001.

Lorrek, Johannes, to Heinrich Koppers Gesellschaft mit beschrankter Haftung. Coke guide car. 3,436,316, 04-01-69, Cl. 202-241.

Losco, Giuseppe, to Montecatini Edison S.p.A.Method of destroying fungi with nitrophenyl sulfonylethylene. 3,436,464, 04-01-69, Cl. 424-337.

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Louis, Melis N., and Weingarten, Deszo, to N. V. Fabriek Van Chemische Producten Vondelingenplaat. Stabilized manganese ethylene bisdithiocarbamate and process. 3,436,456, 04-01-69, Cl. 424-249.

Louis, Melis N., and Weingarten, Deszo, to N. V. Fabriek Van Chemische Producten Vondelingenplaat. Stabilized manganese ethylene bisdithiocarbamate and process. 3,436,457, 04-01-69, Cl. 424-249.

Love, William C., to Steere Enterprises Inc.Boot for one or more seat belts. 3,436,097, 04-01-69, Cl. 280-150.

Loyd, Calvin D.:*See*—
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LTV Aerospace Corporation:*See*—
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Lucas, Joseph (Industries) Limited:*See*—
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Luecke, Gerald:*See*—
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Lunau, Wigand, to Rheinische Kalksteinwerke GmbH. Feedback stabilized AC amplifier. 3,436,675, 04-01-69, Cl. 330-097.

Lundgreen, Michael W., to Collins Radio Company. Rotation measuring device for very slowly rotating shaft. 3,436,655, 04-01-69, Cl. 324-070.

Lyle, Frederick W.Remote sound-control for broadcast receivers. 3,436,663, 04-01-69, Cl. 325-392.

Maass, Alfred R., Weinstock, Joseph, and Wiebelhaus, Virgil D., to Smith Kline & French Laboratories. 10-Aminopropionylphenothiazines. 3,436,392, 04-01-69, Cl. 260-243.

Mack, Zdenek, to Tesla, narodni podnik. Bridge type demodulator having diodes adjustably operated. 3,436,684, 04-01-69, Cl. 332-047.

Mack, Zdenek, to Tesla, narodni podnik. Bridge type cross demodulator having capacitive reactance branches. 3,436,685, 04-01-69, Cl. 332-047.

Macomber, James Keith, to Consolidated Lithographing Corporation. Label feed and cutting means. 3,435,717, 04-01-69, Cl. 083-176.

MacRobbie, Robert, to Richmond Screw Anchor Co., Inc.Cable connectors and related methods and structures. 3,435,512, 04-01-69, Cl. 029-517.

Maddocks, Herbert F.Heat exchangers. 3,435,894, 04-01-69, Cl. 165-167.

Madelung, Gero Otto, to Entwicklungsring Sued GmbH. Take-off and land platform for vertical take-off and landing planes. 3,436,036, 04-01-69, Cl. 244-114.

Mading, James E., to Cutler-Hammer, Inc.Electrical switch having a lost motion operator assembly. 3,436,497, 04-01-69, Cl. 200-016.

Maher, George C., to United States of America, Agriculture. Starch polyethyleniminothiourethane additives for paper. 3,436,305, 04-01-69, Cl. 162-175.

Maierson, Theodore, to National Cash Register Company. Treatment of capsules in liquid to inhibit clustering. 3,436,452, 04-01-69, Cl. 264-344.

Maillet, Alfred M. A., to LaSoudure Electrique Languepin. Method of and device for the abrasive shaping of a workpiece. 3,435,562, 04-01-69, Cl. 051-060.

Main, Robert, to Cherry Electrical Products Corporation. Magnetic pulse switch actuator. 3,436,699, 04-01-69, Cl. 335-188.

Male, Lucien, to ARCA Premoncontrole. Fluid regulator valve. 3,435,850, 04-01-69, Cl. 137-625.34

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Mann, Fred A., Jr.Floor mat. 3,435,480, 04-01-69, Cl. 015-215.

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Mantell, Otto B.Suit hangers with double bar. 3,435,999, 04-01-69, Cl. 223-091.

Marano, Herbert W., to Flinchbaugh Products, Inc.Tape-mounted label dispensing and applying apparatus. 3,436,294, 04-01-69, Cl. 156-351.

Marchais, Jean Claude, to CSF-Compagnie Generale de Telegraphie Sans Fil. Voltage level detector with tunnel diode. 3,436,560, 04-01-69, Cl. 307-322.

Marconi Company Limited, The:*See*—
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Marsh, Glenn A., to Union Oil Company of California,. Method and apparatus for determination of redox current in redox solutions. 3,436,320, 04-01-69, Cl. 204-001.

Marsh, Richard C.Guide and spacer for cutting tool. 3,435,523, 04-01-69, Cl. 030-272.

Martin, Claude Raymond Marie, to Societe Industrielle Bull-General Electric. Magnetic holding means for type members in selective printing machines. 3,435,756, 04-01-69, Cl. 101-093.

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Martin, Robert C., to Texas Instruments, Incorporated. Plural emitter type active element memory. 3,436,738, 04-01-69, Cl. 340-173.

Martin, William E.Self-contained scraper bowl assembly adapted for attachment with mobile vehicle. 3,435,547, 04-01-69, Cl. 037-124.

Martinson, Jerry A.Strainer support. 3,436,044, 04-01-69, Cl. 248-094.

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Mas, Robert Jean, and Michaud, Andre Louis, said Michaud, Andre L., assor to Fabriques de Produits Chimiques de Thann et Boite Postale. Process for making titanium dioxide using carbon monoxide containing inorganic ashes. 3,436,180, 04-01-69, Cl. 023-202.

Masai, Shohachi, Kawakami, Shigemitsu, and Okamoto, Tsugio, to Asahi Kasei Kogyo Kabushiki Kaisha. Apparatus for forming corregations on cylindrical envelopes of paper. 3,436,296, 04-01-69, Cl. 156-585.

Maschinen- und Bohrtagerate-Fabrik Alfred Wirth & Co., K.G.:*See*—
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Masquelier, Jacques, to Societe Civile de Recherche Pharmaceutique et Therapeutique. Hydroxyflavan 3,4-diols, a method of producing them and medicament based thereon. 3,436,407, 04-01-69, Cl. 260-345.2

Mastroianni, Emilio G.:*See*—
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Matejka, Jaroslav, and Kastovsky, Jiri, to Vyzkumny ustav matematickych stroju. Digital counter arrangement. 3,436,527, 04-01-69, Cl. 235-092.

Mathey, Raymond, Picardat, Bernard, and Lecocq, Robert, to CSF-Compagnie Generale de Telegraphie Sans Fil. Vibrating gyrometers. 3,435,687, 04-01-69, Cl. 073-505.

Mathieu, Alexis, to Solvay & Cie. Method of polymerizing vinyl chloride. 3,436,385, 04-01-69, Cl. 260-042.8

Mathys, Ludwig G.:*See*—
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Matick, Richard E., and Sie, Charles H., to International Business Machines Corporation. Thick magnetic film memory device. 3,436,749, 04-01-69, Cl. 340-174.

Matson, Howard J.:*See*—
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Thiele, Tom N., and Ting, Lawrence J., to Allis-Chalmers Manufacturing Company. Capacitance measuring means for indicating clearance in gyratory crusher and having means to compensate for stray capacitance. 3,436,653, 04-01-69, Cl. 324-061.

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ISSUED APRIL 1, 1969

NOTE.—First number, class; second number, subclass; third number, patent number

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83	3,435,461	272	3,435,523		3,435,608	41	3,435,689	327	3,435,753	126— 85	3,435,816
227	3,435,462	31— 15	3,435,524	58— 23	3,435,609	61	3,435,690	341	3,435,754	110	3,435,817
269	3,435,463	32— 7	3,435,525		3,435,610	103	3,435,476	424	3,435,755	271.2	3,435,818
4—111	3,435,464	10	3,435,526	140	3,435,611	107	3,435,691	101— 93	3,435,756	127— 55	3,436,260
172	3,435,465	14	3,435,527	60— 12	3,435,612	125.5	3,435,692	124	3,435,757	128— 2.05	3,435,819
185	3,435,466	33— 18	3,435,528	30	3,435,613	241	3,435,693	127.1	3,435,758	11	3,435,820
252	3,435,467	138	3,435,529	52	3,435,614	361	3,435,694	129	3,435,759	132	3,435,821
5— 13	3,435,468	172	3,435,530	53	3,435,615	412	3,435,695	287	3,435,760	145.6	3,435,822
320	3,435,469	174	3,435,531	97	3,435,616	424.8	3,435,696	464	3,435,761	334	3,435,823
8— 10.1	3,436,167	185	3,435,532	105	3,435,617	459.5	3,435,697	102— 22	3,435,762		3,435,824
45	3,436,168	211	3,435,533	61— 1	3,435,618	477	3,435,698	24	3,435,763	335.5	3,435,825
55	3,436,169	34— 1	3,435,534	41	3,435,619	481	3,435,699	27	3,435,764	348	3,435,826
9— 6	3,435,470	7	3,435,535	45	3,435,620	493	3,435,700	39	3,435,765	349	3,435,827
310	3,435,471	57	3,435,536	46.5	3,435,621	552	3,435,701	70.2	3,435,766	129— 1	3,435,828
10— 21	3,435,472	72	3,435,537	62— 3	3,435,622		3,435,702		3,435,767	131—140	3,435,829
12— 8.5	3,435,473	114	3,435,538	52	3,435,623	562.5	3,435,703	87	3,435,768	205	3,435,830
89	3,435,474	160	3,435,539	55.5	3,435,624	572	3,435,704	92.7	3,435,769	132— 53	3,435,831
117.4	3,435,475	174	3,435,540	58	3,435,625	640	3,435,705	103— 41	3,435,770	54	3,435,832
13— 1	3,436,465	35— 31	3,435,541	196	3,435,626		3,435,706	113	3,435,771	133— 2	3,435,833
15— 22	3,435,477	35	3,435,542	197	3,435,627	677	3,435,707	117	3,435,772	134— 3	3,436,261
104.04:	3,435,479	61	3,435,543	228	3,435,628	745	3,435,708	126	3,435,773	10	3,436,262
.1	3,435,478	36— 2	3,435,544	259	3,435,629	752	3,435,709	162	3,435,774	22	3,436,263
215	3,435,480	37— 10	3,435,545	282	3,435,630		3,435,710		3,435,775	33	3,436,264
	3,435,481	108	3,435,546	305	3,435,631	765	3,435,711	188	3,435,776	37	3,436,265
17— 45	3,435,482	124	3,435,547	322	3,435,632	856	3,435,712	217	3,435,777	98	3,435,834
18— 42	3,435,483	38— 97	3,435,548	352	3,435,633	866	3,435,713	218	3,435,778	108	3,435,835
19— 65	3,435,484	42— 17	3,435,549	64— 3	3,435,634	75— 53	3,436,209	104— 7	3,435,779	135— 22	3,435,836
159	3,435,485	43— 3	3,435,550	65— 17	3,436,200	68	3,436,210	172	3,435,780	136— 27	3,436,266
215	3,435,486	19.2	3,435,551	155	3,436,201		3,436,211		3,435,781	29	3,436,267
21— 56	3,436,170	43.15:	3,435,552	164	3,436,202		3,436,212	220	3,435,782	86	3,436,268
85	3,436,171	44.8	3,435,553	374	3,436,203	101	3,436,213	106— 1	3,436,233		3,436,269
93	3,436,173	44— 72	3,436,195	66— 9	3,435,635	174	3,436,214	20	3,436,234		3,436,270
23— 85	3,436,172	46— 10	3,435,554	57	3,435,636	77— 3	3,435,714	38.3	3,436,235		3,436,271
113	3,436,174	104	3,435,555	88	3,435,637	58	3,435,715	56	3,436,236		3,436,272
119	3,436,175	227	3,435,556	89	3,435,638	83— 37	3,435,716	58	3,436,237	178	3,436,273
143	3,436,176	48—178	3,436,196	68— 24	3,435,639	176	3,435,717	64	3,436,238	224	3,436,274
172	3,436,177	192	3,436,197	69— 10	3,435,640	185	3,435,718	300	3,436,239	137— 81.5	3,435,837
184	3,436,178	214	3,436,198	22	3,435,641	623	3,435,719	307	3,436,240	101	3,435,838
192	3,436,179	49— 70	3,435,557	70— 49	3,435,642	84— 1.01	3,436,466	308	3,436,241	102	3,435,839
202	3,436,180	200	3,435,558	92	3,435,643	240	3,435,720	108— 8	3,435,783	110	3,435,840
206	3,436,181	280	3,435,559	129	3,435,644	296	3,435,721	51	3,435,784	118	3,435,841
209.1	3,436,182	51— 5	3,435,560	183	3,435,645	312	3,435,722	111— 6	3,435,785	454.6	3,435,842
	3,436,183	8	3,435,561	203	3,435,646	411	3,435,723	112— 2	3,435,786	505.25:	3,435,843
223	3,436,184	60	3,435,562	214	3,435,647	85— 62	3,435,724	79	3,435,787	522	3,435,844
230	3,436,185	101	3,435,563	71— 1	3,436,204	89— 1.5	3,435,725	158	3,435,788	563	3,435,845
	3,436,186	163	3,435,564	39	3,436,205	.807	3,435,726	169	3,435,789	590	3,435,846
	3,436,187	229	3,435,569	77	3,436,206	163	3,435,727	214	3,435,790	612.1	3,435,847
	3,436,188	293	3,436,199	92	3,436,207	199	3,435,728	113— 58	3,435,791	614.04:	3,435,848
	3,436,189	313	3,435,565	118	3,436,208	90— 12	3,435,729	119	3,435,792	625.34:	3,435,850
253	3,436,190	328	3,435,566	72— 1	3,435,648	14	3,435,730	114— .5	3,435,793	.4	3,435,849
281	3,436,191	52—109	3,435,570	19	3,435,649	91— 4	3,435,731	16.6	3,435,794	.48	3,435,851
288	3,436,192	119	3,435,571	24	3,435,650	135	3,435,732	66.5	3,435,795	138—122	3,435,852
326	3,436,193	125	3,435,567	105	3,435,651	92— 97	3,435,733	67	3,435,796	147	3,435,853
357	3,436,194	221	3,435,568	180	3,435,652	103	3,435,734	235	3,435,797	139— 1	3,435,854
24— 73	3,435,487	251	3,435,572	336	3,435,653	93— 12	3,435,735	115— 1	3,435,798		3,435,855
126	3,435,488	272	3,435,573	340	3,435,654	35	3,435,736	18	3,435,799	256	3,435,856
205.11:	3,435,489	278	3,435,574	462	3,435,655	36	3,435,737	28	3,435,800	140— 71	3,435,857
.13:	3,435,490	282	3,435,575	73— 1	3,435,656	53	3,435,738	117— 8	3,436,242	92.1	3,435,858
224	3,435,491	300	3,435,576	2	3,435,657	61	3,435,739	16	3,436,243	143— 32	3,435,859
230	3,435,492	309	3,435,577	12	3,435,658	94— 45	3,435,740	18	3,436,244		3,435,860
25— 22	3,435,493	396	3,435,578	23.1	3,435,659	50	3,435,741	25	3,436,245	144—208	3,435,861
27— 11	3,435,494	400	3,435,579		3,435,660	95— 12	3,435,742	65.2	3,436,246	145— 50	3,435,862
28— 21	3,435,495	405	3,435,580		3,435,661	.5	3,435,743	95	3,436,247	146— 15	3,435,863
72	3,435,497		3,435,581	27	3,435,662	44	3,435,744	105	3,436,248	78	3,435,864
29— 25.42:	3,435,496	608	3,435,582	38	3,435,663	53	3,435,745	107.2	3,436,249	279	3,435,865
33	3,435,498	745	3,435,583	54	3,435,664		3,435,746	137	3,436,250	148— 1.5	3,436,275
125	3,435,499	53— 62	3,435,584	56	3,435,665	64	3,435,747	155	3,436,251	9.5	3,436,276
130	3,435,500	133	3,435,585	60	3,435,666	89	3,435,748		3,436,252	12.7	3,436,277
148.4	3,435,501	242	3,435,586	65	3,435,667	94	3,435,749	160	3,436,253	23	3,436,278
156.63:	3,435,502	317	3,435,587	88	3,435,668		3,435,750	201	3,436,254	175	3,436,279
157	3,435,503	366	3,435,588	.5	3,435,669		3,435,751		3,436,255	178	3,436,280
.3	3,435,504	390	3,435,589	141	3,435,670	96— 1	3,436,215	213	3,436,256	187	3,436,281
158	3,435,505	55— 43	3,435,590	147	3,435,671	.1	3,436,216		3,436,257		3,436,282
159.2	3,435,506	62	3,435,591	155	3,435,672	29	3,436,217	217	3,436,258	150— 1.5	3,435,866
237	3,435,507	71	3,435,592	160	3,435,673	53	3,436,218	227	3,436,259		3,435,867
432	3,435,508	84	3,435,593	178	3,435,674	77	3,436,219	118— 63	3,435,801	39	3,435,868
470.3	3,435,509	112	3,435,594	182	3,435,675	94	3,436,220	637	3,435,802	151— 15	3,435,869
	3,435,510	169	3,435,595	189	3,435,676	108	3,436,221		3,435,803	22	3,435,870
476	3,435,511	223	3,435,596		3,435,677	114	3,436,222	119— 51.11:	3,435,804	41.7	3,435,871
517	3,435,512	269	3,435,597	194	3,435,678	98— 42	3,435,752	122— 1	3,435,805	152—158	3,435,872
567	3,435,513	424	3,435,598	258	3,435,679	99— 2	3,436,223	41	3,435,806	182	3,435,873
577	3,435,514	56— 25.4	3,435,599	295	3,435,680	31	3,436,224	136	3,435,807	352	3,435,874
580	3,435,515	237	3,435,600	327	3,435,681	48	3,436,225	123— 13	3,435,808	356	3,435,875
588	3,435,516	327	3,435,601	368.2	3,435,682	52	3,436,226	119	3,435,809	156— 14	3,436,283
596	3,435,517	57— 15	3,435,602	410	3,435,683	71	3,436,227		3,435,810	17	3,436,284
604	3,435,518	34	3,435,603	423	3,435,684	90	3,436,228	139	3,435,811		3,436,285
	3,435,519	134	3,435,604	432	3,435,685	100	3,436,229	140	3,435,812		3,436,286
628	3,435,520	140	3,435,605	460	3,435,686	159	3,436,230		3,435,813	54	3,436,287
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(U.S. States, Territories and Armed Forces, the Commonwealth of Puerto Rico, and the Canal Zone)

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(First number in listing denotes location according to above key. Refer to patent number in body of the Official Gazette to obtain details as to inventor name, location, etc.)

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Design Patents

4	213,701	13	213,712	26	213,685	36	213,672	36	213,747	42	213,676
6	213,673	17	213,687		213,725		213,691	39	213,682		213,678
	213,681		213,692		213,755		213,698		213,695		213,696
	213,718		213,693	27	213,688		213,700		213,703		213,724
	213,730		213,694		213,689		213,705		213,707	45	213,722
	213,731		213,719		213,690		213,710		213,713	48	213,674
	213,732		213,723		213,709		213,711		213,742		213,680
	213,733	18	213,677		213,715		213,716		213,748		213,720
	213,734		213,683		213,721		213,728		213,749	49	213,668
8	213,706		213,714		213,752		213,739		213,750		213,686
	213,737	25	213,684	34	213,666		213,743		213,751	55	213,679
9	213,669		213,702		213,667		213,744		213,753		213,717
	213,729		213,704		213,708		213,745	40	213,671		213,726
12	213,735		213,741		213,740		213,746	41	213,736		213,738
13	213,699										

Plant Patents

6	2,876	6	2,877	6	2,878	6	2,879

U.S. DEPARTMENT OF COMMERCE

OFFICIAL GAZETTE of the UNITED STATES PATENT OFFICE

April 1, 1969 Volume 861 Number 1

TRADEMARKS

NOTICES

Trademark Suits

Notices under 15 U.S.C. 1116; Trademark Act of July 5, 1946

Reg. No. 638,128 (WORLD'S FINEST), World's Finest Chocolate, Inc., Candy, **filed** Jan. 13, 1969, D.C., N.D. Ill. (Chicago), Doc. 69c64, *World's Finest Chocolate, Inc.* v. *World Candies, Inc., Goldblatt Brothers, Inc.*

Reg. No. 650,942 (TV GUIDE AND DESIGN), Triangle Publications, Inc., Magazine, **filed** Jan. 13, 1969, D.C., S.D. Fla. (MIAMI), Doc. 69–52–C–CA, *Triangle Publications, Inc.* v. *T.V. Guide in Spanish Magazine, Inc. and Leonides Martinez.*

Reg. No. 652,133 (NULAID), Poultry Producers of Central California, Fresh eggs, **filed** Sept. 24, 1957, D.C., E.D. Calif. (Sacramento), Doc. S–1013, *Pacific Growers* v. *Burson Egg Farms.*

Reg. No. 707,631 ("SEE-ALL" TELE-TECTOR), Norman Industries, Inc., Dummy cameras for mounting on a wall or ceiling in a store for the purpose of deterring shoplifting and reducing pilferage losses, **filed** Jan. 10, 1968, D.C., N.D. Ill. (Chicago), Doc. 68c46, *Norman Industries, Inc.* v. *Se-Kure Controls, Inc. et al.* On stipulation dismissed with prejudice, Feb. 29, 1968.

Reg. No. 726,271 (SPEEDRITE), Speedrite Products, Inc., Fountain type pens having felt nibs; **Reg. No. 741,791**, same, Instant drying ink; **Des. 190,700**, N. R. Cline, COMBINED MARKING PEN AND WELL OR SIMILAR ARTICLE; **3,085,280**, same, MARKING PEN; **3,088,160**, same; **3,221,361**, same, SELF-TIGHTENING PEN MEANS, **filed** Oct. 11, 1968, D.C., N.D. Ala. (Birmingham), Doc. CA 68–593, *Dymo Industries, Inc., Speedrite Products, Inc., Elliott Business Machines, Inc., and Nathan R. Cline* v. *National Sales Engineers, Inc., John D. MacDonald, and John D. MacDonald, Jr.*

Reg. No. 741,791. (See Reg. No. 726,271.)

Reg. No. 749,723. (See 3,197,204.)

Reg. No. 790,044 (ETCETERA), Gelshu Inc., Ladies' shoes; **Reg. No. 790,045** (ETC.), same, **filed** Dec. 17, 1968, D.C., S.D.N.Y., Doc. 68–C–5036, *Gelshu Inc.* v. *Et Cetera 57th St., Inc. et ano.*

Reg. No. 790,045. (See Reg. No. 790,044.)

Reg. No. 791,172 (BONANZA SIRLOIN PIT), International Franchise Corporation, Resturant services, **filed** May 2, 1968, D.C., S.D. Fla. (Miami), *Bonanza International, Inc.* v. *Bonanza Sirloin Pit Corp. of Florida.* Consent judgment, registration for "Bonanza Sirloin Pit" is valid. Defendant and Fernando Rodriguez have infringed and are permanently enjoined from all further use of "Bonanza," "Bonanza Sirloin Pit," "Bonanza." Defendant's counterclaim is dismissed with prejudice, Dec. 31, 1968.

Reg. No. 804,469 (DOW CORNING AND DESIGN), Dow Corning Corporation, Silicon; silicones; fluorosilicones;

CONDITION OF TRADEMARK APPLICATIONS AS OF FEBRUARY 28, 1969

Total number of applications awaiting action [excluding renewals and Sec. 12(c)]	16,090
Date of oldest new application	January 23, 1968
Date of oldest amended application (filing date)	June 4, 1963

C. M. WENDT, Director, Trademark Examining Operation

TRADEMARK EXAMINING DIVISIONS, EXAMINERS AND TRADEMARK CLASSES UNDER EXAMINATION	Oldest Application: New	Oldest Application: Amended
(I) L. J. BETTENDORF, Classes 2, 3, 4, 5, 7, 9, 10, 11, 27, 28, 30, 32, 33, 37, 38, 39, 40, 41, 42, 43, 50; Certification Marks, Classes A and B	6-24-68	6-4 -63
(II) F. H. WETHERBEE, Classes 1, 6, 15, 18, 45, 46, 47, 48, 49, 51, 52; Collective Membership Mark, Class 200	5-13-68	3-4 -66
(III) P. S. BALL, Classes 19, 21, 23, 26, 31, 34, 35, 36	6-19-68	1-21-66
(IV) M. E. ABRAMSON, Classes 8, 12, 13, 14, 16, 17, 20, 22, 24, 25, 29, 44; Service Marks, Classes 100, 101, 102, 103, 104, 105, 106, and 107	1-23-68	3-18-66
Renewals (All Classes)	1-3 -69	----------
Sec. 12(c) Publications (All Classes)	1-16-69	----------

Applications filed during the month of February 1969— 2,344

Registrations Issued ---------- 409—No. 867,323 to No. 867,731
Renewals Issued ---------- 100

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compositions containing silicones; silanes; silicon chemicals; organometallic compounds; defoamers; sterilizing, hydraulic, damping, heat transfer and difussion pump fluids; catalysts; water repellants; plastisol additives, surfactants for use in the manufacture of urethane foam, **filed** Nov. 26, 1968, D.C., N.D. Ill. (Chicago), Doc. 68c2297, *Dow Corning Corporation* v. *Applied Power Industries, Inc.*

Reg. No. 828,366 (COMSAT), Communications Satellite Corporation, Communication services via satellite; **Reg. No. 840,195,** (COMSAT AND DESIGN), same, **filed** Jan. 16, 1969, D.C. Md. (Baltimore), Doc. C–20343, *Communications Satellite Corporation* v. *Comcet, Inc.*

Reg. No. 828,694 (PRE-INKED), Bankers & Merchants, Inc., Porous rubber printing stamp which stores ink therein and releases ink therefrom upon applying pressure to stamp, **filed** Nov. 20, 1967, D.C., N.D. Ill. (Chicago), Doc. 67c2018, *Consolidated Foods Corporation* v. *Westates Space-Era Products Inc. and Wespac* (per amended complaint filed June 21, 1968). Dismissal under Rule 41(a) FRCP, Dec. 10, 1968.

Reg. No. 834,629 (TRAM), Tram Electronics Incorporated, Electronic communication equipment—namely, transceivers, **filed** Dec. 26, 1968, D.C.N.J. (Camden), Doc. 1385–68, *Tram Corporation* v. *Tram Electronics, Inc.*

Reg. No. 840,195. (See Reg. No. 828,366.)

Reg. No. 855,441 (AM), American Motors Corporation, Automobiles and structural parts thereof, **filed** Dec. 13, 1968, D.C., N.D. Ill. (Chicago), Doc. 68c2395, *Sidney M. Fields, doing busines as Fields International* v. *American Motors Corporation.*

3,085,280. (See Reg. No. 726,271.)

3,088,160. (See Reg. No. 726,271.)

3,197,204, Holkesvick, Hudnall and Adams, EXERCISING DEVICE; **Reg. No. 749,723** (EXER-GENIE), Exer-Genie, Inc., Exercise device—namely, a mechanical device which can be fastened to a support and which includes a flexible member such as a rope which is partially restrained and which can be actuated by a man, woman or child in order to exercise and/or develop various muscles in the user's body, **filed** May 7, 1968, D.C., C.D. Calif. (Los Angeles), Doc. 68–751–IH, *Exer-Genie, Inc., and E. E. Holkesvick* v. *Alexander G. McDonald, Buddy Systems, Inc., Paul Lee, doing busines as J & L Distributing Co., and Fair-Way Distributors Inc.* Consent judgment, plaintiff is owner of U.S. Patent No. 3,197,204, which is valid. Defendants perpetually enjoined, Sept. 24, 1968.

3,221,361. (See Reg. No. 726,271.)

D. 190,700. (See Reg. No. 726,271.)

MARKS PUBLISHED FOR OPPOSITION

SECTION 1

The following marks are published in compliance with section 12(a) of the Trademark Act of 1946. Application for the registration of these marks in more than one class has been filed as provided in section 30 of said act as amended by Public Law 772, 87th Congress, approved Oct. 9, 1962, 76 Stat. 769. Opposition under section 13 may be filed within thirty days of this publication. See Rules 2.101 to 2.105.

A separate fee of twenty-five dollars for each class opposed must accompany the opposition.

[NOTE: For publication of marks presented in applications for registration in one class, see section 2.]

SN 264,015. British Silverware Limited, London, England. Filed Feb. 6, 1967.

ELKINGTON

Owner of British Reg. Nos. 901,401 and 901,402, dated Nov. 9, 1966; and U.S. Reg. No. 377,274.

Class 13—Hardware and Plumbing and Steam-Fitting Supplies

For Stainless Steel Hollow Ware (Int. Cl. 21).

Class 23—Cutlery, Machinery, and Tools, and Parts Thereof

For Stainless Steel Flatware (Int. Cl. 8).

SN 266,512. Cutters Exchange, Inc., Nashville, Tenn. Filed Mar. 13, 1967.

The drawing is lined for the color yellow, but the color is not claimed as an integral part of the mark.

Class 15—Oils and Greases

For Silicone Lubricant (Int. Cl. 4).
First use Feb. 14, 1967.

Class 23—Cutlery, Machinery, and Tools, and Parts Thereof

For Textile Machinery and Garment Equipment—Namely, Sewing Machines, Cuff-Making Machines, Cloth Pullers, Binder Cutters, Hand Pinkers, Rotary Pinkers, Scissors Sharpeners, and Eyelet Machines (Int. Cl. 7).
First use Feb. 14, 1967.

Class 24—Laundry Appliances and Machines

For Pressing Machines (Int. Cl. 7).
First use Feb. 23, 1967.

SN 269,767. Maxon Premix Burner Company, Inc., Muncie, Ind. Filed Apr. 21, 1967.

The drawing is lined for the color red.

Class 100—Miscellaneous

For Engineering and Design of Industrial Heating Apparatus and Systems (Int. Cl. 42).

Class 103—Construction and Repair

For Servicing of Industrial Heating Apparatus and Systems (Int. Cl. 37).

First use in or about September 1951.

SN 271,307. Sunnen Products Company, St. Louis, Mo. Filed May 12, 1967.

The lining on the drawing denotes the color red, however, applicant claims no particular color. Owner of Reg. Nos. 515,264, 678,055, and others.

Class 4—Abrasives and Polishing Materials

For Hones, Abrasive Stones, Abrasive Grains, and Abrasive sticks for Use in Holders (Int. Cl. 3).

Class 23—Cutlery, Machinery, and Tools, and Parts Thereof

For Cylinder Grinders, Honing, Grinding, and Abrading Machines and Parts Thereof, Exhaust Devices for Cylinder Grinders, Valve Spring Lifters, Valve Spring Compressors, Valve Spring Clips, Split Lock Compressors, Split Lock Catchers, Split Lock Replacers, and Hand tools for Use in Repairing Engines; Honing Tools and Parts Thereof—Namely, a Head and Driver, Mandrel Adapter, Mandrel, Honing Stone and Truing Sleeve and a Wrench, Used for Sizing and Finishing Holes and Cylindrical Surfaces and Specifically in Sizing and Finishing Dowel Pins, Leader and Ejector Pin Holes and Holes in Extrusion Dies and Like Structures, and the Correction of Out of Roundness or Warpage in an Original Hole or Surface, Maintaining True Axial Alignment with the Original Bore in Metal and Performing Similar Work (Int. Cls. 7 and 8).

Class 26—Measuring and Scientific Appliances

For Precision Measuring Equipment and Accessories Therefor—Namely, Gages for Measuring the Accuracy of Surfaces, Fixtures for Setting Said Gages, and Parts and Components Thereof (Int. Cl. 9).

First use March 1967.

SN 272,991. Sky Distributing Company, d.b.a. Sky Corporation and Sky, Stockton, Calif. Filed June 5, 1967.

FRANTZ

Class 15—Oils and Greases

For Engine Tune-Up Oil, Transmission and Power Steering System Conditioner (Int. Cl. 4).
First use October 1965.

Class 23—Cutlery, Machinery, and Tools, and Parts Thereof

For Tool Kits Comprised of Tool Box With Automotive Mechanic's Hand Tools Contained Therein, Test Mirror Used as an Inspection Mirror in the Nature of a Tool Used by a Repairman (Int. Cl. 8).
First use March 1964.

Class 31—Filters and Refrigerators

For Engine Oil Filters and Engine Oil Filter Mountings (Int. Cl. 7).
First use 1956.

SN 276,979. M. Cauliez & Delaoutre, Tourcoing, Nord, France. Filed July 28, 1967.

GWENDABRIL

Priority claimed under Sec. 44(d) on French Reg. No. 735,955, dated June 16, 1967.

Class 39—Clothing

For Articles of Clothing—Namely, Coats, Overcoats, Suits, Frocks, Waistcoats, Trousers, Skirts, Bodices, Hats, Scarves, Ties, Gloves, Underwear, Socks, Stockings, Shirts, Bathing Suits, Corsets, Girdles and Brassieres (Int. Cl. 25).

Class 42—Knitted, Netted, and Textile Fabrics, and Substitutes Therefor

For Textile Fabrics Made of Cotton, Wool, Silk, Hemp, Flax, and Synthetic Fibers or Mixtures of These Materials (Int. Cl. 24).

Class 43—Thread and Yarn

For Yarns and Threads (Int. Cl. 23).

SN 278,149. Whittaker Corporation, Los Angeles, Calif. Filed Aug. 14, 1967.

Whittaker

Class 1—Raw or Partly Prepared Materials

For Uncured and Partially Cured Polymers, Laminated Materials Pre-Impregnated With Curable Resin and Polymers in Sheet Form for General Use in the Industrial Arts, Ablative Synthetic Resin Molding Compounds, and Synthetic Resins (Int. Cls. 1 and 17).
First use May 1964.

Class 2—Receptacles

For Filament Wound Pressure Vessels and Lining Therefor (Int. Cl. 21).
First use May 1964.

Class 5—Adhesives

For Structural Adhesives and High Temperature Resistant Adhesives (Int. Cl. 1).
First use May 1964.

Class 9—Explosives, Firearms, Equipments, and Projectiles

For Missile Launchers (Int. Cl. 13).
First use May 1964.

Class 12—Construction Materials

For Laminated and Composite Structural Assemblies and Composite Structural Materials for Aerospace, Architectural and Industrial Use, and Thermal Insulating Materials (Int. Cls. 17 and 19).
First use May 1964.

Class 13—Hardware and Plumbing and Steam-Fitting Supplies

For Fuel Controls, Hydraulic Controls, Pneumatic Controls, Pressure Regulators, Ultra-High Vacuum System Valves, Components and Systems, Bi-Propellant Valves, Gate Valves, Plug-In Valves, Stainless Steel Valves, Valves and Valve Parts for Pneumatic, Hydraulic and Cryogenic Systems, Valves for Aerospace Engines and Titanium Tubing (Int. Cls. 6, 7, and 9).
First use May 1964.

Class 14—Metals and Metal Castings and Forgings

For Coextruded Dissimilar Metals, High-Temperature Stainless Steel, Powdered Metals and Alloys of Beryllium, Steel, Titanium and Zirconium, Primary and Secondary Metals Including Aluminum, Brass, Bronze, Copper, Lead and Zinc, Alloying Agents for High Performance and High-Temperature Steels, Including Tool and Die Steels, Nickel-Based Alloys, and Lightweight Armor Plate (Int. Cl. 6).
First use February 1966.

Class 19—Vehicles

For Aircraft and Spacecraft Frames and Frame Components, Structural Assemblies and Components, Panels, Control Surfaces, Radomes, Fuel Tanks, Engine Fairing Assemblies, and Windows; Helicopter Rotor Blades; Fiberglass Pleasure Boats (Int. Cl. 12).
First use May 1964.

Class 21—Electrical Apparatus, Machines, and Supplies

For Electrically Operated Valve Actuators, Solenoids, Parabolic Antennae, Precision Reflectors, Integrated Circuit Modules, Transducers, Two-Way Radios, and Solar Panels (Int. Cl. 9).
First use May 1964.

Class 23—Cutlery, Machinery, and Tools, and Parts Thereof

For Thermal-Forming, Stretch-Forming and Roll-Forming Presses, Tools and Dies for Titanium and Other High Performance Metals and Alloys, and Heat Shielding Enclosures for Motor Parts (Int. Cl. 7).
First use February 1966.

Class 26—Measuring and Scientific Appliances

For Measuring, Testing and Calibrating Instruments—Namely, Accelerometers, Data Recorders, Secondary Pressure Standards and Digital Manometers; Aircraft Instruments—Namely, Artificial Horizon Indicators, Directional Indicators, Attitude Control and Stabilization Systems; Electromechanical Counters; Gyroscopes, Gyrostabilized Platforms and Gyroscopic Systems; Precision Shaft-Angled Encoders, Thermocouple Reference Junctions; Drafting Tables and Drafting Instruments; Automobile Exhaust Proportional Sampling Measuring Instruments; Air Traffic Control Systems; Radar Systems and Components, Interference Blankers; Digital Defruiting Equipment; and Radar Absorbing Materials for Aircraft (Int. Cls. 9 and 16).
First use 1966.

Class 31—Filters and Refrigerators

For Jet Engine Filters (Int. Cl. 7).
First use 1966.

Class 35—Belting, Hose, Machinery Packing, and Non-metallic Tires

For Cryogenic Seals and Gaskets (Int. Cl. 17).
First use May 1964.

Class 100—Miscellaneous

For Data Systems Design Services, Data Systems Study Services, Electronic Data Conversion Services, Optical Data Conversion Services, and Research and Development Services in Aerospace, Chemicals, Electronics, Metals, Metal Processing, Physics, Engineers, Mechanical Devices and Composite Materials (Int. Cl. 42).
First use May 1964.

Class 101—Advertising and Business

For Computer Operations Services, Data Computer Programming Services, and Bio-Medical, Commercial, Government, Industrial, Military and Scientific Data Processing and Analysis Services, Performed for Others (Int. Cl. 35).
First use May 1964.

Class 103—Construction and Repair

For Maintenance and Servicing of Audio-Visual, Computer and Electronic Systems (Int. Cl. 37).
First use May 1964.

Class 106—Material Treatment

For Metal Refining and Treatment Services (Int. Cl. 40).
First use February 1966.

SN 278,382. General Electrodynamics Corporation, Garland, Tex. Filed Aug. 16, 1967.



The mark consists of the letters "GEC." Owner of Reg. No. 726,919.

Class 21—Electrical Apparatus, Machines, and Supplies

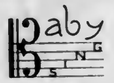
For Electronic Tubes—Namely, Vidicons and Scan Conversion Tubes; TV Instrumentation Cameras for Producing Usable Pictures in Severe Environments, Such as in Missile and/or Space Environments (Int. Cl. 9).

Class 26—Measuring and Scientific Appliances

For Scan Converters; Camera Tube Testing Devices; Slow Scan TV Systems Consisting of Camera Head and Camera Control and Monitor and Power Supply; Optical Mirrors; Filters; Prisms; Flats, Catadioptric Lenses; Cassegrainian Telescopes; Camera Mounts; Pedestal Mounts for Telescopes; TV Synchronous Generators; and Vehicle Scales (Int. Cl. 9).

First use on or about Apr. 27, 1967.

SN 280,409. Gadgets Diffusion S.A., Geneva, Switzerland. Filed Sept. 15, 1967.



Priority claimed under Sec. 44(d) on Swiss Reg. No. 224,569, dated Mar. 21, 1967.

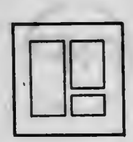
Class 22—Games, Toys, and Sporting Goods

For Human and Animal Figure Toys Having Vocal Reproduction by Means of Reels of Magnetic Tape (Int. Cl. 28).

Class 36—Musical Instruments and Supplies

For Music Boxes and Playback Units for Pre-Recorded Music Tapes (Int. Cl. 15).

SN 281,546. J. G. Braun Company, Skokie, Ill. Filed Oct. 2, 1967.



Class 12—Construction Materials

For Metallic Architectural Supplies—Namely, Panels, Moldings, Grills, Railings, and Ornaments (Int. Cl. 6).

Class 13—Hardware and Plumbing and Steam-Fitting Supplies

For Metallic Pipe, Brackets, Fittings, and Fasteners (Int. Cl. 6).

Class 14—Metals and Metal Castings and Forgings

For Ferrous and Non-Ferrous Metals Embodied in Bars, Angles, Tubes, and Miscellaneous Architectural Shapes (Int. Cl. 6).

First use Sept. 1, 1967.

SN 281,646. Tip Top Products Company, Omaha, Nebr. Filed Oct. 2, 1967.



Owner of Reg. Nos. 335,323, 706,064, and others.

Class 39—Clothing

For Hair Nets, Wave Nets, Coiffure Bonnets, Hair Bonnets, Scarves and Caps, Rain Bonnets, Shower Caps, and Beauty Gloves (Int. Cls. 25 and 26).

Class 40—Fancy Goods, Furnishings, and Notions

For Hair Accessories—Namely, Hair Pins, Barrettes, Clasps, Clips, Combs, Curlers, Curler Pads, Rollers, Roller Pins, Bob Pins, Hair Bands, Coiffure Bands, Bandeaux, Chignon and French Roll Foundations, Hair Stylers, Hair Lifts, Hair Bows, and Ponytail Bows and Holders (Int. Cls. 21 and 26).

First use on or about Jan. 3, 1967; Aug. 5, 1934, as to the mark "Tip Top."

SN 282,030. The Budd Company, Philadelphia, Pa. Filed Oct. 9, 1967.

PEOPLE MOVERS

Class 1—Raw or Partly Prepared Materials

For Raw and Partly Prepared Material for Product Use and Fabrication Into Other Products—Namely, Cellulosic Tubing, Rolled Canvas Tubing, Plastic Tape, Silicon Rubber Tape (Int. Cl. 17).
First use Aug. 25, 1967.

Class 14—Metals and Metal Castings and Forgings

For Metal Stampings for Making Parts for Automobiles (Int. Cl. 6).
First use Aug. 25, 1967.

Class 19—Vehicles

For Parts for Brakes and Wheels of Automobiles and Railway Cars (Int. Cl. 12).
First use Aug. 31, 1967.

Class 37—Paper and Stationery

For Writing Paper (Int. Cl. 16).
First use Aug. 29, 1967.

SN 286,052. S.P.A. Officine Meccaniche Bertoni & Cotti, Copparo, Ferrara, Italy. Filed Dec. 4, 1967.



The drawing is lined for the color red. Owner of Italian Reg. No. 163,508, dated Jan. 21, 1964.

Class 23—Cutlery, Machinery, and Tools, and Parts Thereof

For Power Operated and Manual Machines and Machine Tools Used in the Repair of Motor Vehicles and Parts Thereof—Namely, Reamers, Grinders, Lathes, Cylinder and Cylinder Liner Boring Machines, Lapping Machines and Tools, Presses, Honing Machines, Machines for Balancing Crank Shafts, Machine Tools for Boring Cylinder Blocks and Bearings Therefor, Combined Borers and Grinders, Connecting Rod Aligners, Valve Refacers, Valve Seat Cutters, Valve Seat Insertion Tools, Piston Ring Fitters, Mechanical and Pneumatic Wrenches and Machines for Winding Track Shoes of Tractors; Spare Parts for Tractors and Other Crawler Type Vehicles—Namely, Tracks, Track Shoes, Track Links, Pins, Bushes, Rollers, Idlers and Sprockets, Sprocket Rims, Pinions and Gears (Int. Cls. 7 and 12).

Class 26—Measuring and Scientific Appliances

For Hand operated testers To Check Vehicular Spring Tension and Strength (Int. Cl. 9).

SN 289,798. Gebroeders Van Huet's Laad-En Lossystemen "Hulo" NV, Pannerden, Netherlands. Filed Jan. 29, 1968.

Huto

Owner of Dutch Reg. No. 154,340, dated Feb. 11, 1965.

Class 19—Vehicles

For Hand Trucks, Motor Trucks, Trailers, Semi-Trailers, Lorries, Electric Wagons, Wheelbarrows (Int. Cl. 12).

Class 23—Cutlery, Machinery, and Tools, and Parts Thereof

For Gantry Cranes, Vehicle-Mounted Cranes and Fork Lift Trucks and Parts Thereof (Int. Cls. 7 and 12).

SN 291,304. National Twist Drill & Tool Co. (Delaware corporation), Rochester, Mich., assignee of National Twist Drill & Tool Co. (Michigan corporation), Rochester, Mich. Filed Feb. 19, 1968.

WINTER

Owner of Reg. Nos. 512,810 and 543,861.

Class 23—Cutlery, Machinery, and Tools, and Parts Thereof

For Taps and Dies, and Tap Holders (Int. Cl. 8).

Class 26—Measuring and Scientific Appliances

For Gages—Namely, Thread Gages, Plug Gages, and Ring Gages (Int. Cl. 9).

First use in 1900.

SN 292,511. Societe Lorraine de Laminage Continu (Sollac), Paris, France. Filed Mar. 5, 1968.

SOLCHROME

Priority claimed under Sec. 44(d) on French Reg. No. 727,034, dated Sept. 6, 1967.

Class 2—Receptacles

For Metal Boxes (Int. Cl. 6).

Class 14—Metals and Metal Castings and Forgings

For Sheet Iron Coated With a Chromium Based Deposit for Use in the Manufacture of Metal Boxes (Int. Cl. 6).

SN 295,279. Monsanto Company, St. Louis, Mo. Filed Apr. 10, 1968.

MONSANTO

Owner of Reg. No. 846,624.

Class 21—Electrical Apparatus, Machines, and Supplies

For Semiconductor Devices (Int. Cl. 9).
First use Mar. 3, 1966.

Class 26—Measuring and Scientific Appliances

For Electrical and Electronic Instruments, Apparatus, Components and Systems, and Parts and Accessories Therefor, for Use in Measuring Frequency of Electrical Signals, Voltage, and Physical Properties of Polymeric Materials; Counting Random Events; Acquiring, Processing and Delivering Data for Utilization; and Generating Electrical Signals (Int. Cl. 9).
First use June 14, 1963.

Class 27—Horological Instruments

For Electronic Apparatus for Use in Measuring Time Intervals and Elapsed Time (Int. Cl. 9).
First use July 29, 1965.

SN 296,440. Metalphoto Corporation, Cleveland, Ohio. Filed Apr. 24, 1968.

MCI

Owner of Reg. No. 696,040.

Class 6—Chemicals and Chemical Compositions

For Chemicals for Processing Photosensitive Metal Plates (Int. Cl. 1).

Class 26—Measuring and Scientific Appliances

For Photosensitive Metal Plates (Int. Cl. 1).

First use June 1, 1966.

SN 296,630. American Pipe and Construction Co., Monterey Park, Calif. Filed Apr. 26, 1968.

AP

Class 12—Construction Materials

For Concrete Pipe and Steel Platforms for Offshore Well-Drilling (Int. Cls. 6 and 19).

Class 35—Belting, Hose, Machinery Packing, and Non-metallic Tires

For Pipe Gaskets (Int. Cl. 17).

First use on or about Apr. 4, 1968.

SN 297,148. Purex Corporation, Ltd., d.b.a. Turco Products, Inc., Lakewood, Calif. Filed May 2, 1968.

TURCO

Owner of Reg. Nos. 270,966, 657,594, and others.

Class 21—Electrical Apparatus, Machines, and Supplies

For Ultrasonic Parts and Surface Cleaning Units Comprising Tank-Type Washers, Transducers for Converting Electrical Impulses Into Sound Waves, Sprayheads and Nozzles (Int. Cl. 9).

Class 23—Cutlery, Machinery, and Tools, and Parts Thereof

For Industrial and Commercial Parts and Surface Cleaning and Washing Equipment—Namely, Pail-Mounted and Barrel-Mounted Pumping and Dispensing Units; Mechanical Decontamination Units; High Pressure Steam Cleaning Units; Case and Carton Washers; Tank-Type Immersion Washing and Cleaning Units; and Parts and Attachments for Such Equipment (Int. Cl. 7).

First use in 1947.

SN 299,525. Caterpillar Tractor Co., Peoria, Ill. Filed June 3, 1968.

CATERPILLAR

Class 13—Hardware and Plumbing and Steam-Fitting Supplies

For Hose Couplings (Int. Cl. 6).

Class 35—Belting, Hose, Machinery Packing, and Non-metallic Tires

For Hydraulic Hose, Seals for Vehicles and Machinery (Int. Cl. 17).

First use Apr. 12, 1967.

SN 299,526. Caterpiller Tractor Co., Peoria, Ill. Filed June 3, 1968.

CAT

Class 13—Hardware and Plumbing and Steam-Fitting Supplies

For Hose Couplings (Int. Cl. 6).

Class 35—Belting, Hose, Machinery Packing, and Non-metallic Tires

For Hydraulic Hose; Seals for Vehicles and Machinery (Int. Cl. 17).

First use Apr. 12, 1967.

SN 301,568. Avon Products, Inc., New York, N.Y. Filed June 28, 1968.

PHAETON

Class 51—Cosmetics and Toilet Preparations

For After Shave Lotion and Talcum Powder (Int. Cl. 3).

Class 52—Detergents and Soaps

For Toilet Soap (Int. Cl. 3).

First use June 10, 1968.

SN 301,569. Avon Products, Inc., New York, N.Y. Filed June 28, 1968.

DOMINO

Class 51—Cosmetics and Toilet Preparations

For After Shave Lotion and Talcum Powder (Int. Cl. 3).

Class 52—Detergents and Soaps

For Toilet Soap (Int. Cl. 3).

First use June 10, 1968.

SN 301,570. Avon Products, Inc., New York, N.Y. Filed June 28, 1968.

XKE

Class 51—Cosmetics and Toilet Preparations

For After Shave Lotion and Talcum Powder (Int. Cl. 3).

Class 52—Detergents and Soaps

For Toilet Soap (Int. Cl. 3).

First use June 10, 1968.

SN 301,572. Avon Products, Inc., New York, N.Y. Filed June 28, 1968.

SPECIAL EVENT

Class 51—Cosmetics and Toilet Preparations

For After Shave Lotion and Talcum Powder (Int. Cl. 3).

Class 52—Detergents and Soaps

For Toilet Soap (Int. Cl. 3).

First use June 10, 1968.

SN 301,573. Avon Products, Inc., New York, N.Y. Filed June 28, 1968.

CREVASSE

Class 51—Cosmetics and Toilet Preparations

For After Shave Lotion and Talcum Powder (Int. Cl. 3).

Class 52—Detergents and Soaps

For Toilet Soap (Int. Cl. 3).

First use June 10, 1968.

SN 301,574. Avon Products, Inc., New York, N.Y. Filed June 28, 1968.

GARLANDIA

Class 51—Cosmetics and Toilet Preparations

For Bath Oil and After Bath Freshener (Int. Cl. 3).

Class 52—Detergents and Soaps

For Toilet Soap (Int. Cl. 3).

First use June 10, 1968.

SECTION 2

The following marks are published in compliance with section 12(a) of the Trademark Act of 1946. Opposition under section 13 may be filed within thirty days of publication. See Rules 2.101 to 2.105.

A fee of twenty-five dollars must accompany the opposition.

[NOTE: For publication of marks presented in a combined application for registration in more than one class, see section 1.]

Class 1—Raw or Partly Prepared Materials

SN 278,180. Anderson, Clayton & Co., Houston, Tex. Filed Aug. 14, 1967.



The drawing is lined for green, but no claim is made to any particular color. Without waiving any common law rights, the exclusive right to use the word "Seed" is disclaimed apart from the mark as shown. Owner of Reg. Nos. 175,472, 742,078, and others.

For Field Seeds for Planting Purposes (Int. Cl. 31).

First use July 20, 1967.

SN 281,701. Gregoire's Flowers, Inc., San Francisco, Calif. Filed Oct. 3, 1967.



No registration rights are claimed for the word "Pak" or the representation of the carnation apart from the mark shown in the drawing, but the applicant waives none of its common law rights in the mark shown in the drawing or any feature thereof.

For Packaged Carnations (Int. Cl. 31).

First use June 29, 1967.

SN 285,912. Conwed Corporation, St. Paul, Minn. Filed Nov. 30, 1967.

TUFFLOTE

For Fibrous Cushioning Material in Roll or Sheet Form (Int. Cl. 22).

First use about Oct. 27, 1967.

SN 291,457. Wagner Bros. Feed Corp., Brooklyn, N.Y. Filed Feb. 19, 1968.

KITTY KEEPER

The word "Kitty" is disclaimed apart from the mark as shown without waiving any common law rights.

For Cat Litter Consisting of Ground Clay (Int. Cl. 31).

First use Feb. 5, 1968.

SN 295,262. Trainer Corporation, Hobbs, N. Mex. Filed Apr. 9, 1968.

WEST O' PECOS

For Wood Chips for Barbecuing (Int. Cl. 1).

First use Mar. 15, 1968.

SN 299,140. MR Plastics and Coatings, Inc., Maryland Heights, Mo. Filed May 27, 1968.

MISTAFLEX

For Resinous Materials Capable of Forming Flexible Solids Upon Heating or Catalyzation (Int. Cl. 1).

First use Apr. 2, 1968.

SN 299,141. MR Plastics and Coatings, Inc., Maryland Heights, Mo. Filed May 27, 1968.

MISTAFOAM

For Resinous Base Material Forming Rigid and Flexible Foam Material Upon Catalyzation (Int. Cl. 1).

First use Mar. 28, 1968.

SN 299,143. MR Plastics and Coatings, Inc., Maryland Heights, Mo. Filed May 27, 1968.

MISTAPOX

For Resinous Material Capable of Forming a Rigid Solid Upon Reaction (Int. Cl. 1).

First use Apr. 22, 1968.

SN 303,118. Ulano Products Company, Inc., Brooklyn, N.Y. Filed July 19, 1968.

WETSHOT

For Plastic Film in Roll or Sheet Form for Use in Making Stencils for Screen Printing (Int. Cl. 16).

First use in or about 1954.

SN 305,196. H. A. Astlett & Company, Incorporated, New York, N.Y. Filed Aug. 15, 1968.

BALAPRENE

For Balata in Its Refined State or Refined Balata Synthesized With Other Additives (Int. Cl. 17).

First use July 2, 1968.

SN 306,072. P. W. Plumly Lumber Corporation, Winchester, Va. Filed Aug. 27, 1968.

Plum Line

For Bark, Bark Fiber, Sawdust, Wood Shavings, Wood Flour and Wood Fiber (Int. Cls. 1 and 22).

First use on or about June 3, 1965.

SN 308,204. Henry Field Seed and Nursery Company, Shenandoah, Iowa. Filed Sept. 25, 1968.



Owner of Reg. No. 754,816.

For Seeds and Nursery Stock, Including Flower and Vegetable Seeds, Shrubs, Trees, Plants, Vines, Bulbs, Roots, Tubers, Scions and Corms (Int. Cl. 31).

First use on or about Mar. 15, 1962.

Class 4—Abrasives and Polishing Materials

SN 279,192. Paul Hicks Company, Midland, Tex. Filed Aug. 28, 1967.

PALICO

For Self-Polishing Wax (Int. Cl. 3).

First use May 14, 1947.

Class 5—Adhesives

SN 264,670. Joma, Inc., Pacific Palisades, Calif. Filed Feb. 14, 1967.



The drawing is lined for the color red. No claim is made to the exclusive use of the notation "Stocking Stik" or to the representation of two stockings apart from the remainder of the mark as shown.

For Adhesive for Holding Stockings on Legs (Int. Cl. 1).

First use on or about Mar. 9, 1966.

SN 264,671. Joma, Inc., Pacific Palisades, Calif. Filed Feb. 14, 1967.



The drawing is lined for the color blue. No claim is made to the exclusive use of the notation "Stocking Stik" or to the representation of two stockings apart from the remainder of the mark as shown.

For Adhesive for Holding Stockings on Legs (Int. Cl. 1).

First use on or about Mar. 9, 1966.

SN 291,071. ICI America Inc., Stamford, Conn. Filed Feb. 14, 1968.

H-7

For Additive To Improve the Adhesion of Polyester to Rubber (Int. Cl. 1).

First use May 4, 1967.

SN 300,930. W. R. Grace & Co., Cambridge, Mass. Filed June 20, 1968.

DARATAK

For Emulsions of Vinyl Polymers for Use in Adhesive Formulations (Int. Cl. 1).

First use Apr. 1, 1963.

Class 6—Chemicals and Chemical Compositions

SN 283,971. Atlas Chemical Industries, Inc., Wilmington, Del. Filed Nov. 2, 1967.

CRYSTALS

For Activated Carbon (Int. Cl. 1).

First use Oct. 19, 1967.

SN 284,412. Charles C. Whitmer, d.b.a. The Interpool Products Company, Cleveland, Ohio. Filed Nov. 8, 1967.

CHEM-GUARD

For Swimming Pool Water Purifier (Int. Cl. 1).

First use Feb. 1, 1967.

SN 288,504. Foseco International Limited, Birmingham, England. Filed Jan. 10, 1968.

ESRATOL

Priority claimed under Sec. 44(d) on British Reg. No. 912,404, dated July 24, 1967.

For Flux Used To Air Electro-Slag Refining in the Metallurgical Industry (Int. Cl. 1).

SN 288,529. R. H. Miller Company, Homer, N.Y. Filed Jan. 10, 1968.

DEFOAMIT

For Antifoaming Agent (Int. Cl. 1).

First use November 1961.

SN 288,792. Cleveland Technical Center, Inc., Cleveland, Ohio. Filed Jan. 15, 1968.

CLEVE-TEK D-24

Owner of Reg. Nos. 787,402, 787,646, and 787,940.

For Corrosion Inhibitors (Int. Cl. 2).

First use Jan. 19, 1967.

SN 292,042. Badische Anilin- & Soda-Fabrik Aktiengesellschaft, d.b.a. BASF. Filed Jan. 10, 1968.

BASOSOFT

Owner of U.S. Reg. Nos. 725,217, 725,219, and 818,121.

For Softening Agents for the Textile and Leather Industries (Int. Cl. 1).

First use June 1, 1961; in commerce June 1, 1961.

SN 292,070. Betz Laboratories, Inc., Trevose, Pa. Filed Feb. 28, 1968.

BETZ

Owner of Reg. Nos. 699,688, 830,385, and others.
For Corrosion Inhibitors, Boiler Compounds, Anti-Scaling Agents, Chelating Agents, Anti-Foam Agents, Anti-Fouling Agents, Combustion Catalysts, Precipitating Agents, pH Control Agents, Neutralizing Amines, Filming Amines, Coagulant Aids, Industrial Biocides, Retention Aids and Dispersants (Int. Cls. 1, 2, and 5).
First use on and before Jan. 1, 1958.

SN 293,226. Calgon Corporation, Pittsburgh, Pa. Filed Mar. 14, 1968.

CL-77

For Liquid Organic Chemical Composition for Inhibiting Deposit Formation in Cooling Water Systems (Int. Cl. 2).
First use Aug. 16, 1966.

SN 295,857. Arthur A. Stilwell Co., New York, N.Y. Filed Apr. 17, 1968.

STILWELL

For Essential Oils and Fragrances Used in the Manufacture of Perfumes and Cosmetics (Int. Cl. 3).
First use 1932.

SN 301,844. Philip A. Hunt Chemical Corporation, Palisades Park, N.J. Filed July 2, 1968.

STAR-FLO

For Compositions for Use in Electorstatic Printing (Int. Cl. 1).
First use Nov. 20, 1967.

SN 301,845. Philip A. Hunt Chemical Corporation, Palisades Park, N.J. Filed July 2, 1968.

WAYCOAT

For Photo Resist Chemicals for Etching and Plating Processes (Int. Cl. 1).
First use June 15, 1966.

SN 301,937. W. R. Grace & Co., New York, N.Y. Filed July 3, 1968.

POLYCARB

For Boiler Water Treatment Compound To Condition Sludge and Control Foam (Int. Cl. 1).
First use June 6, 1968.

SN 303,754. A. H. T. Field & Co. Ltd., Vancouver, British Columbia, Canada. Filed July 29, 1968.

SEPTONIC

Owner of U.S. Reg. No. 548,788.
For Chemical Compound for Use as a Stimulating Activator of Bacteria in Septic Tanks (Int. Cl. 1).
First use June 17, 1946; in commerce Nov. 15, 1949.

SN 306,376. Illinois Bronze Powder & Paint Co., Lake Zurich, Ill. Filed Aug. 30, 1968.



The mark is a design resembling the combination of a fanciful "I" and "B." Owner of Reg. Nos. 821,818, 828,444, and others.
For Rust Inhibitor and Penetrant (Int. Cl. 2).
First use on or about Oct. 1, 1966.

SN 308,751. Standard International Corporation, Andover, Mass. Filed Oct. 3, 1968.

THE GREAT WHITE WAY

For Whitener and Brightener for Use on Fabrics or Textiles (Int. Cl. 3).
First use Sept. 4, 1968.

SN 312,260. Lithoplate, Inc., Covina, Calif. Filed Nov. 15, 1968.

HYDROCON

For Etching Solution for Use on Lithographic Plates (Int. Cl. 1).
First use Apr. 22, 1968.

SN 313,146. American Home Products Corporation, New York, N.Y. Filed Nov. 27, 1968.

KITCHEN SHIELD

Owner of Reg. No. 714,856.
For Air Freshener (Int. Cl. 5).
First use Aug. 16, 1968.

SN 313,236. Holliston Laboratories, Inc., Boston, Mass. Filed Nov. 29, 1968.

VIRU-GARD

For Germicidal and Disinfecting Compositions (Int. Cl. 5).
First use Apr. 4, 1968.

Class 9—Explosives, Firearms, Equipments, and Projectiles

SN 256,625. Blanicke Strojirny, Narodni Podnik, Vlasim, Czechoslovakia. Filed Oct. 18, 1966.

Sellier & Bellot

Owner of Czechoslovakian Reg. No. 156,351, dated July 17, 1965.
For Hunting and Sporting Ammunition for Shotguns and Rifles and Other Firearms; Cartridges for Pistols and Revolvers; Percussion-Caps; and Explosives (Int. Cl. 13).

SN 287,964. Societe Nationale d'Etude et de Construction de Moteurs d'Aviation, S.N.E.C.M.A., Paris, France. Filed Jan. 2, 1968.

AURORE

Priority claimed under Sec. 44(d) on French Reg. No. 729,076, dated July 16, 1967. "Aurore" is a French word meaning "dawn, morn, daybreak."
For Rocket Propelled Ballistic Missile (Int. Cl. 13).

SN 289,099. Kodensha Co., Ltd., Tochigi-shi, Japan. Filed Jan. 18, 1968.

NIKKO

Owner of Japanese Reg. No. 551,187, dated May 30, 1960.
For Shot Guns (Int. Cl. 13).
First use Apr. 1, 1955; in commerce Aug. 27, 1958.

Class 10—Fertilizers

SN 308,206. Henry Field Seed and Nursery Company, Shenandoah, Iowa. Filed Sept. 25, 1968.



Owner of Reg. No. 754,816.
For Plant Foods and Fertilizers (Int. Cl. 1).
First use on or about Mar. 15, 1962.

Class 12—Construction Materials

SN 284,692. MacMillan Bloedel Limited, Vancouver, British Columbia, Canada. Filed Nov. 13, 1967.

SYLVAPLY

Owner of Canadian Reg. No. N.S. 36/9843, dated Jan. 19, 1938.
For Plywood Panels (Int. Cl. 19).

SN 302,961. Polyplastex United, Inc., Union, N.J. Filed July 17, 1968.

PANWOOD

For Acrylic-Surfaced Wood Veneer Sheet Material Sold for Side Panelling and Wall Surface Covering on Aircraft and Other Uses in Industrial Arts (Int. Cl. 19).
First use Jan. 15, 1965.

SN 302,963. Polyplastex United, Inc., Union, N.J. Filed July 17, 1968.

ABSKYN

For Rigid Vinyl-Surfaced Polymeric Sheet Material Sold for Side Panelling, Wall Surface and Bulkhead Covering on Aircraft and Other Uses in Industrial Arts (Int. Cl. 19).
First use Sept. 15, 1961.

Class 13—Hardware and Plumbing and Steam-Fitting Supplies

SN 269,000. Swiss-Tech, Inc., Delavan, Wis. Filed Apr. 12, 1967.

SWISS-TECH

For Screw Machine Products—Namely, Bobbins, Leadscrews, Pinions, Knobs, Plungers, Firing Pins, Core Pins, Needle Valves, Studs, Rivets, Connectors, Eyelets and Terminal Screws (Int. Cl. 6).
First use May 6, 1966.

SN 275,384. Mixet Co., Montbello, Calif. Filed July 5, 1967.
For Mixing and Proportioning Valves Along With Faucets in the Nature of Plumbing Equipment (Int. Cl. 11).

MIXET

First use Mar. 1, 1946.

SN 280,528. Valve Corporation of America, Forest Park, Ill. Filed Sept. 18, 1967.



For Valves and Fittings (Int. Cl. 20).
First use at least as early as April 1956.

SN 280,637. Rome Fastener Corporation, Milford, Conn. Filed Sept. 18, 1967.

SMOOTH BACK

For Covered Washers (Int. Cl. 6).
First use on or about June 1, 1966.

SN 282,833. Spartan International Corp., Maspeth, N.Y. Filed Oct. 18, 1967.

SPARTA-GLAS

For Shower Receptors (Int. Cl. 11).
First use on or about July 13, 1967.

SN 286,653. The Elmco Corporation, Salt Lake City, Utah. Filed Dec. 11, 1967.

FLEXKLEEN

For Fluid Distribution Nozzles for Diffusing Fluids (Int. Cl. 11).
First use Nov. 1, 1967.

SN 291,843. Crane Co., New York, N.Y. Filed Feb. 26, 1968.

EXELLOY

For Trim for Fluid, Semi-Fluid and Gas Handling Valves, Safety and Relief Valves and Air Vent and Water Drain Valves and Parts Therefor (Int. Cl. 6).
First use March 1925.

SN 293,326. Stephen J. Thomas, d.b.a. Arm-Rest-Toilet Seat Company, Bellflower, Calif. Filed Mar. 14, 1968.



No rights are maintained for the structure of the seat per se, but only in the combination of the mark and illustrative matter in connection therewith to support the request for the word mark and design.
For Arm-Rest Toilet Seats (Int. Cl. 11).
First use June 12, 1967.

SN 296,162. Huck Manufacturing Company, Detroit, Mich. Filed Apr. 22, 1968.

ASP

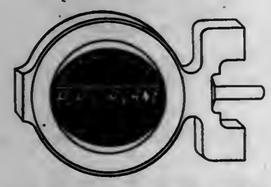
For Fastening Devices—Namely, Threaded Male and Female Members With Interlocking Means (Int. Cl. 6).
First use May 10, 1967.

SN 296,781. American Tube & Controls Incorporated, West Warwick, R.I. Filed Apr. 29, 1968.



For Equipment for Use in Hot Water Heating Systems—Namely, Air Purgers, Air Vents, Tube and Pipe Hangers, Fittings, Connectors, Flexible Connectors, Sliding Expansion Joints, Clips and Straps, Guide Clips, Valves, Fill Valves, Check Valves, Shock Suppressors, Water Hammer Eliminators (Int. Cl. 11).
First use on or about Jan. 18, 1962.

SN 298,767. Valve Assemblers Corp., South Gate, Calif. Filed May 21, 1968.



Applicant makes no claim to either the expression "Butterfly Valves" or the diagrammatic version of a butterfly valve apart from the mark shown in the drawing.
For Butterfly Valves (Int. Cl. 6).
First use Feb. 8, 1968.

SN 299,092. Anchor Post Products, Inc., Baltimore, Md. Filed May 27, 1968.

Anchor Fence

No claim is made to the exclusive use of the word "Fence," except in the association shown. Owner of Reg. Nos. 443,393 and 607,554.
For Metallic Fencing Including Vinyl-Coated Metallic Fencing, Residential Fencing, Fencing for Industrial Plants, Playgrounds, Athletic Fields, Stadiums, Swimming Pools, Right of Way Fencing Along Highways and Highway Guard Rails and Related Components, Metallic Board Fencing, Metallic Fencing With Basket Weave, Metallic Fence Sections, Picket Type Fencing, Fencing for Security and Decorative Purposes; Area Security Systems of Various Types and for Making Boundary Lines, and Guard Rail Systems; Vertical Lift Gates, Fitting Clips for Fences, Universal Angle Couplings for Fencing, Terminal Fittings, Gate Latches, Anchor Shoes for Fencing Posts, Splint Anchor Shoes for Fencing, Gate Hinge Support Clamp Devices, Adjustable Terminal Attachments for Fencing, Barbed Wire Attachment Systems, and Self-Adjusting Swing Gates (Int. Cl. 6).
First use at least as early as June 1, 1934.

SN 309,240. Continental Oil Company, Ponca City, Okla. Filed Oct. 9, 1968.

VYLON

For Plastic Pipe and Fittings (Int. Cl. 17).
First use Mar. 29, 1968.

SN 309,556. Durapipe & Fittings Limited, London, England. Filed Oct. 14, 1968.

DURAPIPE

Owner of British Reg. No. 747,180, dated Oct. 21, 1955.
For Plastic Pipes Tubes and Fittings Therefor—Namely, Couplings, Bushes, Sockets, T's, Elbows, Flanges, Y-Pieces, Unions, Caps, Saddles, Nipples, Adaptors, Backfuts, Sweep Bends, Valves, Connectors (Int. Cl. 17).
First use January 1957; in commerce June 7, 1963.

Class 15—Oils and Greases

SN 286,042. Strouse, Inc., Norristown, Pa. Filed Dec. 1, 1967.

NUAERO

For Penetrating Oil, Gear Lubricant, Drilling Lubricant, Engine Starting Mixture, Lubricant for Plastic Films and Sheets, Especially in Aerosol Spray Containers (Int. Cl. 4).
First use 1954.

SN 294,624. Percy Harms Corporation, Skokie, Ill. Filed Apr. 1, 1968.

TAP-IT

For Tool Dressing Composition for Use in Threading, Lathe Cut-Off, Profile Milling, and the Like (Int. Cl. 4).
First use on or before Sept. 1, 1958.

SN 299,326. Daubert Chemical Company, Oak Brook, Ill. Filed May 29, 1968.

COOL FORM

For Lubricants for Use in Forming, Drawing and Machining of Metals (Int. Cl. 4).
First use May 2, 1968.

SN 305,615. Martin Oil Service, Inc., Blue Island, Ill. Filed Aug. 21, 1968.



For Gasoline, Fuel Oil, Diesel Oil, and Motor Oil (Int. Cl. 4).
First use Apr. 30, 1961.

SN 312,156. Macmillan Ring-Free Oil Co., Inc., New York, N.Y. Filed Nov. 14, 1968.

Ring Free

Owner of Reg. Nos. 302,949, 835,368, and others.
For Automatic Transmission Fluid; Lubricating Oils; Motor Oils (Int. Cls. 1 and 4).
First use May 3, 1962; Nov. 2, 1932, as to "Ring-Free" on lubricating oils.

Class 16—Protective and Decorative Coatings

SN 276,310. Carlisle Chemical Works, Inc., Reading, Ohio. Filed July 19, 1967.

ADVIS

Owner of Reg. No. 675,883.
For Bodying Agents for Thickeners for, and Agents for Controlling the Viscosity of Paints, Enamels, Porch and Deck Paints, Flat Paints, Coatings and Industrial Finishes (Int. Cl. 2).
First use Mar. 2, 1967.

SN 295,652. Kurfees Paint Co., Louisville, Ky. Filed Apr. 16, 1968.

kmf

For Paints, Enamels, Primers, Sealers, and Varnishes (Int. Cl. 2).
First use Oct. 15, 1967.

SN 299,066. The Seagrave Corp., d.b.a. Cheesman-Elliot Company and Four Square Paint Company, Brooklyn, N.Y. Filed May 27, 1968.

Firehold "10"

For Fire-Retardant Paint (Int. Cl. 17).
First use Apr. 2, 1968.

SN 303,365. Thermark Corporation, Hammond, Ind. Filed July 22, 1968.

STAMP-A-MASK

For Polyester Tape Which Is Specially Treated With a Paint Resistant Coating Transferable Under Heat of Pressure to an Area Where No Paint Is To Be Placed (Int. Cl. 2).
First use Mar. 30, 1966.

Class 17—Tobacco Products

SN 296,710. Petersen & Sorensen Cigar- og Tobaksfabriker A/S, Horsens, Jutland, Denmark. SN Apr. 26, 1968.
Priority claimed under Sec. 44(d) on Danish application filed Jan. 24, 1968; Reg. No. 2494–1968, dated Sept. 20, 1968.

SUNDA

For Pipe Tobacco (Int. Cl. 34).

SN 309,502. The American Tobacco Company, New York, N.Y. Filed Oct. 14, 1968.

MINERS' EXTRA

Without waiving any common law rights no claim is made to the word "Extra" apart from the rest of the mark as shown. Owner of Reg. No. 527,153.
For Cigarettes (Int. Cl. 34).
First use Oct. 2, 1968.

SN 310,416. R. J. Reynolds Tobacco Company, Winston-Salem, N.C. Filed Oct. 24, 1968.

MR. APPLE

Applicant disclaims the word "Apple" apart from the mark as a whole.
For Cigarettes (Int. Cl. 34).
First use Sept. 17, 1968.

Class 18—Medicines and Pharmaceutical Preparations

SN 280,000. Abbott Laboratories, North Chicago, Ill. Filed Sept. 11, 1967.

CALPAN FREE-FLO

For Vitamin Preparation for Incorporation Into Feed Mixes (Int. Cl. 31).
First use Jan. 4, 1956.

SN 281,267. Beecham Group Limited, d.b.a. Beecham Research Laboratories, Brentford, Middlesex, England. Filed Sept. 27, 1967.

AMPICILLOX

For Pharmaceutical Preparations and Substances Containing One or More Penicillins (Int. Cl. 5).
First use Mar. 6, 1967; in commerce Mar. 6, 1967.

SN 282,782. The Dow Chemical Company, Midland, Mich. Filed Oct. 18, 1967.

2G/DM

Owner of Reg. No. 830,945.
For Cough Medication (Int. Cl. 5).
First use Sept. 29, 1967; Nov. 29, 1966, as to "2/G."

SN 284,095. Miles Laboratories, Inc., Elkhart, Ind. Filed Nov. 3, 1967.

SUPER ALKA-SELTZER

Applicant disclaims the word "Super" apart from the mark as shown. Owner of Reg. No. 283,831.
For Effervescent Analgesic (Int. Cl. 5).
First use Oct. 31, 1967.

SN 295,826. Knoll Pharmaceutical Company, Orange, N.J. Filed Apr. 17, 1968.

AMPU-TENS

For Transparent Medicament Container With Medicament (Int. Cl. 5).
First use Mar. 27, 1968.

SN 307,805. Farmers Regional Cooperative, Fort Dodge, Iowa. Filed Sept. 20, 1968.



Owner of Reg. No. 600,806, 713,347, and others.
For Medicated Feeds and Feed Supplements for Stock and Poultry and Anthelmintics for Veterinary Use (Int. Cls. 5 and 31).
First use at least as early as Apr. 23, 1968; April 1930 as to "Felco."

Class 19—Vehicles

SN 264,357. York Trailer Company Limited, Corby, England. Filed Feb. 9, 1967.



For Couplings for Trucks, Tractors, Trailers, and Semi-Trailers (Int. Cl. 12).
First use November 1961; in commerce 1965.

SN 283,897. Iso S.p.A. Automotoveicoli, Milan, Italy. Filed Nov. 1, 1967.



Priority claimed under Sec. 44(d) on Italian application filed Aug. 1, 1967; Reg. No. 218,467, dated Jan. 9, 1968. No claim is made to the word "Milano" separate and apart from the mark. Owner of U.S. Reg. Nos. 788,417 and 791,698.
For Motor Vehicles—Namely, Automobiles, Motor Scooters, Three-Wheeled Vehicles, and Trucks, and Replacement Parts Therefor (Int. Cl. 12).
First use October 1965; in commerce February 1966.

SN 286,150. Jaguar Cars Limited, Coventry, England. Filed Dec. 1, 1967.



Owner of British Reg. No. 899,877, dated Sept. 29, 1966.
For Motor Cars (Int. Cl. 12).

SN 289,003. Bombardier Limited, Valcourt, Quebec, Canada. Filed Jan. 17, 1968.

SUPER-ALPINE

For Snowmobiles and Parts Therefor (Int. Cl. 12).
First use Oct. 26, 1966; in commerce Oct. 26, 1966.

SN 289,712. Gordon Payne Limited, Poole, Dorset, England. Filed Jan. 26, 1968.

ROMANY

Owner of British Reg. No. 815,354, dated Jan. 5, 1961.
For Boats; Dinghies; Sailing Dinghies; Parts for the Foregoing; Fittings for the Foregoing—Namely, Masts, Spars, Sails; Landing Devices—Namely, Accommodation Ladders and Gangways; Harpoon Stations, Flying Bridges, and Fitted Awnings and Hoods (Int. Cl. 12).

SN 290,270. Evans Products Company, Plymouth, Mich. Filed Feb. 5, 1968.

AIR PAK

For Movable Partitions for Use in Segregating and Protecting Cargo in Cargo Carrying Vehicles (Int. Cl. 12).
First use Jan. 4, 1968.

SN 291,792. Universal Oil Products Company, d.b.a. UOP Bostrom Division, Des Plaines, Ill. Filed Feb. 23, 1968.

BOSTROM

Owner of Reg. Nos. 638,335 and 764,580.
For Seats and Parts Thereof for Automotive Land Vehicles (Int. Cl. 12).
First use as early as Dec. 15, 1945.

SN 292,072. Herbert E. Bolton, Jr., El Monte, Calif. Filed Feb. 28, 1968.



For Campers Designed To Be Mounted Upon Pick-Up Trucks (Int. Cl. 12).
First use Sept. 17, 1967.

SN 292,522. The Weatherhead Company, Cleveland, Ohio. Filed Mar. 5, 1968.



Owner of Reg. Nos. 832,388, 837,465, and others.
For Parts for Vehicles—Namely, Automobiles, Aircraft, Trucks, Marine Vessels, and Off-The-Road Vehicles, Namely, Hand Operated Controls; Miscellaneous Parts for Brake, Fuel, Air, Hydraulic, and Other Fluid Systems; Master Cylinders; Wheel Cylinders; Hydraulic Cylinders; and Fluid Pressure Actuated Switches (Int. Cl. 12).
First use at least as early as December 1967.

SN 292,562. Fenton Manufacturing Corp., Gardena, Calif. Filed Mar. 6, 1968.

HUSTLER

For Automobile Wheels (Int. Cl. 12).
First use on or about Nov. 1, 1965.

SN 295,185. Southern Fiber Glass Products, Inc., Sanford, Fla. Filed Apr. 8, 1968.

VANTAGE

For Boats (Int. Cl. 12).
First use Sept. 20, 1967.

SN 296,632. Black Rock Development Corporation, Walnut Ridge, Ark. Filed Apr. 26, 1968.



The words "Development Corp." and "Black Rock, Ark. TR 8-6231" are disclaimed apart from the mark as a whole. The drawing is lined for gold or yellow color.
For Aluminum Attachment Covers for Pick-Up Trucks and Small Travel Trailers (Int. Cl. 12).
First use Aug. 1, 1967.

SN 297,952. Robert A. Baughman, Indianapolis, Ind. Filed May 13, 1968.

COMP. TECH.

For Motorcycle Frames, Motorcycle Handlebars and Oil and Other Liquid Tanks for Use on Motorcycles and Racing Cars (Int. Cl. 12).
First use at least as early as Feb. 24, 1968.

SN 304,519. Traveleze Trailer Co., Inc., Sun Valley, Calif. Filed Aug. 6, 1968.

BREEZE

For Trailers—Namely, House Trailers, Campers, and Mobile Homes (Int. Cl. 12).
First use March 1967.

SN 312,438. DMH Corporation, St. Louis, Mich. Filed Nov. 18, 1968.

REVERE

For Mobile Homes and House Trailers (Int. Cl. 12).
First use May 27, 1968.

SN 312,603. Raleigh Industries of America, Inc., Boston, Mass. Filed Nov. 19, 1968.

CHOPPER

For Motorcycles, Mopeds and Bicycles for Adults (Int. Cl. 12).
First use Oct. 9, 1968.

SN 313,327. J. B. E. Olson Corporation, Garden City, N.Y. Filed Nov. 29, 1968.

KURBMASTER

For Aluminum Truck Bodies (Int. Cl. 12).
First use Apr. 29, 1968.

Class 21—Electrical Apparatus, Machines, and Supplies

SN 256,665. Hitachi Maxell, Ltd., Ibaraki-shi, Osaka, Japan. Filed Oct. 18, 1966.

vim pac

For Dry Batteries (Int. Cl. 9).
First use June 10, 1966; in commerce Aug. 5, 1966.

SN 266,109. T-Vion, Inc., Oklahoma City, Okla. Filed Mar. 6, 1967.

T-VION

For Televisions and Radios (Int. Cl. 9).
First use Apr. 24, 1964.

SN 271,719. Paramount Industries, Inc., Flint, Mich. Filed May 17, 1967.

CRAFT LITE

Applicant disclaims the word "Lite" apart from the mark as shown.
For Commercial and Industrial Fluorescent Lighting Fixtures (Int. Cl. 11).
First use Nov. 14, 1949.
Subj. to Intf. with SN 268,728 and SN 298,330.

SN 284,185. Fidelitone, Inc., Chicago, Ill. Filed Nov. 6, 1967.

SYNCHRO-TWIN

For Electric Flashing Signal and Warning Lights (Int. Cl. 9).
First use Sept. 19, 1967.

SN 284,453. Crown Lamp Co., Greensburg, Pa. Filed Nov. 9, 1967.



The mark consists of the letters "CLC."
For Electric Lamps (Int. Cl. 11).
First use March 1967.

SN 284,510. Dick Elza Stearns, Shreveport, La. Filed Nov. 9, 1967.

SILICONFIRE

For Unitized Electrical Ignition Systems Such as Employed in Internal Combustion Engines and Unitized Subassemblies of Such Systems (Int. Cl. 9).
First use Mar. 26, 1967.

SN 285,653. Dr. Ing. Rudolf Hell, Kiel-Dietrichsdorf, Germany. Filed Nov. 27, 1967.

CHROMAGRAPH

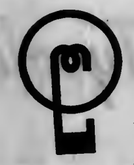
Owner of German Reg. No. 666,282, dated Nov. 10, 1954.
For Color Scanner for Producing Stereotype Plates and Corrected Color Separations (Int. Cl. 9).

SN 286,511. Cory Corporation, Chicago, Ill. Filed Dec. 8, 1967.

"Pour 'n Serve"

For Electrically Heated Coffee Brewing Apparatus (Int. Cl. 11).
First use July 15, 1967.

SN 287,312. Oshino Electric Lamp Works, Ltd., Shinagawa-ku, Tokyo, Japan. Filed Dec. 20, 1967.



For Miniature Electric Lamps (Int. Cl. 11).
First use Feb. 1, 1967; in commerce Apr. 1, 1967.

SN 289,206. Private Tele-Communications, Inc., Chicago, Ill. Filed Jan. 19, 1968.

Tele-Command

Owner of Reg. Nos. 637,981 and 806,656.
For Electronic Control Panel for Paging, Public Address and Music Systems (Int. Cl. 9).
First use June 12, 1967.

SN 289,627. Simplex Wire and Cable Company, Cambridge, Mass. Filed Jan. 25, 1968.

CERAMATEMP

For Ceramic Insulated Magnet Wire (Int. Cl. 9).
First use Nov. 20, 1967.
Subj. to Intf. with SN 290,824.

SN 289,830. Private Tele-Communications, Inc., Chicago, Ill. Filed Jan. 29, 1968.

Tele-Reply

Owner of Reg. Nos. 637,981 and 806,656.
For Component of Intercommunication, Paging, and Public Address Systems (Int. Cl. 9).
First use May 31, 1956.

SN 290,824. Fansteel Inc., North Chicago, Ill., assignee of Ceramics International Corp., Mahwah, N.J. Filed Feb. 12, 1968.

CERAMETERM

For Ceramic to Metal Seals Used To Insulate Electrical Connections and in Which the Ceramic Is Metallized (Int. Cl. 17).
First use on or about Jan. 12, 1968.
Subj. to Intf. with SN 289,627.

SN 293,151. Klipsch and Associates, Inc., Hope, Ark. Filed Mar. 13, 1968.

KLIPSCH model H

No claim being made to the exclusive right to the use of the word "model" separate and apart from the mark shown. Owner of Reg. No. 591,908.
For Loudspeakers (Int. Cl. 9).
First use 1958.

SN 293,769. Sybron Corporation, Rochester, N.Y., by merger from Taylor Instrument Companies, Rochester, N.Y. Filed Mar. 20, 1968.

Tycolite

For Battery Operated Light Attachment for Aneroid Manometer Dials (Int. Cl. 11).
First use December 1967.

SN 295,003. The Alliance Manufacturing Company, Inc., Alliance, Ohio. Filed Apr. 5, 1968.

GENIE

Owner of Reg. Nos. 436,072, 841,966, 859,481, and others.
For Radio Signal Transmitters; Radio Signal Receivers; Switches; Relays; Lights; Controls Responsive to Radio Signals for Motors, Switches, and Relays; Terminal Strips; Terminal Blocks; Transformers; Resistors; Capacitors; Inductors; Antennas; Vacuum Tubes; Wiring Harnesses and Light Sockets (Int. Cl. 9).
First use June 25, 1954.

SN 295,671. Radiation Systems, Inc., McLean, Va. Filed Apr. 15, 1968.



For Antennas, Antenna Components, Waveguides, and Other Microwave Components as Follows: 3 db Couplers, Telemetry Band Couplers, Phase Shifters, Power Dividers, Frequency Multipliers, Comparators, Receivers, Attenuators (Int. Cl. 9).
First use Jan. 1, 1964.

SN 295,672. Radiation Systems, Inc., McLean, Va. Filed Apr. 15, 1968.

RSi 

For Antennas, Antenna Components, Waveguides, and Other Microwave Components as Follows: 3 db Couplers, Telemetry Band Couplers, Phase Shifters, Power Dividers, Frequency Multipliers, Comparators, Receivers, Attenuators (Int. Cl. 9).
First use Jan. 1, 1964.

SN 295,833. Supermarkets General Corporation, Cranford, N.J., by change of name and assignment from Louket Markets, Inc., Jersey City, N.J. Filed Apr. 17, 1968.

PATHMARK

Owner of Reg. Nos. 854,358, 856,671, and others.
For Electrical Apparatus, Machines and Supplies—Namely, Extension Cords (Int. Cl. 9).
First use Jan. 9, 1968.

SN 296,598. Tandy Corporation, d.b.a. Radio Shack, Boston, Mass. Filed Apr. 25, 1968.

PERFBOX

For Chassis Boxes for Electrical Apparatus and Components (Int. Cl. 9).
First use at least as early as Mar. 31, 1967.

SN 298,232. Little Giant Corporation, d.b.a. Little Giant Pump Company and Little Giant Pump Co., Oklahoma City, Okla. Filed May 15, 1968.

LITTLE GIANT STARBRITE

For Low Voltage, Outdoor, Decorative Electric Lighting Systems and Components Thereof Sold Separately—Namely, Light Units and Transformer Cable Units (Int. Cl. 11).
First use May 1, 1968.

SN 300,366. Nu-Art Lighting and Manufacturing Co., Salt Lake City, Utah. Filed June 13, 1968.

VILLAGER

For Commercial Outdoor Electric Lighting Fixtures (Int. Cl. 11).
First use on or about July 10, 1967.

SN 305,494. Sage Laboratories, Inc., Natick, Mass. Filed Aug. 19, 1968.

sage

For Microwave Components—Namely, Coaxial Attenuators, Terminations, Directional Couplers, Video Detectors, Filters and Multiplexers, Hybrids, Magic Tees, Mixers, Rotary Joints, Phase Shifters, Switches and the Like (Int. Cl. 9).
First use at least as early as February 1968.

SN 306,445. Standard Kollsman Industries Inc., Melrose Park, Ill. Filed Sept. 3, 1968.

sk

Owner of Reg. No. 833,246.
For Signal Channel Selectors for Very High Frequencies and Ultra High Frequencies Particularly of the Type Adapted for Use in Television; Converters for the Ultra High Frequency Bands; and Converters for Community Antenna Systems (Int. Cl. 9).
First use May 19, 1965.

SN 307,804. Fairchild Hiller Corporation, Germantown, Md. Filed Sept. 20, 1968.

FAIRCHILD HILLER

Owner of Reg. Nos. 559,860, 761,868, and others.
For Communications Antennas and Parts Therefor for Use in Other Than Radar and Television Mapping Systems and Industrial Television Systems (Int. Cl. 9).
First use November 1964.

Class 22—Games, Toys, and Sporting Goods

SN 276,473. The Don Rich Co., Redlands, Calif. Filed Aug. 23, 1967.

ZEKE'S

For Processed Sports Fishing Bait (Int. Cl. 28).
First use at least as early as Mar. 22, 1966.

SN 288,658. N.V. Nemas, Bovenkarspel, Netherlands. Filed Dec. 12, 1967.

RICK-TICK TENNIS

Without waiving any common law rights, applicant disclaims any exclusive rights in the term "Tennis" apart from the mark as shown.
For Table Tennis Sets and Component Parts Therefor (Int. Cl. 28).
First use Aug. 25, 1967; in commerce Nov. 15, 1967.

SN 291,352. Chandos Industries, Inc., Chicago, Ill. Filed Feb. 19, 1968.

CAR-GO

For Amusement Travel Kit Comprising Card and Board Games and a Mystery Toy Prize (Int. Cl. 28).
First use Aug. 4, 1967.

SN 291,353. Chandos Industries, Inc., Chicago, Ill. Filed Feb. 19, 1968.

CAR-GO

For Amusement Travel Kit Comprising Card and Board Games and a Mystery Toy Prize (Int. Cl. 28).
First use Aug. 4, 1967.

SN 291,824. Artco, Inc., Addison, Ill. Filed Feb. 26, 1968.

ART-GIZMO

For Pendulum Operated Drawing Instrument for Creating Miscellaneous Geometric Designs and Used Primarily for Amusement Purposes (Int. Cl. 28).
First use Dec. 16, 1967.

SN 293,821. Gentex Corporation, New York, N.Y. Filed Mar. 21, 1968.

SEAL

For Life Saving Buoyant Vests (Int. Cl. 9).
First use Jan. 31, 1966.

SN 297,555. General Recreation Industries, Inc., Minneapolis, Minn. Filed May 7, 1968.

Slumberella

For Sleeping Bags for Outdoor or Campers' or Similar Recreational Use (Int. Cl. 20).
First use Apr. 11, 1968.

SN 298,206. Pierre Delfausse, New York, N.Y. Filed May 15, 1968.

Mr. Hockey

Applicant disclaims the term "Hockey" apart from the mark.
For Equipment Used To Play a Board Type Hockey Game (Int. Cl. 28).
First use February 1968.

SN 298,850. Northwestern Golf Company, Chicago, Ill. Filed May 22, 1968.

SIGNATURE MODEL

Applicant disclaims rights to the word "Model" except in the mark as shown.
For Golf Clubs (Int. Cl. 28).
First use Jan. 1, 1956.

Class 23—Cutlery, Machinery, and Tools, and Parts Thereof

SN 246,826. UTD Corporation (Delaware corporation), Beverly Hills, Calif., by assignment and change of name from UTD Corporation (Massachusetts corporation), Athol, Mass. Filed May 27, 1966.



The drawing is lined for red.
For Metal Cutting Tools—Namely, Taps, Drills, Reamers, End Mills, Milling Cutters, Gear Cutters, Hobs, Carbide Tools, Inserted Blade Cutters, Dies, and Screw Plates (Int. Cls. 7 and 8).
First use January 1959.

SN 261,877. Processed Steel Company, Crystal Lake, Ill. Filed Jan. 3, 1967.



Owner of Reg. No. 703,198.
For Cutting Edges, Scraper Blades and Dozer Blades as Attachments for Tractors and Similar Vehicles (Int. Cl. 7).
First use Nov. 22, 1966.

SN 261,878. Processed Steel Company, Crystal Lake, Ill. Filed Jan. 3, 1967.



DURA STEEL

Owner of Reg. No. 703,198.
For Cutting Edges, Scraper Blades and Dozer Blades as Attachments for Tractors and Similar Vehicles (Int. Cl. 7).
First use Nov. 22, 1966.

SN 261,879. Processed Steel Company, Crystal Lake, Ill. Filed Jan. 3, 1967.



DURALLOY

Owner of Reg. No. 703,198.
For Cutting Edges, Scraper Blades and Dozer Blades as Attachments for Tractors and Similar Vehicles (Int. Cl. 7).
First use Nov. 22, 1966.

SN 266,470. Harris-Intertype Corporation, Cleveland, Ohio, by merger from T. W. & C. B. Sheridan Co., d.b.a. The Sheridan Company, New York, N.Y. Filed Mar. 10, 1967.

SHERIDAN

For Machinery—Namely, Printed Matter Binding Machinery Including Binder and Binding Combinations, Gatherers, Stitchers, Coverers and Coverer Combinations, Inserters, Trimmers, Rounder-Backer-Backliners, Casemakers, Embossers; Presses, Namely, Bookbinder, Cutting and Creasing, Die Continuous Feed Sliding Plate and Rod Leather; Newspaper Stuffing Machines; Mailing Machines; Wrapping Machines (Int. Cl. 7).
First use at least as early as 1891.

SN 267,646. Dean Moon, d.b.a. Moon Equipment Company, Santa Fe Springs, Calif. Filed Mar. 27, 1967.



The word "Equipped" is disclaimed apart from the mark as a whole.
For Parts for Automobiles and Boats—Namely, Fuel Tank Cap and Pressure Pump Assemblies; Carburetor Air Scoops; Breathers; Engine Covers; Gear Shift Mounts; Cams; Carburetor Linkages; Fly Wheel Scatter Shields; Intake Manifolds and Supercharger Kits (Int. Cl. 12).
First use at least as early as 1951.

SN 273,324. Standard Brands Incorporated, d.b.a. Clinton Corn Processing Company, New York, N.Y. Filed June 7, 1967.

CLINVERTOR

For Mixing Machine for Processing Starch (Int. Cl. 7).
First use May 23, 1967.

SN 273,511. Mallinckrodt Chemical Works, St. Louis, Mo. Filed June 9, 1967.

SPRAY-HAWK

For Hand Operated Mobile Turf Sprayers (Int. Cl. 7).
First use May 3, 1967.

SN 274,816. Maschinenfabrik Froriep G.m.b.H., Rheydt, Rhineland, Germany. Filed June 26, 1967.

SPHEROMILL

For Turning Lathes, Vertical Lathes, Vertical Boring Mills, Milling Machines, Shaping Machines, Boring Machines, Horizontal Boring and Milling Machines, Machining Centers, Especially With Numerical Control for Machining Three-Dimensional Surfaces (Int. Cl. 7).
First use May 31, 1966; in commerce July 1966.

SN 278,989. Pedershaab Maskinefabrik A/S, Brondersiev, Denmark. Filed Aug. 24, 1967.

VIPRES

Owner of Danish Reg. No. 3230/66, dated Dec. 9, 1966.
For Machines for Forming Pipes, Bricks, Blocks and Like Articles of Concrete, Cement, Clay and Other Such Materials (Int. Cl. 7).

SN 279,013. Top-Line Corporation, Janesville, Wis. Filed Aug. 24, 1967.



Applicant disclaims the words "Corporation Janesville, Wis." The drawing is lined for the color red.
For Milk Transfer Systems, and Wash Tanks Which Are Provided With a Mechanism for the Washing of Containers (Int. Cl. 7).
First use Feb. 2, 1962.

SN 279,464. Dowty Hydraulic Units Limited, Cheltenham, England. Filed Aug. 31, 1967.

TAURODRIVE

Owner of British Reg. No. 880,645, dated June 11, 1965, and U.S. Reg. No. 780,963.
For Hydrostatic Power Transmissions Sold Only to Manufacturers (Int. Cl. 7).

SN 280,004. Bail Machinery Company, Chicago, Ill. Filed Sept. 11, 1967.

BERGMANS

For Chucks for Lathes (Int. Cl. 7).
First use Apr. 10, 1958.

SN 280,403. Didsbury Engineering Company Limited, Manchester, England. Filed Sept. 15, 1967.

MINILIFT

Owner of British Reg. No. 625,297, dated Sept. 16, 1943.
For Lifting and Lowering Tackle (Int. Cl. 7).

SN 282,448. Olin N. Ennis, d.b.a. Ennis Manufacturing, Clio, Mich. Filed Oct. 13, 1967.



The mark comprises the stylized letters "NIS." The drawing is lined for the colors blue and yellow.
For Rebuilt Water Pumps (Int. Cl. 7).
First use Feb. 1, 1967.

SN 282,499. E. J. Ward Limited, Scarborough, Ontario, Canada. Filed Oct. 13, 1967.

ASTROCLEAN

For Washing Machines for Cleaning Metal Parts Including Motor Blocks and Transmissions for the Automotive Trade (Int. Cl. 7).
First use February 1964.

SN 283,932. Michel A. Saad, d.b.a. Gyrojet Co., Santa Clara, Calif. Filed Nov. 1, 1967.

Gyro Jet

For Automatic High Pressure Fluid Tank Cleaning Machines (Int. Cl. 7).
First use Dec. 1, 1966.

SN 284,022. Poloron Products of Indiana, Inc., Michigan City, Ind., assignee of Levitt Manufacturing Corp., Michigan City, Ind. Filed Nov. 2, 1967.

FLEETWOOD

For Riding Lawn Mowers and Motor Driven Garden Tractors (Int. Cls. 7 and 12).
First use July 25, 1967.

SN 284,045. The Warren Rupp Company, Mansfield, Ohio. Filed Nov. 2, 1967.

DYNAflex

For Fluid Operated Diaphragm Pumps and Parts Thereof (Int. Cl. 7).
First use on or about Sept. 12, 1967.

SN 284,500. Pratt Manufacturing Corp., Milwaukee, Wis. Filed Nov. 9, 1967.

ORBITSEAL

For Pouch Packaging Machine for Wrapping Items in Heat Sealable Material (Int. Cl. 7).
First use Sept. 18, 1967.

SN 285,712. Badger Northland Inc., Kaukauna, Wis. Filed Nov. 28, 1967.



Owner of Reg. No. 655,777.
For Mechanical Conveyor Systems for Distributing Livestock Feed; Mobile Forage Boxes Containing Power Driven Unloading Mechanism for Distributing Cut Forage; Silage Distributors for Silos; Forage Blowers; Liquid Manure Pumps and Liquid Manure Spreaders (Int. Cl. 7).
First use Oct. 12, 1956.

SN 289,297. Grob & Co. Limited, Horgen, Zurich, Switzerland. Filed Jan. 22, 1968.

GROBEXTRA INTERMIX

Priority claimed under Sec. 44(d) on Swiss Reg. No. 226,645, dated July 25, 1967. Owner of U.S. Reg. No. 831,403.
For Loom Components—Namely, Weaving Heddles, Heddle Frames, Weaving Harnesses as Well as Drop Wires, Electric Warp Stop Motions (Int. Cl. 7).

SN 289,298. Grob & Co. Limited, Horgen, Zurich, Switzerland. Filed Jan. 22, 1968.

GROBEXTRA SOLOMIX

Priority claimed under Sec. 44(d) on Swiss Reg. No. 226,644, dated July 25, 1967. Owner of U.S. Reg. No. 831,403.
For Loom Components—Namely, Weaving Heddles, Heddle Frames, Weaving Harnesses as Well as Drop Wires, Electric Warp Stop Motions (Int. Cl. 7).

SN 289,299. Grob & Co. Limited, Horgen, Zurich, Switzerland. Filed Jan. 22, 1968.

GROBEXTRA DUOMIX

Priority claimed under Sec. 44(d) on Swiss Reg. No. 226,646, dated July 25, 1967. Owner of U.S. Reg. No. 831,403.
For Loom Components—Namely, Weaving Heddles, Heddle Frames, Weaving Harnesses as Well as Drop Wires, Electric Warp Stop Motions (Int. Cl. 7).

SN 289,583. Gary Industries, Inc., d.b.a. Acco Products, Chicago, Ill. Filed Jan. 25, 1968.

ACCO

Owner of Reg. No. 735,630 and others.
For Desk-Type Stapling Machines (Int. Cl. 16).
First use Sept. 20, 1967.

SN 290,329. The Reliance Electric and Engineering Company, d.b.a. Reeves Pulley Division, Cleveland, Ohio. Filed Feb. 5, 1968.

VARI-CYCLE

Owner of Reg. No. 739,300.
For Power Unit Consisting of an Expansible V-Pulley Type of Speed Varying Device and an Output Device Adapted To Be Driven at Variable Speeds, With Requisite Adapter and Coupling Parts (Int. Cl. 7).
First use November 1962.

SN 291,394. The Hobart Manufacturing Company, Troy, Ohio. Filed Feb. 19, 1968.

KitchenAid.

Owner of Reg. Nos. 133,143, 841,987, and others.
For Multipurpose Kitchen Tool Comprising a Scissors, a Bottle Cap Opener, a Friction Cap Opener, and a Screwdriver (Int. Cl. 8).
First use Feb. 8, 1968.

SN 291,449. United Silver and Cutlery Company, Los Angeles, Calif. Filed Feb. 19, 1968.

CORDOVA

For Stainless Steel Flatware—Namely, Knives, Forks, Spoons, Serving Pieces, and the Like (Int. Cl. 8).
First use Nov. 8, 1967.

SN 292,805. National-Standard Company, Niles, Mich. Filed Mar. 8, 1968.

QUALIMATIC

For Tire Tread Machinery Including Apparatus Used in Applying Tread to Tire Carcasses, Tire Curing Machines, Tire Baggers, and Tire Buffers (Int. Cl. 7).
First use May 19, 1967.

SN 293,094. All Mechanical Equipment Company, Chicago, Ill. Filed Mar. 13, 1968.



For Pneumatic and Hydraulic Presses (Int. Cl. 7).
First use Dec. 29, 1967.

SN 293,791. Astron Corporation, Houston, Tex. Filed Mar. 21, 1968.

RAILBIRD

For Power Mowers for Mowing Under Fences and the Like (Int. Cl. 7).
First use at least as early as Dec. 21, 1967.

SN 296,391. Charles L. Anderson, d.b.a. Hotsy Company, Jackson, Wyoming. Filed Apr. 24, 1968.

HOTSY

For Apparatus for Generating Steam (Int. Cl. 7).
First use Dec. 28, 1967.

SN 297,200. Manco Mfg. Co., Bradley, Ill. Filed May 2, 1968.

FABRILINE

For Hydraulically Actuated Punching and Shearing Apparatus and Parts Therefor (Int. Cl. 7).
First use Nov. 28, 1967.

SN 297,345. Raygo, Inc., Minneapolis, Minn. Filed May 6, 1968.

RayGo RHINO

Owner of Reg. No. 823,629.
For Rubber Tired Vehicles for Use in Soil Compacting (Int. Cl. 7).
First use January 1967.

SN 301,962. Pivot Punch Corporation, North Tonawanda, N.Y. Filed July 3, 1968.

UR-A-FLEX

For Strippers for Die Punch Tools (Int. Cl. 7).
First use on or about June 4, 1968.

SN 302,142. Thiokol Chemical Corporation, Bristol, Pa. Filed July 5, 1968.

THIOVEC

For Multi-Facet Hydraulic Articulating Bearing for an Omniaxial Nozzle for Solid Propellant Rocket Motors (Int. Cl. 7).
First use on or about Oct. 31, 1967.

SN 302,675. Doughboy Industries, Inc., New Richmond, Wis. Filed July 15, 1968.

MINITIE

For Machine for Securing a Package in Closed Condition by Wrapping the Package With a Plastic Covered Wire Tape and Twisting the Tape (Int. Cl. 7).
First use Nov. 10, 1967.

SN 309,248. General Electric Company, Schenectady, N.Y. Filed Oct. 9, 1968.

GENERAL ELECTRIC

Owner of Reg. Nos. 274,912, 740,559, and others.
For Turbines; Locomotives; Engines and Jet Propulsion Equipment for Aircraft, Land Transportation, Marine and Space Vehicles and Parts for All the Aforesaid; Drills and Drilling Equipment, Accessories and Parts Therefor; Industrial Pumps; Gears and Speed Drives; Hand Tools, Power Tools, Machine Tools, Accessories and Parts Thereof (Int. Cl. 7).
First use at least as early as 1933.

Class 25—Locks and Safes

SN 307,366. Viro Innocenti S.p.A., Zola Predosa, Bologna, Italy. Filed Sept. 13, 1968.



The term "Italy" and representation of the goods is disclaimed apart from the mark as shown. Owner of Italian Reg. No. 228,692, dated July 3, 1968; and U.S. Reg. No. 843,669.
For Padlocks, Bolts, Keys, Locks, Electrically Operated Locks and Handles (Int. Cl. 6).

Class 26—Measuring and Scientific Appliances

SN 274,590. Cryogenic Associates, Inc., Indianapolis, Ind. Filed June 23, 1967.



The lining is included as part of the mark and does not indicate color.
For Cryogenic Appliances and Parts Thereof and Instruments and Accessories for Use Therewith—Namely, Cryogenic Dewars, Cryostats, Liquid Level Controllers for Cryogenic Fluids, Cryogenic Fluid Temperature Sensing, Measuring and Flow Controlling Instruments for Sensing the Temperature of and Controlling the Flow of Cryogenic Fluids, and Insulated Cryogenic Conduits and Plumbing Fixtures (Int. Cl. 9).
First use on or about Sept. 1, 1966.

SN 275,828. Bogen Photo Corp., Englewood, N.J. Filed July 12, 1967.

ARCASwiss

Applicant disclaims apart from the mark as shown the word 'Swiss," however, applicant does not waive any common law rights which it might have in the disclaimed word, or in the mark taken in its entirety.
For Cameras (Int. Cl. 9).
First use May 31, 1967.

SN 281,569. Fishmaster Products, Inc., Tulsa, Okla. Filed Oct. 2, 1967.

FISHTHOMETER

For Fisherman's Water Temperature Indicator (Int. Cl. 9).
First use Aug. 28, 1967.

SN 281,856. Albert Schacht KG, Ulm/Donau, Germany. Filed Oct. 5, 1967.

TRAVEGAR

Owner of German Reg. No. 668,324, dated Dec. 16, 1954.
For Photo, Projection and Enlarging Lenses, Sun Shields and Filters (Int. Cl. 9).
First use Aug. 11, 1954; in commerce Aug. 11, 1954.

SN 281,857. Albert Schacht KG, Ulm/Donau, Germany. Filed Oct. 5, 1967.

TRAVEMAT

Owner of German Reg. No. 827,706, dated Dec. 22, 1966.
For Photo, Projection and Enlarging Lenses, Sun Shields and Filters, Prism Viewfinders With Light Meters and Extension Tubes (Int. Cl. 9).
First use Dec. 23, 1964; in commerce Oct. 1, 1967.

SN 284,315. Melabs, Palo Alto, Calif. Filed Nov. 7, 1967.

ISODUCTOR

For Passive Nonreciprocal Circuit Elements—Namely, Circulators (Int. Cl. 9).
First use Nov. 10, 1965.

SN 285,147. Presearch Incorporated, Silver Spring, Md. Filed Nov. 17, 1967.

PRESEARCH

For Acoustic Ranging Equipment (Int. Cl. 9).
First use Nov. 7, 1967.

SN 286,559. Societe des Lunetiers, Paris (Seine), France. Filed Dec. 8, 1967.

POSIMATIC

Priority claimed under Sec. 44(d) on French Reg. No. 723,951, dated June 9, 1967.
For Apparatus for Correctly Positioning the Lenses of Ophthalmic Spectacles Preparatory to Grinding and Mounting (Int. Cl. 9).

SN 287,764. Ray-Tek, Mountain View, Calif. Filed Dec. 27, 1967.



For Temperature Measuring Devices—Namely, Thermometers (Int. Cl. 9).
First use Oct. 1, 1965.

SN 288,699. Impulsphysik G.m.b.H., Hamburg-Rissen, Germany. Filed Jan. 12, 1968.

CEILOSKOP

Owner of German Reg. No. 792,483, dated Aug. 3, 1964.
For Cloud Height Measuring Device (Int. Cl. 9).

SN 290,548. Swan Optical Corp., Long Island City, N.Y. Filed Feb. 7, 1968.



For Optical Products—Namely, Eye Glass Frames, Temples, Hinges, and Lenses (Int. Cl. 9).
First use Nov. 15, 1963.

SN 290,979. Justin J. Shapiro, d.b.a. Labindustries, Berkeley, Calif. Filed Feb. 13, 1968.

LAMBDA DIAL

The words "Lambda" and "Dial" are disclaimed apart from the mark as presented.
For Micrometer Plunger Assemblies for Burettes (Int. Cl. 9).
First use Oct. 12, 1967.

SN 292,236. Perkin-Elmer Corporation, Norwalk, Conn. Filed Mar. 1, 1968.

DELMAR

For Scientific Glassware and Associated Parts for Laboratory Use in Measuring Testing and Research Work (Int. Cl. 9).
First use in 1954.

SN 295,020. ESB Incorporated, Philadelphia, Pa. Filed Apr. 5, 1968.

CHIP GUARD

The word "Guard" is disclaimed apart from the mark as a whole.
For Industrial Goggles (Int. Cl. 9).
First use Mar. 8, 1968.

SN 300,481. The Rank Organisation Limited, London, England. Filed June 14, 1968.

FIBROX

Owner of British Reg. No. 906,943, dated Mar. 17, 1967.
For Light Guides Comprising Glass or Plastic Fibers Enclosed in a Sheath of Glass or Plastic Material, and Scientific Instruments Incorporating Such Light Guides (Int. Cl. 9).
First use Apr. 1, 1967; in commerce Sept. 28, 1967.

SN 302,752. OMSI/Kit, Inc., Portland, Oreg. Filed July 15, 1968.



For Scientific Educational Laboratory Kits for the Study of Animal, Vegetable and Mineral Matter Comprising Materials Such as Microscope Slides, Filter Sheets, Tweezers and Related Paraphernalia (Int. Cl. 9).
First use Apr. 1, 1968.

SN 308,948. Diamond Shamrock Corporation, d.b.a. Diamond Shamrock Chemical Company, Cleveland, Ohio. Filed Oct. 7, 1968.

CLOMETER

For Liquid Level Indicator—Namely, a Pressure-Differential Gauge for Use in Measuring the Amount of Chlorine Remaining in a Storage or Shipping Container (Int. Cl. 9).
First use Jan. 19, 1968.

Class 27—Horological Instruments

SN 299,730. Connecticut Clock Company, Bristol, Conn. Filed June 5, 1968.



The representation of a clock is disclaimed apart from the mark as shown, applicant reserving to itself all common law or other rights.
For Clocks (Int. Cl. 14).
First use on or about Jan. 7, 1968.

Class 28—Jewelry and Precious-Metal Ware

SN 294,967. Orfevrerie Christofle, Paris, France. Filed Apr. 4, 1968.

CARDEILHAC

Owner of French Reg. No. 536,490, dated July 22, 1965 (Paris); Natl. Inst. No. 259,950.
For Jewelry, Holloware, and Tableware Made Wholly or in Part of Precious Metals (Int. Cls. 8 and 14).

Class 29—Brooms, Brushes, and Dusters

SN 281,198. Hutchings & Harding Limited, Sawston, Cambridge, England. Filed Sept. 26, 1967.

VELTEX

For Chamois Leather for Cleaning and Dusting (Int. Cl. 21).
First use 1952; in commerce 1960.

Class 31—Filters and Refrigerators

SN 277,546. Elgin Softener, Inc., Elgin, Ill. Filed Aug. 4, 1967.

FER-OX

For Water Conditioning, Filtering and Treating Units and Components for Removal of Iron, Manganese, and Objectionable Tastes and Odors (Int. Cl. 11).
First use Nov. 14, 1961.

SN 278,985. Millipore Corporation, Bedford, Mass. Filed Aug. 24, 1967.

MF-LIFEGARD

Owner of Reg. No. 700,967.
For Prefilter Cartridges Used for Removal of Small Particles Which When Used Properly Removes Gellatinous Materials, Slime, and Other Suspended Matter From Liquids (Int. Cl. 11).
First use April 1966.

SN 283,046. The Virtis Company, Inc., Gardiner, N.Y. Filed Oct. 20, 1967.

VIRTIS

Owner of Reg. Nos. 607,271, 731,514, and 731,901.
For Freezers, Freeze Dryers, Freezing Baths, Freeze Concentrators, Vapor Traps and Parts Therefor (Int. Cl. 11).
First use Feb. 11, 1953.

SN 293,163. Nalco Chemical Company, Chicago, Ill. Filed Mar. 13, 1968.

CCR-I

For Weak Acid Cation Exchange Resin (Int. Cl. 1).
First use Feb. 18, 1966.

SN 294,422. Supreme Foods, Inc., d.b.a. Displaymor Manufacturing Company, Los Angeles, Calif. Filed Mar. 28, 1968.

HAM MASTER

The word "Ham" is disclaimed apart from the mark as shown. Owner of Reg. No. 733,403.
For Refrigerated Display Cases for Food Products (Int. Cl. 11).
First use Nov. 14, 1967.

Class 32—Furniture and Upholstery

SN 258,091. Flexsteel Industries, Incorporated, d.b.a. Brunswick Converters, Dubuque, Iowa. Filed Nov. 7, 1966.

ASTROLON

For Upholstery Fabrics Applied to Furniture (Int. Cl. 20).
First use Apr. 22, 1966.

SN 285,643. Authentic Furniture Products, Inc., El Segundo, Calif. Filed Nov. 27, 1967.



No claim is made to the words "Authentic Furniture Products" apart from the mark as shown. Owner of Reg. No. 599,976.
For Dining Chairs, Rocking Chairs, Side Chairs, Arm Chairs, Dining Tables, Lamp Tables, Snack Tables, Milk Stools, Barstools, Table Legs, Chair Cushions, Wall Shelves, Buffet Hutches, Bunk Beds, Record Holders, Magazine Baskets, Cricket Stools, Telephone Stands and Ash Tray Stands (Int. Cl. 20).
First use July 23, 1953.

SN 307,666. Paoli Chair Company, Inc., Paoli, Ind. Filed Sept. 18, 1968.

PAOLI

For Chairs (Int. Cl. 20).
First use July 14, 1947.

SN 308,908. Lerner Manufacturing, Inc., Melville, N.Y. Filed Oct. 4, 1968.

MELWOOD

For Sewing Chests (Int. Cl. 26).
First use Sept. 11, 1968.

SN 309,404. Eelig Manufacturing Company, Inc., Leominster, Mass. Filed Oct. 10, 1968.

HOUSEMASTER

For Chairs and Ottomans (Int. Cl. 20).
First use Apr. 1, 1968.

SN 309,476. Restonic Corporation, Chicago, Ill. Filed Oct. 11, 1968.

TWIN TIME

For Mattress and Boxsprings (Int. Cl. 20).
First use December 1967.

SN 309,727. Acra Thread Company, Inc., Anaheim, Calif. Filed Oct. 16, 1968.

HI-VUE

For Self-Supporting Cosmetic Mirrors (Int. Cl. 20).
First use Dec. 31, 1963.

Class 33 — Glassware

SN 284,608. Castleton China, Inc., New Castle, Pa. Filed Nov. 13, 1967.

INDEPENDENCE

Owner of Reg. Nos. 383,991, 760,354, and 833,679.
For Glass Tableware (Int. Cl. 21).
First use Jan. 11, 1967.

Class 34 — Heating, Lighting, and Ventilating Apparatus

SN 262,944. Bernhard Kirsch, Biewer, Germany, Filed Jan. 20, 1967.

ROSTOFREE

Owner of German Reg. No. 820,622, June 14, 1966.
For Heating Fluid Radiators for Heating Buildings (Int. Cl. 11).

SN 268,843. Pyronics, Inc., Cleveland, Ohio. Filed Apr. 11, 1967.

PYRONICS

Owner of Reg. No. 723,867.
For Fuel Burners, Fuel Burning Nozzles, Gas Fired Radiant Heaters, Gas Air Mixers, Fuel Fired Air Heaters, Air Blowers, Air Ductors, Gas Pilots, Fuel Burner and Ignition Equipment and Gas and Air Flow Controls (Int. Cl. 11).
First use Nov. 1, 1948.

SN 270,464. AB Destructor, Varby, Sweden. Filed May 2, 1967.

AB DESTRUCTOR

Without waiving any common law rights, applicant disclaims any exclusive rights in the term "Destructor" apart from the mark as shown. Owner of Swedish Reg. No. 116,171, dated May 6, 1966.
For Ovens, Especially for the Incineration of Mud, Trash and Garbage, Particularly Refuse From Hospitals (Int. Cl. 11).

SN 278,872. Champion Heater Company, Inc., St. Louis, Mo. Filed Aug. 23, 1967.

CHAMP-HEATER

Owner of Reg. No. 839,580.
For Oil Burning Space Heaters (Int. Cl. 11).
First use June 1958.

SN 279,072. J. W. Harris Co., Inc., Cincinnati, Ohio. Filed Aug. 25, 1967.

STAY-CLEAN

Owner of Reg. No. 432,343.
For Flux for All Soldering Purposes (Int. Cl. 1).
First use on or about Apr. 22, 1935.

SN 282,463. Hexacon Electric Company, Roselle Park, N.J. Filed Oct. 13, 1967.

LECTROTIN

For Soldering Tip Coating Sold as a Component of Soldering Tips (Int. Cl. 9).
First use July 12, 1967.

SN 283,570. D & W Rankin Manufacturing Company, d.b.a. Rankin Manufacturing Company, Alhambra, Calif. Filed Oct. 27, 1967.

RANOMATIC

For Hardsurfacing Welding Materials—Namely, Welding Wire (Int. Cl. 6).
First use Apr. 18, 1960.

SN 283,571. D & W Rankin Manufacturing Company, d.b.a. Rankin Manufacturing Company, Alhambra, Calif. Filed Oct. 27, 1967.

RANTUNG

For Hardsurfacing Welding Materials—Namely, Filled Tubular Welding Rod (Int. Cl. 6).
First use at least as early as April 1946.

SN 283,572. D & W Rankin Manufacturing Company, d.b.a. Rankin Manufacturing Company, Alhambra, Calif. Filed Oct. 27, 1967.

RANMANG

For Hardsurfacing Welding Materials—Namely, Metallic Coated Welding Rod (Int. Cl. 6).
First use at least as early as February 1949.

SN 283,573. D & W Rankin Manufacturing Company, d.b.a. Rankin Manufacturing Company, Alhambra, Calif. Filed Oct. 27, 1967.

RANITE

For Hardsurfacing Welding Materials—Namely, Metallic Coated Welding Rods (Int. Cl. 6).
First use at least as early as January 1943.

SN 284,924. Beverly D. Kumpfer, Salt Lake City, Utah. Filed Nov. 15, 1967.

MicroChef

For Microwave Ovens Including Domestic 220 Volt Built-In Microwave Ovens, Domestic 110 Volt Countertop Microwave Ovens, Microwave Ovens for Restaurant, Food Vending, and Airlines Use, and Conveyor Microwave Ovens for Food Processing (Int. Cl. 11).
First use Sept. 12, 1967.

SN 287,644. General Electric Company, Louisville, Ky. Filed Dec. 27, 1967.

AMERICANA

For Electric Range (Int. Cl. 11).
First use Nov. 1, 1961.

SN 288,581. Hugh H. Aiken, d.b.a. Diffusa-Lite Company, Conshohocken, Pa. Filed Jan. 11, 1968.

DIFFUSA-LITE

For Luminous Ceiling Kits Consisting of Plastic Lighting Diffusers and Metal Grid Used as a Lighted Area in a Ceiling or as a Suspended Lighting Unit (Int. Cl. 11).
First use July 1959.

SN 288,943. Richard E. Dennis, d.b.a. Dennis Mfg. Co., San Jose, Calif. Filed Jan. 16, 1968.

FANNY WARMER

For Hot Coal Receptacle Forming a Portable Fire Pit Which May Be Used as a Barbecue Grill (Int. Cl. 11).
First use Sept. 25, 1967.

SN 291,599. Eaton Yale & Towne Inc., Cleveland, Ohio. Filed Feb. 21, 1968.

TARTAN

Owner of Reg. No. 821,623.
For Humidifier Units for Moisture Conditioning Air (Int. Cl. 11).
First use Oct. 16, 1967.

SN 293,332. Varian Associates, Palo Alto, Calif. Filed Mar. 14, 1968.

For Microwave Heat Processing Units for Commercial, Institutional and Industrial Use (Int. Cl. 11).
First use May 26, 1967.

SN 294,295. The McKay Company, Pittsburgh, Pa. Filed Mar. 27, 1968.

IMPACT-O-WELD

For Automatic Electric Arc Welding Units and Controls Therefor (Int. Cl. 7).
First use Feb. 6, 1968.

SN 294,612. Fostoria-Fannon, Incorporated, Fostoria, Ohio. Filed Apr. 1, 1968.

MITEY MIDGET

For Industrial and Commercial Infrared Electric Lamp Heaters, Ovens, Furnaces, and Parts Therefor (Int. Cl. 11).
First use July 28, 1967.

SN 307,389. Miller Electric Mfg. Co., Appleton, Wis. Filed Sept. 16, 1968.

THUNDERBOLT

For Arc Welders (Int. Cl. 7).
First use Jan. 8, 1968.

Class 35 — Belting, Hose, Machinery Packing, and Nonmetallic Tires

SN 283,836. Woodward Wanger Company, Philadelphia, Pa. Filed Oct. 31, 1967.

STAR

For Faucet Washers (Int. Cl. 11).
First use Dec. 15, 1966.

SN 283,837. Woodward Wanger Company, Philadelphia, Pa. Filed Oct. 31, 1967.



For Faucet Washers (Int. Cl. 11).
First use Dec. 15, 1966.

SN 295,359. Mobat Tire & Rubber Co., Inc., Livermore, Calif. Filed Apr. 10, 1968.



The lining on the drawing constitutes part of the mark and does not represent color. Applicant disclaims exclusive rights in the representation of the map of the United States apart from the mark as a whole.
For Rubber Vehicle Tires (Int. Cl. 12).
First use Sept. 22, 1966.

SN 310,988. Southern Stores, Inc., Jacksonville, Fla. Filed Oct. 31, 1968.

SUN VALLEY

For Tires (Int. Cl. 12).
First use on or about Nov. 15, 1967.

Class 36 — Musical Instruments and Supplies

SN 287,647. General Electronic Laboratories, Inc., Boston, Mass. Filed Dec. 27, 1967.

RESPONSYSTEM

For Tape Recorders/Reproducers and Recording and Playback Tape Cartridges for Tape Recorders/Reproducers (Int. Cl. 9).
First use on or about Feb. 11, 1967.

SN 309,342. Schulmerich Carillons, Inc., Sellersville, Pa. Filed Oct. 10, 1968.



Applicant disclaims the representation of the bell apart from the mark as shown.
For Carillons, Bell Instruments and Parts Thereof (Int. Cl. 15).
First use Feb. 12, 1968.

Class 37—Paper and Stationery

SN 270,515. E. Errett Smith, Inc., New York, N.Y. Filed May 2, 1967.

MINI NOTES

The word "Notes" is disclaimed apart from the mark as shown.
For Stationery—Namely, Personal Note Paper, and Personal Writing Paper and Envelopes (Int. Cl. 16).
First use Apr. 14, 1967.

SN 277,027. Computer Papers Incorporated, d.b.a. Computer Papers Inc., Des Moines, Iowa. Filed July 28, 1967.



The word "Copi" is disclaimed apart from the mrak as a whole, while reserving all common law rights thereto. The drawing is lined for the color blue.
For Computer Record Paper (Int. Cl. 16).
First use July 7, 1967.

SN 297,782. F. M. Howell & Company, Inc., Elmira, N.Y. Filed May 9, 1968.

CHAN-L-PAK

For Paperboard and Thermal-Formed Sheet Plastic Packaging Materials (Int. Cl. 16).
First use Apr. 15, 1968.

SN 300,343. Double Envelope Corporation, Roanoke, Va. Filed June 13, 1968.



Owner of Reg. No. 360,586.
For Compartment Envelopes (Int. Cl. 16).
First use Jan. 1, 1957.

SN 301,067. The Holson Company, Wilton, Conn. Filed June 21, 1968.

MAGNET VUE

For Photo Albums (Int. Cl. 16).
First use in or about January 1965.

SN 301,694. Lewis R. Beyer, d.b.a. The Lewart Company, Cleveland, Ohio. Filed July 1, 1968.

TUFFY

For Sheet Binders (Int. Cl. 16).
First use on or about May 1, 1967.

SN 301,940. Richard A. Hatfield, d.b.a. The Pro-Swing Company, Huntington, W. Va. Filed July 3, 1968.

PRO-SWING

For Desk Pen Sets (Int. Cl. 16).
First use Mar. 12, 1968.

SN 303,045. Finch, Pruyn & Company, Incorporated, Glens Falls, N.Y. Filed July 18, 1968.

Finch Title "95"

For Printing Paper (Int. Cl. 16).
First use May 10, 1968.

SN 303,127. American Can Company, New York, N.Y. Filed July 19, 1968.

MEDALIST

For Roll Paper Towels (Int. Cl. 16).
First use July 14, 1968.

SN 303,148. Diagraph-Bradley Industries, Inc., Herrin, Ill. Filed July 19, 1968.

DI-TAB

Owner of Reg. Nos. 769,128 and 847,570.
For Duplicator Stencils (Int. Cl. 16).
First use July 15, 1968.

SN 303,591. Brown Company, New York, N.Y. Filed July 25, 1968.

ASTRA

Owner of Reg. No. 682,894.
For Converting Papers (Int. Cl. 16).
First use on or about Dec. 19, 1966.

SN 303,597. Curwood, Inc., New London, Wis. Filed July 25, 1968.

CURAN

For Laminated Film Used in Food Packaging (Int. Cl. 17).
First use July 12, 1968.

SN 303,698. P. H. Glatfelter Company, Spring Grove, Pa. Filed July 26, 1968.

ROTOBULK

Owner of Reg. No. 740,038.
For Printing Papers and Papers for Business Forms (Int. Cl. 16).
First use July 13, 1963.

SN 303,708. Sanford Ink Company, Bellwood, Ill. Filed July 26, 1968.

POCKET ACCENT

Owner of Reg. Nos. 797,227 and 825,772.
For Liquid Paint Felt Tip Marking and Coloring Applicators (Int. Cl. 16).
First use July 16, 1968.

SN 303,763. Orlando A. Battista, d.b.a. Reader-Services Company, Morrisville, Pa. Filed July 29, 1968.

BRIEFETTES

For Business Forms (Int. Cl. 16).
First use July 10, 1968.

SN 303,811. Mohawk Paper Mills, Inc., Cohoes, N.Y. Filed July 29, 1968.



For Paper and Paper Board, Both Coated and Uncoated—Namely, All Kinds of Writing Papers and Paper Specialties Including Papers Made With Special Characteristics and Properties To Adapt Them to Special Uses Such as Drawing and Printing Paper, Ledger Paper, Construction Paper, Poster Paper, Tag Stock, Bond Paper, Wedding Paper, Typewriter Paper, Book Paper, Manuscript Cover Paper, Text Paper, Cover Paper, Box Cover Paper, Detail Paper, Duplicator and Mimeograph and Copy Paper, Bristol Paper, Papeterie Paper, Special Finish Paper, Vellum Paper, Opaque Vellum Paper, Opaque Smooth Paper, Envelope Paper, and Announcement Paper (Int. Cl. 16).
First use July 23, 1968.

SN 303,983. Brown Company, New York, N.Y. Filed July 31, 1968.

TECHNI-PEEL

For Coated Kraft Papers (Int. Cl. 16).
First use on or about May 31, 1968.

SN 305,365. Accuray Products Incorporated, Wallington, N.J. Filed Aug. 19, 1968.

DESKRIBE

For Desk Pen Unit (Int. Cl. 16).
First use August 1967.

SN 305,366. Accuray Products Incorporated, Wallington, N.J. Filed Aug. 19, 1968.

FINESSE

For Pens (Int. Cl. 16).
First use August 1966.

SN 309,518. Mattel, Inc., Hawthorne, Calif. Filed Oct. 14, 1968.

ROOM-MATES

For Desk Blotters, Desk Blotter Pads, Diaries, Scrapbooks, Pencils, Books for Addresses and Telephone Numbers, Paper and Envelopes for Writing Letters, Pencil Barrels, and Pen Holders (Int. Cl. 16).
First use Jan. 13, 1968.

Class 38—Prints and Publications

SN 262,669. Paul R. Bish, Elizabeth, N.J. Filed Jan. 17, 1967.

INFORM
NATIONAL REPORTS

The words "National Reports" are disclaimed apart from the mark as a whole.
For Periodic Publications in the Form of Newsletters Dealing With American Ideals and Information on Subversive Activities on the Local and National Level (Int. Cl. 16).
First use Apr. 8, 1963.

SN 269,772. Moody's Investors Service, Inc., New York, N.Y. Filed Apr. 21, 1967.

MOODY'S

For Manuals, Newspapers, Quarterly Handbook of Common Stocks, Semi-Weekly and Annual Reports on Dividends Declared, Monthly Municipal and Corporate Bond Records, and Semi-Weekly Active Stock Reports, as Well as an Annual Manual With Supplements Twice a Week in the Fields of Bank and Finance, Transportation, Industrials, Public Utilities, Municipals and Governments (Int. Cl. 16).
First use in or before 1900.

SN 278,888. Farm Business Council, Inc., Urbana, Ill. Filed Aug. 23, 1967.

PIXURE AD

For Printed Advertisements Designed for Use by Others To Promote Bank Services Among Members of the Agricultural Community (Int. Cl. 16).
First use about July 1965.

SN 282,203. Norcross, Inc., New York, N.Y. Filed Oct. 10, 1967.

OLD AND NOUVEAU

For Greeting Cards (Int. Cl. 16).
First use Sept. 29, 1967.

SN 282,424. Air New Zealand Limited, Auckland, New Zealand. Filed Oct. 13, 1967.



The mark consists of a design of a stylized bird.
For Pamphlets, Brochures, and Leaflets (Int. Cl. 16).
First use 1948; in commerce 1948.

SN 283,029. The Pillsbury Company, Minneapolis, Minn. Filed Oct. 20, 1967.

BAKE-OFF

For Cook Books (Int. Cl. 16).
First use at least as early as 1958.

SN 292,926. Great Lakes Foundation, Ann Arbor, Mich. Filed Mar. 11, 1968.

LIMNOS

For Magazine Issued Periodically (Int. Cl. 16).
First use on or about Feb. 16, 1968.

SN 293,565. Paramount Pictures Corporation, New York, N.Y. Filed Mar. 18, 1968.



Applicant disclaims the term "Television" when used apart from the mark as shown; and the exclusive right to use the words "A Gulf+Western Company" is disclaimed except as part of the entire mark. Owner of Reg. Nos. 103,248, 741,314, and others.
For Motion Pictures Adapted for Television (Int. Cl. 9).
First use Jan. 5, 1968.

SN 294,210. Ross Enterprises, Kansas City, Mo. Filed Mar. 26, 1968.

SCROLL OF FORTUNE

For Printed Booklets Containing Readings (Int. Cl. 16).
First use Nov. 18, 1967.

SN 297,548. Famous Writers School, Inc., Westport, Conn. Filed May 7, 1968.

FAMOUS WRITERS MAGAZINE

Owner of Reg. Nos. 743,190, 798,666, and 829,306.
For Quarterly Magazine Dealing With the Field of Writing Published for Students and Graduates of Applicant's School (Int. Cl. 16).
First use November 1963.

SN 302,378. American Greetings Corporation, Cleveland, Ohio. Filed July 10, 1968.

HOLLY HOBBIES

For Greeting Cards (Int. Cl. 16).
First use at least as early as Aug. 1, 1967.

SN 302,731. Excerpta Medica Foundation, Amsterdam, Netherlands. Filed July 15, 1968.



For Books, Brochures, Bulletins and Pamphlets Containing Abstracts and Related Material of Articles, Papers, and Data Relating to the Sciences of Medicine, Biology, Psychology and Chemistry (Int. Cl. 16).
First use at least as early as 1964; in commerce at least as early as 1964.

SN 308,117. Midcontinent Farmers Association, Columbia, Mo. Filed Sept. 24, 1968.

TODAY'S FARMER

For Monthly Magazine (Int. Cl. 16).
First use Nov. 3, 1967.

SN 309,845. Continental Reports, Incorporated, Denver, Colo. Filed Oct. 17, 1968.



For Newsletter (Int. Cl. 16).
First use July 15, 1968.

SN 310,159. Willard Agency, Inc., Mankato, Minn. Filed Oct. 21, 1968.

QUALIFIER

For Prospect Data Collector Book for Use by Realty Salesmen, and Refills Therefor (Int. Cl. 16).
First use Oct. 15, 1968.

SN 312,722. Random House, Inc., New York, N.Y. Filed Nov. 21, 1968.



Applicant disclaims exclusive right to the word "Books" apart from the mark as shown.
For Books (Int. Cl. 16).
First use at least as early as Aug. 31, 1968.

SN 313,542. Lancer Books, Inc., New York, N.Y. Filed Dec. 4, 1968.



For Paperback Books (Int. Cl. 16).
First use July 1961.

Class 39 — Clothing

SN 284,124. R. P. Hazzard Co., Augusta, Maine. Filed Oct. 10, 1967.

ROYAL CADET

For Men's Shoes (Int. Cl. 25).
First use June 1966.

SN 287,466. Janet Solovei, d.b.a. Hope Reed, New York, N.Y. Filed Dec. 22, 1967.

THE COLLEGER

For Women's and Girls' Dresses and Sportswear—Namely, Shirts, Skirts, Slacks and Jackets (Int. Cl. 25).
First use in or about July 1957.

SN 291,020. Bert Paley Ltd., Inc., Boston, Mass. Filed Feb. 14, 1968.



"Bert Paley" identifies Bertram R. Paley, president of applicant corporation.
For Men's Jackets, Shirts, Stormcoats and Suburban Coats (Int. Cl. 25).
First use Jan. 15, 1965.

SN 291,751. Kimberly-Clark Corporation, Neenah, Wis. Filed Feb. 23, 1968.

KCD

For Aprons, Smocks, Shirts, Laboratory Coats, and Pants, All Disposable and All Made of Non-Woven or Bonded Web Fabrics, for Use in Hospitals, Laboratories, Institutions, and Industry (Int. Cl. 25).
First use Feb. 15, 1968.

SN 292,524. Wembley, Inc., New Orleans, La. Filed Mar. 5, 1968.

LOGO TIES

For Men's Neckwear—Namely, Neckties (Int. Cl. 25).
First use Dec. 1, 1967.

SN 301,391. Harold J. Ralph, d.b.a. H. J. Ralph Co., Orange, Calif. Filed June 26, 1968.

DRI-GUARD

For All Purpose Protective Garment in the Nature of a Diaper Primarily Used for the Control of Moisture (Int. Cl. 5).
First use Apr. 15, 1966.

SN 304,916. Grattan Warehouses Limited, Bradford, England. Filed Aug. 12, 1968.

KALVI

Owner of British Reg. No. 919,316, dated Jan. 4, 1968.
For Dresses, Coats, Raincoats, Weatherproof Coats, Slacks, Skirts, Blouses and Jumpers All for Women and Girls (Int. Cl. 25).

Class 41 — Canes, Parasols, and Umbrellas

SN 291,921. Pete Uram Sales, Inc., Wyandotte, Mich. Filed Feb. 26, 1968.

1ST TEE

For Umbrellas and Walking Stick Seats (Int. Cl. 18).
First use Oct. 31, 1967.

Class 42 — Knitted, Netted, and Textile Fabrics, and Substitutes Therefor

SN 300,992. United Merchants and Manufacturers, Inc., New York, N.Y. Filed June 20, 1968.

RIVERDALE

Owner of Reg. Nos. 560,087 and 580,206.
For Dyed and Printed Woven Fabrics Made of Natural, Synthetic, and/or Man-Made Fibers for Making Into All Types of Apparel and Household Furnishings; and Made Up Articles—Namely, Draperies, Curtains, Slipcovers, Bedspreads, Tablecloths and Napkins (Int. Cl. 24).
First use on or about Jan. 1, 1929.

SN 300,993. United Merchants and Manufacturers, Inc., New York, N.Y. Filed June 20, 1968.

RIVERDALE'S

Owner of Reg. Nos. 560,087 and 580,206.
For Dyed and Printed Woven Fabrics Made of Natural, Synthetic, and/or Man-Made Fibers for Making Into All Types of Apparel and Household Furnishings; and Made Up Articles—Namely, Draperies, Curtains, Slipcovers, Bedspreads, Tablecloths and Napkins (Int. Cl. 24).
First use on or about Jan. 1, 1929.

Class 43 — Thread and Yarn

SN 289,122. Rich-Flex Mfg. Corporation, Central Falls, R.I. Filed Jan. 18, 1968.

SEALTITE

For Textile Yarns (Int. Cl. 23).
First use Nov. 28, 1967.

Class 44 — Dental, Medical, and Surgical Appliances

SN 274,185. Chattanooga Pharmacal Co., Chattanooga, Tenn. Filed June 19, 1967.

COLPAC

Owner of Reg. No. 781,161.
For Bags Containing Water Absorbing and Antifreeze Materials for Application of Therapeutic Cold (Int. Cl. 5).
First use Mar. 15, 1963.

SN 280,563. Clairol Incorporated, New York, N.Y. Filed Sept. 18, 1967.

KINDNESS SWING SET

Applicant disclaims the word "Set" apart from the mark as shown. Owner of Reg. No. 857,577.
For Electrical Apparatus for Heating Hair Curlers Used for Curling, Drying and Setting Hair and Hair Curlers for Use With Such Apparatus (Int. Cl. 11).
First use Aug. 25, 1967.

SN 286,943. Jung Products, Inc., Cincinnati, Ohio. Filed Dec. 14, 1967.

FUTURO

Owner of Reg. No. 435,147.
For Elastic Stockings (Int. Cl. 10).
First use on or about Feb. 19, 1960.

SN 287,710. Air Instruments, Inc., Santa Barbara, Calif. Filed Dec. 28, 1967.

SURGICAL SYSTEMS

Applicant disclaims the word "Surgical" apart from the mark as shown.
For Surgical Handpieces—Namely, Pneumatically Driven Surgical Tools for Surgery Including Accessories Therefor, Namely, Surgical Tool Attachments and Adaptors, Burrs, Blades, Burr Guards, Burr Releases, Burr Changers, Dermabraders, Bone and Tissue Biopsy Blades, Handpiece Extension Handles, Autoclavable Storage Cases for Said Handpieces and Accessories, Burr and Attachment Rack, and Gas Regulator and Manifold Supply for Said Surgical Handpieces (Int. Cl. 10).
First use Sept. 18, 1967.

SN 288,715. Pharma/Surge, Inc., Portland, Oreg. Filed Jan. 12, 1968.

VISI-VENT

For Intravenous Catheter Placement Units Employing Needle and Cannula (Int. Cl. 10).
First use Oct. 27, 1967.

SN 291,526. Rexall Drug and Chemical Company, d.b.a. The Seamless Rubber Company, Los Angeles, Calif. Filed Feb. 20, 1968.

KOMPAK

For Surgical Instrument Pack (Int. Cl. 10).
First use Jan. 29, 1968.

SN 291,720. The Dentists' Supply Company of New York, York, Pa. Filed Feb. 23, 1968.

TECH-TROL

For Control Unit for Dental Handpieces Including Air Pressure Regulating Mechanism To Control the Speed and Power of Such Handpieces for Use by Dentists and Dental Technicians (Int. Cl. 10).
First use Feb. 13, 1968.

SN 295,302. Earl O. Bergersen, Winnetka, Ill. Filed Apr. 10, 1968.

ORTHO TAIN

For Dental Appliance—Namely, a Preformed Orthodontic Positioner (Int. Cl. 10).
First use Feb. 24, 1968.

SN 297,717. Theta Corporation, Niagara Falls, N.Y. Filed May 8, 1968.

DRI-ANGLE

For Dental Accessories—Namely, Paper Pulp Wedges To Be Placed Within Patient's Mouth During Dental Work (Int. Cl. 10).
First use Feb. 2, 1967.

SN 298,597. Hamilton Manufacturing Company, Two Rivers, Wis. Filed May 20, 1968.

HAMILTON

Owner of Reg. Nos. 398,431, 801,856, and others.
For Physicians' and Surgeons' Equipment—Namely, Examining Tables, Auxiliary Stands, Chairs, Stools, Medicine and Instrument Cabinets, and Waste Receivers; and Dentists' and Dental Surgeons' Equipment—Namely, Cabinets, Cabinet Tops, Sinks and Related Water Fixtures, Waste Receivers, and Instrument Trays (Int. Cl. 10).
First use 1930 on physicians' and surgeons' equipment.

SN 300,149. J. Wiss and Sons Co., Newark, N.J. Filed June 10, 1968.

WISCO

Owner of Reg. No. 740,884.
For Personal Grooming Implements—Namely, Manicure and Grooming Sets Containing Cuticle Nippers, Nail and Nose Scissors, Tweezers, Nail Files, Cleaners, Pushers, Clippers and Scrapers (Int. Cl. 8).
First use at least 1938.

SN 306,893. The Dentists' Supply Company of New York, York, Pa. Filed Sept. 9, 1968.

CAULK
ZOE
B&T

Applicant disclaims the abbreviation "ZOE" apart from the mark as shown. Owner of Reg. Nos. 515,974 and 520,815.
For Dental Cement and Filling Material (Int. Cl. 5).
First use Feb. 25, 1966.

SN 306,895. The Dentists' Supply Company of New York, York, Pa. Filed Sept. 9, 1968.

CAULK
ZOE
2200

Applicant disclaims the abbreviation "ZOE" apart from the mark as shown. Owner of Reg. Nos. 515,974 and 520,815.
For Dental Cement and Filling Material (Int. Cl. 5).
First use Feb. 25, 1966.

SN 307,559. Cardinal Instrument Corporation, Cambridge, Mass. Filed Sept. 17, 1968.

The mark consists of the letter "I" encircled by four letters "C."
For Medical Instruments—Namely, Automatic Ear Syringes (Int. Cl. 10).
First use May 10, 1968.

SN 309,365. Delta Laboratories, Inc. of Florida, Des Plaines, Ill. Filed Oct. 10, 1968.

MINIBATH

For Disposable Kit for Washing, Including Tray, Wash Cloths, Towel, Soap, Cotton Balls, Petrolatum and a Control Card (Int. Cl. 5).
First use Aug. 9, 1968.

SN 309,588. Louis Jaunet, Paris, France. Filed Oct. 14, 1968.

HELIOCAP

Owner of French Reg. No. 450,840, dated May 5, 1955 (Seine); Natl. Inst. No. 56,365.
For Heating Apparatus for the Care and Treatment of the Scalp and of the Hair, Used in Hairdressing, and Parts of Said Apparatus (Int. Cl. 11).

SN 309,817. Modalities Research Inc., Long Island City, N.Y. Filed Oct. 17, 1968.

DEN-SHUR-WELD

The word "Weld" is disclaimed apart from its use in the mark. Owner of Reg. No. 807,315.
For Adhesive for Repairing Artificial Dentures (Int. Cl. 5).
First use June 28, 1968.

Class 45—Soft Drinks and Carbonated Waters

SN 297,666. The Frostie Company, Camden, N.J. Filed May 8, 1968.

IT'S SOMETHING ELSE

For Soft Drinks and Soft Drink Bases (Int. Cl. 32).
First use at least as early as Mar. 27, 1968.

Class 46—Foods and Ingredients of Foods

SN 275,280. Maritime Imports, Incorporated, Los Angeles, Calif. Filed July 3, 1967.

Gift-Pride

For Frozen Shrimp (Int. Cl. 29).
First use May 23, 1967.

SN 283,809. Midwest Biscuit Company, Burlington, Iowa. Filed Oct. 31, 1967.

ENDORA

For Crackers and Cookies (Int. Cl. 30).
First use Oct. 3, 1967.

SN 283,908. MW Fruit Gifts, Houston, Tex. Filed Nov. 1, 1967.

MW

For Fresh Fruits (Int. Cl. 31).
First use Oct. 13, 1967.

SN 284,264. The Indian Coffee Corporation, d.b.a. The Breakfast Cheer Coffee Company, Leetsdale, Pa. Filed Nov. 6, 1967.

IRISH ROSE TEA

The words "Irish" and "Tea" are disclaimed apart from the mark as shown. The drawing is lined for the colors green and red, but such colors are not indispensible parts of the mark.
For Tea (Int. Cl. 30).
First use June 1, 1967.

SN 285,825. The Dietene Company, Minneapolis, Minn. Filed Nov. 29, 1967.

PRONOLYTE

For Special Formula Diet for Mixing With Liquids To Make a Food Beverage (Int. Cl. 5).
First use Oct. 31, 1967.

SN 286,442. North American Dynamics Corporation, Paterson, N.J. Filed Dec. 7, 1967.

BAR TWIST

For Powdered Mixes Containing, Among Their Major Ingredients, Sugar and Food Solids and Flavoring, for Use in Making Food Drinks (Int. Cl. 30).
First use about June 1965.

SN 286,887. Gene J. Alessi, d.b.a. D.A. Company, Independence, La. Filed Dec. 14, 1967.

FRENCH MARKET

For Prepared Mix for Making Fried Pastry Products (Int. Cl. 30).
First use at least as early as Mar. 20, 1967.

SN 288,722. Statesville Flour Mills Company, Statesville, N.C. Filed Jan. 12, 1968.

SNOW CREAM

For Wheat Flour (Int. Cl. 30).
First use 1900.

SN 289,777. Chango Citrus Association, Harlingen, Tex. Filed Jan. 29, 1968.

CHANGO

For Fresh Citrus Fruits, in Other Words, Grapefruit, Oranges, Lemons, Limes, Tangerines and Tangelos (Int. Cl. 31).
First use Sept. 11, 1967.

SN 289,844. Stonington Packing Co., Inc., Stonington, Maine. Filed Jan. 29, 1968.

DEER ISLE

For Canned Fish (Int. Cl. 29).
First use 1951.

SN 289,870. Bayview Citrus Association, Olmito, Tex. Filed Jan. 30, 1968.

BAYVIEW

For Fresh Citrus Fruits—Namely, Grapefruit, Oranges, Lemons, Limes, Tangerines and Tangelos (Int. Cl. 31).
First use Sept. 15, 1967.
Subj. to Intf. with SN 303,623.

SN 291,673. Malt-A-Plenty, Inc., Tulsa, Okla. Filed Feb. 23, 1968.

Plenty PRODUCTS

The word "Products" is disclaimed apart from the mark as shown.
For Stabilizer Used in Making Frozen Dairy Desserts (Int. Cl. 30).
First use Jan. 30, 1968.

SN 293,362. Country Gardens Inc., Milwaukee, Wis. Filed Mar. 15, 1968.

TASTY PAK

For Canned Vegetables (Int. Cl. 29).
First use at least as early as 1947.

SN 294,038. Fromagerie Franco Suisse "Le Ski" S.A., Brussels, Belgium. Filed Mar. 25, 1968.

franco-Suisse

Priority claimed under Sec. 44(d) on Belgian Reg. No. 112,833, dated Sept. 25, 1967. Applicant disclaims exclusive rights in "Franco-Suisse" apart from the trademark. The English equivalent of Franco-Suisse is French-Swiss.
For Dairy Products—Namely, Cheese and Processed Cheese (Int. Cl. 29).

SN 295,921. The Dietene Company, Minneapolis, Minn. Filed Apr. 18, 1968.

CONTROSE

For Low Carbohydrate Composition To Be Mixed With Food Liquids for Special Diets (Int. Cl. 5).
First use Mar. 25, 1968.

SN 296,030. Lipman Bros., Inc., d.b.a. Coldbrook Farms Poultry, Augusta, Maine. Filed Apr. 19, 1968.

COLDBROOK FARMS

For Dressed Poultry (Int. Cl. 29).
First use Mar. 27, 1968.

SN 296,567. Nutrilite Products, Inc., Buena Park, Calif. Filed Apr. 25, 1968.

NUTRI-SNACKS

For Calorie-Counted Between-Meal Food Wafer Snack in Tablet Form (Int. Cl. 30).
First use Dec. 18, 1967.

SN 297,563. Eduardo Hernandez, New York, N.Y. Filed May 7, 1968.

El Tinajón

The Spanish word portion of the mark "El Tinajon" means "a wide-mouth open jar" in English.
For Cheese and Sweetened Condensed Milk (Int. Cl. 29).
First use Apr. 22, 1968.

SN 297,641. Allen Products Co., Inc., Allentown, Pa. Filed May 8, 1968.

ALPO

CAT FEAST

The term "Cat" is disclaimed apart from the mark as shown. Owner of Reg. Nos. 785,326, 794,233, and others.
For Cat Food (Int. Cl. 31).
First use Mar. 26, 1968.

SN 297,997. Gracie Square Pastry Corp., New York, N.Y. Filed May 13, 1968.

Turf Cheesecake

Applicant disclaims the word "Cheesecake."
For Cheesecake (Int. Cl. 30).
First use Jan. 20, 1965.

SN 298,142. Modern Eve Products Co., Inc., Brooklyn, N.Y. Filed May 14, 1968

EVE

For Edible Olive Oil (Int. Cl. 29).
First use Sept. 9, 1960.

SN 298,201. Consolidated Foods Corporation, d.b.a. Joe Lowe Company. Filed May 15, 1968.

JET-SICLE

Owner of Reg. No. 593,672.
For Frozen Confections on Sticks and Concentrates for Making the Same (Int. Cl. 30).
First use May 1, 1968.

SN 299,924. Ajinomoto Kabushiki Kaisha, d.b.a. Ajinomoto Co., Inc., Chuo-ku, Tokyo, Japan. Filed June 6, 1968.

AJINOMOTO CO.'S GMP

The word "Aji-No-Moto" means "element of taste" in the English language. No claim is made to the exclusive use of the letters "GMP" apart from the mark as a whole. Owner of U.S. Reg. No. 580,656.
For Flavor Enhancing Agent of a Chemical Nature (Int. Cl. 30).
First use May 1966; in commerce May 1966.

SN 299,925. Ajinomoto Kabushiki Kaisha, d.b.a. Ajinomoto Co., Inc., Chuo-ku, Tokyo, Japan. Filed June 6, 1968.

AJINOMOTO CO.'S I+G PLUS

The word "Aji-No-Moto" means "element of taste" in the English language. No claim is made to the exclusive use of the letters "I" and "G" apart from the mark as a whole. Owner of U.S. Reg. No. 580,656.
For Flavor Enhancing Agent of a Chemical Nature (Int. Cl. 30).
First use April 1966; in commerce April 1966.

SN 299,926. Ajinomoto Kabushiki Kaisha, d.b.a. Ajinomoto Co., Inc., Chuo-ku, Tokyo, Japan. Filed June 6, 1968.

AJINOMOTO CO.'S IMP

The word "Aji-No-Moto" means "element of taste" in the English language. No claim is made to the exclusive use of the letters "IMP" apart from the mark as a whole. Owner of U.S. Reg. No. 580,656.
For Flavor Enhancing Agent of a Chemical Nature (Int. Cl. 30).
First use February 1965; in commerce November 1965.

SN 299,932. American Home Products Corporation, New York, N.Y. Filed June 7, 1968.

MEAT BALLY-O

Applicant makes no exclusive claim to the word "Meat" apart from the mark as shown.
For Canned Combination of Meatballs and Vegetables in Sauce (Int. Cl. 29).
First use May 24, 1968.

SN 299,989. Walter M. Lowney Company Limited, Sherbrooke, Quebec, Canada, Filed June 7, 1968.

DELICIOUS Caravan MILK CHOCOLATE

The words "Delicious in Milk Chocolate" are disclaimed apart from the mark as a whole and without waiving any common law rights. Owner of Canadian Reg. No. 155,734, dated Mar. 1, 1968.
For Chocolate Bars (Int. Cl. 30).

SN 300,146. Western Grain Company, Birmingham, Ala. Filed June 10, 1968.

UNCLE SAM

For Livestock Feeds (Int. Cl. 31).
First use at least as early as November 1923.

SN 300,584. General Spice, Inc., Linden, N.J. Filed June 17, 1968.

KATCH-ON

For Dry Mix for Imitation Ketchup (Int. Cl. 30).
First use Nov. 13, 1967.

SN 300,759. Topple Food Products, Inc., Bronx N.Y. Filed June 18, 1968.

GALAXY

For Apple Sauce, Almonds, Baking Powder, Baking Soda, Bamboo Shoots, Canned Cherries, Cocktail Sauce, Cooking Sherry, Corn Starch, Cracker Meal, Duck Sauce, Gelatin, Fruit Cocktail, Garlic Powder, Hot Sauce, Mayonnaise, Kumquats, Lychees, Salad Dressing, Salad Oils, Mixed Candied Fruits, Mixed Pickles, Mushrooms, Mustard, Cooking Oils, Paprika, Canned Peaches, Canned Peas, Pepper, Pickles, Canned Pineapples, Canned Pimentoes, Rice, Salt, Mono-Sodium Glutamate, Soy Sauce, Canned String Beans, Sugar, Tartar Sauce, Tomato Catsup, Tomato Juice, Tomato Puree, Vinegar, Water Chestnuts, Canned Whole Tomatoes, Sesame Oil, Bean Sauce, Thick, Thin and Black Soys, and Oyster Sauce (Int. Cls. 29 and 30).
First use Jan. 8, 1967.

SN 300,769. FCX, Inc., d.b.a. FCX Egg Marketing Service, Raleigh, N.C. Filed May 6, 1968.

Pleasant Hill Farm

For Fresh Eggs (Int. Cl. 29).
First use Apr. 1, 1967.

SN 301,293. Norda Essential Oil & Chemical Co., Inc., New York, N.Y. Filed May 20, 1968.

Norda

Owner of Reg. No. 204,933.
For Flavoring Extracts and Syrups for Use in Flavoring Foods (Int. Cl. 30).
First use June 1934.

SN 303,623. National Food Marketers, Inc., d.b.a. National Food Marketers, Blue Anchor, N.J. Filed July 25, 1968.

BAY VIEW

For Frozen Prepared Food—Namely, Crab Cutlets (Int. Cl. 29).
First use Aug. 16, 1961.
Subj. to Intf. with SN 289,870.

SN 305,789. Ludford Fruit Products, Inc., Los Angeles, Calif. Filed Aug. 23, 1968.

"FRU-GEL"

For Packaged Fruit Gelatin Salads (Int. Cl. 29).
First use Aug. 13, 1968.

SN 310,283. The Jel Sert Company, Belwood, Ill. Filed Oct. 23, 1968.



Owner of Reg. No. 830,709.
For Drink Mix in Powder Form for Making Flavored Food Drinks and Flavored Liquid in Bar-Shaped Packages To Be Frozen Therein To Make Ice Bars (Int. Cl. 30).
First use June 17, 1964.

Class 47—Wines

SN 298,740. Mediterranean Importing Co., Inc., d.b.a. Mediterranean Wines, Long Island City, N.Y. Filed May 21, 1968.

MEDITERRANEO

For Wines (Int. Cl. 33).
First use Apr. 24, 1968.

SN 298,742. Mediterranean Importing Co., Inc., d.b.a. Mediterranean Wines, Long Island City, N.Y. Filed May 21, 1968.

PATRICIAN

For Wines (Int. Cl. 33).
First use Apr. 24, 1968.

Class 48—Malt Beverages and Liquors

SN 296,298. Blitz-Weinhard Company, Portland, Oreg. Filed Apr. 23, 1968.



The words "Olde English" are disclaimed apart from the mark as shown. The drawing is lined for the colors maroon and gold.
For Malt Liquor—Namely, Stout (Int. Cl. 32).
First use in or about March 1966; April 1957 as to "Olde English."

SN 296,299. Blitz-Weinhard Company, Portland, Oreg. Filed Apr. 23, 1968.

"800"

For Malt Liquor—Namely, Stout (Int. Cl. 32).
First use in or about March 1966.

SN 300,934. Jackson Brewing Company, New Orleans, La. Filed June 20, 1968.



Owner of Reg. Nos. 809,649 and 815,576.
For Beer (Int. Cl. 32).
First use Apr. 26, 1965; April 1933 as to "Jax."

SN 300,935. Jackson Brewing Company, New Orleans, La. Filed June 20, 1968.



The drawing is lined for red and blue. Owner of Reg. Nos. 809,649 and 815,576.
For Beer (Int. Cl. 32).
First use Apr. 26, 1965; April 1933 as to "Jax."

Class 49—Distilled Alcoholic Liquors

SN 209,185. Kobrand Corporation, New York, N.Y. Filed Dec. 31, 1964.

SHOGUN

For Vodka (Int. Cl. 33).
First use Nov. 30, 1964.

SN 279,933. E. Delatour & Cie., Societe Anonime, Christiansted, St. Croix, Virgin Islands. Filed Sept. 8, 1967.

CALALOÓ

For Liqueur (Int. Cl. 33).
First use Nov. 15, 1965.

SN 283,223. E. Delatour & Cie., S.A., Christiansted, St. Croix, Virgin Islands. Filed Oct. 25, 1967.

YANKEELAND

For Liqueur (Int. Cl. 33).
First use Jan. 12, 1966.

SN 291,186. Retail Centers of the Americas, Inc., d.b.a. Bargain Town U.S.A., Lawrence, N.Y. Filed Feb. 15, 1968.

HASTING HILLS

For Gin, Whiskey, Rum and Vodka (Int. Cl. 33).
First use June 6, 1966.

SN 291,188. Retail Centers of the Americas, Inc., d.b.a. Bargain Town U.S.A., Lawrence, N.Y. Filed Feb. 15, 1968.

HARRINGTON MANOR

For Whiskey (Int. Cl. 33).
First use June 6, 1966.

Class 50—Merchandise Not Otherwise Classified

SN 269,088. National Periodical Publications, Inc., New York, N.Y. Filed Apr. 13, 1967.

BATMAN

Owner of Reg. Nos. 378,913, 839,561, and others.
For Pennants and Bumper Stickers (Int. Cls. 16 and 24).
First use March 1966.

SN 288,685. Eberhard Faber Inc., Wilkes-Barre, Pa. Filed Jan. 12, 1968.

EBERHARD FABER-BOARD

For Visual Aid Panel and Accessories Therefor—Namely, Water Based Markers and Magnetic Tape, Sold as a Complete Package; Cleaner, Plastic Water Bottle and Towels for Cleaning Visual Aid Panel; Plastic Magnetic Symbols, Plastic Magnetic Numerals for Use on Visual Aid Panel (Int. Cl. 9).
First use Nov. 10, 1967.

SN 302,283. Nor Jean Co., Inc., Burnsville, Minn. Filed July 9, 1968.

MINI-KITCHEN

For Picnic and Lunch Kit Consisting of Insulated Food Chest Containing Utensils and Barbecue Grill (Int. Cl. 21).
First use July 22, 1967.

SN 306,670. Jersey Wood & Metal Specialties Co., Union, N.J. Filed Sept. 5, 1968.

CAP-IT

For Carbonation-Retaining Bottle Closures (Int. Cl. 20).
First use June 1963.

Class 51—Cosmetics and Toilet Preparations

SN 293,149. Kenneth Beauty Salons & Products, Inc., New York, N.Y. Filed Mar. 13, 1968.

BABY FEVER

For Lipsticks and Lip Gloss (Int. Cl. 3).
First use Jan. 26, 1968.

SN 294,021. Del Laboratories, Inc., Farmingdale, N.Y. Filed Mar. 25, 1968.

WET FLAMES

For Lipsticks (Int. Cl. 3).
First use Feb. 26, 1968.

SN 294,969. Parfumerie Fragonard Georges Fuchs & Cie, Paris, France. Filed Apr. 4, 1968.

ZIZANIE

Owner of U.S. Reg. Nos. 787,202 and 795,690.
For Perfumes, Toilet Water, Bath Oil, and Talcum Powder (Int. Cl. 3).
First use 1932; in commerce 1932.

SN 295,253. Rayette-Faberge, Inc., New York, N.Y. Filed Apr. 9, 1968.

ESPRIT DE RAYETTE

The mark may be translated into English as "Spirit of Rayette." Owner of Reg. Nos. 403,074, 645,515, and others.
For Cologne (Int. Cl. 3).
First use Mar. 5, 1968.

SN 296,106. Carley, Inc., Haddonfield, N. J. Filed Apr. 22, 1968.

MASCUMETICS

Owner of Reg. Nos. 801,966 and 827,981.
For Men's Body Deodorant, Foaming Bath Oil, Hand and Body Lotion, and Talcum Powder (Int. Cls. 3 and 5).
First use Dec. 8, 1965.

SN 298,985. Vivaudou Creations Ltd., New York, N.Y. Filed May 23, 1968.



For Shaving Lotions, Colognes, Perfumes, Toilet Water and Body Deodorants (Int. Cls. 3 and 5).
First use February 1964.

SN 304,859. El Ruth Cosmetics and Products, Inc., Reno, Nev. Filed Aug. 12, 1968.

El Ruth

For Facial Cleansing Creams, Freshener Lotions, Moisturizer, Make-Up Base Lotion, Rouge, Cosmetic Blemish Preparation, Eye Shadow, Facial Powder, Eyebrow Pencil, Mascara, Lipstick (Int. Cl. 3).
First use Feb. 26, 1968.

SN 307,291. Treas Ur Le Creations, Inc., Houston, Tex. Filed Sept. 13, 1968.



For Perfume, Face Powder, Hand and Body Lotions, Skin Fresheners and Moisturizers, Make-Up Base, Bath and Eye and Throat Oils, and Cosmetic Skin Cleansers (Int. Cl. 3).
First use Feb. 10, 1968.

SN 307,927. Faberge, Inc., New York, N.Y. Filed Sept. 23, 1968.

FLEXI GLOSS

Applicant makes no claim to the exclusive right to the use of the word "Gloss" apart from the complete mark.
For Nail Enamel (Int. Cl. 3).
First use June 21, 1968.

SN 313,231. The Gillette Company, Boston, Mass. Filed Nov. 29, 1968.

METAMORPHOSES

For Skin Lotion and After Shave Lotion (Int. Cl. 3).
First use Oct. 10, 1968.

Class 52 — Detergents and Soaps

SN 276,749. Guido Mazzetti, Rome, Italy. Filed July 25, 1967.

VELTENE

Owner of Italian Reg. No. 95,561, dated Mar. 31, 1949.
For Benzo-Alcoholic Soap in the Form of Paste (Int. Cl. 3).

SN 284,083. General Dynamics, Groton, Conn. Filed Nov. 3. 1967.

RD-16

For Metal Cleaner (Int. Cl. 3).
First use Mar. 3, 1965.

SN 284,196. Henkel & Cie, G.m.b.H., Dusseldorf, Germany. Filed Nov. 6, 1967.

SAPTIL

Owner of German Reg. No. 754,169, dated Aug. 20, 1960.
For Laundry Detergents (Int. Cl. 3).

SN 295,312. Colgate-Palmolive Company, New York, N.Y. Filed Apr. 10, 1968.

THE SPARKLER

Owner of Reg. Nos. 388,964 and 627,143.
For Detergent for Washing Dishes (Int. Cl. 3).
First use Dec. 4, 1967.

SN 302,278. Baron Blakeslee, Inc., Chicago, Ill. Filed July 9, 1968.

BLACO-PER

Owner of Reg. No. 848,498.
For Degreasing Solvents (Int. Cl. 1).
First use on or about June 24, 1968.

SN 302,279. Baron Blakeslee, Inc., Chicago, Ill. Filed July 9, 1968.

BLACO-TRI

Owner of Reg. No. 848,498.
For Degreasing Solvents (Int. Cl. 1).
First use on or about June 24, 1968.

SN 302,281. Baron Blakeslee, Inc., Chicago, Ill. Filed July 9, 1968.

BLACO-THANE

Owner of Reg. No. 848,498.
For Degreasing Solvents (Int. Cl. 1).
First use on or about June 24, 1968.

SN 312,850. American Home Products Corporation, New York, N.Y. Filed Nov. 22, 1968

KITCHEN SHIELD

Owner of Reg. No. 714,856.
For Floor Cleaner, Wax Remover, Oven Cleaner, Household Cleaning Preparation, and Window Cleaning Preparation (Int. Cl. 3).
First use June 14, 1968.

SERVICE MARKS

Class 100 — Miscellaneous

SN 253,208. Columbia Gas of Pennsylvania, Inc., Pittsburgh, Pa. Filed Aug. 26, 1966.

SPEEDEE BEE-TEE-U

Applicant disclaims the expression "Bee-Tee-U" apart from the mark as shown.
For Supplying of Natural Gas and Fluid Hydrocarbons to the Public (Int. Cl. 42).
First use June 30, 1966.

SN 256,934. Fire Apparatus Manufacturers Association, Inc., Washington, D.C. Filed Oct. 21, 1966.

FIRE APPARATUS MANUFACTURERS ASSOCIATION

For Services Supplied to Members of Applicant Association, Who Are Fire Apparatus Manufacturers—Namely, Information and Advice as to Current Administration and Legislative Events and Regulations, Business Survey Reports and Tax Matters, and Literature Relating to the Association (Int. Cl. 42).
First use about 1953.

SN 263,700. Selectra-Date Corporation, Fort Lauderdale, Fla. Filed Jan. 31, 1967.

SELECTRA-DATE

For Matching Potentially Compatible Individuals, for Such Purposes as Dating, by Means of Computerization of Information Submitted by Subscribers Concerning Themselves (Int. Cl. 42).
First use Dec. 19, 1966.

SN 270,335. Agro Land and Cattle Company, Inc., Tucson, Ariz. Filed May 1, 1967.

PINNACLE PEAK

For Restaurant Services (Int. Cl. 42).
First use Sept. 22, 1963.

SN 276,049. TBD Industries, Inc., Seattle, Wash. Filed July 14, 1967.

AIR GIANT EXPRESS

For Planning, Design and Construction Project Management Services (Int. Cl. 42).
First use June 19, 1967.

SN 276,050. TBD Industries, Inc., Seattle, Wash. Filed July 14, 1967.



For Planning, Design and Construction Project Management Services (Int. Cl. 42).
First use June 19, 1967.

SN 279,324. Clarence R. Perkins, Sr., and Ruth A. Perkins (partnership), Kinsman, Ohio. Filed Aug. 29, 1967.

"SI" PERKINS

"'SI' Perkins" is the nickname of Clarence R. Perkins, Sr. a living individual whose consent is of record.
For Restaurant Services (Int. Cl. 42).
First use in or about April 1961.

SN 279,756. Shake 'n' Dog, Inc., Morgantown, W. Va. Filed Sept. 6, 1967.

WE TICKLE TUMMIES ACROSS AMERICA

For Restaurant Services (Int. Cl. 42).
First use June 29, 1967.

SN 280,635. Cyrus Wm. Rice & Company, Pittsburgh, Pa. Filed Sept. 18, 1967.

WASTE AUDIT

For Environmental Pollution Control Services—Namely, for the Conducting of Surveys and Analyses of Pollution Effluent Water and Air, and Pollution Monitoring Systems, and the Recommendation and Supervision of Pollution Quality Control Techniques and Procedures Including the Accrediting of Plant Waste Facilities and Monitoring Personnel (Int. Cl. 42).
First use Apr. 19, 1965.

SN 289,820. Marine Testing Institute, Inc., Mamaroneck, N.Y. Filed Jan. 29, 1968.

MARINE TESTING INSTITUTE, INC. MAMARONECK, NEW YORK

The words "Marine Testing Institute Inc." and "Mamaroneck, New York" are disclaimed apart from the mark as shown.
For Material and Product Testing of Marine Products (Int. Cl. 42).
First use at least as early as December 1962.

SN 292,388. Kozy Kampers, Inc., Fort Lauderdale, Fla. Filed Mar. 4, 1968.

KOZY KAMPERS KK CLEAN CITY STYLE CAMPING CONVENIENT

No claim is made to the words "City Style Camping" "Clean" and "Convenient" apart from the mark as shown.
For Providing Camping Facilities for Mobile Units (Int. Cl. 42).
First use October 1966.

SN 293,419. Sutphen's Inc., Wichita, Kans. Filed Mar. 15. 1968.

Sutphen's

For Restaurant Services (Int. Cl. 42).
First use 1955.

SN 294,056. King Cole Pizza Palace Corporation, Cleveland, Ohio. Filed Mar. 25, 1968.

KING COLE PIZZA PALACE

Applicant disclaims any right in the word "Pizza" except as employed in the subject mark.
For Restaurant Services (Int. Cl. 42).
First use October 1953.

SN 294,455. Thomas H. Bernatz, d.b.a. Little O'Taco Maker, Whittier, Calif. Filed Mar. 29, 1968.



No registration rights are claimed for the representation of the taco apart from the mark shown in the drawing, but applicant waives none of his common law right in the mark or any feature thereof.
For Restaurant Services (Int. Cl. 42).
First use on or about Mar. 20, 1966.

SN 294,947. Leprechaun Mining and Chemical, Inc., Las Vegas, Nev. Filed Apr. 4, 1968.



For Mineral Exploration and Development, Mineral Appraisal, Claim Staking, Mine Surveying and Mapping, and Report Writing in Respect Thereto to the Order and/or Specification of Others (Int. Cl. 42).
First use at least as early as July 1960.

SN 294,948. Leprechaun Mining and Chemical, Inc., Las Vegas, Nev. Filed Apr. 4, 1968.



For Mineral Exploration and Development, Mineral Appraisal, Claim Staking, Mine Surveying and Mapping, and Report Writing in Respect Thereto to the Order and/or Specification of Others (Int. Cl. 42).
First use at least as early as July 1960.

Class 101 — Advertising and Business

SN 273,063. Glendinning Companies, Inc., Westport, Conn. Filed June 5, 1967.

SUPER PRO

For Services Related to Promotional Contest-Type Program of the Public-Participation Type, for Promoting Retail Businesses of Others—Namely, Originating, Planning, Devising Materials for, and Implementing Such Programs (Int. Cl. 35).
First use May 19, 1967.

SN 273,192. Gulf South Advertising Specialties, Inc., Baton Rouge, La. Filed June 6, 1967.



Owner of Reg. No. 612,338.
For Advertising Services—Namely, Preparing Advertising Material To Be Used by Others on Radio, Television and in Publications (Int. Cl. 35).
First use Jan. 8, 1946.

SN 273,842. American Marketing Association, Chicago, Ill. Filed June 14, 1967.

INTRO

For Employment and Recruiting Services (Int. Cl. 35).
First use February 1963.

SN 275,941. Glenn Advertising, Inc., Dallas, Tex. Filed July 13, 1967.

INFO/CO

For Research, Investigation, Surveys and Analysis of Material Gathered in the Fields of Advertising and Marketing (Int. Cl. 35).
First use Apr. 15, 1967.

SN 281,338. Societe des Magasins Prisunic, Paris, France. Filed Sept. 19, 1967.

PRISUNIC

Owner of French Reg. No. 729,703, dated Mar. 7, 1967.
For Department Store Services (Int. Cl. 35).

SN 282,814. National-Braemar, Inc., San Francisco, Calif. Filed Oct. 18, 1967.



For Rental of Retail Store Space (Int. Cl. 35).
First use about July 1966.

SN 285,262. Spot-O-Gold Corporation, Philadelphia, Pa. Filed Nov. 20, 1967.

DONUTS TO DOLLARS

For Promoting the Sale of Goods or Services of Others Through Providing Materials and Advertising Matter Designed for a Promotional Contest (Int. Cl. 35).
First use Sept. 27, 1967.

SN 286,696. Mercantile Trust Company National Association, St. Louis, Mo. Filed Dec. 11, 1967.

COMPAC

For Computerized Accounting for Agriculture (Int. Cl. 35).
First use Oct. 15, 1967.

SN 289,465. American Hardware Supply Company, East Butler, Pa. Filed Jan. 24, 1968.



Applicant disclaims the term "Hardware Stores" separate and apart from the mark as shown.
For Hardware Store Services (Int. Cl. 35).
First use 1962.

SN 290,939. Associated Exhibition Management, Inc., St. Louis, Mo. Filed Feb. 13, 1968.

WATERWAYS EXPOSITION

Applicant disclaims the word "Exposition" apart from the mark as shown
For Planning and Producing an Educational and Technical Exhibit of Materials, Equipment, and Services for the Construction, Operation, Maintenance, and Repair of Workboats, Barges, Terminal Facilities and Allied Products (Int. Cl. 35).
First use July 14, 1960.

SN 291,064. Glendinning Companies, Inc., Westport, Conn. Filed Feb. 14, 1968.

WINNER'S CIRCLE

For Services Related to Promoting the Sale of Goods and/or Services of Others Through the Distribution of Printed Materials and Advertising Designs for Promotional Games (Int. Cl. 35).
First use Dec. 28, 1967.

SN 292,633. Temporarily Yours Personnel Service, Inc., New York, N.Y. Filed Mar. 6, 1968.



For Providing Temporary Office, Clerical, Sales and Shipping Personnel (Int. Cl. 35).
First use Feb. 19, 1968.

SN 292,634. Temporarily Yours Personnel Service, Inc., New York, N.Y. Filed Mar. 6, 1968.



For Providing Temporary Office, Clerical, Sales and Shipping Personnel (Int. Cl. 35).
First use Nov. 15, 1966.

SN 293,917. Peggy Dufur, d.b.a. Introduction Please, Kansas City, Mo. Filed Mar. 22, 1968.

INTRODUCTION PLEASE

"Introduction" is disclaimed except as used in conjunction with other features of the mark.
For Dating Bureau Servcies—Namely, Providing Opportunities for Men and Women To Meet Persons of Compatible Interests, Backgrounds, and Personalities (Int. Cl. 35).
First use on or about May 1, 1946.

SN 296,521. Construction Industry Manufacturers Association, Milwaukee, Wis. Filed Apr. 25, 1968.

CONEXPO

For Organizing and Arranging Shows for the Exposition of Construction Equipment (Int. Cl. 35).
First use Apr. 3, 1968.

SN 300,646. Fotomat Corporation, La Jolla, Calif. Filed June 18, 1968.

FOTOMATE

For Retail Drive-In Photographic Supply Store Services (Int. Cl. 35).
First use Nov. 3, 1967.

SN 302,732. Executive Action, Inc., Washington, D.C. Filed July 15, 1968.

EXECUTIVE ACTION, INC.

For Consulting Services in the Field of Business Personnel (Int. Cl. 35).
First use July 20, 1963.

SN 307,812. Sav-On, Inc., Yonkers, N.Y. Filed Sept. 20, 1968.

SAV-ON

For Retail Variety Store Services (Int. Cl. 35).
First use on or about Jan. 1, 1959.

SN 310,516. Buccaneer Stamp Company, Waco, Tex. Filed Oct. 25, 1968.



Owner of Reg. No. 674,736.
For Promoting Sale of Goods of Others Through the Use of Trading Stamps Which Are Redeemed for Merchandise or Money (Int. Cl. 35).
First use Feb. 1, 1957.

Class 102 — Insurance and Financial

SN 269,773. Moody's Investors Service, Inc., New York, N.Y. Filed Apr. 21, 1967.

MOODY'S

For Issuance of Ratings Denoting the Relative Investment Quality of Corporate and Municipal Bonds (Int. Cl. 36).
First use in or about 1930.

SN 269,774. Moody's Investors Service, Inc., New York, N.Y. Filed Apr. 21, 1967.

MOODY'S

For Advising Banks, Pension Funds, Insurance Companies, Colleges, Corporations, Trusts and Individuals in Regard to Investment, Special Research and Valuation Services in Regard to Investment, Municipal Consulting Services, and Portfolio Management Services (Int. Cl. 36).
First use in or about 1930.

SN 271,710. Insurance Company of North America, Philadelphia, Pa. Filed May 17, 1967.

INAMATION

For Computerized System for the Automated Handling of Personal Insurance Policies (Int. Cl. 36).
First use Feb. 17, 1967.

SN 273,644. Insurance Company of North America, Philadelphia, Pa. Filed June 12, 1967.

MARINE CARGOLOG

For Providing Cargo Insurance Policyholders With an Underwriting, Premium and Loss History (Int. Cl. 36).
First use Nov. 3, 1966.

SN 276,263. Tozer Kemsley & Millbourn Ltd., London, England. Filed July 18, 1967.

TKM

For Extending Loans on Goods Shipped in International Commerce (Int. Cl. 36).
First use at least as early as April 1961; in commerce at least as early as April 1961.

SN 276,264. Tozer Kemsley & Millbourn Ltd., London, England. Filed July 18, 1967.

TKM

For Extending Loans on Goods Shipped in International Commerce (Int. Cl. 36).
First use at least as early as October 1965; in commerce at least as early as October 1965; at least as early as April 1961 in a different form.

SN 282,633. Southern Management, Incorporated, Greenville, N.C. Filed Oct. 16, 1967.

GREAT SOUTHERN FINANCE

The word "Finance" is disclaimed apart from the mark as shown.
For Providing Customer Loans (Int. Cl. 36).
First use May 1962.

SN 287,553. Glasgow Hicks Company, Wilmington, N.C. Filed Dec. 26, 1967.



The drawing of the mark is lined for the color red.
For Insurance Brokerage Services (Int. Cl. 36).
First use July 1, 1966.

SN 296,005. American Retirement Life Insurance Company, Fort Worth, Tex. Filed Apr. 19, 1968.

54 POLICY

The word "Policy" is disclaimed apart from the mark as shown.
For Underwriting of Life, Health, Accident and Sickness Insurance (Int. Cl. 36).
First use Mar. 27, 1968.

SN 309,758. Equitable Life Insurance Company, Washington, D.C. Filed Oct. 16, 1968.

EQUILIFE

Owner of Reg. Nos. 851,636 and 853,261.
For General Insurance Underwriting as Applied to Either Accident or Life Insurance (Int. Cl. 36).
First use Nov. 8, 1958.

Class 103 — Construction and Repair

SN 281,273. Karl N. Dickey, d.b.a. Nu-Look 1 Hr Cleaners, Washington, D.C. Filed Sept. 27, 1967.



Applicant disclaims any exclusive rights to the words "1 Hr" and "Cleaners" apart from the mark as shown (Int. Cl. 37).
For Dry Cleaning and Laundry Service of Garments and Other Materials (Int. Cl. 37).
First use Aug. 28, 1967.

SN 284,690. MCM Inc., Mount Clemens, Mich. Filed Nov. 13, 1967.

MOTOR CLUB MICHIGAN

For Highway Vehicle Repair, Maintenance and Tow Services (Int. Cl. 37).
First use Sept. 14, 1967.

SN 285,070. Sparkle Wash, Inc., Chagrin Falls, Ohio. Filed Nov. 16, 1967.

SPARKLE WASH

The word "Wash" is disclaimed apart from the mark as shown.
For On-Site Cleaning and Waxing Services for Vehicles and Buildings (Int. Cl. 37).
First use in or about August 1966.

SN 288,238. Servicemaster Industries, Inc., Downers Grove, Ill. Filed Jan. 5, 1968.



Owner of Reg. Nos. 704,772, 782,584, and 810,943.
For Maintenance Services for Cleaning Interiors of Commercial Buildings and Private Homes and Furnishings Thereof (Int. Cl. 37).
First use Sept. 15, 1967.

SN 290,802. Peter G. Botsford, d.b.a. Botsford Racing Enterprises, Boulder, Colo. Filed Feb. 12, 1968.

BRE

For Maintenance and Modification of Automobiles (Int. Cl. 37).
First use Jan. 25, 1967.

SN 296,561. National Service Industries, Inc., Atlanta, Ga. Filed Apr. 25, 1968.

hy•gym

For Rental of Athletic Clothing, Including the Supplying of Trunks and T-shirts and Cleaning of Same (Int. Cl. 37).
First use Apr. 15, 1968.

SN 296,795. Berger Lumber Corp., West Kingston, R.I. Filed Apr. 29, 1968.

BERGER

For Erection of Prefabricated Homes (Int. Cl. 37).
First use on or about July 8, 1959.

Class 104 — Communication

SN 268,021. Bryant Radio & Television, Inc., Lubbock, Tex. Filed Mar. 31, 1967.



Applicant disclaims the channel designation "11" apart from the mark as shown.
For Operating Commercial Television Station (Int. Cl. 38).
First use Dec. 30, 1953.

Class 105 — Transportation and Storage

SN 264,418. ITT Consumer Services Corporation, New York, N.Y. Filed Feb. 10, 1967.

APCOA

For Airport Vehicle Parking Services (Int. Cl. 39).
First use November 1964.

SN 288,895. United Tours, Inc., Miami, Fla. Filed Jan. 15, 1968.

MEXICO A LA CARTE

Applicant disclaims the word "Mexico" apart from the mark as shown.
For Arranging and Conducting Travel Tours (Int. Cl. 39).
First use Dec. 15, 1967.

SN 295,569. Transport Pool, Inc., Los Angeles, Calif. Filed Apr. 12, 1968.



For Renting Equipment for the Storage and Transportation of Various Materials (Int. Cl. 39).
First use Mar. 14, 1968.

Class 106 — Material Treatment

SN 264,767. Specialized Business Services, Inc., Rochester, N.Y. Filed Feb. 15, 1967.



For Processing of Micro-Film and Micro-Film Products (Int. Cl. 40).
First use Aug. 1, 1963.

SN 309,423. GAF Corporation, New York, N.Y. Filed Oct. 11, 1968.

gaf

Owner of Reg. Nos. 509,124, 837,005, and others.
For Processing of Exposed Sensitized Photographic Materials (Int. Cl. 40).
First use January 1965.

SN 309,425. GAF Corporation, New York, N.Y. Filed Oct. 11, 1968.

GAF

Owner of Reg. Nos. 509,124, 837,005, and others.
For Processing of Exposed Sensitized Photographic Materials (Int. Cl. 40).
First use January 1965.

Class 107 — Education and Entertainment

SN 259,808. Herbert L. Cohen and Frank Zappa (joint owners), Los Angeles, Calif. Filed Dec. 1, 1966.

FREAKOUT

For Entertainment Services Comprising Production and Performance of Musical Concerts, Light Shows, Dancing and Other Forms of Entertainment in Live Form, and on Radio, Television and in Motion Pictures (Int. Cl. 41).
First use June 7, 1966.

SN 280,065. Institute of Modern Languages, Inc., Washington D.C. Filed Sept. 11, 1967.

SR

For Educational Services—Namely, the Conducting of Intensive Technical Language Training Programs by Means of Classroom and/or Correspondence Courses (Int. Cl. 41).
First use not later than May 15, 1966.

SN 281,483. National Professional Salesmen's Association, Cleveland, Ohio. Filed Sept. 29, 1967.

npsa
NATIONAL PROFESSIONAL SALESMEN'S ASSOCIATION

For Educational Services—Namely, Classroom and/or Correspondence courses in the Fields of Salesmanship (Int. Cl. 41).
First use Aug. 18, 1967.

SN 288,001. Claster Enterprises, Inc., Baltimore, Md. Filed Jan. 3, 1968.

BOWLING BANK

Applicant makes no claim to the word "Bowling" apart from the mark as shown.
For Providing Entertainment Services in the Form of a Television Bowling Program (Int. Cl. 41).
First use Oct. 15, 1967.

SN 291,540. White Whale Record Co., Inc., Los Angeles, Calif. Filed Feb. 20, 1968.

THE TURTLES

For Entertainment Services Rendered by a Singing Group (Int. Cl. 41).
First use June 17, 1965.

SN 292,767. Deere & Company, Moline, Ill. Filed Mar. 8, 1968.

EL SURCO DEL AIRE

The mark is in the Spanish language and in English means "the furrow on the air." Owner of Reg. Nos. 234,555 and 863,951.
For Providing Agricultural Information by Means of a Regularly Scheduled Spanish-Language Radio Program (Int. Cl. 41).
First use Feb. 6, 1965

SN 293,391. Matthew Katz, San Francisco, Calif. Filed Mar. 15, 1968.

MOBY GRAPE

For Musical Entertainment Services Rendered by a Vocal and Instrumental Group (Int. Cl. 41).
First use Sept. 28, 1966.

SN 294,536. Talent Unlimited, Incorporated, Louisville, Ky. Filed Mar. 29, 1968.

THE IMPACT OF BRASS

Applicant disclaims the word "Brass" in its mark.
For Entertainment Services in the Form of Vocal and Instrumental Renditions Presented by a Group (Int. Cl. 41).
First use June 12, 1967.

SN 294,658. Don Reid Productions, Inc., New York, N.Y. Filed Apr. 1, 1968.

DREAM HOUSE

For Entertainment Services—Namely, Quiz-Type Television Programs (Int. Cl. 41).
First use Mar. 27, 1968.

SN 294,829. Famous Artists Schools, Inc., Westport, Conn. Filed Apr. 3, 1968.

Famous Schools for Women

The words "Schools for Women" are disclaimed apart from the mark as shown. Owner of Reg. Nos. 137,892, 797,917, and others.
For Correspondence Courses in Careers for Women (Int. Cl. 41).
First use Mar. 15, 1968.

SN 294,920. Crestmark Productions of America, Inc., Atlanta, Ga. Filed Apr. 4, 1968.



For Operating a Dinner-Theater Featuring Plays (Int. Cl. 41).
First use on or about Mar. 8, 1968.

SN 294,922. Crestmark Productions of America, Inc., Atlanta, Ga. Filed Apr. 4, 1968.

TALLY-HO

For Operating a Dinner-Theater Featuring Plays (Int. Cl. 41).
First use on or about Mar. 8, 1968.

TRADEMARK REGISTRATIONS ISSUED
PRINCIPAL REGISTER

Class 1—Raw or Partly Prepared Materials

867,323. XR-66. L. Teweles Seed Co. SN 270,015. Pub. 1-14-69. Filed 4-25-67.

867,324. XR-33. L. Teweles Seed Co. SN 270,016. Pub. 1-14-69. Filed 4-25-67.

867,325. FLOWER OF THE MONTH. Flower of the Month, Inc. SN 277,653. Pub. 1-14-69. Filed 8-7-67.

867,326. SKAILEN. Konrad Hornschuch Aktiengesellschaft Werk Weissbach. SN 282,375. Pub. 1-14-69. Filed 10-12-67.

Class 2—Receptades

867,327. MISCELLANEOUS DESIGN. Polyfoam, Inc. SN 273,676. Pub. 1-14-69. Filed 6-12-67.

867,328. BROWN. Clark Equipment Company (Delaware corporation), by merger and change of name from Clark Equipment Company (Michigan corporation). SN 284,616. Pub. 1-14-69. Filed 11-13-67.

867,329. KUSH-N-POST. S. Eisenberg & Co. SN 289,793. Pub. 7-16-68. Filed 1-29-68.

867,330. PHOTO SHOWCASE. Textron Inc. SN 293,755. Pub. 1-14-69. Filed 3-20-68.

867,331. NUMERIDEX. Numeridex Tape Systems, Inc. SN 297,432. Pub. 1-14-69. Filed 5-6-68.

867,332. A DRIPCUT STARLINE PRODUCT SAVE, STORE AND POUR AND DESIGN. Dispensers, Inc., d.b.a. Dripcut Starline Corporation. SN 301,048. Pub. 1-14-69. Filed 6-21-68.

867,333. MERRY WARE. Shamrock-Neatway Products, Inc. SN 304,258. Pub. 1-14-69. Filed 8-2-68.

Class 3—Baggage, Animal Equipments, Portfolios, and Pocketbooks

867,334. HYKRO. Bent Hansen, d.b.a. Hoyrup Jessen. MULTIPLE CLASS (Classes 3 and 46). SN 279,774. Pub. 1-14-69. Filed 9-7-67.

Class 4—Abrasives and Polishing Materials

867,335. K MART AND DESIGN. S. S. Kresge Company. SN 296,026. Pub. 1-14-69. Filed 4-19-68.

867,336. BUNNY PUFF. Ilda Ludovico. SN 304,654. Pub. 1-14-69. Filed 8-8-68.

Class 5—Adhesives

867,337. JOHNSONITE. The Johnson Rubber Company. MULTIPLE CLASS (Classes 5 and 12). SN 266,426. Pub. 10-22-68. Filed 3-10-67.

867,338. EMABOND. E.M.A. Corporation. SN 277,986. Pub. 1-14-69. Filed 8-10-67.

867,339. PLYACRYL. Reichhold Chemicals, Inc. SN 302,904. Pub. 11-5-68. Filed 7-17-68.

867,340. OVAL ETC. (DESIGN). Chicago Adhesive Products Co. SN 308,342. Pub. 1-14-69. Filed 9-27-68.

Class 6—Chemicals and Chemical Compositions

867,341. FASPEEL. Wyandotte Chemicals Corporation. SN 267,088. Pub. 1-14-69. Filed 3-17-67.

867,342. V. Ashland Oil & Refining Company. MULTIPLE CLASS (Classes 6 and 15). SN 267,482. Pub. 9-3-68. Filed 3-24-67.

867,343. SAES. S.A.E.S. Getters S.p.A. SN 276,177. Pub. 1-14-69. Filed 7-17-67.

867,344. CAR-A-VAN. Carlisle Chemical Works, Inc. SN 277,983. Pub. 1-14-69. Filed 8-10-67.

867,345. OXINE. Lily Products Company. SN 278,115. Pub. 7-16-68. Filed 8-11-67.

867,346. BANISH. Madison Chemical Corporation. SN 279,313. Pub. 1-14-69. Filed 8-29-67.

867,347. CHRISTMAS TREET AND DESIGN. Nursery Specialty Products, Inc. SN 287,085. Pub. 1-14-69. Filed 12-18-67.

867,348. SILYL-8. Pierce Chemical Company. SN 287,095. Pub. 1-14-69. Filed 12-18-67.

867,349. TRI-SIL. Pierce Chemical Company. SN 287,096. Pub. 1-14-69. Filed 12-18-67.

867,350. BILISCREEN. Denver Chemical Manufacturing Company, d.b.a. Wampole Laboratories. SN 289,384. Pub. 1-14-69. Filed 1-23-68.

867,351. ESPEROX. Argus Chemical Corporation. SN 291,699. Pub. 1-14-69. Filed 2-23-68.

867,352. BUROLOCK. Calgon Corporation. SN 293,227. Pub. 1-14-69. Filed 3-14-68.

867,353. SHOW. Calgon Corporation. SN 293,471. Pub. 1-14-69. Filed 3-18-68.

867,354. AXION. Colgate-Palmolive Company. SN 293,477. Pub. 1-14-69. Filed 3-18-68.

Class 7—Cordage

867,355. FASHION FLOWER AND DESIGN. Gibson Greeting Cards, Inc. SN 301,931. Pub. 1-14-69. Filed 7-3-68.

Class 8—Smokers' Artides, Not Including Tobacco Products

867,356. ROYAL GUARD. Peterson's Ltd., Inc. SN 283,147. Pub. 10-1-68. Filed 10-23-67.

Class 9—Explosives, Firearms, Equipments, and Projectiles

867,357. RI AND DESIGN. Reynolds Industries, Incorporated. MULTIPLE CLASS (Classes 9 and 21). SN 268,427. Pub. 1-14-69. Filed 4-5-67.

867,358. HARPON. Nord-Aviation Societe Nationale de Constructions Aeronautiques. SN 287,231. Pub. 1-14-69. Filed 12-19-67.

867,359. MAVERICK AND DESIGN. Intercontinental Arms, Inc. SN 297,409. Pub. 1-14-69. Filed 5-6-68.

867,360. RENEGADE. Intercontinental Arms, Inc. SN 297,410. Pub. 1–14–69. Filed 5–6–68.

867,361. KENTUCKIAN. Intercontinental Arms, Inc. SN 297,411. Pub. 1–14–69. Filed 5–6–68.

Class 11—Inks and Inking Materials

867,362. MICRO-FLOW. Chromex Chemical Corp. SN 270,550. Pub. 2–13–68. Filed 5–3–67.

867,363. SUNGARD. Sun Chemical Corporation. SN 295,969. Pub. 1–14–69. Filed 4–18–68.

867,364. SUNKET. Sun Chemical Corporation. SN 295,970. Pub. 1–14–69. Filed 4–18–68.

867,365. SUNAL. Sun Chemical Corporation. SN 295,971. Pub. 1–14–69. Filed 4–18–68.

867,366. SUNTOL. Sun Chemical Corporation. SN 295,972. Pub. 1–14–69. Filed 4–18–68.

867,367. SUNAR. Sun Chemical Corporation. SN 295,973. Pub. 1–14–69. Filed 4–18–68.

867,368. SUNATE. Sun Chemical Corporation. SN 295,974. Pub. 1–14–69. Filed 4–18–68.

867,369. SUNAMIDE. Sun Chemical Corporation. SN 295,975. Pub. 1–14–69. Filed 4–18–68.

867,370. SUNEX. Sun Chemical Corporation. SN 295,977. Pub. 1–14–69. Filed 4–18–68.

Class 12—Construction Materials

867,337. (See Class 5 for this trademark.)

867,371. MAR-VEL. Mar-Vel Marble, Inc. SN 263,592. Pub. 4–16–68. Filed 1–30–67.

867,372. THERMOBIAIS. Technique du Verre Tisse. SN 285,866. Pub. 1–14–69. Filed 11–29–67.

867,373. UNISOL. The International Synthetic Rubber Company Limited. SN 286,939. Pub. 1–14–69. Filed 12–14–67.

867,374. TIMBERSPAN AND DESIGN. Richard Earl Robertson Bell. SN 290,375. Pub. 1–14–69. Filed 2–6–68.

867,375. PINE LOG. The Georgia Marble Company. SN 297,832. Pub. 1–14–69. Filed 5–10–68.

867,376. C-VOIDS. Consolidated Papers, Inc. SN 300,424. Pub. 1–14–69. Filed 6–14–68.

867,377. C-FORMS. Consolidated Papers, Inc. SN 300,432. Pub. 1–14–69. Filed 6–14–68.

867,378. DESIGN-A-DOR. Grover Aluminum Products, Inc. SN 301,063. Pub. 1–14–69. Filed 6–21–68.

867,379. STYLEBORD. Evans Products Company. SN 302,495. Pub. 1–14–69. Filed 7–11–68.

Class 13—Hardware and Plumbing and Steam-Fitting Supplies

867,380. SPEED-THREAD. Superior Concrete Accessories, Inc. SN 266,371. Pub. 1–14–69. Filed 3–9–67.

867,381. MISCELLANEOUS DESIGN. Woodford Manufacturing Co. MULTIPLE CLASS (Classes 13 and 23). SN 272,661. Pub. 1–14–69. Filed 5–31–67.

867,382. DURATORQ. Curtis Noll Corporation. SN 284,895. Pub. 1–14–69. Filed 11–15–67.

867,383. ASTERISK DESIGN. Trans-Continental Bolt Co. Ltd. SN 292,242. Pub. 1–14–69. Filed 3–1–68.

867,384. HOT-LOK. Long-Lok Corporation. SN 298,461. Pub. 1–14–69. Filed 5–17–68.

867,385. PECK-A-DRINK. Earl Clayton Thompson. SN 302,352. Pub. 1–14–69. Filed 7–9–68.

Class 14—Metals and Metal Castings and Forgings

867,386. CVM. Vasco Metals Corporation, by change of name and meane assignment from Vanadium-Alloys Steel Company. SN 201,159. Pub. 2–16–65. Filed 9–2–64.

867,387. CLARIBRITE. Claremont Polychemical Corporation. SN 292,552. Pub. 1–14–69. Filed 3–6–68.

Class 15—Oils and Greases

867,342. (See Class 6 for this trademark.)

867,388. MX 237 THE MASTER OIL AND DESIGN. Aldac, Inc. SN 290,059. Pub. 11–5–68. Filed 2–1–68.

867,389. EPOXEASE. Percy Harms Corporation. SN 308,259. Pub. 1–14–69. Filed 9–26–68.

Class 16—Protective and Decorative Coatings

867,390. "METALAGLO." Abso-Clean Chemical Co. SN 285,981. Pub. 1–14–69. Filed 12–1–67.

867,391. VULCABOND. Stabond Corporation. SN 289,630. Pub. 1–14–69. Filed 1–25–68.

867,392. ANOPRIME. W. R. Grace & Co. SN 290,599. Pub. 1–14–69. Filed 2–8–68.

867,393. CHARYSMA. Gulf States Paint Company. SN 291,385. Pub. 1–14–69. Filed 2–19–68.

867,394. COLONY. Conchemco, Incorporated. SN 291,838. Pub. 1–14–69. Filed 2–26–68.

867,395. ROCK-GUARD. Rock Paint & Chemical Company. SN 298,150. Pub. 1–14–69. Filed 5–14–68.

867,396. TEAK-GARD. International Paint Company, Inc. SN 298,604. Pub. 1–14–69. Filed 5–20–68.

867,397. KYPLATE. Kyanize Paints, Inc. SN 298,732. Pub. 1–14–69. Filed 5–21–68.

Class 17—Tobacco Products

867,398. BLACK & WHITE ETC. AND DESIGN. The United Kingdom Tobacco Company, Limited, d.b.a. Marcovitch & Co. SN 260,689. Pub. 10–1–68. Filed 12–13–66.

867,399. R AND CREST (DESIGN). Rothmans of Pall Mall Limited. SN 280,814. Pub. 1–14–69. Filed 9–20–67.

867,400. PULLMAN BY ROTHMANS AND DESIGN. Rothmans of Pall Mall Limited. SN 281,393. Pub. 1–14–69. Filed 9–28–67.

867,401. TURMAC. Turmac Tobacco Company N.V. SN 291,651. Pub. 1–14–69. Filed 2–21–68.

867,402. RATTRAY'S Charles Rattray. SN 295,955. Pub. 1–14–69. Filed 4–18–68.

867,403. MISCELLANEOUS DESIGN. John Middleton, Inc. SN 297,576. Pub. 1–14–69. Filed 5–7–68.

867,404. SEAFARERS. The S. Frieder & Sons Company. SN 303,470. Pub. 1–14–69. Filed 7–24–68.

867,405. LORD HORATIO. The S. Frieder & Sons Company. SN 303,471. Pub. 1–14–69. Filed 7–24–68.

867,406. DON DIEGO AND DESIGN. Compania Insular Tabacalera, S.A., Calle Ruiz de Alda, Esq. A. Galicia. SN 304,311. Pub. 1–14–69. Filed 8–5–68.

867,407. SANTA FE AND SUNSET DESIGN ETC. Universal Cigar Corporation. SN 307,720. Pub. 1–14–69. Filed 9–19–68.

Class 18—Medicines and Pharmaceutical Preparations

867,408. TARGET. Target Stores, Inc. SN 237,401. Pub. 11–8–66. Filed 1–26–66.

867,409. EROTOL. Erowerk G.m.b.H. MULTIPLE CLASS (Classes 18 and 46). SN 276,931. Pub. 10–22–68. Filed 7–27–67.

867,410. PERTSCAN. Abbott Laboratories. SN 277,417. Pub. 1–14–69. Filed 8–3–67.

867,411. GA–27. Eli Lilly and Company. SN 282,447. Pub. 8–13–68. Filed 10–13–67.

867,412. DURACHEM. Bristol-Myers Company. SN 286,088. Pub. 10–8–68. Filed 12–4–67.

867,413. MISCELLANEOUS DESIGN. Sumitomo Chemical Co., Ltd. SN 292,021. Pub. 1–14–69. Filed 2–27–68.

867,414. MAGNAVESS. Colgate-Palmolive Company. SN 292,348. Pub. 11–12–68. Filed 3–4–68.

867,415. GREEN ALERT. American Home Products Corporation. SN 292,655. Pub. 1–14–69. Filed 3–7–68.

867,416. BIODRY. The Upjohn Company. SN 293,962. Pub. 1–14–69. Filed 3–22–68.

867,417. RU-TUSS. Rucker Pharmacal Co., Inc. SN 307,941. Pub. 1–14–69. Filed 9–23–68.

867,418. RU-SPAS. Rucker Pharmacal Co., Inc. SN 307,943. Pub. 1–14–69. Filed 9–23–68.

Class 19—Vehicles

867,419. AMERICAN HOSPITAL SUPPLY A AND DESIGN. American Hospital Supply Corporation. SN 260,914. Pub. 1–14–69. Filed 12–16–66.

867,420. STAHL AND DESIGN. The Scott & Fetzer Company. MULTIPLE CLASS (Classes 19 and 23). SN 273,694. Pub. 1–14–69. Filed 6–12–67.

867,421. SHASTA AIRFLYTE AND DESIGN. Shasta Industries, Inc. SN 276,256. Pub. 1–14–69. Filed 7–18–67.

867,422. SNO CHAMP. Carlson & Parnell, Inc., d.b.a. Carlson-Parnell Co. SN 280,553. Pub. 1–14–69. Filed 9–18–67.

867,423. ALFA ROMEO 33. Alfa Romeo S.p.A. SN 282,871. Pub. 1–14–69. Filed 10–19–67.

867,424. THRU-BEAM TANK WITH A BACKBONE AND DESIGN. Southwest Welding & Manufacturing Co. SN 284,115. Pub. 1–14–69. Filed 11–3–67.

867,425. MERMAX. Mermax Pty. Limited. SN 290,003. Pub. 1–14–69. Filed 1–31–68.

867,426. MISCELLANEOUS DESIGN. Ski-Tow Manufacturing Co. SN 290,901. Pub. 1–14–69. Filed 2–12–68.

867,427. PUMA AND DESIGN. Ski-Tow Manufacturing Co. SN 290,902. Pub. 1–14–69. Filed 2–12–68.

867,428. SKI DADDLER. American Machine & Foundry Company. SN 292,664. Pub. 1–14–69. Filed 3–7–68.

867,429. SLICKCRAFT. Slickcraft Boat Co. SN 293,953. Pub. 1–14–69. Filed 3–22–68.

867,430. FAST-BAC. Daytona Sports Company. SN 297,043. Pub. 1–14–69. Filed 5–1–68.

867,431. DOLPHIN AND DESIGN. Dolphin-Kamper, Inc. SN 297,392. Pub. 1–14–69. Filed 5–6–68.

867,432. COLUMBUS. AP Parts Corporation. SN 297,512. Pub. 1–14–69. Filed 5–7–68.

867,433. SCAT AND DESIGN. Acme Missiles & Construction Corporation. SN 298,076. Pub. 1–14–69. Filed 5–14–68.

867,434. COROLLA. Toyota Jidosha Kogyo Kabushiki Kaisha (Toyota Motor Co., Ltd.). SN 298,644. Pub. 1–14–69. Filed 5–20–68.

867,435. CESSNA. The Cessna Aircraft Company. SN 298,700. Pub. 1–14–69. Filed 5–21–68.

867,436. HOLLY PARK. Gerring Industries, Inc. SN 299,228. Pub. 1–14–69. Filed 5–28–68.

867,437. CONCORD AND DESIGN. Concord Mobile Homes, Inc. SN 299,649. Pub. 1–14–69. Filed 6–4–68.

867,438. ORCO. Eagle-Picher Industries, Inc. SN 300,569. Pub. 1–14–69. Filed 6–17–68.

867,439. SCOTSMAN. Clifford E. Tucker. SN 302,204. Pub. 1–14–69. Filed 7–8–68.

867,440. VECTOR SAILS AND DESIGN. Blair Fashions, Inc., d.b.a. Vector Sails. SN 303,377. Pub. 1–14–69. Filed 7–23–68.

Class 20—Linoleum and Oiled Cloth

867,441. TIVOLI. American Biltrite Rubber Co., Inc. SN 291,478. Pub. 1–14–69. Filed 2–20–68.

867,442. ARGONAUT. Burke Rubber Company, Inc. SN 297,379. Pub. 1–14–69. Filed 5–6–68.

867,443. KID-PROOF AND DESIGN. Congoleum Industries, Inc., assignee of Congoleum-Nairn Inc. SN 298,708. Pub. 1–14–69. Filed 5–21–68.

867,444. VYLAM. Fabric Leather Corporation. SN 305,515. Pub. 1–14–69. Filed 8–20–68.

Class 21—Electrical Apparatus, Machines, and Supplies

867,357. (See Class 9 for this trademark.)

867,445. DYNACO. Dynaco, Inc. SN 197,685. Pub. 1–14–69. Filed 7–13–64.

867,446. WRAPLOCK. Preformed Line Products Company. SN 243,350. Pub. 1–14–69. Filed 4–13–66.

867,447. UNI-CLAD. Contacts, Incorporated. SN 278,874. Pub. 1–14–69. Filed 8–23–67.

867,448. WEST AND DESIGN. West Chemical Products, Inc. SN 280,285. Pub. 1–14–69. Filed 9–13–67.

867,449. BALLADIER. Conrac Corporation. SN 281,453. Pub. 1–14–69. Filed 9–29–67.

867,450. RECORD-O-CHANGE. Electrospace Corporation. SN 286,330. Pub. 1–14–69. Filed 12–6–67.

867,451. ONAN MARINE AND DESIGN. Studebaker Corporation. SN 286,562. Pub. 1–14–69. Filed 12–8–67.

867,452. THERMO CABLE. Thermo Electric Co., Inc. SN 286,781. Pub. 1–14–69. Filed S.R. 12–12–67; Am. P.R. 8–20–68.

867,453. T AND DESIGN. Teletronics, Inc. SN 286,852. Pub. 1–14–69. Filed 12–13–67.

867,454. TX–1000. Fisher Radio Corporation. SN 287,164. Pub. 1–14–69. Filed 12–18–67.

867,455. AS AND DESIGN. Automotive Controls Corp. MULTIPLE CLASS (Classes 21 and 26). SN 290,361. Pub. 1–14–69. Filed 2–6–68.

867,456. SOUNDRIVE. Bach Auricon, Inc. SN 295,501. Pub. 1–14–69. Filed 4–12–68.

867,457. RESALARM. Ellenco Inc. SN 295,519. Pub. 1–14–69. Filed 4–12–68.

867,458. LEKTRO MAID AND DESIGN. The West Bend Company. SN 299,608. Pub. 1–14–69. Filed 6–3–68.

Class 22—Games, Toys, and Sporting Goods

867,459. TINY-TONKA. Tonka Corporation. SN 288,893. Pub. 1–14–69. Filed 1–15–68.

867,460. OFFICIAL POLICE. Colt's Inc. SN 291,030. Pub. 1–14–69. Filed 2–14–68.

867,461. 4 SQUARE BALL AND DESIGN. Eagle Rubber Co., Inc. SN 292,770. Pub. 1–14–69. Filed 3–8–68.

867,462. BEAVER. Gentex Corporation. SN 293,121. Pub. 1–14–69. Filed 3–13–68.

867,463. PROJECT S.W.O.R.D. AND DESIGN. Century 21 Toys Limited. SN 293,475. Pub. 1–14–69. Filed 3–18–68.

867,464. PELICAN. Pflueger Corporation. SN 294,075. Pub. 1–14–69. Filed 3–25–68.

867,465. NAPCO AND DESIGN. Noel A. Price. SN 294,654. Pub. 1–14–69. Filed 4–1–68.

867,466. FUN CRACKER. Gala Merchandise Corp. SN 295,886. Pub. 1–14–69. Filed 4–18–68.

867,467. MISCELLANEOUS DESIGN. Cragstan Industries, Inc. SN 297,039. Pub. 1–14–69. Filed 5–1–68.

867,468. AMERICAN HORSESHOE LEAGUE. American Horseshoe League. SN 297,360. Pub. 1–14–69. Filed 5–6–68.

867,469. ESQUIRE. Northwestern Golf Company. SN 300,095. Pub. 1–14–69. Filed 6–10–68.

867,470. SHOT SAVER. Northwestern Golf Company. SN 300,096. Pub. 1–14–69. Filed 6–10–68.

867,471. KEMO-BLOC. Northwestern Golf Company. SN 300,097. Pub. 1–14–69. Filed 6–10–68.

867,472. DIAMOND BACK. Northwestern Golf Company. SN 300,098. Pub. 1–14–69. Filed 6–10–68.

867,473. M MATTEL INCORPORATED AND DESIGN. Mattel, Inc. SN 300,406. Pub. 1–14–69. Filed 6–14–68.

867,474. DABBA-DRAGON. Rainbow Crafts, Inc. SN 301,494. Pub. 1–14–69. Filed 6–27–68.

867,475. TORERO. Mattel, Inc. SN 307,270. Pub. 1–14–69. Filed 9–13–68.

867,476. GRENADO. Mattel, Inc. SN 307,271. Pub. 1–14–69. Filed 9–13–68.

867,477. TWINADO. Mattel, Inc. SN 307,272. Pub. 1–14–69. Filed 9–13–68.

867,478. TURBOFIRE. Mattel, Inc. SN 307,273. Pub. 1–14–69. Filed 9–13–68.

867,479. TWINMILL. Mattel, Inc. SN 307,274. Pub. 1–14–69. Filed 9–13–68.

867,480. DEVIL'S DEUCE. Mattel, Inc. SN 307,275. Pub. 1–14–69. Filed 9–13–68.

867,481. REVERE. Revere Manufacturing Co., Inc. SN 307,280. Pub. 1–14–69. Filed 9–13–68.

Class 23 — Cutlery, Machinery, and Tools, and Parts Thereof

867,381. (See Class 13 for this trademark.)

867,420. (See Class 19 for this trademark.)

867,482. CM. Columbus McKinnon Corporation. SN 260,020. Pub. 1–14–69. Filed 12–5–66.

867,483. NATIONAL. Allied Sewing Machine and Vacuum Cleaner Distributors. SN 262,748. Pub. 1–14–69. Filed 1–18–67.

867,484. FC1. Eaton Yale & Towne Inc. SN 264,311. Pub. 8–6–68. Filed 2–9–67.

867,485. MISCELLANEOUS DESIGN. Austin F. McCormack, d.b.a. McCormack Equipment Company. SN 265,646. Pub. 1–14–69. Filed 2–28–67.

867,486. COLUMBIAN VISES AND DESIGN. Warren Tool Corporation. SN 269,589. Pub. 1–14–69. Filed 4–19–67.

867,487. MAGNAVAC. Parks-Cramer (Great Britain) Ltd. SN 275,292. Pub. 8–6–68. Filed 7–3–67.

867,488. APH. Baker Perkins Inc. SN 276,084. Pub. 1–14–69. Filed 7–17–67.

867,489. GROUND POUNDER. M-B-W, Inc. SN 280,435. Pub. 1–14–69. Filed 9–15–67.

867,490. B & B. Bokum Tool Company Incorporated. SN 281,864. Pub. 1–14–69. Filed 10–5–67.

867,491. FLT AND DESIGN. Centrala Importowo-Eksportowa "Impexmetal." SN 282,884. Pub. 1–14–69. Filed 10–19–67.

867,492. MISCELLANEOUS DESIGN. Sumitomo Machinery Corporation of America. SN 283,172. Pub. 1–14–69. Filed 10–23–67.

867,493. NUMERICENTER. Giddings & Lewis, Inc. SN 285,540. Pub. 1–14–69. Filed 11–24–67.

867,494. SPOT-RITE. Dover Corporation. SN 286,004. Pub. 1–14–69. Filed 12–1–67.

867,495. ALCUP. Ivers-Lee, S.A. (Ivers-Lee, A.G.) (Ivers-Lee, Ltd.). SN 286,786. Pub. 1–14–69. Filed 12–13–67.

867,496. MIDAS MUFFLER SHOPS AND DESIGN. Midas, Inc. SN 287,310. Pub. 1–14–69. Filed 12–20–67.

867,497. REMOTROL 360 AND DESIGN. Circle Tool and Manufacturing Company. SN 287,896. Pub. 1–14–69. Filed 1–2–68.

867,498. ROTO-VERSAL. Gearmatic Co., Ltd. SN 288,299. Pub. 1–14–69. Filed 1–8–68.

867,499. R AND DESIGN. The Reece Corporation. SN 291,286. Pub. 1–14–69. Filed 2–16–68.

867,500. C AND DESIGN. The Council Tool Company, Inc. SN 291,842. Pub. 1–14–69. Filed 2–26–68.

867,501. MINITRACK. Bagshawe & Company Limited. SN 294,158. Pub. 1–14–69. Filed 3–26–68.

867,502. SCALE O MATIC. Atwood Corporation. SN 294,248. Pub. 1–14–69. Filed 3–27–68.

867,503. GREEK MYTHOLOGICAL FIGURE. Hercules Incorporated. SN 294,628. Pub. 1–14–69. Filed 4–1–68.

867,504. DIEFLEX. Sandvikens Jernverks AB. SN 294,753. Pub. 1–14–69. Filed 4–2–68.

867,505. E-Z PACK. Hercules Gallon Products, Inc. SN 295,432. Pub. 1–14–69. Filed 4–11–68.

867,506. SQUIRE ETC. AND DESIGN. Ranald D. Storrs, d.b.a. Squire Vacuum Systems. SN 295,966. Pub. 1–14–69. Filed 4–18–68.

867,507. DIE LOK. C. Tennant, Sons & Co., of New York. SN 298,159. Pub. 1–14–69. Filed 5–14–68.

867,508. HEX-A-MATIC. The Stanley Works. SN 298,257. Pub. 1–14–69. Filed 5–15–68.

867,509. TRANS-LOK. Ex-Cell-O Corporation. SN 298,324. Pub. 1–14–69. Filed 5–16–68.

867,510. PRESS-LOK. Ex-Cell-O Corporation. SN 298,326. Pub. 1–14–69. Filed 5–16–68.

867,511. HOMELITE. Textron Inc. SN 300,387. Pub. 1–14–69. Filed 6–13–68.

867,512. FORMCHROME. Formsprag Company. SN 300,576. Pub. 1–14–69. Filed 6–17–68.

Class 24 — Laundry Appliances and Machines

867,513. GLASTRUX. Patek & Co. SN 296,447. Pub. 1–14–69. Filed 4–24–68.

Class 25 — Locks and Safes

867,514. MAGNA. The Mosler Safe Co. SN 301,541. Pub. 1–14–69. Filed 6–27–68.

Class 26 — Measuring and Scientific Appliances

867,455. (See Class 21 for this trademark.)

867,515. THERMO-STATE. Elmwood Sensors, Inc. SN 261,473. Pub. 2–20–68. Filed 12–27–66.

867,516. KITAGAWA. Komyo Rikagaku Kogyo Kabushiki Kaisha. SN 276,322. Pub. 1–14–69. Filed 7–19–67.

867,517. I-RAD AND DESIGN. American Atomics Corporation. SN 281,666. Pub. 1–14–69. Filed 10–3–67.

867,518. TELEFREEZE. Electronic Management Associates, Inc. SN 283,237. Pub. 1–14–69. Filed 10–24–67.

867,519. KALCOR. Kalt Corporation. SN 283,668. Pub. 1–14–69. Filed 10–30–67.

867,520. MCPHERSON. McPherson Instrument Corporation. SN 291,169. Pub. 1–14–69. Filed 2–15–68.

867,521. SPEED-O-LITE. Replica Associates, Inc. SN 291,896. Pub. 1–14–69. Filed 2–26–68.

867,522. FRACTOMETTE AND DESIGN. Buchler Instruments, Inc. SN 291,961. Pub. 1–14–69. Filed 2–27–68.

867,523. CLEARFIT. Quickfit & Quartz Limited. SN 292,710. Pub. 1–14–69. Filed 3–7–68.

867,524. HYDROLITE. Colight, Inc. SN 292,739. Pub. 1–14–69. Filed 3–8–68.

867,525. AVID ETC. AND DESIGN. Audio Visual Instruction Devices, Inc. SN 293,192. Pub. 1–14–69. Filed 3–18–68.

867,526. TECHNILOGGER. Technicon Corporation. SN 293,649. Pub. 1–14–69. Filed 3–19–68.

867,527. PREPETTE. Stanbio Laboratory, Inc. SN 293,861. Pub. 1–14–69. Filed 3–21–68.

867,528. MOISTURE-SCOUT. Soiltest, Inc. SN 295,773. Pub. 1–14–69. Filed 4–16–68.

867,529. DTL. Mamiya Koki Kabushiki Kaisha, d.b.a. Mamiya Camera Co., Ltd. SN 295,933. Pub. 1–14–69. Filed 4–18–68.

867,530. BORDERMASTER. Accura, Ltd. SN 295,998. Pub. 1–14–69. Filed 4–19–68.

867,531. STROBE-O-MATIC. Oscar Eckloff, d.b.a. Eckloff Stroboscope Co. SN 297,180. Pub. 1–14–69. Filed 5–2–68.

867,532. AIRLITE. Imperial-Eastman Corporation. SN 298,902. Pub. 1–14–69. Filed 5–23–68.

867,533. COPE. Computer Industries, Inc. SN 299,728. Pub. 1–14–69. Filed 6–5–68.

867,534. COPE .45. Computer Industries, Inc. SN 299,729. Pub. 1–14–69. Filed 6–5–68.

867,535. CLOUDFAX. Raytheon Company. SN 300,537. Pub. 1–14–69. Filed 6–17–68.

Class 27 — Horological Instruments

867,536. KINGTRONIC. Movado Watch Agency, Inc. SN 287,447. Pub. 1–14–69. Filed 12–22–67.

867,537. SPACE-CRUISER. Movado Watch Agency, Inc. SN 288,109. Pub. 1–14–69. Filed 1–4–68.

867,538. SPORT-DRIVER. Movado Watch Agency, Inc. SN 288,111. Pub. 1–14–69. Filed 1–4–68.

867,539. GLUCYDUR FBR AND DESIGN. Les Fabriques de Balanciers Réunies, Société Anonyme. SN 293,393. Pub. 1–14–69. Filed 3–15–68.

Class 28 — Jewelry and Precious-Metal Ware

867,540. SORCERESS. Textron Inc. SN 301,272. Pub. 1–14–69. Filed 6–24–68.

867,541. COUNTERPOINT. Rogers, Lunt & Bowlen Company, d.b.a. Lunt Silversmiths. SN 302,521. Pub. 1–14–69. Filed 7–11–68.

Class 30 — Crockery, Earthenware, and Porcelain

867,542. CAMELOT. Nichimen Co., Inc., assignee of H. Wittur and Company. SN 211,001. Pub. 1–14–69. Filed 1–29–65.

Class 31 — Filters and Refrigerators

867,543. BEAUTY WATER. Union Tank Car Company (Delaware corporation), by assignment, merger, and change of name from Union Tank Car Company (New Jersey corporation). SN 275,568. Pub. 1–14–69. Filed 7–7–67.

Class 32 — Furniture and Upholstery

867,544. CARAVAN. Caravan, Incorporated. SN 282,677. Pub. 9–3–68. Filed 10–17–67.

867,545. MARTINIQUE. Congoleum Industries, Inc., assignee of Congoleum-Nairn Inc. SN 292,351. Pub. 1–14–69. Filed 3–4–68.

867,546. SPACEMAKER. Howard Displays, Inc. SN 302,082. Pub. 1–14–69. Filed 7–5–68.

867,547. SKYWAY. Clopay Corporation. SN 302,302. Pub. 1–14–69. Filed 7–9–68.

867,548. SPINAL GUARD. The United States Bedding Company. SN 302,781. Pub. 1–14–69. Filed 7–15–68.

Class 34 — Heating, Lighting, and Ventilating Apparatus

867,549. LI'L SMOKY AND DESIGN. Clement E. Neuheisel, d.b.a. Sugar Creek Industries. SN 281,808. Pub. 1–14–69. Filed 10–4–67.

867,550. LI'L-SMOKY. Clement E. Neuheisel, d.b.a. Sugar Creek Industries. SN 281,809. Pub. 1–14–69. Filed 10–4–67.

867,551. SSK AND DESIGN. S. S. Kresge Company. SN 289,101. Pub. 1–14–69. Filed 1–18–68.

867,552. SOLIDOX. Charles R. Muirhead, d.b.a. Cleanweld Products Company. SN 289,322. Pub. 1–14–69. Filed 1–22–68.

867,553. ATLANTIC RICHFIELD AND DESIGN. Atlantic Richfield Company. SN 297,365. Pub. 1–14–69. Filed 5–6–68.

867,554. ILG AND DESIGN. ILG Industries Inc. SN 297,677. Pub. 1–14–69. Filed 5–8–68.

Class 35 — Belting, Hose, Machinery Packing, and Nonmetallic Tires

867,555. GT50M. The General Tire & Rubber Company. SN 288,508. Pub. 1–14–69. Filed 1–10–68.

867,556. Q RING AND DESIGN. Polipren—Lavorazione Elastomeri Speciali di Carlo Tondato & C.—Societa in Nome Collettivo. SN 303,750. Pub. 1–14–69. Filed 7–29–68.

Class 36 — Musical Instruments and Supplies

867,557. VS. Certron Corporation. SN 309,234. Pub. 1–14–69. Filed 10–9–68.

867,558. BRITANIA. Abnak Music Enterprises, Inc. SN 309,326. Pub. 1–14–69. Filed 10–10–68.

Class 37 — Paper and Stationery

867,559. CAMELIA MATTE. Allied Paper Incorporated, by assignment and change of name from Allied Paper Corporation. SN 272,457. Pub. 6–4–68. Filed 5–26–67.

867,560. DATASTRIP. Janssen Products Company. SN 288,217. Pub. 11–12–68. Filed 1–5–68.

867,561. VERSI-PLY. Pierson Industries, Inc. SN 290,644. Pub. 1–14–69. Filed 2–8–68.

867,562. REDDI RED. Clopay Corporation. SN 296,119. Pub. 1–14–69. Filed 4–22–68.

867,563. LC TITE. Laminating & Coating Corporation. SN 300,034. Pub. 1–14–69. Filed 6–10–68.

867,564. LC FLEX. Laminating & Coating Corporation. SN 300,035. Pub. 1–14–69. Filed 6–10–68.

Class 38 — Prints and Publications

867,565. "ROAD TO RICHES." Glendinning Companies, Inc. SN 259,102. Pub. 1-14-69. Filed 11-21-66.

867,566. CONWED CONTACT. Conwed Corporation. SN 283,104. Pub. 11-19-68. Filed 10-23-67.

867,567. U-SELL-IT. R. H. Dunaway, assignee of Dan, Inc. SN 289,785. Pub. 1-14-69. Filed 1-29-68.

867,568. GREAT LAKES FOUNDATION AND DESIGN. Great Lakes Foundation. SN 292,925. Pub. 1-14-69. Filed 3-11-68.

867,569. TIME TO SPARE. Harvest Years Publishing Company. SN 295,335. Pub. 1-14-69. Filed 4-10-68.

867,570. AMP NEWS. AMP Incorporated. SN 295,601. Pub. 1-14-69. Filed 4-15-68.

867,571. CBS. Columbia Broadcasting System, Inc. SN 301,585. Pub. 1-14-69. Filed 6-28-68.

867,572. BRIGHT & EARLY BOOKS. Random House, Inc. SN 309,428. Pub. 1-14-69. Filed 10-11-68.

Class 39 — Clothing

867,573. PURITAN AND DESIGN. The Puritan Sportswear Corp. (Delaware corporation), assignee, by mesne assignment, of The Puritan Sportswear Corp. (Pennsylvania corporation. SN 173,864. Pub. 3-3-64. Filed 7-26-63.

867,574. PURITAN. Puritan Mills, Inc. SN 219,612. Pub. 12-20-66. Filed 5-24-65.

867,575. TOOTSEES. Tootsie Roll Industries, Inc., assignee of Knit Products Corporation. SN 252,262. Pub. 10-31-67. Filed 8-12-66.

867,576. MEDICO. Klaus F. Obermeyer. SN 276,161. Pub. 7-23-68. Filed 7-17-67.

867,577. CHARLES LORD. Reid & Reid, Inc., assignee of Royal Lynne, Ltd. SN 277,302. Pub. 1-14-69. Filed 8-1-67.

867,578. LADY BOND. Bond Stores, Incorporated. SN 279,360. Pub. 1-14-69. Filed 8-30-67.

867,579. WEST AND W DESIGN. West Chemical Products, Inc. SN 280,280. Pub. 1-14-69. Filed 9-13-67.

867,580. DAY'S SPORTSWEAR. Day's Tailor-D Clothing, Inc. SN 280,572. Pub. 1-14-69. Filed 9-18-67.

867,581. COMFORTAIRE. Endicott Johnson Corporation. SN 280,942. Pub. 5-28-68. Filed 9-22-67.

867,582. TUFFGARD. Sawyer-Tower Products, Inc. SN 287,464. Pub. 10-15-68. Filed 12-22-67.

867,583. PRINCE ANATOLE. Prince Anatole, Inc. SN 288,642. Pub. 1-14-69. Filed 1-11-68.

867,584. TIMOTHY LYLE. Rapid-American Corporation. SN 289,607. Pub. 1-14-69. Filed 1-25-68.

867,585. THE RAIN FIGHTERS. Apparel Corporation of America. SN 290,063. Pub. 1-14-69. Filed 2-1-68.

867,586. STAR BRAND SHOES ARE BETTER. Interco Incorporated. SN 290,297. Pub. 1-14-69. Filed 2-5-68.

867,587. TIME AND PLACE. Time and Place, Inc. SN 291,536. Pub. 1-14-69. Filed 2-20-68.

867,588. VARDON. Allied Stores Corporation. SN 294,244. Pub. 1-14-69. Filed 3-27-68.

867,589. THOS. DAVID. Pincus Bros., Inc. SN 296,978. Pub. 1-14-69. Filed 4-30-68.

867,590. FASHION CITY AND DESIGN. President Shops, Inc. SN 297,801. Pub. 1-14-69. Filed 5-9-68.

867,591. NOTABLES AND DESIGN. Viner Bros., Inc. SN 298,485. Pub. 1-14-69. Filed 5-17-68.

867,592. DESIGN OF A SHOE. Uniroyal, Inc. SN 298,648. Pub. 1-14-69. Filed 5-20-68.

867,593. "BAS-RELIEF." Countess Mara, Inc. SN 300,333. Pub. 1-14-69. Filed 6-13-68.

867,594. MARQUESSA DI MILANO. Spartans Industries, Inc. SN 300,981. Pub. 1-14-69. Filed 6-20-68.

867,595. MASTER 50. Farah Manufacturing Company, Inc. SN 301,050. Pub. 1-14-69. Filed 6-21-68.

867,596. MASTER 70. Farah Manufacturing Company, Inc. SN 301,051. Pub. 1-14-69. Filed 6-21-68.

867,597. MASTER TWIST. Farah Manufacturing Company, Inc. SN 301,052. Pub. 1-14-69. Filed 6-21-68.

867,598. FACE-SAVER AND DESIGN. Danny Dare, Inc. SN 301,208. Pub. 1-14-69. Filed 6-24-68.

867,599. CRAFTMASTERS BY BECK AND DESIGN. A. S. Beck Shoe Corporation. SN 301,693. Pub. 1-14-69. Filed 7-1-68.

867,600. MISS CONTINENTAL. Continental Vogues Ltd. SN 302,050. Pub. 1-14-69. Filed 7-5-68.

867,601. LADY CONTINENTAL. Continental Vogues Ltd. SN 302,051. Pub. 1-14-69. Filed 7-5-68.

867,602. BARNEY'S INTERNATIONAL SHOP. Barney's Clothes, Inc. SN 302,211. Pub. 1-14-69. Filed 7-8-68.

867,603. ANDREW KEITH. Barney's Clothes, Inc. SN 302,213. Pub. 1-14-69. Filed 7-8-68.

867,604. BARNEY'S IMPERIAL ROOM. Barney's Clothes, Inc. SN 302,214. Pub. 1-14-69. Filed 7-8-68.

867,605. BARNEY'S RSVP SHOP. Barney's Clothes, Inc. SN 302,215. Pub. 1-14-69. Filed 7-8-68.

867,606. INDIAN APPLE-US GLOVE ETC. AND DESIGN. Indianapolis Glove Company, Inc. SN 302,683. Pub. 1-14-69. Filed 7-15-68.

867,607. CLUBKNIT. A. Sagner's Son. SN 306,805. Pub. 1-14-69. Filed 9-6-68.

867,608. PRINTOGS. Bejan Sportmodes Ltd. SN 307,803. Pub. 1-14-69. Filed 9-20-68.

867,609. YOUNG PRINCESSE. McCrory Corporation. SN 308,023. Pub. 1-14-69. Filed 9-23-68.

867,610. 2B. De Luxe Girdlecraft Co., Inc. SN 308,096. Pub. 1-14-69. Filed 9-24-68.

Class 41 — Canes, Parasols, and Umbrellas

867,611. THE VILLAGER. The Villager, Inc. SN 309,194. Pub. 1-14-69. Filed 10-8-68.

Class 42 — Knitted, Netted, and Textile Fabrics, and Substitutes Therefor

867,612. SPOOFER. Glenoit Mills, Inc. SN 277,998. Pub. 1-14-69. Filed 8-10-67.

867,613. QUILTING BEE. A. Leon Capel & Sons, Incorporated. SN 292,673. Pub. 1-14-69. Filed 3-7-68.

867,614. PIECES OF EIGHT. A. Leon Capel & Sons, Incorporated. SN 292,674. Pub. 1-14-69. Filed 3-7-68.

867,615. POLYANNA. A. Leon Capel & Sons, Incorporated. SN 292,675. Pub. 1-14-69. Filed 3-7-68.

867,616. CRISTEX. West Point-Pepperell, Inc. SN 293,610. Pub. 1-14-69. Filed 3-18-68.

867,617. EUROCOINED. Coin Sales Corporation. SN 301,715. Pub. 1-14-69. Filed 7-1-68.

867,618. RECREATION. Cone Mills Corporation. SN 304,433. Pub. 1-14-69. Filed 8-6-68.

Class 44 — Dental, Medical, and Surgical Appliances

867,619. DISKERCHIEF. R. W. Easterbrook Pty. Limited. SN 272,922. Pub. 1-14-69. Filed 6-2-67.

867,620. MISCELLANEOUS DESIGN. Miles Laboratories, Inc. MULTIPLE CLASS (Classes 44 and 51). SN 277,588. Pub. 1-14-69. Filed 8-7-67.

867,621. UNI-PAC. E. D. Bullard Company. SN 279,167. Pub. 1-14-69. Filed 8-28-67.

867,622. BEUTELROCK. I. Beutelrock & Sohn. SN 297,268. Pub. 1-14-69. Filed 5-3-68.

867,623. THE MAGIC WAND. Hitachi Sales Corporation. SN 298,601. Pub. 1-14-69. Filed 5-20-68.

867,624. GLASTONE. The Dentists' Supply Company of New York. SN 306,226. Pub. 1-14-69. Filed 8-29-68.

Class 45 — Soft Drinks and Carbonated Waters

867,625. BROWNIE AND DESIGN. The Brownie Company. SN 298,920. Pub. 1-14-69. Filed 5-23-68.

Class 46 — Foods and Ingredients of Foods

867,334. (See Class 3 for this trademark.)

867,409. (See Class 18 for this trademark.)

867,626. FAT MIKE'S. Fat Mike's Inc. SN 259,311. Pub. 1-14-69. Filed 11-23-66.

867,627. ZIP-SLIP. Mitann Inc., d.b.a. Zip Aerosol Products. SN 259,452. Pub. 1-30-68. Filed 11-25-66.

867,628. FLAMING SNOWBALLS. Malt-A-Plenty, Inc. SN 269,437. Pub. 1-14-69. Filed 4-18-67.

867,629. GELLOID. Marine Colloids, Inc. SN 278,395. Pub. 11-19-68. Filed 8-16-67.

867,630. COUNTRY COUSIN. Johanna Farms, Inc. SN 288,218. Pub. 11-12-68. Filed 1-5-68.

867,631. C'EST LA CAT. Usen Products Company. SN 292,640. Pub. 1-14-69. Filed 3-6-68.

867,632. LE BON CAT. Usen Products Company. SN 292,641. Pub. 1-14-69. Filed 3-6-68.

867,633. PARTY TYME! 121 AND DESIGN. Party-Tyme Products, Inc. SN 297,087. Pub. 1-14-69. Filed 5-1-68.

867,634. MOTHER'S. Mother's Food Products, Inc. SN 298,026. Pub. 1-14-69. Filed 5-13-68.

867,635. ZEVO MATE. Zevo, Inc. SN 298,489. Pub. 1-14-69. Filed 5-17-68.

867,636. WALEECO. F. B. Washburn Candy Corporation. SN 300,027. Pub. 1-14-69. Filed 6-7-68.

867,637. PROVIDE. Swift & Company. SN 300,133. Pub. 1-14-69. Filed 6-10-68.

867,638. CONTEMPORARY. Darl-Fresh Company. SN 300,156. Pub. 1-14-69. Filed 6-11-68.

867,639. CAGE-GRO. Agway, Inc. SN 300,240. Pub. 1-14-69. Filed 6-12-68.

867,640. CHOO CHOO-WHEELS. Ideal Macaroni Company. SN 300,596. Pub. 1-14-69. Filed 6-17-68.

867,641. CHOO CHOO-WHEELS AND DESIGN. Ideal Macaroni Company. SN 300,597. Pub. 1-14-69. Filed 6-17-68.

867,642. SIZE 8. General Foods Corporation. SN 300,702. Pub. 1-14-69. Filed 6-18-68.

867,643. EAT-N-TIME. Midwest Biscuit Company. SN 300,721. Pub. 1-14-69. Filed 6-18-68.

867,644. YE OLD CHESHIRE INN. Calumet Cheese Co., Inc. SN 300,804. Pub. 1-14-69. Filed 6-19-68.

867,645. KEN-NE-NUBS. Jiffy Fry, Inc. SN 300,875. Pub. 1-14-69. Filed 6-20-68.

867,646. NOLA. Crowley's Milk Company, Inc. SN 301,045. Pub. 1-14-69. Filed 6-21-68.

867,647. CINNA-MUM-M-M. National Biscuit Company. SN 301,241. Pub. 1-14-69. Filed 6-24-68.

867,648. HARVEST TABLE. Armour-Dial, Inc. SN 301,326. Pub. 1-14-69. Filed 6-25-68.

867,649. ENGLISH GRILLE. General Foods Corporation. SN 301,336. Pub. 1-14-69. Filed 6-25-68.

867,650. WESTERN GRILLE. General Foods Corporation. SN 301,339. Pub. 1-14-69. Filed 6-25-68.

867,651. CORNISH GRILLE. General Foods Corporation. SN 301,341. Pub. 1-14-69. Filed 6-25-68.

867,652. CRAZY CALLING CARDS. Topps Chewing Gum, Incorporated. SN 301,471. Pub. 1-14-69. Filed 6-26-68.

867,653. HARVEST QUEEN. Red Owl Stores, Inc. SN 301,857. Pub. 1-14-69. Filed 7-2-68.

867,654. VIENNESE. James H. Black Company. SN 301,907. Pub. 1-14-69. Filed 7-3-68.

867,655. MISTER "B." New Bedford Seafood Co-Operative Association, Inc. SN 301,951. Pub. 1-14-69. Filed 7-3-68.

867,656. WY-AM. The Dalles Cherry Growers, Inc. SN 302,492. Pub. 1-14-69. Filed 7-11-68.

867,657. APPLE BLOSSOMS. New England Confectionery Company. SN 302,507. Pub. 1-14-69. Filed 7-11-68.

867,658. LONDON BRIDGE. Reese Finer Foods, Inc. SN 307,349. Pub. 1-14-69. Filed 9-13-68.

867,659. CAL-FINE. Lee E. Brown. SN 307,909. Pub. 1-14-69. Filed 9-23-68.

867,660. PARK MANOR AND DESIGN. H. E. Butt Grocery Company, d.b.a. H.E.B. Food Stores. SN 308,251. Pub. 1-14-69. Filed 9-26-68.

867,661. SNACKERINOS. Mead Johnson & Company. SN 308,566. Pub. 1-14-69. Filed 10-1-68.

867,662. SKINNY'S. Mead Johnson & Company. SN 308,567. Pub. 1-14-69. Filed 10-1-68.

867,663. BRIMMERS. Mead Johnson & Company. SN 308,570. Pub. 1-14-69. Filed 10-1-68.

867,664. TRIMMERS. Mead Johnson & Company. SN 308,571. Pub. 1-14-69. Filed 10-1-68.

867,665. CLARK'S AND DESIGN. Philip Morris Incorporated. SN 309,337. Pub. 1-14-69. Filed 10-10-68.

Class 47 — Wines

867,666. LA COLINA. Bodegas y Vinedos Giol, Empresa Estatal, Industrial y Comercial. SN 281,172. Pub. 1-14-69. Filed 9-26-67.

867,667. JOHN BRIGGS. Monsieur Henri Wines, Ltd. SN 291,172. Pub. 1-14-69. Filed 2-15-68.

867,668. EMPRESS. Monsieur Henri Wines, Ltd. SN 293,043. Pub. 1-14-69. Filed 3-12-68.

Class 50 — Merchandise Not Otherwise Classified

867,669. COROCEL. Tingue, Brown & Co. SN 302,249. Pub. 1-14-69. Filed 7-8-68.

Class 51 — Cosmetics and Toilet Preparations

867,620. (See Class 44 for this trademark.)

867,670. DONNATELLI. Rhodes Pharmacal Co., Inc. SN 259,853. Pub. 11-14-67. Filed 12-1-66.

867,671. OLD ENGLISH ELIXER FOR GENTLEMEN. Pack Roads, Inc. SN 273,787. Pub. 11-5-68. Filed 6-13-67.

867,672. 'MISS BALMAIN.' Balmain Parfums, Inc. SN 274,170. Pub. 1-14-69. Filed 6-19-67.

867,673. BROOKS BROTHERS. Julius Garfinckel & Co., Incorporated. MULTIPLE CLASS (Classes 51 and 52). SN 274,477. Pub. 1-14-69. Filed 6-22-67.

867,674. APRES VOUS. Arthur Matney, d.b.a. Aristocrat Cosmetic Co. SN 276,674. Pub. 5-21-68. Filed 7-24-67.

867,675. PRINCE IVAN. Apere Cosmetics, Ltd. SN 284,978. Pub. 1-14-69. Filed 11-16-67.

867,676. TALISMAN. Lanvin-Charles of the Ritz, Inc. SN 299,915. Pub. 1-14-69. Filed 6-7-68.

867,677. JUNE BLONDE. Alberto-Culver Company. SN 302,187. Pub. 1-14-69. Filed 7-8-68.

867,678. QUOTE. S. C. Johnson & Son, Inc. SN 308,742. Pub. 1-14-69. Filed 10-3-68.

Class 52 — Detergents and Soaps

867,673. (See Class 51 for this trademark.)

867,679. THERMATIC. Madison Chemical Corporation. SN 268,752. Pub. 1-14-69. Filed 4-10-67.

867,680. DERMASEPTIC. Naman Pharmacal Co. SN 275,898. Pub. 9-26-67. Filed 7-13-67.

867,681. DESIGN OF AN EAGLE. Gold Eagle Products Co. SN 287,011. Pub. 1-14-69. Filed 12-15-67.

867,682. "KARE-KIT." Burton, Parsons Chemicals, Inc. SN 291,709. Pub. 1-14-69. Filed 2-23-68.

867,683. AUT-O-TER. Aut-O-Kar Wash Corporation, by change of name from Automatic Car Wash Distributors, Inc. SN 297,754. Pub. 1-14-69. Filed 5-9-68.

867,684. WHITE GLOVE. Alberto-Culver Company. SN 302,254. Pub. 1-14-69. Filed 7-9-68.

867,685. DRAIN POWER. Glamorene Products Corporation. SN 304,039. Pub. 1-14-69. Filed 8-1-68.

867,686. AMMO. Lever Brothers Company. SN 306,104. Pub. 1-14-69. Filed 8-28-68.

Service Marks

Class 100 — Miscellaneous

867,687. COMPIX. United Press International, Inc., d.b.a. United Press International. SN 251,024. Pub. 10-8-68. Filed 7-25-66.

Class 101 — Advertising and Business

867,688. CANADIAN-AMERICAN CHALLENGE CUP. Sports Car Club of America, Incorporated. SN 257,729. Pub. 1-14-69. Filed 11-1-66.

867,689. FLOWER OF THE MONTH. Flower of the Month, Inc. SN 277,654. Pub. 1-14-69. Filed 8-7-67.

867,690. TAXACO. Theodore D. Galas, d.b.a. Taxaco Income Tax Service and Tax Automated Company. SN 281,064. Pub. 1-14-69. Filed 9-25-67.

867,691. LEKTROCOMP. Wm. J. Keller, Inc. SN 282,466. Pub. 1-14-69. Filed 10-13-67.

867,692. CVR. Wm. J. Keller, Inc. SN 282,467. Pub. 1-14-69. Filed 10-13-67.

867,693. PRC POSITIVE RECORD CONTROL AND DESIGN. Southern Vital Record Center, Inc. SN 285,861. Pub. 1-14-69. Filed 11-29-67.

867,694. DESIGN OF VAULT DOOR AND GUARD. Southern Vital Record Center, Inc. SN 285,862. Pub. 1-14-69. Filed 11-29-67.

867,695. STRENGTH THROUGH UNITY AND DESIGN. Mozingo's Tire Company, Incorporated, d.b.a. Delta Buyers Co-Op of North Carolina, South Carolina and Virginia. SN 294,641. Pub. 1-14-69. Filed 4-1-68.

867,696. THE BROWSERIE. McCrory Corporation. SN 300,159. Pub. 1-14-69. Filed 6-11-68.

867,697. CAREERS UNLIMITED, INC. AND DESIGN. Careera Unlimited, Inc. SN 308,418. Pub. 1-14-69. Filed 9-30-68.

Class 102 — Insurance and Financial

867,698. MASTER CHARGE AND DESIGN. Western States Bankcard Association, by change of name from California Bankcard Association. SN 262,020. Pub. 10-29-68. Filed 1-6-67.

867,699. GL AND DESIGN. Gulf Life Insurance Company. SN 271,618. Pub. 1-14-69. Filed 5-16-67.

Class 103 — Construction and Repair

867,700. LETTER SYMBOLS AND DESIGN. E. F. Felt Co., Inc. SN 269,408. Pub. 1-14-69. Filed 4-18-67.

867,701. PC AND DESIGN. The Pizzagalli Construction Company, Inc. SN 280,966. Pub. 5-28-68. Filed 9-22-67.

867,702. CSC. Cutter Salvage Corporation. SN 296,311. Pub. 1-14-69. Filed 4-23-68.

867,703. 76 AND DESIGN. Union Oil Company of California. SN 298,069. Pub. 1-14-69. Filed 5-13-68.

Class 107 — Education and Entertainment

867,704. SEARCH AND DESIGN. Contact Computer Corporation. SN 278,092. Pub. 1-14-69. Filed 8-11-67.

867,705. THE SOUND INVESTMENT. Charles Bruce Innes. SN 292,383. Pub. 1-14-69. Filed 3-4-68.

867,706. STEVENS INSTITUTE OF TECHNOLOGY AND DESIGN. The Trustees of the Stevens Institute of Technology. SN 292,981. Pub. 1-14-69. Filed 3-11-68.

Collective Membership Mark

Class 200

867,707. EMBLEM AND MOTTO. The Sovereign Military Order of the Temple of Jerusalem, Inc. SN 287,176. Pub. 1-14-69. Filed 12-18-67.

SUPPLEMENTAL REGISTER

These registrations are not subject to opposition.

Class 6 — Chemicals and Chemical Compositions

867,708. The O. M. Scott & Sons Company, Marysville, Ohio. SN 281,319. Filed P.R. 9-27-67; Am. S.R. 12-2-68.

SPOT WEEDER

For Chemical Preparation Designed for Controlling and Destroying Weeds (Int. Cl. 5).
First use July 31, 1967.

Class 12 — Construction Materials

867,709. William F. Kelly, New Orleans, La. SN 278,110. Filed P.R. 8-11-67; Am. S.R. 10-16-68.

KELLY SYSTEM

For Anchors for Prestressed Concrete Structural Slabs (Int. Cl. 6).
First use Mar. 25, 1965.

Class 18 — Medicines and Pharmaceutical Preparations

867,710. M & C Products, Inc., Union City, N.J. SN 279,084. Filed P.R. 8-25-67; Am. S.R. 12-3-68.

SULFUR-PLUS

For Medicated Hair and Scalp Conditioner for Use as an Antiseptic and Aid in Healing (Int. Cl. 5).
First use Aug. 10, 1967.

867,711. Hubbard Milling Company, Mankato, Minn. SN 279,297. Filed P.R. 8-29-67; Am. S.R. 12-5-68.

18 K

For Mineral Feed Supplement for Livestock Animals (Int. Cl. 31).
First use about Aug. 1, 1967.

Class 19 — Vehicles

867,712. Schwinn Bicycle Company, Chicago, Ill., by change of name from Arnold, Schwinn & Co., Chicago, Ill. SN 255,770. Filed P.R. 10-5-66; Am. S.R. 12-23-68.

MIDGET

For Bicycles (Int. Cl. 12).
First use Sept. 15, 1966.

Class 21 — Electrical Apparatus, Machines, and Supplies

867,713. Spectrum Instruments, Inc., Tuckahoe, N.Y. SN 265,119. Filed P.R. 2-20-67; Am. S.R. 9-18-68.

SPECTRUM

For Electronic Filters and Radio Signal Analyzers (Int. Cl. 9).
First use May 1, 1956.

Class 23 — Cutlery, Machinery, and Tools, and Parts Thereof

867,714. Motomco, Inc., Clark, N.J. SN 273,299. Filed P.R. 6-7-67; Am. S.R. 11-27-68.

DRIAIR

For Automatic Compressed Air Separator for Removing Rust, Pipe Scale, Oil, Water and Other Impurities From Lines Delivering Compressed Air to Pneumatic Tools and Equipment (Int. Cl. 7).
First use at least as early as 1910.

867,715. Lee Wilson Engineering Company, Inc., Rocky River, Ohio. SN 275,099. Filed P.R. 6-29-67; Am. S.R. 10-30-68.

UNITIZED

For Complete Integrated Plants for Cold Rolling, Cleaning, Annealing, and Temper Rolling of Strip Steel in Coils (Int. Cl. 7).
First use Apr. 4, 1967.

Class 26 — Measuring and Scientific Appliances

867,716. Precision Sampling Corporation, Baton Rouge, La. SN 275,075. Filed P.R. 6-29-67; Am. S.R. 1-17-69.

PRESSURE-LOK

For Micro Syringes, or Fluid Sampling and Measuring Instruments for Technical Application (Int. Cl. 9).
First use as early as Mar. 7, 1966.

Class 31 — Filters and Refrigerators

867,717. GAF Corporation, New York, N.Y., by merger from American Felt Company, Glenville, Conn. SN 281,514. Filed P.R. 10-2-67; Am. S.R. 12-23-68.

SNAP-RING

For Industrial Filters and Holders Therefor for Liquids and Gases (Int. Cl. 11).
First use Aug. 1, 1967.

Class 34 — Heating, Lighting, and Ventilating Apparatus

867,718. Air Reduction Company, Incorporated, New York, N.Y. SN 266,846. Filed P.R. 3-16-67; Am. S.R. 12-16-68.

FEATHERLIGHT

For Operative Holders for Welding Electrodes (Int. Cl. 9).
First use Aug. 5, 1944.

Class 35 — Belting, Hose, Machinery Packing, and Nonmetallic Tires

867,719. Kirkwood's, Inc., Tampa, Fla. SN 290,301. Filed P.R. 2-5-68; Am. S.R. 1-13-69.

KIRKWOOD

For Non-Metallic Tires and Tubes (Int. Cl. 12).
First use Dec. 20, 1967.

867,720. Ohio Rubber Products, Inc., Ravenna, Ohio. SN 295,665. Filed P.R. 4-15-68; Am. S.R. 12-11-68.

FIRM GRIP

For Tire Patches (Int. Cl. 12).
First use Mar. 2, 1964.

Class 38 — Prints and Publications

867,721. Lorenz Publishing Company, Dayton, Ohio. SN 276,021. Filed P.R. 7–14–67; Am. S.R. 12–30–68.

THE SACRED MUSIC PRESS

For Sheet Music Published From Time to Time (Int. Cl. 16).
First use May 16, 1964.

Class 39 — Clothing

867,722. Armored Hosiery Corp., New York, N.Y. SN 269,842. Filed P.R. 4–24–67; Am. S.R. 12–23–68.

RIB BY RIB

For Hosiery (Int. Cl. 25).
First use Mar. 17, 1966.

Class 51 — Cosmetics and Toilet Preparations

867,723. Mink Cosmetics, Inc., Longview, Wash. SN 254,006. Filed P.R. 9–6–66; Am. S.R. 12–23–68.

LA MINQUE

For Cosmetic Preparations—Namely, Hand, Skin and Facial Moisturizing Creams and Lotions (Int. Cl. 3).
First use March 1966.

867,724. Clairol Incorporated, New York, N.Y. SN 265,696. Filed P.R. 3–1–67; Am. S.R. 12–11–68.

BLONDING SIMPLIFIED

Owner of Reg. No. 836,054.
For Hair Lightener (Int. Cl. 3).
First use Nov. 14, 1966.

867,725. Richard Hudnut, Morris Plains, N.J. SN 281,195. Filed P.R. 9–26–67; Am. S.R. 12–2–68.

JADE PEARL

For Eye Shadow (Int. Cl. 3).
First use Sept. 20, 1967.

867,726. Richard Hudnut, Morris Plains, N.J. SN 281,197. Filed P.R. 9–26–67; Am. S.R. 12–2–68.

SEA PEARL

For Eye Shadow (Int. Cl. 3).
First use Sept. 20, 1967.

867,727. Merle Norman Cosmetics, Inc., Los Angeles, Calif. SN 283,921. Filed P.R. 11–1–67; Am. S.R. 12–5–68.

PEPPERONI

For Lipstick (Int. Cl. 3).
First use May 18, 1965.

867,728. Caron Corporation, New York, N.Y. SN 290,716. Filed P.R. 2–9–68; Am. S.R. 12–6–68.



For Perfume (Int. Cl. 3).
First use June 16, 1933.

867,729. Caron Corporation, New York, N.Y. SN 290,717. Filed P.R. 2–9–68; Am. S.R. 12–6–68.



For Perfume (Int. Cl. 3).
First use June 1, 1919.

867,730. Caron Corporation, New York, N.Y. SN 290,718. Filed P.R. 2–9–68; Am. S.R. 12–6–68.



For Perfume (Int. Cl. 3).
First use December 1952.

Service Mark

Class 107 — Education and Entertainment

867,731. Scantlin Electronics, Inc., Los Angeles, Calif. SN 282,825. Filed P.R. 10–18–67; Am. S.R. 12–23–68.

STOCK MARKET OBSERVER

For Financial News and Stock Market Analysis Services Rendered by Way of Television Broadcasts (Int. Cl. 41).
First use August 1967.

TRADEMARK REGISTRATIONS RENEWED

69,605. EVERY DAY. Cl. 37 (Int. Cl. 16). 6–23–08.
72,292. DE LUXE. Cl. 42 (Int. Cl. 24). 1–12–09.
72,501. MALTOID MILK-BONE AND DESIGN. Cl. 46 (Int. Cl. 31). 1–26–09.
73,654. REXALL. Cl. 44 (Int. Cl. 5). 5–4–09.
73,661. COWARD. Cl. 39 (Int. Cl. 25). 5–11–09.
74,098. LUNKENHEIMER. Cl. 23 (Int. Cls. 7 and 9). 6–15–09.
250,026. TEMPALOY. Cl. 14 (Int. Cl. 6). 11–27–28.
250,027. "TEMPALOY" ENCLOSED BY OVAL OUTLINE. Cl. 14 (Int. Cl. 6). 11–27–28.
251,242. FOOT PALS. Cl. 39 (Int. Cl. 25). 1–1–29.
251,290. DESERT DAINTIES. Cl. 46 (Int. Cl. 31). 1–1–29.
251,622. OLYMPIC. Cl. 43 (Int. Cl. 23). 1–8–29.
251,784. CHAMPION. Cl. 23 (Int. Cl. 9). 1–15–29.
252,083. "ALUMILITE." Cl. 42 (Int. Cl. 24). 1–22–29.
252,239. CHERROSOTE. Cl. 6 (Int. Cl. 5). 1–29–29.
252,348. ALCO-REX. Cl. 6 (Int. Cl. 5). 2–5–29.
252,355. BAUMAROME. Cl. 6 (Int. Cl. 3). 2–5–29.
252,484. ROLLEX. Cl. 15 (Int. Cl. 4). 2–12–29.
252,544. RED CLIPPER. Cl. 15 (Int. Cl. 4). 2–12–29.
252,545. PURON. Cl. 15 (Int. Cl. 4). 2–12–29.
253,326. CAMEO. Cl. 3 (Int. Cl. 18). 2–26–29.
253,623. KOLOFORM. Cl. 6 (Int. Cl. 5). 3–5–29.
255,201. WATER BOY. Cl. 46 (Int. Cl. 30). 4–16–29.
256,164. "REGAL." Cl. 36 (Int. Cl. 15). 5–7–29.
257,119. "FRIGIDEGS" ETC. AND DESIGN. Cl. 46 (Int. Cl. 29). 5–28–29.
440,340. COAT OF ARMS (DESIGN). Cl. 39 (Int. Cl. 25). 8–24–48.
440,806. BARBONATE. Cl. 18 (Int. Cl. 5). 9–28–49.
441,211. OAK BARREL AND DESIGN. Cl. 46 (Int. Cl. 30). 11–2–48.
441,847. ROSA. Cl. 46 (Int. Cl. 29). 1–18–49.
441,859. PLANIDRIVE. Cl. 23 (Int. Cl. 12). 1–18–49.
441,907. BASAMIN-BUSCH. Cl. 46 (Int. Cl. 30). 1–25–49.
441,924. NU-LITE COLSO AND DESIGN. Cl. 46 (Int. Cl. 30). 1–25–49.
442,176. NATIONAL CAST PRODUCTS. Cl. 14 (Int. Cl. 6). 3–8–49.
442,177. REPRESENTATION OF CASTING TOOLS WITHIN CIRCLE. Cl. 14 (Int. Cls. 6 and 14). 3–8–49.
442,296. MICHEL. Cl. 49 (Int. Cl. 32). 3–22–49.
442,441. SANI-GLAS. Cl. 33 (Int. Cl. 21). 4–12–49.
442,654. AIR PUSH. Cl. 19 (Int. Cl. 12). 5–10–49.
442,826. INTERNATIONAL BROTHERHOOD OF ELECTRICAL WORKERS. Cl. 21 (Int. Cls. 7, 9, 11, and 21). 6–7–49.
442,827. INTERNATIONAL BROTHERHOOD OF ELECTRICAL WORKERS (LABEL) ETC. Cl. 21 (Int. Cls. 7, 9, 11, and 21). 6–7–49.
442,929. PANEL-FLO. Cl. 23 (Int. Cl. 7). 6–21–49.
503,033. OLYMPIC. Cl. 34 (Int. Cl. 11). 10–19–48.
503,761. HYLOPLATE. Cl. 50 (Int. Cl. 16). 11–9–48.
503,882. 21. Cl. 21 (Int. Cl. 9). 11–16–48.
503,979. GIBSON. Cl. 38 (Int. Cl. 16). 11–16–48.
504,269. LUSTRE-FOAM. Cl. 40 (Int. Cl. 26). 11–30–48.
504,843. MASTERWORKS. Cl. 36 (Int. Cl. 9). 12–14–48.
505,155. IMPACTOR. Cl. 13 (Int. Cl. 7). 12–28–48.
505,390. LL (DESIGN). Cl. 51 (Int. Cl. 3). 1–4–49.
505,520. DUALSTREAM. Cl. 13 (Int. Cl. 9). 1–4–49.
505,570. FLAXGUILD. Cl. 42 (Int. Cl. 24). 1–11–49.
505,577. WHITAG. Cl. 37 (Int. Cl. 16). 1–11–49.
505,663. ALL WEATHER AND DESIGN. Cl. 7 (Int. Cl. 22). 1–11–49.
505,672. IH. Cl. 15 (Int. Cl. 4). 1–18–49.
505,676. STAYNER AND DESIGN. Cl. 18 (Int. Cl. 5). 1–18–49.
505,687. H AND DESIGN. Cl. 34 (Int. Cl. 11). 1–18–49.
505,688. HARPER. Cl. 34 (Int. Cl. 11). 1–18–49.
505,690. ILLINI. Cl. 15 (Int. Cl. 4). 1–18–49.
505,697. PUROLENE. Cl. 15 (Int. Cl. 4). 1–18–49.
505,703. KIRKO. Cl. 52 (Int. Cl. 3). 1–18–49.
505,736. FLOOR SHINE. Cl. 52 (Int. Cl. 3). 1–18–49.
505,747. DIMITY. Cl. 52 (Int. Cl. 3). 1–18–49.
505,761. SINTREX. Cl. 14 (Int. Cl. 6). 1–18–49.
505,830. E AND CIRCLE DESIGN. Cl. 6 (Int. Cl. 5). 1–18–49.
505,842. ALUPHEL. Cl. 18 (Int. Cl. 5). 1–18–49.
505,906. LESS WORK FOR MOTHER. Cl. 46 (Int. Cls. 29 and 30). 1–18–49.
505,934. ALLTROL. Cl. 34 (Int. Cl. 11). 1–25–49.
505,941. BO. Cl. 21 (Int. Cls. 9 and 17). 1–25–49.
505,994. STERLING. Cl. 50 (Int. Cl. 16). 1–25–49.
506,091. MIRA-DATA SHEET. Cl. 38 (Int. Cl. 16). 1–25–49.
506,222. PALACE. Cl. 19 (Int. Cl. 12). 2–1–49.
507,397. METCO. Cl. 14 (Int. Cl. 6). 3–8–49.
508,258. DUPONT AND DESIGN. Cl. 42 (Int. Cls. 17 and 24). 4–5–49.
508,382. SAPOLIN AND BRUSH DESIGN. Cl. 16 (Int. Cl. 2). 4–12–49.
508,732. BUXTON. Cl. 3 (Int. Cl. 18). 4–19–49.
508,789. ZATOR. Cl. 37 (Int. Cl. 16). 4–19–49.
509,391. SEVENTEEN. Cl. 39 (Int. Cl. 25). 5–3–49.
509,429. DR. SCHOLL'S. Cl. 18 (Int. Cl. 25). 5–3–49.
509,551. ADJUST-ARCH. Cl. 44 (Int. Cl. 10). 5–10–49.
509,609. VEE FLEX. Cl. 35 (Int. Cl. 17). 5–10–49.
509,689. HALVORSON TREES. Cl. 1 (Int. Cl. 31). 5–10–49.
509,764. SHY. Cl. 44 (Int. Cl. 10). 5–10–49.
509,768. SET BACK. Cl. 44 (Int. Cl. 5). 5–10–49.
509,812. SUPEREAM. Cl. 23 (Int. Cl. 8). 5–17–49.
509,866. SHELLIE. Cl. 46 (Int. Cl. 29). 5–17–49.
509,922. KINGDOM. Cl. 42 (Int. Cl. 27). 5–17–49.
510,018. SPORT PALS AND DESIGN. Cl. 39 (Int. Cl. 25). 5–24–49.
510,052. COLUMBUS. Cl. 32 (Int. Cl. 20). 5–24–49.
510,228. M–S. Cl. 6 (Int. Cl. 1). 5–31–49.
510,249. G.J-BOSS. Cl. 13 (Int. Cl. 6). 5–31–49.
510,267. VOIT. Cl. 22 (Int. Cl. 28). 5–31–49.
510,577. SKY-HY. Cl. 46 (Int. Cl. 31). 6–7–49.
510,703. D'ORSAY. Cl. 52 (Int. Cl. 3). 6–7–49.
510,808. SPRING LOX. Cl. 13 (Int. Cl. 6). 6–7–49.
510,842. IXL AND DESIGN. Cl. 46 (Int. Cl. 29). 6–14–49.
510,936. PIN-ON. Cl. 23 (Int. Cl. 7). 6–14–49.
511,071. CSB THE FINISHING TOUCH AND DESIGN. Cl. 55 (Int. Cl. 40). 6–14–49.
511,207. SEAL-SPOUT. Cl. 13 (Int. Cl. 6). 6–21–49.
511,248. CADET AND DESIGN. Cl. 23 (Int. Cl. 8). 6–21–49.
511,408. KOZY-NOOK. Cl. 32 (Int. Cl. 20). 6–21–49.
511,515. SPRINGTITES. Cl. 13 (Int. Cl. 6). 6–21–49.
511,971. HUM. Cl. 52 (Int. Cl. 3). 7–5–49.

Erratum

In the OFFICIAL GAZETTE of Jan. 28, 1969, at page TM 156 "76,229. O.F.C. Cl. 49 (Int. Cl. 33). 12–28–09." should be deleted.

TRADEMARK REGISTRATIONS CANCELED

Section 8

The following registrations issued Feb. 12, 1963

745,003. GRIP-RIB. Cl. 1.
745,009. COSANA. Cl. 1.
745,010. GLUVEZE. Cl. 1.
745,017. FANCIFUL REPRESENTATION OF THE LETTERS AP. Cl. 2.
745,022. BUNNY-TOTE. Cl. 3.
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745,231. ORCO. Cl. 100.
745,233. REPRESENTATION OF A WOMAN. Cl. 101.
745,234. DOWN TOWN AND DESIGN. Cl. 101.
745,238. REPRESENTATION OF DOLLAR FLAG AND SEA HORSE (DESIGN). Cl. 105.
745,239. FLYING DOLLAR (DESIGN). Cl. 105.

TRADEMARK REGISTRATIONS AMENDED, DISCLAIMED, CORRECTED, ETC.

153,840. ROOTS AND DESIGN. Cl. 23. 3–28–22. The P. H. & F. M. Roots Co. Dresser Industries, Inc., Dallas, Tex. Amended : In the certificate, line 11, in the heading and in the statement, column 1, line 11, after "pumps" *other than rotary positive displacement lobe type pumps, blowers and compressors* is inserted.

506,738. O. Cl. 6. 2–15–49. Philadelphia Quartz Company, Philadelphia, Pa. Amended : In the statement, column 1, line 8, "silicate of soda" is deleted and *sodium silicate* is inserted.

507,310. HER EXCELLENCY. Cl. 51. 3–1–49. Helene Curtis Industries, Inc., by change of name from The National Mineral Company, Chicago, Ill. Amended to appear :

HER EXCELLENCY

642,728. CHASSIS TRAK. Cl. 13. 3–12–57. Chassis-Trak, Inc., Indianapolis, Ind. Corrected : In the statement, column 1, line 1, "Chassis Trak Corp." should be deleted and *Chassis-Trak, Inc.* should be inserted.

710,549. ROOTS. Cl. 23. 1–31–61. Dresser Industries, Inc., Dallas, Tex. Amended : In the statement, column 2, line 2, after "compressors" *other than rotary positive displacement lobe type pumps, blowers and compressors* is inserted.

715,973. ANDERSON AND DESIGN. Cl. 12. 5–10–61. V. E. Anderson Manufacturing Company, Owensboro, Ky. Amended : In the statement, column 2, line 1, through line 5, the description of goods is deleted and *louvers, combination storm windows and doors with screens, porch and breeze-way enclosures, and window units* is inserted.

735,274. WIEDEMANN. Cl. 23. 7–31–62. Wiedemann Machine Company, King of Prussia, Pa. In the statement, column 1, line 6, "ma-" is deleted, line 7 through column 2, line 5 is deleted and line 7, "tors," is deleted.

752,477. CHASSIS TRAK INC. AND DESIGN. Cl. 23. 7–9–63. Chassis-Trak, Inc., Indianapolis, Ind. Corrected : In the statement, column 1, line 1, "Chassis Trak Corporation" should be deleted and *Chassis-Trak, Inc.* should be inserted.

767,308. SPRAY MIST. Cl. 13. 3–24–64. Toico Corporation, Toledo, Ohio. Amended : In the statement, column 2, line 2, after "type" *used in connection with non-automtaic pumping apparatus for dispensing materials other than coolants or lubricants in industrial applications* is inserted.

832,531. DURA-FAN. Cl. 34. 7–25–67. Ilg Industries Inc., Chicago, Ill. Corrected : In the statement, column 1, line 1, "Illinois" should be deleted and *Delaware* should be inserted.

859,440. ADRAGA. Cl. 51. 10–29–68. Marcel Jean-Marie Bleriot, Formerie (Oise), France. Corrected : In the statement, column 1, line 1, "Bleroit" should be deleted and *Bleriot* should be inserted.

862,378. CHEVRON AND DESIGN. Cl. 28. 12–24–68. Standard Oil Company of California, assignee of R. F. Simmons Company, San Francisco, Calif. Corrected : In the statement, column 1, before line 1, *Standard Oil Company of California (Delaware corporation) 225 Bush St., San Francisco, Calif. 94104, assignee of* should be inserted.

863,039. INTERLAKE. Cl. 21. 1–7–69. Interlake Steel Corporation, Chicago, Ill. Corrected : In the heading, "Ser. No. 254,683" should be deleted and *Ser. No. 254,687* should be inserted.

863,777. MYON. Cl. 8. 1–21–69. Anciens Etablissements Myon & Cie., Damprichard, Doubs, France. Corrected : In the statement, column 1, line 1, "Myron" should be deleted and *Myon* should be inserted.

864,227. DUO-MATIC. Cl. 26. 1–28–69. Brittain Industries, Inc., Torrance, Calif. Corrected : In the heading, "Ser. No. 287,771, filed Dec. 28, 1967" should be deleted and *Ser. No. 285,987, filed Dec. 1, 1967* should be inserted.

Erratum

The following amendment should have been included in the list of amendments on page TM 149, February 25, 1969 :

860,470. 3 POINT 7. Cl. 22. 11–19–68. The Carlton Tyre Saving Company Limited, Saffron Walden, Essex, England. Corrected : In the statement, column 1, line 1, "Carlson" should be deleted and *Carlton* should be inserted.

REGISTRATIONS PUBLISHED UNDER SEC. 12(c)

The following marks registered under the act of 1905, or the act of 1881, are published under the provisions of section 12(c) of the Trademark Act of 1946. These registrations are not subject to opposition but are subject to cancellation under section 14 of the act of 1946.

Class 23 — Cutlery, Machinery, and Tools, and Parts Thereof

441,436. Nov. 30, 1948. Pal Blade Company, assignor to Pal Blade Co. Inc., New York, N.Y. Pub. by Philip Morris Incorporated, New York, N.Y.

PAL
HOLLOW GROUND

For Safety Razor Blades (Int. Cl. 8).

Class 32 — Furniture and Upholstery

249,621. Nov. 20, 1928. Wm. H. McHahen Company, Philadelphia, Pa. Pub. by Honorbilt Products, Inc., Philadelphia, Pa.

RED SEAL

For Mattresses, Cushions, Bed Springs, Cots, Divans, Bedsteads, etc. (Int. Cl. 20).

Class 39 — Clothing

250,265. Dec. 4, 1928. Levi Strauss & Co., San Francisco, Calif. Pub. by registrant.

LEVI'S

For Jeans (Int. Cl. 25).

Class 50 — Merchandise Not Otherwise Classified

256,538. May 21, 1929. Animal Trap Company of America, Lititz, Pa. Pub. by Woodstream Corporation, Lititz, Pa.

ONEIDA JUMP

For Animal Traps (Int. Cl. 6).

Class 51 — Cosmetics and Toilet Preparations

252,478. Feb. 5, 1929. The Odorono Company, Cincinnati, Ohio. Pub. by Chesebrough-Pond's Inc., New York, N.Y.

ODO-RO-NO

For Deodorants in Liquid, Powder, and Paste Form and Preparation for Preventing Excessive Perspiration (Int. Cls. 3 and 5).

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Aldac, Inc., Alice, Tex. 867,388, pub. 11–5–68. Cl. 15.
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Coward, James S., to The Coward Shoe, Inc., New York, N.Y. 73,661, ren. 4–1–69. Cl. 39.
Coward Shoe, Inc., The: *See*—
Coward, James S.
Cragstan Industries, Inc., New York, N.Y. 867,467, pub. 1–14–69. Cl. 22.
Crawford Mfg. Co., Inc., Richmond, Va. 511,408, ren. 4–1–69. Cl. 32.
Crowley's Milk Co., Inc., Binghamton, N.Y. 867,646, pub. 1–14–69. Cl. 46.
Curtis, Helene, Industries, Inc., by change of name from The National Mineral Co., Chicago, Ill. 507,310. Am. 7(d). Cl. 51.
Curtis Noll Corp., Cleveland, Ohio. 867,382, pub. 1–14–69. Cl. 13.
Cutter Salvage Corp., Cleveland, Ohio. 867,702, pub. 1–14–69. Cl. 103.
Dalles Cherry Growers, Inc., The, The Dalles, Oreg. 867,656, pub. 1–14–69. Cl. 46.
Dan, Inc.: *See*—
Dunaway, R. H.
Dare, Danny, Inc., Kansas City, Mo. 867,598, pub. 1–14–69. Cl. 39.
Dari-Fresh Co., Maywood, Ill. 867,638, pub. 1–14–69. Cl. 46.
Davison Chemical Corp., The, Baltimore, Md., to W. R. Grace & Co., New York, N.Y. 510,228, ren. 4–1–69. Cl. 6.
Day's Tailor-D Clothing, Inc., Tacoma, Wash. 867,580, pub. 1–14–69. Cl. 39.
Daytona Sports Co., Reseda, Calif. 867,430, pub. 1–14–69. Cl. 19.
Deglet Noor Date Growers Assn., The, to California Date Growers Assn., Indio, Calif. 251,290, ren. 4–1–69. Cl. 46.
Delta Buyers Co-Op of North Carolina, South Carolina and Virginia: *See*—
Mozingo's Tire Co., Inc.
Deltox, Inc., Oshkosh, Wis. 745,168–9, canc. Cl. 42.
Dentists' Supply Co. of New York, The, York, Pa. 867,624, pub. 1–14–69. Cl. 44.
Denver Chemical Mfg. Co., d.b.a. Wampole Laboratories, Stamford, Conn. 867,350, pub. 1–14–69. Cl. 6.
Detroit Butter & Egg Co. Inc., to Frigid Food Products, Inc., Detroit, Mich. 257,119, ren. 4–1–69. Cl. 46.
Dispensers, Inc., d.b.a. Dripcut Starline Corp., Goleta, Calif. 867,332, pub. 1–14–69. Cl. 2.
Dixon Valve & Coupling Co., Philadelphia, Pa. 510,249, ren. 4–1–69. Cl. 13.
Dollar, Robert, Co., The, San Francisco, Calif. 745,238–9, canc. Cl. 105.
Dolphin-Kamper, Inc., Corunna, Ind. 867,431, pub. 1–14–69. Cl. 19.
D'Orsay Perfumeries Corp., New York, N.Y., to Societe Anonyme Compagnie Francaise des Parfums D'Orsay, Puteaux (Haute-de-Seine), France. 510,703, ren. 4–1–69. Cl. 52.
Dover Corp., New York, N.Y. 867,494, pub. 1–14–69. Cl. 23.
Dresser Industries, Inc., Dallas, Tex. 710,549. Am. 7(d). Cl. 23.
Dripcut Starline Corp.: *See*—
Dispensers, Inc.
Dunaway, R. H., from Dan, Inc., Topeka, Kans. 867,567, pub. 1–14–69. Cl. 38.
Duplicator Co.: *See*—
Reig Duplicator Co.
Du Pont de Nemours, E. I., & Co., Wilmington, Del. 508,258, ren. 4–1–69. Cl. 42.
Dynaco, Inc., Philadelphia, Pa. 867,445, pub. 1–14–69. Cl. 21.
E.M.A. Corp., Northvale, N.J. 867,338, pub. 1–14–69. Cl. 5.
Eagle Rubber Co., Inc., Ashland, Ohio. 867,461, pub. 1–14–69. Cl. 22.
Eagle-Picher Industries, Inc., Cincinnati, Ohio. 867,438, pub. 1–14–69. Cl. 19.
Easterbrook, R. W., Pty. Ltd., Camberwell, Victoria, Australia. 867,619, pub. 1–14–69. Cl. 44.
Eastern States Farmers' Exchange, Inc., West Springfield, Mass. 745,071, canc. Cl. 18.
Eaton Mfg. Co., to Eaton Yale & Towne Inc., Cleveland, Ohio. 510,808, ren. 4–1–69. Cl. 13.
Eaton Mfg. Co., to Eaton Yale & Towne Inc., Cleveland, Ohio. 511,515, ren. 4–1–69. Cl. 13.
Eaton Yale & Towne Inc.: *See*—
Eaton Mfg. Co.
Eaton Yale & Towne Inc., Cleveland, Ohio. 867,484, pub. 8–6–68. Cl. 23.
Eckloff, Oscar, d.b.a. Eckloff Stroboscope Co., Whittier, Calif. 867,531, pub. 1–14–69. Cl. 26.
Eckloff Stroboscope Co.: *See*—
Eckloff, Oscar.
Edward Valves, Inc., East Chicago, Ind., to Rockwell Mfg. Co., Pittsburgh, Pa. 505,155, ren. 4–1–69. Cl. 13.
Eisenberg, S., & Co., Chicago, Ill. 867,329, pub. 7–16–68. Cl. 2.
Electro Tool Corp., Racine, Wis. 511,248, ren. 4–1–69. Cl. 23.
Electronic Management Associates, Inc., New York, N.Y. 867,518, pub. 1–14–69. Cl. 26.

Electrospace Corp., Bronx, N.Y. 867,450, pub. 1–14–69. Cl. 21.
Ellenco Inc., Washington, D.C. 867,457, pub. 1–14–69. Cl. 21.
Elmwood Sensors, Inc., Cranston, R.I. 867,515, pub. 2–20–68. Cl. 26.
Endicott Johnson Corp., Endicott, N.Y. 867,581, pub. 5–28–68. Cl. 39.
Erowerk G.m.b.H., Hiedestrasse, Germany. 867,409, pub. 10–22–68. Multiple Class (Classes 18 and 46).
Evans Products Co., Portland, Oreg. 867,379, pub. 1–14–69. Cl. 12.
Ex-Cell-O Corp., Detroit, Mich. 867,509–10, pub. 1–14–69. Cl. 23.
FMC Corp.: *See*—
Niagara Sprayer Co.
FS Services, Inc.: *See*—
Illinois Farm Supply Co.
Fabric Leather Corp., New Hyde Park, N.Y. 867,444, pub. 1–14–69. Cl. 20.
Farah Mfg. Co., Inc., El Paso, Tex. 867,595–7, pub. 1–14–69. Cl. 39.
Fat Mike's Inc., Union City, N.J. 867,626, pub. 1–14–69. Cl. 46.
Felt, E. F., Co., Inc., San Leandro, Calif. 867,700, pub. 1–14–69. Cl. 103.
Fisher Radio Corp., Long Island City, N.Y. 867,454, pub. 1–14–69. Cl. 21.
Fishermen's Roost, North Hollywood, Calif. 745,115, canc. Cl. 22.
Flower of the Month, Inc., Grand Rapids, Mich. 867,325, pub. 1–14–69. Cl. 1.
Flower of the Month, Inc., Grand Rapids, Mich. 867,689, pub. 1–14–69. Cl. 101.
Forest City Products, Inc., to Forest City Products, Inc., Cleveland, Ohio. 504,269, ren. 4–1–69. Cl. 40.
Formsprag Co., Warren, Mich. 867,512, pub. 1–14–69. Cl. 23.
Foti, Giacomo, d.b.a. Rosa Food Products Co., to Leonard Foti, d.b.a. Rosa Food Products Co., Philadelphia, Pa. 441,847, ren. 4–1–69. Cl. 46.
Foti, Leonard: *See*—
Foti, Giacomo.
Frieder, S., & Sons Co., The, Philadelphia, Pa. 867,404–5, pub. 1–14–69. Cl. 17.
Frigid Food Products, Inc.: *See*—
Detroit Butter & Egg Co. Inc.
GAF Corp., New York, N.Y., from American Felt Co., Glenville, Conn. 867,717. Cl. 31.
Gala Merchandise Corp., Los Angeles, Calif. 867,466, pub. 1–14–69. Cl. 22.
Galas, Theodore D., d.b.a. Taxaco Income Service and Tax Automated Co., Tinley Park, Ill. 867,690, pub. 1–14–69. Cl. 101.
Garberding, Waldo L., d.b.a. Twentieth Century Mfg. Co., Chicago, to Twentieth Century Mfg. Co., Libertyville, Ill. 509,812, ren. 4–1–69. Cl. 23.
Garfinckel, Julius, & Co., Inc., Washington, D.C. 867,673, pub. 1–14–69. Multiple Class (Classes 51 and 52).
Gearmatic Co., Ltd., North Surrey, Canada. 867,498, pub. 1–14–69. Cl. 23.
Gebrueder Grau & Co. K.G., Chemische Fabrik, Schwaebisch Gmuend, Germany. 745,061, canc. Cl. 18.
General Foods Corp., White Plains, N.Y. 867,642, pub. 1–14–69. Cl. 46.
General Foods Corp., White Plains, N.Y. 867,649–51, pub. 1–14–69. Cl. 46.
General Pump Corp., Miami, Fla. 745,117, canc. Cl. 23.
General Tire & Rubber Co., The, Akron, Ohio. 867,555, pub. 1–14–69. Cl. 35.
Gentex Corp., New York, N.Y. 867,462, pub. 1–14–69. Cl. 22.
Georgia Marble Co., The, Atlanta, Ga. 867,375, pub. 1–14–69. Cl. 12.
Gerring Industries, Inc., Shipshewana, Ind. 867,436, pub. 1–14–69. Cl. 19.
Gibson Art Co., The, to Gibson Greeting Cards, Inc., Cincinnati, Ohio. 503,979, ren. 4–1–69. Cl. 38.
Gibson Greeting Cards, Inc.: *See*—
Gibson Art Co., The.
Gibson Greeting Cards, Inc., Cincinnati, Ohio. 867,355, pub. 1–14–69. Cl. 7.
Giddings & Lewis, Inc., Fond Du Lac, Wis. 867,493, pub. 1–14–69. Cl. 23.
Girdlecraft Co., Inc., New York, N.Y. 867,610, pub. 1–14–69. Cl. 39.
Glamorene Products Corp., Clifton, N.J. 867,685, pub. 1–14–69. Cl. 52.
Glendinning Companies, Inc., Westport, Conn. 867,565, pub. 1–14–69. Cl. 38.
Glenolt Mills, Inc., New York, N.Y. 867,612, pub. 1–14–69. Cl. 42.
Globe Soap Co., The: *See*—
Procter & Gamble Co., The.
Globe-Wernicke Co., The, Cincinnati, to Sheller-Globe Corp., Toledo, Ohio. 69,605, ren. 4–1–69. Cl. 37.
Goetze, Albert F., Inc., Baltimore, Md. 745,190, canc. Cl. 46.
Gold Eagle Products Co., Chicago, Ill. 867,681, pub. 1–14–69. Cl. 52.
Grace, W. R., & Co.: *See*—
Davison Chemical Corp., The.
Workman Packing Co.
Grace, W. R., & Co., New York, N.Y. 867,392, pub. 1–14–69. Cl. 16.
Great Lakes Foundation, Ann Arbor, Mich. 867,568, pub. 1–14–69. Cl. 38.
Grover Aluminum Products, Inc., Patchogue, N.Y. 867,378, pub. 1–14–69. Cl. 12.
Gulf Life Insurance Co., Jacksonville, Fla. 867,699, pub. 1–14–69. Cl. 102.
Gulf States Paint Co., Houston, Tex. 867,393, pub. 1–14–69. Cl. 16.
H.E.B. Food Stores: *See*—
Butt, H. E., Grocery Co.
H. & H. Advertising Co., Inc., Oklahoma City, Okla. 745,234, canc. Cl. 101.
Hach Chemical Co., Ames, Iowa. 745,032, canc. Cl. 6.
Halvorson Trees: *See*—
Halvorson Trees Inc.
Halvorson Trees Inc., assor. to Halvorson Trees, to Halvorson Trees, Inc., Duluth, Minn. 509,689, ren. 4–1–69. Cl. 1.
Hansen, Bent, d.b.a. Hoyrup Jessen, Sae Dding Pr. Esbjerg, Denmark. 867,334, pub. 1–14–69. Multiple Class (Classes 3 and 46).
Harmony Co., The: *See*—
Regal Musical Instrument Co.
Harms, Percy, Corp., Skokie, Ill. 867,389, pub. 1–14–69. Cl. 15.
Harper-Wyman Co., Hinsdale, Ill. 505,687–8, ren. 4–1–69. Cl. 34.
Harper-Wyman Co., Hinsdale, Ill. 505,934, ren. 4–1–69. Cl. 34.
Harrower, Norman, d.b.a. Linton Brothers & Co., Fitchburg, Mass., to Weyerhaeuser Co., Tacoma, Wash. 505,577, ren. 4–1–69. Cl. 37.
Harvest Years Publishing Co., New York, N.Y. 867,569, pub. 1–14–69. Cl. 38.
Haus-Chemie Gesellschaft fur Moderne Haushalts-Hilfs- und Pflegemittel m.b.H., (Rhine), Germany. 745,228, canc. Cl. 52.
Hercules Gallon Products, Inc., Gallon, Ohio. 867,505, pub. 1–14–69. Cl. 23.
Hercules Inc., Wilmington, Del. 867,503, pub. 1–14–69. Cl. 23.
Hewitt Soap Co., Inc., The: *See*—
Procter & Gamble Co., The.
Hill Packing Co., Topeka, Kans., to Riviana Foods Inc., Houston, Tex. 510,577, ren. 4–1–69. Cl. 46.
Hitachi Sales Corp., Long Island City, N.Y. 867,623, pub. 1–14–69. Cl. 44.
Honorbilt Products, Inc.: *See*—
McMahen, Wm. H., Co.
Horn & Hardart Baking Co., Philadelphia, Pa. 505,906, ren. 4–1–69. Cl. 46.
Hornschuch, Konrad, Aktiengesellschaft Werk Weissbach, Wurttemberg, Germany. 867,326, pub. 1–14–69. Cl. 1.
Howard Displays, Inc., New York, N.Y. 867,546, pub. 1–14–69. Cl. 32.
Hoyrup Jessen: *See*—
Hansen, Bent.
Hubbard Milling Co., Mankato, Minn. 867,711. Cl. 18.
Hudnut, Richard, Morris Plains, N.J. 867,725–6. Cl. 51.
Humble Oil & Refining Co.: *See*—
Penola Inc.
Hvsan Products Co., Chicago, Ill. 745,023, canc. Cl. 4.
ITT Blackburn Corp.: *See*—
Blackburn, Jasper, Products Corp.
Ideal Macaroni Co., Bedford Heights, Ohio. 867,640–1, pub. 1–14–69. Cl. 46.
Ideal Toy Corp., Hollis, N.Y. 745,114, canc. Cl. 22.
Ilg Industries Inc., Chicago, Ill. 832,531, cor. Cl. 34.
Ilg Industries Inc., Chicago, Ill. 867,554, pub. 1–14–69. Cl. 34.
Illinois Farm Supply Co., Chicago, to FS Services, Inc., Bloomington, Ill. 505,690, ren. 4–1–69. Cl. 15.
Imperial-Eastman Corp., Chicago, Ill. 867,532, pub. 1–14–69. Cl. 26.
Indianapolis Glove Co., Inc., Indianapolis, Ind. 867,606, pub. 1–14–69. Cl. 39.
Innes, Charles B., Calgary, Alberta, Canada. 867,705, pub. 1–14–69. Cl. 107.
Interco Inc., St. Louis, Mo. 867,586, pub. 1–14–69. Cl. 39.
Interlake Steel Corp., Chicago, Ill. 863,039, cor. Cl. 21.
Intercontinental Arms, Inc., Los Angeles, Calif. 867,359–61, pub. 1–14–69. Cl. 9.
International Brotherhood of Electrical Workers, Washington, D.C. 442,826–7, ren. 4–1–69. Cl. 21.
International Harvester Co., to International Harvester Co., Chicago, Ill. 505,,672, ren. 4–1–69. Cl. 15.
International Paint Co., Inc., New York, N.Y. 867,396, pub. 1–14–69. Cl. 16.
International Products: *See*—
Bohemian Distributing Co.
International Synthetic Rubber Co. Ltd., The, Southampton, Hampshire, England. 867,373, pub. 1–14–69. Cl. 12.
Ivers-Lee, S.A. (Ivers-Lee, A.G.), (Ivers-Lee, Ltd.), Bern, Switzerland. 867,495, pub. 1–14–69. Cl. 23.
Janssen Products Co., Charlottesville, Va. 867,560, pub. 11–12–68. Cl. 37.
Jaton Mfg. Corp., to Marine Canvas Supply Corp., Brooklyn, N.Y. 252,083, ren. 4–1–69. Cl. 42.
Jiffy Fry, Inc., Crookston, Minn. 867,645, pub. 1–14–69. Cl. 46.
Johanna Farms, Inc., Flemington, N.J. 867,630, pub. 11–12–68. Cl. 46.
Johnson Rubber Co., The, Middlefield, Ohio. 867,337, pub. 10–22–68. Multiple Class (Classes 5 and 12).
Johnson, S. C., & Son, Inc., Racine, Wis. 867,678, pub. 1–14–69. Cl. 51.
Kalt Corp., Santa Monica, Calif. 867,519, pub. 1–14–69. Cl. 26.
Keller, Wm. J., Inc., Buffalo, N.Y. 867,691–2, pub. 1–14–69. Cl. 101.
Kelly, William F., New Orleans, La. 867,709. Cl. 12.
King-Seeley Thermos Co., Ann Arbor, Mich. 745,042, canc. Cl. 9.
Kirkwood's, Inc., Tampa, Fla. 867,719. Cl. 35.

Kleinert, I. B., Rubber Co., New York, N.Y. 745,167, canc. Cl. 40.
Knit Products Corp.: *See*—
Tootsie Roll Industries, Inc.
Koiled Kords, Inc., Hamden, Conn. 745,091, canc. Cl. 21.
Komyo Rikagaky Kogyo Kabushiki Kaisha, Tokyo-to, Japan. 867,516, pub. 1–14–69. Cl. 26.
Koppel, Charles, Ring Co., Inc., New York, N.Y. 745,130, canc. Cl. 28.
Kresge, S. S., Co., Detroit, Mich. 867,335, pub. 1–14–69. Cl. 4.
Kresge, S. S., Co., Detroit, Mich. 867,551, pub. 1–14–69. Cl. 34.
Kuster Laboratories, Ltd., d.b.a. Kuster Products Co., to D. B. Berelson & Co., and the Estate of Stuart L. Rawlings, Jr., San Francisco, Calif. 441,211, ren. 4–1–69. Cl. 46.
Kuster Products Co.: *See*—
Kuster Laboratories, Ltd.
Kyanize Paints, Inc., Everett, Mass. 867,397, pub. 1–14–69. Cl. 16.
Laminating & Coating Corp., Schaumburg, Ill. 867,563–4, pub. 1–14–69. Cl. 37.
Lanvin-Charles of the Ritz, Inc., New York, N.Y. 867,676, pub. 1–14–69. Cl. 51.
Lever Bros. Co.: *See*—
Theobald Industries, The.
Lees, James, & Sons Co., Bridgeport, Pa., to Columbia-Minerva Corp., New York, N.Y. 251,622, ren. 4–1–69. Cl. 43.
Legge, Walter G., Co., Inc., New York, N.Y. 505,736, ren. 4–1–69. Cl. 52.
Les Etablissements Antoine Chiris, Compagnie des Produits Aromatiques Chimiques et Medicinaux, Paris, France. 252,355, ren. 4–1–69. Cl. 6.
Les Fabriques de Balanciers Reunies, Societe Anonyme, Bienne, Switzerland. 867,539, pub. 1–14–69. Cl. 27.
Lever Bros. Co., New York, N.Y. 867,686, pub. 1–14–69. Cl. 52.
Lewis Grocer Co., The, Indianola, Miss. 745,181, canc. Cl. 46.
Liberty Electric Corp., Indianapolis, Ind. 745,105, canc. Cl. 21.
Lilly, Eli, & Co., Indianapolis, Ind. 867,411, pub. 8–13–68. Cl. 18.
Lily Products Co., Phoenix, Ariz. 867,345, pub. 7–16–68. Cl. 6.
Linton Bros. & Co.: *See*—
Harrower, Norman.
Long-Lok Corp., Los Angeles, Calif. 867,384, pub. 1–14–69. Cl. 13.
Lorenz Publishing Co., Dayton, Ohio. 867,721. Cl. 38.
Louisiana State Rice Milling Co., Inc., New Orleans, La., to Riviana Foods Inc., Houston, Tex. 255,201, ren. 4–1–69. Cl. 46.
Lelong, Lucian, Inc., Chicago, Ill., to Parfums Lucien Lelond Corp., New York, N.Y. 505,390, ren. 4–1–69. Cl. 4.
Ludovico, Ilda, Syracuse, N.Y. 867,336, pub. 1–14–69. Cl. 4.
Lunkenheimer Co., The, to The Lunkenheimer Co., Cincinnati, Ohio, 74,098, ren. 4–1–69. Cl. 23.
Lunt Silversmiths: *See*—
Rogers, Lunt & Bowlen Co.
M-B-W, Inc., Slinger, Wis. 867,489, pub. 1–14–69. Cl. 23.
M & C Products, Inc., Union City, N.J. 867,710. Cl. 18.
Mack Mfg. Corp., New York, N.Y., to Mack Trucks, Inc., Allentown, Pa. 441,859, ren. 4–1–69. Cl. 23.
Mack Trucks, Inc.: *See*—
Mack Mfg. Corp.
Madison Chemical Corp., Maywood, Ill. 867,346, pub. 1–14–69. Cl. 6.
Madison Chemical Corp., Maywood, Ill. 867,679, pub. 1–14–69. Cl. 52.
Magee Carpet Co., The, Bloomsburg, Pa. 509,922, ren. 4–1–69. Cl. 42.
Malt-A-Plenty, Inc., Tulsa, Okla. 867,628, pub. 1–14–69. Cl. 46.
Mamiya Camera Co., Ltd.: *See*—
Mamiya Koki Kabushiki Kaisha.
Mamiya Koki Kabushiki Kaisha, d.b.a. Mamiya Camera Co., Ltd., Tokyo-To, Japan. 867,529, pub. 1–14–69. Cl. 26.
Marcovitch & Co.: *See*—
United Kingdom Tobacco Co., Ltd., The.
Marine Canvas Supply Corp.: *See*—
Jaton Mfg. Corp.
Marine Colloids, Inc., Springfield, N.J. 867,629, pub. 11–19–68. Cl. 46.
Mar-Vel Marble, Inc., Edmonds, Wash. 867,371, pub. 4–16–68. Cl. 12.
Matney, Arthur, d.b.a. Aristocrat Cosmetic Co., Brooklyn, N.Y. 867,674, pub. 5–21–68. Cl. 51.
Mattel, Inc., Hawthorne, Calif. 867,473, pub. 1–14–69. Cl. 22.
Mattel, Inc., Hawthorne, Calif. 867,475–80, pub. 1–14–69. Cl. 22.
McBratney, Robert, & Co., Inc., to Blackstaff Linens, Inc., New York, N.Y. 505,570, ren. 4–1–69. Cl. 42.
McCormack, Austin F., d.b.a. McCormack Equipment Co., Dallas, Tex. 867,485, pub. 1–14–69. Cl. 23.
McCormack Equipment Co.: *See*—
McCormack, Austin F.
McCrory Corp., New York, N.Y. 867,609, pub. 1–14–69. Cl. 39.
McCrory Corp., New York, N.Y. 867,696, pub. 1–14–69. Cl. 101.
McMahen, Wm. H., Co., by Honorbilt Products, Inc., Philadelphia, Pa. 249,621, 12(c) pub. 4–1–69. Cl. 32.
McPherson Instrument Corp., Acton, Mass. 867,520, pub. 1–14–69. Cl. 26.
Mead Johnson & Co., Evansville, Ind. 867,661–4, pub. 1–14–69. Cl. 46.
Meisel Distributing Co., St. Louis, Mo. 745,123, canc. Cl. 23.
Melville Shoe Corp.: *See*—
Miles Shoes Inc.
Mermax Pty. Ltd., Epping, New South Wales, Australia. 867,425, pub. 1–14–69. Cl. 19.
Merrow Machine Co., The, Hartford, Conn. 745,120, canc. Cl. 23.
Metallizing Engineering Co. Inc., Long Island City, to Metco Inc., Westbury, N.Y. 507,397, ren. 4–1–69. Cl. 14.
Metco Inc.: *See*—
Metallizing Engineering Co. Inc.
Midas, Inc., Chicago, Ill. 867,496, pub. 1–14–69. Cl. 23.
Middleton, John, Inc., King of Prussia, Pa. 867,403, pub. 1–14–69. Cl. 17.
Midwest Biscuit Co., Burlington, Iowa. 867,643, pub. 1–14–69. Cl. 46.
Milarre Originals Inc., New York, N.Y. 745,158, canc. Cl. 39.
Miles Laboratories, Inc., Elkhart, Ind. 867,620, pub. 1–14–69. Multiple Class (Classes 44 and 51).
Miles Shoes Inc., to Melville Shoe Corp., New York, N.Y. 509,391, ren. 4–1–69. Cl. 39.
Mink Cosmetics, Inc., Longview, Wash. 867,723. Cl. 51.
Miracle Adhesives Corp., Newark, N.J., and New York, N.Y., to Miracle Adhesives Corp., Bellmore, N.Y. 506,091, ren. 4–1–69. Cl. 38.
Mitann Inc., d.b.a. Zip Aerosol Products, North Hollywood, Calif. 867,627, pub. 1–30–68. Cl. 46.
Modular Electronics Co., Los Angeles, Calif. 745,096, canc. Cl. 21.
Monarch Marking System Co., The, Miamisburg, Ohio. 510,936, ren. 4–1–69. Cl. 23.
Monsieur Henri Wines, Ltd., Brooklyn, N.Y. 867,667–8, pub. 1–14–69. Cl. 47.
Montgomery Ward & Co., Inc., Chicago, Ill. 745,080, canc. Cl. 19.
Mooers, Calvin N.: *See*—
Zator Co.
Morris, Philip, Inc.: *See*—
Pal Blade Co.
Morris, Philip, Inc., New York, N.Y. 867,665, pub. 1–14–69. Cl. 46.
Morton Salt Co., Chicago, Ill. 745,043, canc. Cl. 10.
Mosler Safe Co., The, Hamilton, Ohio. 867,514, pub. 1–14–69. Cl. 25.
Mother's Food Products, Inc., Newark, N.J. 867,634, pub. 1–14–69. Cl. 46.
Motomco, Inc., Clark, N.J. 867,714. Cl. 23.
Movado Watch Agency, Inc., New York, N.Y. 867,536–8, pub. 1–14–69. Cl. 27.
Mozingo's Tire Co., Inc., d.b.a. Delta Buyers Co-Op of North Carolina, South Carolina and Virginia, Charlotte, N.C. 867,695, pub. 1–14–69. Cl. 101.
Muirhead, Charles R., d.b.a. Cleanweld Products Co., South Gate, Calif. 867,552, pub. 1–14–69. Cl. 34.
Murphy, H. B., Co., Brawley, Calif. 745,201, canc. Cl. 46.
Naman Pharmacal Co., Lawrence, Mass. 867,680, pub. 9–26–67. Cl. 52.
National Biscuit Co.: *See*—
Sterling Biscuit Co.
National Biscuit Co., New York, N.Y. 867,647, pub. 1–14–69. Cl. 46.
National Cast Products Co., assor. to National Cast Products Co., Inc., to National Cast Products Co., Inc., Providence, R.I. 442,176–7, ren. 4–1–69. Cl. 14.
National Cast Products Co., Inc.: *See*—
National Cast Products Co.
Neal House Inc., East Hampton, Conn. 745,113, canc. Cl. 22.
Neuheisel, Clement E., d.b.a. Sugar Creek Industries, Bloomington, Ill. 867,549–50, pub. 1–14–69. Cl. 34.
New Bedford Seafood Co-Operative Assn., Inc., New Bedford, Mass. 867,655, pub. 1–14–69. Cl. 46.
New England Confectionery Co., Cambridge, Mass. 867,657, pub. 1–14–69. Cl. 46.
Niagara Sprayer Co., Middleport, to FMC Corp., New York, N.Y. 253,623, ren. 4–1–69. Cl. 6.
Nichimen Co., Inc., Chicago, Ill., from H. Wittur & Co., Evanston, Ill. 867,542, pub. 1–14–69. Cl. 30.
Nord-Aviation Societe Nationale de Constructions Aeronautiques, Paris, France. 867,358, pub. 1–14–69. Cl. 9.
Norman, Merle, Cosmetics, Inc., Los Angeles, Calif. 867,727. Cl. 51.
Northwestern Golf Co., Chicago, Ill. 867,469–72, pub. 1–14–69. Cl. 22.
Numeridex Tape Syatems, Inc., Chicago, Ill. 867,331, pub. 1–14–69. Cl. 2.
Nursery Specialty Products, Inc., Greenwich, Conn. 867,347, pub. 1–14–69. Cl. 6.
Obermeyer, Klaus F., Aspen, Colo. 867,576, pub. 7–23–68. Cl. 39.
Odorono Co., The, Cincinnati, Ohio, by Chesebrough-Pond's Inc., New York, N.Y. 252,478, 12(c) pub. 4–1–69. Cl. 51.
Ohio Brass Co., The, Mansfield, Ohio. 505,941, ren. 4–1–69. Cl. 21.
Ohio Rubber Products, Inc., Ravenna, Ohio. 867,720. Cl. 35.
Oil Recovery Corp., New York, N.Y. 745,231, canc. Cl. 100.
Pack Roads, Inc., Westport, Conn. 867,671, pub. 11–5–68. Cl. 51.
Pal Blade Co., to Pal Blade Co. Inc., by Philip Morris Inc., New York, N.Y. 441,436, 12(c) pub. 4–1–69. Cl. 23.
Pal Blade Co. Inc.: *See*—
Pal Blade Co.
Palace Corp., Williamston, Mich. 506,222, ren. 4–1–69. Cl. 19.
Paper Fabricating Co.: *See*—
Wells Badger Corp.
Parfums Lucien Lelong Corp.: *See*—
Leland, Lucien, Inc.

Parks-Cramer (Great Britain) Ltd., Oldham, England. 867,487, pub. 8–6–68. Cl. 23.
Party-Tyme Products, Inc., New York, N.Y. 867,633, pub. 1–14–69. Cl. 46.
Patek & Co., San Francisco, Calif. 867,513, pub. 1–14–69. Cl. 24.
Penola Inc., Chicago, Ill., to Humble Oil & Refining Co., Houston, Tex. 505,830, ren. 4–1–69. Cl. 6.
Peter Pan Foundations, Inc., New York, N.Y. 745,154, canc. Cl. 39.
Peterson's Ltd., Inc., New York, N.Y. 867,356, pub. 10–1–68. Cl. 8.
Peyster, Maurice C., Inc., New York, N.Y. 745,129, canc. Cl. 28.
Pflueger Corp., Akron, Ohio. 867,464, pub. 1–14–69. Cl. 22.
Phantom Bed Division/BHQ Corp., Hot Springs, Ark. 745,136, canc. Cl. 32.
Philadelphia Quartz Co., Philadelphia, Pa. 506,738. Am. 7(d). Cl. 6.
Pierce Chemical Co., Rockford, Ill. 867,348–9, pub. 1–14–69. Cl. 6.
Pierson Industries, Inc., Palmer, Mass. 867,561, pub. 1–14–69. Cl. 37.
Pincus Bros., Inc., Philadelphia, Pa. 867,589, pub. 1–14–69. Cl. 39.
Pizzagalli Construction Co., Inc., The, South Burlington, Vt. 867,701, pub. 5–28–68. Cl. 103.
Plymouth Shoe Co., Middleboro, Mass. 745,157, canc. Cl. 39.
Polipren-Lavorazione Elastomeri Speciali di Carlo Tondato & C.-Societa in Nome Collettivo, Turin, Italy. 867,556, pub. 1–14–69. Cl. 35.
Polyfoam, Inc., Lester Prairie, Minn. 867,327, pub. 1–14–69. Cl. 2.
Portable Electric Tools, Inc., Geneva, Ill. 745,100, canc. Cl. 21.
Porto Rico Pale Dry Co., Philadelphia, Pa. 745,177, canc. Cl. 45.
Precision Sampling Corp., Baton Rouge, La. 867,716. Cl. 26.
Preformed Line Products Co., Cleveland, Ohio. 867,446, pub. 1–14–69. Cl. 21.
President Shops, Inc., Kansas City, Mo. 867,590, pub. 1–14–69. Cl. 39.
Price, Noel A., Kansas City, Mo. 867,465, pub. 1–14–69. Cl. 22.
Prince Anatole, Inc., Dallas, Tex. 867,583, pub. 1–14–69. Cl. 39.
Procter & Gamble Co., The, Cincinnati, to The Hewitt Soap Co., Inc., Dayton, Ohio. 505,703, ren. 4–1–69. Cl. 52.
Procter & Gamble Co., The, d.b.a. The Globe Soap Co., Cincinnati, to The Hewitt Soap Co., Inc., Dayton, Ohio. 505,747, ren. 4–1–69. Cl. 52.
Products Research Co., Burbank, Calif. 745,084, canc. Cl. 19.
Puget Sound Pulp & Timber Co., Bellingham, Wash. 745,024, canc. Cl. 6.
Pure Oil Co., The, Chicago, Ill., to Union Oil Co. of California, Los Angeles, Calif. 252,484, ren. 4–1–69. Cl. 15.
Pure Oil Co., The, Chicago, Ill., to Union Oil Co. of California, Los Angeles, Calif. 252,544–5, ren. 4–1–69. Cl. 15.
Pure Oil Co., The, Chicago, Ill., to Union Oil Co. of California, Los Angeles, Calif. 505,697, ren. 4–1–69. Cl. 15.
Puritan Mills, Inc., Roanoke, Va. 867,574, pub. 12–20–66. Cl. 39.
Puritan Sportswear Corp., The, from The Puritan Sportswear Corp., Altoona, Pa. 867,573, pub. 3–3–64. Cl. 39.
Quickfit & Quartz Ltd., Stone, England. 867,523, pub. 1–14–69. Cl. 26.
Rainbow Crafts, Inc., Cincinnati, Ohio. 867,474, pub. 1–14–69. Cl. 22.
Random House, Inc., New York, N.Y. 867,572, pub. 1–14–69. Cl. 38.
Rapid-American Corp., New York, N.Y. 867,584, pub. 1–14–69. Cl. 39.
Rattray, Charles, Perth, Scotland. 867,402, pub. 1–14–69. Cl. 17.
Raybestos-Manhattan, Inc., Passaic, N.J. 509,609, ren. 4–1–69. Cl. 35.
Raytheon Co., Lexington, Mass. 867,535, pub. 1–14–69. Cl. 26.
Realites in America, Inc., New York, N.Y. 745,233, canc. Cl. 101.
Red Owl Stores, Inc., Minneapolis, Minn. 867,653, pub. 1–14–69. Cl. 46.
Reece Corp., The, Waltham, Mass. 867,499, pub. 1–14–69. Cl. 23.
Reese Finer Foods, Inc., Chicago, Ill. 867,658, pub. 1–14–69. Cl. 46.
Regal Musical Instrument Co., to The Harmony Co., Chicago, Ill. 256,164, ren. 4–1–69. Cl. 36.
Reichhold Chemicals, Inc., White Plains, N.Y. 867,339, pub. 11–5–68. Cl. 5.
Reid & Reid, Inc., Long Island City, from Royal Lynne, Ltd., New York, N.Y. 867,577, pub. 1–14–69. Cl. 39.
Reig Duplicator Co., d.b.a. Duplicator Co., Chicago, Ill. 745,046, canc. Cl. 11.
Relyon Industries, Inc., Oakland, Calif. 745,081, canc. Cl. 19.
Replica Associates, Inc., Kansas City, Mo. 867,521, pub. 1–14–69. Cl. 26.
Revere Mfg. Co., Inc., South Hackensack, N.J. 867,481, pub. 1–14–69. Cl. 22.
Rexall Drug & Chemical Co.: *See*—
United Drug Co.
Rexall Drug Co.: *See*—
United Drug Co.
Reynolds Industries, Inc., Santa Monica, Calif. 867,357, pub. 1–14–69. Multiple Class (Classes 9 and 21).
Rhodes Pharmacal Co., Inc., Chicago, Ill. 867,670, pub. 11–14–67. Cl. 51.
Rickmar Corp., St. Louis, Mo. 745,160, canc. Cl. 39.
Riviana Foods Inc.: *See*—
Louisiana State Rice Milling Co., Inc.
Hill Packing Co.
Rock Paint & Chemical Co., Fort Atkinson, Wis. 867,395, pub. 1–14–69. Cl. 16.
Rockwell Mfg. Co.: *See*—
Edward Valves, Inc.
Rogers, Lunt & Bowlen Co., d.b.a. Lunt Silversmiths, Greenfield, Mass. 867,541, pub. 1–14–69. Cl. 28.
Roots, P. H. & F. M., Co., The, to Dresser Industries, Inc., Dallas, Tex. 153,840. Am. 7(d). Cl. 23.
Rosa Food Products Co.: *See*—
Foti, Giacomo.
Rothmans of Pall Mall Ltd., Zurich, Switzerland. 867,399–400, pub. 1–14–69. Cl. 17.
Royal Lynne, Ltd.: *See*—
Reid & Reid, Inc.
Roycemore, Inc.: *See*—
Roycemore Toiletries, Inc.
Roycemore Toiletries, Inc., Chicago, Ill., to Roycemore, Inc., Brooklyn, N.Y. 509,764, ren. 4–1–69. Cl. 44.
Rucker Pharmacal Co., Inc., Shreveport, La. 867,417–8, pub. 1–14–69. Cl. 18.
Rueping, Fred, Leather Co., Fond Du Lac, Wis. 745,010, canc. Cl. 1.
S & A Laboratories, Inc., Miami, Fla. 745,028, canc. Cl. 6.
S.A.E.S. Getters S.p.A., Milan, Italy. 867,343, pub. 1–14–69. Cl. 6.
Sagner's, A., Son, Frederick, Md. 867,607, pub. 1–14–69. Cl. 39.
Sandvikens Jernverks AB, Sandviken, Sweden. 867,504, pub. 1–14–69. Cl. 23.
Sapolin Co. Inc., now by change of name Sapolin Paints Inc., to Sapolin Paints Inc., New York, N.Y. 508,382, ren. 4–1–69. Cl. 16.
Sapolin Paints Inc.: *See*—
Sapolin Co. Inc.
Sawyer-Tower Prdoucts, Inc., Watertown, Mass. 867,582, pub. 10–15–68. Cl. 39.
Scantlin Electronics, Inc., Los Angeles, Calif. 867,731. Cl. 107.
Schiff Co., The, now by change of name Shoe Corp. of America, to Shoe Corp. of America, Columbus, Ohio. 510,018, ren. 4–1–69. Cl. 39.
Scholl Mfg. Co., Inc., The, Chicago, Ill. 509,429, ren. 4–1–69. Cl. 18.
Scholl Mfg. Co., Inc., The, Chicago, Ill. 509,551, ren. 4–1–69. Cl. 44.
Scholl Mfg. Co., Inc., The, Chicago, Ill. 509,768, ren. 4–1–69. Cl. 44.
Schwarzwaelder Co., The, Philadelphia, Pa. 72,292, ren. 4–1–69. Cl. 42.
Schwinn Bicycle Co., from Arnold, Schwinn & Co., Chicago, Ill. 867 712. Cl. 19.
Scott & Fetzer Co., The, Cleveland, Ohio. 867,420, pub. 1–14–69. Multiple Class (Classes 19 and 23).
Scott, O.M., & Sons Co., The, Marysville, Ohio. 867,708. Cl. 6.
Sealspout Corp., Monntainside, N.J. 511,207, ren. 4–1–69. Cl. 13.
Sethness Products Co., Chicago, Ill. 745,189, canc. Cl. 46.
Shamban, W. S., & Co., Culver City, Calif. 745,140, canc. Cl. 35.
Shamrock-Neatway Products, Inc., Minneapolis, Minn. 867,333, pub. 1–14–69. Cl. 2.
Shasta Industries, Inc., Northridge, Calif. 867,421, pub. 1–14–69. Cl. 19.
Sheller-Globe Corp.: *See*—
Globe-Wernicke Co., The.
Shoe Corp. of America: *See*—
Schiff Co., The.
Ski-Tow Mfg. Co., Elkhart, Ind. 867,426–7, pub. 1–14–69. Cl. 19.
Slickcraft Boat Co., Holland, Mich. 867,429, pub. 1–14–69. Cl. 19.
Societe Anonyme Compagnie Francaise des Parfums D'Orsay: *See*—
D'Orsay Perfumeries Corp.
Societe Genevoise d'Instruments de Physique, Geneva, Switzerland. 745,122 canc. Cl. 23.
Soiltest, Inc., Evanston, Ill. 867,528, pub. 1–14–69. Cl. 26.
Southern Vital Record Center, Inc., Flora, Miss. 867,693–4, pub. 1–14–69. Cl. 101.
Southwest Welding & Mfg. Co., Alhambra, Calif. 867,424, pub. 1–14–69. Cl. 19.
Sovereign Military Order of The Temple of Jerusalem, Inc., The, Essex Fells, N.J. 867,707, pub. 1–14–69. Cl. 200.
Spartans Industries, Inc., New York, N.Y. 867,594, pub. 1–14–69. Cl. 39.
Spectrum Instruments, Inc., Tuckahoe, N.Y. 867,713. Cl. 21.
Sports Car Club of America, Inc., Westport, Conn. 867,688, pub. 1–14–69. Cl. 101.
Sprague, Charles A., d.b.a. Sprague Devices, to Sprague Devices, Inc., Michigan City, Ind. 442,654, ren. 4–1–69. Cl. 19.
Sprague Devices: *See*—
Sprague, Charles A.
Sprague Devices, Inc.: *See*—
Sprague, Charles A.
Sprague, Howard M., Mason City, Iowa. 745,176, canc. Cl. 45.
Springfield Leather Products Co., The, Springfield, Ohio. 253,326, ren. 4–1–69. Cl. 3.
Squire Vacuum Systems: *See*—
Storrs, Ranald D.
Stabond Corp., Gardena, Calif. 867,391, pub. 1–14–69. Cl. 16.
Stanbio Laboratory, Inc., San Antonio, Tex. 867,527, pub. 1–14–69. Cl. 26.

Standard Oil Co. of California, from R. F. Simmons Co., San Francisco, Calif. 862,378, cor. Cl. 28.
Stanley Works, The, New Britain, Conn. 867,508, pub. 1–14–69. Cl. 23.
Stayner Corp., Berkeley, Calif. 505,676, ren. 4–1–69. Cl. 18.
Sterling Biscuit Co., Boston, Mass., to National Biscuit Co., New York, N.Y. 72,501, ren. 4–1–69. Cl. 46.
Stokely-Van Camp, Inc., Indianapolis, Ind. 509,866, ren. 4–1–69. Cl. 46.
Storck Pharmaceuticals, Inc., St. Louis, Mo. 745,064, canc. Cl. 18.
Storrs, Ranald D., d.b.a. Squire Vacuum Systems, Phoenix, Ariz. 867,506, pub. 1–14–69. Cl. 23.
Strauss, Levi, & Co., San Francisco, Calif. 250,265, 12(c) pub. 4–1–69. Cl. 39.
Studebaker Corp., South Bend, Ind. 867,451, pub. 1–14–69. Cl. 21.
Sugar Creek Industries: *See*—
Neuhelsel, Clement E.
Sumitomo Chemical Co., Ltd., Osaka, Japan. 867,413, pub. 1–14–69. Cl. 18.
Sumitomo Machinery Corp. of America, Carlstadt, N.J. 867,492, pub. 1–14–69. Cl. 23.
Sun Chemical Corp., New York, N.Y. 867,363–70, pub. 1–14–69. Cl. 11.
Superior Concrete Accessories, Inc., Franklin Park, Ill. 867,380, pub. 1–14–69. Cl. 13.
Swift & Co., Chicago, Ill. 867,637, pub. 1–14–69. Cl. 46.
Target Stores, Inc., Minneapolis, Minn. 867,408, pub. 11–8–66. Cl. 18.
Tax Automated Co.: *See*—
Galas, Theodore D.
Taxaco Income Service: *See*—
Galas, Theodore D.
Taylor, James L., Mfg. Co., Poughkeepsie, N.Y. 442,929, ren. 4–1–69. Cl. 23.
Technicon Corp., Ardsley, N.Y. 867,526, pub. 1–14–69. Cl. 26.
Technique du Verre Tisse, Paris, France. 867,372, pub. 1–14–69. Cl. 12.
Teletronics, Inc., Dallas, Tex. 867,453, pub. 1–14–69. Cl. 21.
Tennant, C., Sons & Co. of New York, Warren, Ohio. 867,507, pub. 1–14–69. Cl. 23.
Teweles, L., Seed Co., Milwaukee, Wis. 867,323–4, pub. 1–14–69. Cl. 1.
Textron Inc., Providence, R.I. 867,330, pub. 1–14–69. Cl. 2.
Textron Inc., Providence, R.I. 867,511, pub. 1–14–69. Cl. 23.
Textron Inc., Providence, R.I. 867,540, pub. 1–14–69. Cl. 28.
Theobald Industries, The, Kearny, N.J., to Lever Bros. Co., New York, N.Y. 511,971, ren. 4–1–69. Cl. 52.
Thermo Electric Co., Inc., Saddle Brook, N.J. 867,452, pub. 1–14–69. Cl. 21.
Thompson, Earl C., Waco, Tex. 867,385, pub. 1–14–69. Cl. 13.
Time & Place, Inc., New York, N.Y. 867,587, pub. 1–14–69. Cl. 39.
Tingue, Brown & Co., New York, N.Y. 867,669, pub. 1–14–69. Cl. 50.
Toico Corp., Toledo, Ohio. 767,308. Am. 7(d). Cl. 13.
Tonka Corp., Mound, Minn. 867,459, pub. 1–14–69. Cl. 22.
Tootsie Roll Industries, Inc., Hoboken, N.J., from Knit Products Corp., Belmont, N.C. 867,575, pub. 10–31–67. Cl. 30.
Topps Chewing Gum, Inc., Brooklyn, N.Y. 867,652, pub. 1–14–69. Cl. 46.
Toyota Jidosha Kogyo Kabushiki Kaisha (Toyota Motor Co., Ltd.), Toyota-shi, Aichi-ken, Japan. 867,434, pub. 1–14–69. Cl. 19.
Tram, Guebwiller, France. 745,048, canc. Cl. 12.
Tram, Guebwiller, France. 745,059, canc. Cl. 16.
Trans-Continental Bolt Co. Ltd., Windsor, Ontario, Canada. 867,383, pub. 1–14–69. Cl. 13.
Trustees of The Stevens Institute of Technology, The, Hoboken, N.J. 867,706, pub. 1–14–69. Cl. 107.
Tucker, Clifford E., Los Angeles, Calif. 867,439, pub. 1–14–69. Cl. 19.
Turmac Tobacco Co. N.V., Amsterdam, Netherlands. 867,401, pub. 1–14–69. Cl. 17.
Twentieth Century Mfg. Co.: *See*—
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Uneeda Doll Co. Inc., Brooklyn, N.Y. 745,022, canc. Cl. 3.
Union Oil Co. of California: *See*—
Pure Oil Co., The.
Union Oil Co. of California, Los Angeles, Calif. 867,703, pub. 1–14–69. Cl. 103.
Union Tank Car Co., from Union Tank Car Co., Chicago, Ill. 867,543, pub. 1–14–69. Cl. 31.
Uniroyal, Inc., New York, N.Y. 867,592, pub. 1–14–69. Cl. 39.
United Drug Co., Boston, Mass., to Rexall Drug & Chemical Co., d.b.a. Rexall Drug Co., Los Angeles, Calif. 252,239, ren. 4–1–69. Cl. 6.
United Drug Co., Boston, Mass., to Rexall Drug & Chemical Co., d.b.a. Rexall Drug Co., Los Angeles, Calif. 252,348, ren. 4–1–69. Cl. 6.
United Drug Co., Boston, Mass., to Rexall Drug & Chemical Co., d.b.a. Rexall Drug Co., Los Angeles, Calif. 73,654, ren. 4–1–69. Cl. 44.
United Kingdom Tobacco Co., Ltd., The, d.b.a. Marcovitch & Co., London, England. 867,398, pub. 10–1–68. Cl. 17.
United Press International: *See*—
United Press International, Inc.
United Press International, Inc., d.b.a. United Press International, New York, N.Y. 867,687, pub. 10–8–68. Cl. 100.
United States Bedding Co., The, St. Paul, Minn. 867,548, pub. 1–14–69. Cl. 32.
Universal Cigar Corp., New York, N.Y. 867,407, pub. 1–14–69. Cl. 17.
Upjohn Co., The, Kalamazoo, Mich. 867,416, pub. 1–14–69. Cl. 18.
Usen Products Co., Woburn, Mass. 867,631–2, pub. 1–14–69. Cl. 46.
Vanadium-Alloys Steel Co.: *See*—
Vasco Metals Corp.
Vasco Metals Corp., from Vanadium-Alloys Steel Co., Latrobe, Pa. 867,386, pub. 2–16–65. Cl. 14.
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Villager, Inc., The, Philadelphia, Pa. 867,611, pub. 1–14–69. Cl. 41.
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Voit, W. J., Rubber Corp., Santa Ana, Calif. 510,267, ren. 4–1–69. Cl. 22.
Wall-Streeter Shoe Co., North Adams, Mass. 251,242, ren. 4–1–69. Cl. 39.
Wampole Laboratories: *See*—
Denver Chemical Mfg. Co.
Wander, Dr. A., S.A., Berne, Switzerland. 745,065, canc. Cl. 18.
Warren Tool Corp., Warren, Ohio. 867,486, pub. 1–14–69. Cl. 23.
Washburn, F. B., Candy Corp., Brockton, Mass. 867,636, pub. 1–14–69. Cl. 46.
Washington Stove Works, The, Everett, Wash. 503,033, ren. 4–1–69. Cl. 34.
Weber Aircraft Corp., Burbank, Calif. 745,126, canc. Cl. 24.
Weber Costello Co., to Beckley-Cardy Co., Chicago, Ill. 505,994, ren. 4–1–69. Cl. 50.
Wells Badger Corp., d.b.a. Paper Fabricating Co., Milwaukee, Wis. 745,223, canc. Cl. 50.
West Bend Co., The, West Bend, Wis. 867,458, pub. 1–14–69. Cl. 21.
West Chemical Products, Inc., Long Island City, N.Y. 867,448, pub. 1–14–69. Cl. 21.
West Chemical Products, Inc., Long Island City, N.Y. 867,579, pub. 1–14–69. Cl. 39.
West Point-Pepperell, Inc., West Point, Ga. 867,616, pub. 1–14–69. Cl. 42.
Western States Bankcard Association, from California Bankcard Association, San Francisco, Calif. 867,698, pub. 10–29–68. Cl. 102.
Weyerhaeuser Co.: *See*—
Harrower, Norman.
Wiedemann Machine Co., King of Prussia, Pa. 735,274. Am. 7(d). Cl. 23.
Wilson, Lee Engineering Co., Inc., Rocky River, Ohio. 867,715. Cl. 23.
Wincharger Corp., Sioux City, Iowa. 745,109, canc. Cl. 21.
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Woodford Mfg. Co., Des Moines, Iowa. 867,381, pub. 1–14–69. Multiple Class (Classes 13 and 23).
Woodstream Corp.: *See*—
Animal Trap Co. of America.
Workman Packing Co., San Francisco, Calif., to W. R. Grace & Co., New York, N.Y. 510,842, ren. 4–1–69. Cl. 46.
Wyandotte Chemicals Corp., Wyandotte, Mich. 867,341, pub. 1–14–69. Cl. 6.
Zator Co., to Calvin N. Mooers, d.b.a. Zator Co., Cambridge, Mass. 508,789, ren. 4–1–69. Cl. 37.
Zevo, Inc., Los Angeles, Calif. 867,635, pub. 1–14–69. Cl. 46.
Zip Aerosol Products: *See*—
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NOTICES

Board of Appeals Decisions Rendered in the Month of February 1969

Examiner affirmed	108
Examiner affirmed in part	22
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Disclaimers

Reissue No. 26,269.—*James A. Ford*, Sturgis, Mich. PANEL TRAVERSING AND SUPPORTING MEANS. Reissue patent dated Sept. 26, 1967. Disclaimer filed Nov. 21, 1968, by the assignee, *Kirsch Company*.

Hereby enters this disclaimer to all claims of said patent.

2,732,436.—*Andrew J. Aikens*, East Orange, *Nelson Botsford*, Morristown, and *Albert P. Boysen, Jr.*, Basking Ridge, N.J., *Eginhard Dietze*, deceased, by *Katherine R. Dietze*, executrix, Clearwater, Fla., *Walter D. Goodale, Jr.*, Summit, and *Alfred H. Inglis*, Upper Montclair, N.J. SUBSCRIBER TELEPHONE SET. Patent dated Jan. 24, 1956. Disclaimer filed Nov. 5, 1968, by the assignee, *Bell Telephone Laboratories, Incorporated*.

Hereby enters this disclaimer to claim 1 of said patent.

3,011,601.—*Bernard Perlin*, Los Angeles, Calif. BUILDING CONSTRUCTION. Patent dated Dec. 5, 1961. Disclaimer filed Nov. 13, 1968, by the assignee, *Rheem Manufacturing Company*.

Hereby enters this disclaimer to the terminal portion of the term of the patent subsequent to Dec. 5, 1978.

3,190,068.—*Raymond F. Williams* and *Michael E. Martin*, Quincy, Ill. TURBOCHARGER FOR COMPRESSOR DRIVING ENGINE. Patent dated June 22, 1965. Disclaimer filed Nov. 7, 1968, by the assignee, *Gardner-Denver Company*.

Hereby enters this disclaimer to all claims of said patent.

3,256,188.—*Andreas G. Papayannopoulos*, Woodbury, and *Herbert Myers*, Cherry Hill, N.J. OIL-SOLUBLE METAL HALIDE COMPLEXES AND IMPROVED LUBRICATING OIL COMPOSITIONS CONTAINING SAME. Patent dated June 14, 1966. Disclaimer filed Nov. 18, 1968, by the assignee, *Mobil Oil Corporation*.

Hereby enters this disclaimer to claims 12, 15 and 16 of said patent.

3,300,163.—*John E. Randolph*, Palatine, Ill. COLLET FOR ELONGATED MEMBERS. Patent dated Jan. 24, 1967. Disclaimer filed Feb. 19, 1969, by the assignee, *Teletype Corporation*.

Hereby enters this disclaimer to all claims of said patent.

3,337,762.—*Edwin F. Vincent*, Camp Springs, Md. COAXIAL GAS DISCHARGE LAMP WITH A HOLLOW CENTER FOR PUMPING LASERS. Patent dated Aug. 22, 1967. Disclaimer filed Jan. 17, 1969, by the inventor.

Hereby enters this disclaimer to claims 1, 2, and 6 of said patent.

3,342,952.—*Edward M. Meyer*, Silver Spring, Md. SOUND RECORDING APPARATUS FOR TEACHING BY MIMICRY. Patent dated Sept. 19, 1967. Disclaimer filed Feb. 27, 1969, by the assignee, *General Electronics Laboratories, Inc.*

Hereby enters this disclaimer to the terminal portion of the term of the patent subsequent to Nov. 3, 1981.

3,412,033.—*Kenneth S. Karsten*, Westport, and *Wilbur S. Taylor*, Norwalk, Conn. GERMICIDAL DETERGENT COMPOSITIONS. Patent dated Nov. 19, 1968. Disclaimer filed June 10, 1968, by the assignee, *R. T. Vanderbilt Company, Inc.*

Hereby enters this disclaimer to the terminal portion of the term of the patent subsequent to Feb. 22, 1983.

"Mere Function of Machine"—Rejection

In view of the decision of the Court of Customs and Patent Appeals in *In re Tarczy-Hornoch* appearing at 158 USPQ 141, process or method claims will no longer be subject to a rejection by Patent Office examiners solely on the ground that they define the inherent function of a disclosed machine or apparatus. Accordingly, the subject matter of MPEP 706.03(r) is inapplicable and hereby cancelled.

RICHARD A. WAHL,
Assistant Commissioner.

Feb. 10, 1969.

New Applications Received During January 1969

Patents	7388
Designs	419
Plant Patents	15
Reissues	26
Total	7848

Issue—April 8, 1969

Patents	1300	No. 3,436,760 to No. 3,438,059, incl.
Designs	63	No. 213,756 to No. 213,818, incl.
Total	1363	

Certificates of Correction for the Week of Apr. 8, 1969

2,836,318	3,352,240	3,365,021
2,836,319	3,353,470	3,365,416
3,142,540	3,353,895	3,365,431
3,262,870	3,357,501	3,365,437
3,266,488	3,360,668	3,365,885
3,297,671	3,361,164	3,366,070
3,309,078	3,362,211	3,366,177
3,313,770	3,362,877	3,366,602
3,324,119	3,363,041	3,367,142
3,324,460	3,363,263	3,367,149
3,340,331	3,363,790	3,367,623
3,344,636	3,364,197	3,368,084
3,346,690	3,364,203	3,373,072
3,347,897	3,364,929	3,392,507
3,351,603	3,364,975	3,395,639

Erratum

In the OFFICIAL GAZETTE of February 25, 1969, vol. 859, following the syllabi of the decision entitled "In re Harry Dudley Wright," on page 1013, line 6 thereof, for "AFFIRMED." read —REVERSED—.

Lapsed Patents

The following patents have lapsed under the provisions of 35 U.S.C. 151 for failure of payment of remaining balances of issue fees due therein:

3,258,077 issued June 28, 1966.
3,398,728 issued Aug. 27, 1968.

PATENT EXAMINING CORPS

R. A. WAHL, Assistant Commissioner

CONDITION OF PATENT APPLICATIONS AS OF MARCH 24, 1969

PATENT EXAMINING GROUPS	Actual Filing Date of Oldest New Case Awaiting Action
*Denotes oldest new application.	
CHEMICAL EXAMINING GROUPS	
GENERAL CHEMISTRY AND PETROLEUM CHEMISTRY, GROUP 110—M. STERMAN, Director. Inorganic Compounds; Inorganic Compositions; Organo-Metal and Organo-Metalloid Chemistry; Metallurgy; Metal Stock; Electro Chemistry; Batteries; Hydrocarbons; Mineral Oil Technology; Lubricating Compositions; Gaseous Compositions; Fuel and Igniting Devices.	1-03-67
GENERAL ORGANIC CHEMISTRY, GROUP 120—I. MARCUS, Director. Heterocyclic; Amides; Alkaloids; Azo; Sulfur; Misc. Esters; Carbohydrates; Herbicides; Poisons; Medicines; Cosmetics; Steroids; Oxo and Oxy; Quinones; Acids; Carboxylic Acid Esters; Acid Anhydrides; Acid Halides.	6-20-66
HIGH POLYMER CHEMISTRY, PLASTICS AND MOLDING; GROUP 140—L. J. BERCOVITZ, Director. Synthetic Resins; Rubber; Proteins; Macromolecular Carbohydrates; Mixed Synthetic Resin Compositions; Synthetic Resins With Natural Polymers and Resins; Natural Resins; Reclaiming; Pore-Forming; Compositions (Part) e.g.: Coating; Molding; Ink; Adhesive and Abrading Compositions; Molding, Shaping, and Treating Processes.	1-05-67
COATING AND LAMINATING, BLEACHING, DYEING AND PHOTOGRAPHY, GROUP 160—M. STERMAN, Acting Director. Coating; Processes and Misc. Products; Laminating Methods and Apparatus; Stock Materials; Adhesive Bonding; Special Chemical Manufactures; Special Utility Compositions; Bleaching; Dyeing and Photography.	*5-13-66
SPECIALIZED CHEMICAL INDUSTRIES AND CHEMICAL ENGINEERING, GROUP 170—W. B. KNIGHT, Director. Fertilizers; Foods; Fermentation; Analytical Chemistry; Reactors; Sugar and Starch; Paper Making; Glass Manufacture; Gas; Heating and Illuminating; Cleaning Processes; Liquid Purification; Distillation; Preserving; Liquid and Solid Separation; Gas and Liquid Contact Apparatus; Refrigeration; Concentrative Evaporators; Mineral Oils Apparatus; Misc. Physical Processes.	12-14-66
ELECTRICAL EXAMINING GROUPS	
INDUSTRIAL ELECTRONICS AND RELATED ELEMENTS, GROUP 210—W. S. COLE, Director. Generation and Utilization; General Applications; Conversion and Distribution; Heating and Related Art Conductors; Switches; Miscellaneous.	5-02-67
SECURITY, GROUP 220—S. BOYD, Director. Ordnance, Firearms and Ammunition; Radar, Underwater Signalling, Directional Radio, Torpedoes, Seismic Exploring, Radio-Active Batteries; Nuclear Reactors, Powder Metallurgy, Rocket Fuels; Radio-Active Material.	2-16-67
INFORMATION TRANSMISSION, STORAGE AND RETRIEVAL, GROUP 230—S. BOYD, Acting Director. Communications; Multiplexing Techniques; Facsimile; Data Processing, Computation and Conversion; Storage Devices and Related Arts.	*2-21-66
ELECTRONIC COMPONENT SYSTEMS AND DEVICES, GROUP 250—W. L. CARLSON, Director. Semi-Conductor and Space Discharge Systems and Devices; Electronic Component Circuits; Wave Transmission Lines and Networks; Optics; Radiant Energy; Measuring.	11-10-66
PHYSICS, GROUP 280—R. L. EVANS, Director. Photography; Sound and Lighting; Indicators and Optics; Measuring and Testing; Geometrical Instruments.	4-14-67
DESIGNS, GROUP 290—S. BOYD, Director. Industrial Arts; Household, Personal and Fine Arts.	5-23-68
MECHANICAL EXAMINING GROUPS	
HANDLING AND TRANSPORTING MEDIA, GROUP 310—A. BERLIN, Director. Conveyors; Hoists; Elevators; Article Handling Implements; Store Service; Sheet and Web Feeding; Dispensing; Fluid Sprinkling; Fire Extinguishers; Coin Handling; Check Controlled Apparatus; Classifying and Assorting Solids; Boats; Ships; Aeronautics; Motor and Land Vehicles and Appurtenances; Railways and Railway Equipment; Brakes; Rigid Flexible and Special Receptacles and Packages.	10-02-67
MATERIAL SHAPING, ARTICLE MANUFACTURING, TOOLS, GROUP 320—N. BERGER, Director. Manufacturing Processes, Assembling, Combined Machines, Special Article Making; Metal Deforming; Sheet Metal and Wire Working; Metal Fusion—Bonding, Metal Founding; Metallurgical Apparatus; Plastics Working Apparatus; Plastic Block and Earthenware Apparatus; Machine Tools for Shaping or Dividing; Work and Tool Holders Woodworking; Tools; Cutlery; Jacks.	*4-03-67
AMUSEMENT, HUSBANDRY, PERSONAL TREATMENT, INFORMATION, GROUP 330—A. RUEGG, Director. Amusement and Exercising Devices; Projectors; Animal and Plant Husbandry; Butchering; Earth Working and Excavating; Fishing, etc.; Tobacco; Artificial Body Members; Dentistry; Jewelry; Surgery; Toiletry; Printing; Typewriters; Stationery; Information Dissemination.	4-21-67
HEAT AND POWER ENGINEERING, GROUP 340—C. F. GAREAU, Director. Power Plants; Combustion Engines; Fluid Motors; Pumps; Turbines; Heat Generation and Exchange; Refrigeration; Ventilation; Drying; Vaporizing; Temperature and Humidity Regulation; Machine Elements; Power Transmission.	2-01-68
FIXED CONSTRUCTIONS, SUPPORTS, AND HARDWARE, GROUP 350—T. J. HICKEY, Director. Joints; Fasteners; Rod, Pipe and Electrical Connectors; Miscellaneous Hardware; Locks; Building Structures; Closure Operators; Bridges; Closures; Earth Engineering; Drilling; Mining; Furniture; Receptacles; Supports; Cabinet Structures.	10-23-67
TEXTILES, CLEANING AND FLUID HANDLING, GROUP 360—F. H. BRONAUGH, Director. Fluid Handling, including Valves; Conduits; Filling Receptacles; Lubrication; Joint Packing; Bathroom Fixtures; Centrifugal Separators; Cleaning; Coating; Pressing; Agitating; Foods; Textiles; Apparel and Shoes and their Manufacture; Sewing Machines; Winding and Reeling.	7-14-67

Total number of pending applications (excluding Designs)	161,222
Total number of Design applications pending	3,298

Expiration of patents: The patents within the range of numbers indicated below expire during April 1969, except those which may have expired earlier due to shortened terms under the provisions of Public Law 690, 79th Congress, approved August 8, 1946 (60 Stat. 940) and Public Law 619, 83rd Congress, approved August 23, 1954 (68 Stat. 764), which may have had their term curtailed by disclaimer under the provisions of 35 U.S.C. 253, or which have lapsed under the provisions of 35 U.S.C. 151.

Patents	Numbers 2,690,833 to 2,695,213, inclusive
Plant Patents	Numbers 1,081 to 1,090, inclusive

DECISIONS IN PATENT AND TRADEMARK CASES

U.S. Court of Customs and Patent Appeals

IN RE JOSEPH W. SCHNELLER

No. 7883. Decided June 27, 1968

[55 CCPA —; 397 F.2d 350; 158 USPQ 210]

1. PATENTABILITY—DOUBLE PATENTING—COMBINATION AND SUBCOMBINATION.

Where an applicant discloses as his invention three old elements, A, B and C, to which are added two new elements, X and Y, and states that the best mode of practicing his invention is the combination ABCXY, and where applicant's patent claims ABCX and the application claims ABCY, and where it is urged that the patented combination and the application combination are two different inventions and that a double patenting rejection is improper, Held that "True, there is no double patenting in the sense of claiming the same invention because ABCX and ABCY are, in the technical patent law sense, different inventions"; that "The rule against 'double patenting,' however, is not so circumscribed"; and that "The fundamental reason for the rule is to prevent unjustified timewise extension of the right to exclude granted by a patent no matter how the extension is brought about."

2. SAME—SAME—VOLUNTARY DIVISIONAL APPLICATION—35 U.S.C. 121.

"* * * to prevail here, appellant has the burden of establishing that the invention claimed in his patent is 'independent and distinct' from the invention of the appealed claims. The public policy considerations underlying 35 U.S.C. 121 permit separate patents on 'independent and distinct' inventions which are initially 'claimed in application.' The statute places initial responsibility for this determination on the Commissioner of Patents. Where, as here, no such determination has been made, it is necessary to scrutinize carefully an applicant's voluntary alleged determination of this issue for it can lead to the improper proliferation of patents on the same invention with the inherent result of extending timewise a patentee's right to exclude others from the invention disclosed in the original application and on which his patent has issued."

3. SAME—SAME—COMBINATION.

"The point at which appellant's argument falls down [on the matter of distinct inventions claimed] is in the contention that since [his] patent claims 2 and 3 'cover' ABCX, ABCY, 'is in no respect patented by any of the claims of the patent.' The flaw in the argument is in the apparent assumption that the patent claims covers *only* ABCX. The fact is that since, with the exception of claim 5, they are 'comprising-type' claims, they 'cover' both versions *of the clip disclosed both in the patent and in the present application* because they read squarely thereon. They 'cover' the preferred form ABCXY, common to the patent and this application, in the same sense. The fact that X and Y are distinct elements, performing without the other, does not change this fact. Neither does appellant's omission of reference to the lip Y from his patent claims."

4. SAME—SAME—SAME.

"The claims on appeal, which are directed to the combination ABCY or ABCXY, would * * * continue patent protection on the preferred embodiment of the invention, ABCXY, disclosed in the patent, beyond the expiration of the patent. There is no terminal disclaimer in this case to prevent such a timewise extension of protection."

5. SAME—SAME.

"The controlling fact is that patent protection for the clips, fully disclosed in and covered by the claims of the patent, would be extended by allowance of the appealed claims. Under the circumstances of the instant case, wherein we find no valid excuse or mitigating circumstance making it either reasonable or equitable to make an exception, and wherein there is no terminal disclaimer, the rule against 'double patenting' must be applied."

6. SAME—SAME—COMBINATION AND ELEMENT *In re Heinle* CONSTRUED.

"*In re Heinle* is clearly distinguishable. The issued patent claimed a mechanical combination for holding a toilet paper roll. The application claimed a separately usable and salable *element* of that combination, a particular core for the roll. A combination claim does not 'cover' or read on a single element. The protection of the combination afforded by the single Heinle patent claim would not have been extended by the application claims directed to the element. We refer to our opinions therein and in *In re Allen*, 52 CCPA 1315, 343 F.2d 482, 145 USPQ 147, decided the same day, for further elucidation of our thinking on the subject and for the several earlier precedents permitting patenting of a patentable element after the patenting of a combination containing it, in the absence of a terminal disclaimer."

7. SAME—SAME—*In re Sutherland* DISTINGUISHED.

"*In re Sutherland* is also distinguishable. It was a case of an entirely different kind, involving the inventions of two different people which could be and were employed in the same process of agglomerating synthetic rubber latex. Two separate applications were necessary. The patent of the other inventor, Carpenter, issued first. The situation was complicated by the fact that Carpenter's specification disclosed Sutherland's invention. We expressly found, however, 'no domination by one inventor's claims of the other's invention.' We also note that the Sutherland and Carpenter applications were filed on the same day. Here, there is only one inventor, the patent claims do dominate what the application claims, and the application was filed some 6 years and 9 months after the first application disclosing everything now claimed."

8. SAME—SAME—COMBINATION.

"To sum up the situation in appellant's own terms: The combination ABC was old. He made two improvements on it, (1) adding X and (2) adding Y, the result still being a unitary clip of enhanced utility. While his invention *can* be practiced in the form ABCX or ABCY, the greatest advantage and best mode of practicing the invention as disclosed is obtained by using both inventions in the combination ABCXY. His first application disclosed ABCXY and other matters. He obtained a patent claiming BCX and ABCX, but *so* claiming these combinations as to cover them *no matter what other feature is incorporated in them*, thus *covering effectively ABCXY*. He now, many years later, seeks more claims directed to ABCY *and ABCXY*. Thus, protection he already had would be extended, albeit in somewhat different form, for several years beyond the expiration of his patent, were we to reverse. Anyone undertaking to utilize what he disclosed in the patent, either as his 'diagonal lathing clip' (FIGS. 2 and 3) or his 'straight lathing clip' (FIGS. 3 and 4), *in the preferred and only form in which he described these clips*, would thus run afoul of a still unexpired patent if the appealed claims were allowed. Appellant has argued that this could be avoided by omitting the lip Y which is an essential element of his appealed claims. We do not consider this an effective answer; he would have enjoyed his full term of protection on clips, disclosed in his patent as containing lip Y, whether or not they contained lip Y. He has shown no justification for such *extended* protection. He has made no effort not to extend it. The decision of the Board is affirmed.

AFFIRMED.

Robert F. Hause (*James W. Dent*, of counsel) for appellant.

Joseph Schimmel (*Fred W. Sherling*, of counsel) for the Commissioner of Patents.

Before WORLEY, *Chief Judge*, and Judges RICH, SMITH, ALMOND, and KIRKPATRICK *

RICH, *J.*, delivered the opinion of the court.

This appeal is from a decision of the Patent Office Board of Appeals affirming the Examiner's rejection of claims 17–23 of application Serial No. 205,164, filed June 14, 1962, for "Lathing Clips" on the ground of double patenting. No claim has been allowed.

The claimed subject matter relates to clip systems for securing gypsum lath to support members in partition walls and ceiling con-

* Senior District Judge, Eastern District of Pennsylvania, sitting by designation.

structions. The clip is an elongated curved piece of bent wire having head portion 62 as illustrated in FIGS. 4 and 5 of appellant's application, reproduced below.

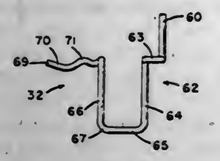


Fig. 4

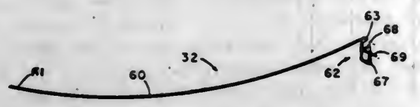
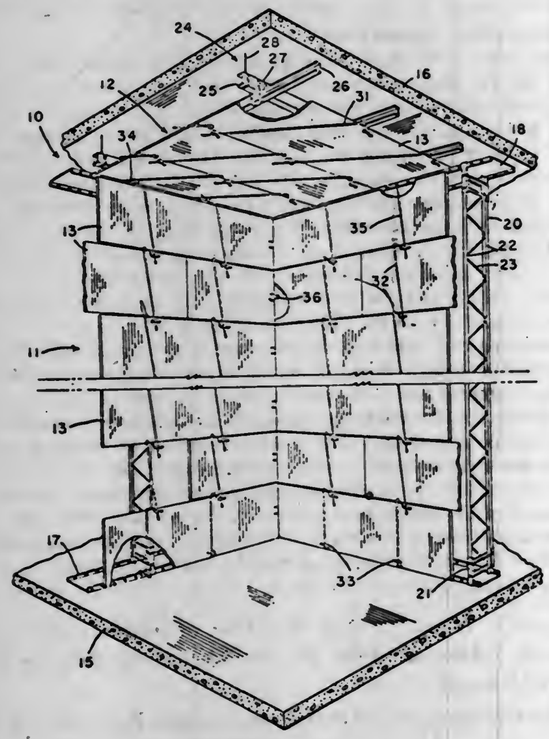


Fig. 5

FIG. 4 shows head portion 62 alone from an axial, end view. FIG. 5 shows the entire clip. Head portion 62 comprises a lip portion 63, a loop portion 67 formed by a first side leg 64, a bottom leg 65 and a second side leg 66, and an offsetting leg 68, terminating in a sinuous prong 69. The legs 64–66 of the loop portion 67 are disposed in a "first plane," the body portion 60 and lip 63 being on opposite sides of that plane. A plurality of the clips are interlocked with each other over lath boards and attached to studs as illustrated in FIG. 1 below:

Fig. 1



Claims 17–22 are drawn to the wire clip as described above. Claim 23 is drawn to the combination of lath sheets attached to frame members by the wire clips. All claims recite the lip portion of the clip and all except 18 and 19 omit reference to prong 69, which serves the dual function of holding the lath and the tail of another clip.

In rejecting claims 17–23, the Board based its finding of double patenting on claims 2 and 3 of appellant's Patent 2,945,329 issued July 19, 1960. The present application is a continuation of application Serial No. 805,005 which is a division of the application for said patent. FIGS. 1, 4, and 5 of the patent drawings are substantially the same as and show the same structure as FIGS. 1, 4, and 5 reproduced above. A modification of the above-described clip in which the lip (63) has a modified shape and the body (60) extends at a greater angle to the plane of the loop (67), shown in FIGS. 2 and 3 of the present application, is likewise shown in FIGS. 2 and 3 of the patent. The patent also discloses further clips which have no body portions for use as "starter" clips in the floor and ceiling positions, as shown in FIG. 1, supra, at 33 and 34. Essentially, these starter clips provide prongs (69) positioned on offsetting legs so that the prongs overlie the surface of the lath to hold it and also hold the tail ends (61) of associated clips crossing adjacent laths just as do the prongs 69 in FIGS. 4 and 5.

To summarize the disclosures in the issued patent and the present application, everything disclosed in this application is disclosed in the patent and the patent discloses additional matter. By reason of the copendency, only the claims of the patent can be considered as support for the rejection, its disclosure being looked to only to determine the meaning of the claims, which are to be read in the light of the specification.

The rejection is predicated on claims 2 and 3 of the patent. Since these are both dependent claims, and for reasons which will be made clear later, we here reproduce all the claims of the patent (emphasis ours).

1. A clip of formed wire for attaching a sheet of lath to a structural framing element *comprising loop means* for attaching said clip to a framing element, said loop means lying substantially in a first plane, one end of said loop means forming an end leg, *an offsetting leg* extending substantially perpendicularly from the outer end of said end leg, and *a prong* formed for receiving and holding a straight tail portion of another clip, said prong extending angularly from the opposite end of said offsetting leg, said offsetting leg and said prong being in a common second plane which is substantially perpendicular to said end leg, said second plane being substantially perpendicular to said first plane, whereby when in operative position said end leg is adapted to be disposed adjacent an end surface of an associated lath sheet and to extend perpendicularly to the general plane of the sheet, and said offsetting leg is adapted to extend parallel to and adjacent the outer face of an associated lath sheet with the prong being adapted to extend parallel and adjacent to the outer face of an associated lath sheet.

2. A wire clip as defined in claim 1 wherein the wire extending from the opposite end of said loop defines an elongated body portion terminating at the opposite end in a substantially straight tail portion adapted for insertion between the prong of an adjacent clip and the outer face of a lath sheet.

3. A wire, straight lathing clip as defined in claim 2, wherein said elongate body portion extends substantially perpendicularly to the plane of said loop.

4. A wire, diagonal lathing clip as defined in claim 2, wherein said elongate body portion extends at substantially a 45° angle from the plane of said loop.

5. A wire *starter clip as defined in claim 1 consisting essentially solely of* said attachment means, said end leg, said offsetting leg and said prong.

Claim 17 on appeal is illustrative and reads (emphasis ours):

17. An interlocking, continuous support type wire clip for attaching lath sheets to structural framing member, said clip comprising an elongate *body portion* of at least about 12 inches length terminating at one end in a tail portion for attachment to another similar clip and terminating at the opposite end in a head portion, said head portion having a framing member receiving *loop* consisting essentially of a first side leg terminating in a generally perpendicularly extending bottom leg, said bottom leg terminating at its opposite end in a generally perpendicularly extending second side leg substantially parallel to said first side leg and disposed substantially in a first plane common to said first side leg and said bottom leg, said first plane intersecting the general extent

of said body portion, the extent of said body portion at least at a portion thereof adjacent said head portion lying in a second plane substantially perpendicular to said first and second side legs and parallel to and spaced from said bottom leg, said head portion further comprising a relatively short *lath-edge receiving lip* disposed on an opposite side of said first plane from said body portion, at least a portion of said lip having an extent substantially within said second plane.

Analysis of the patent claims shows that claim 1 is a broad subcombination claim including three elements: loop means having an end leg, an offsetting leg perpendicular to it, and a prong extending angularly from the offsetting leg. It covers, in the sense that it reads on, the two embodiments of clips, common to this application and the patent, as well as the floor and ceiling starter clips additionally disclosed in the patent.

It will be noted that patent claim 5 implies that claim 1 enumerates the elements of a *starter* clip, which has no body, and then limits it by substituting the phrase "consisting essentially solely of" for the word "comprising" in claim 1. It is thus clear what the scope of patent claim 1 is.

Patent claim 2, relied on in the rejection, adds the elongated body (60) with its straight tail (61). Claim 3, also relied on, adds to claim 2 the further limitation that the body is perpendicular to the plane of the loop, which is the embodiment of FIGS. 4 and 5, supra. These are the two claims relied on by the Examiner and the Board to support the double patenting rejection.

It will be seen that *no patent claim refers to a lip* portion (63) and all refer to a prong (69). *All application claims include a lip* and it is on these facts that appellant bases his argument that the rejection is unsound. The argument is that his clips contain two inventions: (1) the offset prong and (2) the lip and that the patent claims are directed to the offset prong invention and the application claims to the lip invention, which is, he says, an "independent and distinct" invention which, under the rules, he could not have claimed in the patent and so he filed what is, in effect, a voluntary divisional application. The record before us does not contain either application Serial No. 530,179 of Aug. 23, 1955, on which the patent issued, or the intermediate divisional application, Serial No. 805,005 of April 8, 1959, of which the present application is said to be a continuation, filed more than three years later and nearly seven years after the first application on which the patent was granted. There is, therefore, no direct indication before us of why appellant chose this voluntary division method of claiming a clip embodying his lip invention in separate applications instead of claiming it in the applcation in which he first disclosed it, except for his present contention that under the rules he *thinks* he should not have done so. He certainly could have tried it. At worst he would have had a requirement for restriction. He had already made the lip invention and had fully disclosed it in his first application. *This is not a case of an improvement or modification invented after filing. Hence it is not the usual "obviousness-type" double patenting case.* Neither is it a "same-invention-type" double patenting case, for reasons presently to be explained.

It will be useful for discussion to have before us appellant's own analysis, as presented to the Examiner after final rejection. He said his clip includes three *old* elements: elongate body A, loop portion B, and prong C. (These are shown in combination in a prior art patent to Makowski, No. 1,955,247, cited but no longer relied on.) He has added two new elements: offsetting leg X, to offset the prong, and lip Y, to secure the edge of the next course of lath. He says the "best mode" of practicing his invention is the combination ABCXY but that the combinations ABCX and ABCY are two *different* inventions. We agree that they are. He says that in the patent he has claimed ABCX in claims 2, 3, and 4 and that here he is claiming ABCY and, therefore, there is no *double* patenting.

It is at this point that we have to disagree with appellant. [1] True, there is no double patenting in the sense of claiming the same invention because ABCX and ABCY are, in the technical patent law sense, different inventions. The rule against "double patenting," however, is not so circumscribed. The fundamental reason for the rule is *to prevent unjustified timewise extension of the right to exclude* granted by a patent no matter how the extension is brought about.

[2] To conform to this reason and to prevail here, appellant has the burden of establishing that the invention claimed in his patent is "independent and distinct" from the invention of the appealed claims. The public policy considerations underlying 35 U.S.C. 121 permit separate patents on "independent and distinct" inventions which are initially "claimed in one application." The statute places initial responsibility for this determination on the Commissioer of Patents. Where, as here, no such determination has been made, it is necessary to scrutinize carefully an applicant's voluntary alleged determination of this issue for it can lead to the improper proliferation of patents on the same invention with the inherent result of extending timewise a patentee's right to exclude others from the invention disclosed in the original application and on which his patent has issued.

This possibility is clear in a case such as the present as shown by a consideration of the pertinent dates. The original application was filed August 23, 1955 (nearly 13 years ago). The patent issued on that application July 19, 1960 (nearly 8 years ago). Thus, if appellant were now to prevail, the end result would be the grant of another patent effectively extending the time during which he may exclude others from practicing an invention which is disclosed and claimed in his issued patent.

Under these circumstances, even a minimal concern for the public interest requires an applicant to establish that the inventions are in fact independent and distinct and hence that the grant of a patent on the later application will not result in a timewise extension of the protection afforded by his earlier patent. Failing in this, an applicant's remedy lies in filing a terminal disclaimer which will effectively prevent this result.

Here, appellant has clearly not established the independent and distinct character of the inventions of the appealed claims.

[3] The point at which appellant's argument falls down is in the contention that since patent claims 2 and 3 "cover" ABCX, ABCY "is in no respect patented by any of the claims of the patent." The flaw in the argument is in the apparent assumption that the patent claims cover *only* ABCX. The fact is that since, with the exception of claim 5, they are "comprising-type" claims, they "cover" both versions *of the clip disclosed both in the patent and in the present application* because they read squarely thereon. They "cover" the preferred form ABCXY, common to the patent and this application, in the same sense. The fact that X and Y are distinct elements, performing independent functions, so that either can be employed without

the other, does not change this fact. Neither does appellant's omission of reference to the lip Y from his patent claims.

[4] The claims on appeal, which are directed to the combinations ABCY or ABCXY, would therefore continue patent protection on the preferred embodiment of the invention, ABCXY, disclosed in the patent, beyond the expiration of the patent. There is no terminal disclaimer in this case to prevent such a timewise extension of protection.

We do not have here, as we have had in some "double patenting" cases, the invention of ABCX by one person and ABCY by another so this excuse for filing two applications is not present. Neither do we have any requirement of restriction, as provided in 35 U.S.C. 121, to excuse it. We do not have any terminal disclaimer, either filed or offered to be filed. Appellant was not forced into his present situation. It was entirely of his own making.

[5] The controlling fact is that patent protection for the clips, fully disclosed in and covered by the claims of the patent, would be extended by allowance of the appealed claims. Under the circumstances of the instant case, wherein we find no valid excuse or mitigating circumstance making it either reasonable or equitable to make an exception, and wherein there is no terminal disclaimer, the rule against "double patenting" must be applied.

Appellant has relied on certain statements taken out of context from *In re Heinle*, 52 CCPA 1164, 342 F.2d 1001, 145 USPQ 131, and *In re Sutherland*, 52 CCPA 1683, 347 F.2d 1009, 146 USPQ 485. Once more we "caution again against the tendency 'to freeze into rules of general application what, at best, are statements applicable to particular fact situations.'" *In re Riden*, 50 CCPA 1411, 1415, 318 F.2d 761, 763, 138 USPQ 112, 114.

[6] *In re Heinle* is clearly distinguishable. The issued patent claimed a mechanical combination for holding a toilet paper roll. The application claimed a separately usable and salable *element* of that combination, a particular core for the roll. A combination claim does not "cover" or read on a single element. The protection of the combination afforded by the single Heinle patent claim would not have been extended by the application claims directed to the element. We refer to our opinions therein and in *In re Allen*, 52 CCPA 1315, 343 F.2d 482, 145 USPQ 147, decided the same day, for further elucidation of our thinking on the subject and for the several earlier precedents permitting patenting of a patentable element after the patenting of a combination containing it, in the absence of a terminal disclaimer.

[7] *In re Sutherland* is also distinguishable. It was a case of an entirely different kind, involving the inventions of two different people which could be and were employed in the same process of agglomerating synthetic rubber latex. Two separate applications were necessary. The patent of the other inventor, Carpenter, issued first. The situation was complicated by the fact that Carpenter's specification disclosed Sutherland's invention. We expressly found, however, "no domination by one inventor's claims of the other's invention." We also note that the Sutherland and Carpenter applications were filed on the same day. Here, there is only one inventor, the patent claims do dominate what the application claims, and the application was filed some 6 years and 9 months after the first application disclosing everything now claimed.

[8] To sum up the situation in appellant's own terms: The combination ABC was old. He made two improvements on it, (1) adding X and (2) adding Y, the result still being a unitary clip of enhanced utility. While his invention *can* be practiced in the form ABCX or ABCY, the greatest advantage and best mode of practicing the invention as disclosed is obtained by using both inventions in the combination ABCXY. His first application disclosed ABCXY and other matters. He obtained a patent claiming BCX and ABCX, but *so* claiming these combinations as to cover them *no matter what other feature is incorporated in them*, thus *covering effectively ABCXY*. He now, many years later, seeks more claims directed to ABCY *and ABCXY*. Thus, protection he already had would be extended, albeit in somewhat different form, for several years beyond the expiration of his patent, were we to reverse. Anyone undertaking to utilize what he disclosed in the patent, either as his "diagonal lathing clip" (FIGS. 2 and 3) or his "straight lathing clip" (FIGS. 3 and 4), *in the preferred and only form in which he described these clips*, would thus run afoul of a still unexpired patent if the appealed claims were allowed. Appellant has argued that this could be avoided by omitting the lip Y which is an essential element of his appealed claims. We do not consider this an effective answer; he would have enjoyed his full term of protection on clips, disclosed in his patent as containing lip Y, whether or not they contained lip Y. He has shown no justification for such *extended* protection. He has made no effort not to extend it.

The decision of the Board is affirmed.

AFFIRMED.

WORLEY, *Chief Judge*, and KIRKPATRICK, *J.*, concur in the result.

ALMOND, *J.*, concurring.

As the above opinion points out, the patent claim, by virtue of the disclosure and the "comprising" language, covers a combination ABCXY. The application before us claims subcombination ABCY. The above opinion finds an extension of monopoly.

In *In re Heinle*, 52 CCPA 1164, 342 F.2d 1001, 145 USPQ 131, a patent had issued containing a claim to combination ABCDE. An application was filed claiming element E, and the majority found no extension of monopoly.

I find the facts here indistinguishable from those in *Heinle*, and concur in the result because it is consistent with my dissent in *In re Allen*, 52 CCPA 1315, 343 F.2d 482, 145 USPQ 147, and my concurrence in *In re Heinle*.

U.S. Court of Customs and Patent Appeals

IN RE PAUL H. ALDRICH

No. 7935. Decided July 3, 1968

[55 CCPA 1431; 398 F.2d 855; 158 USPQ 311]

1. PATENTABILITY — DOUBLE PATENTING — TERMINAL DISCLAIMER — DISCLAIMER FILED AFTER BOARD DECISION.

"This is a common-assignee, obviousness-type double patenting case. The Solicitor for the Patent Office and appellant agree on that. After the affirmance of the double patenting rejection by the Board, appellant filed a terminal disclaimer and asked for reconsideration because of it. Refusal of the Board to give effect to the disclaimer to overcome the rejection is argued to have been error. We will dispose of that point at the outset. No special circumstances being recited, we are of the view that our decision in *In re Heyl*, 54

CCPA 1608, 379 F.2d 1018, 154 USPQ 178 (1967), applies and we consider the Board to have been justified in its refusal to reopen the case. We therefore treat the other issues on the basis that no terminal disclaimer is involved."

2. SAME—SAME—OBVIOUSNESS-TYPE DOUBLE PATENTING—35 U.S.C. 103 NOT INVOLVED.

Perhaps some of our recent opinions have already had a clarifying effect in the field of double patenting rejections but, to make doubly sure, we reiterate that double patenting rejections *cannot* be based on section 103, *In re Ornitz*, 52 CCPA 1467, 347 F.2d 586, 146 USPQ 38 (1965), or on the disclosures of the patents whose claims are relied on to demonstrate double patenting or on the "disclosures" of their claims. Obviousness-type double patenting rejections, such as evidently was being attempted here, are based on the premise that an applicant is claiming no more than an obvious variation—which would be obvious to anyone of ordinary skill in the art—of an invention on which a patent has already been granted, absent a terminal disclaimer, of course. To that end, patent claims are looked to only to see what *has been patented*, the subject matter which *has been protected*, not for something one may find to be disclosed by reading them.

3. SAME—SAME—WORDS AND PHRASES—"ABOUT" AND "LESS THAN."

So far as we can see, the Board's concern about possible extension of monopoly and its refusal to agree with appellant that there will be none by granting a patent on appellant's claims was predicated on its views as to the possible interpretation of "about" and the possibility of overlap in the top limit of appellant's claims and the bottom limit of the claims of Keim and Davison. We believe appellant has taken care of that with great clarity, as a glance at Table I shows. Whatever "about 0.1%" is construed to mean in the Keim and Davison claims, appellant's claims specify "less than" that. In conjunction with those clear words, he used the same claim expression as Keim and Davison, i.e., "about 0.1%." There can be no overlap. We can see no possible extension of monopoly. Furthermore, as to amount, appellant's claims specify (so far as Keim is concerned) that what is used in practicing his invention shall be "ineffective to impart any appreciable wet strength to the paper."

It can hardly be said that it is an obvious modification of Keim's invention, which is to use the cationic thermosetting resin to product wet strength, to reduce its amount to the point where it produces no wet strength—perhaps way below—and to use it for an entirely different purpose. Similarly with respect to Davison's use of the resin to flocculate and anchor acrylic compounds used to produce wet and dry strength, it is not obvious to use an amount which is ineffective for those purposes and to use it for a different purpose.

We are not forgetting the "secondary" references and what they teach about retention aids for paper additives, including the use of "similar" compounds to the resin used by appellant. With respect to the secondary references, we are concerned with whether they would suggest *modifying* the inventions *claimed* by Keim and Davison, because this is exclusively a double patenting rejection based on those claims and on that proposition.

4. SAME—SAME—CRITICALITY.

"The Solicitor has repetitively asserted in his brief that the "range of resin proportions recited in the claims has not been disclosed, alleged or shown to be critical." We do not know exactly what is meant by "critical" in this context but whatever it means we disagree with the proposition. This claim limitation is clearly of great significance. Criticality is usually concerned with the question of unobviousness under section 103, a question not before us.

APPEAL from the Patent Office. Serial No. 323,152.

REVERSED.

Clinton F. Miller (*Charles L. Board*, of counsel) for appellant.

Joseph Schimmel (*Jack E. Armore*, of counsel) for the Commissioner of Patents.

Before WORLEY, *Chief Judge*, and Judges RICH, SMITH, ALMOND, and KIRKPATRICK [1]

RICH, *J.*, delivered the opinion of the court.

[1] Senior District Judge, Eastern District of Pennsylvania, sitting by designation.

This appeal is from the decision of the Patent Office Board of Appeals affirming the rejection of claims 1–6 of application Serial No. 323,152, filed November 12, 1963, entitled "Manufacture of Paper."

Appellant claims the benefit of the November 7, 1957, filing date of a grandparent application, Serial No. 694,930, and has filed in this and related cases affidavits (apparently under Rule 131) claiming a date of invention for the subject matter of the appealed claims prior to September 5, 1957. Entitlement to these asserted dates is not disputed.

[1] This is a common-assignee, obviousness-type double patenting case. The Solicitor for the Patent Office and appellant agree on that. After the affirmance of the double patenting rejection by the Board, appellant filed a terminal disclaimer and asked for reconsideration because of it. Refusal of the Board to give effect to the disclaimer to overcome the rejection is argued to have been error. We will dispose of that point at the outset. No special circumstances being recited, we are of the view that our decision in *In re Heyl*, 54 CCPA 1608, 379 F.2d 1018, 154 USPQ 178 (1967), applies and we consider the Board to have been justified in its refusal to reopen the case. We therefore treat the other issues on the basis that no terminal disclaimer is involved.

The Invention

We adopt the following apparently accurate statement of the invention, not questioned by the Solicitor, contained in appellant's brief:

The invention relates to the paper art and particularly to an improved method for making paper comprised of paper fibers and a water-insoluble paper additive.

It is known that certain water-insoluble paper additives are effective for improving certain characteristics of paper. Thus, for example, water-insoluble additives such as clays are incorporated in paper sheeting to impart improved printability, opacity and the like. However, when a water-insoluble additive is added to a paper pulp prior to sheet formation, only a relatively small proportion of the additive is retained by the paper fibers and, as a result, a substantial proportion of the additive is lost in the white water during sheet formation.

In accordance with this invention it has been determined that by incorporating in an aqueous suspension of papermaking fibers in conjunction with certain specific water-insoluble additives a cationic thermosetting resin as defined in the claims, the amount of water-insoluble additive retained by the paper is improved substantially. Further, it has been determined that only a relative small amount of the cationic thermosetting resin is required to improve substantially the additive retention by the paper fibers. Moreover, in the relatively small amounts of cationic thermosetting resin required to obtain the improved result, there is no appreciable increase in wet strength of the treated paper.

The cationic thermosetting resin employed in carrying out this invention is derived by reacting a polyalkylene polyamine having two primary amine groups and at least one secondary amine group, such as triethylenetetramine, with a C_5—C_{10} saturated aliphatic dicarboxylic acid, such as adipic acid in a mole ratio of from about 0.8 to about 1.4 of the former to about 1.0 of the latter to form a long chain polyamide having secondary amine groups, and then reacting the polyamide with epichlorohydrin in a mole ratio of epichlorohydrin to secondary amine groups of said polyamide of from about 0.5:1 to about 1.8:1.

Claims 1–5 are directed to a process of making paper and claim 6 to the paper product resulting from the process of claim 1. Claims 2–5 are dependent and merely specify the additive referred to in claim 1 as a pigment, clay, an alkylketene dimer, and wax, successively. Claim 1 reads:

1. In a process of making paper wherein a water-insoluble paper additive selected from the group consisting of pigments, clays, waxes and alkylketene

dimers is added to an aqueous suspension of paper-making fibers and the thus-treated fibers formed into a sheet, the improvement which comprises incorporating in said aqueous suspension of paper-making fibers in conjunction with said water-insoluble additive from about 0.01 to less than about 0.1% by weight, based, on the dry weight of fibers, of a cationic thermosetting resin obtained by reacting a polyalkylene polyamine having two primary amine groups and at least one secondary amine group with a C_3–C_{10} saturated aliphatic dicarboxylic acid in a mole ratio of from about 0.8 to about 1.4 of the former to about 1.0 of the latter to form a long chain polyamide having secondary amine groups, and then reacting the polyamide with epichlorohydrin in a mole ratio of epichlorohydrin to secondary amine groups of said polyamide of from about 0.5:1 to about 1.8:1, the amount of said cationic thermosetting resin incorporated in the paper being ineffective to impart any appreciable wet strength to the paper but effective to improve the amount of said water-insoluble additive retained by the paper.

We make the following points about claim 1, which apply of course, to all claims due to their dependency on claim 1. The claim is in Jepson form [2] and implicitly makes it known that it is old to make paper with the named water-insoluble paper additives by adding them to the aqueous suspension of paper-making fibers. In doing so a problem is encountered which the present invention purports to solve by acting to increase the amount of additive retained in the paper or, conversely, to decrease the amount lost. The improvement, which is the claimed invention, resides in incorporating in said aqueous suspension a *certain type* of cationic thermosetting resin, as defined in the claims, in an amount within a *certain specified range*. There is the further limitation at the end of the claim, for reasons which will appear, which relate to distinguishing the invention from what was known, which says that whatever amount of the resin is used, it is such as to be "ineffective to impart any appreciable wet strength to the paper."

"References"

The following two patents, which issued to Hercules Powder Company, assignee of the present application,[3] are relied on by the Patent Office as the primary support for double patenting rejections on two stated grounds:

Keim, 2,926,116, Feb. 23, 1960.
Davison, 3,049,469, Aug. 14, 1962.

Being U.S. patents they would be effective as prior art, if prior, as of their filing dates. Keim filed Sept. 5, 1957, and Davison Nov. 7, 1957, but, as stated above, appellant has satisfactorily sworn back of the earlier date. This was done subsequent to a final rejection in which the Examiner used the disclosures of these patents as prior art and based his rejection on 35 U.S.C. 103, also using the following true prior art patents which have not been antedated:

Daniel et al., 2,601,597, June 24, 1952.
Green, 2,969,302, Jan. 24, 1961 (filed Feb. 14, 1957).

The Rejections

When Keim and Davison were sworn back of, the Examiner sent a letter the day after appeal to the Board was taken in which he said:

The affidavit swearing back of the references Keim and Davison is deemed to remove the references from use of their disclosures, however, *both patents claim the subject matter* therefore the rejection as set forth in the final rejection modified to a double patenting rejection is still applicable. [Emphasis ours.]

[2] *Ex parte Jepson*, 1917 CD 62, 243 OG 526.
[3] This fact appears not only in appellant's brief but from the terminal disclaimer, above referred to, which is of record, filed January 10, 1966, by Hercules Powder Company as owner of the application at bar.

We remark that the "Final" rejection, which was "modified," was expressly based by the Examiner on 35 U.S.C. 103 and on grounds of obviousness over the *disclosures* of the above patents, being stated, as to the first double patenting rejection, as follows:

Claims 1–6 are rejected as unpatentable over Keim in view of either Daniel et al. or Green. The *Keim patent discloses* the process as claimed *except* for the incorporation of water-insoluble paper additives to the slurry in forming paper. Both secondary references disclose it is old in forming paper to add water-insoluble paper addititions to a slurry and improve the retention of these additives by adding a polyalkylene *polyamine* epichlorohydrin resin to the slurry prior to forming paper. [Emphasis ours.]

To prevent later confusion, we point out that the secondary reference retention aid is not appellant's. It is an *amine* whereas appellant's in an *amide*, perhaps a close chemical relative, perhaps "similar," but not appellant's. See claim 1, supra.

The Examiner's second rejection was as follows:

Claims 1–6 are further rejected as unpatentable over Davison in view of Daniel et al. The *Davison patent discloses* the process as claimed *except* for the specific types of paper additives recited in the claims. The additive of the patent may be polymers of acrylic acid or methacrylic acid which are water dispersible. The Daniel et al. reference discloses the use of a *similar* type resin functioning as a retention aid for additive materials such as polyacrylates, polymethacrylates, pigments, sizes, etc. [Emphasis ours.]

After each of the above statements, the Examiner stated his legal conclusion that the claimed inventions "would be obvious * * * and therefore unpatentable under 35 U.S.C. 103."

It is somewhat difficult to see just how these two rejections can be "modified to a double patenting rejection." The Examiner said it was because "both [Keim and Davison] patents claim the subject matter * * *." But he knew that was not so because he did not even assert that they disclosed the subject matter. Note his use of the word "except" in discussing Keim and Davison. When he came to write his answer, he thus stated his rejection:

Claims 1–6 stand rejected on the ground of double patenting obviously of common ownership as unpatentable over the claims of Keim in view of either Daniel et al. or Green.

* * * * * * *

Claims 1–6 stand further rejected on the ground of double patenting obviously of common ownership as unpatentable over the claims of Davison in view of Daniel et al.

His lack of success in "modifying" his section 103 rejection to be a true double patenting rejection based on an analysis of what monopoly the Keim and Davison patent claims secure is indicated in the use of such expressions as: "The Keim patent discloses it is conventional," "The Davison patent discloses it is conventional." "The claims of Keim disclose the process of preparing paper except," and "The claims of Davison disclose the addition of the same cationic resin as recited in the present claims * * *." Beside which, he concluded both his rejection based on Keim and his rejection based on Davison, primarily, by saying claims 1–6 were "therefore unpatentable under 35 U.S.C. 103."

[2] Perhaps some of our recent opinions have already had a clarifying effect in the field of double patenting rejections but, to make

doubly sure, we reiterate that double patenting rejections *cannot* be based on section 103, *In re Ornitz*, 52 CCPA 1467, 347 F.2d 586, 146 USPQ 38 (1965), or on the disclosures of the patent whose claims are relied on to demonstrate double patenting or on the "disclosures" of their claims. Obviousness-type double patenting rejections, such as evidently was being attempted here, are based on the premise that an applicant is claiming no more than an obvious variation—which would be obvious to anyone of ordinary skill in the art—of an invention on which a patent has already been granted, absent a terminal disclaimer, of course. To that end, patent claims are looked to only to see what *has been patented*, the subject matter which *has been protected*, not for something one may find to be disclosed by reading them.

The Board Opinion

The Board seemed unsure of the situation. It said:

> It is apparently the Examiner's position that the claims of Keim are also drawn to a process of preparing paper except they do not recite the use therein of water-insoluble additaments which the Examiner considered to be obvious as these additives are conventionally employed in paper-making as shown by Daniel et al. and Green.

It then directed itself very briefly to appellant's principal arguments and stated its determinative views in its short opinion as follows:

> We are unable to subscribe to appellant's categorical assertions * * * that the allowance of the claims in the instant case would not result in an extension of a patent monopoly or that upon the expiration of the Keim or Davison patents the public would be free to use the inventions claimed in these patents. We are troubled by the closeness between the upper limit of the percentage range of the polyamide epichlorohydrin resin recited in claim 1 above reproduced and the lower limit of the percentage range of the same resin recited in the claims of the Keim and Davison patents. In other words, it is difficult for us to perceive any substantial distinction between "less than about 0.1%" in said claim and "about 0.1%" in the patents referred to. There are a number of decisions involving the interpretation of the term "about" which raise serious doubts in our minds that the claims of this application are clearly distinct from those of said patents. See *In re Ayres* 33 CCPA 874, 1946 C.D. 212, 69 USPQ 109 * * *. Also *In re De Vaney* 1951 C.D. 54, 88 USPQ 97 and *Raybestos-Manhattan* v. *Texan, Inc.* 122 USPQ 302 which appear to be to the same effect.
>
> For the reasons stated above as well as those set forth in the Examiner's answer we will sustain the rejection as not being patentably distinct from Keim in view of either Daniel et al. or Green.
>
> The claims stand further rejected on the ground of double patenting over the claims of Davison in view of Daniel. Since we deem this rejection to be cumulative to the rejection based on Keim in view of either Daniel et al. or Green we do not consider a detailed discussion thereof is warranted.

Appellant's brief says he finds the Board's position on the rejection based on Davison and Green is not clear and we agree. The Solicitor says at the beginning of his discussion:

> Inasmuch as the Board of Appeals considered this to be a cumulative rejection and discussed it no further * * * it will similarly be given no further consideration in this brief.

He further said:

> The principal issue of the case, therefore, is whether the appellant's claims are patentably different from the claims of Keim, considering the prior art teachings of Daniel et al. and Green.

In view of this attitude, we shall likewise concentrate on the rejection primarily based on Keim's claims, believing that the consideration thereof involves such similar principles that when this rejection is disposed of, the one based on Davison will be disposed of likewise.

OPINION

The invention already patented to Keim (Hercules) being the matter of prime concern here, we will consider what it is and then compare it with the invention appellant seeks to patent. Our purpose, of course, is to determine whether the latter is an obvious variant of the former.

Neither the appellant, the Examiner, nor the Board ever referred to any particular claim of the Keim patent. There are only 10 of them, 8 independent, which would require considerable analysis but for the fact that the Solicitor has selected claim 2 as representative. It reads:

> 2. A process for the production of wet-strength paper which comprises adding to an aqueous suspension of cellulosic paper stock a water-soluble cationic thermosetting resin formed by reacting epichlorohydrin with a polyamide of a C_3—C_{10} saturated aliphatic dibasic carboxylic acid and from about 0.8 to about 1.4 moles, per mole of dibasic acid, of a polyalkylene polyamine at a temperature from about 45° C. to about 100° C., said polyamide containing secondary amine groups, the ratio of epichlorohydrin to secondary amine groups of said polyamide being from about 0.5 to 1 about 1.8 to 1, adsorbing from *about* 0.1–5% of said resin on said paper stock, forming the stock so treated into a sheet, and heating the sheet to cure the resin to a water-insoluble state. [Emphasis ours.]

The italicized resin quantity range limitation appears in claim 1 of Keim as "from about 0.1% to about 5%, based on the weight of the paper" and we take the shorter statement of claim 2 to mean the same thing. In one form or the other it appears in all claims of the Keim patent and is of importance on the double patenting issue.

The situation of appellant vis à vis Keim (or *Hercules* v. *Hercules*) is fundamentally simple. Two different inventions, involving use of the same resin, were made by two different people. In spite of the Examiner's early remark in switching to the double patenting rejection, appellant and Keim are not claiming the *same* invention and, by arguing this as an obviousness-type double patenting case, the Solicitor tacity admits that to be the fact.

The easiest way to visualize the situation with respect to Keim, and Davison as well, is to base further discussion on a table appellant has provided in his brief, reproduced below:

TABLE I

	Resin	Amount of of Resin	Additive	Subject Matter Defined in Claims
Keim	Water-soluble cationic thermosetting polyamide—epichlorohydrin resin.	About 0.1 to about 5.0%.	None	Improved process for making wet-strength paper.
Davison	Same as Keim	About 0.1 to about 5.0%.	Water-soluble, carboxyl-containing material such as polymer of acrylic acid.	Improved process for making wet-strength and dry-strength paper.
Appellant	Same as Keim	About 0.01 to less than about 0.1%.	Water-insoluble additive selected from the group consisting of pigments, clays, waxes, and alkylketene dimers.	Improved process for incorporation of specific additives in paper—not interested in wet-strength per se.

As Table I shows, Keim, Davison, and appellant (all Hercules) are all using the identical resin, but for different purposes. For this reason it is not necessary to get into a consideration of what it is or how it is made, except to note, with respect to the secondary or *prior art* references, that they admittedly do not disclose it but only a "related" resin.

Keim's patent disclosure (only 5 columns) is devoted to describing a process of increasing the wet-strength of paper and to the paper thus produced. The making of the cationic, thermosetting resin of appellant's claims is described. The wet-strength of paper is increased by incorporating the resin in the paper in the amount of from about 0.1% to 5%, based on dry weight of the paper. The resin can be added to the paper after it is made or in the course of making it and in the latter case it works under acid, neutral, or alkaline conditions, which is advantageous. Heating the paper, in which the resin is incorporated, cures the resin and produces the wet strength. A minimum amount of resin to produce this result is "about 0.1%." The patent says nothing about any other effect and mentions no water-insoluble additives for the paper.

Aldrich, the appellant, made another invention or discovery which makes use of the same cationic, thermosetting resin. (See 35 U.S.C. 100(b).) He discloses that in very small amounts it functions as a "retention aid" to increase the amount of certain water-insoluble additives, such as clay, pigments, waxes, etc., which becomes incorporated in paper. Furthermore, he discloses that this is done, due to the small amount of resin used *for this* purpose, *without* increasing the wet strength of the paper. This is the *opposite* of what is disclosed and claimed by Keim as his invention. Aldrich's specification says:

> Moreover, in the relatively small amounts required to obtain these improved results, there is no appreciable increase in wet strength of the treated paper. This is an advantage where wet strength is not desired and, in addition, facilitates the reworking of broke from such treated paper.

Referring briefly to Davison—as seems appropriate under the circumstances of this case—as the chart of Table I shows, he was concerned with increasing the strength of paper, both wet and dry, by incorporating various water-soluble polymerized acrylic, methacrylic and other carboxyl-containing materials in it. The reason he used the resin common to all three inventions was to flocculate the acrylic, methacrylic and like water-soluble compounds and anchor them to the paper fibers. This is not appellant's purpose nor does he use appellant's amounts. He uses the same amounts as Keim. The Davison patent has two claims, claim 2 dependent on claim 1 which specifies "about 0.1% to about 5%" of the cationic thermosetting resin. Since the all-important consideration here is what has been patented to Davison (Hercules), his claims are set forth in the margin.[4]

Comparing the inventions of Keim and Davison, as defined in their claims, with the invention of appellant, as defined in the appealed claims, we cannot agree with the Patent Office that they are not "patentably distinct"—whatever that means. We think appellant is

[4] 1. A process for impregnating fibrous cellulosic material with a water-soluble, carboxyl-containing material selected from the group consisting of polymers of acrylic acid, copolymers of acrylic acid and compounds copolymerizable therewith selected from the group consisting of acrylamide, methacrylamide, acrylonitrile and methacrylonitrile, polymers of methacrylic acid, and copolymers of methacrylic acid and compounds copolymerizable therewith selected from the group consisting of acrylamide, methacrylamide, acrylonitrile and methacrylonitrile, which comprises forming an aqueous suspension of the fibrous cellulosic material at a consistency from about 0.1% to about 5%, adding to such aqueous suspension (1) from about 0.1% to about 5%, based on the dry weight of fibrous cellulosic material, of a cationic thermosetting resin obtained by reacting a polyalkylene polyamine having two primary amine groups and at least one secondary amine group with a C_6—C_{10} saturated aliphatic dicarboxylic acid at a temperature from about 110° C. to about 250° C. and in a mole ratio of polyalkylene polyamine to dicarboxylic acid of from about 0.8:1.0 to about 1.4:1.0 to form a long-chain polyamide having secondary amine groups, and then reacting the polyamide with epichlorohydrin at a temperature from about 45° C. to about 100° C. and in a mole ratio of epichlorohydrin to secondary amine groups of said polyamide from about 0.5:1 to about 1.8:1, and (2) a water-soluble, carboxyl-containing material selected from the indicated group, whereby a substantial portion of said water-soluble, carboxyl-containing material is deposited on and attached to said fibrous material together with said cationic thermosetting resin.

2. A process in accordance with claim 1 wherein the water-soluble, carboxyl-containing compound is a copolymer of acrylic acid and acrylamide.

entitled to a patent with his claims. Since the inventions claimed are clearly not the same, the determinative question is whether appellant is claiming an invention which is merely an *obvious* variant of what Keim and Davison claim.

We find nothing of record to suggest that taking the resin which Keim uses by itself to impart wet strength to paper and using it in an amount calculated *not* to produce any appreciable wet strength, i.e., below the "about 0.1%" specified by Keim as his lower limit, and down to about 0.01%, will have the effect of increasing the retention of old paper additives such as clays and the like. Similar considerations lead us to the same conclusion relative to Davison.

[3] So far as we can see, the Board's concern about possible extension of monopoly and its refusal to agree with appellant that there will be none by granting a patent on appellant's claims was predicated on its views as to the possible interpretation of "about" and the possibility of overlap in the top limit of appellant's claims and the bottom limit of the claims of Keim and Davison. We believe appellant has taken care of that with great clarity, as a glance at Table I shows. Whatever "about 0.1%" is construed to mean in the Keim and Davison claims, appellant's claims specify "less than" that. In conjunction with those clear words, he uses the same claim expression as Keim and Davison, i.e., "about 0.1%." There can be no overlap. We can see no possible extension of monopoly. Furthermore, as to amount, appellant's claims specify (so far as Keim is concerned) that what is used in practicing his invention shall be "ineffective to impart any appreciable wet strength to the paper."

It can hardly be said that it is an obvious modification of Keim's invention, which is to use the cationic thermosetting resin to produce wet strength, to reduce its amount to the point where it produces *no* wet strength—perhaps way below—and to use it for an entirely different purpose. Similarly with respect to Davison's use of the resin to flocculate and anchor acrylic compounds used to produce wet and dry strength, it is not obvious to use an amount which is ineffective for those purposes and to use it for a different purpose.

We are not forgetting the "secondary" references and what they teach about retention aids for paper additives, including the use of "similar" compounds to the resin used by appellant. With respect to the secondary references, we are concerned with whether they would suggest *modifying* the inventions *claimed* by Keim and Davison, because this is exclusively a double patenting rejection based on those claims and on that proposition. They would not suggest such modification, in our view, because it requires that the Keim or Davison invention first be completely undone by reducing the quantity of resin below the amounts deemed effective for their purposes by Keim and Davison.

[4] The Solicitor has repetitively asserted in his brief that the "range of resin proportions recited in the claims has not been disclosed, alleged or shown to be critical." We do not know exactly what is meant by "critical" in this context but whatever it means we disagree with the proposition. This claim limitation is clearly of great significance. Criticality is usually concerned with the question of unobviousness under section 103, a question not before us.

The decision of the Board is reversed.

REVERSED.

ALMOND, *J.*, concurs in the result.

PATENT SUITS

Notices under 35 U.S.C. 290; Patent Act of 1952

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2,676,586, C. A. Coakwell, Jr., BLACKOUT-PREVENTING DEVICE, filed Nov. 18, 1968, U.S. Ct. of Cl., District of Columbia (Washington), Doc. 346–68, *Charles A. Coakwell, Jr.* v. *The United States*.

2,677,145, J. C. Adams, CARPET SECURING DEVICE, filed Oct. 17, 1968, D.C., C.D. Calif. (Los Angeles), Doc. 68–1726–EC, *Roberts Consolidated Industries, Inc.* v. *Gilbert Smith, doing business as West Coast Metal Mouldings*.

2,699,113, K. S. Hoover, METHOD OF MANUFACTURING STENCILS, filed Nov. 12, 1968, D.C., N.D. Ill. (Chicago), Doc. 68c2151, *A. B. Dick Company* v. *Minnesota Mining and Manufacturing Company*.

2,699,192, P. T. Poutinen, COMBINED KEY AND FLASHLIGHT HOLDER, filed July 20, 1967, D.C., S.D.N.Y., Doc. 67–C–2787, *Apex Products Corporation* v. *Bantamlite, Inc.* Stipulation and order action is discontinued without prejudice, Nov. 18, 1968.

2,718,662, Bohannon, Williams and Graham, PLASTIC INJECTION MOLDING MACHINE, filed June 25, 1968, D.C., N.D. Ohio (Cleveland), Doc. C68–453, *The Lewis Welding & Engineering Corp. and Crown Machine and Tool Co.* v. *Herman Mold and Machine, Inc.* Consent decree, plaintiffs' Patent No. 2,718,662, is valid; defendant has infringed and is enjoined from further infringement; that plaintiffs' second cause of action is dismissed with prejudice, Nov. 18, 1968.

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2,744,022, Croce and Shuttleworth, PLASTER COMPOSITIONS AND PRODUCTS, filed June 17, 1968, D.C., N.D. Ill. (Chicago), Doc. 68c1124, *Georgia-Pacific Corporation* v. *National Gypsum Company*. Order cause dismissed, Dec. 3, 1968.

2,783,377, G. D. Wofford, SIGNAL BIASED NOISE INVERTER FOR SYNCH SEPARATOR WHICH CANCELS NOISE ABOVE SYNCH PULSE LEVEL, filed Dec. 30, 1964, D.C., District of Columbia (Washington), Doc. CA–3170–64, *William R. Blair, Jr.* v. *Westinghouse Electric Corporation*. Case dismissed, Nov. 14, 1968.

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2,956,149, M. Wenig, APPLICATION OF METAL LEAF, filed Oct. 7, 1966, D.C., E.D.N.Y. (Brooklyn), Doc. 66–C–956, *Glenn-Mar Products, Inc. et al.* v. *Wil-Ray Co., et al.* Order on stipulation discontinuing action, Nov. 13, 1968.

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U.S. GOVERNMENT PRINTING OFFICE: 0—1369

DEFENSIVE PUBLICATIONS

PUBLISHED APRIL 8, 1969

Published at the request of the applicant or owner in accordance with Notice of Apr. 11, 1968, 849 O.G. 1221. The abstracts are identified by serial number of the applications and arranged in chronological order. The heading of each abstract of application published herein indicates the number of pages of specification, including claims and sheets of drawing contained in the application as originally filed. The files of these applications are available to the public for inspection and reproduction may be purchased for 30 cents a sheet.

Applications published under the Defensive Publication Program have not been examined as to the merits of alleged invention. The Patent Office makes no assertion as to the novelty of the disclosed subject matter.

646,764
ADAMANTANE DERIVATIVES

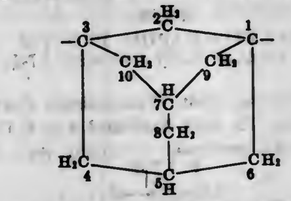
Heinz Fritz Reinhardt, Claymont, Del., assignor to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware

Original application Mar. 14, 1963, Ser. No. 265,062. Divided and this application Feb. 8, 1967. Published Apr. 8, 1969

Class 260—514

No Drawing. 37 Pages Specification

A new class of chemical compounds having the formula: R—A—$(X)_m$—A—R′ in which A is a 1,3-adamantylene group (a 1,3-radical of adamantane(tricyclo [3.3.1.$1^{3,7}$]decane)) which has the formula



and X, R and R′ are substituents capable of combining with a tertiary alkyl carbon atoms (i.e., t-butyl radical) to form stable compounds, X being a divalent radical, R and R′ may be the same or different and may be hydrogen or a monovalent radical, *m* is an integer equal to 0 or 1, and at least one of R and R′ has a molecular weight greater than six when *m* is zero are provided for use in forming various polymers.

In general, R and R′ are any functional group conventionally useful for preparing polymers or any group capable of forming a derivative of a hydrocarbon.

When *m* in the above structural formula is zero, the compounds are 3,3′-derivatives of -1,1′-biadamantane and are particularly useful for forming polymers with unusually high melting points and exceptional stability.

The monomeric acid compound 3,3′-dicarboxy-1,1′-biadamantane is particularly useful in forming highly stable polymers.

660,847
FILTER CIGARETTE ASSEMBLY HAVING ITS PAPER OVERWRAP MECHANICALLY LOCKED IN PLACE

Albert H. Agett and Paul Gallagher, Kingsport, Tenn., assignors to Eastman Kodak Company, Rochester, N.Y., a corporation of New Jersey

Original application Dec. 28, 1964, Ser. No. 421,276, now Patent No. 3,345,917, dated Oct. 10, 1967. Divided and this application June 9, 1967. Published Apr. 8, 1969

Class 131—10

3 Sheets Drawing. 22 Pages Specification



An improved paper wrapped filamentary cigarette and filter element having a substantially cylindrical mass of filamentary tobacco smoke filter material encased in a paper wrap, the latter having an overlapped seam in which the overlying and underlying portions are perforated to mechanically lock the paper against slippage.

766,370
PHOTOSENSITIVE MATERIALS AND METHODS

Gordon C. Newland, Kingsport, Tenn., assignor to Eastman Kodak Company, Rochester, N.Y., a corporation of New Jersey

Continuation of application Ser. No. 479,288, Aug. 12, 1965. This application Sept. 25, 1968. Published Apr. 8, 1969

Class 96—48

No Drawing. 32 Pages Specification

Color changes are produced in photosensitive polyolefin materials by exposing the material to actinic radiation and then reacting the material with a color-producing agent such as a sulfur containing compound or a basic dye. The photosensitive polyolefin preferably contains one or more photosensitizers. Typical photosensitizers are benzophenones, N-phenylacridones, 4-quinolizones, 4,4″-oxydibenzophenones, acetamidoethyl-3′-nitrobenzils, and titanium dioxide.

555,667
VINYLIDENE CHLORIDE COPOLYMER COATED ON A PROPYLENE BASED POLYMER SHEET

Dennis Poller, 734 N. Broad St., Elizabeth, N.J. 07208

Filed June 7, 1966. Published Apr. 8, 1969

Class 161—254

No Drawing. 14 Pages Specification

Extrusion coated polypropylene based laminates exhibiting excellent short and long term blocking properties are formed by extruding onto sheets of predominantly crystalline polypropylene and of copolymers of propylene and ethylene a polymer mixture consisting of vinylidine chloride-vinyl chloride copolymers and vinyl chloride-vinyl acetate copolymers with or without additional amounts of poly-(methylmethacrylate) followed by a biaxial orientation operation on the composite material. The laminates so formed are readily heat-sealable and are attractive materials for packaging applications.

573,227
TEMPERATURE DEVIATION INDICATOR FOR PLURAL CAPACITIVE TEMPERATURE SENSORS

Paul Hugus Gaither IV, Claymont, and Chester Allen Mellinger, Jr., Wilmington, Del., assignors to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware

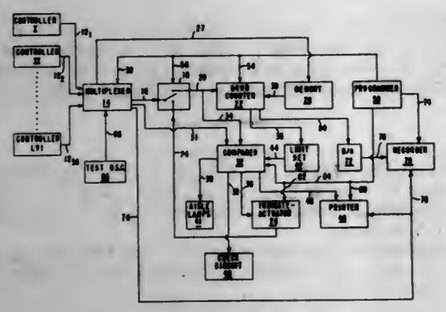
Filed Aug. 18, 1966. Published Apr. 8, 1969

Class 340—227

7 Sheets Drawing. 21 Pages Specification

This invention relates to a multi-position machine having temperatures controlled with capacitor temperature controllers of the type disclosed in U.S. Patent No. 3,112,-070. The device of the invention comprises a solid state actuated, reed relay time sharing multiplexer for connect-

ing each controller sequentially, individually, first to the input and then to the output terminals of a monitor. The monitor comprises an assembly of logic circuit modules including a programmer to ensure the proper sequence of operations; a memory to store characteristic standard frequency value for each controller; a down-counter to compute the magnitude and sign of the difference between the actual frequency output of the controller and its frequency at set temperature; a limit set module to furnish tolerable



limits to the above frequency difference; a compare module to furnish a signal when the frequency difference exceeds any of the set limits; and an indicate actuator module to furnish a positive or negative pulse back to the controller when the high or low frequency difference limit has been exceeded. In each controller there is provided an indicator lamp lighting circuit responsive to signals from the indicate actuator module such that one lamp is energized upon receipt of a positive pulse or another lamp for a negative pulse.

617,846

AZIRIDINIUM SALTS OF 2-NITRO-1,3-INDANDIONES

Stephen J. Kuhn, 515 London Road, Sarnia, Ontario, Canada

Filed Feb. 23, 1967. Published Apr. 8, 1969
Class 260—239
No Drawing. 8 Pages Specification

Stable aziridinium (e.g. aziridinium or 2-methylaziridinium) salts of 2-nitro-1,3-indandiones (e.g. 2-nitro-1,3-indandione) are prepared by contacting an aziridine with a 2-nitro-1,3-indandione at a temperature between —10° and 30° C. The compounds have a demonstrated utility as insecticides against the beam aphid.

768,948

PROCESS FOR PREPARING SUBSTITUTED HEXENAL ACETALS AND SUBSTITUTED 1,4- AND 1,5-HEXADIENYL ETHERS

Kent C. Brannock, Herman E. Davis and Edward U. Elam, all of P.O. Box 511, Kingsport, Tenn. 37662

Continuation of application Ser. No. 649,122, June 27, 1967. This application Sept. 9, 1968. Published Apr. 8, 1969
Class 260—614
No Drawing. 11 Pages Specification

A process for preparing substituted hexenal acetals and substituted 1,4- and 1,5-hexadienyl ethers from the corresponding 5-oxohexanal acetals by subjecting the 5-oxohexanal acetals to a series of reactions comprising hydrogenation, acylation and pyrolysis, all of which are carried out under alkaline conditions. The products produced by the process are useful as intermediates for the preparation of compounds which in themselves are useful as intermediates for the preparation of valuable products, as for example, vitamin E.

714,056

LAMINATE OF ORIENTED FILMS OF OLEFIN POLYMERS CONTAINING AZIDO BRIDGING AGENTS

John N. Hall, Brookside Park, Newark, Del., assignor to Hercules Incorporated, Wilmington, Del., a corporation of Delaware

Filed Mar. 18, 1968. Published Apr. 8, 1969
Class 161—252
No Drawing. 8 Pages Specification

Biaxially oriented films of crystalline olefin polymers, such as high density polyethylene, stereoregular polypropylene, poly(1-butene), poly(1-pentene), etc., can be plied and subjected to pressures of from 50 to 2000 p.s.i. at temperatures within the range of from about 30° C. to 5° C. below the crystalline melting point of the polymer, to prepare thick, transparent (i.e. greater than 1/16 inch) laminates of high strength, stiffness, and impact resistance. In some cases it may be desirable to use an olefin polymer which has been bridged by heating with from about 0.02% to 0.075%, by weight, of an azido bridging agent. The resulting laminate can be used for impact resistant and shatter-proof window panes which are relatively bullet-proof to low caliber bullets.

758,698

PHOTOCATALYTOGRAPHIC PROCESS OF PRODUCING IMAGE STRUCTURES AND IMAGE RELIEFS

Jorg Jaskowsky, Ruit, Wurttemberg, Germany

Filed Sept. 10, 1968. Published Apr. 8, 1969
Claims priority, application Germany, Apr. 4, 1968, P 1,772
Class 96—48
No Drawing. 5 Pages Specification

A photocatalytographic process for producing images is described which comprises exposure to electromagnetic or corpuscular radiation of a chemical material or material system to produce a substance (the latent image) which has an inductive and/or catalytic effect on a second metastable chemical system (the developer) whose inductively or catalytically produced reaction products intensify the latent image. In an example, arsenic hydride is imagewise exposed to actinic radiation to form a latent image of elemental arsenic which is developed with a solution of sodium dibromoauriate. The resulting gold image is further intensified with a copper physical developer to give an electrically conducting image.

763,397

PHOTOSENSITIVE COMPOSITION CONTAINING HEAT-HARDENABLE POLYMERS

Georges A. Philpot and Simone J. Kempen, Vincennes, France

Filed Sept. 27, 1968. Published Apr. 8, 1969
Class 96—28
No Drawing. 25 Pages Specification

A photosensitive composition is described which comprises an amine-formaldehyde polymer such as a urea-formaldehyde resin or a melamine-formaldehyde resin, a photooxidizable organic sulfur compound such as a thioamide, a thiourea, a thiosemicarbazide, a dithiooxamide or a thiuram sulfide in an oxygen-permeable binder. Optionally, the photosensitive composition can contain a sensitizer such as a photosensitizing dye. The photosensitive composition is used to prepare photographic images by exposing to actinic radiation an element containing a layer of the photosensitive composition to harden the composition in photo-exposed areas, further hardening the composition in exposed areas by heating the element and developing an image by removing the unexposed, unhardened composition from the element.

764,970

SYNTHESIS OF ETHER-SUBSTITUTED AROMATIC NITRILES

Charles W. Hargis, Johnson City, Tenn. (P.O. Box 511, Kingsport, Tenn. 37662)

Filed Oct. 3, 1968. Published Apr. 8, 1969
Class 260—465
No Drawing. 6 Pages Specification

A process whereby ether-substituted aromatic nitriles may be prepared in high conversion and yield comprising contacting a mixture of an aromatic carboxylic acid ester containing an ether group and at least a stoichiometric amount of ammonia with a boron phosphate catalyst at a suitable temperature and for a suitable period of time.

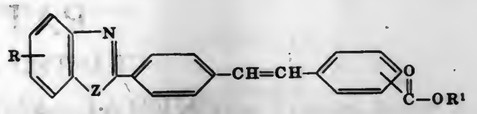
778,781

POLYMER COMPOSITIONS CONTAINING FLUORESCENT BRIGHTENING AGENTS

Melvin S. Bloom, Rochester, N.Y., James A. Hill, Dover, Del., and William H. Moore, Kingsport, Tenn. (all % Tennessee Eastman Co., Box 511, Kingsport, Tenn. 37662)

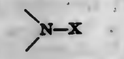
Filed Nov. 25, 1968. Published Apr. 8, 1969
Class 252—301.2
No Drawing. 10 Pages Specification

Polymer compositions, such as polyesters, polyamides, polyolefins and polyacrylonitriles, having enhanced optical properties containing fluorescent brightening agents of the formula



wherein

Z is an oxygen atom, sulfur atom, or an



radical

wherein X is either an alkyl radical or aryl radical,

R is hydrogen, halogen, alkyl, aryl, substituted aryl, hydroxy, alkoxy, aryloxy, acyl, acyloxy, amino, substituted amino, sulfo, substituted sulfonyl, sulfamoyl, substituted sulfamoyl, cyano, thiocyano, thiol, carbamoyl, substituted carbamoyl, carbamoyloxy, or nitro; and

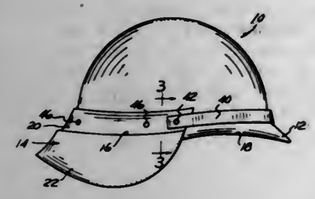
R^1 is halogen, alkyl, aryl, substituted aryl, hydroxy, alkoxy, aryloxy, acyl, acyloxy, amino, substituted amino, sulfo, substituted sulfonyl, sulfamoyl, substituted sulfamoyl, cyano, thiocyano, thio, carbamoyl, substituted carbamoyl, carbamoyloxy, or nitro.

PATENTS

GRANTED APRIL 8, 1969

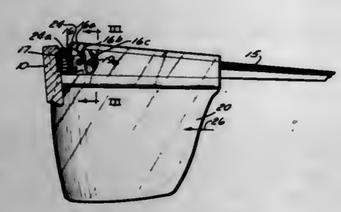
GENERAL AND MECHANICAL

3,436,760
MILITARY HELMET ADAPTER
Stephen J. Molitoris, Dearborn, Mich., assignor to American Safety Equipment Corporation of Michigan, Southfield, Mich.
Filed Mar. 25, 1968, Ser. No. 715,763
Int. Cl. A42c *3/00*
U.S. Cl. 2—6 — 6 Claims



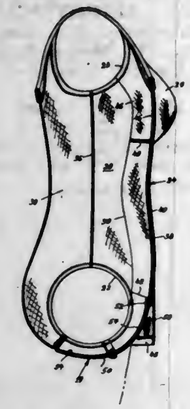
A protective adapter is removably secured to a conventional steel helmet to provide protection against bullets and shrapnel which would otherwise strike the lower side or rear of the wearer's head and neck. The adapter is fabricated of a fiber glass material, and is preferably secured by a series of fabric straps.

3,436,761
SIDE SHIELD CONSTRUCTION FOR SPECTACLES
Philip J. Liautaud, Hoffman Estates, John N. Liautaud, Glenview, and Paul D. Amundsen, Wonder Lake, Ill., assignors to Fendall Company, Chicago, Ill., a corporation of Illinois
Filed Feb. 12, 1965, Ser. No. 432,295
Int. Cl. A61f *9/02, 9/06*
U.S. Cl. 2—13 — 13 Claims



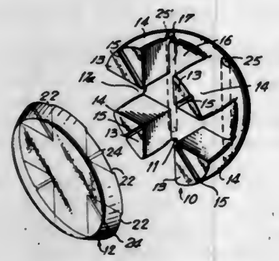
1. In combination with a spectacle frame having a temple hinged thereto, a side shield deflectable means rigidly attaching said side shield to said temple for movement therewith without tools without apparent means for removal in assembled position thereon unless removed therefrom by the application of a tool, means providing access under said deflectable means, and means providing a complementary reaction surface spaced from said deflectable means to allow application of a deflecting tool between said reaction surface and said deflectable means via said access for deflection of said deflectable means to permit removal of said side shield from said temple.

3,436,762
SWIMSUITS FOR COMPETITION AND RACING
Leslie C. Cahan, 1033 Channel Drive, Hewlett Harbor, N.Y. 11557
Filed May 29, 1967, Ser. No. 641,796
Int. Cl. A41d *7/00*
U.S. Cl. 2—67 — 2 Claims



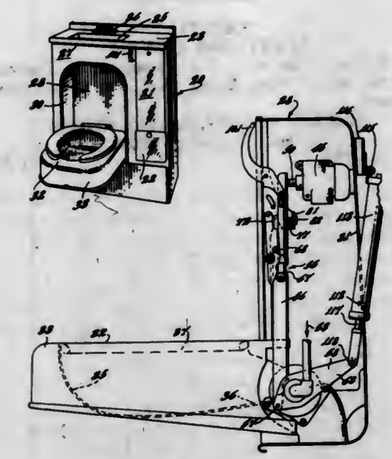
A girl's swimsuit for competition formed of two-way stretch material to permit a single suit to fit various sized persons and provided with material at the front that shunts water entering under the suit from the top outwardly from the body of the wearer. The suit maintains the velocity of the water during its short time of travel inside the suit approximately 4½ inches, until it exits, equal to the velocity of the water travelling outside the suit.

3,436,763
ORBITAL IMPLANT OF FUSED ACRYLIC PLASTIC AND PROCESS OF IMPLANTING
Albert T. Milauskas, Baltimore, Md. (1984 Newman Drive, Trenton, Mich. 48183)
Filed Mar. 28, 1966, Ser. No. 538,096
Int. Cl. H61f *1/16*
U.S. Cl. 3—13 — 8 Claims



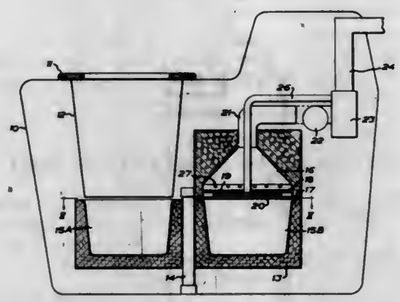
An orbital implant for human eye prosthesis formed from an acrylic plastic and composed of a body and cover portion wherein the body portion has a plurality of mounds adapted to be fusibly engaged within complementary shaped depressions of the cover portion.

3,436,764
FOLDING TOILET FLUSH INTERLOCK
Angelo Colonna, 2114 Bowler St., Philadelphia, Pa. 19115
Filed Mar. 30, 1967, Ser. No. 627,026
Int. Cl. E03d *1/00, 3/00, 5/00, 11/10*
U.S. Cl. 4—10 — 4 Claims



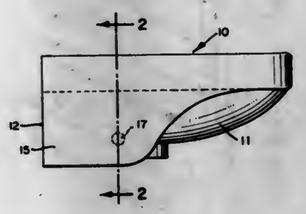
This is a mechanical interlock between a toilet bowl and a flush valve in a folding toilet which: (a) prevents the bowl of the toilet from being folded into a storage position until the toilet is fully flushed; (b) prevents the toilet from being flushed while it is in the folded or storage position; and (c) imparts a pre-flush into the bowl as it is being lowered into an operative position.

3,436,765
INCINERATION TYPE SANITARY CLOSETS
Hardy Mikael Sundberg, Bjorkvillan, Bengtfors, Sweden
Filed Sept. 19, 1967, Ser. No. 668,890
Claims priority, application Sweden, Sept. 22, 1966, 12,735/66; Dec. 8, 1966, 16,808/66
Int. Cl. A47k *11/02*
U.S. Cl. 4—131 — 10 Claims



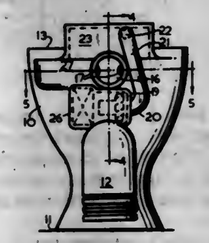
In a sanitary closet having a device for incinerating body waste matter, said incinerator is disposed in an open bottom dome adapted to serve as an after-burner and having an air inlet and a gas outlet, and the dome and a receptacle for receiving waste substances beneath a toilet seat are relatively movable for placing the dome over the waste receptacle for the incineration of waste substances therein.

3,436,766
WASH BASIN
Christian Aechter, Starnberg, Germany, assignor to Publicon AG, Zug, Switzerland
Filed Apr. 18, 1967, Ser. No. 631,785
Int. Cl. A47k *1/04*
U.S. Cl. 4—166 — 2 Claims



A wash basin is disclosed with at least one side portion depending from the main body of the basin. The side portion is provided with a passage for receiving a water supply line or fitting to supply water to a nearby water consumer, as for instance a bath tub.

3,436,767
REMOVAL OF ODOURS FROM TOILETS AND CLEANSING OF SAME
Bela Balsay, 87 Crystal St., Petersham, near Sydney, New South Wales, Australia
Filed Feb. 20, 1967, Ser. No. 617,281
Claims priority, application Australia, Feb. 22, 1966, 1,951/66
Int. Cl. E03d *9/04, 9/02*
U.S. Cl. 4—213 — 10 Claims

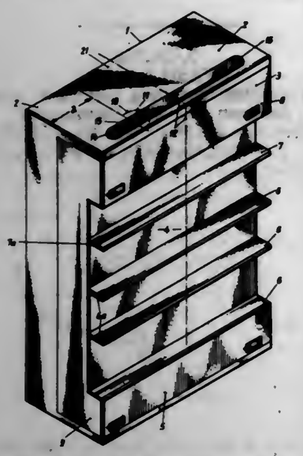


An air removal apparatus for toilet bowls having a chambered compartment across the back of the top of the pedestal with the chamber communicating with the flushing channel by means of a passage or port. A conduit connects the chamber with an air suction device contained in an integral housing formed on the pedestal. A dispenser for automatically dispensing material for the cleansing, disinfecting and deodorizing of the toilet bowl is arranged so that flushing water takes on a charge of such material as it flows by.

3,436,768
CONVERTIBLE FURNITURE HAVING A FRAME AND A PIVOTING MEMBER
Armin Danwalder, Fluelerstrasse, Altdorf, Switzerland
Filed May 9, 1967, Ser. No. 637,259
Int. Cl. A47b *85/08*
U.S. Cl. 5—2 — 3 Claims

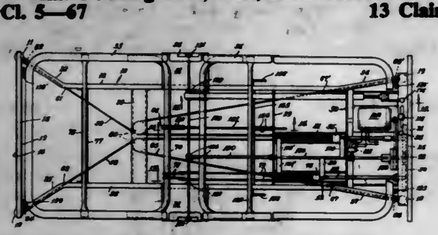
A convertible piece of furniture comprising a frame and a double-sided pivoting member connected thereto through a pivoting mechanism and capable of pivoting

through an angle of approximately 180°, the pivoting mechanism being provided with a toothed segment and



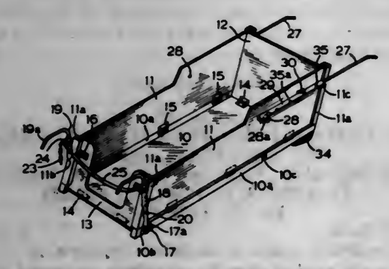
located eccentrically to the transverse central plane of the pivoting member.

3,436,769
HOSPITAL BED WITH FRICTION DRIVE
Francis J. Burst, Batesville, Ind., assignor to Hill-Rom Company, Inc., Batesville, Ind., a corporation of Indiana
Filed Nov. 24, 1967, Ser. No. 685,421
Int. Cl. A61g 7/06, 7/00; F16h 15/00
U.S. Cl. 5—67 13 Claims



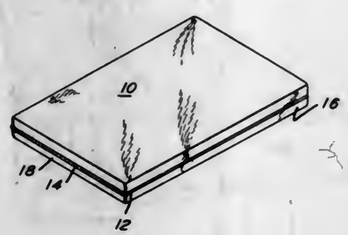
A hospital bed having an electric motor and a friction drive selectively moved to connect the motor to mechanism for elevating the bed or to mechanism for elevating the head section of the spring frame of the bed, the motor being reversible to lower the portion of the bed to which it is connected.

3,436,770
INFANT'S CAR BED
Leo Robert Turner, 1280 Elgin Crescent, Oakville, Ontario, Canada
Filed July 3, 1967, Ser. No. 650,702
Int. Cl. A47d 7/04; A47c 17/18
U.S. Cl. 5—94 4 Claims



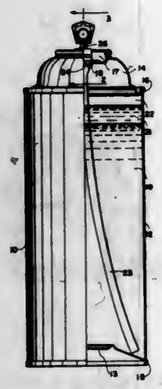
An infant's car bed having a rigid base supported horizontally over the rear seat of a car by forwardly and rearwardly extending members that rest, respectively, on the back of the front and rear seats of the car, and alternatively supported horizontally on the front seat of the car by sliding the rearwardly extending members forwardly along the sides of the bed and by swinging the forwardly extending members downwardly to form legs that can straddle the drive shaft hump of the car floor, the bed being collapsible for storage.

3,436,771
MATTRESS COVER
Manuel Fisher, Charlotte, N.C., assignor to Perfect Fit Industries Inc., New York, N.Y., a corporation of Delaware
Filed July 19, 1967, Ser. No. 654,580
Int. Cl. A47g 9/00
U.S. Cl. 5—334 1 Claim



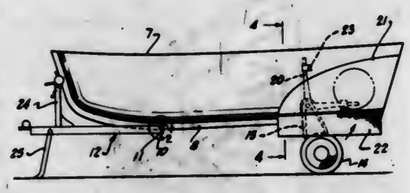
A mattress cover is described wherein a single piece of material of a proper predetermined size can be easily formed into a proper fitting mattress cover by the use of a particular shape of fold at the opposite ends of the cover material prior to securing the remaining edges of the material in the appropriate dimensions to cover a given mattress size.

3,436,772
METHOD FOR RELAXING WRINKLES IN FABRICS
David T. Stebbins, Wyoming, Ohio (2017 E. Kemper Road, Cincinnati, Ohio 45241)
Filed Oct. 14, 1966, Ser. No. 586,743
Int. Cl. D06c 1/00; B05b 7/32
U.S. Cl. 8—149.2 4 Claims



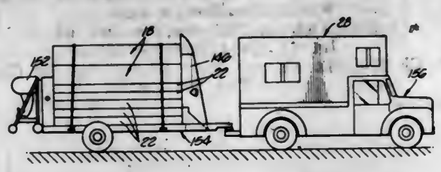
A fine mist of water with gaseous propellant is discharged onto a fabric article to cause relaxing of wrinkles.

3,436,773
COMBINATION BOAT AND TRAILER
Ezra B. Richardson, 2709 Capitol St., Rte. 1, Warren, Mich. 48091
Filed Aug. 15, 1967, Ser. No. 660,706
Int. Cl. B63c 13/00, 15/00
U.S. Cl. 9—1 2 Claims



This invention relates to boats as well as to trailers, and more particularly, to a boat that is provided with both a pair of retractable wheels and removable structure that is secured to the front end of the boat as well as providing a support for the front end of the boat when the structure is secured to the rear end of a vehicle for towing the boat from one place to another.

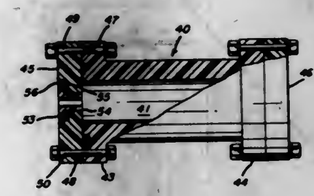
3,436,774
WATERCRAFT
William B. Schmitz, 835 Huntington Drive, San Marino, Calif. 91108
Filed Jan. 9, 1968, Ser. No. 696,598
Int. Cl. B63c 3/08, 7/04
U.S. Cl. 9—1 5 Claims



A method of assembling a catamaran type water structure wherein there is a pair of hulls, a plurality of deck modules and a unitized cabin unit. The hulls are transversely separable into sections preferably no longer than the length of the deck modules, and the hull sections and deck modules being conveniently transportable on a trailer or other suitable vehicle. The unitized cabin preferably is a demountable automobile camper body, and one deck module and the cabin body have means for elevating them to permit the hulls to be placed in supporting position beneath the said deck module, and the cabin body is arranged to be supported by that deck module.

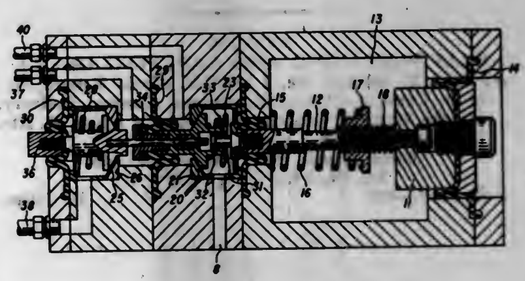
3,436,775
DEEP SUBMERSIBLE INSTRUMENTATION PACKAGE ASSEMBLY
Arthur J. Schlosser, 4585 Bannock Ave. 92117, and Robert L. Seeley, 4831 Santa Cruz 92107, both of San Diego, Calif.
Filed Dec. 28, 1966, Ser. No. 605,516
Int. Cl. B63b 21/52
U.S. Cl. 9—8 18 Claims

This disclosure is concerned with an improved deep submersible instrumentation package assembly comprising a body member and one or more cover members formed of a particular type of material to provide appropriate protection for instrumentation under the severe environmental conditions encountered in deep submergence oceanographic work, for instance. The body and cover members of the assembly are preferably fabricated of a syntactic foam or comparable material and the buoyant bulk of the body and cover members relative to the weight of the entire assembly, including the enclosed instrument, is so chosen and predetermined as to provide



a desired degree of aggregate buoyancy in the medium where the assembly is to be submerged. Accordingly, the assembly may be rendered positively, negatively or neutrally buoyant in a predesigned degree as desired.

3,436,776
SELF-BALLASTING STREAMER
Billy W. Davis, Richardson, Tex., assignor to Texas Instruments Incorporated, Dallas, Tex., a corporation of Delaware
Filed Feb. 23, 1967, Ser. No. 618,114
Int. Cl. B63b 21/52, 35/00; B63g 8/14
U.S. Cl. 9—8 2 Claims

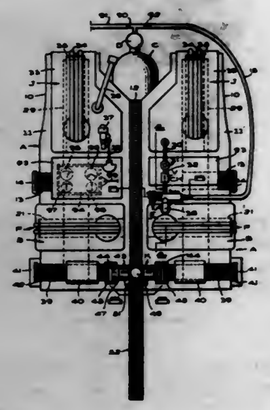


A device for maintaining a body at a predetermined depth in a fluid medium. The device, which is secured to the body, includes a pressure sensitive valve which operates in response to pressure changes due to changes in depth in the medium. The valve controls the flow of a gas to or from an inflatable bag which expands or contracts depending on the quantity of gas contained therein, displaces an amount of fluid that causes the body and the device to rise or sink. When a predetermined depth is reached for which the valve is adjusted, the valve operates to shut off further gas from entering or leaving the bag, causing the body and the device to remain at the predetermined depth.

3,436,777
DIVER'S JACKET AND BUOYANCY CONTROL DEVICE
Alden T. Greenwood, Belmont, Calif. (R.F.D. 2, Hollis St., Groton, Mass. 01450)
Filed June 22, 1967, Ser. No. 648,053
Int. Cl. B63c 11/18, 9/16, 9/18
U.S. Cl. 9—342 8 Claims

A diver's jacket having at least one inflatable bladder built into the jacket to form a unitary structure therewith, the rear of the jacket having a pack-rack fixed thereto and removably carrying a tank of compressed gas which is connected by a hose and a combined fill and dump control valve for conveying the gas to the bladder to

inflate the latter, this valve being operable to rapidly exhaust the gas from the bladder during an emergency. Moreover, a belt is provided to extend around the diver's body and has a plurality of weights removably secured



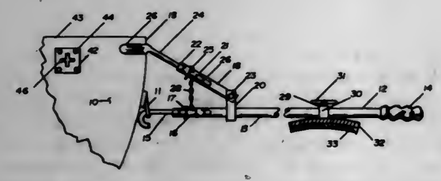
thereto so that the diver may establish neutral buoyancy at any depth in water, these weights being readily discardable in an emergency.

3,436,778

BOAT PORTAGING AND CARRYING DEVICE

Albert J. E. Stevens, Ste. 1 I.O.O.F. Block, Kenora, Ontario, Canada; Charles H. Stevens, General Delivery, Minaki, Ontario, Canada; and Reginald Klose, R. Rte. 1, Kenora, Ontario, Canada

Filed June 5, 1967, Ser. No. 643,468
Int. Cl. A45f 3/15; B65g 7/12
U.S. Cl. 9—400 12 Claims



This device is for portaging or carrying boats and consists of a carrying handle attachable by a hook to the mooring ring at the front of a boat and having a snubber engaging the prow above the hook. Also required is at least one rear carrying handle clampable to the upper edge of the stern and extending rearwardly. Both handles can either be engaged by the hands of the persons carrying the boat or can be supported on the shoulders by shoulder plates secured along the length of the handles.

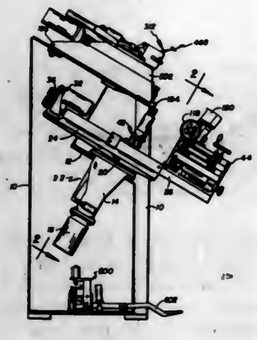
3,436,779

HEEL SEAT LASTING

Horst M. Leonhardt, Randolph, Mass, assignor to Jacob S. Kamborian, Boston, Mass.

Filed Aug. 9, 1965, Ser. No. 478,185
Int. Cl. A43d 21/00, 3/00
U.S. Cl. 12—10.5 24 Claims

The instant disclosure is concerned with a heel seat lasting machine in which provision is made for tightly stretching the heel end of a shoe upper about a last having an insole located on the bottom thereof and thereafter wiping the margin of the upper to the insole. An end clamp is provided to clamp the upper to the heel



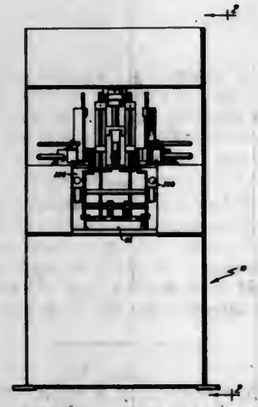
end of the last prior to the wiping operation. Gaging means, included in the machine facilitate manipulation of the upper to its proper position on the last by the operator. Also disclosed is a last support having an inclined last pin.

3,436,780

APPLICATION OF A SOLE TO THE BOTTOM OF A SHOE ASSEMBLY

Peter P. Spolsino, Revere, Mass., assignor to Jacob S. Kamborian, Boston, Mass.

Filed Oct. 18, 1965, Ser. No. 497,102
Int. Cl. A43d 25/00, 44/00
U.S. Cl. 12—142 39 Claims



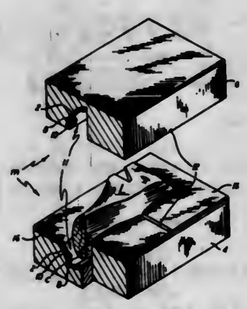
There is disclosed herein a machine that includes an arrangement for holding a shoe assembly, that comprises a last having an upper mounted thereon secured to an insole located on the last bottom, in a bottom-down position, an arrangement for placing an outsole below the shoe assembly in aligned relationship with the bottom of the shoe assembly, an arrangement for applying cement to the outsole, and an arrangement for pressing the outsole to the bottom of the shoe assembly to thereby cementitiously attach the outsole to the bottom of the shoe assembly.

3,436,781

METHOD OF FABRICATING A SHOE

Michael M. Becka, Watertown, and Gordon S. Anderson, Framingham, Mass., assignors to Jacob S. Kamborian, Boston, Mass.

Original application Oct. 8, 1965, Ser. No. 494,133. Divided and this application Jan. 22, 1968, Ser. No. 699,705
Int. Cl. A43d 65/00
U.S. Cl. 12—145 8 Claims



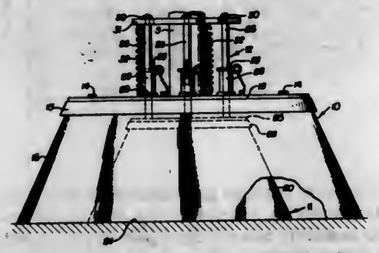
The fabrication of a shoe by molding an insole to the bottom of a last, lasting an upper to the insole without removing the insole from the last and securing an outsole to the bottom of the lasted shoe.

3,436,782

VARIABLE GUTTER BROOM

Ariel R. Ayala, Naucalpan de Juarez, Mexico, assignor to Wayne Manufacturing Company, Pomona, Calif., a corporation of California

Filed Nov. 22, 1966, Ser. No. 596,330
Int. Cl. E01h 1/02; A47l 11/162, 11/164
U.S. Cl. 15—87 9 Claims



In order to permit sweeping simultaneously of stepped (i.e. different elevation) surfaces by a single street sweeper gutter broom assembly the invention provides a brush composite comprising an outer annular brush segment containing an inner brush segment, the two segments being axially variably positionable to sweep simultaneously single or stepped plane surfaces.

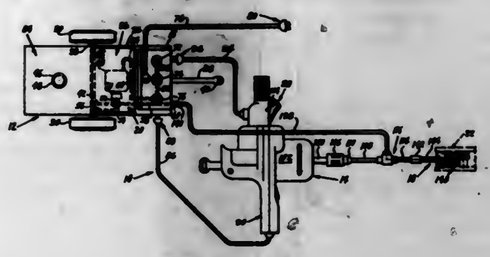
3,436,783

PORTABLE PIPE THREAD CLEANING DEVICE

Jack D. McCartney, Box 519, Cut Off, La. 70345

Filed Oct. 5, 1965, Ser. No. 493,148
Int. Cl. B08g 1/04
U.S. Cl. 15—104.03 1 Claim

A portable male and female type thread cleaning device in which a trailer carries a tank of cleaning fluid, an electric pump for pumping the cleaning fluid, and an electric power takeoff panel. A portable cleaning gun is provided with hand controls for the electric pump and for its own motor and has a flexible conduit extending from the electric pump to a hollow shaft carrying pipe thread



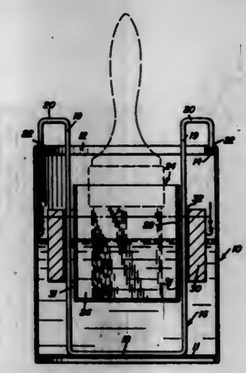
cleaning brushes. The brushes are rotated by the gun while cleaning fluid is directed through the hollow shaft and the brush to the threads.

3,436,784

FLOATING PAINT BRUSH HOLDER FOR PAINT CANS

Roland Moore, Jr., 13427 Coleen, Warren, Mich. 48089

Filed Mar. 13, 1967, Ser. No. 622,790
Int. Cl. A47l 13/56; B43l 25/02; B44d 3/12
U.S. Cl. 15—257.05 6 Claims



A U-shaped wire adapter is inserted in a paint can. Detents on the upper ends of vertical adapter arms are suitably constructed to stay put in grooved lid attaching flange. A follower-type float-equipped brush holder slides on the arms and allows user to insert brush in the well of the holder. The holder is self-levelling and brush does not sink too low in paint. The holder has inlet holes which feed ample paint to brush.

3,436,785

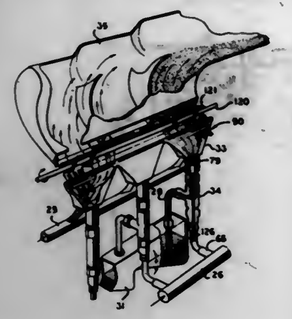
APPARATUS FOR CLEANING ELECTRICAL CONTACTS

Misha I. Kantor, Orlando, Fla., assignor to Radiation Incorporated, Melbourne, Fla., a corporation of Florida

Filed Nov. 30, 1964, Ser. No. 414,692
Int. Cl. A47l 5/38
U.S. Cl. 15—301 3 Claims

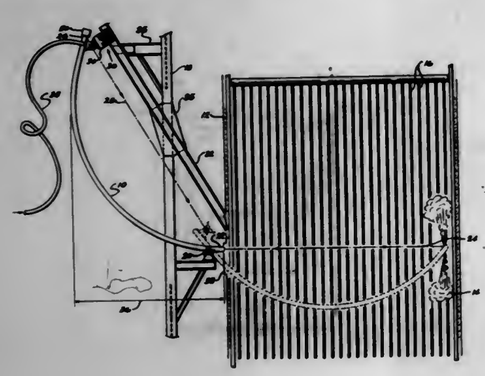
Cleaning of electrical contacts is accomplished by subjecting the contacts to alternate blasts of cooling air and non-abrasive impact material. Brushing of the contacts is performed concurrently with the impact cleaning

operation to dislodge residue and impact material. The dislodged deposits are collected and removed from the



region occupied by the contacts by use of a vacuum exhaust scavenger system.

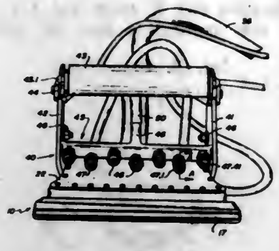
3,436,786
RETRACTABLE SOOT BLOWER ORGANIZATION
Earl K. Rickard, East Granby, and Herbert H. Kreimann, Rockville, Conn., assignors to Combustion Engineering Inc., Windsor, Conn., a corporation of Delaware
Filed Dec. 28, 1966, Ser. No. 605,409
Int. Cl. F23j 3/02
U.S. Cl. 15—317 9 Claims



A retractable soot blower for use with a heating chamber. The inner end of the soot blower lance traverses a generally straight line across the heating chamber as the lance is moved to and from its retracted and extended positions. The soot blower lance and operating mechanism are such that the lance does not extend outwardly from the wall of the heating chamber along the line traversed by the inner end of the lance and requires a distance outwardly from the wall of the heating chamber substantially less than the traverse of the inner end of the soot blower into the heating chamber.

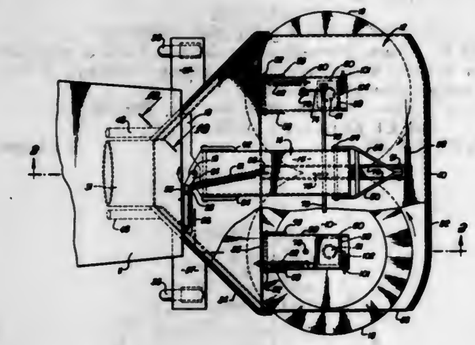
3,436,787
STEAM AND VACUUM NOZZLE
William H. Wisdom, 9806 Van Dyke Drive, Dallas, Tex. 75218
Filed May 16, 1967, Ser. No. 638,890
Int. Cl. A47l 7/00
U.S. Cl. 15—321 13 Claims

Cleaning head assembly to be used with a common wet vacuum and source of cleaning solution, an integral head heating and steam generating means discharging a



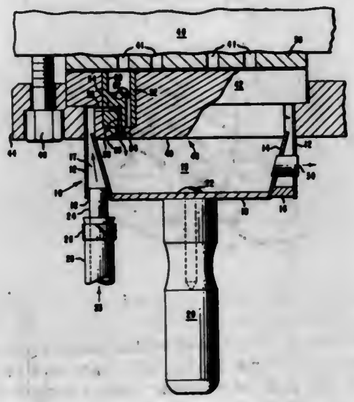
long narrow spray of steam and solution, and a heated vacuum nozzle passing over the sprayed material.

3,436,788
STREETSWEEPER VACUUM PICKUP HEAD ASSEMBLY
Simon Tamny, Los Angeles, Calif., assignor to Wayne Manufacturing Company, Pomona, Calif., a corporation of California
Filed July 27, 1967, Ser. No. 656,414
Int. Cl. E01h 1/05; A47l 5/00
U.S. Cl. 15—340 17 Claims



The invention pertains to a vacuum debris pickup head assembly carried by and forwardly of a streetsweeper vehicle, the assembly comprising a pair of peripherally intermeshed gutter brooms, and a hood carrying the brooms and having depending sides forwardly and rearwardly of the outer broom peripheries positionable in close proximity to a road surface being swept. The brooms operate to receive between them debris which is displaced to a suction duct at the rear of the hood. Main features of the head assembly are: (1) mounting of the brooms to the hood structure for independent relative vertical and tilting movements; (2) mounting of the hood assembly to the vehicle for lateral swinging movements and effecting such movements by mechanism operating to elevate the hood from outward sweeping position to automatically established centered traveling position and to return the hood, upon lowering, to such outward sweeping position; (3) maintaining yielding resistance to inward impact displacement of the hood; (4) provision of a form of suction duct capable of free flow of swept debris out of the hood; and (5) a secondary suction chamber and duct arrangement in association with convergent rear walls of the hood.

3,436,789
SPINNERET CLEANING APPARATUS
Richard Young Hays, Kinston, N.C., assignor to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware
Filed Oct. 6, 1966, Ser. No. 584,773
Int. Cl. A47l 5/14, 5/00
U.S. Cl. 15—345 1 Claim



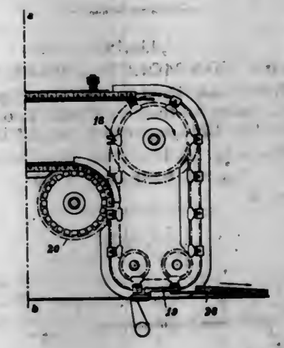
An apparatus for cleaning passages in a spinneret without the need for removing the spinneret from service that includes a portable open top enclosure connected to a source of pressurized fluid. The enclosure includes concentric sides attached to a base so that when engaged with the spinneret assembly a pair of chambers are formed to provide a flow path for the pressurized fluid from the source of pressurized fluid through the spinneret.

3,436,790
METHOD AND APPARATUS FOR HIGH TEMPERATURE HEAT TREATMENT
Massoud T. Simnad and Robert A. Meyer, La Jolla, and Richard P. Vanek, Solana Beach, Calif., assignors, by mesne assignments, to Gulf General Atomic Incorporated, San Diego, Calif., a corporation of Delaware
Filed Sept. 27, 1963, Ser. No. 312,113
Int. Cl. B29b 1/03
U.S. Cl. 18—1 5 Claims



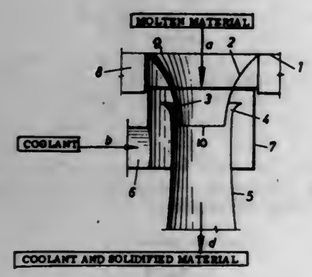
4. Apparatus for the high temperature treatment of materials in particulate form, which apparatus comprises a support structure, a reaction zone including a vertically extending tube supported by said support structure, which tube is formed of electrically conductive material, means connected to said support structure and disposed above the reaction zone for feeding particles downward into said reaction zone, induction coil means mounted on said support structure encircling said reaction zone and connected to a source of high frequency electrical power so that eddy currents are induced in said conductive tube whereby sufficient heat is provided in said reaction zone to melt falling particles, first cooling means disposed near the upper end of said reaction zone whereby said particles are kept relatively cool prior to entering said reaction zone, an elongated cooling tube disposed coaxial with said vertically extending tube at a location immediately below said reaction zone, second cooling means disposed about at least the upper portion of said cooling tube whereby the melted particles falling from said reaction zone are hardened to spherical shaped particles while still in free fall, means connected to said cooling tube for viewing said falling particles and collection means connected to the bottom of said cooling tube wherein the spherical particles are received.

3,436,791
MACHINE FOR THE CONTINUOUS MOULDING OF A PULVERULENT OR CRYSTALLINE PRODUCT IN THE FORM OF SEPARATE LUMPS
Louis Jean Chambon, Paris, France, assignor to Societe d'Etudes de Machines Speciales, Societe Anonyme, Paris, France, a French company
Filed May 2, 1966, Ser. No. 547,053
Claims priority, application France, May 6, 1965, 16,033
Int. Cl. B28b 3/02
U.S. Cl. 18—4 4 Claims



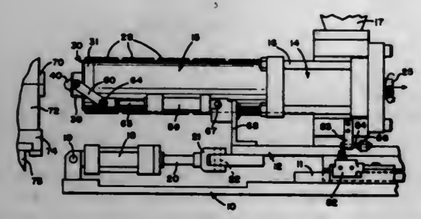
A machine for continuously moulding a pulverulent or crystalline product in the form of separate lumps, the product being agglomerated with the assistance of a binder under pressure. This machine comprises a series of separate transverse moulds juxtaposed longitudinally and formed each with at least one groove having a cross sectional contour corresponding to that of the desired lumps, the grooves of the various separate juxtaposed moulds thus bounding at least one continuous longitudinal channel. In a filling and ramming station the product is rammed in said groove or grooves of said separate moulds and means disposed at the downstream end of said ramming station control the gradual and relative transverse displacement of the separate moulds with respect to one another, so as to separate lumps of a predetermined length in each strip of said product.

3,436,792
APPARATUS FOR PRODUCING STRANDS OR GRANULES FROM LIQUID MATERIAL
Hans Heinrich Wilhelm Hench, 75 Aschaffstr., 875 Aschaffenburg, Germany
Filed Nov. 22, 1966, Ser. No. 596,213
Claims priority, application Germany, Nov. 25, 1965, H 57,776
Int. Cl. D01d 5/00
U.S. Cl. 18—8 1 Claim



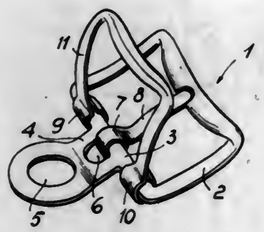
A process involving producing a strand of liquid material and passing a stream of heat transfer fluid around the strand. The heat transfer fluid and optionally another auxiliary fluid flow at a faster velocity than the strand and stretch it during its solidification. An apparatus to perform the process has a vessel for containing the liquid, a duct to drain the liquid therefrom in the form of a strand and nozzles surrounding the duct to feed heat transfer and other fluids around the strand.

3,436,793
INJECTION MOLDING MACHINE
Elmer D. Trueblood, Dayton, Ohio, assignor to Trueblood, Inc., doing business as Union Tool & Engineering Co., Dayton, Ohio, a corporation of Ohio
Filed Aug. 19, 1966, Ser. No. 573,563
Int. Cl. B29f 1/03, 1/08
U.S. Cl. 18—30 6 Claims



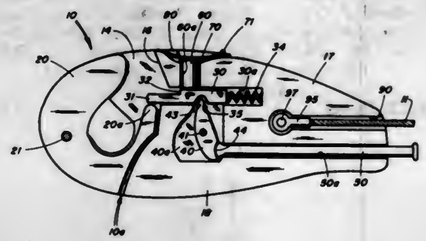
A movable plasticizing cylinder receives a ram at one end and is closed at the opposite end by a closure member including a cylindrical base portion having an outer diameter the same as the cylinder for receiving a surrounding heating element. A nozzle tip is formed integrally with the base portion, and a valve member is positioned within a laterally extending opening located adjacent the base portion. The valve member is actuated by a pressure cylinder which is controlled by a solenoid valve actuated by time delay relay means and a switch operated in response to movement of the cylinder.

3,436,794
ARTICULATED BUCKLE
Adalberto Sussman Steinberg, Via Frassinetti 25, Milan, Italy
Filed July 5, 1966, Ser. No. 567,033
Claims priority, application Italy, July 7, 1965, 6,591/65
Int. Cl. A44b 11/24
U.S. Cl. 24—188 1 Claim



This disclosure relates to a buckle including a substantially rectanglar frame having side bars and cross bars connecting the ends of the side bars, a tongue member pivotally connected to one of said cross-bars and in one end position thereof adapted to engage, with the free end thereof, the other of said cross-bars, and a pivotable loop member pivoted on said one of said crossbars.

3,436,795
ANCHOR RELEASE DEVICE
Charles O. Hill, Seattle, Wash., assignor, by mesne assignments, to the United States of America as represented by the Secretary of the Navy
Filed Apr. 17, 1968, Ser. No. 721,975
Int. Cl. F16b 45/02; B66c 1/34
U.S. Cl. 24—241 10 Claims

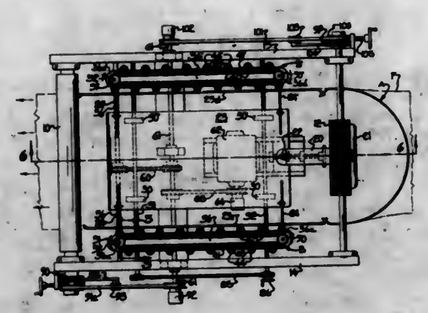


A quick release apparatus having a rotatable jaw normally held in a closed position by a spring-biased latch. A pivotal cam engages both the latch and a striker shaft, the latter of which, when actuated, causes the cam to urge the latch out of engagement with the rotatable jaw.

3,436,796
APPARATUS FOR SPREADING TUBULAR FABRIC
Willis W. Coates, 7 Brant Ave., Fort Johnson, N.Y. 12070
Continuation-in-part of application Ser. No. 552,058, May 23, 1966. This application Feb. 16, 1967, Ser. No. 616,663
Int. Cl. D06c 5/00, 3/00
U.S. Cl. 26—55 12 Claims

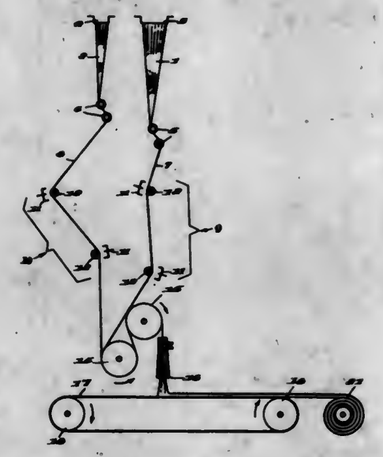
An apparatus for drawing tubular fabric over a spreader frame and having fabric engaging pin wheels movable

along opposite sides of the spreader frame to aid in drawing the fabric over the spreader frame, and variable speed drive means so that the rate of movement of the



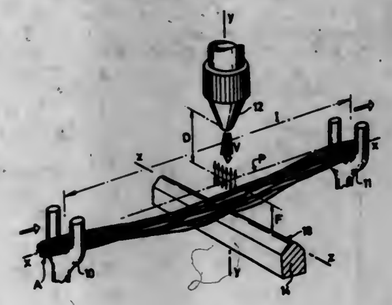
pin wheels may be varied to propel the opposite sides of the fabric at the desired rate, relative to the rate of movement of the central portion.

3,436,797
METHOD AND APPARATUS FOR CHARGING AND COMBINING CONTINUOUS FILAMENTS OF DIFFERENT POLYMERIC COMPOSITION TO FORM A NONWOVEN WEB
Walter L. Graf, Wilmington, Del., and Francis Joseph Medeiros, Hendersonville, Tenn., assignors to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware
Filed Mar. 8, 1965, Ser. No. 437,859
Int. Cl. D02g 3/00; D04h 17/00; D01g 25/00
U.S. Cl. 28—1 4 Claims



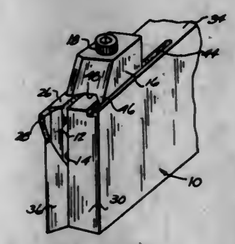
A method and apparatus to compensate for differences in aerodynamic drag and momentum between different types of polymeric filaments being separately forwarded, then combined and collected as a nonwoven web wherein the different types of filaments are separately charged in separate corona charging zones prior to being combined to permit regulation of the distribution of the different filament species in the web.

3,436,798
TREATMENT OF CONTINUOUS MULTIFILAMENT THREADS AND RELATIVE THREADS HAVING A CONTROLLABLY LABILE COHESION
Domenico Nicita, Cesano Maderno, Milan, Italy, assignor to Snia Viscosa Società Nazionale Industria Applicazione Viscosa S.p.A., Milan, Italy, a corporation of Italy
Filed Oct. 10, 1966, Ser. No. 585,358
Claims priority, application Italy, Oct. 9, 1965, 9,943/65
Int. Cl. D01g 9/08
U.S. Cl. 28—1 3 Claims



Multifilament synthetic yarns are produced in which the filaments adhere to one another initially sufficiently to effect successful textile operations thereon, as, for instance, warp-setting, but will lose their coherence in subsequent mechanical treatments, such as weaving. These results are achieved by feeding the filaments along a path defined by two aligned spaced thread guides while directing an air stream against the filaments to deflect them against a convex surface, the feed rate, spacing of the guides, position and curvature of the convex surface, etc. being determined to achieve the desired results. The filaments of yarns produced according to the present invention have a labile cohesion which disappears or decreases in substantial degree after a mechanical strain such as that due to a weaving operation.

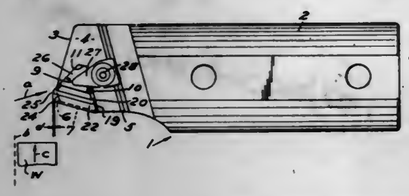
3,436,799
CUTTING TOOL
Alfred A. Kopy, Southfield, Mich., assignor to Posa-Cut Corporation, Farmington, Mich.
Filed Sept. 6, 1966, Ser. No. 577,474
Int. Cl. B23p 15/28
U.S. Cl. 29—96 2 Claims



A rectangular shaped cutting tool having an upwardly, forwardly and sidewise opening V-shaped recess formed in one side face, with the edges of the V being uniformly

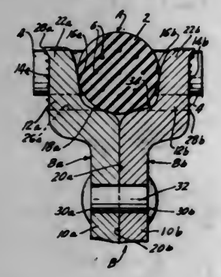
sloped to form an acute angle with the inner wall of the recess, and a replaceable triangular shaped cutting insert formed of a hard, brittle metal, having its edges bevelled to correspond to the slope of said edges, vertically positioned in the recess and jammed downwardly and against the recess inner wall by both an upper releasable clamp and by cutting forces upon the exposed cutting corner of the insert. The uniform slope of the recess edges and its three openings permit the interchangeable use of inserts which are inaccurate or slightly variable in thickness and edge length.

3,436,800
TOOL CONSTRUCTION
Robert W. Cashman and Anthony Wasco, Jr., Saginaw, Mich., assignors to Saginaw Machine and Tool Company, Saginaw, Mich., a corporation of Michigan
Filed Aug. 17, 1966, Ser. No. 572,952
Int. Cl. B26d 7/00; B23b 29/02
U.S. Cl. 29—97 11 Claims



The tool construction of the present invention relates to a cutting tool having a plurality of tool bits contained in a holder in a stacked relationship with the cutting edges offset such that the tool construction will cut a workpiece successively and at different levels when the tool is traversed relative to a workpiece.

3,436,801
METHOD OF MAKING GEARED PULLEY TO ELIMINATE BURRS IN PULLEY GROOVE AND TO FACILITATE ENTRY OF BELT INTO PULLEY
Winfred M. Berg, East Rockaway, N.Y., assignor to Pig Design Corp., East Rockaway, N.Y., a corporation of New York
Filed June 23, 1966, Ser. No. 559,965
Int. Cl. B21k 1/42; B21d 39/02
U.S. Cl. 29—159 13 Claims

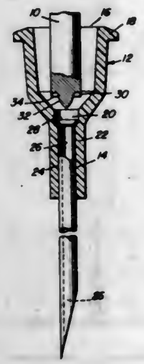


A geared pulley into the pulley groove of which a belt is adapted to enter is made in two pieces, the forming of each piece being accomplished by moving a forming tool through the blank in a given direction, thereby to incline material in that direction and form burrs in the same direction, the pieces being subsequently assembled back-to-back so that the material inclination and burr orientation on each piece is outward, thereby facilitating the entry of the belt into the groove and minimizing burr-caused damage to the belt.

3,436,802
POWDER METALLURGY
Philip Cohen, Butler, Pa., assignor to Magnetics, Inc., a corporation of Pennsylvania
No Drawing. Continuation-in-part of application Ser. No. 382,398, July 13, 1964. This application Nov. 14, 1967, Ser. No. 683,008
Int. Cl. B22f 7/00
U.S. Cl. 29—420.5 23 Claims

Powder metallurgy steps which provide uniformity and reproducibility in the production of alloys are disclosed. Process steps include a powder purification step above about 300° C. but below a temperature where significant agglomeration occurs, low pressure compacting of powder to form a compacted shape of sufficient green strength to permit process handling while maintaining internal porosity and a pervious exterior, internal cleaning of the compacted shape at temperatures which avoid significant sealing of the pervious exterior, and sintering of the compacted shape after internal cleaning. The sintered shape is hot worked, e.g. by rolling or drawing at an elevated temperature. Hot working can be followed by a cold reduction. Processing of reactive metal alloys include steps to inhibit or substantially eliminate contamination of the final alloy by substantially preventing combination of impurities removed from the non-reactive ingredients with the reactive metals. Representative alloy compositions are set forth.

3,436,803
UNITING PARTS BY THE USE OF VIBRATIONAL AND POSITIVE MATERIAL DEFORMING FORCES AND ARTICLE MADE THEREBY
Stanley J. Sarnoff, 7507 Hamden Lane, Bethesda, Md. 20014
Filed Feb. 7, 1966, Ser. No. 525,688
Int. Cl. B23p 11/00; B21d 39/00
U.S. Cl. 29—432.2 8 Claims

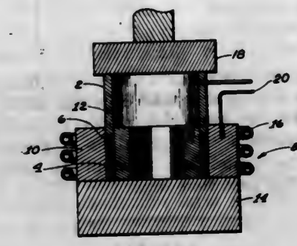


A rigid hypodermic needle is joined to a hub of thermoplastic material as of nylon by the use of a tool vibrating at a frequency of about 20K Hertz. The needle, which has a rear flared end is passed through the hub until the rear flared end is seated in a recessed portion within the hub. Thereafter, the tool is applied to the material of the hub about the recess and vibrated to cause displacement of the material of the hub around the flared end of the needle to lock the needle in place in the hub.

3,436,804
PROCESS FOR FORMING COMPOSITE ALUMINUM ALLOY
Irwin Broverman, Orange, Conn., assignor to Olin Mathieson Chemical Corporation, a corporation of Virginia
No Drawing. Continuation of application Ser. No. 288,870, June 19, 1963. This application Apr. 23, 1968, Ser. No. 723,629
Int. Cl. B23k 31/02, 1/20
U.S. Cl. 29—471.5 6 Claims

1. The method of forming a composite which comprises:
providing a core material containing from 2 to 10% magnesium, balance essentially aluminum;
cleaning said core, forming an assembly by superimposing thereon a dissimilar cleaned cladding containing up to 2.5% magnesium, balance essentially aluminum;
peripherally integrating said assembly by fusion welding, leaving an unintegrating peripheral portion in the posterior portion of said assembly;
hot rolling said assembly at a temperature of from 450 to 950° F., thereby venting the air at the interface; and
integrating said core and cladding to form a composite wherein the cladding is from 5 to 20% of the thickness of the composite.

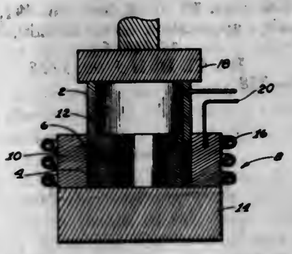
3,436,805
METHOD OF JOINING ALUMINUM AND FERROUS MEMBERS
Warren H. Frisbe, Canoga Park, and Edward C. Supan, Northridge, Calif., assignors to North American Rockwell Corporation, a corporation of Delaware
Filed Aug. 9, 1965, Ser. No. 478,155
Int. Cl. B23k 31/02, 35/24
U.S. Cl. 29—482 13 Claims



A process for edge-bonding aluminum and ferrous members. The edge of the ferrous member is tapered and contacted with a corresponding flat edge of the aluminum member at elevated temperature and under pressure so that a bond is formed by back extrusion of the aluminum over the tapered surface of the ferrous member. Preferably, a thin inert metal barrier is interposed between the contacting edges at their interface. The method is particularly applicable for forming high-strength leak-tight bonds between the ends of tubular ferrous and aluminum components.

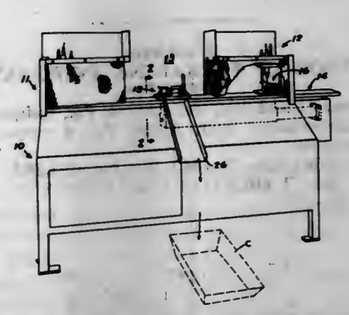
3,436,806
METHOD OF FORMING AN ALUMINUM-FERROUS TUBULAR TRANSITION JOINT
Edward C. Supan, Northridge, Calif., assignor to North American Rockwell Corporation, a corporation of Delaware
Filed Jan. 26, 1967, Ser. No. 611,901
Int. Cl. B23k 1/20
U.S. Cl. 29—482 10 Claims

The present invention involves a method of forming a joint between members of steel and aluminum. A knife-edge is formed on an edge of the steel member, a thin layer of nickel is deposited on this edge, and a thin layer of tungsten is deposited thereupon. The ferrous and aluminum members are then diffusion-bonded together by



applying of a pressure of about 30,000–45,000 p.s.i. in vacuum, at a temperature of about 800-1100° F. for about 1 to 10 minutes, after which the resulting joint is permitted to cool to ambient temperature.

3,436,807
WELDING, BRAZING AND SOLDERING METHOD AND APPARATUS
Theodore F. Bell, 22813 Dequindre, Hazel Park, Mich. 48030
Filed Mar. 19, 1965, Ser. No. 441,228
Int. Cl. B23k 31/02, 5/22
U.S. Cl. 29—493 8 Claims



The method and apparatus disclosed herein comprises utilizing a reciprocating work table on which a first workpiece is loaded in one position at a loading station. The work table is then moved to bring the first workpiece to a first work station and a second workpiece is then loaded on the table at the loading station. The table is returned after the work is performed on the first workpiece to bring the first workpiece to the loading station and simultaneously move the second workpiece to a second spaced work station. The first workpiece is then unloaded and a third workpiece is loaded on the table in place of the first workpiece.

3,436,808
METHOD OF ENAMELING STEEL
Michael Kotyk, Durham, N.C., assignor to United States Steel Corporation, a corporation of Delaware
No Drawing. Original application June 20, 1963, Ser. No. 289,397. Divided and this application Jan. 13, 1967, Ser. No. 608,961
Int. Cl. C23g 1/02; C23d 5/02, 3/00
U.S. Cl. 29—527 2 Claims

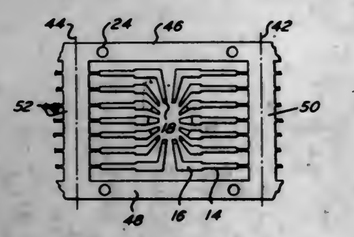
Manufacture of vitreous enameled steel articles from steel containing less than .01% carbon and 0.02 to 0.10% phosphorus, including cold forming articles from such steel, pickling in dilute acid and enameling the articles so formed.

3,436,809
METHOD OF MAKING SEMICONDUCTOR DEVICES
Robert David Peacock, London, England, assignor to International Standard Electric Corporation, New York, N.Y., a corporation of Delaware
Filed Sept. 29, 1965, Ser. No. 491,251
Claims priority, application Great Britain, Nov. 9, 1964, 45,545/64
Int. Cl. H01l 5/00, 7/18
U.S. Cl. 29—578 5 Claims



This is a method of making semiconductor devices by subjecting a portion of a previously diffused region to heat in a predetermined atmosphere so that this portion of the diffused region would develop either a heavier impurity concentration (by in-diffusion) or a lower impurity concentration (by out-diffusion) than the remaining portion of the previously diffused region. Aluminum is then deposited on that portion of the diffused region which now has a lower impurity concentration than the remaining portion. The aluminum is alloyed in and forms the emitter region while the remaining heavily diffused region forms the base region for the device. This method produces a transistor having low collector base capacitance and low base resistance which provides for improved high frequency power gain.

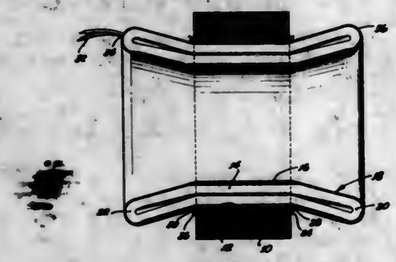
3,436,810
METHOD OF PACKAGING INTEGRATED CIRCUITS
John Edward Kaufman, Beth Ayres, Pa., assignor to The Jade Corporation, Beth Ayres, Pa., a corporation of Pennsylvania
Filed July 17, 1967, Ser. No. 653,890
Int. Cl. H01l 1/14, 7/00; B23p 25/00
U.S. Cl. 29—577 7 Claims



Method of processing lead frame for packaging integrated circuit is accomplished by stamping the frame which can be welded directly to the circuit.

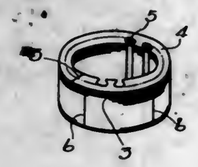
3,436,811
METHOD FOR ENCAPSULATING DYNAMOELECTRIC MACHINE STATORS USING A CONFORMABLE SLEEVE
Ernest W. Dundas, Anaheim, and Stanley P. Walker, La Habra, Calif., assignors to Emerson Electric Co., St. Louis, Mo., a corporation of Missouri
Filed Feb. 14, 1966, Ser. No. 527,266
Int. Cl. H02k 15/14
U.S. Cl. 29—596 2 Claims

A flexible tube of conformable, stretchable fabric having the same diameter as the stator bore is inserted through the stator bore. The ends of the tube are closely wrapped about the end turns of the stator coils and fastened to the end laminations in close proximity to the coil slots. The fabric is sprayed with a thermosetting plastic or with epoxy resin to form a shell. Finally, epoxy material is



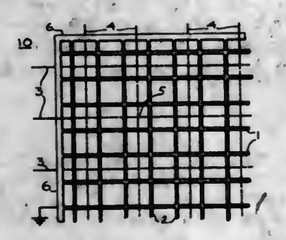
inserted into the shell and the windings thus encapsulated. The stator bore is cleaned, as by machining, after the mold has cured.

3,436,812
METHOD OF MAKING THE STATOR CORE FOR ROTARY ELECTRIC MACHINERY
Kikuo Aoki, Ginza-dori, Kariya-shi, and Terumoto Yamaguchi, Anjo-shi, Japan, assignors to Nippon Denso Kabushiki Kaisha, Showa-machi, Kariya-shi, Japan, a corporation of Japan
Filed Oct. 6, 1965, Ser. No. 493,350
Int. Cl. H02k 15/02; H01f 7/06
U.S. Cl. 29—596 7 Claims



This disclosure concerns a method of making a stator core wherein a strip is wound edgewise about a mandrel and cut axially to form ring plates, thereafter the ring plates are separated, a winding slot is punched in each plate, and the plates are reassembled with the slots aligned and the gaps non-aligned.

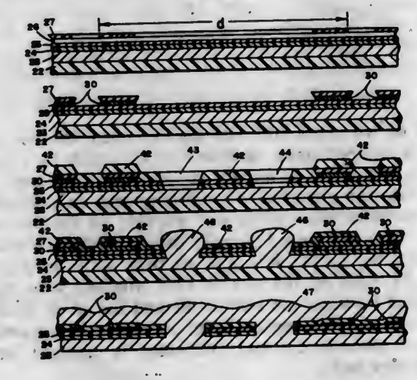
3,436,813
INFORMATION STORAGE DEVICES
Paul E. Wells, Hollywood, and John S. Davis, Glendale, Calif., assignors to TRW Inc., a corporation of Ohio
Original application Aug. 30, 1960, Ser. No. 53,008. Divided and this application Feb. 6, 1964, Ser. No. 349,519
Int. Cl. H01f 7/18; G11b 5/00
U.S. Cl. 29—604 6 Claims



A method of forming a magnetic memory matrix by weaving a plurality of wires to form a screen, bonding the screen with a thin layer of conducting material, and coating the screen with magnetic material. The wires

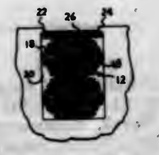
may be provided with a ceramic coating before the screen is coated with magnetic material that is subsequently annealed in an inert atmosphere at 1,000° C. Insulated wires may be threaded through selected meshes of the coated screen.

3,436,814
METHOD OF FABRICATING MAGNETIC CORE MEMORY PLANES
Harrison W. Fuller, Needham Heights, Thomas Leo McCormack, Chelmsford, Badri Munir Aghassi, Boston, and Richard E. Morley, Bedford, Mass., assignors, by mesne assignments, to Cambridge Memory Systems, Inc., Framingham, Mass., a corporation of Massachusetts
Filed Apr. 5, 1965, Ser. No. 445,343
Int. Cl. H01f 7/06; B41m 3/08; H05k 3/20
U.S. Cl. 29—604 4 Claims



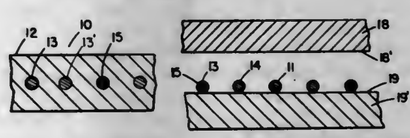
A method of fabricating magnetic core memory planes by bonding a Permalloy sheet to a substrate and etching toroids in the Permalloy using photoresist techniques. The substrate includes an electrically conductive sheet separated by an insulator from the toroid and, again using photoresist techniques, electrical conductors are electrodeposited through the opening in the toroid onto the electrically conductive layer and an insulating material is formed as a layer over the toroid elements. A second conducting layer is then bonded over the entire upper surface and both the upper conductive layer and the lower conductive layer are etched to form printed circuit connections.

3,436,815
ENCAPSULATION PROCESS FOR RANDOM WOUND COILS
Marvin W. Sheets, Saratoga, Calif., assignor to General Electric Company, a corporation of New York
Filed Sept. 22, 1966, Ser. No. 581,366
Int. Cl. H02k 15/12; H01b 7/00
U.S. Cl. 29—605 6 Claims



1. The process of fabricating a dynamoelectric machine stator comprising:
(a) providing a stator core having a rotor-receiving bore therein and a plurality of axially extending open slots in said core circumferentially spaced about said bore;
(b) random winding a plurality of coils of insulated magnet wire;
(c) completely wrapping said coils with porous insulating tape;
(d) positioning said coils in corresponding ones of said slots and making suitable connections to constitute a motor winding;
(e) preheating the wound stator core to expel moisture therefrom;
(f) vacuum-impregnating said wound stator core with a viscous thermosettable resin having a filler therein and concomitantly filling the pores in said porous tape with the filler in said resin; and
(g) heating said wound stator core to set said resin and concomitantly retaining resin inside said individual coils by means of said tape while draining substantially all of the remainder of said resin from said wound stator core.

3,436,816
METHOD OF MAKING HEAT TRANSFER PANELLING
Jerome H. Lemelson, 85 Rector St., Metuchen, N.J. 08840
Continuation-in-part of application Ser. No. 241,904, Dec. 3, 1962. This application Oct. 22, 1965, Ser. No. 500,731
Int. Cl. H01c 1/14, 17/00
U.S. Cl. 29—611 3 Claims



1. A method of fabricating a metal panel having an electrically conducting element encapsulated therein comprising:
(a) jacketing an electrically conducting wire in an abrasion-resistant hard electrically insulating coating disposed completely around said wire,
(b) disposing said wire between two pressure weldable metal members,
(c) compressively engaging said metal members and causing same to deform and flow over and around said wires without removing said insulating coating therefrom and pressing the members together to cause molecular bonding of their surfaces and to encapsulate said electrical conduotors in a unitary structure.

3,436,817
METHOD OF MAKING FRINGING FIELD CONTROLLED THIN FILM ACTIVE DEVICE
Clyde H. Lane, Rome, N.Y., assignor to the United States of America as represented by the Secretary of the Air Force
Filed Feb. 13, 1967, Ser. No. 616,430
Int. Cl. H01c 17/00
U.S. Cl. 29—620 1 Claim



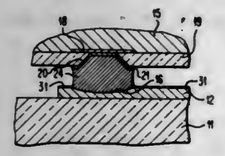
A semiconductor device wherein a thin film of semiconductor material is deposited on an insulating substrate.

On the semiconductor an insulating film is deposited. Contacts are made to the semiconductor through holes etched in the insulator film. On top of the insulator film two metal film plates are deposited with a small separation between the plates. A voltage applied across the plates results in a large fringing electric field. The field penetrates to the semiconductor and affects the resistance of the semiconductor. Thus, a voltage applied to the control plates modulates the resistivity of the semiconductor.

ERRATUM

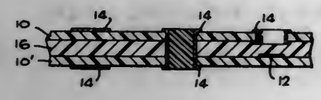
For Class 29—622 see:
Patent No. 3,437,417

3,436,818
METHOD OF FABRICATING A BONDED JOINT
Seymour Merrin, Wilton, Conn., and Melvyn D. Silver and Edward M. Suden, Wappingers Falls, N.Y., assignors to International Business Machines Corporation, Armonk, N.Y., a corporation of New York
Filed Dec. 13, 1965, Ser. No. 513,412
Int. Cl. H05k *3/30*; B23k *31/02*
U.S. Cl. 29—626 12 Claims



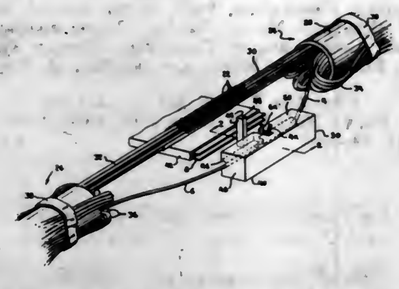
A microminiature chip device is bonded to connecting areas at the surface of an insulating substrate. The chip device is provided with contacts extending therefrom made of a material which will only partially wet the connecting areas. The chip contacts are gently placed onto the connecting areas. The substrate holding the microminiature component is then heated for a time and to a temperature at which the solder softens. The molten solder is maintained in shape, because of its own surface tension, and because of the partial wettability of the solder for the pattern material, which inhibits the flow of solder along the pattern surface away from the interconnection.

3,436,819
MULTILAYER LAMINATE
David Lumine, Los Angeles, Calif., assignor to Litton Systems, Inc., Beverly Hills, Calif.
Filed Sept. 22, 1965, Ser. No. 489,219
Int. Cl. H05k *3/00*; B23p *25/00*
U.S. Cl. 29—628 4 Claims



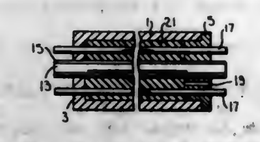
A method of forming a multilayer laminate in which a series of individual printed circuit boards are sequentially laminated to one another and metalized holes are formed through the partially formed laminate existing before the addition of each succeeding board to connect the circuit patterns on each such successive partially formed laminate.

3,436,820
METHOD OF MAKING ELECTRICAL CONNECTIONS
Richard Ellwood Reem, York Springs, and John Roy Vickery, Jr., York, Pa., assignors to AMP Incorporated, Harrisburg, Pa.
Continuation-in-part of application Ser. No. 351,024, Mar. 11, 1964. This application Nov. 23, 1965, Ser. No. 509,391
Int. Cl. H01r *43/00*
U.S. Cl. 29—628 5 Claims



Ends of wires are trimmed and an open U-type connector is crimped onto the trimmed wire ends by means of a die and anvil. Crimping die has slot extending inwardly on one side and on side adjacent to one side. Wires are positioned along the one side of the die and ends of wires are passed through the slot. Severing member thereafter moves into slot to trim wires in planes defined by sides of the slot so that trimmed wire ends are located between one side of die and the anvil. Thereafter, anvil, on which open U-type connector is supported, is moved towards die and connector is crimped onto trimmed wire ends.

3,436,821
METHOD OF MANUFACTURING CONDUCTIVE PINS AND PELLETS
John D. Helms, Dallas, Tex., assignor to Texas Instruments Incorporated, Dallas, Tex., a corporation of Delaware
Filed June 18, 1965, Ser. No. 465,004
Int. Cl. H01r *9/00*, *43/00*
U.S. Cl. 29—630 7 Claims



This invention relates to electrically conductive pins, pellets and the like, and also to their manufacture and use; and with regard to certain more specific features, to such articles for use in connection with miniaturized electrical circuitry such as may be carried on modular circuit boards.

3,436,822
CUTTER HEAD FOR DRY SHAVER HAVING ADDITIONAL CUTTING MEANS
Gerhard Heyek, Rosenberggasse 61, Graz, Styria, Austria
Filed Apr. 5, 1967, Ser. No. 628,602
Claims priority, application Austria, Apr. 6, 1966, A 3,296/66
Int. Cl. B26b *19/38*, *19/06*
U.S. Cl. 30—34.1 1 Claim

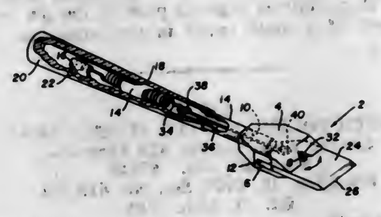
A flexible lower cutter blade is movable in a cutting direction relative to a flexible upper cutter blade and

resiliently urged against the same. Supporting means engage at least one of said blades adjacent to opposite edge portions thereof to apply opposing forces to said edge portions whereby an arched shape is imparted at least to a portion of each of said blades. The radius of curvature of each of said arched portions at its vertex is at least twice the rise of said arched portion. The contours of said



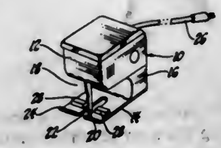
arched portions, when viewed in said cutting direction, are substantially congruent. Said arched portions are substantially coextensive with the area of contact between said blades. To this end, the upper blade has an edge portion which is angled toward the concave side of the upper blade and the arched portion of the lower blade terminates short of the angled edge portion of said upper blade.

3,436,823
SPINNERETTE WIPE TOOL
Douglas J. Lamb and Hiram S. Long, Jr., Pensacola, Fla., assignors to Monsanto Company, St. Louis, Mo., a corporation of Delaware
Filed May 17, 1967, Ser. No. 639,119
Int. Cl. B26b *21/52*, *5/00*, *3/00*
U.S. Cl. 30—169 4 Claims



A pivotal blade hand tool for wiping and cleaning flat surfaces such as spinnerette faces.

3,436,824
MAGNETIC BASE SABER SAW
William J. Huston, Sr., 645 Northfield, and Howard B. McConnell, 465 Brooks St., both of Pontiac, Mich. 48055
Filed Dec. 19, 1966, Ser. No. 602,772
Int. Cl. B27b *11/00*
U.S. Cl. 30—273 6 Claims

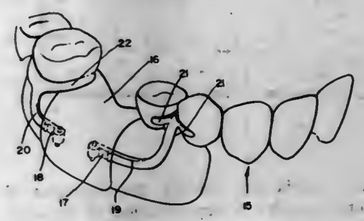


1. The improvement in saber saws including a base platen for supporting the saw and having a blade slot provided therein and extending from one end thereof, and comprising:

a saw blade reciprocated through said blade slot;

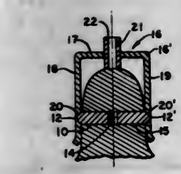
magnetic means received and secured to the base platen for magnetic attraction thereof to metal to be worked by said saw and retaining said saw against chatter and unrestrained movement as a consequence thereof said magnetic means being provided on opposite sides of the blade slot and relatively behind the position of the saw blade received therethrough.

3,436,825
PARTIAL DENTURE WITH MOVABLE-ARM CLASP AND METHOD OF MAKING THE SAME
Vincent J. Oddo, Jr., 161 Bretton Woods Drive, Cranston, R.I. 02910
Filed Sept. 15, 1967, Ser. No. 731,664
Int. Cl. A61c *13/22*
U.S. Cl. 32—5 6 Claims



A partial denture having a movable-arm clasp for complete passivity. There are no springs or spring tensions. A preformed metal housing is molded into a side of the partial. A plastic pattern forms the pivotal base of the movable-arm designed to pivot in the housing. The balance of the arm is formed with wax in the usual manner. The arm is then cast in one piece. The arm pivots in the housing and engages the undercut region of the tooth without tension.

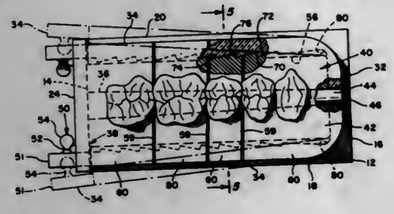
3,436,826
METHOD AND DEVICE FOR ATTACHING DENTAL APPLIANCES TO THE JAW
Alfred E. Edelman, 2723 Federal St., Camden, N.J. 08105
Filed May 3, 1967, Ser. No. 635,749
Int. Cl. A61c *13/00*, *3/00*; B23b *43/00*
U.S. Cl. 32—10 12 Claims



An elongated pin for holding dentures, teeth or the like securely to the jaw and adapted to be inserted in a hole drilled transversely through the jaw bone, having a threaded bore formed transversely therein to receive a threaded fastener, and bearing portions on the ends thereof for engaging supporting surfaces on opposite legs of a drill jig frame and a drill jig for use in combination with the elongated pin to guide a drill in forming a hole through the jaw in axial alignment with the transverse bore in the pin, the drill jig having a support frame comprising a central web portion and a pair of leg portions bent from the ends of the web portion approximately perpendicular thereto, and a drill guide bushing mounted in the web portion of the support frame. The leg portions of the jig frame

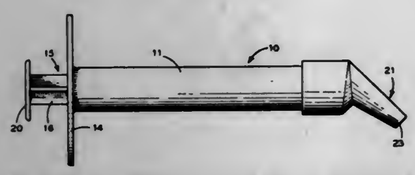
having aligned supporting surfaces thereon to engage the bearing portions of the elongated pin when the legs are spread apart enough to snap over the ends of the pin.

3,436,827
DENTAL MATRIX
Thomas L. Dew, 177 Merritt Drive, Oradell, N.J. 07649
Filed Feb. 24, 1967, Ser. No. 618,397
Int. Cl. A61c 13/00
U.S. Cl. 32—11 8 Claims



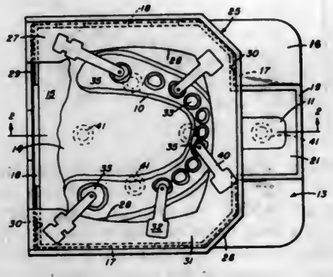
A dental matrix for holding the segments of a segmented dental model or reproduction in accurate assembled relationship through the use of a base with an integral upstanding end wall, a longitudinal guide rail projecting upwardly from the base for coacting with the segments to locate and align the segments along the base and a U-shaped wall member detachably secured against the integral upstanding end wall and the base to establish a receptacle within which the segments are received and locked in place against both longitudinal and upward movement by ridges and ledges projecting laterally from the U-shaped wall member into the interior of the receptacle to engage and coact with the segments, any of the segments being selectively removable from the assembly by detachment and removal of the U-shaped wall member from the base and the integral upstanding end wall.

3,436,828
DENTAL GUN
William B. Dragan, Burr St., R.D., Fairfield, Conn. 06430
Filed Apr. 7, 1966, Ser. No. 540,890
Int. Cl. A61c 9/00
U.S. Cl. 32—17 1 Claim



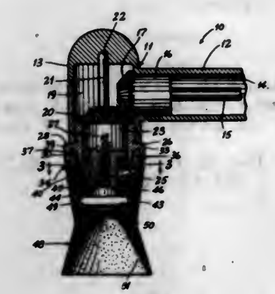
A readily disposable and expendible dental gun having an elongated tubular plastic body carrying a slidable plunger means therein and having one end formed with an integral laterally extending, circular flange for manipulative cooperation with the plunger means and an opposing externally threaded end on which a removable plastic nozzle member is threaded, the nozzle member having an inner end constituting an axial prolongation of the body and formed with a bore coaxial with the bore in the body and having a frusto-conical outer end connected at its major inner end by a tapered throat portion with the inner end of the nozzle member.

3,436,829
DIE PIN SETTER
Arthur C. Jermyn, 240 Danbury Circle N., Rochester, N.Y. 14618
Filed Apr. 8, 1968, Ser. No. 719,655
Int. Cl. A61c 13/00
U.S. Cl. 32—40 8 Claims



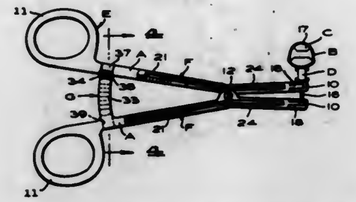
A device comprising a base member on which an impression is positioned and a removable member which overlies the base member and comprises a wall that telescopically engages the base member and is provided with an inwardly extending ledge which overlies the surface of the base member and defines an opening through which the impression is accessible. The ledge forms a support for a tacky, pliable material for receiving a holder for a pin which is embedded in the layer of tacky material at the proper angle to position the pin relative to the axis of a tooth cavity in the impression therebelow.

3,436,830
TOOTH POLISHER WITH PUMICE SEAL
George E. Richmond, 828 Fernview, St. Louis, Mo. 63141
Filed Jan. 18, 1967, Ser. No. 610,138
Int. Cl. A61c 3/06
U.S. Cl. 32—59 6 Claims



An apparatus for preventing pumice and other foreign matter from entering the gear chamber section of a dental handpiece. A bearing member is rotatable with the polisher and is positioned between the polisher and the bearing cap nut mounted in the open end of the angle nose with annular interfitting parts between the bearing member and the bearing cap nut to provide a pumice seal. The polisher has a resilient base which continuously applies pressure against the axially slidable bearing member to maintain continuous contact between the bearing member and the bearing cap nut to compensate for wear.

3,436,831
TRACTION INSTRUMENT FOR DENTAL MATRIX BAND
Benjamin F. Toffiemire, 41301 Crest Drive, Hemet, Calif. 92343
Filed Mar. 7, 1966, Ser. No. 532,203
Int. Cl. A61c 5/12
U.S. Cl. 32—63 6 Claims



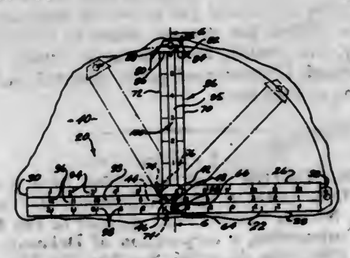
A traction instrument for dental matrix band having a pair of operating handles, each handle being provided with a retainer head fashioned with a slot into which overlapped end sections of the band may be inserted edgewise. Each head swingably carries a locking blade that is movable into a position to clamp the end sections of the band to the head. Toggle arrangements are used to operate the locking blades independently of one another so that the end sections may be selectively clamped to one head and slidably disposed in the slot of the other head.

3,436,832
MASONS' LINE DEVICE
Grant Juberigan, Forest Lake, Minn. 55025
Filed Aug. 10, 1967, Ser. No. 659,639
Int. Cl. B44d 3/22; B43l 7/00
U.S. Cl. 33—86 2 Claims



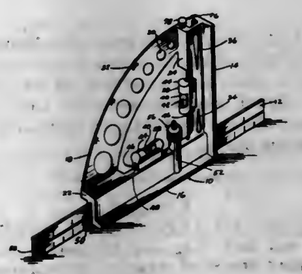
A line holding device including a pair of leg members arranged normal to one another with biasing means arranged on one of the legs to provide a clamping force and having means thereon for positioning and holding a line which means are adjustable to position the line a predetermined parallel distance from one of the legs.

3,436,833
ADJUSTABLE ANGLE DRAWING GUIDE
Robert L. Knight, Whittier, Calif. (17372 Koledo Lane, Apt. D., Huntington Beach, Calif. 92647)
Filed Jan. 11, 1968, Ser. No. 697,146
Int. Cl. B43l 7/06
U.S. Cl. 33—99 10 Claims



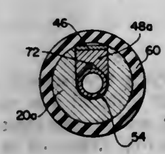
An adjustable angle drawing device having a main ruler member and a swinging arm ruler pivotally mounted to a centrally located recess on the underside of the main ruler. The swinging arm is pivotal into a plurality of different angular positions by a multiposition detent means on the members, angular indicia is provided at the pivotal connection and locking abutments are provided at the free ends thereof for mating the members in locked folded position overlying each other.

3,436,834
MEASURING TOOL
Wojciech Stanley Gutowski, Southington, Frank Joseph Kuchta, New Britain, and Robert Ferguson West, Simsbury, Conn., assignors to The Stanley Works, New Britain, Conn., a corporation of Connecticut
Filed Oct. 18, 1967, Ser. No. 676,219
Int. Cl. B43l 7/06
U.S. Cl. 33—103 8 Claims



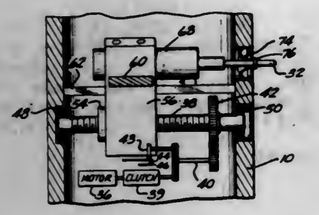
The device has a body portion with a pair of legs intersecting at a right angle and a convexly arcuate web extending therebetween and having angle measuring indicia thereon. The legs are of sufficient width to seat stably against planar surfaces for use as a level or a square and the web portion is at least in part coplanar with one edge surface of the legs so as to provide stable planar seating on such surfaces. One of the legs has a channel therein which slidably and removably seats an elongated measuring blade, and releasable retaining means on the leg is engageable with the blade to fix it in a given position.

3,436,835
TEXTILE SPINDLE
Hans H. Richter, Cranston, R.I., assignor to Leesona Corporation, Warwick, R.I., a corporation of Massachusetts
Filed Oct. 22, 1965, Ser. No. 501,141
Int. Cl. F16c 35/08, 35/00
U.S. Cl. 308—26 5 Claims



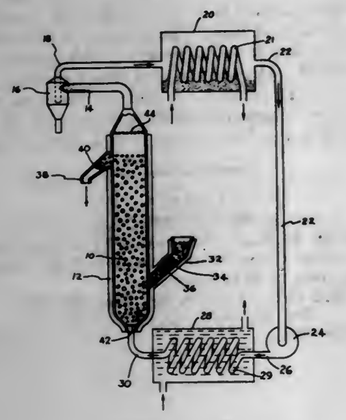
High speed textile spindle apparatus and a bearing for journalling a high speed spindle. The bearing retains the spindle against axial movement and journals it on bearing pads received in slots in a bearing mount for axial rocking and radial movement of the pads relative to the spindle to compensate for eccentricities in the spindle, with the pads resiliently urged against the spindle to dampen spindle vibration. A drive belt urges the spindle against the pads and free of the bearing mount.

3,436,836
BOREHOLE MEASURING DEVICE
Edwin E. Metevia, Ypsilanti, Mich., assignor to The Bendix Corporation, a corporation of Delaware
Filed Apr. 26, 1966, Ser. No. 545,396
Int. Cl. G01b 3/46
U.S. Cl. 33—178 1 Claim



A subsurface sensing unit lowerable through a borehole for measuring diametric variations wherein the unit has a movable probe for contacting the wall of the borehole and a digital converter operably connected to the probe for providing a digital signal indicative of the displacement of the probe.

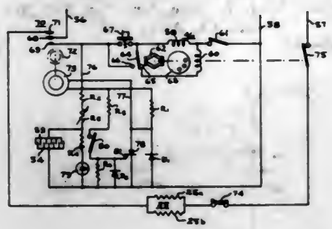
3,436,837
FLUIDIZED BED FREEZE DRYING
Ira Abelow and Jack Wagman, Frederick, Md., assignors to the United States of America as represented by the Secretary of the Army
Filed Aug. 13, 1963, Ser. No. 301,926
Int. Cl. F26b 5/06, 3/08
U.S. Cl. 34—5 6 Claims



1. A method of drying heat sensitive materials which comprises forming the material into small pieces, freezing same, and drying said frozen pieces suspended in a fluidized bed by a moving stream of drying fluid.

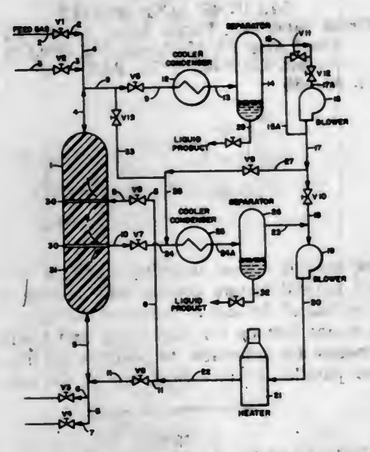
3,436,838
DRYER CONTROL
Robert C. Helfrich, Louisville, Ky., assignor to General Electric Company, a corporation of New York
Filed Sept. 29, 1967, Ser. No. 671,848
Int. Cl. H05b 1/02
U.S. Cl. 34—45 9 Claims

In a resistance measurement type dryer control the shut-off or timing motor is connected in the control circuit under the control of a controlled rectifier. The controlled rectifier is gated from a voltage divider network controlled by a thermally responsive switch. The switch



responds to heat generated by a heating means, including a voltage breakdown device, connected across the resistance measurer.

3,436,839
METHOD AND APPARATUS OF HEATING SPENT ADSORBER BEDS
Eugene E. Ellington, Ponca City, Okla., assignor to Continental Oil Company, a corporation of Delaware
Filed Dec. 1, 1966, Ser. No. 598,508
Int. Cl. F26b 21/06; B01d 53/04
U.S. Cl. 34—80 6 Claims

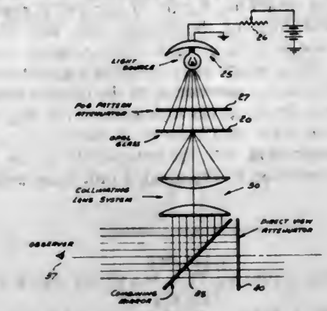


A sorbent body containing adsorbed condensables is stripped of said condensables by introducing a heated dry gas at two or more locations into the sorbent body and removing the heated gas at two or more other locations. The effluent gas streams, either in combination or separately, are cooled, and condensed liquids collected and recovered. Uncondensed gas is reheated and recirculated to the sorbent body.

3,436,840
FOG SIMULATOR AND METHOD FOR ACCOMPLISHING AIRBORNE SIMULATION OF A FOG
Paul A. Noxon, Tenafly, N.J., assignor to The Bendix Corporation, a corporation of Delaware
Filed Aug. 31, 1966, Ser. No. 576,298
Int. Cl. G09b 9/08
U.S. Cl. 35—12 32 Claims

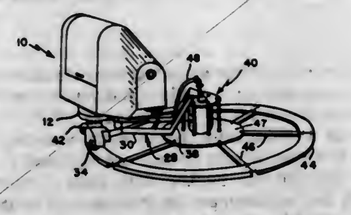
An optical method and means to effect in an aircraft

an airborne simulation of a fog in a visual display which provides the effect of viewing the real world through the



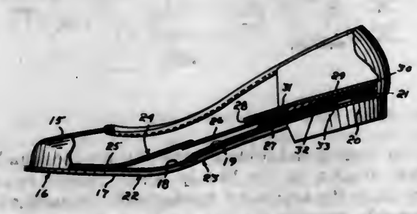
simulated fog under realistic dynamic fog conditions which change with the flight condition of the aircraft.

3,436,841
SPATIAL DISORIENTATION DEVICE
Henry B. Whitmore, Sidney T. Lewis, and Frederick R. Ritzinger, San Antonio, Tex., and Leonard Harris, San Rafael, Calif., assignors to the United States of America as represented by the Secretary of the Air Force
Filed Jan. 25, 1966, Ser. No. 522,995
Int. Cl. G09b 9/08
U.S. Cl. 35—25 1 Claim



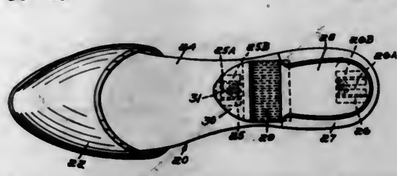
A platform supporting a trainee's cabin is mounted on a frame which can travel around a circular track. The platform is tiltable about an axis perpendicular to it, and is also rotatable around this axis. All movements are operable from a hub located centrally to said track. Spokes make the track and central hub an integral and movable unit.

3,436,842
FOOTWEAR SOLE WITH BRIDGING PARTS AND RESILIENT PARTS AND FOOTWEAR SOLE WITH ADJUSTABLE PARTS
Maxwell Sachs, 887 W. Roxbury Parkway, Chestnut Hill, Mass. 02167
Continuation-in-part of application Ser. No. 601,215, Dec. 12, 1966. This application Mar. 11, 1968, Ser. No. 717,064
Int. Cl. A43b 23/28
U.S. Cl. 36—2.5 25 Claims



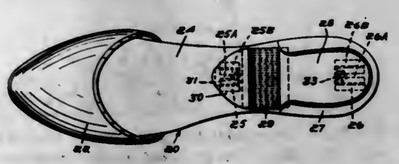
An article of footwear having an adjustable, resilient insole including an elastic strap and an adjustable buckle. The buckle is provided with a rearward hook detachably engaged in a socket located below the insole.

3,436,843
DETACHABLE UPPERS FOR FOOTWEAR
Maxwell Sachs, 887 W. Roxbury Parkway, Chestnut Hill, Mass. 02167
Continuation of applications Ser. No. 601,216, and Ser. No. 601,217, Dec. 12, 1966, This application Apr. 30, 1968, Ser. No. 734,829
Int. Cl. A43b 23/00
U.S. Cl. 36—2.5 30 Claims



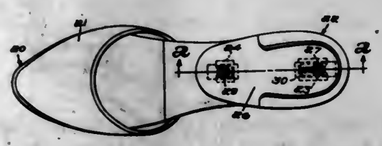
Footwear upper section detachably attached to the sole, slidable, resilient, and adjustable features, attaching structure, attaching and covering sole layer, with resilient characteristics.

3,436,844
DETACHABLE UPPERS FOR FOOTWEAR
Maxwell Sachs, 887 W. Roxbury Parkway, Chestnut Hill, Mass. 02167
Continuation of applications Ser. No. 601,216, and Ser. No. 601,217, Dec. 12, 1966, This application Apr. 30, 1968, Ser. No. 734,830
Int. Cl. A43b 23/00
U.S. Cl. 36—2.5 29 Claims



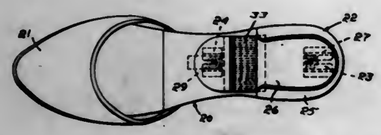
Footwear upper section detachably attached to the sole, slidable, resilient, and adjustable features, attaching structure, attaching and covering sole layer, with resilient characteristics.

3,436,845
FOOTWEAR
Maxwell Sachs, 887 W. Roxbury Parkway, Chestnut Hill, Mass. 02167
Continuation-in-part of application Ser. No. 618,683, Feb. 27, 1967. This application Aug. 12, 1968, Ser. No. 758,178
Int. Cl. A43b 9/00, 23/28; A43c 13/00
U.S. Cl. 36—2.5 24 Claims



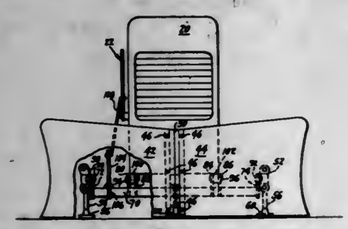
A footwear upper section detachably attached to a socket depressed in the sole, a resilient section in the socket, a sole-attached tongue-in-groove construction for opposing sideways turning of the upper section, an intermediate layer for snugging the attachment.

3,436,846
FOOTWEAR
Maxwell Sachs, 887 W. Roxbury Parkway, Chestnut Hill, Mass. 02167
Continuation-in-part of application Ser. No. 600,872, Dec. 12, 1966. This application Aug. 12, 1968, Ser. No. 758,179
Int. Cl. A43b 9/00, 23/28; A43c 13/00
U.S. Cl. 36—2.5 29 Claims



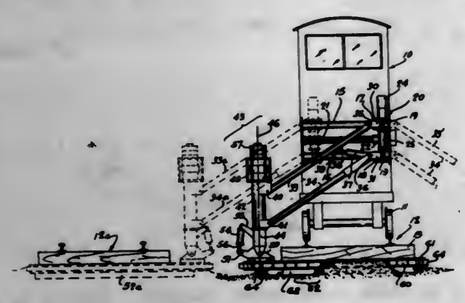
Footwear is disclosed that has a socket in the heel area and a heel section detachably attached to the socket and including an upper part.

3,436,847
V-SHAPED SNOWPLOW FOR ATTACHMENT TO GARDEN TRACTORS
Marion E. Grimes, 738 N. Ohio St., Greenville, Ohio 45331
Filed Sept. 6, 1966, Ser. No. 577,239
Int. Cl. E01h 5/04; A01b 59/048
U.S. Cl. 37—44 2 Claims



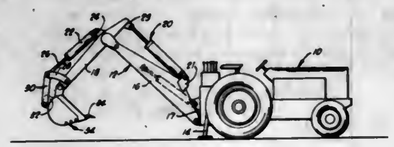
A V-shaped snowplow for attachment to garden tractors with the plow being completely demountable for shipping and storage. The plow blade is adjustable in height and has the center and outer ends of the blade supported on ground engaging shoes which are also vertically adjustably secured to the blade.

3,436,848
APPARATUS FOR REMOVING BALLAST FROM BENEATH A RAILROAD TRACK
Richard A. Peppin and Stephen I. Fekete, Minneapolis, Minn., assignors to Maumix International Inc., Minneapolis, Minn.
Filed May 9, 1966, Ser. No. 548,486
Int. Cl. E01b 27/04; E02f 5/00
U.S. Cl. 37—104 7 Claims



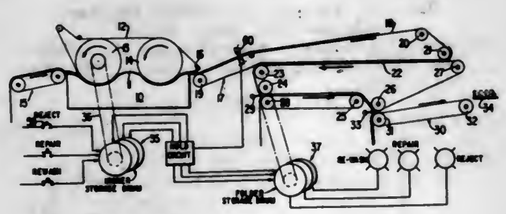
An elongated digging unit, which extends across the entire width of the track and comprises a toothed digging chain to remove the ballast, is connected at one end to a vehicle provided with wheels for travel along the track. The connection defines a vertical axis about which the digging unit is rotatable, a pair of parallel support arms for raising and lowering the digging unit, and slide rods mounted on the vehicle and extending parallel to the ties of the track, along which slide rods the support arms can be moved. Horizontal movement of the digging unit along these slide rods firstly serves to introduce the digging unit underneath the track and remove it therefrom, and secondly, in combination with the rotatability of the digging unit, allows operation of the digging unit from either side of the track.

3,436,849
BACK HOE APPARATUS HAVING MOVABLE TEETH
Freddie J. Haynes, 1025 Woodcrest Drive, Midwest City, Okla. 73110
Filed Dec. 20, 1965, Ser. No. 514,817
Int. Cl. E02f 3/70, 5/14, 3/86
U.S. Cl. 37—141 5 Claims



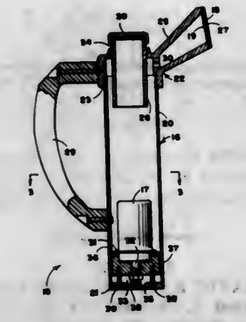
A back hoe apparatus including an earth moving bucket movably mounted on a vehicle and having reciprocably mounted at the leading, digging edge of the bucket, a plurality of hydraulically driven earth-penetrating tines. A motor and tine driving linkage are mounted in a closed chamber beneath the bucket, with such chamber being formed by the earth-supporting bottom wall of the bucket and a detachable unit which includes a second bottom wall, a pair of side walls and a bearing block.

3,436,850
LAUNDRY MACHINE
Frank B. Henry, Rock Island, and Donald L. Ropp, Green Rock, Ill., assignors to Ametek, Inc., New York, N.Y., a corporation of Delaware
Filed Oct. 24, 1965, Ser. No. 504,900
Int. Cl. D06f 65/10
U.S. Cl. 38—2 4 Claims



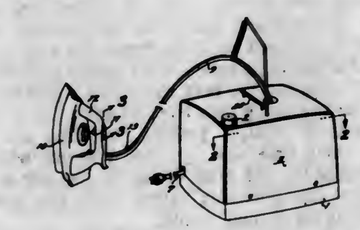
An ironing and folding apparatus for the laundering of sheet articles or the like in which signals representing defects in the article are mechanically transmitted to continuously rotating drums coordinated to the passage of the article through the apparatus and having energy-storing devices contained therein for the time delay transferring of such signals to the exit end of the apparatus.

3,436,851
HAND ELECTRIC STEAMING AND PRESSING DEVICE TO TOUCH-UP HANGING GARMENTS
Jack J. Gilbert, Spring Valley, N.Y., assignor to Bernard Frank, Shamokin, Pa.
Filed Apr. 18, 1967, Ser. No. 631,769
Int. Cl. A47j 51/22; D06f 75/00
U.S. Cl. 38—69 7 Claims



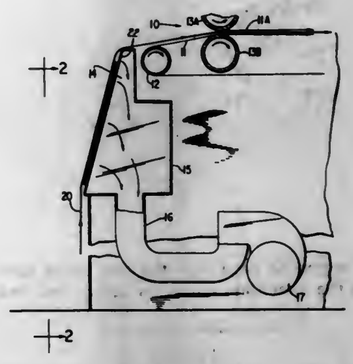
An upright tubular casing having a side handle, serves as a tank for water to be heated by an electric heater element housed at tank bottom. A head atop the casing presents a laterally directed steam discharge nozzle, and a closure cap on a relatively short tube extending concentrically into the tank. This tube serves to indicate the filling level of the tank, and steam coming therein acts to keep the steam flow to the nozzle warm. The forward end of the nozzle is closed by a flat horizontally elongated plate in nearly a vertical plane, which preferably is slightly tilted upwardly towards the tank. This plate, serving as the ironing surface, has a plurality of relatively small holes therethrough, spaced along a horizontal line and discharging into a shallow channel or depression in and along the exposed face of said plate, whereby the steam discharge onto a garment is band-formed rather than spaced small localizations.

3,436,852
STEAM GENERATOR AND STEAM IRON COMBINATION
Burton J. Stansbury, 2530 University Drive, Newport Beach, Calif. 92660
Filed June 12, 1967, Ser. No. 645,329
Int. Cl. D06f 75/06, 75/10, 75/32
U.S. Cl. 38—77 6 Claims



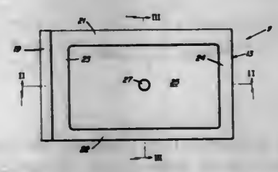
In a steam generator and steam iron combination the steam iron and the generator are spaced a considerable distance apart, and to permit the entire assembly to be transported from place to place these parts, particularly the steam generator, the control therefore and the water supply reservoir, are in a compact form, and also the control mechanism for the steam generator is actuated from the steam iron through the medium of a switch positioned on said steam iron.

3,436,853
ANGULARLY DISPLACED GUIDER FOR SUCTION BOX SPREADER
Benjamin A. Buss, East Moline, Ill., assignor to Ametek, Inc., New York, N.Y., a corporation of Delaware
Filed Sept. 6, 1967, Ser. No. 665,855
Int. Cl. D06f 67/04; D06c 3/00
U.S. Cl. 38—143 7 Claims



A smoothing attachment for a flatwork ironer wherein an inclined feed plate has pairs of divergent slots with a suction being applied through the slots as flatwork is fed over the plate so that the flatwork is urged laterally outwardly to straighten the flatwork before entering the ironer.

3,436,854
LABEL FOR HOLDING PACKING SLIPS
Richard Wurzburg, 5503 Gwynne Road 38117, and David M. Okeon, 1550 North Parkway, Apt. 312 38112, both of Memphis, Tenn.
Filed Dec. 12, 1966, Ser. No. 600,945
Int. Cl. G09f 3/18
U.S. Cl. 40—10 3 Claims

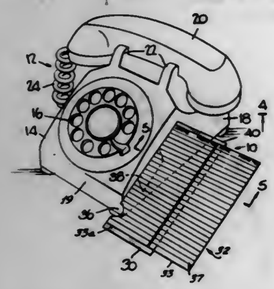


The utilization of a combination adhesived external portion with internal shielding means which include access to such adhesive, so that a packing slip or the like may be affixed against shifting movement and the external portion with the affixed packing slip may in turn be adhesively affixed on a carton so as to prevent accidental removal, and includes tab means for removing the assembly from the carton.

3,436,855
BRACKET MOUNTED TELEPHONE INDEX DEVICE
James P. Foley, 748 Forest Ave., Larchmont, N.Y. 10538
Filed May 16, 1966, Ser. No. 550,349
Int. Cl. G09f 3/20
U.S. Cl. 40—336 13 Claims

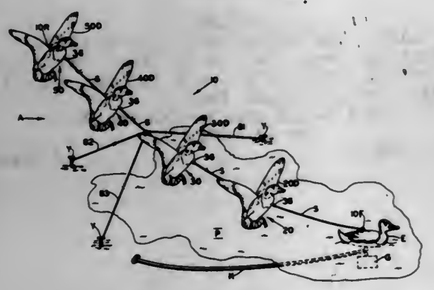
A telephone number index device having a support member attached to the side of the telephone mounting a plurality of index cards in book-like manner with the

free edges facing in abutting relation to the telephone cover and the hinged edges away from said cover so that the book-like assembly is capable of being flicked



open to a beginning page with the free edges now facing away from the telephone cover for convenient manipulation.

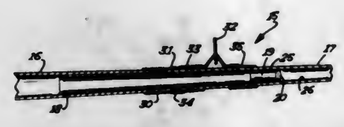
3,436,856
DECOYING APPARATUS FOR ATTRACTING GAME BIRDS
Robert D. Miller, 645 N. Pierce St., Fremont, Nebr. 68025
Filed Oct. 10, 1967, Ser. No. 674,250
Int. Cl. A01m *31/06*
U.S. Cl. 43—3 5 Claims



A decoying apparatus that simulates the appearance of a landing squadron of game birds. In particular the decoying apparatus comprises a plurality of interconnected, consecutive, tethered-decoys, each tethered-decoy being inflatable with a lighter-than-air gas.

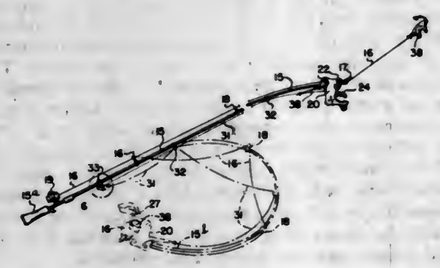
3,436,857
FISHING ROD STRUCTURE
Paul C. Johnson and Harlan B. Christenson, Spirit Lake, Iowa, assignors to Berkley & Company, Spirit Lake, Iowa, a corporation of Iowa
Filed Apr. 22, 1966, Ser. No. 544,470
Int. Cl. A01k *87/00, 87/02*
U.S. Cl. 43—18 5 Claims

A fishing rod having a flexible shaft tapering continuously from the butt end to the tip end and comprising a plurality of individual segments coupled together by means of coupling ferrules. The individual ferrules are formed to have a prong portion extending from the forward end of the rod segment, the exterior contour and dimensions of the prong portion substantially matching the contour and dimensions of the inner wall of the segment receiving the prong portion, the flexural characteristics of the ferrule being substantially the same as those of the individual shaft segments. The tip of the prong portion has a resilient member secured thereto, the resilient member being generally soft and pliable, and having a transverse diameter which is slightly larger than



the inner transverse diameter of the segment into which the prong is inserted at its final insertion depth so as to provide an interference fit with the inner wall of the mating segment.

3,436,858
AUTOMATIC BAIT RELEASE CASTER
Clifford A. Shaffer, P.O. Box 28, Newton, Ill. 62448
Filed July 14, 1966, Ser. No. 565,258
Int. Cl. A01k *91/02, 87/04*
U.S. Cl. 43—19 1 Claim

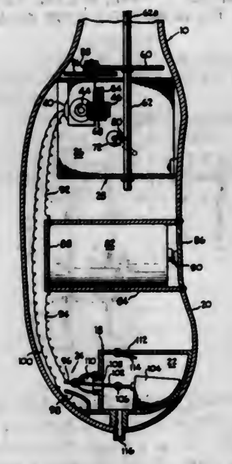


Near the tip end of a resilient casting rod, bait holding jaws are mounted and biased toward bait clamping position but having a jaw opening control line extending from a movable one of the jaws to a point on the rod near the butt end. A control line operating means is manipulatable by an operator holding the butt end of the rod between a first position where the control line is slack and the holding jaws are closed and a second position where the control line is taut when the rod is substantially straight and the holding jaws are moved to their open bait releasing position. The operator places the bait between the holding jaws in clamped position, bends the rod, places the control line operating means in its second position, makes a cast by releasing the bent rod which whips the bait in an arc, the bait being then released when the rod reaches a substantially straight position with the control line taut, at which time this tight line prevents whiplash of the tip end of the rod, after which the operator may place the control line operating means in its first position to play a fish in the normal manner.

3,436,859
SPLASHING DOLL
Howard L. Dekan, Evanston, Ill., assignor to Marvin Glass & Associates, Chicago, Ill., a partnership
Filed Jan. 31, 1967, Ser. No. 612,881
Int. Cl. A63h *33/26, 11/00*
U.S. Cl. 46—247 5 Claims

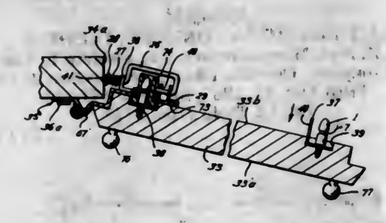
A motor operated mechanism for toys, dolls and the like, which includes a liquid responsive switch means,

whereby the motor is operated, for example when a doll incorporating the mechanism is placed in a water-filled bath tub. Further, the operation of the motor effects a



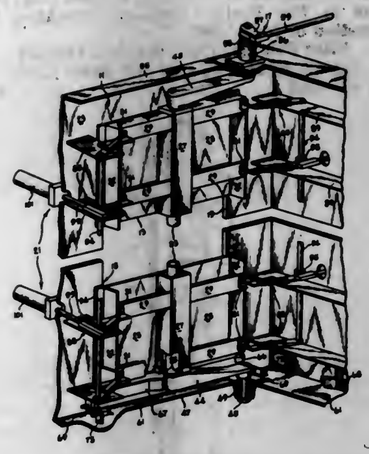
splashing movement of the doll's arms as well as a movement of the head, to thereby simulate the actions of a baby at play in the bath tub.

3,436,860
DOOR HINGE AND LATCH MECHANISM
Fred W. James, Beauxart Garden, Tex. (Rte. 4, Box 139–B, Beaumont, Tex. 77705)
Filed Mar. 21, 1966, Ser. No. 535,901
Int. Cl. E05d *15/52*
U.S. Cl. 49—192 18 Claims



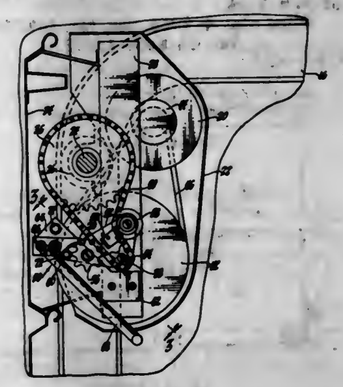
A hinge-and-latch mechanism is provided which includes a hinge mounted on one side to either a door or door jamb, and the other side of which contains a latch mechanism which is suitable for releasable engagement with the other of the door or door jamb. The hinge and latch structure provided includes a lock pin arrangement whereby the door may be opened at either side, as desired, or may alternatively be opened at both sides simultaneously. Such lock pin prevents separation of the latch from the hinge when the door is in door-open position, but permits free release of the latch from the spring when the door is in door-closed position. A latch mechanism is provided which includes detent means such as a resilient spring operable to both releasably engage a pin member and also to hold the latch mechanism together. In various embodiments, different arrangements of the latch mechanism are provided, one such arrangement allowing for adjustment of a portion of the latch mechanism along the line of pin movement.

3,436,861
DOOR CONSTRUCTION
George Robert Koch, Palo Alto, Calif., assignor, by mesne assignments, to Air Reduction Company, Incorporated, a corporation of New York
Filed June 13, 1967, Ser. No. 645,671
Int. Cl. E05d *15/28, 15/40;* E05c *9/00*
U.S. Cl. 49—246 2 Claims



A door construction is described for closing and sealing a port through which objects are delivered along a fixed path that is generally perpendicular to the plane of a portion of a wall defining the port. Drive means move a gate from an open position with the gate generally parallel to the fixed path, to a position in which the gate is parallel with the wall. Clamping means move the gate, when in the latter attitude, into sealing engagement with the wall to obstruct the port.

3,436,862
AUTOMATIC DOOR LOCK ACTUATOR
Robert F. Stansberry, Beverly Hills, Mich., assignor to Taylor Garage Doors, a division of Garland Manufacturing Company, Detroit, Mich.
Filed Oct. 6, 1966, Ser. No. 584,806
Int. Cl. E05f *11/00, 15/00;* F16h *9/00, 11/00*
U.S. Cl. 49—358 10 Claims



A latching mechanism for reversible drive systems, such as are used to open and close overhead garage doors, and which prevents forced drive through the driven member. A chain or like drive means which is alternately taut and slack in one run, depending upon the direction of

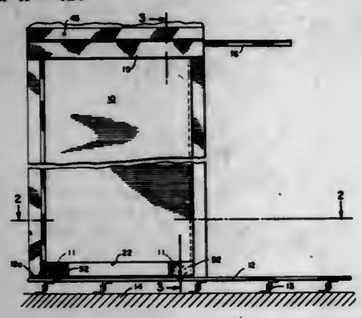
drive, is used to position a follower relative to a latching pawl which allows forward drive in either direction but prevents forced drive in a reverse direction.

3,436,863
DOOR OPERATING MEANS
Henry E. Peelle, Jr., Port Washington, Paul R. Doeg, Lynbrook, and Angelo M. Vaccaro, Garden City, N.Y., assignors to The Peelle Company, Brooklyn, N.Y., a corporation of New York
Filed Feb. 16, 1967, Ser. No. 616,701
Int. Cl. E05f 11/34, 11/40; B66b 13/00
U.S. Cl. 49—362 4 Claims



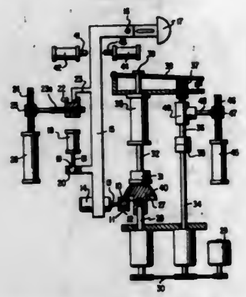
An apparatus for opening and closing a door panel which covers an aperture in a wall and which moves in a plane parallel to the plane of the wall. The motor and linkage elements for moving the door are substantially entirely located within a false lintel which comprises a portion of the wall opening.

3,436,864
DOOR SUPPORT AND GUIDANCE MECHANISM
Ernst Halpern, Plainview, N.Y., assignor to Williamsburg Steel Products Company, Brooklyn, N.Y., a corporation of New York
Filed May 4, 1966, Ser. No. 547,529
Int. Cl. E05d 13/02
U.S. Cl. 49—425 2 Claims



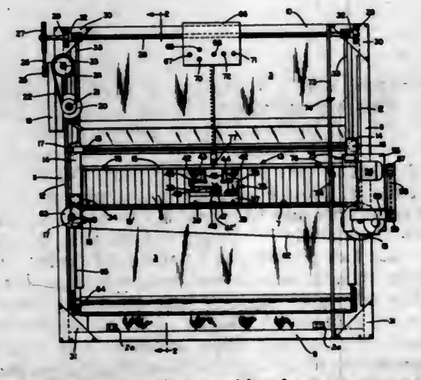
A door is supported on rollers at its base by means of a slotted floor sill, the sill is supported on vertically adjustable bracket means. Vertically adjustable guide means are provided on the upper edge of the door for cooperating with a fixed track.

3,436,865
EDGE FORM GRINDING
Bela O. Kalocsai and Robert F. Wrench, Belle Vernon, Pa., assignors to Corning Glass Works, Corning, N.Y., a corporation of New York
Original application May 11, 1964, Ser. No. 366,261, now patent No. 3,313,066, dated Apr. 11, 1967. Divided and this application Oct. 5, 1966, Ser. No. 608,467
Int. Cl. B24b 7/00, 9/00 49/00
U.S. Cl. 51—3 7 Claims



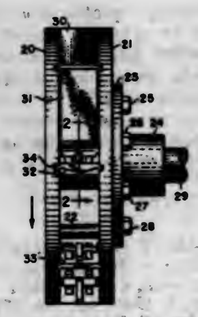
A grinding machine used to finish edges of a workpiece, which includes an abrasive element movable longitudinally along and rotatably about a single axis and in correlation to movement of a workholder carrying a workpiece which moves longitudinally along and rotatably about a second axis. The abrasive member is mounted on a pivoted arm which, when biased in either of two opposed directions, causes longitudinal movement of the abrasive member into engagement with the workpiece carried by the vertically movable and rotatable workholder. The abrasive element has a peripheral face which is first positioned relative to the workholder so as to form a planar annular surface on the surface to be finished of the workpiece. The abrasive element also has two radial faces which are subsequently positioned relative to the workholder to form filleted surfaces along the inner and outer radial edges of the workpiece.

3,436,866
AUTOMATIC SANDBLAST MACHINE
Herman K. Nye, Hummelstown, Pa., assignor to The Will-Burt Company, Orrville, Ohio, a corporation of Ohio
Filed Oct. 23, 1967, Ser. No. 677,216
Int. Cl. B24c 3/06, 3/12
U.S. Cl. 51—8 11 Claims



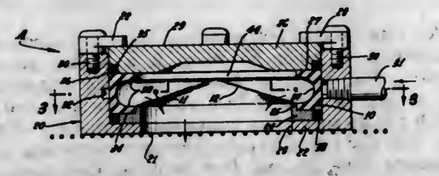
An automatic sandblast machine for use upon work received within an enclosure having an access opening and a vertically movable curtain having a transverse slot and a sealing surface cooperating with said access opening. A rectangular upright frame is spaced outwardly from the curtain, an elongated, horizontally disposed carriage is vertically movable in the frame, means connects said carriage to the curtain adjacent to said transverse slot, and a generally C-shaped carriage is horizontally movable upon said first named carriage, and provided with means for clamping a sandblast jet projecting through the slot.

3,436,867
BLASTING MACHINE BLADE FORMATION FOR PRODUCING A DIVERGENT STREAM OF ABRASIVE
Bernard Fuerst, Grand Rapids, Mich., assignor to Benfur Engineering Company, Grand Rapids, Mich., a corporation of Michigan
Filed Sept. 9, 1966, Ser. No. 578,178
Int. Cl. B24c 3/00
U.S. Cl. 51—9 5 Claims



A blade for a centrifugal blasting machine, the surface of the blade having a convex configuration on the propelling face to produce a diverging stream of abrading particles.

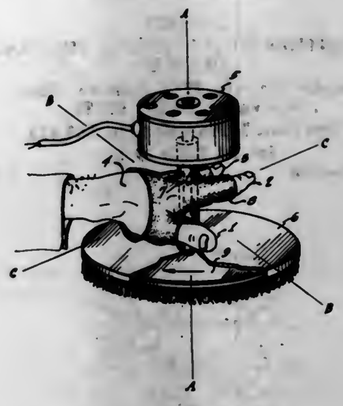
3,436,868
ROUNDING AND POLISHING APPARATUS FOR CRYSTALLINE CARBON BODIES
Frank L. Christensen, Salt Lake City, Utah, assignor to Christensen Diamond Products Company, Salt Lake City, Utah, a corporation of Utah
Filed Mar. 19, 1965, Ser. No. 441,234
Int. Cl. B24b 31/10; B28d 5/00
U.S. Cl. 51—163 10 Claims



Apparatus for shaping diamonds, including a toroidal raceway into which a nozzle jets fluid to drive diamonds around the raceway and against one another, the nozzle axis lying in the central plane of the raceway normal to the raceway axis, with the nozzle axis being disposed inwardly of a line parallel to the nozzle axis and tangent to the greatest diameter circle of the toroidal raceway.

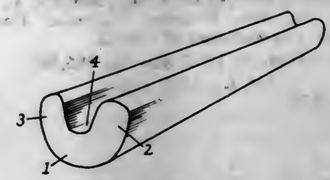
3,436,869
HANDLE AND MOUNTING FOR HAND MANIPULATED POWER TOOL
Wolstan D. Zowe, Mill Road, R.D. 1, Cranbury, N.J. 08512
Filed Oct. 23, 1965, Ser. No. 503,656
Int. Cl. B24b 23/00
U.S. Cl. 51—170 1 Claim

A hand held power tool comprising a motor portion, a utilization portion, and a housing portion rigidly interconnecting the housing for said motor portion with the housing for said utilization portion and through which the driving shaft from the motor extends, there being a



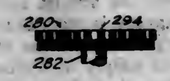
glove-like portion for accommodating the operator's hand included between said motor and utilization portions and secured to at least one of the motor housing, driving shaft housing and housing for said utilization portion.

3,436,870
FISHHOOK HONES
Donald L. Sellman, Lincoln, Kans. (Box 127, Stanley, Kans. 66084)
Filed Oct. 4, 1965, Ser. No. 492,411
Int. Cl. B24d 5/00, 7/00
U.S. Cl. 51—204 1 Claim



A fish hook barb and point sharpening hone that provides a body consisting of abrasive material and having two opposing lobes and a rounded bottom and a concave upper surface. The side lobes and rounded bottom supply many sized arcs for sharpening the barb and point of different size fish hooks. The concave upper surface is also useful mainly in sharpening the fish hook point.

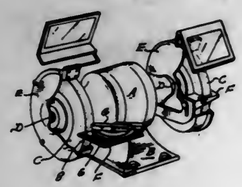
3,436,871
ABRASIVE CUTTING TOOLS
Eric J. Schneider, Chicago, and Peter A. Saville, Park Ridge, Ill., assignors to Hyprez Electrometallics Corporation, Morton Grove, Ill., a corporation of Illinois
Filed July 7, 1966, Ser. No. 563,584
Int. Cl. B24d 3/02, 7/02
U.S. Cl. 51—204 14 Claims



An abrasive tool including a band an edge portion of which defines a desired ultimate contour of a work-

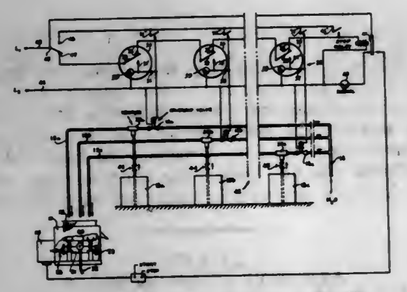
piece to be shaped, the band having abrasive particles bonded thereto on a side surface thereof adjacent a workpiece-presented edge portion of the band.

3,436,872
TOOL POSITION DETERMINING PROTRACTOR DEVICE
Eugene Warren, 7743 Satsuma Place, Sun Valley, Calif. 91352
Filed Nov. 7, 1966, Ser. No. 592,413
Int. Cl. B24b *19/00*
U.S. Cl. 51—218 5 Claims



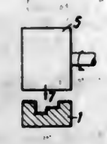
A positioning device for determining the angular positions at which a hand held tool bit is to be held while being ground. The device includes a horizontal base surface of segmental configuration on which a tool positioning member is pivotally mounted for movement about a vertical axis and is provided with a tool positioning side surface that intersects the axial line of said pivotal mounting.

3,436,873
VIBRATORY FINISHING METHOD
William A. Biebel, Bridgeport, Conn., assignor, by mesne assignments, to Van Straaten Chemical Company, Chicago, Ill., a corporation of Illinois
Filed Sept. 10, 1965, Ser. No. 486,505
Int. Cl. B24b *1/00*
U.S. Cl. 51—316 1 Claim



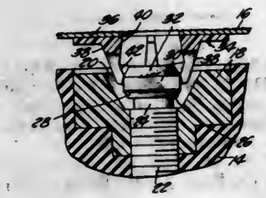
Method for improving the surface of articles systematically by a predetermined program including mixing a carrier liquid with chemicals to form treating liquids which are flowed over the articles and are subsequently discharged. The treatment is monitored by an automatic timing device such that the duration of the flow of each treating liquid and its supply to a treating tub is terminated after a predetermined time period and the device initiates and terminates the flow of each successive treating liquid whereby the surfaces of the articles are treated automatically according to a predetermined program.

3,436,874
METHOD OF GRINDING PROFILES
Otto Betzler, Tauberbischofsheim, Germany, assignor to Michael Weinig KG, Tauberbischofsheim, Germany
Filed Sept. 2, 1966, Ser. No. 576,900
Claims priority, application Germany, Sept. 6, 1965, W 39,857
Int. Cl. B24b *13/02, 7/02*
U.S. Cl. 51—325 9 Claims



A method of grinding a profile in which a workpiece, especially of wood or synthetic material, according to which a pattern profiled precisely in conformity with the eventual profiles to be ground in a workpiece is covered by a layer of abrasive material by means of which a raw tool in the form of a disc is shaped into a grinding disc which thereupon is covered by an abrasive layer and then is used for grinding the workpiece.

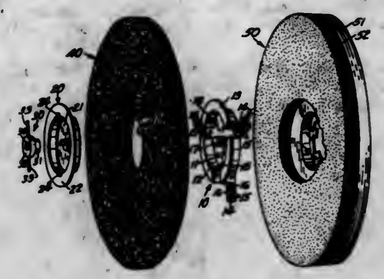
3,436,875
ABRASIVE DISC HOLDER
Ralph R. Cheney, 501 E. Orangethorpe, Anaheim, Calif. 92801
Filed Aug. 5, 1966, Ser. No. 570,652
Int. Cl. B24d *9/06*
U.S. Cl. 51—376 5 Claims



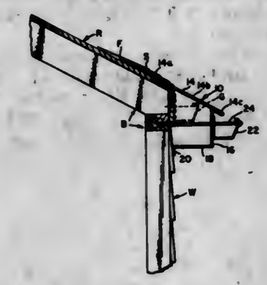
An abrasive disc holder means for rotary sanding use comprising an arbor on which is a flexible generally frusto-conical body, the base of the cone comprising a flat or slightly concave face surrounding a central hub which carries connecting means for securing the abrasive disc, said disc including complementary connecting means extending from its rear face to detachably engage the connecting means in or on the hub of the body of the holder.

3,436,876
ADAPTER
Thomas R. McAvoy, Stillwater, and John R. Anderson, Maplewood, Minn., assignors to Minnesota Mining and Manufacturing Company, St. Paul, Minn., a corporation of Delaware
Filed May 12, 1966, Ser. No. 549,613
Int. Cl. B24d *17/00*; A47l *11/40*
U.S. Cl. 51—378 6 Claims

An adapter for attaching annular compressible abrading, cleaning, or polishing pads over the bristle face of an annular floor maintenance brush. A base member, mounted in the center of the brush, has a flange which supports one side of the pad circumjacent the center hole. A hat-shaped member has a crown which fits inside the center hole of the pad and a brim which overlies the circumjacent area on the other side of the pad. The hat-shaped member is adjustably urged toward the base member, thereby clamping the pad between the flange and the brim.



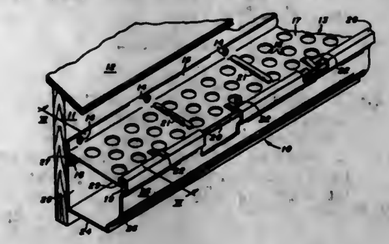
3,436,877
PREFABRICATED EAVE MEMBER
Paul E. Gunning, 494 Traverse Blvd., Kenmore, N.Y. 14217
Filed Dec. 27, 1966, Ser. No. 605,103
Int. Cl. E04d *13/00*
U.S. Cl. 52—11 3 Claims



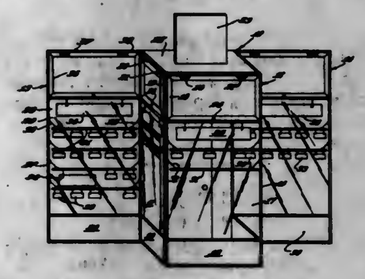
This invention relates to a prefabricated metal eave which is installed on buildings having no roof overhang. The prefabricated eave extends the roof of the building to give an enclosed box eave. The inclined top section of the eave includes substantial flashing and eave extension portions unpunctured by nails to prevent water damage caused by water backup from clogged gutters. New gutters are attached by hangerbolts extending through the eave and anchored into the building, whereby no strain is placed on the prefabricated eave structure.

3,436,878
COMBINED EAVES TROUGH HANGER AND LEAF GUARD
Ben L. Singer, 5524 Darlington Road, Pittsburgh, Pa. 15217
Filed Aug. 24, 1965, Ser. No. 482,144
Int. Cl. E04d *13/00, 3/40*, E04b *7/00*
U.S. Cl. 52—12 3 Claims

This disclosure is for a hanger for an eaves trough which is also a leaf guard. The hanger is in the form of a perforated sheet of metal extending lengthwise of the trough with an upright fold along its inner edge to provide a fastening strip, and with the inner fold of the metal extending below the sheet and shaped to hook into a hook formation along the top edge of the inner wall of the eaves trough. The outer edge of the sheet interlocks with the flange depending from an inwardly-turned ledge on the top of the outer wall of the eaves trough. All drainage from the perforated sheet is into the gutter, and transverse ribs in the sheet give it rigidity.

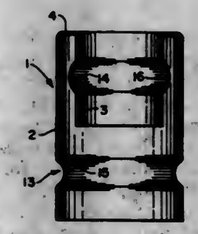


3,436,879
DRIVE-IN ADVERTISER
Louie C. Duke, 525 S. Main St., Greenville, Miss. 38701
Filed July 13, 1966, Ser. No. 564,866
Int. Cl. E04h *1/12*; G09f *7/00*
U.S. Cl. 52—38 2 Claims



A drive-in advertising structure wherein a stationary housing having a plurality of upright walls forming an enclosure has wing portions hingedly connected to opposite parallel corners. Each of the walls and each of the wing portions carry indicia-bearing sheet form members of various size either for advertising purposes or as a means of disseminating other useful information in the community.

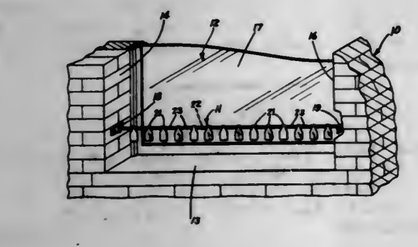
3,436,880
COUNTER FLASHING
David E. Kifer, Parma, Ohio, assignor to Oatey Co., Cleveland, Ohio, a corporation of Ohio
Filed Feb. 21, 1967, Ser. No. 617,527
Int. Cl. E04d *13/04, 1/36*; F16l *57/00*
U.S. Cl. 52—58 14 Claims



A counter flashing of resiliently deformable material for capping pipes having inner and outer sleeve portions

telescoped one within the other and connected together at one end, with resilient gripping surfaces on one or both of the sleeve portions which engage the pipe walls to provide resistance to pull-off.

3,436,881
PREFABRICATED STRUCTURE AND A JOINT ASSEMBLY THEREFOR
Ralph O. Schlecht, Seattle, Wash.
(10522 Highway 3, Bremerton, Wash. 98310)
Filed Jan. 20, 1967, Ser. No. 610,603
Int. Cl. E04b 7/02; E04c 1/10, 1/30
U.S. Cl. 52—90 25 Claims

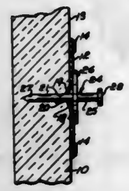


A joint structure comprises two interlocking components having sections that interfit transversely rather than axially. One interfitting section may be provided with a radial locking member adapted to extend into the interior of the other member and retained by ledges within the other member.

3,436,882
PIGEON CHASER
John M. Keefe, 250 Midland Bank Bldg., Minneapolis, Minn. 55401
Continuation of application Ser. No. 418,072, Dec. 14, 1964. This application Aug. 8, 1967, Ser. No. 668,733
Int. Cl. E04b 1/72
U.S. Cl. 52—101 10 Claims

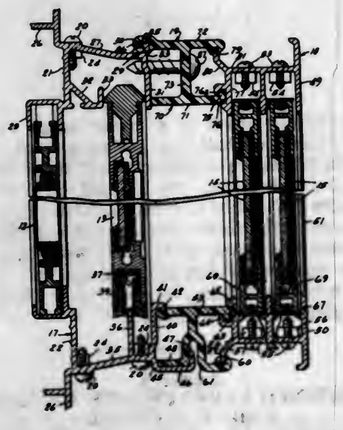
A mechanical bird frightening device having a plurality of movable elements rotatably mounted in spaced relationship on a flexible horizontal wire which is free to move and vibrate. Opposite ends of the wire are secured to supports. Each movable element has a flat body which reflects light and an U-shaped head section having a pair of spaced flanges with aligned holes for accommodating the wire whereby the body will swing and rotate in response to moving air and movement of the wire to produce a crackling and ringing noise as well as reflect light. Tubular plastic spacers freely rotate on the wire between adjacent elements function to maintain the spaces between the elements and prevent a bird from perching on the device.

3,436,883
INSULATION PANEL AND FASTENER ASSEMBLY
Walter M. Charman, Jr., Shaker Heights, and John Eugene Jackson, Beachwood, Ohio, assignors to Oglebay Norton Company, Cleveland, Ohio, a corporation of Delaware
Original application Oct. 31, 1966, Ser. No. 590,808, now Patent No. 3,372,524, dated Mar. 12, 1968. Divided and this application Feb. 27, 1968, Ser. No. 708,564
Int. Cl. E04f 13/08; E04b 1/74; E04c 1/40
U.S. Cl. 52—127 10 Claims



This invention relates to a preassembled insulation panel and fastener assembly for installation in an ingot mold.

3,436,884
THERMAL-BARRIER BETWEEN INNER AND OUTER FRAMES OF DOUBLE FRAME WINDOW STRUCTURE
John Harold Bell and Everett Eugene Daniels, Litchfield, Ill., assignors to WEPCO Division of The Weather-Proof Company, Litchfield, Ill., a corporation of Ohio
Filed Mar. 2, 1967, Ser. No. 620,156
Int. Cl. E06b 1/18, 3/26, 1/68
U.S. Cl. 52—202 7 Claims



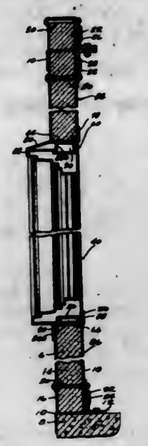
Window structure for sliding windows having an exterior master frame adapted to be mounted in a window opening in a building and an interior frame spaced from the master frame in the window opening of the building and facing the inside of the room. The spacer for the frames is in the form of a thermal barrier having sealing engagement with the frames and forming an insulating barrier with air pockets between the frames, to eliminate moisture and frosting on the inside window surfaces and sill.

3,436,885
PREFABRICATED WALL STRUCTURE ELEMENTS AND ASSEMBLY THEREOF
John H. Rothermel, Lake George, N.Y., assignor to Integra-Structures, Inc., a corporation of New York
Filed Dec. 14, 1966, Ser. No. 601,649
Int. Cl. E04b 1/04; E06b 3/54
U.S. Cl. 52—207 11 Claims



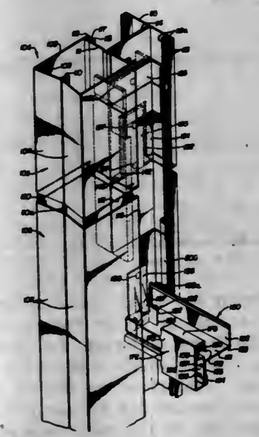
The invention disclosed herein relates to a set of prefabricated wall elements which may be used to form wall frame units for receiving different panels such as panes of glass, solid wall partitions and the like. Moreover, these wall members have surfaces which may be butted together so that several such units of different panels may be secured together by an interlocking member to form a common integral wall structure.

3,436,886
FRAME MOUNTING IN WALL PANEL SYSTEM
Ervin K. Nowak, Greendale, and Luther W. Graef, Milwaukee, Wis., assignors to Commercial Builders Corp., Greendale, Wis., a corporation of Wisconsin
Filed Jan. 23, 1967, Ser. No. 611,027
Int. Cl. E06b 3/04, 1/14; E04c 2/38
U.S. Cl. 52—208 10 Claims



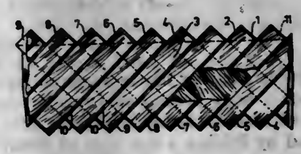
A subframe integrated with a panel wall system to mount a door or window or a set of frame components is adapted to transfer wind loads or transfer shear forces across the item mounted in the frame to the strut or girt framing of the panel wall. The subframe has integral flanges on the inside and outside of the wall for interlocking engagement with panels in lieu of weather stripping and flashing. It is normally set into the panel wall system at the time of initial construction but may be moved, replaced or interchanged anywhere in the wall at any time and without special tools, skill, or training.

3,436,887
CURTAIN WALL CONSTRUCTION
Abraham Grossman, 9339 Rhea, Northridge, Calif. 91325
Continuation-in-part of application Ser. No. 336,824, Jan. 9, 1964. This application Oct. 18, 1967, Ser. No. 676,240
Int. Cl. E04c 2/40
U.S. Cl. 52—235 7 Claims



A curtain wall construction including vertical mullions anchored to a building structure and horizontal members supported from the mullions and readily assembled therewith in interlocking fashion and for permitting expansion and contraction of the horizontal members. Vertical mullions are coupled or spliced together by telescopic sleeve means to provide a weatherproof and water barrier construction. Curtain wall panels are held in assembly by separable molding clip means associated with the vertical mullions and horizontal members and by external retainer means carried by the horizontal members under resilient pressure.

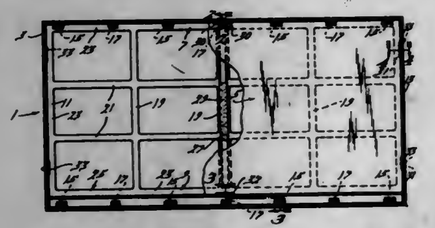
3,436,888
PARQUET FLOORBOARD
Par A. R. Ottoson, Linneavagen 6, Nybro, Sweden
Filed Oct. 20, 1966, Ser. No. 588,211
Claims priority, application Sweden, Oct. 20, 1965, 13,579/65
Int. Cl. E06b 3/84; E04f 13/08; E04c 1/16
U.S. Cl. 52—480 1 Claim



A parquet floorboard construction wherein a plurality of underlying rectangular supporting blocks are arranged in a row in side-by-side relation with the supporting blocks extending at an angle of substantially 45 degrees relative to the longitudinal direction of the row. A plurality of

rectangular parquet blocks are arranged on top of the supporting blocks with the longitudinal direction of the parquet blocks extending substantially at an angle of 90 degrees relative to the supporting blocks. The supporting blocks preferably have a length substantially equal to a whole multiple of the width of the individual parquet blocks to permit a plurality of adjacent parquet blocks to be fixedly secured thereto.

3,436,889
AIR CONDITIONER COVER ASSEMBLY
Joseph S. Jessee, Dayton, Ohio, assignor to Chrysler Corporation, Highland Park, Mich., a corporation of Delaware
Continuation of application Ser. No. 585,396, Oct. 10, 1966. This application Apr. 23, 1968, Ser. No. 723,628
Int. Cl. E04c 2/38; E06b 3/30, 3/26
U.S. Cl. 52—627 4 Claims



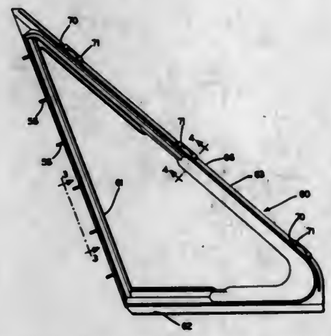
Cover assembly for an air conditioning unit including a generally rectangular frame having fastening means for securing the frame to the unit and having a recess on its outer face and in which a generally flat decorative panel is located. Projections on the top and bottom of the frame extend toward one another and overlie the adjacent edge portions of the outer face of the panel for holding the latter in the recess. Tabs are provided on opposite ends of the panel and extend into slots in the ends of the frame.

3,436,890
SUPPORT STRUCTURE AND METHOD OF FABRICATION
Glenn M. Diamukes, 6613 Lamar Blvd., Austin, Tex. 78752
Filed Sept. 26, 1966, Ser. No. 581,824
Int. Cl. E04c 5/04, 2/42
U.S. Cl. 52—660 14 Claims



A strength member for use in constructing the skeletal framework of a body having an irregular configuration, and method of manufacturing such a member. The member is formed by folding a flat strip of metal or the like into a U-shaped rod, thereafter winding the rod into a coil with the concave like surface of the rod facing outwardly of the coil, and thereafter unwinding selected lengths of said coiled rod by twisting the rod at selected discrete intervals to deform the rod to a generally sinusoidal configuration.

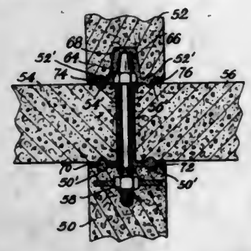
3,436,891
RUBBER MOLDINGS FOR AUTOMOBILE WINDOWS AND MANUFACTURE THEREOF
Herman S. Church, Cuyahoga Falls, Ohio, assignor to The Monarch Rubber Company, Hartville, Ohio, a corporation of Ohio
Filed Aug. 31, 1967, Ser. No. 664,689
Int. Cl. E04c 2/38; E04f 19/02
U.S. Cl. 52—716 14 claims



A generally triangular reinforced rubber gasket for curved glass automobile quarter-vent windows having a series of metal wires molded side by side in each of at least two of the triangular side members, the wire reinforced gasket side members being laterally flexible in both lateral directions, and the wire reinforcement providing securing means for mounting the gasket in a curved glass window frame.

A method of making a generally triangular reinforced rubber gasket for an automobile curved glass window frame wherein multiple reinforcing wires are integrated side by side in extruded rubber to form reinforcing strips, the rubber bonded wire reinforcing strips are molded as reinforcing members in side members of a triangular molded rubber gasket, the molding is carried out "in-the-flat," and tabs are struck from certain of the wires in the reinforcing strips at intervals to provide mounting and securing means for the gasket.

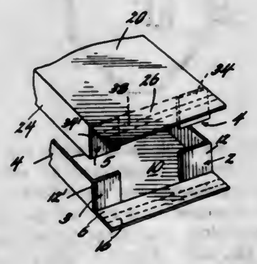
3,436,892
METHOD OF PRODUCING CONCRETE PANEL ASSEMBLIES
Haim Slavin, 43 Frishman St., Tel Aviv, Israel
Filed Dec. 27, 1966, Ser. No. 604,993
Claims priority, application Israel, Jan. 7, 1966, 24,937
Int. Cl. E04g 21/14; E04b 1/04, 1/41
U.S. Cl. 52—747 6 Claims



A method of producing concrete panel assemblies, particularly in the production of prefabricated concrete buildings, comprises casting the concrete panels with longitudinally-extending grooves along the mating surfaces and with a threaded nut embedded in at least one panel and accessible through a mating surface, grinding down the mating surfaces to make them smooth, flat and parallel

to each other when two panels are joined together, applying a sealing strip along the longitudinal edge on each side of the mating surface of a panel, assembling the latter panel with another by passing a threaded bolt through said nut of the one and in engagement with the other, with the mating surfaces of the two panels slightly spaced by the seals, and introducing a settable binding agent into the space between the mating surfaces.

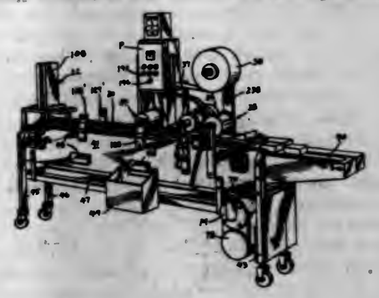
3,436,893
RECLOSABLE CARTON
Frank Vokes and James A. Benzing, Hamilton, Ohio, assignors to U.S. Plywood-Champion Papers Inc., a corporation of New York
Filed Aug. 28, 1964, Ser. No. 392,799
Int. Cl. B65g 5/66; B65b 7/20
U.S. Cl. 53—21 3 Claims



1. A system for packaging and enclosing a product to be labelled within the package comprising enclosing the product within a carton comprised of a pair of telescoped tray members having three sides in adhered relation, forming the closure at said remaining side by means of flaps and end walls forming closure defining members carried respectively by each tray member, said closure being made initially by folding said closure defining members in superposed overlying relation with at least two of said members in surface-to-surface nonadherent contact, thereafter opening said carton by unfolding said closure defining members, labelling the product therein and thereafter again closing said carton by folding all of said closure defining members with said flaps disposed interiorly of said carton, said end walls being disposed one upon the other in face-to-face contacting relation and permanently adhering said last-mentioned members to each other.

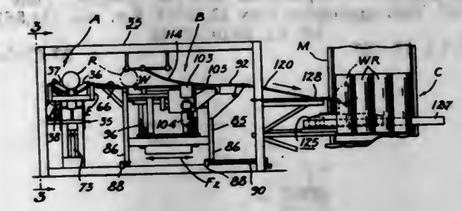
3,436,894
PACKAGING APPARATUS AND METHOD
Robert P. Sorensen, Rockford, Ill., assignor to Anderson Bros. Mfg. Co., Rockford, Ill., a corporation of Illinois
Filed May 24, 1966, Ser. No. 554,284
Int. Cl. B65b 3/04, 51/10, 1/04
U.S. Cl. 53—37 26 Claims

The apparatus has a conveyor which advances a number of containers from a container denester past a filler, sealing head, and cutter. The conveyor has a plurality of pivotally interconnected pockets each of which has a plurality of equally spaced pins adjacent the top. The filler, sealing head, and cutter have teeth which mesh with the pins to drive them correlative to the movement of the conveyor. Means is provided for automatically varying the sealing pressure and for disengaging the sealing head from the packages when the conveyor is stopped. At the outlet end of the conveyor are provided a plurality of shoes which move through the open bottom of the receivers to eject the packages. The heat sealing method includes advancing containers and cover stock in a non-uniform motion, sealing in the longitudinal direction during the faster portion, sealing in the transverse direction during the



slower portion, and increasing the sealing pressure during the lateral sealing.

3,436,895
WRAPPING AND PALLETIZING OF CYLINDRICAL PRODUCTS
Florentin J. Pearne, Alhambra, Frank S. Pearne, San Gabriel, and Frederick G. Robson, Long Beach, Calif., assignors to Pearne and Lacy Machine Company, Inc., Los Angeles, Calif., a corporation of California
Filed July 1, 1965, Ser. No. 468,706
Int. Cl. B65b 11/04, 57/10; B04d 5/00
U.S. Cl. 53—214 12 Claims

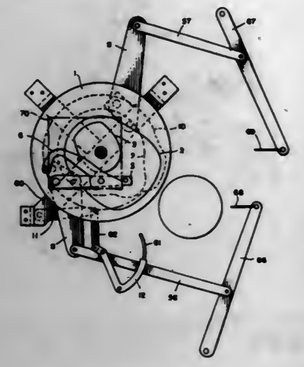


A mechanized and fully automated wrapping and palletizing apparatus for cylindrical articles including a feeding section, a wrapping section, and a palletizing section. All sections cooperate in moving the articles from one section to the next through the machine and depositing them upended in a predetermined pattern on a receiving surface. The wrapping and palletizing operations are responsive to the presence of the cylindrical article as it makes a rolling transition from one section to the next. The apparatus will accommodate different lengths of cylindrical rolls with a minimum of adjustments.

3,436,896
APPARATUS FOR AUTOMATICALLY FILLING SWING-OUT CASSETTES
Franz Ries, Ludwigshafen (Rhine), Germany, assignor to Badische Anilin- & Soda-Fabrik Aktiengesellschaft, Ludwigshafen (Rhine), Germany
Filed May 9, 1966, Ser. No. 548,782
Claims priority, application Germany, May 13, 1965, B 81,900
Int. Cl. B65b 5/04, 43/38, 61/28
U.S. Cl. 53—266 7 Claims

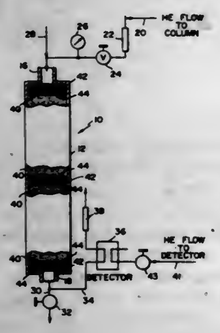
Device for automatically loading a swing-out cassette from a supply stack of cassettes, e.g. with a reel of magnetic tape, which includes a mounting or supporting plate with a rotatable shaft perpendicular thereto and carrying cam means for rotation with the shaft on the side of the plate opposite its loading surface, a cam-con-

trolled clamp extending through a slot in the plate to hold the cassette being loaded, a cam-controlled driving pin extending through another slot to engage and swing open



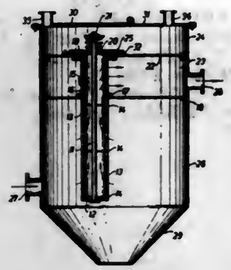
the cassette for loading, and pushers to load an article into the cassette and eject the cassette from the supply stack.

3,436,897
METHOD OF AND APPARATUS FOR CHROMATOGRAPHIC SEPARATIONS
Richard P. Crowley, Milton, Mass., assignor to Abcor, Inc., Cambridge, Mass., a corporation of Massachusetts
Continuation of application Ser. No. 644,302, June 7, 1967. This application May 13, 1968, Ser. No. 728,851
Int. Cl. B01d *15/08*
U.S. Cl. 55—67 22 Claims



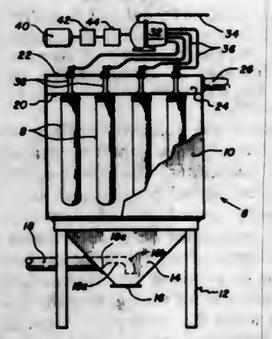
An improved chromatographic column is provided which is particularly useful for relatively large diameter columns with both gas and liquid chromatography. The improved column containing separatory material is provided by a separate layer across the column diameter of relatively large particle size particulate material to promote transverse or lateral movement of the fluids moving axially through the column. The layer also provides relatively large diameter interstitial void mixing spaces for the fluid during its passage through the layer. The large particle size layer of particulate material may be in combination with both doughnut type baffles and baffles having a plurality of flow passages therein such as sieve plates. Where multiple column sections are employed relatively large size particulate material may be used at the outlet of one column section and/or the inlet of the next column section to enhance the resolving power of the chromatographic column.

3,436,898
HOT GAS FILTER
Franz Kaess, Traunstein, and Otto Kick, Hart (Alz), Germany, assignors to Suddeutsche Kalkstickstoff-Werke Aktiengesellschaft, Trostberg, Germany
Filed Mar. 15, 1966, Ser. No. 534,300
Claims priority, application Germany, Mar. 15, 1965, S 95,971
Int. Cl. B01d *29/24*
U.S. Cl. 55—269 1 Claim



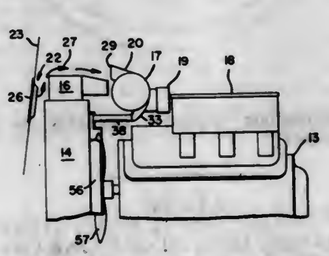
A ceramic filter for high temperature gas purification, individual filter elements constituted by porous ceramic tubes upwardly prolonged by non-porous perforated spacer tubes are arranged in a vertical casing divided by two horizontal partitions into three chambers. The lower chamber is the gas inlet chamber where the gases surround and enter the filter elements. In the middle chamber, the purified gases leave the filter elements through the perforations of the spacer tubes and are withdrawn. The upper chamber is not entered by hot gases, contains springs protected from the heat of the gases for compressing the filter elements, and is accessible from the outside. Holes in the partitions accommodating the filter elements at the support means for the elements are so dimensioned as to allow individual withdrawal of the filter elements upwardly through the opened upper chamber. Deformation of the middle chamber is prevented by spacer bolts connecting the two partitions and subjected to the same thermal expansion for the same length as the spacer tubes.

3,436,899
SUPERSONIC CLEANING OF FILTERING MEDIA
Josef Pausch, Hopkins, Minn., assignor to Aerodyne Machinery Corporation, Hopkins, Minn.
Continuation of application Ser. No. 474,101, July 22, 1965. This application Mar. 4, 1968, Ser. No. 710,394
Int. Cl. B01d *29/38, 29/24, 29/10*
U.S. Cl. 55—302 1 Claim



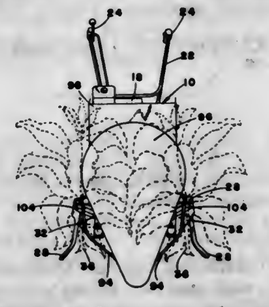
To dislodge accumulated dust from the outer surface of a porous filter tube, a nozzle containing a converging diverging passage is disposed centrally in the axis of the outlet end of the filter tube and in spaced relation to the tube to permit the normal egress of the filtered air, said nozzle is connected to a source of compressed gas to accelerate said gas to a supersonic rate and discharge the same within the interior of the filter tube.

3,436,900
PRE-CLEANER ASSEMBLY FOR AIR INDUCTION SYSTEM
Robert L. Evens, Beaverton, and Douglass H. Lewis and Norman Bradford Chew, Portland, Oreg., assignors to Freightliner Corporation, Portland, Oreg., a corporation of Delaware
Filed Oct. 3, 1966, Ser. No. 583,849
Int. Cl. B01d *51/00*
U.S. Cl. 55—385 1 Claim



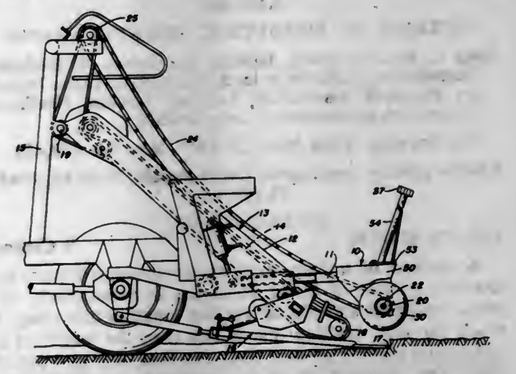
An air induction system wherein a pre-cleaner is provided in front of the air cleaner of the engine. The pre-cleaner has contaminant pockets in the lower portion thereof wherein contaminants collect. There are exhaust duct means leading from the pockets to shroud means surrounding the radiator fan and at a place on the shroud means having a lower subatmospheric pressure than is effective within the pre-cleaner so that air from the pre-cleaner is drawn through the pockets to entrain the contaminants and carry them through the exhaust duct means into the shroud where the fan discharges them to the ambient air. The pre-cleaner is located at a level above the abovementioned place on the shroud means so that the exhaust duct means can extend from the pre-cleaner to such place without upward inclination. Also the exhaust duct means are smaller than the outlet of the pre-cleaner so that only a minor portion of the air is drawn through the pockets and into the shroud means.

3,436,901
CUTTING MACHINE FOR STALK CROPS
Harvey H. Gehman, R.D. 1, Reinholds, Pa. 17569, and Roland P. Gehman, R.D. 1, Stevens, Pa. 17578
Filed Oct. 15, 1965, Ser. No. 496,449
Int. Cl. A01d *35/20, 55/02, 45/16*
U.S. Cl. 56—26.5 7 Claims



A cutting machine for stalk crops arranged to cut two parallel rows thereof simultaneously and provided with a pair of similar stationary blades arranged at opposite sides of the machine and spaced apart substantially equal to the distance between a pair of rows of stalk crops, a pair of blade supports extending substantially longitudinally of the direction of movement of the machine and pivotally connected at the rear ends thereof to a frame which commonly supports said stationary blades, similar shear blades fixed respectively to said blade supports for movement therewith toward and from said stationary blades and having shearing edges extending respectively at an acute angle to one of said stationary blades and arranged for shearing coaction therewith, power means carried by said frame, and driving means interconnected to said power means and said blade supports forwardly of the pivots thereof and operable to oscillate said shearing blades simultaneously in scissors-like coaction toward and from said stationary blades to counterbalance the movement of said blade supports and shearing blades while simultaneously shearing the stalks in a pair of rows thereof.

3,436,902
TOMATO HARVESTER PICKUP
Lauren W. Gates, Stockton, and Lewis W. Schmidt, Rio Vista, Calif., assignors to the Regents of the University of California, Berkeley, Calif.
Filed Sept. 15, 1966, Ser. No. 579,663
Int. Cl. A01d *45/00, 31/00, 33/02*
U.S. Cl. 56—327 10 Claims



1. An assist mechanism for a tomato harvester pickup and the like having a frame and elevator means at the front end of said pickup, said elevator means having a forward end, comprising

assist frame means secured to said frame,

a rotatable shaft supported by sai dassist frame adjacent said forward end and having air passage means therethrough,

a plurality of hollow rubber drums mounted along said shaft for rotation therewith, their interior being connected to said air passage means,

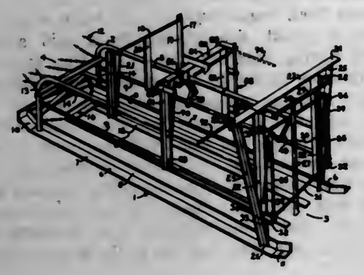
resilient support means mounted to said shaft inside each drum and flexible drum supporting means projecting in engagement with said drum, and

means for rotating said shaft.

3,436,903
BALE ACCUMULATOR GATE CONSTRUCTION
Calvin B. Blair, Barnard, Kans., assignor to United Manufacturers, Inc., Barnard, Kans., a corporation of Kansas
Continuation-in-part of application Ser. No. 447,379, Apr. 12, 1965. This application Feb. 6, 1967, Ser. No. 614,369
Int. Cl. A01f *15/00*; B65g *57/16*; B60p *1/00*
U.S. Cl. 56—473.5 4 Claims

The gate structure on a rear delivery baler drawn bale accumulator and stacker takes several modified forms in-

cluding a double latch structure operating at the lower bale level, a vertically swinging transverse flag structure, a transversely sliding bolt, a side hinged bar with an overhead latch, and a second gate intermediate the ends



of the accumulator producing a two-step accumulation to allow extra time for the rear gate to close following dropping of a fifth bale. The gate supporting rear end of the accumulator frame is rigidly braced by upwardly and outwardly directed structural members.

3,436,904

METHOD OF PRODUCING BULKED YARNS

John L. Spencer-Smith, Belfast, and James N. Ruddell, Portadown, Northern Ireland, assignors to Linen Industry Research Association, Lambeg, Lisburn, Northern Ireland, an association of Great Britain

No Drawing. Filed Mar. 21, 1966, Ser. No. 540,453

Claims priority, application Great Britain, Mar. 23, 1965, 12,189/65

Int. Cl. D02g 3/02

U.S. Cl. 57—157 9 Claims

A method of making a bulky or structured yarn by drafting a sliver of fibers which are in substantially relaxed condition and are of varying length while using a reach for such drafting that is less than the length of a substantial number of such fibers, so that such number of fibers are stretched to varying amounts, assembling the drafted sliver into yarn, and treating the yarn to develop the latent shrinkage characteristic imparted by the variable stretch. The sliver is made from a tow of man-made filaments adapted to stretch under tension. The initial sliver can be obtained in different ways, e.g. by cutting into staple composed of fibers of differing length a tow of substantially uniformly highly stretched filaments and then relaxing this sliver, or by cutting into staple composed of fibers of uniform length a tow of variably stretched filaments and then relaxing such staple to variably shrink the fibers.

3,436,905

WATCH HAVING IMPROVED MEANS FOR DRIVING DATE AND DAY-OF-THE-WEEK INDICATING MEMBERS

Urs Giger, Solothurn, Switzerland, assignor to Eta A.G. Ebauches-Fabrik, Grenchen-Solothurn, Switzerland, a Swiss company limited by shares

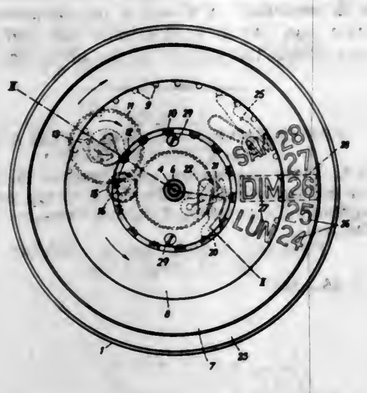
Filed Jan. 3, 1967, Ser. No. 606,906

Claims priority, application Switzerland, Jan. 11, 1966, 315/66

Int. Cl. G04b 19/24

U.S. Cl. 58—58 11 Claims

Watch having date and day-of-the-week indicating members arranged concentrically in a common radial plane and a common driving means therefor arranged



radially intermediate respective toothings on said indicating members.

3,436,906

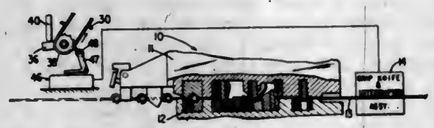
INDEXER ARRANGEMENT IN AN APPARATUS FOR MAKING DETACHABLE LINK CHAIN

Don M. Glendenning, Huntington, Ind., assignor to The Locke Steel Chain Company, Huntington, Ind., a corporation of Connecticut

Filed Aug. 18, 1966, Ser. No. 573,351

Int. Cl. B21l 9/00, 9/06

U.S. Cl. 59—6 7 Claims



An apparatus for making detactable link chains including a punch and die for progressively forming stock passing therethrough, and wherein an index chain is actuated by the press and periodically interrupts the feed mechanism at predetermined numbers of links to enable special links to be inserted therein.

3,436,907

JEWELRY COMPRISING A PLURALITY OF MEMBERS CONNECTED TOGETHER BY SWIVEL MEANS

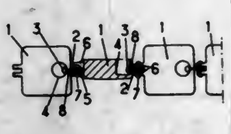
Claude Behar, 9 Rue Buffault, Paris, France

Filed June 16, 1967, Ser. No. 646,563

Claims priority, application France, Feb. 7, 1967, 94,044

Int. Cl. F16g 13/10, 13/00; A44c 5/00

U.S. Cl. 59—80 3 Claims



A chain of ornamental members connected together by swivel means, each member having at least two faces presenting a different appearance so that the appearance of the chain as a whole may be altered by rotating one or more of said members relative to the others.

3,436,908

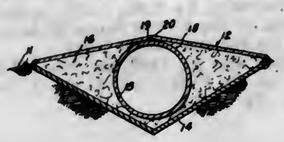
SOLAR AIR MOVING SYSTEM

Vukasin Van Delic, 188 Wynona Drive SW., Marietta, Ga. 30060

Filed Mar. 27, 1967, Ser. No. 626,269

Int. Cl. F03g 7/02, 7/04; F24j 3/02

U.S. Cl. 60—26 12 Claims



Solar air moving apparatus comprising an upwardly extending, open ended hollow tube exposed to the rays of the sun, but protected from conduction and convection heat transmission to the ground and atmosphere. The tube is heated by radiation from the sun and the air inside the tube is heated and expands and becomes lighter, and is displaced by atmospheric air through the bottom opening of the tube, thus creating an air flow through the tube.

3,436,909

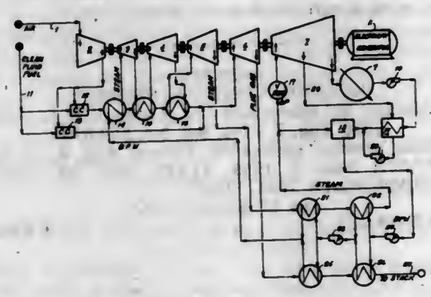
APPARATUS FOR COMBINED GAS-STEAM POWER CYCLE

Arthur M. Squires, 245 W. 104th St., New York, N.Y. 10025

Filed Jan. 4, 1967, Ser. No. 607,231

Int. Cl. F02c 3/20, 7/02; F01k 25/00

U.S. Cl. 60—39.18 8 Claims



There is provided an improved Rankine steam power cycle peculiarly suited to the use of a clean fluid fuel, the combustion being conducted at high pressure and providing much more than the usual amount of reheat to the expanding steam, so that the steam exhausts from a high-temperature expansion in a highly superheated condition. Boiler feed water is heated by the cooling of both the exhausted steam and atmospheric-pressure combustion gases. The cooled steam is expanded in a low-temperature turbine exhausting to a condenser.

3,436,910

STRUCTURE FOR SEGREGATING FOREIGN MATTER FROM THE AIR OF AN AIR INTAKE FOR A GAS TURBINE ENGINE

Lionel Haworth, London, England, assignor to Bristol Siddeley Engines Limited, a British company

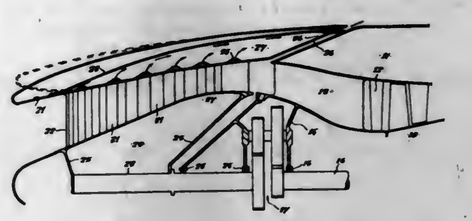
Filed June 16, 1967, Ser. No. 646,682

Claims priority, application Great Britain, June 22, 1966, 27,796/66

Int. Cl. F2c 7/04, 7/30; F16l 7/00

U.S. Cl. 60—39.09 20 Claims

The disclosure of this invention relates to an air intake for an engine, such as a gas turbine engine, which intake if annular is provided with a ring of transverse vanes having their pressure faces slotted and arranged to in-



gest dust particles which are then withdrawn from the vane interiors and discharged through the intake wall.

3,436,911

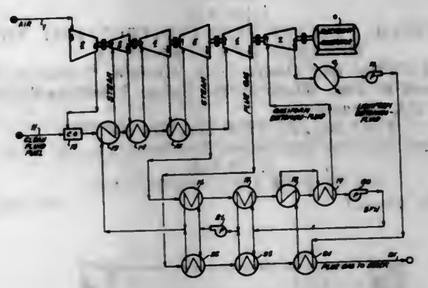
APPARATUS FOR COMBINED GAS-STEAM-AMMONIA CYCLE

Arthur M. Squires, 245 W. 104th St., New York, N.Y. 10025

Continuation-in-part of application Ser. No. 380,005, July 2, 1964. This application Jan. 4, 1967, Ser. No. 607,232

Int. Cl. F02c 3/20, 7/02; F01k 25/00

U.S. Cl. 60—39.18 15 Claims



There is provided an improved Rankine steam-ammonia cycle peculiarly suited to the use of a clean fluid fuel, the combustion of the fuel being conducted at high pressure and providing much more than the usual amount of reheat to the expanding steam, so that the steam exhausts from a high-temperature expansion in a highly superheated condition. Boiler feed water is heated by the cooling of both the exhausted steam and atmospheric-pressure combustion gases. The cooled steam is condensed against boiling ammonia, used as cycle fluid in a power cycle discharging heat to the environment. The expanding steam may be reheated both by indirect heat transfer of heat from combustion gases and by direct additions of combustion gases to the steam, but direct additions should be regulated in amount so that the dewpoint of the cooled steam in its mixture with combustion products is higher than 190° F.

3,436,912

APPARATUS FOR COMBINED STEAM-AMMONIA CYCLE

Arthur M. Squires, 245 W. 104th St., New York, N.Y. 10025

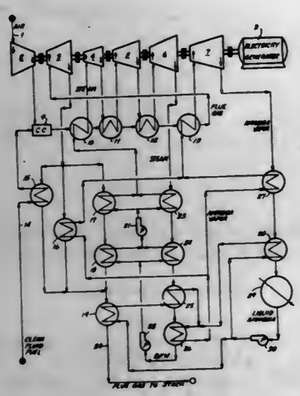
Filed Jan. 4, 1967, Ser. No. 607,233

Int. Cl. F02c 3/22, 7/02; F01k 25/00

U.S. Cl. 60—39.18 8 Claims

There is provided a bottoming cycle in which a bottoming-fluid such as ammonia is vaporized with heat from condensing steam, and the vapor is heated to a high tem-

perature, in part regeneratively, before it is expanded, cooled, and condensed against atmospheric cooling water or air. The new cycle is peculiarly suited to receive high-level heat generated by the combustion of a clean fluid



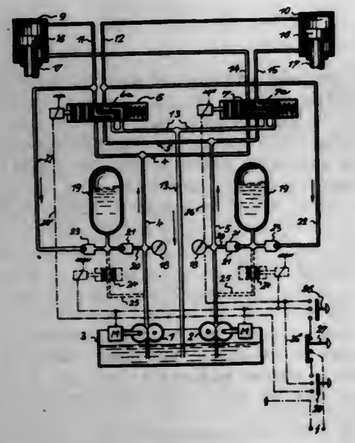
fuel, the combustion being conducted at high pressure, and the combustion gases being cooled at least in part by heat exchange to bottoming-fluid vapor before the gases are discharged to the atmosphere.

3,436,913

CONTROL CIRCUIT FOR CONTROLLING THE ROLLERS OF CALENDERS

Gernot Müller and Dieter Junk, Krefeld, Germany, assignors to Joh. Kleinewefers Sohne Maschinenfabrik, Krefeld, Germany

Filed Dec. 27, 1966, Ser. No. 604,788
Claims priority, application Germany, Jan. 3, 1966, K 58,063
Int. Cl. F15b *11/16, 13/06, 13/09*
U.S. Cl. 60—51 7 Claims



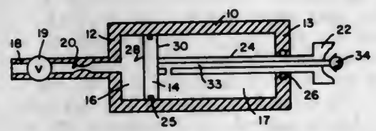
A hydraulic system for use in connection with the rollers of a calender, which includes pressure pumps or fluid pressure accumulator means, and in which for purposes of placing the rollers under pressure, both surfaces of differential pistons operatively connected to said rollers are actuated by fluid under pump pressure, whereas for venting purposes, the smaller surfaces only of said differential pistons receive fluid under pressure from both said pumps and said accumulator means until the accumulator pressure has dropped to that of the pump pressure, whereupon the connection of the accumulator means with the pressure line of the pumps is blocked, and the pumps deliver pressure fluid to said smaller differential piston surfaces only.

3,436,914

HYDROSTATIC ENERGY ACCUMULATOR

Andre M. Rosfelder, La Jolla, Calif., assignor, by mesne assignments, to the United States of America as represented by the Secretary of the Navy

Filed May 29, 1967, Ser. No. 643,311
Int. Cl. F15b *1/02, 13/02, 21/04*
U.S. Cl. 60—51 9 Claims



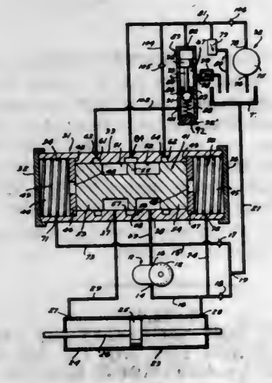
The invention is several different embodiments of hydrostatic energy accumulators to be used in undersea environments. All the embodiments have in combination a valve means and a constriction means for improving operating characteristics; also in combination may be accumulator systems that are compressible providing a system whose pressure is substantially equal to the surrounding sea pressure. My invention also includes in several of the embodiments an amplification of pressure using dual pistons and a sealing arrangement about a piston using a variable diameter piston head.

3,436,915

POSITION CONTROL SYSTEM

Jean Mercier, 501 Bloomfield Ave., Caldwell, N.J. 07006

Filed Aug. 2, 1966, Ser. No. 569,676
Claims priority, application France, Aug. 6, 1965, 27,527; Nov. 5, 1965, 37,379; Nov. 29, 1965, 40,084; Mar. 4, 1966, 52,052
Int. Cl. F15b *13/042*
U.S. Cl. 60—52 3 Claims



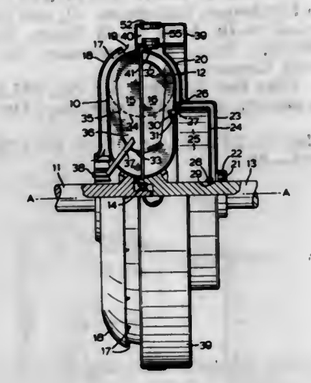
The invention relates to the positioning of steering controls for a tractor or other vehicle by a reversible hydraulic motor having both manually actuated and power actuated hydraulic pressure sources with a distributor valve which controls flow passages to opposite sides of the hydraulic motor.

3,436,916

HYDRAULIC COUPLINGS

John Edward Becker, R.R. 6, Bowmanville, Ontario, Canada

Filed Oct. 2, 1967, Ser. No. 672,342
Int. Cl. F16d *31/06, 33/00;* F16h *41/00*
U.S. Cl. 60—54 4 Claims



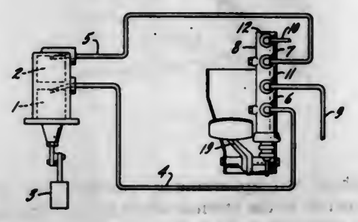
A hydraulic coupling of the kind wherein the torque transmission capacity is reduced automatically to a predetermined value on overload or stall by removing a specific quantity of working liquid from the working chamber and delivering it to a first reservoir; a second reservoir is carried by the pump element and is connected to the working chamber interior by a temperature sensitive element, preferably a fusible plug; upon maintenance of the overload or stall condition the working liquid heats and increases the coupling torque transmission capacity; at a predetermined temperature the temperature sensitive element releases more liquid to the second reservoir to keep the torque transmission capacity at the said predetermined value.

3,436,917

AUXILIARY CONTROL FOR A DUAL HYDRAULIC BRAKE SYSTEM

Henry E. Branson, Chicago, Ill., assignor to Stromberg Hydraulic Brake & Coupling Company, Chicago, Ill., a corporation of Illinois

Filed Feb. 7, 1966, Ser. No. 525,712
Int. Cl. F15b *7/08;* F16d *65/32*
U.S. Cl. 60—54.5 7 Claims



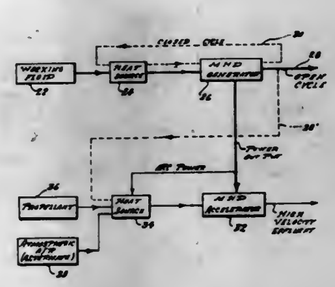
A cylinder containing a power piston and a floating piston dividing the interior of the cylinder into two separate chambers. An intake and an exhaust port for each chamber. Each cylinder actuating a separate valve adapted to be seated upon piston movement to apply pressure for discharge through the outlet ports and to prevent back pressure through the intake ports.

3,436,918

MAGNETOHYDRODYNAMIC MOTOR-GENERATOR

Thomas R. Brogan, Malden, and William E. Powers, Jr., Acton, Mass., assignors to the United States of America as represented by the Secretary of the Air Force

Filed Nov. 8, 1966, Ser. No. 593,248
Int. Cl. F03h *1/00;* H05h *1/02;* G21d *7/02*
U.S. Cl. 60—202 2 Claims



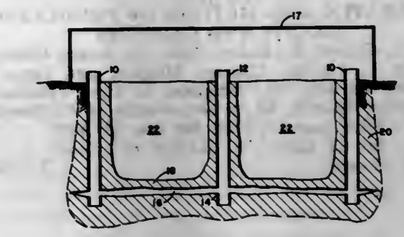
A magnetohydrodynamic motor-generator including an MHD generator having a nuclear heat source or rocket engine burner and an MHD motor using a nuclear heat source or electric arc connected directly to the generator.

3,436,919

UNDERGROUND SEALING

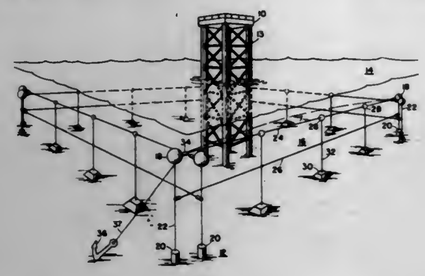
D'Arcy A. Shock and John D. Sudbury, Ponca City, Okla., assignors to Continental Oil Company, Ponca City, Okla., a corporation of Delaware

Continuation-in-part of application Ser. No. 156,855, Dec. 4, 1961. This application May 9, 1966, Ser. No. 548,499
Int. Cl. B65g *5/00;* E21f *17/16*
U.S. Cl. 61—.5 7 Claims



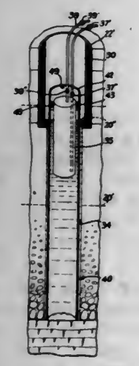
A method for forming a bottom seal for frozen earth storage tanks and the structure of the tanks are disclosed. A central well is positioned amidst a number of surrounding freeze wells and a horizontal fracture is propagated between the central and surrounding wells. A refrigerant is circulated through the fracture at a temperature sufficient to freeze connate water in the areas adjacent the fracture. A frozen impermeable horizontal bottom is thus formed. Side walls are frozen by circulating refrigerant through the surrounding freeze wells thereby forming an enclosure. In soft formations, a consolidating agent is injected between the central and peripheral wells to form a horizontal consolidated layer which in itself may be sufficiently impermeable to form a closure in combination with the frozen side walls. If not, a fracture is propagated underneath or through the consolidated layer and refrigerant forced therethrough to form a frozen sealed bottom.

3,436,920
PROTECTION OF OFFSHORE STRUCTURE FROM ICEBERGS
Kenneth A. Blenkarn and Alphia E. Knapp, Tulsa, Okla., assignors to Pan American Petroleum Corporation, Tulsa, Okla., a corporation of Delaware
Filed Jan. 3, 1967, Ser. No. 607,050
Int. Cl. E02b 3/00; E02d 21/00; B63g 9/00
U.S. Cl. 61—1 3 Claims



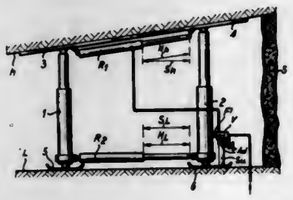
Fending systems for protecting offshore structure from icebergs. A fence or structure surrounds the offshore structure. The fending system incorporates members such as crush tubes for absorbing large amounts of energy. These large energy absorbing means permit the changing of the course of an iceberg by supplying the required impulse over a long time period. Three embodiments are described: (1) a system of buoy-supported cables anchored to the ocean floor, (2) a spider-web system with the outer ends of the cable anchored to the ocean floor and the inner ends anchored to the offshore structure through J tubes and crush tubes, and (3) a protecting structure surrounding offshore platform and attached to it through crush tubes. All systems are below the water surface sufficient to permit boat passage.

3,436,921
APPARATUS AND METHOD OF PRODUCING SHAFTS AND CAISSONS
Grover C. Gauntt, Jr., Itasca, Robert G. Isaacs, Oaklawn, Robert L. Martin, Chicago Heights, and James P. Walton, Bartlett, Ill., assignors to Case Foundation Company, Roselle, Ill., a corporation of California
Filed June 15, 1966, Ser. No. 557,806
Int. Cl. E21d 1/08; E21b 33/03, 3/08
U.S. Cl. 61—40 7 Claims



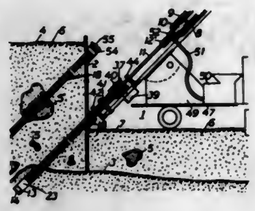
A method and apparatus for providing linings for hollow shafts in the production of caissons and foundations for structural supports. The method and apparatus are designed to facilitate the insertion and rotation of a core barrel in the earth in frictional contact with the substrate surface forming the base of the hollow shaft. This is accomplished by providing a buoying force on the core barrel to reduce the load on a rotating apparatus.

3,436,922
MINE ROOF SUPPORTS
Hermann Irresberger, Schinkelstr. 41, and Hans Rieschel, Falkstrasse 8–10, both of 43 Essen, Germany, and Bodo-Werner Ratz, Frankenstrasse 343, 43 Essen-Stadtwald, Germany
Filed Oct. 13, 1967, Ser. No. 675,166
Claims priority, application Germany, Oct. 20, 1966, B 89,452
Int. Cl. E21d 15/16, 15/44; F01l 29/00
U.S. Cl. 61—45 3 Claims



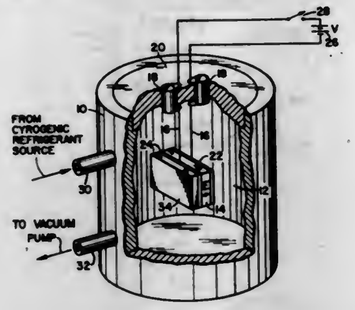
The specification describes self-advancing mine roof supports with means for preventing angular misalignment of the vertical roof support cylinders, making use of a feeler which detects angular displacements of one of the cylinders and by means of a valve and hydraulic circuitry controls the relative advance of the top and bottom of the cylinders.

3,436,923
METHOD AND EQUIPMENT FOR MAKING TENSION ANCHORS
Gunnar Lagerström, Ektorp, Sweden, assignor to Atlas Copco Aktiebolag Nacka, Sweden, a corporation of Sweden
Filed July 7, 1966, Ser. No. 567,800
Int. Cl. E02d 5/74; E21d 11/10
U.S. Cl. 61—53.52 9 Claims



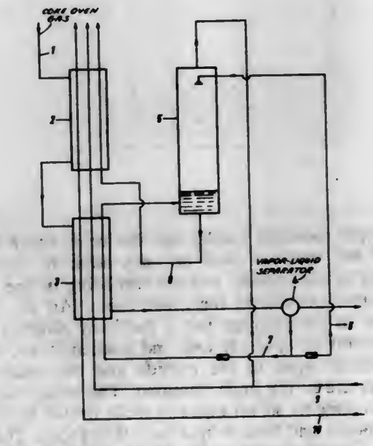
A method and apparatus is provided for making a tension anchor in the ground which utilizes drilling equipment for simultaneously drilling the hole for the anchor and drawing down into the hole a bundle of tension wires for the anchor by disposing the draw member for the tension wires adjacent the drill bit, and by using a tubular drill rod through which grouting is injected into the drill hole and around the tension wires simultaneously as the rod is withdrawn from the hole. In addition, the draw member is rotatable with respect to the drill bit and rod, and the drilling equipment including the drill bit is capable of drilling through rock as well as earth.

3,436,924
PARAELECTRIC REFRIGERATION METHOD AND APPARATUS
William N. Lawless, Corning, N.Y., assignor to Corning Glass Works, Corning, N.Y., a corporation of New York
Filed Nov. 15, 1967, Ser. No. 683,252
Int. Cl. F25b 21/02
U.S. Cl. 62—3 24 Claims



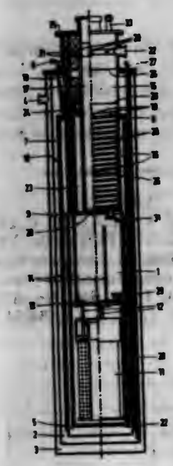
A refrigerator and cooling method employing a paraelectric refrigerant consisting of a material having a rutile-like crystalline lattice structure doped with polar impurity ions. The refrigerant is cooled by conventional hydrogen or helium cryogenic cooling means to a temperature within its paraelectric refrigeration range. An electric field is applied to the refrigerant to produce isothermal polarization of the hydroxyl ion electric dipoles thereby decreasing the entropy of the refrigerant. Thereafter the refrigerant is thermally isolated, and the electric field is removed causing the impurity ion electric dipoles to adiabatically depolarize resulting in paraelectric cooling of the refrigerant.

3,436,925
RECTIFICATION OF LIQUEFIED COKE OVEN GAS PORTION BY CONTACT BETWEEN LIQUEFIED AND REVAPORIZED PORTIONS THEREOF
Fritz Jakob, Wolfratshausen, Germany, assignor to Linde Aktiengesellschaft, Wiesbaden, Germany
Filed Sept. 14, 1966, Ser. No. 579,338
Claims priority, application Germany, Sept. 21, 1965, L 51,687
Int. Cl. F25j 3/02
U.S. Cl. 62—27 10 Claims



A portion of coke oven gas is liquefied by passing through successive first and second heat exchangers. A portion of the liquefied coke oven gas is passed to the head of a rectification column as reflux while the other portion of liquefied coke oven gas is passed countercurrently through the second heat exchanger where it is vaporized and then introduced into the rectification column in direct contact with sump liquid. Sump liquid passes in countercurrent heat exchange through the first heat exchanger.

3,436,926
REFRIGERATING STRUCTURE FOR CRYOSTATS
Günther Bogner, Erlangen, and Helmut Marsing, Hetzles (Lower Rhine), Germany, assignors to Siemens Aktiengesellschaft, a corporation of Germany
Filed Mar. 15, 1967, Ser. No. 623,461
Claims priority, application Germany, Mar. 22, 1966, S 102,653
Int. Cl. F17c 7/02, 9/02
U.S. Cl. 62—45 7 Claims

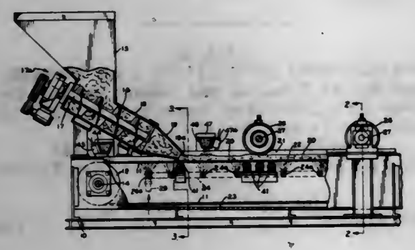


A cryostat having a container provided with a lower interior portion which houses an electrical superconductive structure. A refrigeration liquid of low boiling point is located in the lower portion of the container and extends up to a given elevation therein, and above this latter elevation the container has an inner surface. A displacer body of low thermal conductivity is situated within and substantially fills the container down to the region of the latter elevation up to which the liquid refrigerant extends, and this displacer body has an outer surface directed toward the inner surface of the container and formed with a helically rising groove along which vaporized refrigerating liquid flows, the groove having a cross section sufficiently great to prevent any substantial increase in the pressure within the container beyond that which is provided during normal operation of the cryostat.

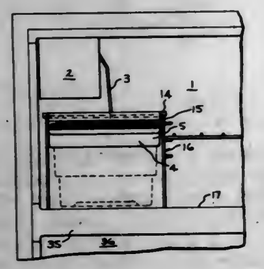
3,436,927
FOOD FREEZING AND PROPORTIONING METHOD AND APPARATUS
Robert J. Gruber, 4575 Concord Drive, Cleveland, Ohio 44126
Filed Feb. 23, 1968, Ser. No. 707,634
Int. Cl. A23b 3/06; F25c 5/02
U.S. Cl. 62—75 8 Claims

Loose broken food parts, such as fish, are extruded from a hopper through a spreader funnel for deposit in a continuous strip of approximately the desired finished

thickness on a moving stainless steel conveyor belt. Freezing brine is sprayed on the under side of the belt. Side boards hold the strip to the width of a plurality of finished food portions. Part way down the belt, where the food is only partly frozen, the strip is slit part way through its thickness longitudinally along parallel lines to the desired widths, and thereafter the strip is scored part way through its thickness crosswise along parallel lines to desired lengths. At the end of the conveyor belt the finished frozen food portions are removed and broken apart.



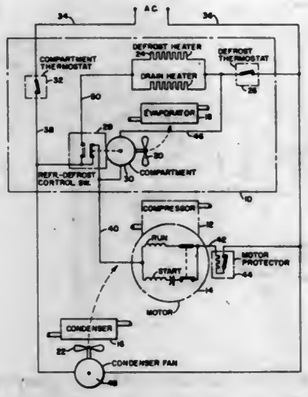
3,436,928
ICEMAKER WITH VARIABLE CAPACITY ICE STORAGE RECEPTACLE
Leo Swerbinsky, Wheaton, Ill., assignor to General Electric Company, a corporation of New York
Filed Oct. 31, 1967, Ser. No. 679,330
Int. Cl. F25c *1/00, 5/18;* B65d *7/24*
U.S. Cl. 62—137 7 Claims



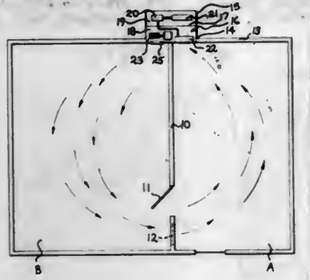
A refrigerator containing an automatic ice service including an automatic icemaker having an ice level sensing member for sensing a predetermined level of ice in a variable storage volume receptacle and means for supporting a portion of the receptacle relative to the sensing member for operation thereof regardless of the selected receptacle storage volume.

3,436,929
REFRIGERATION DEFROST CONTROL RESPONSIVE TO OPERATION OF COMPARTMENT AIR CIRCULATING FAN
Philip F. Harbour, Columbus, Ohio, assignor to Westinghouse Electric Corporation, Pittsburgh, Pa., a corporation of Pennsylvania
Filed Sept. 29, 1967, Ser. No. 671,686
Int. Cl. F25d *21/06;* G05d *23/32*
U.S. Cl. 62—155 6 Claims

Refrigerator circuit arrangement in which a refrigeration-defrost control switch directly driven by the compartment air circulating fan motor is moved from a defrost to a refrigeration position by the fan motor at the end of evaporator defrost through opening of a shunt connection made by the defrost thermostat. The impedances of the compartment fan motor and compressor motor are related to preclude an attempted compressor start during the momentary energization, and in a preferred arrangement the condenser fan motor operates during defrost to reduce starting load upon the compressor after defrost.

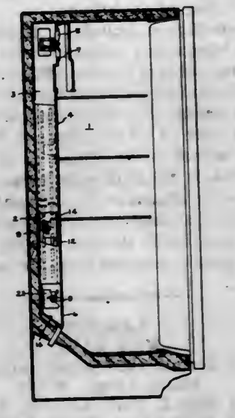


3,436,930
SYSTEM FOR MULTIPLE ROOM AIR CONDITIONING
Russell T. Smith, 120 N. Winter St., Adrian, Mich. 49221
Filed Sept. 5, 1967, Ser. No. 665,479
Int. Cl. F24f *1/02*
U.S. Cl. 62—263 1 Claim



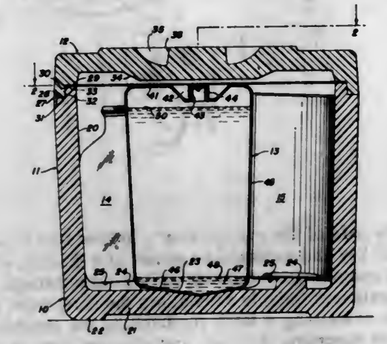
A multiple room air conditioner device in which in the region of the partition wall between adjacent rooms is an opening to the outside, one portion being in one room and the other portion in the other room. An air conditioner unit in the opening has a partition dividing it so that the motor compressor unit and condenser are in the outer chamber open to the outside and the evaporator and blower are in the inner chamber. The inner chamber has its components so arranged that air drawn from one room is cooled and forced into the other room. The two rooms at a point remote from the air conditioner are in communication, as by a doorway or wall opening in order to achieve a circulation of air through the rooms.

3,436,931
COMBINATION EVAPORATOR AND RADIANT HEATER DEFROST MEANS
Robert B. Gelbard, Louisville, Ky., assignor to General Electric Company, a corporation of New York
Filed Oct. 12, 1967, Ser. No. 674,898
Int. Cl. F25d *21/06, 21/14*
U.S. Cl. 62—276 7 Claims



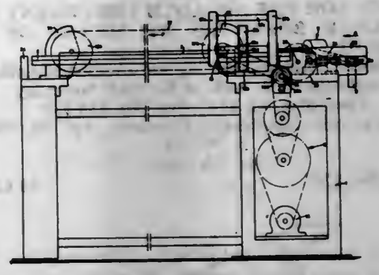
A combination evaporator and radiant heater defrost means including a metal screen so constructed and arranged above the radiant heater so as to prevent defrost water from impinging directly on the surface of the water.

3,436,932
COOLING DEVICE FOR BEVERAGE CONTAINERS
Roger Lee Paquin, Killingworth, Conn., assignor to Glacier Ware, Inc., Clinton, Conn., a corporation of Connecticut
Filed July 24, 1967, Ser. No. 655,562
Int. Cl. F25d *3/08*
U.S. Cl. 62—457 7 Claims



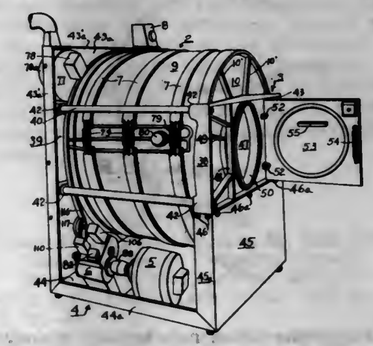
This cooler device includes (1) a polygonal chest of insulating material having short arcuate corners and having small pedestals on the interior bottom wall for support of bottles or cans having bottom walls substantially larger than the pedestals and having a conical central recess in the bottom wall, (2) a polygonal cover for the chest, of insulating material, and (3) a hollow cooler unit having a conical bottom wall to fit into the conical central recess and an exterior wall with arcuate recesses, one for the side wall of each bottle or can and corresponding in number to the side walls of the chest, and a top wall, and filled with refrigerant fluid. For six-packs, the chest and cover are hexagonal, and the cooler chest has six arcuate recesses.

3,436,933
KNITTING MACHINE
Robert Steiger, Vionnaz, Switzerland
Filed July 11, 1966, Ser. No. 564,229
Claims priority, application Switzerland, July 12, 1965, 9,727/65
Int. Cl. D04b *7/04;* D03c *17/06*
U.S. Cl. 66—60 9 Claims



This disclosure concerns a knitting machine in which at least one cam holder carriage slides along the length of the bed of needles from a first end of the bed to a second end which has a stop and carries cams for actuating the needles according to a predetermined program. Means are provided for driving the carriage in a reciprocating movement between the two ends of the bed of needles and also programming means having indications characteristic of the program set for the machine. A reading device is interconnected with the programming means and operates a servo-control device which acts on the cams of the carriage when the carriage is at one end of the bed to modify the program. Relay stations are connected to the carriage and receive from the control device indications characteristic of the position which the cams must have during return of the carriage from the second end of the bed toward the first end in conformity to indications read in the programming means, the relay stations acting on the cams when the carriage reaches the second end of the bed and encounters a stop position at said end.

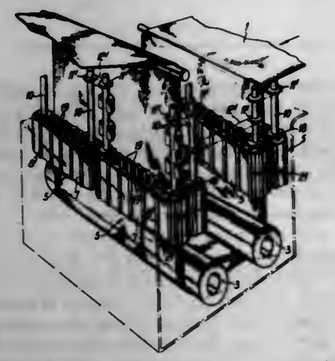
3,436,934
ROTATABLE TUB OF COMBINATION WASHER-DRIER AND MOUNTING MEANS THEREFOR
William E. Stilwell, Jr., deceased, late of Glendale, Ohio, by Frances Hunt Stilwell, executrix, 740 Ivy Ave., Glendale, Ohio 45246
Application Oct. 6, 1965, Ser. No. 497,596, now Patent No. 3,347,065, Oct. 17, 1967, which is a continuation of Ser. No. 305,242, Aug. 26, 1963, which in turn is a continuation of application Ser. No. 808,418, Apr. 23, 1959. Divided and this application Mar. 8, 1967, Ser. No. 642,262
Int. Cl. D06f *25/00*
U.S. Cl. 68—140 6 Claims



A washer-drier tub is rotatably mounted between a pair

of end frames by means of hollow journals and hollow stub shafts at opposite ends of the tub, one of said journals and stub shafts being quite large and of such a size as to comprise the sole means for introducing and removing laundry from the tub.

3,436,935
DEVICE FOR THE BREADTH TREATMENT OF TEXTILE BREADTHS BY MEANS OF A LIQUID
Kurt Quoos, Bismarckstr. 74, and Ferdinand Leifeld, Forstwaldstr. 9, both of Krefeld, Germany
Filed Mar. 17, 1967, Ser. No. 623,928
Claims priority, application Germany, Apr. 30, 1966, K 59,128
Int. Cl. D06f
U.S. Cl. 68—175 10 Claims



A breadth washing machine for textiles particularly for wide breadths of knitted material in which the breadths pass through the processing liquid has driving means which agitate the processing liquid in a direction substantially transverse to the direction of the breadths, thus providing a more intensive treatment of the breadths by the processing liquid as they pass therethrough.

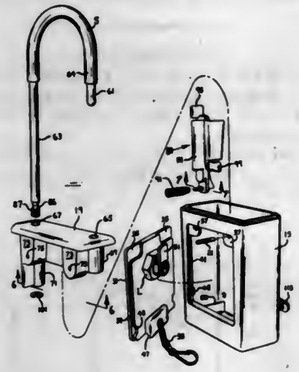
3,436,936
COMBINATION HELMET AND LOCKING ATTACHMENT
Arthur Leon Locker, P.O. Box 943, McCamey, Tex. 79752
Filed Oct. 30, 1967, Ser. No. 678,865
Int. Cl. E05b *73/00;* A42b *3/02*
U.S. Cl. 70—59 10 Claims



A locking device which may be used in combination with a helmet, such as a crash helmet worn by motocycle drivers, in order to prevent theft or loss thereof. The locking device includes a flat plastic coated chain or cable, a resilient hold-down device at the rear of the helmet, and an anchoring means located at the top of the helmet; and with one terminal end of the chain being attached to the anchoring device and the remaining terminal end of the chain being attached to the resilient hold-down device, whereby the chain is maintained in tension and closely adjacent the surface of the helmet.

Another embodiment includes a flexible cable resiliently received in telescoping fashion within a housing. A terminal end of the cable is slidably affixed for limited movement within the housing with the cable protruding through the anchoring device. The remaining terminal end of the cable is in the form of an enlargement. When it is desired to secure the helmet to the vehicle so as to preclude loss thereof, the lock is either directly affixed to a portion of the motorcycle, or alternatively, the cable attached thereto may be looped around any structural part thereof and locked back onto itself, thereby leaving the helmet suspended in an upright position from the motorcycle.

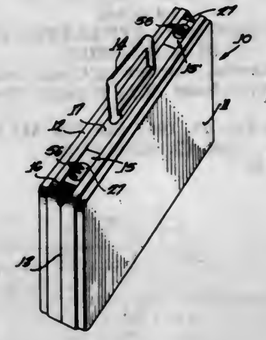
3,436,937
KEY SAFE
Iral D. Barrett, 1057 Schurman Drive S., Salem, Oreg. 97302
Filed May 2, 1967, Ser. No. 635,413
Int. Cl. E05b *65/52, 73/00;* B65d *55/14*
U.S. Cl. 70—63 12 Claims



A key safe of the type having a hollow box to contain a special key and mounted by means of a shackle, wherein the box comprises a receptacle having a cap through which the shackle legs slidably extend into the receptacle, the receptacle containing a latch for latching the shackle in its operative mounting position, and wherein there is a door in one wall of the receptacle through which access to the latch can be obtained, and wherein there are certain special relationships of the above and/or additional parts which will appear hereinafter.

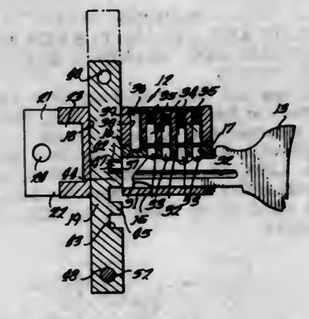
3,436,938
COMBINATION LUGGAGE LOCK
Russell W. Walters, Rockford, Ill., assignor to Keystone Consolidated Industries, Inc., a corporation of Delaware
Filed Oct. 27, 1967, Ser. No. 678,596
Int. Cl. E05b *65/52;* A45c *13/12*
U.S. Cl. 70—70 15 Claims

A combination luggage lock to be utilized adjacent one or both ends of a luggage case at the parting line thereof, the lock having latching means in a lock casing cooperating with a strike member. The lock includes a spring-biased reciprocable fence plate having a push button at the outer end thereof and cooperating with the latching means to release the strike member. A plurality of slide buttons are housed in the lock casing; each slide button has three combination positions and is operatively connected to a fence which is transversely movable relative



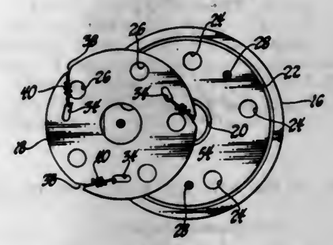
to and within an opening in the fence plate. Each fence has a gate projection cooperating with a gate in the lock casing so that when the fences are all properly aligned with their respective gates, the fence plate can be reciprocated. Actuation of the fence plate to an extended position permits changing of the combination of the slide buttons.

3,436,939
FILE DRAWER LOCK ASSEMBLY
Robert A. Sewell, Rockford, Ill., assignor to Keystone Consolidated Industries, Inc., a corporation of Delaware
Filed Apr. 17, 1967, Ser. No. 631,319
Int. Cl. E05b *65/44, 17/04, 9/08*
U.S. Cl. 70—81 4 Claims



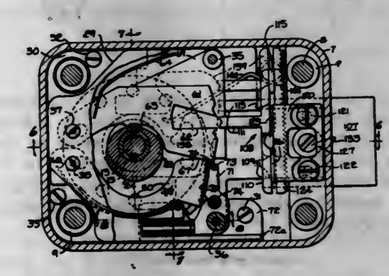
A lock assembly utilized in a file cabinet to lock the drawers therein having a generally elongated housing for a tumbler lock with the plug retained in the housing through a retaining pin and terminating in a pair of axially offset pins operatively connected to and actuating a vertically reciprocable lock bolt. The lock bolt includes a recess having opposed barrier walls and a pair of laterally extended vertically spaced arms cooperating with the plug pins, and the bolt extends beyond the housing and is connected to and actuates a linkage which provides the locking action for the file drawers.

3,436,940
LOCKING WHEEL COVER
Le Roy D. Hecox, 87 Thorpe, Pontiac, Mich. 48053
Filed Aug. 9, 1967, Ser. No. 659,509
Int. Cl. F16b *41/00*
U.S. Cl. 70—232 3 Claims



An anti-theft device for vehicle wheels and wheel disc covers including a cover member having a pair of annular discs provided therebehind to receive the wheel retaining nuts in locking engagement therewith.

3,436,941
COMBINATION LOCK WITH CAM-OPERATED TUMBLERS AND SEQUENTIALLY ENGAGEABLE TUMBLER STOPS
Anthony J. Potzick, Cincinnati, Ohio, assignor to The Mosler Safe Company, Hamilton, Ohio, a corporation of New York
Filed May 29, 1967, Ser. No. 645,849
Int. Cl. E05b *37/04*
U.S. Cl. 70—311 34 Claims



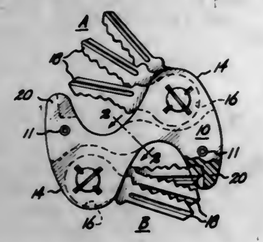
A combination lock operated by turning the dial shaft directly to the numbers of the combination, in either direction, which does not require a prescribed program of dial turns in alternate directions. Once dialed, each number is "set" by pushing the shaft axially.

The tumblers are positioned by a cam, and stops associated with the respective tumblers are positioned in sequence to "remember" the tumbler position when set. The tumblers move from an initially ordered position on the cam, to disordered positions determined by the stops when set, and must be aligned with staggered fingers connected to the bolt to permit the bolt to be withdrawn. The bolt is disconnectable from the fingers to permit their arrangement to be selectively changed to establish a new combination.

3,436,942
KEYHOLDER
Robert Procter, 1516 Burnaby St., Suite 290, Vancouver, British Columbia, Canada
Filed Dec. 8, 1967, Ser. No. 689,055
Int. Cl. A45c *11/32;* A44b *15/00;* A47g *29/10*
U.S. Cl. 70—456 3 Claims

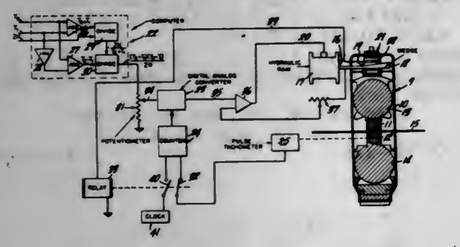
A keyholder for several keys is provided with interfitting means between flanged heads of a threaded fast-

ener and adjacent cheek plates of the holder, said means being operable to resist torque tending to unscrew the



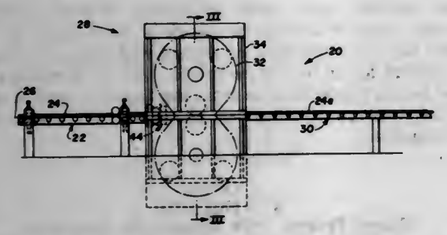
fastener parts as the keys are swung out or into the holder.

3,436,943
ROLLING MILL TAPER CONTROL SYSTEM
Robert P. Freedman, Ledyard, and George M. Ketcham, Mystic, Conn., assignors to General Dynamics Corporation, New York, N.Y., a corporation of Delaware
Filed May 20, 1966, Ser. No. 551,640
Int. Cl. B21b *37/12, 5/14*
U.S. Cl. 72—8 4 Claims



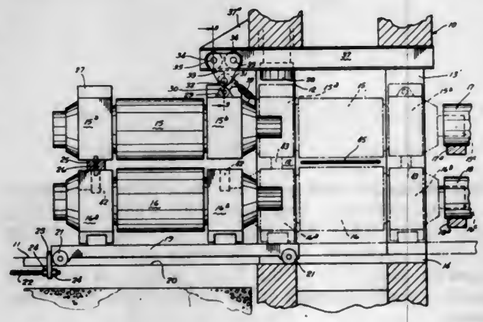
The invention provides a means in a rolling mill for controlling the taper of metal strip passing through by controlling the roll separation at each point of the material in accordance with a control signal. The control signal is generated by a computer which multiples the desired taper by the position of the point along the length of the strip.

3,436,944
TUBE REDUCING APPARATUS
Daniel L. Lombard, Youngstown, Ohio, assignor to Lombard Corporation, Youngstown, Ohio, a corporation of Ohio
Filed July 15, 1965, Ser. No. 472,144
Int. Cl. B21b *17/10;* B21d *7/02*
U.S. Cl. 72—208 3 Claims



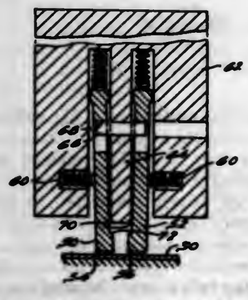
This patent discloses tube reducing apparatus of the kind in which the tube is successively worked by a plurality of equiangularly spaced circular planetary dies containing tapering die openings. The dies traverse a straight line portion of substantial length while in contact with the work. Pinions associated with the ends of the dies cooperate with an internally toothed endless gear path to insure proper indexing, i.e., to insure that the wider part of the tapering groove in each die first comes into contact with the tube, and at the same time, cam means are provided to cooperate with the dies while they traverse the straight line portion of their travel (while they are in contact with the work) to insure contact between the pinions and the gear path.

3,436,945
ROLL-CHANGING APPARATUS FOR A ROLLING MILL
Tadeusz Karnkowski, New Haven, Conn., assignor to Textron, Inc., Providence, R.I., a corporation of Rhode Island
Filed Feb. 21, 1967, Ser. No. 617,545
Int. Cl. B21b *31/08*
U.S. Cl. 72—239 14 Claims



There is provided in a rolling mill, for roll-changing purposes, means to relatively separate cooperating work rolls and means to provide clearance between cooperating ones of the respective pairs of roll chocks and including a carrier movable toward one side of the mill and having as a part thereof a latch element by which one roll in its separated condition may be supported with additional support means, for substantially axial movement in a manner to eject the roll from the mill.

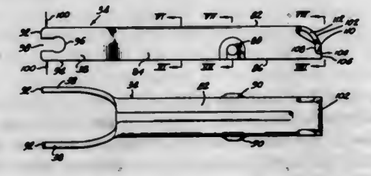
3,436,946
METHOD OF AND APPARATUS FOR MAKING TERMINALS FOR MAKING ELECTRICAL CONNECTIONS
Walter E. Gropp and Dirk Landman, New Cumberland, Pa., assignors to Berg Electronics, Inc., New Cumberland, Pa., a corporation of Pennsylvania
Original application Feb. 6, 1964, Ser. No. 343,042, now Patent No. 3,293,355, dated Dec. 20, 1966. Divided and this application Oct. 12, 1966, Ser. No. 586,154
Int. Cl. B21d *43/28;* B21k *27/06;* B21c *37/02*
U.S. Cl. 72—324 4 Claims



Method and apparatus for making a splice type electrical connector by simultaneously forcing two oppositely

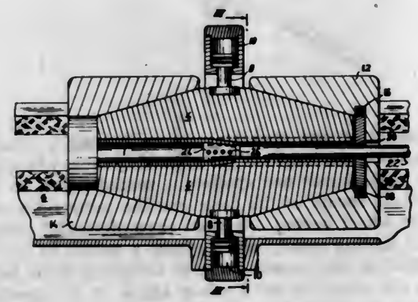
oriented sets of teeth against the surface of a connector blank and away from each other to displace metal from the blank and form oppositely disposed ribs projecting above the surface of the blank.

3,436,947
METHOD OF MANUFACTURING JACK ELEMENT
William J. Steppon, Jackson, Mich., assignor to Ryerson & Haynes, Inc., Jackson, Mich., a corporation of Michigan
Original application Feb. 7, 1966, Ser. No. 525,588, now Patent No. 3,317,187, dated May 2, 1967. Divided and this application Mar. 20, 1967, Ser. No. 624,280
Int. Cl. B21d *28/00*
U.S. Cl. 72—339 4 Claims



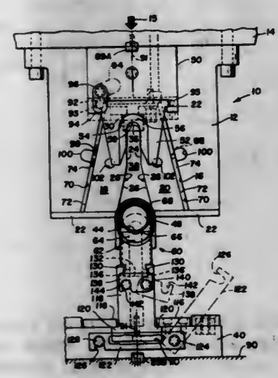
A method of manufacturing a channel shaped element having a convex surface defined at an end thereof from the material of the element wherein the convex surface is substantially tangential to the base portion of the channel configuration. Such formed channel elements are suitable among other uses, for use in scissor jacks wherein the convex surface is utilized for bearing purposes.

3,436,948
METHOD OF FABRICATION OF FINNED TUBES AND DEVICE FOR THE APPLICATION OF SAID METHOD
Pierre Portal, Bologne, and Andre Trieule, Neuilly-sur-Seine, France, assignors to Commissariat à l'Energie Atomique, Paris, France
Filed May 5, 1964, Ser. No. 365,092
Claims priority, application France, May 13, 1963, 934,667
Int. Cl. B21b *17/02;* B21j *13/02*
U.S. Cl. 72—370 5 Claims



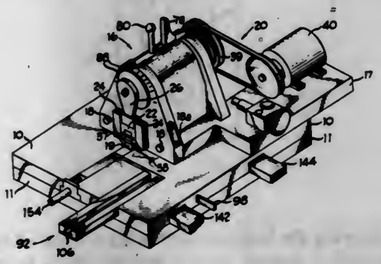
Finned tubes are formed from tubular workpiece stock by exerting internal oscillating substantially radial forces within the stock displaced from one end to the other of the workpiece to force a predetermined thickness of the workpiece into the grooves of a die to form fins while limiting the pressure of the air trapped within the grooves of the die as the fins are formed.

3,436,949
TUBE POINTING APPARATUS
Fred E. Halstead, Rochester, Pa., and George A. Mitchell, Youngstown, Ohio, assignors to George A. Mitchell Company, Youngstown, Ohio, a corporation of Ohio
Filed Apr. 27, 1965, Ser. No. 451,296
Int. Cl. B21j *7/16;* B21d *37/02, 45/00*
U.S. Cl. 72—402 7 Claims



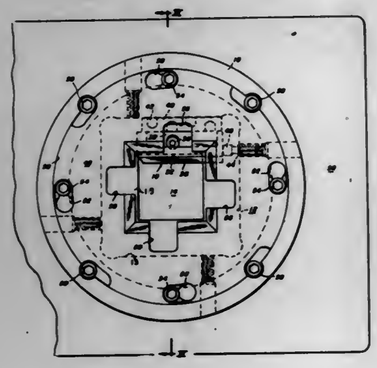
Apparatus for pointing the ends of tubing, and more particularly to improvements in apparatus for pointing the ends of tubing wherein cooperating movable and stationary dies collapse and compact the end portion of the tubing in a single stroke.

3,436,950
VIBRATORY STAMPING TOOL
Paul J. Duncan, Des Plaines, Ill., and Richard C. Hayes, Utica, Mich., assignors to Ludlow Typograph Company, Chicago, Ill., a corporation of Delaware
Filed Aug. 26, 1966, Ser. No. 575,424
Int. Cl. B21j *7/20, 9/18;* B21d *43/20*
U.S. Cl. 72—450 11 Claims



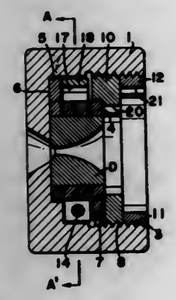
An apparatus is provided which is particularly adapted to stamp articles through the use of a vibrating cutting tool progressively advanced into a workpiece. The vibration of the cutting tool and its advance into the workpiece are effected mechanically and provision is made for accurately controlling the extent of advance.

3,436,951
ADJUSTABLE DRAWING DIE
William H. Phillips, Jr., North Bergen, N.J., assignor to Carmet Company, Pittsburgh, Pa., a corporation of New Jersey
Filed May 3, 1966, Ser. No. 547,268
Int. Cl. B21c 3/06
U.S. Cl. 72—468 9 Claims



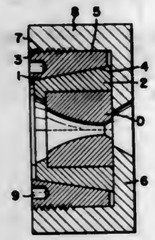
An adjustable drawing die having die block assemblies, including wedge adjusting means, which form a draw opening that can be adjusted without disassembly of the apparatus.

3,436,952
DIE TIGHTENING CASE
Kiyoshi Hajikano, No. 8, 3-chome, Sendagaya, Shibuya-ku, Tokyo, Japan
Filed Sept. 2, 1966, Ser. No. 577,070
Claims priority, application Japan, Sept. 8, 1965, 40/54,612
Int. Cl. B21c 3/00; B21d 37/04; B29f 3/00
U.S. Cl. 72—467 6 Claims



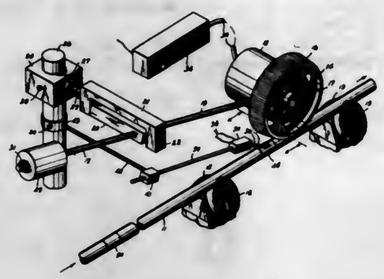
A drawing die having a hollow case body of cylindrical shape with a groove at one end in which is engaged a projection of a band in the shape of a coil spring encircling a die nib inserted therein. The band includes a second projection at an end opposite the first projection which is received in a groove in a ring threadably engaged in the case body. Consequently, by screwing the ring into the case body, the coils of the band are compressed to forcibly engage the outer surface of the die nib and hold the same in locked engagement in the case body.

3,436,953
DIE CASE
Kiyoshi Hajikano, No. 8, 3-chome, Sendagaya, Shibuya-ku, Tokyo, Japan
Filed Sept. 2, 1966, Ser. No. 577,071
Claims priority, application Japan, Sept. 7, 1965, 40/73,002
Int. Cl. B21c 3/00
U.S. Cl. 72—467 5 Claims



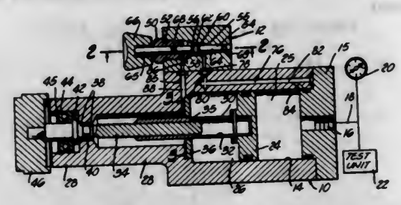
A die case for holding a drawing die in which the latter is secured between the flanges of an outer case and an inner sleeve, the latter having a tapered surface which is slidable on the inner surface of an outer sleeve which in turn is threadably engaged in the outer case and can be advanced therein to cause the die and sleeves to be concentrically locked in the outer case.

3,436,954
METHOD AND APPARATUS FOR CALIBRATING A CABLE MEASURING DEVICE
Walter T. Eppler, Cranford, N.J., assignor to Western Electric Company, Incorporated, New York, N.Y., a corporation of New York
Filed Aug. 23, 1966, Ser. No. 574,330
Int. Cl. G01c 25/00
U.S. Cl. 73—1 7 Claims



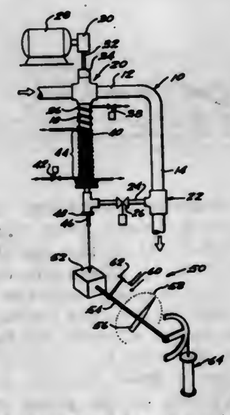
A method of and apparatus for calibrating a counter for measuring the length of an advancing cable wherein a pair of metal bands are applied at spaced points to the outer plastic sheath of the cable and the cable rides over a counter wheel having a tapered circumferential periphery. The leading metal band engages a switch to send a start signal to the counter and the following metal band engages the switch to send a stop signal to the counter. The wheel is adjusted axially to vary the region of engagement of the tapered periphery of the wheel with the cable. One or more adjustments may be made to assure that the length of the cable measured by the counter is the same as the actual length of the cable between the bands. For cable having a conductive sheath, the metal bands may be replaced by insulating bands.

3,436,955
MEANS TO CREATE A PREDETERMINED TEST PRESSURE
Gayle A. Wilcher, Pasadena, Calif., assignor to G.R.S. Engineering Co. Inc., Inglewood, Calif., a corporation of California
Filed Aug. 28, 1967, Ser. No. 663,838
Int. Cl. G01l 27/00; G01m 3/00; F15b 7/00
U.S. Cl. 73—4 12 Claims



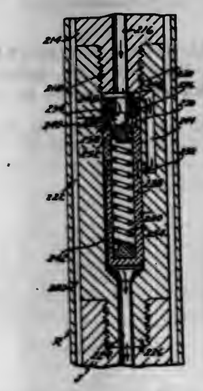
An apparatus for creating a precise gas pressure for test purposes has a cylinder divided by a manually operable piston into a control chamber for communication with a test device and an equalizing chamber, the two chambers being interconnected by an isolation valve which is also connected to a pressure source. At its open position the isolation valve places both chambers in communication with the pressure source for the initial establishment of equal pressures in the two chambers and at its closed position it isolates the control chamber to permit pressure in the control chamber to be varied by manual movement of the piston. The isolation valve is pressure-responsive to open to place the two chambers in communication with each other whenever the pressure in the control chamber exceeds the pressure in the equalizing chamber by a predetermined margin. Thus, the isolation valve opens automatically in the event that an excessive pressure in the control chamber relative to the pressure in the equalizing chamber is created either by admitting pressurized fluid to the control chamber while the isolation valve is inadvertently closed or by inadvertently venting the equalizing chamber while the isolation valve is closed and the control chamber under pressure.

3,436,956
APPARATUS FOR DETERMINING FREEZING POINTS
Joseph W. Fleming, 110 Center St., West Newton, Pa. 15089
Filed Oct. 22, 1965, Ser. No. 501,263
Int. Cl. G01n 25/02
U.S. Cl. 73—17 8 Claims



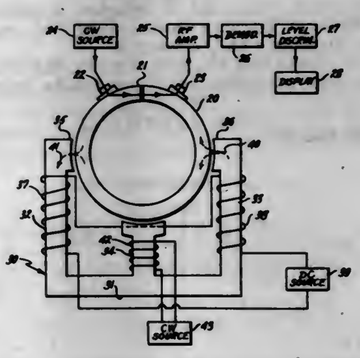
Described is apparatus for determining the freezing points of liquid mixtures including a vessel having a first chamber and a second chamber adjacent each other, means for introducing a quantity of the liquid mixture whose freezing point is to be determined into both of the first and second chambers, means for measuring the temperature of the liquid mixture portion in the first chamber, and means for cooling said quantity of liquid mixture to its freezing point by extraction of heat directly from the liquid mixture portion in the second chamber whereby heat from the liquid mixture portion in the first chamber flows through the liquid mixture portion in the second chamber.

3,436,957
OIL WELL TUBING TESTING AND CLEANING APPARATUS
Whetstine B. Pridy, 6113 Autry Ave., Lakewood, Calif. 90712
Filed Dec. 29, 1966, Ser. No. 605,673
Int. Cl. G01m 3/08
U.S. Cl. 73—40.5 6 Claims



A portable hydraulic tubing testing unit in which the flow of low pressure fluid to set two longitudinally spaced sealing members and high pressure fluid to test the tubing is controlled by a single valve.

3,436,958
ULTRASONIC PIPE TESTING METHOD AND APPARATUS
Noel B. Proctor, Houston, Tex., assignor to American Machine & Foundry Company, New York, N.Y., a corporation of New Jersey
Filed Oct. 11, 1965, Ser. No. 494,434
Int. Cl. G01n 9/24
U.S. Cl. 73—67.6 11 Claims



This application discloses apparatus and methods for inspection of ferromagnetic members such as steel pipe by directing a beam of ultrasonic energy into the pipe and

detecting reflected energy, while stressing the pipe magnetostrictively at a given frequency so that flaws will cause modulation of the reflected energy at such frequency.

3,436,959
METHOD AND PENETRANT FOR FLAW DETECTION

Clio Ernst Redemann, Monterey Park, and Robert A. Seybert, Huntington Beach, Calif., assignors to Purex Corporation, Ltd., Lakewood, Calif., a corporation of California

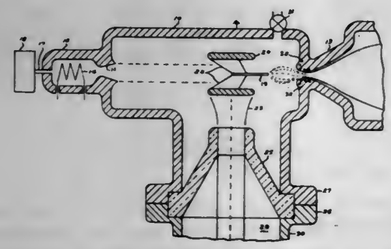
No Drawing. Filed Nov. 29, 1965, Ser. No. 510,362
Int. Cl. G01n *19/08*
U.S. Cl. 73—104 8 Claims

Penetrant composition for application and entry into flaws in solid surfaces comprising monoalkyl benzene in which the alkyl group contains from 10 to 16 carbon atoms and a dye contained in the alkyl benzene to render detectable monoalkyl benzene located in said flaws.

3,436,960
ELECTROFLUIDYNAMIC ACCELERATOR

Elmer G. Johnson, Fairborn, Ohio, assignor to the United States of America as represented by the Secretary of the Air Force

Filed Dec. 23, 1966, Ser. No. 604,484
Int. Cl. G01m *9/00*
U.S. Cl. 73—147 5 Claims

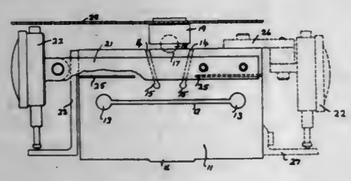


A corona discharge is provided between a corona discharge electrode and a divergent nozzle in a high-pressure chamber. The corona discharge entrains a gas that has been heated and brought to a supersonic velocity and the gas is thereby given an additional acceleration toward the divergent nozzle. The gas is then further accelerated in the divergent nozzle.

3,436,961
LOAD CELL

Edward Philip Goymour, Teddington, England, assignor to National Research Development Corporation, London, England, a body corporate

Filed July 18, 1966, Ser. No. 565,778
Claims priority, application Great Britain, July 20, 1965, 30,799/65
Int. Cl. G01l *5/12*
U.S. Cl. 73—141 15 Claims

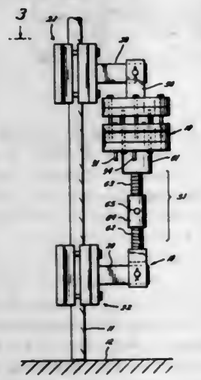


A load cell comprising a block of elastic material so shaped that under load one part of the block bends in relation to the other and the resultant bending movement is applied at a distance from the zone of bending to a measuring device.

3,436,962
LINE TENSION SENSOR

Cecil E. Laws, Corpus Christi, Tex., assignor to National Lead Company, Houston, Tex., a corporation of New Jersey

Filed July 22, 1966, Ser. No. 567,223
Int. Cl. G01l *5/04*
U.S. Cl. 73—143 1 Claim

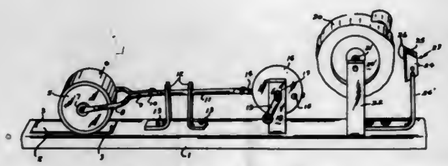


A cable tension measuring device having two cable attaching clamps with integral arms extending transverse to the cable and a load cell between the arms with linkage to adjust length between the arms to cause a deflection in the cable at the clamps. As tension load varies in the cable, a related force is applied to the clamps in their preset deflection and is thus transmitted to the load cell for measurement.

3,436,963
APPARATUS FOR MAKING STANDARDIZED TAPE SPECIMENS

Sylvester G. Domen, Sr., 3165 Orleans St., Mobile, Ala. 36606

Filed Jan. 31, 1967, Ser. No. 613,046
Int. Cl. G01b *19/08*
U.S. Cl. 73—150 5 Claims



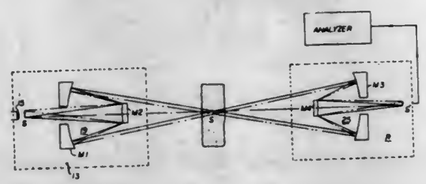
A device for preparing standardized tape specimens for testing purposes includes a roller which presses the tape against a substrate and which is provided solely with mechanical connections for effecting its movement over the tape without producing any variations of the downward forces exercised by the roller during its travel.

A precise-width cutting accessory for the tape is also employed in close proximity to the roll of tape so that the test sample can be pulled from the roll and simultaneously slit accurately to the proper width. Consequently, the tape sample can be applied immediately to the substrate without exposing the adhesive to the atmosphere for any extended period of time.

3,436,964
RADIATION MEASURING INSTRUMENT

Stanley A. Dolin, Flushing, and Seymour Rosin, Massapequa Park, N.Y., assignors to The Warner & Swasey Company, Cleveland, Ohio, a corporation of Ohio

Filed Dec. 28, 1964, Ser. No. 421,553
Int. Cl. G01k *11/00;* G01n *23/12, 21/26*
U.S. Cl. 73—355 5 Claims

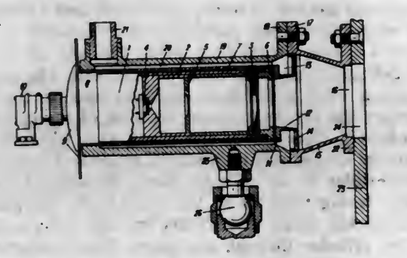


Apparatus and method for measuring gas temperature by analyzing reference radiation passed through the gas. An optical system on one side of a sampling region redirects a diverging beam of radiation from a source into a converging beam of collimated rays which is focused in the sampling region, and a second optical system on the opposite side of the sampling region redirects the radiation received from the focus in the sampling region into a converging beam which is focused on an exit slit. Each optical system has a beam-diverging optical element located in the focal plane of another optical element which transmits or receives the collimated rays to or from the sampling region. These beam-diverging optical elements are optically conjugate and matched optically in size.

3,436,965
AIR-PURGE UNITS FOR RADIATION PYROMETERS

Thomas Land, Dronfield, Sheffield, England, assignor to Land Pyrometers Limited

Filed Sept. 13, 1966, Ser. No. 579,078
Claims priority, application Great Britain, Aug. 4, 1966, 34,912/66
Int. Cl. G01k *13/00, 11/00*
U.S. Cl. 73—355 4 Claims

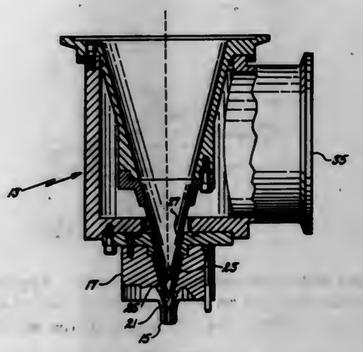


An air-purging unit for a radiation pyrometer which includes a tube disposed about the window end of the pyrometer to form an extension and an outer wall which together with the tube forms an annular purging air chamber about the window end of the tube. An outlet for the air in the chamber is provided by an annular diffusing plate and a converging tubular extension which is attached to the outer wall and terminates in a viewing opening for the pyrometer and an outlet for the purging air. The purging air may be admitted directly to the annular chamber, or it may first be admitted between the tube and the outer wall.

3,436,966
ROCKET ENGINE GAS SAMPLING SYSTEM

William F. Netusil, Woodland Hills, and Robert L. Proffit, Chatsworth, Calif., assignors to the United States of America as represented by the Secretary of the Air Force

Filed Nov. 7, 1967, Ser. No. 681,299
Int. Cl. G01n *1/22*
U.S. Cl. 73—421.5 5 Claims

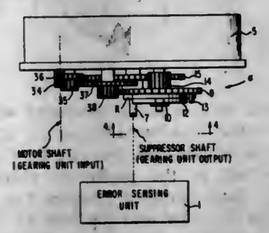


A gas sampling system having a differentially pumped gas inlet probe including a tip through which the combustion gases from a rocket engine chamber are extracted and quenched to effectively prevent any further reaction thereof. First and second skimmers located in the inlet probe operate with associated vacuum pumps to transform the gases into a molecular beam which is then fed into the ionization chamber of a time-of-flight mass spectrometer for analysis.

3,436,967
MECHANICAL SUPPRESSOR FOR JITTERY SHAFT

Richard F. Post, Mountain Lakes, N.J., assignor to Aircraft Radio Corporation, Boonton, N.J., a corporation of New Jersey

Filed Aug. 18, 1965, Ser. No. 480,652
Int. Cl. G01d *11/10;* G08c *19/02*
U.S. Cl. 73—430 4 Claims



A mechanical device for suppressing unwanted fluctuations or "jitter" in instrument indicators where an adjustable lost motion device is placed in the gear train of an instrument between the instrument motor output shaft and the indicator positioning shaft.

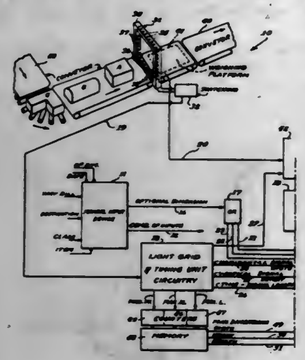
3,436,968
PROCESSING CONTROL SYSTEM

Peter I. Unger and Edward D. Bright, New York, N.Y., assignors to Fairbanks Morse Inc., New York, N.Y., a corporation of Delaware

Filed Feb. 11, 1965, Ser. No. 431,930
Int. Cl. G01n *9/02;* G01g *1/12, 23/26*
U.S. Cl. 73—433 3 Claims

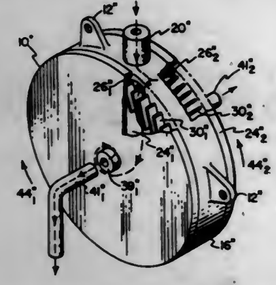
A system and method for obtaining the volume of an article moving along a selected path is disclosed. The system includes an apparatus providing a plurality of beams of energy directed to form essentially a matrix plane, and

sensing means selectively responsive to the beams. The interruption of selected ones of the beams by an article moving in said matrix plane provides an indication of the



height and width dimensions of an article. Apparatus provided for sensing that an article is in the field of said plane provides an indication of the length of the article.

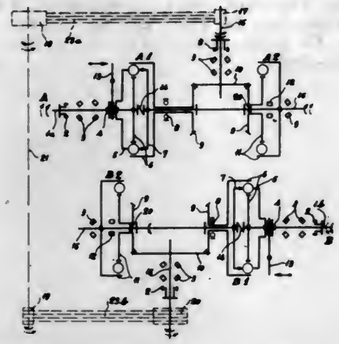
3,436,969
FLUID VORTEX SPIN SENSOR
Edwin R. Phillips, Rosemont, Pa., assignor to Sperry Rand Corporation, New York, N.Y., a corporation of Delaware
Filed Apr. 12, 1965, Ser. No. 447,234
Int. Cl. G01p 19/00
U.S. Cl. 73—505 5 Claims



A fluid vortex spin sensor is disclosed which includes a cylindrical vortex chamber adapted for rotation about its axis. A source of constant pressure fluid is introduced into said chamber at the perimeter thereof. An annularly shaped fluid coupling couples the fluid at the perimeter of the chamber into the interior region of the chamber. The coupling means is operative to impart a tangential velocity to the fluid as it passes therethrough. An exit nozzle located at the axis of the chamber vents the chamber to atmosphere. A recovery channel located in line with the exit nozzle and spaced therefrom couples a utilization device to the spin sensor.

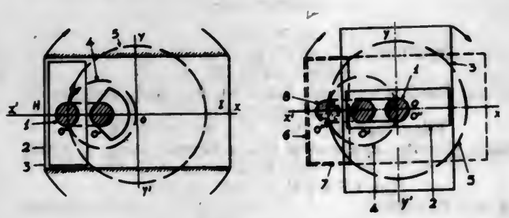
3,436,970
CONTINUOUS AND CONSTANT VARIABLE-RATIO TRANSMISSION MECHANISM
César Alvarez Fernandez, Avenida de las Toreros, 24–6–1, Madrid, Spain
Filed June 19, 1967, Ser. No. 647,027
Claims priority, application Spain, June 26, 1966, 328,314
Int. Cl. F16h 35/02
U.S. Cl. 74—393 5 Claims

A mechanism which makes possible the transmission of a mechanical torque between two shafts joined by the said mechanism with a continuous and constant variable-ratio transmission. The transmission of the said torque is effected in an automatic manner from the shaft of



greater instantaneous torque level to that of lesser instantaneous torque level, without additional regulating actions, and independently of the direction of transmission of the torque between the two shafts.

3,436,971
TRANSFORMNG MECHANISM TO CONVERT CONTINUOUS ROTARY MOTION INTO RECIPROCAL MOTION, IN A ROTARY DIRECTION
Juan Gavrila, Capdevila St. No. 68, Villa Ballester, Buenos Aires, Argentina
Filed July 8, 1966, Ser. No. 563,769
Int. Cl. F16h 21/22
U.S. Cl. 74—44 5 Claims

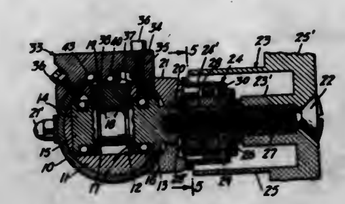


A drive for converting continuous rotary motion into reciprocal motion. A rotary crankshaft and a rotary cylinder respectively have parallel axes of rotation situated at a given distance from each other. The axis of rotation of the cylinder is normal to the cylinder axis. The crankshaft carries a crank arm whose length is equal to the distance between the parallel axes of rotation of the cylinder and crankshaft. The end of the crank arm which is distant from the crankshaft is pivotally connected with a piston which slides in the cylinder along the axis of the latter. Thus, during rotation of the crankshaft, the piston and cylinder will rotate also, rotary motion being transmitted to the cylinder through the piston from the crankshaft. Simultaneously with the continuous rotary movement of these components, the piston is reciprocated along the axis of the cylinder.

3,436,972
DRIVE DEVICE INCORPORATING A TOOTHLESS RACK
Samuel N. Small, Valley Stream, N.Y., assignor to Alfred G. Cohen, and Paul Weiss, Flushing, N.Y.
Filed Feb. 13, 1967, Ser. No. 615,590
Int. Cl. F16h 29/02
U.S. Cl. 74—89 8 Claims

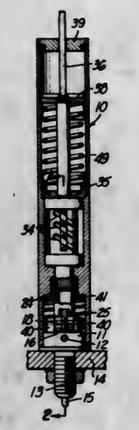
A friction rack and pinion is driven by an alternately rotating drive member keyed to the pinion shaft. The

driving member includes a coil-spring clutch. The rack is held in friction engagement with the pinion by means



of a housing containing recirculating ball bearings which bear upon the rack.

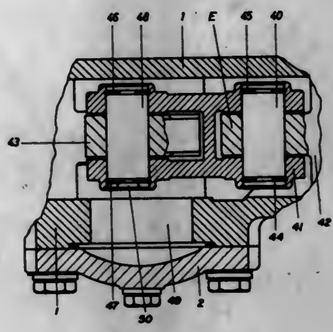
3,436,973
MECHANICAL LOCK CYLINDER
Kamal Y. Aweimrine, 4209 W. 1st St., Los Angeles, Calif. 90004
Filed June 19, 1967, Ser. No. 646,810
Int. Cl. F16h 29/20
U.S. Cl. 74—89.15 10 Claims



A mechanical lock cylinder which is particularly adapted for use in controlling the movement and positioning of aircraft or other vehicle seats, as well as for other uses. The cylinder provides linear adjustment by purely mechanical means and is self-locking at any and all points within its stroke limit.

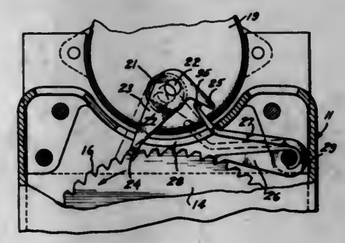
3,436,974
CRANK ASSEMBLY FOR POWER STEERING
Heinrich Wagner and Erich Jablonsky, Schwabisch Gmund, Germany, assignors to Zahnradfabrik Friedrichshafen Aktiengesellschaft, a corporation of Germany
Filed Mar. 2, 1967, Ser. No. 620,183
Claims priority, application Germany, Mar. 4, 1966, Z 12,071
Int. Cl. F16h 21/44
U.S. Cl. 74—105 7 Claims

The invention relates to booster power steering systems in which a pressure operated piston is connected to a crank arm which in turn operates the steering linkage. The particular invention pertains to a means for connecting the piston to the crank arm in such a manner that final assembly between those elements can be accomplished by providing access at the end of the cylinder housing in which the piston slides. More particularly, the invention provides for a single access opening laterally



of a substantially closed end of a cylinder housing through which a pintle member, such as a pin, can be inserted to effect a connection, or withdrawn for purposes of disassembly.

3,436,975
SEQUENTIAL TIMER
Lee A. Woolley, Kokomo, Ind., assignor, by mesne assignments, to The Scott & Fetzer Company, Lakewood, Ohio, a corporation of Ohio
Filed Feb. 6, 1967, Ser. No. 614,081
Int. Cl. F16h 29/04
U.S. Cl. 74—116 10 Claims

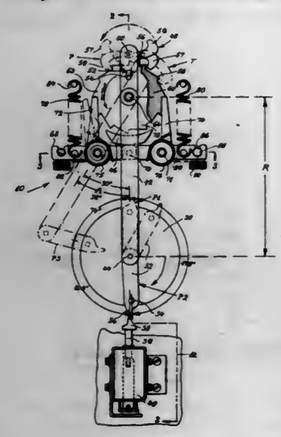


A timer includes a disc-type of cam having circumferentially arranged teeth, and circular cam tracks on opposite faces thereof for coaction with switches, all carried by a housing. A motor is mountable on either side of the housing and has an eccentric that acts through a drive pawl on successive peripheral teeth of the cam, a stop pawl precluding reverse cam rotation.

3,436,976
STEPPING MECHANISM
Solomon Frankel, 2455 Haring St., Brooklyn, N.Y. 11235
Filed Sept. 25, 1967, Ser. No. 670,319
Int. Cl. F16h 27/02
U.S. Cl. 74—143 9 Claims

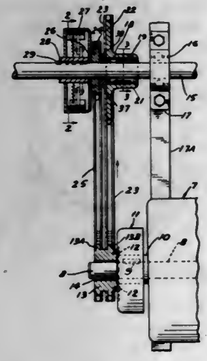
The disclosure describes a stepping mechanism in which a double ratchet is stepped by an oscillating arm which is actuated each time a rotating actuating link encounters an interposed plunger of a solenoid. The solenoid is pulsed periodically to extend the plunger in the path of the ro-

tating link. The oscillating arm carries a double reversible pawl for stepping the ratchet in opposite direction when



the pawl is reversed and the direction of rotation of the actuating link.

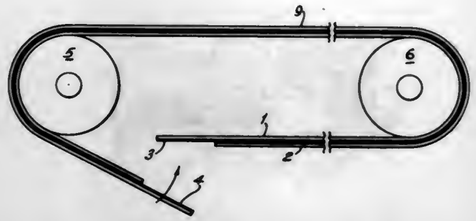
3,436,977
TWO-SPEED AUTOMATIC TRANSMISSION
Marcellus W. Gredell, 380 Griswold Road, Northville, Mich. 48167
Filed Jan. 2, 1968, Ser. No. 695,101
Int. Cl. F16h *11/08*
U.S. Cl. 74—217 4 Claims



This application discloses an automatic, two-speed, power transmission for use in lightweight devices, such as mini-bikes, motor scooters and the like. The invention resides in the provision of a power source having a drive shaft, a counter shaft and a plurality of centrifugal clutches, sprockets and chains, arranged to drive the counter shaft at different speeds, automatically, upon the change of speed of the power source.

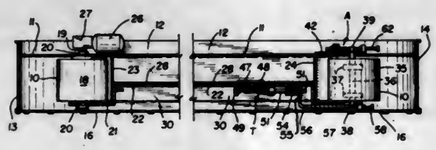
3,436,978
POWER TRANSMISSION BELT
Donald W. Rahmes, Hinsdale, Ill., assignor to Johnson & Johnson, a corporation of New Jersey
Filed June 8, 1967, Ser. No. 644,664
Int. Cl. F16g *1/26*
U.S. Cl. 74—232 3 Claims

A power transmission or conveyor belt is constructed from two substantially identical segments of pressure sensitive tape that are positioned one on top of the other in offset lengthwise relationship with the adhesive coatings in intimate face-to-face contact to thus form a laminate with opposing adhesive tabs at the ends thereof. The belt



is completed by placing the laminate around a set of pulleys and pressing the tabs together.

3,436,979
ENDLESS BELT INSTALLATION INCLUDING BELT TIGHTENING DEVICE
Victor D. Molitor, 2829 S. Santa Fe Drive, Englewood, Colo. 80110
Filed Jan. 23, 1967, Ser. No. 610,903
Int. Cl. F16h *7/10*
U.S. Cl. 74—242.15 6 Claims

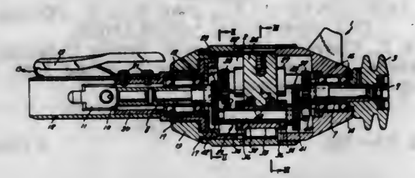


An endless belt installation in which access to the opposite or back side of the belt is normally inconvenient, including a drive pulley and an idler pulley at opposite ends of the belt. The idler pulley is mounted on a non-rotatable shaft which is tippable, with the idler pulley, on the accessible side and toward the drive pulley. Springs urge each end of the idler pulley shaft toward adjustable stops, while the spring on the accessible side is placed between the upper and lower reaches of the belt, along with a rod surrounding the spring and a toggle device for pushing and retracting a slide bar against the adjacent end of the idler pulley shaft. The toggle device and rod are pivotal about the axis of the rod, so that the toggle handle will clear the belt during movement of the slide bar toward or away from the end of the idler shaft. With the idler pulley and its shaft in tipped position, the corresponding end of the belt may be slipped onto and off the idler pulley without difficulty, with the opposite end of the belt engaging the drive pulley, but the belt will be tightened to the same extent after each removal.

3,436,980
TRANSMISSION FOR SURGICAL OUTFITS OR THE LIKE
Hans Loge, Biberach, and Erich Bareth, Aussangweg, Germany, assignors to Kaltenbach & Voigt, Biberach an der Riss, Germany
Filed Apr. 13, 1967, Ser. No. 630,602
Claims priority, application Germany, June 21, 1966, K 59,553
Int. Cl. F16h *3/34*
U.S. Cl. 74—352 21 Claims

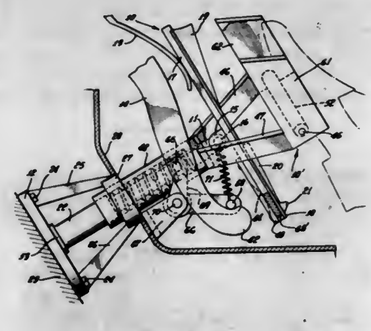
A variable-speed transmission for use in surgical outfits, particularly for transmitting torque to the drill or another tool in a dentist's outfit. Comprises a housing which accommodates coaxial input and output shafts and at least

two radially movable motion transmitting units including compound gears whose gears can be moved into mesh with gears on the input and output shafts in response to radial movement with reference to the housing. The speed



changer comprises a ring which surrounds the housing and carries an internal projection which can shift one of the compound gears at a time so that the one compound gear then transmits torque from the input shaft to the output shaft.

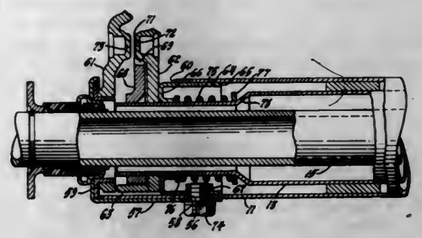
3,436,981
FOOT-OPERATED CONTROL FOR MOTOR DRIVEN VEHICLES
Arturo Alfred La Chiusa, Los Angeles, Calif., assignor to Auto-Safe Research and Development Corporation, a corporation of New York
Filed Feb. 23, 1967, Ser. No. 617,892
Int. Cl. G05g *9/02*
U.S. Cl. 74—478.5 5 Claims



A foot pedal pivotally mounted at its approximate longitudinal midpoint upon a stationary mounting shaft is adapted to actuate a vehicle accelerator lever by depression of the toe end of the pedal and a braking means lever by depression of the heel end of the pedal; a foot supporting cross-bar is mounted for generally vertical movement directly above and parallel to the pivotal axis of the foot pedal and is upwardly biased away from the pedal under the influence of spring means associated with its mounting means, the crossbar providing suppor at the operator's foot arch over the pivotal axis of the pedal; and means normally biasing the vehicle braking means into a brake applied position are associated with the foot supporting crossbar to cause release of the brake means upon depression of the crossbar subject to subsequent actuation thereby through operation of the brake lever under the heel portion of the foot pedal.

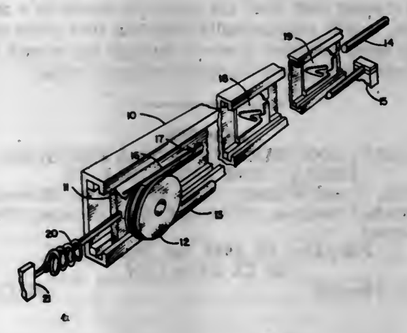
3,436,982
TRANSMISSION LINKAGE ADJUSTOR
James J. Jirik, Saginaw, Mich., assignor to General Motors Corporation, Detroit, Mich., a corporation of Delaware
Filed May 16, 1967, Ser. No. 638,954
Int. Cl. G05g *11/00*
U.S. Cl. 74—484 6 Claims

A transmission control linkage having two controlled levers, with a predetermined clearance between them, and a single adjustment member for setting the clearance. The adjustment member surrounds a portion of a support column and has an inclined slot through which a fastner is inserted to secure the adjustment member to the support column. One of the controlled levers bears against the ad-



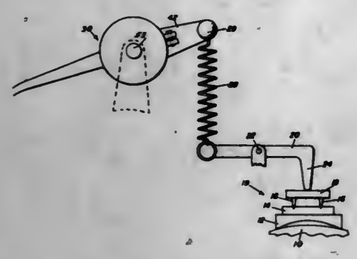
justment member so that, if the fastener is loosened and the adjustment member is rotated, the controlled lever and the adjustment member, due to the inclined slot, are adjusted relative to the other controlled lever to establish the desired clearance.

3,436,983
LATCH STRUCTURE FOR PULL LINES
John D. Krantz, Inglewood, Calif., assignor to Coastal Dynamics Corporation, a corporation of California
Filed Aug. 8, 1967, Ser. No. 659,172
Int. Cl. G05g *5/06*
U.S. Cl. 74—527 5 Claims



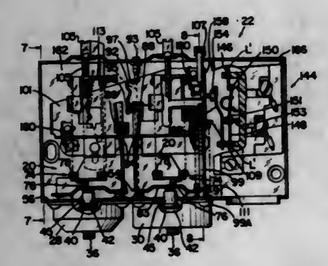
This disclosure relates to a latch structure for latching a line pulled from a console unit in a given extended position. The line may be a tube or hose used in a dental console terminating in a nozzle structure, suction device, or other instrument which may be pulled from the console. The latch structure comprises a tilted V-shaped member positioned along a track within the console with its outer apex facing a cooperating hook element which moves along the track when the line is withdrawn. The arrangement is such that the hook element engages one arm of the V and rides downwardly over the end of the arm. Relaxing of the tension on the line permits the hook element to engage the inner vertex of the V and thus the line is latched to its extended position. Pulling on the line will then cause the hook element to ride over the end of the other arm of the V to be free of the inner vertex and thus in a position to be retracted into the console by a suitable biasing means. The invention contemplates a series of such latch members positioned along the track so that the line may be extended and latched at various positions.

3,436,984
SINGLE LEVER SELF-LOCKING CAM HANDLE
Jack M. Suddarth, Muskogee, Okla., assignor to Coburn Manufacturing Company, Inc., Muskogee, Okla., a corporation of Oklahoma
Filed Oct. 28, 1966, Ser. No. 590,397
Int. Cl. G05g 5/06
U.S. Cl. 74—528 3 Claims



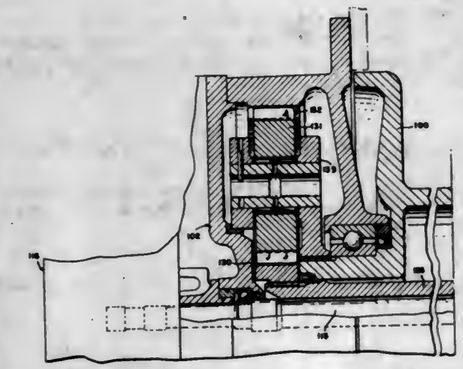
This invention relates to a lens grinding and polishing machine and particularly to means for manually setting and maintaining the pressure between the "lap" and workpiece during the polishing operation. A pivotally mounted lever contacts a workpiece holder at one end and is connected at the other end to the self-locking cam handle by means of a coil spring and a second lever. The handle and said second lever are connected through a cam and locking assembly comprising a cylindrical collar secured to the handle having an elongated slot in its cylindrical surface. A roller or cylindrical pin is disposed in said slot. A cam member is rotatably disposed within the collar—the cam member being a part of said second lever. The entire assembly is surrounded by a cylindrical cap and operates in such a manner that when the handle is moved to a certain position, it will automatically maintain that position and thereby apply constant pressure through the second lever, spring and pivoted lever to the workpiece holder.

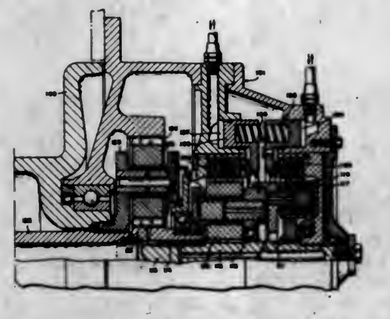
3,436,985
ARM CONSTRUCTION FOR A PRESSURE REGULATOR AND THE LIKE
Arthur L. Good, Elkhart, Ind., assignor to Robertshaw Controls Company, Richmond, Va., a corporation of Delaware
Filed Dec. 20, 1966, Ser. No. 603,195
Int. Cl. G05g 1/04
U.S. Cl. 74—559 21 Claims



This application discloses an arm construction for a pressure regulator and the like having a horizontal arm lever and a vertical lever rigidly secured together at a rigid arm lever junction. An arm fulcrum groove is adjacent said junction. A universal frame fulcrum means includes a rockable plate with a plate ridge on the upper side and a flat underside. The frame has a ridge construction at right angles to said plate ridge to produce the universal action. The arm construction may be formed from a single blank by bending processes.

3,436,986
CLUTCH-CONTROLLED, TWO-SPEED, POWER-TRANSMITTING MECHANISM
Frank L. Lawrence, Vancouver, British Columbia, Canada, assignor to Lawrence & Schild Ltd., a corporation of Canada
Filed July 19, 1966, Ser. No. 566,421
Int. Cl. F16h 57/10
U.S. Cl. 74—768 6 Claims



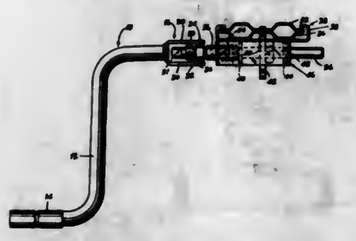


This invention relates to a two-speed power-transmitting mechanism having a reversible motor, preferably hydraulic, as its power source and for each of its two ratios of transmitted power employing a respective planetary gear system. Including, in the instance of each such planetary gear system, the usual sun gear, ring gear, and spider-carried planet pinions, the invention is one in which the ring gears admit to free rotation and wherein the planetary systems are brought into play, selectively, by the use of brakes to arrest the rotation of the related ring gear.

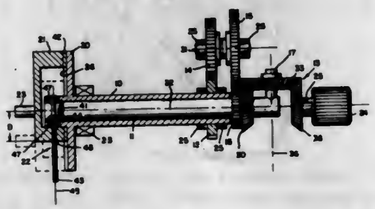
3,436,987
NONREMOVABLE SWIVEL CRANK STRUCTURE
Bob G. Baxter, Winfield, Mo., assignor to The Binkley Company, Warrenton, Mo., a corporation of Missouri
Filed Aug. 21, 1967, Ser. No. 661,920
Int. Cl. F16h 55/12
U.S. Cl. 74—547 5 Claims

A swivel crank construction for actuating the landing gear of a truck-trailer, and the like, vertically and/or

longitudinally of the body, comprising a crank handle including at one end a socket having opposed fingers, a collar supported by trunnions mounted in the fingers, the collar being disposed on the free end of the operating shaft of an actuating mechanism for moving a truck landing gear mechanism vertically or longitudinally, a collar secured to the shaft against removal between the free end of the shaft and the trunnion supported collar, the free end of the shaft and the socket being of complementary cross sections, the socket being movable to engage the free end of the shaft for interlocking relationship, the trunnions being welded or otherwise secured to the fingers to prevent separation and removal of the socket and crank. For longitudinal movement, a sprocket is mounted on the shaft in operative relationship with movable and stationary members of the landing gear mechanism preventing removal of the trunnion-supported collar and a reciprocating unit for locking and releasing the sprocket effective upon engagement of the end of the shaft with the socket crank and release thereof, respectively.

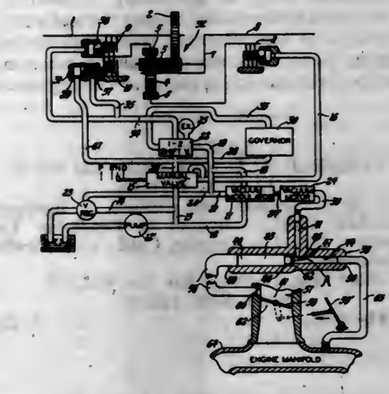


3,436,988
ADJUSTABLE CRANK MECHANISM
David P. Simonton, El Segundo, Calif., assignor to TRW Inc., Redondo Beach, Calif., a corporation of Ohio
Filed Jan. 18, 1968, Ser. No. 698,845
Int. Cl. F16h 35/08; G05g 1/00
U.S. Cl. 74—837 10 Claims



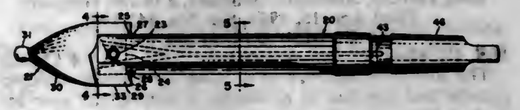
A crank mechanism having a crank pin capable of being displaced radially relative to its center of rotation while stationary or during operation of the crank. The crank mechanism has an inner shaft which operates concentrically within an outer shaft, a drive gear which turns the outer shaft, a gear train which drives a differential gear at two times the speed of the outer shaft, a radial gear shaft connecting the differential spider gear to the inner shaft to rotate the inner shaft in normal mode at the same speed and direction as the outer shaft, and a control knob connected to the differential gear for varying the differential output rotational speed and consequently the relative speeds of the inner and outer shaft. At the end of the shafts opposite the differential gear is located a crank pin mounted on a radially movable block. A radially oriented jackscrew is geared to the end of the inner shaft and mounted in bearings in the outer shaft so that the jackscrew and block will rotate normally about the common axis of the inner and outer shafts, and in addition the jackscrew will rotate about its own axis only when there is a difference in rotational speed between the inner and outer shafts. Rotation of the jackscrew, about its axis, radially displaces the crank pin and movable block which engages the jackscrew. Rotation of the knob adds to or subtracts from the relative rotation of the inner shaft by changing the differential input, and consequently the crank pin is displaced by the resulting rotation of the jackscrew.

3,436,989
ENGINE DRIVEN TRANSMISSION AND CONTROLS
Thomas J. Kreig, East Lansing, and Gerald E. Kapp, Lansing, Mich., assignors to General Motors Corporation, Detroit, Mich., a corporation of Delaware
Filed Feb. 10, 1967, Ser. No. 615,223
Int. Cl. F16h 47/00
U.S. Cl. 74—864 15 Claims



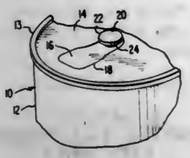
An engine driven multiratio transmission is disclosed with a shift control system having a main line pressure for establishing the ratios and a modulated pressure providing a downshift bias on the speed upshifted shift valve in which both pressures vary with the normal engine manifold vacuum during open throttle engine operation and a boosted engine manifold vacuum during closed throttle engine operation to soften closed throttle downshifts.

3,436,990
SPADE DRILL
Asher Tourison, 120 Dale Court, Grand Haven, Mich. 49417
Filed Dec. 27, 1965, Ser. No. 516,582
Int. Cl. B23b 51/02
U.S. Cl. 77—68 4 Claims



A drilling tool including a holding bar and a helical twisted cutting bit mounted in the end of the holding bar.

3,436,991
CAN OPENING APPARATUS
William T. Saunders, Weirton, W. Va., assignor to National Steel Corporation, a corporation of Delaware
Filed May 9, 1967, Ser. No. 637,265
Int. Cl. B67b 7/36
U.S. Cl. 81—3.32 7 Claims



Apparatus for opening cans having an opening lug positioned within a score line defining a tear strip in the can end closure. A can is placed in a loading station with the opening lug held in a gripping device, and the can supported and the can body gripped by means mounted on a carriage movable along an upstanding framework. The carriage is moved downwardly, tearing the tear strip from the can end, to a can-unloading station where the can body-gripping means are released and the can removed. The apparatus is of particular utility in vending machines.

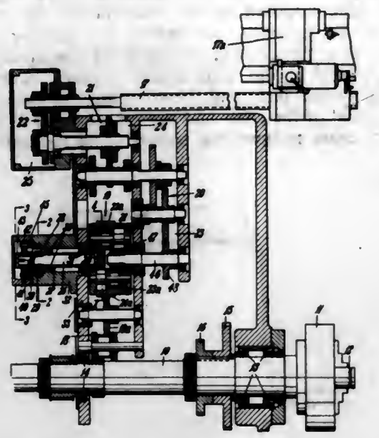
3,436,992
REVERSIBLE RATCHET WRENCH WITH FLOATING PAWLS
John A. Over, Arcadia, and Clifford A. Bergquist, Alhambra, Calif., assignors to Pendleton Tool Industries, Inc., Los Angeles, Calif., a corporation of Delaware
Filed Mar. 10, 1967, Ser. No. 622,319
Int. Cl. B25b 13/46
U.S. Cl. 81—63.1 4 Claims



A reversible ratchet wrench has a pair of floating pawls selectively engageable with ratchet teeth on a rotatable member. The pawls are designed to be loaded in compression only, thereby permitting their manufacture economically by powder metallurgy techniques.

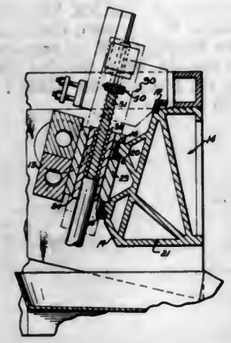
3,436,993
SCREW CUTTING LATHES AND OTHER SCREW CUTTING MACHINES
Albert Lucie, Johnstone, Scotland, assignor to Wickman Lang Limited, Johnstone, Scotland, a British company
Filed Apr. 15, 1966, Ser. No. 542,796
Int. Cl. B23b 1/12, 21/00, 1/00
U.S. Cl. 82—5 4 Claims

The invention consists in a lathe for cutting multiple threads and consists in providing a differential gear introduced between the work spindle which carries the chuck and the variable speed gear by which the lead screw is rotated, the rotation of the lead screw traversing the carriage carrying the cutting tool, one member of the differential gear being driven by the work spindle, another member thereof driving the lead screw and the third member thereof, which is normally stationary, having



means by which it can be given a partial rotary movement to index the workpiece relative to the cutting tool.

3,436,994
MACHINE TOOL
Robert E. Diener, Shaker Heights, and Andrew A. Spisak, Cleveland, Ohio, assignors to The Warner & Swasey Company, Cleveland, Ohio, a corporation of Ohio
Filed Jan. 5, 1967, Ser. No. 607,444
Int. Cl. B23b 21/00; F16h 1/20
U.S. Cl. 82—24 9 Claims

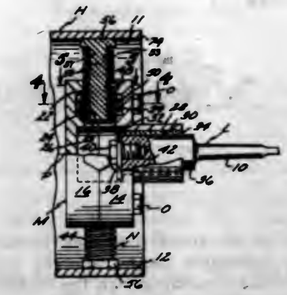


A mechanical brake mechanism prevents a machine tool turret slide, which is mounted in an inclined position, from moving in a downward direction due to its own mass. The mechanical brake mechanism includes a one-way overrunning clutch, which interconnects a driving shaft member for the slide and a brake drum, and brake shoes which engage the brake drum to prevent rotation of the brake drum.

3,436,995
TAIL STOCK STRUCTURE
Clifford L. Blair, Santa Susana, Calif. (354 S. Evergreen Drive, Independence, Oreg. 97351)
Filed Apr. 21, 1967, Ser. No. 632,737
Int. Cl. B23b 31/40, 5/22
U.S. Cl. 82—38 9 Claims

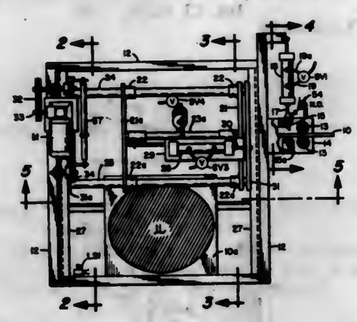
A tail stock structure that may be removably mounted on a conventional lathe tail stock to so support a tubular

member that it rotates on the longitudinal axis of the bore defined in the member, which structure permits mechanical operations to be carried out on the interior of the tubular member outwardly that portion of the tubular



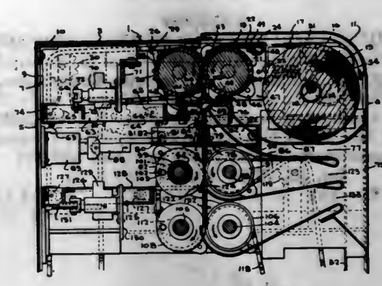
member engaged by the tail stock structure. Such mechanical operations may constitute the formation of a circumferentially extending recess or the like on the interior surface of the tubular member.

3,436,996
WEB CUTTING MACHINE
James W. Toensing, Minneapolis, Minn., assignor, by mesne assignments, to Buckbee-Mears Company, St. Paul, Minn., a corporation of Minnesota
Filed Apr. 7, 1966, Ser. No. 540,937
Int. Cl. B26d 7/06, 5/20, 7/08
U.S. Cl. 83—87 13 Claims



A machine for cutting and stacking sheets of metal which are severed off the front or leading end of a continuously moving web of metal which may be in the order of .006 inch thick and 22 to 24 inches wide and which is moving on edge in a vertical plane. During each cutting stroke, the front end section of the web is momentarily halted while clamping jaws grip the top edge. After the section is severed, the jaws which are carrying the sheet of metal are moved by a carriage to a stacking location where they are opened to release the sheet onto a stack. The carriage is then returned to the starting point to be ready for the next cut. In a preferred embodiment the carriage moves along the line of travel of the webbing and also laterally thereto before depositing the severed sheet. To return to the starting location the jaws must then be opened wide enough to pass over the next leading section of the web which is being fed in. For the most part, electrically responsive air cylinders provide the required driving forces and the sequential operation of these cylinders is electrically synchronized.

3,436,997
PAPER DISPENSING APPARATUS
John J. Abraham, Irvington, N.J. (220 Parker Road, Elizabeth, N.J. 07208), and Maroon J. Abraham, 403 Chapman St., Irvington, N.J. 07111
Filed Mar. 6, 1967, Ser. No. 620,851
Int. Cl. B26d 5/24, 5/10, 5/30
U.S. Cl. 83—205 12 Claims



Paper dispensing apparatus to deliver paper from a roll in preselected length increments of full roll width or selected divisions of that width. A control system which is selected button operated, and includes a memory wheel, determines the length of paper advanced from the roll, the operation of cutoff shear blades and the path of travel of the paper from the apparatus. The selected path of paper travel causes the paper to be delivered undivided longitudinally or divided longitudinally into two or more sections by passage between rotary cutters.

3,436,998
TABLE ASSEMBLY
Joseph G. Maceyka, West Chester, Roger J. O'Kane, Jr., Berwyn, and Hans Kothe, Philadelphia, Pa., assignors to The Warner & Swasey Company, Cleveland, Ohio, a corporation of Ohio
Filed Oct. 21, 1966, Ser. No. 588,469
Int. Cl. B26d 7/06
U.S. Cl. 83—412 2 Claims

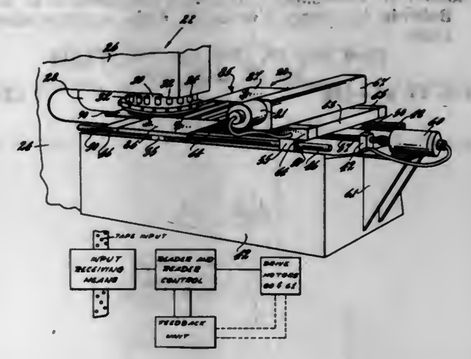


Table assemblies are used for positioning and holding flat work sheets within a machine tool for punching and the like. In one prior art type of table assembly, a carriage moves on a table assembly base toward and away from the machine tool in a direction designated a Y direction, and a cross-slide moves laterally on the carriage in a direction designated an X direction. The cross-slide holds the workpiece in the machine tool. The present invention is concerned with an improved table assembly of this type. A U-shaped carriage is disposed horizontally

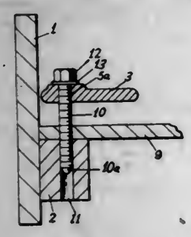
with the open portion of the U directed toward the machine tool, and a cross-slide is positioned on the base of the U-shaped carriage. Parallel shafts are disposed respectively under the arms of the U to slidably support the carriage by means of linear bushings, and similar parallel shafts and linear bushings on the carriage support the cross-slide. Respective drive screws drive the carriage and cross-slide.

3,436,999
STRIPPING CUTTERS FOR SEWING MACHINES
Richard Lewis, Montoursville, and Paul D. Pryor, Montgomery, Pa., assignors to Glamorise Foundation, Inc., New York, N.Y., a corporation of New York
Original application Sept. 8, 1964, Ser. No. 394,668, now Patent No. 3,329,113, dated July 4, 1967. Divided and this application July 3, 1967, Ser. No. 659,261
Int. Cl. B26d *5/08, 7/26, 3/10*
U.S. Cl. 83—561 5 Claims



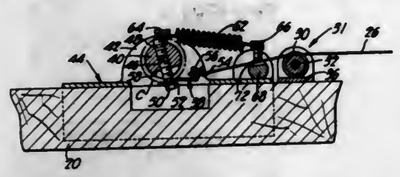
A sewing machine attachment for automatically cutting stripping between individual pieces of work passing from the presser foot of the machine. The attachment consists of a guillotine type cutter with a power actuated cutter blade coacting with a rotatable impact receiving roller.

3,437,000
MOUNTING STRING PLATES IN MUSICAL INSTRUMENTS
Samuel W. Goodlander, Mason, Ohio, assignor to D. H. Baldwin Company, Cincinnati, Ohio, a corporation of Ohio
Filed Aug. 19, 1966, Ser. No. 573,519
Int. Cl. G10c *3/08*
U.S. Cl. 84—188 7 Claims



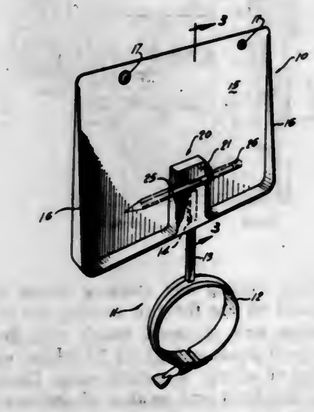
A string plate mounted in predetermined spaced relation to a supporting frame by means of bolts which are in threaded engagement both with the string plate and the supporting frame, temporary supports being employed to initially establish the predetermined spaced relation of the string plate relative to the supporting frame, whereupon the bolts are set and thereafter serve to support the spring plate in fixed spaced relation to the supporting frame.

3,437,001
KEY CHANGER AND TREMOLO FOR GUITAR
Arthur A. Kraft, Riverside, Calif., assignor of forty-nine percent to George J. Heffley, Riverside, Calif.
Filed Apr. 19, 1966, Ser. No. 543,587
Int. Cl. G10d *3/14*
U.S. Cl. 84—312 10 Claims



Guitar strings are attached at their bottom ends to a rockshaft by adjustable means whereby each string is tangent to a circle concentric with the rockshaft, and the radius of said circle can be increased or decreased by adjustment so that turning the rockshaft causes all strings to maintain correct tonal relationship with one another as their pitch changes. The rockshaft can be oscillated by either a tremolo arm or a key-change control. A second rockshaft is connected to the first by springs, which oppose the torsional effect of string tension, and is rotated simultaneously with the first in the direction to increase spring tension when the opposing spring tension is increased.

3,437,002
MUSIC HOLDER
Charles T. Urban, La Grange, and John Defauw, Chicago, Ill., assignors to American Plating and Manufacturing Company, Chicago, Ill., a corporation of Illinois
Filed July 25, 1966, Ser. No. 567,732
Int. Cl. G10g *7/00*
U.S. Cl. 84—453 5 Claims

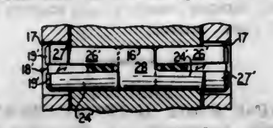


A music holder for a portable musical instrument having a non-circular, metallic stem and an organic plastic sheet carrier. The sheet carrier having a bore hole into which the stem is fitted and frictionally held.

3,437,003
RETAINING PIN WITH SCISSORS-LIKE JOINT
Kenneth A. Rhoads, Peoria, Ill., assignor to Caterpillar Tractor Co., Peoria, Ill., a corporation of California
Filed Dec. 6, 1967, Ser. No. 688,473
Int. Cl. F16b *19/00, 21/00*
U.S. Cl. 85—8.3 6 Claims

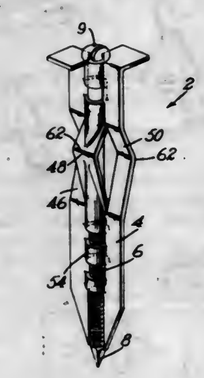
A cylindrical retaining pin assembly comprising two elongated pin segments where the midportion of the two

pin segments combine in the pin assembly to define a scissors-like joint and an elastic spreader member is in-



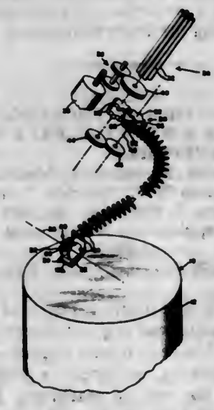
serted between each pair of adjacent ends of the segments in the pin assembly.

3,437,004
SHEET METAL EXPANDABLE FASTENER
George H. Pacharis, Wyomissing, Pa., assignor to USM Corporation, Flemington, N.J., a corporation of New Jersey
Filed July 25, 1967, Ser. No. 655,865
Int. Cl. F16b *13/10*
U.S. Cl. 85—71 4 Claims



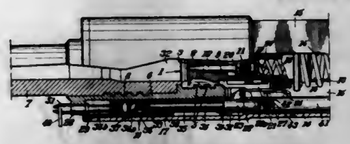
A fastening device having a wall piercing point and a deformable member, which device may be initially driven through a surface and then firmly secured thereto.

3,437,005
FLEXIBLE ARTICLE CONVEYOR FOR HIGH SPEED APPLICATIONS
Jay M. Trumper, Burlington, Vt., assignor to General Electric Company, a corporation of New York
Filed May 25, 1967, Ser. No. 641,252
Int. Cl. F41d *9/06*
U.S. Cl. 89—33 6 Claims



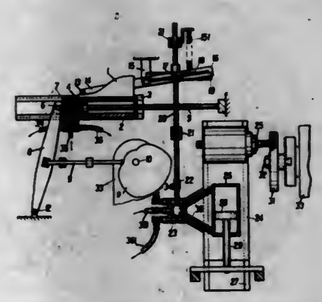
A flexible conveyor mechanism capable of transferring ammunition rounds between a high rate of fire gun, such as a modern "Gatling-gun" and an ammunition storage device movable relative thereto, under adverse conditions including twisting, fanning or bending of the conveyor as the result of such relative movement. The conveyor includes an outer guide and an inner helical element gripping and delivering cartridges when powered through means which may be geared to the gun power source.

3,437,006
AUTOMATIC FIREARM WITH BREECH MECHANISM UNLOCKED BY THE RECOILING BARREL
Bernard Maillard, Geneva, Switzerland, assignor to Brevets Aero-Mecaniques S.A., Geneva, Switzerland, a society of Switzerland
Filed Apr. 1, 1968, Ser. No. 717,841
Claims priority, application Luxembourg, Oct. 6, 1967, 54,608
Int. Cl. F41d *5/04*
U.S. Cl. 89—169 9 Claims



The fire-arm includes means for controlling the point during recoiling at which the breech mechanism is unlocked. These means comprise a first piston and cylinder operatively connected by means of a liquid to a second piston and cylinder of smaller cross-section than the first. The first piston is connected to the recoiling part of the fire-arm, and the first cylinder, to the non-recoiling part. Adjusting means are associated with the first piston for selecting the portions of the travel of the first piston with the recoiling part during which the first piston will operate the second piston, which in turn unlocks the breech mechanism.

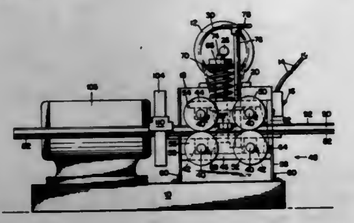
3,437,007
CONTROL ARRANGEMENTS FOR AUTOMATIC CUTTING MACHINES
Alfred Schmermund, 62 Kornerstrasse, Gevelsberg, Westphalia, Germany
Filed Oct. 12, 1966, Ser. No. 586,244
Claims priority, application Great Britain, Oct. 22, 1965, 44,724/65
Int. Cl. B23c *1/16, 1/18*
U.S. Cl. 90—13.9 10 Claims



1. A control arrangement for an automatic machine tool comprising a movable carrier, an original curve member mounted on said carrier, means sensing the shape of said curve member, means for displacing and

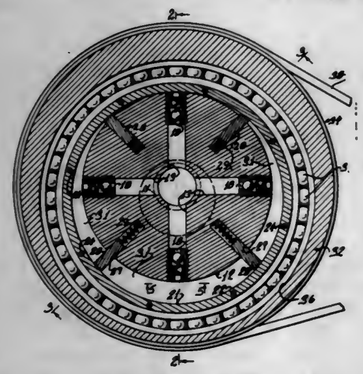
moving said sensing means and said original curve member relative to each other, means remote from said curve member and sensing means influencing the relative movement therebetween, control means in association with said curve member and sensing means for controlling the movement of a machine tool head, means linking said influencing means with said curve member and sensing means, said influencing means being capable of varying the speed of relative movement of said sensing means and said original curve member, said control means including a movable control member, means for selectively positioning said control means whereby the ratio of movement of said sensing means and movement of said control member can be varied.

3,437,008
SHEET METAL DEBURRING APPARATUS
Tage G. Persson, 2 Henry St., Bloomfield, N.J. 07003
Filed May 10, 1967, Ser. No. 637,410
Int. Cl. B23d *1/20*
U.S. Cl. 90—24 **5 Claims**



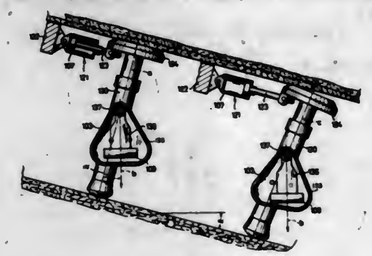
Apparatus for removing burrs from the edges of a workpiece comprising pairs of rollers for feeding the workpiece along a gate to and past a stationary cutting tool having one or more cutting edges and to and past a rotating tool in the nature of a wire brush for removing any burrs left by the first cutting tool, the spacing between the rollers being infinitely variable to accommodate various stock sizes and the rollers being spring-loaded.

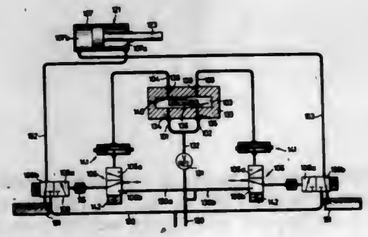
3,437,009
ROTARY FLUID APPARATUS
John W. Goodwyn, 4059 Cliff Road, Birmingham, Ala. 35222
Continuation-in-part of application Ser. No. 500,659, Oct. 22, 1965. This application Apr. 4, 1967, Ser. No. 634,401
Int. Cl. F01c *1/04, 21/12*
U.S. Cl. 91—70 **9 Claims**



Rotary fluid apparatus having a stationary stator with a floating cylinder surrounding the stator and adapted for radial movement relative thereto. A rotor having an inner eccentric surface surrounds the cylinder and angularly spaced, radially reciprocating blades are carried by the stator defining compartments which receive and discharge fluid through check valves.

3,437,010
MINE ROOF SUPPORT MEANS
Oskar Jacobi, Semperstr. 24, Hermann Irresberger, Schinkelstr. 41, Bodo-Werner Rätz, Frankenstrasse 343, and Hans Rieschel, Falkstrasse 8, all of Essen, Germany
Filed Feb. 13, 1967, Ser. No. 615,538
Claims priority, application Germany, Feb. 17, 1966, B 85,838; Apr. 16, 1966, B 86,704
Int. Cl. F15b *11/16, 13/06*
U.S. Cl. 91—189 **6 Claims**



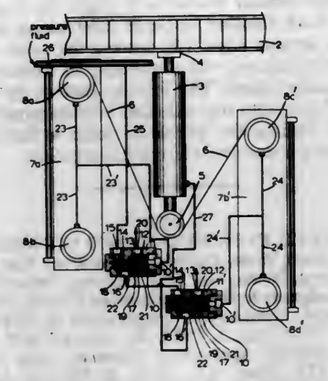


The specification describes automatic systems for controlling the angular settings of pit props. In one system feelers for sensing the inclination of the prop are mounted on a foot plate of the prop and control rams moving the top of the prop. In other systems pendulum-like devices are suspended from the prop and operate electrical contact when the angle changes, or control the flow of air jets operating a pneumo-hydraulic transducer which controls rams setting the angle of the prop.

3,437,011
INSTALLATION FOR CONTROLLING A PUSHING CYLINDER AT A WORKING FACE WITH POWER ADVANCED SUPPORTS
Abraham van Gelder, Hoensbroek, Netherlands, assignor to Stamicarbon N.V., Heerlen, Netherlands
Filed Jan. 3, 1967, Ser. No. 607,059
Claims priority, application Netherlands, Jan. 4, 1966, 6600072
Int. Cl. F15b *11/20, 13/042;* **E21c** *15/45*
U.S. Cl. 91—412 **4 Claims**

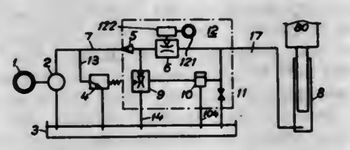
Both the leading and trailing props of an alternately advanceable hydraulic roof support are pressurized, when sufficient material has been mined from the face to permit advancing of the mining machinery, a pushing cylinder is activated pushing the mining machinery forward an increment. To step the support forward, pressure is relieved from the trailing props and they are pushed forward by

an advancing cylinder which reacts against the mining machine. A valve allows escape of back pressure from



the pushing cylinder. The advanced, formerly trailing now leading props are again pressurized to complete the cycle.

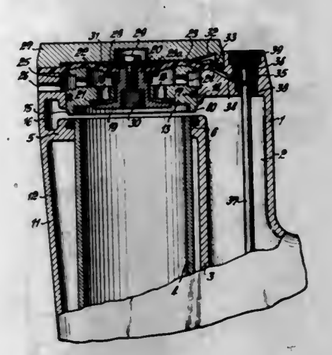
3,437,012
VALVE SYSTEM FOR HYDRAULIC ELEVATORS
Ludvig Björklund, Sundbyberg, Sweden, assignor to Allmänna Svenska Elektriska Aktiebolaget, Vasteras, Sweden, a corporation of Sweden
Filed Dec. 28, 1966, Ser. No. 605,256
Claims priority, application Sweden, Dec. 28, 1965, 16,813/65
Int. Cl. F15b *15/16, 13/01, 15/24*
U.S. Cl. 91—446 **7 Claims**



A hydraulic elevator controlled system includes a circuit connecting pump to a hydraulic cylinder; included in this circuit are first a branch containing an overflow (bypass) valve; then a non-return (check) valve; then a branch containing a load controlled lowering valve and then a control valve operated by a control motor.

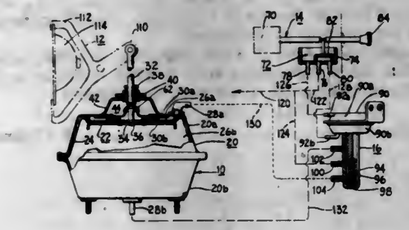
3,437,013
VALVE ASSEMBLY FOR A PNEUMATICALLY ACTUATED FASTENER DRIVING TOOL
Dieter Volkmann, Leinstrasse 49, Neustadt a Rubenberge, Germany
Filed Nov. 29, 1966, Ser. No. 597,770
Claims priority, application Germany, Dec. 1, 1965, H 57,827
Int. Cl. F15b *11/08, 13/04*
U.S. Cl. 91—461 **9 Claims**

A pneumatically actuated fastener driving tool is provided with an air inlet valve for the working cylinder and an exhaust valve which extends through and supports the air inlet valve when the latter is in its open position. The exhaust valve has an upwardly extending stem which is secured to the central portion of a flexible diaphgram. When the tool is in its inoperative position, air pressure on the upper side of the diaphragm holds the air inlet valve closed and the exhaust valve open. When air pressure above the diaphragm is vented by actuation of a manual control valve, air under pressure within the tool causes the exhaust valve to close and the inlet valve to open. The diaphragm has a normally convex shape which



assists in moving the exhaust valve to closed position and insures that the exhaust valve is in closed position before the inlet valve opens.

3,437,014
FLUID PRESSURE POWER ACTUATOR
Raymond A. Deibel, Cheektowaga, and Joseph J. Andrycha, Buffalo, N.Y., assignors to Trico Products Corporation, Buffalo, N.Y.
Filed Dec. 5, 1966, Ser. No. 599,035
Int. Cl. F16j *1/00, 3/00;* **F01b** *19/00*
U.S. Cl. 92—30 **5 Claims**

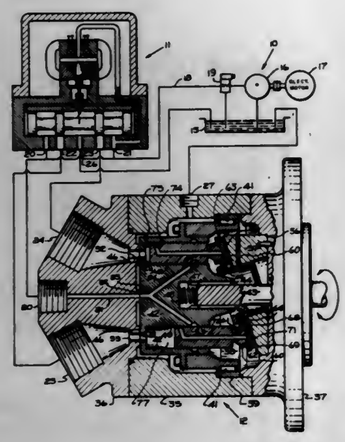


A pneumatic system for operating retractable headlamps on a motor vehicle which move from a closed position during nonuse to a position exposing the headlamps when lighted. A remotely actuated pneumatic servo valve controls flow of fluid pressure to a differential pressure operated headlamp actuator which is automatically latched in the operative position by a floating latch, thus permitting canting of the actuator shaft.

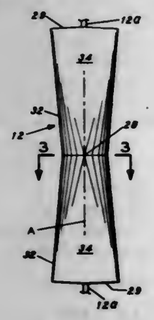
3,437,015
PISTON TYPE FLUID MOTOR HAVING SEPARATELY FED PISTON SHOES
Charles A. Kubilos, Oxnard, Calif., assignor to Abex Corporation, New York, N.Y., a corporation of Delaware
Filed Oct. 30, 1967, Ser. No. 679,015
Int. Cl. F01b *13/04, 31/10;* **F04b** *1/22*
U.S. Cl. 92—57 **11 Claims**

A fluid motor of the piston type in which the individual pistons have shoes mounted to them for engaging the cam plate, wherein pressure fluid from a common pressure source is supplied through the barrel to an intermediate chamber in each cylinder from which it is permitted to seep at a restricted rate along the piston wall into a groove or chamber in the piston wall adjacent the active

or inner end of the piston, from which it is supplied through the piston to the shoe. The low speed performance of the motor is improved by reduction of leakage to tank and reduction of friction due to piston side loads.

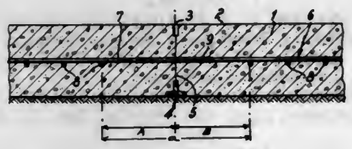


3,437,016
HIGH-STRENGTH CONTAINER AND CONTAINER BLANKS HAVING SEAMLESS BOTTOM WALLS AND METHOD OF FORMING SAME
Howard S. Malby, Westfield, and Fred M. Recknagel, Clark, N.J., and Roger S. Toble, Brooklyn, N.Y., assignors to Chevron Research Company, San Francisco, Calif., a corporation of Delaware
Original application Apr. 5, 1966, Ser. No. 549,086, now Patent No. 3,390,829, dated July 2, 1968. Divided and this application June 12, 1967, Ser. No. 658,969
Int. Cl. B31b *9/60, 9/26, 49/00*
U.S. Cl. 93—35 5 Claims



A low-cost container blank of plastics material is formed and erected to a materials-enclosing container by the steps of: (1) forming by extruding or blow-molding a tubular blank preform member having at least a side wall, an open end and a closed arcuate end edge opposite to said open end. The closed arcuate edge is formed at the termination of the side wall at the initial stage of formation while the plastics material is in a workable state; (2) cooling to harden the blank preform member; (3) flattening the cooled preform member by urging opposed portions of the side wall toward each other by oppositely directed pivoting movements about the closed arcuate edge of the member; (4) retaining the urged side wall portions in a flattened condition by forming first and second vertical foldlines through the length of the preform. Each foldline has ends intersecting the ends of the closed arcuate edge; (5) scoring the outer broad surfaces of the preform with a plurality of foldlines to form a flat container blank. The foldline pattern preferably divides the blank into top, side and bottom panels; and (6) selectively folding the panels to form a fluid-tight container having a seamless bottom construction.

3,437,017
REINFORCED CONCRETE ROAD CONSTRUCTION
Paul Otto Kurt Walz, Dusseldorf, Andreas Van Schyndel, Sturzelberg, Neuss, and Max Pasberg, Dusseldorf, Germany, assignors to Bau-Stahlgewebe GmbH, Dusseldorf-Oberkassel, Germany, a corporation of Germany
Filed Aug. 3, 1965, Ser. No. 477,672
Claims priority, application Germany, Aug. 5, 1964, B 77,971; Nov. 21, 1964, B 79,426; Apr. 17, 1965, B 81,498; May 31, 1965, B 82,181
Int. Cl. E01c *11/16*
U.S. Cl. 94—8 6 Claims

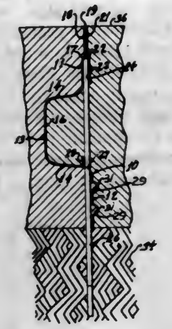


In a concrete roadway slab embodying a reinforcing steel mat composed of spaced longitudinal rods extending in the lengthwise direction of the slab and spaced transverse rods intersecting and being affixed to said longitudinal rods, the transverse rods are bunched or subdivided into groups with the rods within each group having a predetermined spacing distance and with the groups being spaced by intermediate regions free from transverse rods and having dimensions in the lengthwise direction of the slab substantially in excess of said rod spacing distance. The intermediate regions serve as cushioning zones of the slab in cooperation with so-called "false" equalizing gaps in the form of transverse grooves provided in at least the upper surface of the slab at a position midway within said regions, said grooves defining fracture lines in the concrete. In order to afford ready equalization by the gaps formed at said lines during extreme temperature fluctuation cycles, the longitudinal rod sections coincident with said intermediate regions are fitted with means, such as adhesion-resistant coatings, to provide for slidable engagement therebetween and the surrounding concrete, to thereby act as anchoring dowels for the concrete bodies on either side of gaps formed upon initially subjecting the slab to a predetermined longitudinal stress in traffic.

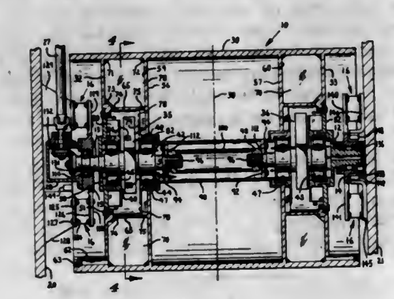
3,437,018
CONCRETE SLAB KEY-JOINT FORMING MEMBER
James A. Jackson, Shawnee Mission, Kans., assignor to Meadow Steel Products, Inc., a corporation of Alabama
Filed Jan. 8, 1968, Ser. No. 696,322
Int. Cl. E01c *11/02, 23/02*
U.S. Cl. 94—17 4 Claims

A concrete slab key-joint forming member embodying an elongated sheet having spaced apart, upper and lower vertical portions connected by a laterally disposed key

deformation portion. The upper portion has a folded-over portion which defines with the upper portion a stake receiving recess. The lower portion is spaced laterally from the upper portion and spaced apart recesses are provided in the sheet member at the juncture of the lower portion and the key deformation portion for receiving stakes.



3,437,019
VIBRATORY COMPACTOR
Jack B. Peterson, Portland, Oreg., assignor to Hyster Company, Portland, Oreg., a corporation of Nevada
Filed May 31, 1967, Ser. No. 642,586
Int. Cl. E01c *19/28, 19/26*
U.S. Cl. 94—50 21 Claims

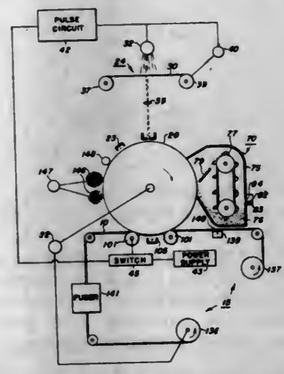


This application discloses a vibratory compactor having a hollow earth-compacting drum roller supporting a towed frame. Two separate eccentric weights are separately journaled in supporting bearing assemblies near opposite ends of the drum for rotation about the axis of the drum. An engine on the frame drives one of the eccentric weights through an external drive train. Rotary motion is transmitted through such eccentric weight to the other eccentric weight by a splined sleeve which interconnects the shafts of the two weights to act as a synchronizer as well as a drive link.

The eccentric weights and their supporting bearings are housed within separate oil reservoirs confined to the opposite ends of the drum. Each reservoir has a system of radial vanes which rotate with the drum to lift oil above the bearings, after which the oil flows by gravity downwardly through the bearing assemblies and into the lower regions of the reservoir. The eccentric weights serve as auxiliary lubricating means when they rotate by splashing the bearings with oil.

Vibrations transmitted to the drum by the eccentrics are isolated from the compactor frame and drive components by elastomer blocks which are bonded to rigid elements fastened to the frame and drum.

3,437,020
MICROFILM TITLING APPARATUS
Raymond T. Wright, Penfield, and James E. Young, Pittsford, N.Y., assignors to Xerox Corporation, Rochester, N.Y., a corporation of New York
Filed July 5, 1966, Ser. No. 562,871
Int. Cl. G03b *17/53*
U.S. Cl. 95—1.1 5 Claims



1. Recording apparatus for recording information in predefined marking areas on an apertured elongated web comprising:

(a) drum means mounted for rotation and including a photoconductive layer extending about a circumferential portion thereof and containing peripheral uniformly spaced apart holes forming at least one ring axially spaced from and parallel to said layer;

(b) first drive means for rotating said drum means and photoconductive layer past a series of xerographic processing stations: including an exposure station at which a previously charged photoconductive layer records a latent image of information to which it was exposed, a development station at which the latent image is developed, and a transfer station at which the developed image is transferred to a receiving web;

(c) character generating means at the exposure station including a projectable information source serially chargeable, a flash lamp and a lens positioned to project the information from said source in a pattern of light and dark toward said moving photoconductive layer;

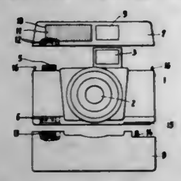
(d) second drive means for advancing an elongated web containing predefined areas on which information is to be recorded and having uniformly spaced apart apertures corresponding to the spacing of the holes in at least one ring on said drum means past the transfer station in image transfer relation with said drum means with the apertures of the web in registry with the holes of said ring; and

(e) circuit means responsive to the advance of said web to intermittently energize said flash lamp and serially charge the information of said source to effect recording of the information serially onto said predefined marking areas on said web.

3,437,021
PHOTOGRAPHIC CAMERA INCLUDING AN ELECTRONIC FLASH DEVICE
Paul Kapteyn, Am Pfarracker 15, and Walter Schmidt, Luzerner Strasse 19, both of 1 Berlin 45, Germany
Filed Nov. 24, 1965, Ser. No. 524,629
Claims priority, application Germany, Nov. 26, 1964, L 38,481
Int. Cl. G03b *19/04, 9/70*
U.S. Cl. 95—11 2 Claims

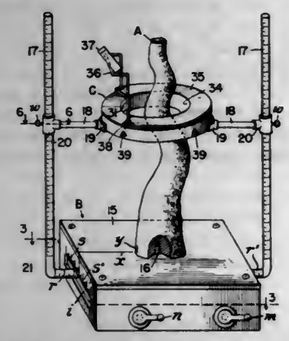
A photographic camera having a basic camera part, a first housing part detachably connected to the upper part

of the basic camera part and forming the upper cap of the basic camera part, and a second housing part detachably connected to the lower end of the basic camera part. Both of the housing parts contain the electric components necessary for producing an electronic flash. The first detachable housing part contains a plurality of the components for the electronic flash device and the second detachable housing on the other side contains the remainder of the



components for the electronic flash device. The first housing may be selectively replaced by another housing part having the form of a camera cap of the same size and shape as the first housing part omitting the electronic flash elements, and containing only those components necessary to change the basic camera part as to form a conventional camera without an electronic flash generating device wherein the second additional housing part may be omitted.

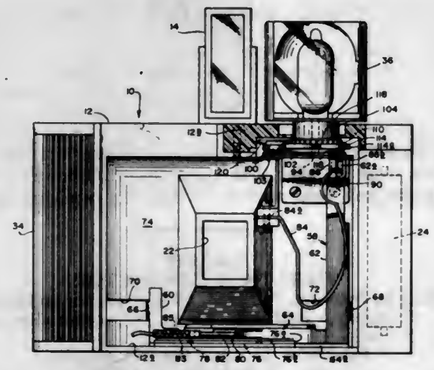
3,437,022
CROSS-SECTIONAL DETERMINANT
Nathan Hamonds, Jr., 5221 Onaknoll Ave., Los Angeles, Calif. 90043
Filed Oct. 4, 1965, Ser. No. 492,769
Int. Cl. G03b *29/00*
U.S. Cl. 95—12 **14 Claims**



A housing for positioning adjacent an elongate object in various positions along the length thereof and in spaced relations thereto. The housing has an arcuate inner wall formed with a multiple of minute apertures through which light rays are radially projected from an illuminating element interiorally of the housing which rays are impinged in spaced relation to each other on the surface of the object. The object is then photographed to thereby portray the rays with their outer ends terminating at the point of their abutment on the surface of the encircled object, whereby a line drawn to connect the terminals of the portrayed rays will define the surface portion of the object abutted by the rays.

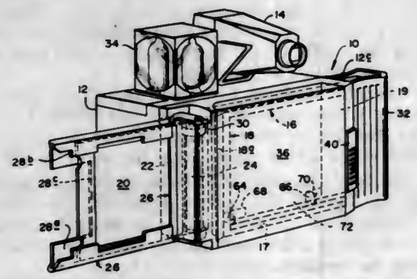
3,437,023
CAMERA APPARATUS
Rogers B. Downey, Lexington, and Allyn M. Silverman, Boston, Mass., assignors to Polaroid Corporation, Cambridge, Mass., a corporation of Delaware
Filed Dec. 22, 1966, Ser. No. 604,052
Int. Cl. G03b *17/52*
U.S. Cl. 95—13 **6 Claims**

1. Photographic apparatus for incorporation with a camera for performing at least one function relating to the photographic exposure of a film assembly including that of producing rotation of a socket element and a flash-cube mounted therein and at least another function relating to the processing of said film assembly by a diffusion transfer method following its exposure, said apparatus comprising compression means, a processing chamber, a linearly-movable, rectangular, frame-like film-advancing element slidably mounted in guide means within said camera and extending externally through one end thereof with a manually-actuable handle attached to an outer extremity, said element including a first projecting surface located at an opposite inner extremity and identified with said film-assembly processing for engaging said film assembly to advance it from a focal plane between



said compressive means and into said processing chamber and a pair of contacting surfaces for initiating, through movement of said film-advancing element, said exposure function, and linearly-movable intermediate driving means including a plurality of unitary arm and angularly-projecting tang members, a pair of which tang members is adapted to be engaged by said contacting surfaces of said film-advancing element in response to movement of the latter in opposite directions, said handle and attached film-advancing element when moved in an outward nonfilm-advancing direction, providing through the interlocking characteristic of said intermediate driving means, the tensioning of a drive spring adapted to apply driving bias to means for rotating said flash-cube.

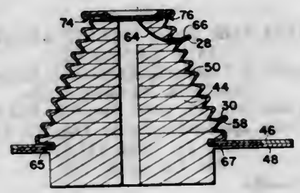
3,437,024
CAMERA APPARATUS
Rogers B. Downey, Lexington, and Allyn M. Silverman, Boston, Mass., assignors to Polaroid Corporation, Cambridge, Mass., a corporation of Delaware
Filed Dec. 22, 1966, Ser. No. 604,051
Int. Cl. G03b *17/50*
U.S. Cl. 95—13 **7 Claims**



A camera including apparatus for exposing and processing self-developing film assemblies carried in a magazine. The exposure functions performed by the apparatus

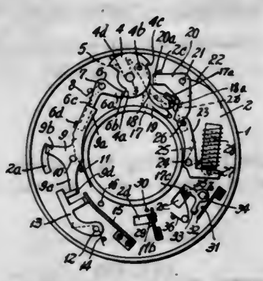
include those relating to the cocking of a shutter and operation of a film counter and, more particularly, that providing rotation of a flash cube.

3,437,025
MOLDED PLASTIC BELLOWS
Christopher R. Rice, Wakefield, Mass., assignor to Polaroid Corporation, Cambridge, Mass., a corporation of Delaware
Filed Feb. 7, 1966, Ser. No. 525,664
Int. Cl. G03b *17/04*
U.S. Cl. 95—39 **5 Claims**



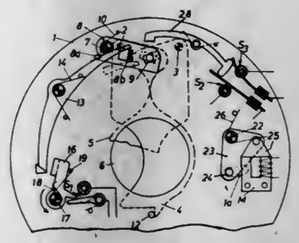
1. An expansible and collapsible bellows for use on a photographic camera or the like, said camera or the like having an operating element which extends the length of the bellows whether in expanded or collapsed positions, said bellows comprising a single, continuous sheet of thermoplastic material defining a space enclosed by wall portions having a series of convolutions formed by fold lines molded into said material perpendicular to the major axis thereof, and at least one substantially flat, flexible tab, formed from said material as an integral portion of said bellows, extending from an anchored position on said wall portion intermediate the ends thereof, said tab forming an integral projection extending outwardly from said wall portion for coacting in a supporting manner with said operating element as said bellows is expanded and collapsed.

3,437,026
PHOTOGRAPHIC SHUTTER WITH ELECTRONIC TIMING CIRCUIT
Winfried Espig, Calmbach, Black Forest, Germany, assignor to Prontor-Werk Alfred Gauthier, G.m.b.H., Calmbach, Black Forest, Germany, a corporation of Germany
Filed Nov. 3, 1965, Ser. No. 506,190
Claims priority, application Germany, Nov. 4, 1964, G 41,938
Int. Cl. G03b *9/58*
U.S. 95—53 **5 Claims**



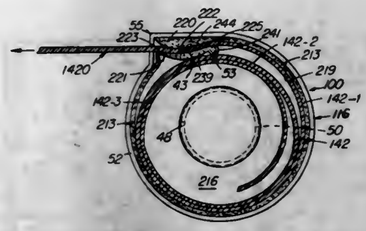
A photographic shutter that has an electronic timing circuit wherein a first contact switch is provided that is coupled to the release member of the shutter. The first switch controls the functional state of the timing circuit and a second contact switch is provided which is connected in parallel with the first switch and actuated by the shutter drive mechanism.

3,437,027
PHOTOGRAPHIC SHUTTER WITH AN ELECTRONIC TIMING DEVICE
Helmut Straub, Hofen, Black Forest, Germany, assignor to Prontor-Werk Alfred Gauthier, G.m.b.H., Calmbach, Black Forest, Germany, a corporation of Germany
Filed Oct. 26, 1966, Ser. No. 589,649
Claims priority, application Germany, Oct. 30, 1965, P 38,011
Int. Cl. G03b *9/60*
U.S. Cl. 95—53.3 **7 Claims**



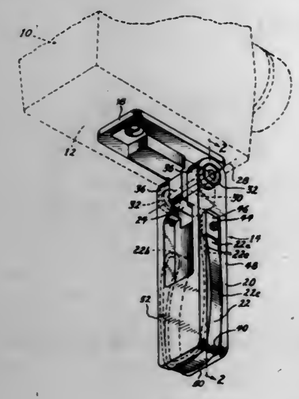
A photographic shutter with an electronic timing device is provided that has a shutter blade movable back and forth during the exposure process and a detent for holding the shutter blade in the open position for the duration of the exposure. The electronic timing device has an electromagnet engageable with the detent to hold the detent in a fixed position. A spring biases the detent into contact with the electromagnet and the detent is held by the electromagnet in position for engagement with the shutter blade during the opening motion of the shutter blade shortly before reaching the reversal point to prevent the shutter blade from continuing its motion until the release by the electromagnet.

3,437,028
PHOTOGRAPHIC FILM CASSETTES AND PARTS THEREOF
Orests B. Berlings, 7501 Ridge Blvd., Brooklyn, N.Y. 11209
Filed Jan. 25, 1967, Ser. No. 611,654
Int. Cl. G03b *17/26*
U.S. Cl. 95—67 **8 Claims**



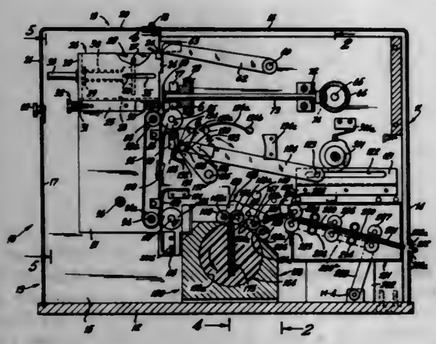
Embodiments of a cassette housing for storage of a rolled strip of photographic negative film in the generally cylindrical chamber thereof with blockage of ingress of light rays through a film passage slot defined in the curvilinear sidewall by a pair of circumferentially-spaced and opposed lips. Such blockage is effected by curving the intervening slot from its exterior mouth progressively inward along a path which is convexly opposed to an arcuate margin of the chamber, and swingably mounting to the inward edge of one lip an inside tip member that has a concave face complementally opposed to a convexed face of the other lip together defining the sides of the curved slot for swingable snugging of this concaved tip member by film roll biasing against the film end extending out through this curved slot.

3,437,029
PISTOL GRIP CARRYING STRAP
Simon D. Rydstedt, Lincolnwood, Ill., assignor to Bell & Howell Company, Chicago, Ill., a corporation of Illinois
Filed Aug. 30, 1967, Ser. No. 664,381
Int. Cl. G03b *17/56*; B65d *71/00*
U.S. Cl. 95—86 6 Claims



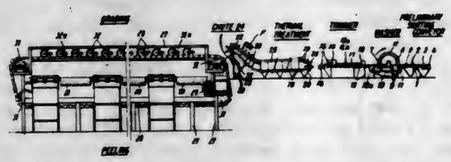
This camera supporting handle construction includes a rigid handle portion having a channel about its periphery in which a flexible handle portion or wrist strap can be stored, the wrist strap being nonremovably attached at one end of the channel and releasibly attachable by a retainer within the other end of the channel.

3,437,030
APPARATUS FOR REMOVING FILM FROM A PACKET AND DEVELOPING, FIXING, WASHING AND DRYING THE FILM
Michael Mastrosimone, 361 Rockaway Ave., Valley Stream, N.Y. 11581, and Henry Rosenthal, 232 Riviera Drive W., Massapequa, N.Y. 11758
Filed Oct. 15, 1965, Ser. No. 496,542
Int. Cl. G03d *3/10*
U.S. Cl. 95—93 26 Claims



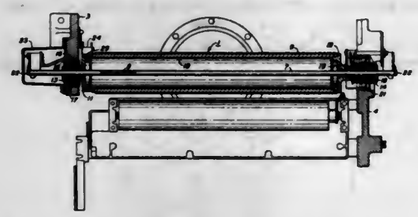
A magazine holds a stack of film packets each consisting of an envelope with a film therein. A device is provided for advancing the packets of the stack in the magazine. A mechanism is also provided to move the end packet of the stack from the magazine to a first position. A first motor activates the moving mechanism. An apparatus controlled by the first motor opens an envelope of the moved packet in the first position, then moves the opened envelope to a second position. Film is then extracted from the opened envelope in the second position. The extracted film is then inserted into a rotary drum. The drum is rotated to various positions. Developer liquid is supplied to the drum for developing the film. Then the developer liquid is drained. Thereafter fixer liquid is supplied to the drum and thereafter water is supplied to the drum to flush out the fixer liquid and wash the developed and fixed film. Thereafter the developed, fixed and washed film is withdrawn from the container. Air is blown onto the film removed from the container to dry the film.

3,437,031
SYSTEM FOR PROCESSING ASPARAGUS FOR CANNING
Emerito S. Lopez, % Fabrica de Conservas, Mendavia, Navarra, Spain
Filed Dec. 19, 1966, Ser. No. 602,878
Claims priority, application Spain, Dec. 23, 1965, 321,117; Oct. 21, 1966, 332,572
Int. Cl. A23b *7/00*
U.S. Cl. 99—404 16 Claims



A system for preparing raw harvested asparagus for canning including conveyor means, washing apparatus, asparagus trimming apparatus, scalding apparatus, grading apparatus, and peeling apparatus.

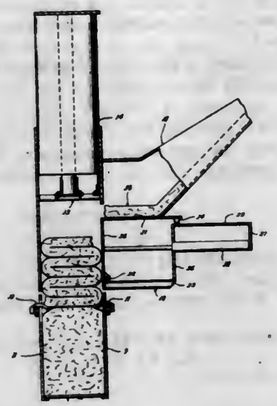
3,437,032
HEATED FUSER ROLL
Arjan T. Manghirmalani, Pittsford, Andrew F. Trabold, Fairport, and Robert H. Figler, Webster, N.Y., assignors to Xerox Corporation, Rochester, N.Y., a corporation of New York
Filed July 1, 1965, Ser. No. 468,840
Int. Cl. B30b *3/04, 15/34*
U.S. Cl. 100—93 2 Claims



Apparatus for transferring heat energy and pressure energy to an image bearing support material to effect fixing of said image.

3,437,033
TRAMPER FOOT WITH RESILIENT EDGE STRUCTURE
Richard D. Day and Joseph C. Neitzel, Dallas, Tex., assignors to Murray Company of Texas, Inc., Dallas, Tex., a corporation of Texas
Filed Mar. 9, 1967, Ser. No. 621,869
Int. Cl. B30b *15/30, 15/06*
U.S. Cl. 100—215 10 Claims

In order to prevent damage to the tramper foot or box structure in a double box type press for cotton lint and other fibers, the ends of the face-forming battens or

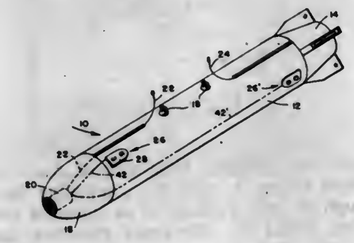


bars of the tramper foot are formed of laterally yieldable elements, such as short sections of rubber hose.

3,437,034
METHOD FOR PRODUCING A PLANOGRAPHIC PRINTING PLATE
Edward C. Otto, Waldwick, N.J., and Irving Flechner, Stamford, Conn., assignors to Sperry Rand Corporation, New York, N.Y., a corporation of Delaware
No Drawing. Filed Aug. 31, 1966, Ser. No. 576,203
Int. Cl. B41n *3/00*
U.S. Cl. 101—463 4 Claims

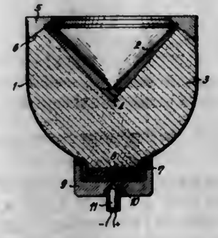
Planographic printing plates having improved properties are prepared by applying to a suitable substrate a coating comprising an aqueous composition consisting essentially of a water-swellable polyvinyl alcohol, finely divided, inert, inorganic filler, such as clay and/or titanium dioxide, and a volatile, water-soluble, monobasic acid, such as hydrochloric acid, followed by heating the resulting applied coating to volatilize the acid and the water from the applied coating. Desirably, the heating of the applied coating to dry the same is carried out at a temperature below 175° C., such as a temperature in the range 90–120° C.

3,437,035
METHOD AND APPARATUS FOR DISSEMINATING FLUID FROM VEHICLE IN FLIGHT
James E. Weimbolt, China Lake, Calif., assignor to the United States of America as represented by the Secretary of the Navy
Filed Oct. 5, 1965, Ser. No. 493,286
Int. Cl. F42b *25/12*
U.S. Cl. 102—6 5 Claims



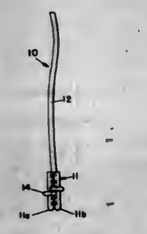
Aircraft launched chemical container in which dispensing openings are formed after launching by explosively cutting the openings in the wall of the container.

3,437,036
HOLLOW CHARGE FOR LAND MINES
Roland Franzen and Paul Sindermann, Nuremberg, Germany, assignors to Diehl, Nuremberg, Germany
Filed Apr. 10, 1967, Ser. No. 629,714
Claims priority, application Germany, Apr. 20, 1966, D 49,898
Int. Cl. F42b *23/06*
U.S. Cl. 102—8 12 Claims



The present invention concerns a hollow charge for land mines with an upwardlly directed effect for fighting movable targets with limited bottom armament in which the ratio of the wall thickness of the effective explosive layer on the inside of the housing of the mine to the wall thickness of a conical insert extending into the explosive layer is at least over the major portion of the conical wall surface of said insert approximately constant.

3,437,037
FUSE TYPE INITIATOR AND BOOSTER SYSTEM CONTAINING SAME
Philip G. Newman, Kenvil, N.J., assignor to Hercules Incorporated, Wilmington, Del., a corporation of Delaware
Filed Oct. 10, 1967, Ser. No. 674,278
Int. Cl. F42b *1/04, 1/02, 3/10*
U.S. Cl. 102—24 9 Claims

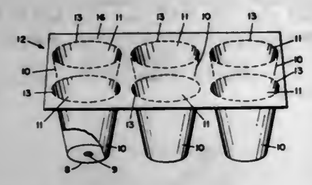


A detonating fuse system including a U-shape loop of detonating fuse of at least 50 grain loading and a separate detonating fuse of not more than 40 grain loading supported in direct contact with the loop member from within the loop through the open end thereof to an external point as a "tail" member for communication with the energy source. A complete explosive assembly including a main charge and the detonating fuse system is also provided.

3,437,038
PROCESS AND ASSEMBLY FOR MANUFACTURE OF CAST BOOSTERS, AND BOOSTER PRODUCT
Philip G. Newman, Kenvil, N.J., assignor to Hercules Incorporated, Wilmington, Del., a corporation of Delaware
Filed Oct. 10, 1967, Ser. No. 674,337
Int. Cl. F42b *3/10*
U.S. Cl. 102—24 18 Claims

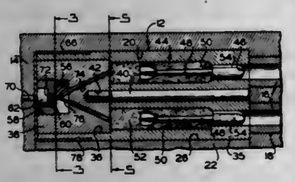
The invention provides (1) a casting method for the

manufacture of booster type initiators (2) integral molding assembly therefor (3) a resulting plurality of booster



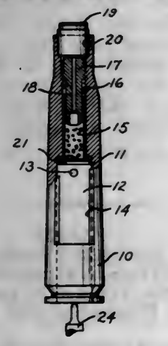
type initiators as an integral unit for storage, shipping and the like, and (4) individual booster type initiators.

3,437,039
MULTICHARGE CARTRIDGE FOR MULTI-BARREL AUTOMATIC GUNS
Herman F. Hawthorne, Wilbraham, Mass., assignor to the United States of America as represented by the Secretary of the Army
Filed Mar. 7, 1962, Ser. No. 178,527
Int. Cl. F42b *9/04, 9/14;* F41c *13/00*
U.S. Cl. 102—38 **8 Claims**



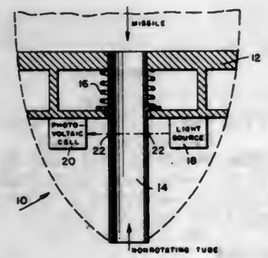
1. A cartridge for an open chamber gun comprising a body of generally equilateral triangular configuration, a plurality of projectiles and associated propellant charges radially spaced about the longitudinal axis of said body, a percussion type primer disposed in the rear end of said body and spaced rearwardly from said propellant charges therein, and a plurality of primer cords each extending from the interior of said primer into contact with one of said propellant charges, said primer cords each having a different predetermined burning time designed to discharge said projectiles at successive intervals.

3,437,040
CARTRIDGE ADAPTERS FOR HIGH-POWERED FIREARMS
Gordon T. Koehler, 421 Acorn Drive, Dayton, Ohio 45419
Filed Feb. 23, 1967, Ser. No. 618,125
Int. Cl. F42b *13/00*
U.S. Cl. 102—41 **2 Claims**



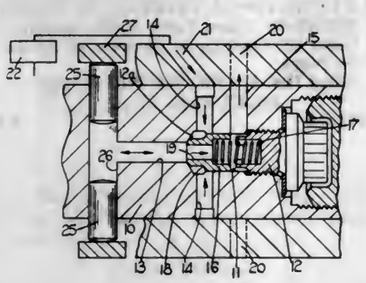
An adapter cartridge shaped to fit the firing chamber of a high-powered firearm and having a central bore therethrough which is enlarged at its upper end to receive a projectile, and restricted beneath the projectile to form a chamber to receive a low-powered cartridge, from which the bullet has been removed. A metering plug mounted in the chamber and extending within the case of the low-powered cartridge and adjustable in relation to the powder charge therein to control the burning of said charge. Openings in the sidewall of the adapter give access to the chamber for the insertion and removal of the low-powered cartridge. A plunger freely supported in the central bore beneath the chamber carries a firing pin which forms an operating connection between the low-powered cartridge and the firing mechanism of the firearm.

3,437,041
SUPERSENSITIVE IMPACT SENSOR
Otho E. Hart, 202–B Dibb Road, and Samuel A. Miller, 137–B Independence, both of China Lake, Calif. 93555
Filed May 29, 1967, Ser. No. 644,433
Int. Cl. F42c *13/02*
U.S. Cl. 102—70.2 **5 Claims**



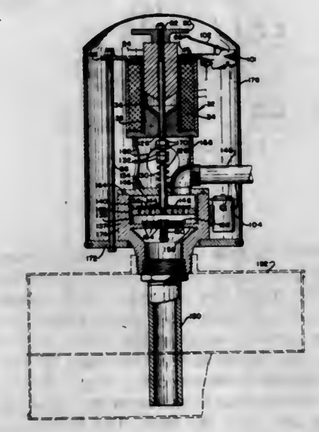
Impact fuze for ordnance devices which initiates a detonator upon interruption of the light beam of a photovoltaic cell.

3,437,042
LIQUID FUEL PUMPING APPARATUS
Kenneth Albert Walters Kemp, London, England, assignor to C.A.V. Limited, London, England, a British company
Filed Aug. 24, 1967, Ser. No. 662,926
Claims priority, application Great Britain, Sept. 8, 1966, 40,113/66
Int. Cl. F04b *49/08, 13/02*
U.S. Cl. 103—2 **4 Claims**



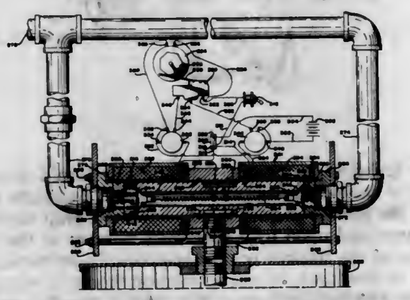
A liquid fuel pumping apparatus of the rotary distributor type having a valve for controlling the flow of fuel through an inlet passage to an injection pump, the valve being closed by differential pressures during an injection stroke of the apparatus, the pressure of fuel supplied through the inlet passage serving to open the valve to permit flow of fuel to the injection pump during a filling period.

3,437,043
HIGH VOLUME, ELECTRO-MAGNETIC, RECIPROCATING PUMP MECHANISM
David H. Sanders and James M. Kennedy, Abilene, Tex., assignors of one-third to Wayland D. Keith, Wichita Falls, Tex.
Original application May 27, 1966, Ser. No. 553,358, now Patent. No. 3,394,657. Divided and this application July 3, 1968, Ser. No. 742,254
Int. Cl. F04b *17/02;* H02k *33/02*
U.S. Cl. 103—53 **5 Claims**



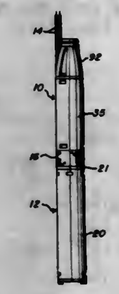
Solenoid operated reciprocating pump utilizing a valve piston operating within a cylinder to pump fluids, such as gases, air, kerosene, gasoline, oil, water, or the like, at a high volume and at a relatively low pressure. A foot valve is provided to prevent the return of the fluid to the container from which it is being withdrawn. The pump unit is self-contained to which an eduction tube is connected so the unit may be readily attached to a container or drum to withdraw fluid therefrom and dispense at a suitable pressure.

3,437,044
FLUID COOLED, DOUBLE SOLENOID PUMPING MECHANISM
David H. Sanders and James M. Kennedy, Abilene, Tex., assignors of one-third to Wayland D. Keith, Wichita Falls, Tex.
Original application May 27, 1966, Ser. No. 553,358, now Patent No. 3,394,657. Divided and this application July 3, 1968, Ser. No. 742,255
Int. Cl. F04b *17/04;* H02k *7/06*
U.S. Cl. 103—53 **9 Claims**



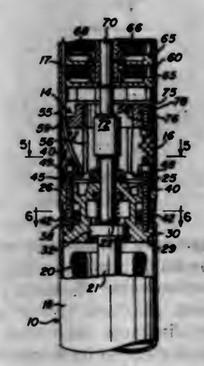
A double solenoid pump wherein the fluid being pumped is withdrawn from a container and forced through an axial opening within the pump, so as to maintain the solenoid cool and provide a double acting pump to direct fluid through an outlet under pressure. Provision is made to operate both solenoids with a single timing mechanism through a "normally open" and "normally closed" switch. The device is self-contained and has an eduction tube to enable the ready withdrawal of gaseous fluids or liquid from a container, and discharge either into individual conduits or into a common conduit. This pumping arrangement is suitable for a closed refrigeration system.

3,437,045
SUBMERSIBLE PUMP
David L. Tremain, Dayton, Ohio, assignor to The Tait Manufacturing Company, Dayton, Ohio, a corporation of Ohio
Filed Aug. 31, 1967, Ser. No. 664,657
Int. Cl. F04d *13/02;* F0d *1/06*
U.S. Cl. 103—87 **11 Claims**



A submersible pump for a well casing wherein a motor is connected to an axially aligned multiple stage centrifugal pump has a plurality of stacked plastic cases with corresponding insert diffusers and impellers. The cases have generally cylindrical outer walls with a plurality of uniformly spaced axially extending external slots and are encased by a cylindrical shell for protecting the cases and motor leads extending within the slots, and each diffuser has peripherally spaced overlapping vanes cooperating to define diffusing passageways between the slots to provide for using maximum diameter cases and impellers.

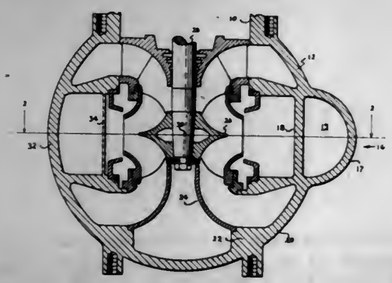
3,437,046
SUBMERSIBLE PUMP FOR A WELL CASING
David L. Tremain and Anthony J. Lotspih, Dayton, Ohio, assignors, by mesne assignments, to Century Electric Motor Company, Gettysburg, Ohio, a corporation of Ohio
Filed Aug. 31, 1967, Ser. No. 664,658
Int. Cl. F04d *13/02;* F0d *1/06*
U.S. Cl. 103—87 **6 Claims**



A submersible well pump includes a motor with a bearing bracket secured to the motor casing by a series of

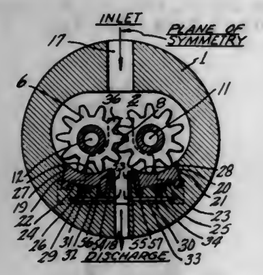
threaded studs seated within axially extending blind holes formed within the bearing bracket and receiving nuts projecting into openings within the motor casing so that tightening of the studs clamps the bracket firmly against the casing. An intake housing has holes which receive the projecting ends of the studs and is secured to the bearing bracket by nuts threaded on the studs, and the pump has a shell secured to both the intake housing and an upper discharge housing by screws extending through flange portions of the housing and receiving nuts projecting into openings formed within the corresponding end of the pump shell.

3,437,047
CENTRIFUGAL PUMP WITH SPHERICAL-SHAPED CASING
James A. Walsh, Schenectady, and Harlan V. White, Scotia, N.Y., assignors to General Electric Company, a corporation of New York
Filed Feb. 16, 1967, Ser. No. 616,634
Int. Cl. F04d 29/42, 1/14
U.S. Cl. 103—111 4 Claims



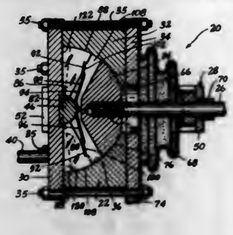
A direct-driven centrifugal pump having a high-pressure, thin-walled casing in the shape of a hollow spheric segment. The centrifugal pump is of the double intake type having a splitter vane formed of one piece with the casing.

3,437,048
GEAR PUMP
Godwin L. Noell and John E. Cygnor, Middletown, and Jack G. Sundberg, Meriden, Conn., assignors to Chandler Evans Inc., West Hartford, Conn., a corporation of Delaware
Filed Aug. 9, 1967, Ser. No. 659,426
Int. Cl. F04c 1/14; F01c 21/10
U.S. Cl. 103—126 14 Claims



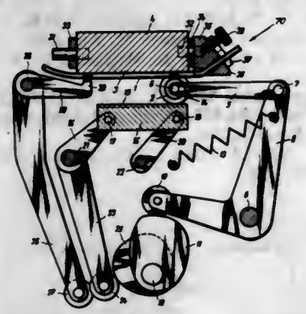
A gear pump having a driver gear and a driven gear capable of pumping fluids containing highly abrasive contaminants. Separate movable elements engaging the periphery of the driver gear and driven gear respectively adjacent the pump discharge such that each element is self-positioned with respect to its respective gear to apply continuous peripherial sealing engagement during independent movement of the gears.

3,437,049
HYDRAULIC PUMP AND COMPRESSOR
Robert Chestosky, Johnston City, Ill., assignor of one-third to Fabick Machinery Company, a corporation of Illinois
Filed Dec. 7, 1966, Ser. No. 599,882
Int. Cl. F04c 1/04, 15/04
U.S. Cl. 103—127 4 Claims



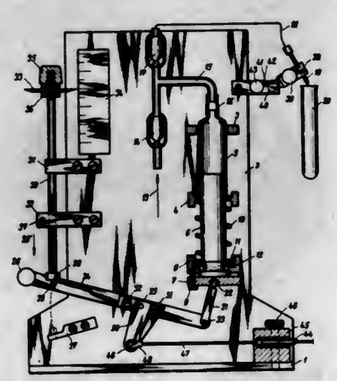
A pump also useable as a compressor having a hemispherical pump chamber and a power driven hemispherical rotor. The rotor has a conical face spaced from a base of the housing and spring biased vanes fitting within diametrically opposed slots in the rotor base. Retaining springs urge the vanes against the base of the housing. The pump has sealed means comprising a bellows to pivot the housing with respect to the rotor to adjust the capacity of the pump and vary the flow. The bellows encloses a rotor shaft in sealed relation in order to effect the pivoting of the housing to vary the pump capacity.

3,437,050
PERISTALTIC PUMPING DEVICE
Jiří Hrdina, Prague, Czechoslovakia, assignor to Ceskoslovenska Akademie ved, Prague, Czechoslovakia
Filed Jan. 9, 1967, Ser. No. 608,171
Claims priority, application Czechoslovakia, Jan. 10, 1966, 143/66
Int. Cl. F04b 43/08
U.S. Cl. 103—148 6 Claims



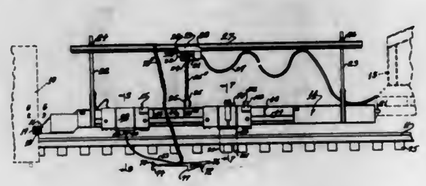
In a device for peristaltic pumping of a liquid through a hose or another elastic tubular member a straight portion of the tubular member leans against a prop member and is operated upon by a squeezing member at the outflow end of the straight portion temporarily restricting or closing its flow area; in spaced relation thereto a movable pressure member compresses the tubular member on its forward motion towards the inoperative squeezing member and on its return movement releases the tubular member while the squeezing member is operative. Timely coordinated cams with associated leverages effect and control the cooperation of the squeezing member and of the pressure member.

3,437,051
DEVICE FOR MEASURING LIQUID MEDIA
Jiří Hrdina, Prague, Czechoslovakia, assignor to Ceskoslovenská Akademie ved, Prague, Czechoslovakia
Filed Nov. 23, 1966, Ser. No. 596,507
Claims priority, application Czechoslovakia, Nov. 27, 1965, 7,105/65
Int. Cl. F04b 19/22, 9/02
U.S. Cl. 103—153 4 Claims



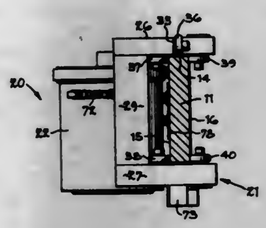
A device for dosing liquids particularly for repeated accurate dosing which includes a dosing pump cylinder with reciprocating plunger which is actuated by a tiltable tow-armed lever over a rod articulately connecting the lever and the plunger. A substantially soft helical compression spring freely surrounding the outwardly moving portion of the plunger is at one end stationarily supported preferably by the cylinder and at its other end by a Cardanlike member mounted at or near the outer end portion of the plunger stationarily relative thereto. This Cardanlike member may consist of a ring-shaped disc which is slit over the end portion of the plunger and is bent in opposite axial directions over one of two mutually perpendicular edges each located on one surface of the disc. It will automatically reduce and compensate any play of the plunger caused by arising lateral forces thereby assuring a substantial uniform dosing action.

3,437,052
APPARATUS FOR POSITIONING CROSSTIES
John D. Holley, Montgomery, Ala., assignor to Kershaw Manufacturing Co., Inc., a corporation of Alabama
Filed July 2, 1965, Ser. No. 469,174
Int. Cl. E01b 29/06
U.S. Cl. 104—9 13 Claims



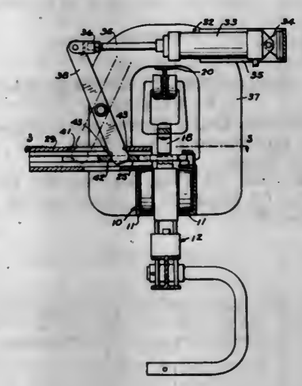
Crosstie positioning apparatus having means to engage and move crosstie toward and then beneath the railroad track. Spacer members align the crossties in parallel relation to each other after they are inserted beneath track.

3,437,053
MONORAIL CARRIAGE
Earnest E. Bush, Covington, Ky., and Earl J. Williams, Cincinnati, Ohio, assignors to Precision Welder & Flexopress Corp., Cincinnati, Ohio, a corporation of Ohio
Filed Feb. 14, 1967, Ser. No. 616,060
Int. Cl. B61b 13/04; E01b 25/08; B60m 1/34
U.S. Cl. 104—119 6 Claims



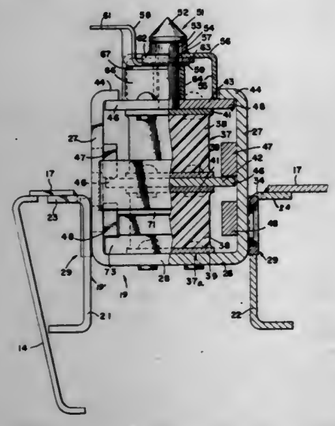
A motorized carrier for conveying a work piece along a suspending track in an assembly system, wherein the carrier is provided with means for guiding it along the side surfaces of the track which means can be shifted vertically to provide clearance so that the carrier can be removed from the track. A frictional motor drive is mounted wholly within the height of the carrier body and engages the track along a path closely adjacent the point at which the carrier is suspended from the track.

3,437,054
POWER AND FREE CONVEYOR SYSTEM
Leonard J. Bishop, Birmingham, Mich., assignor to Mechanical Handling Systems, Inc., Warren, Mich., a corporation of Michigan
Filed Oct. 20, 1966, Ser. No. 588,175
Int. Cl. B61b 3/00; B61k 1/00
U.S. Cl. 104—178 15 Claims



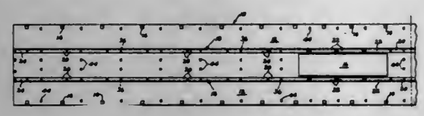
A power and free conveyor system comprising a track and a conveyor for moving a plurality of carriers along the track. Each carrier has a depressible pusher dog adapted to be engaged by a pusher on the conveyor. A stop member is supported for movement transversely of the track in a straight line into and out of the path of the depressible dog. A fluid motor has its piston rod mounted for movement generally parallel to the movement of the stop member. A lever arm is pivoted intermediate its ends and has one end thereof pivoted to the piston rod of the motor and the other end thereof pivoted to the stop member.

3,437,055
CARGO SUPPORTING ARRANGEMENT
Herbert S. Wille, Homewood, Theodore A. Branson, Calumet City, and John W. Matushek, Harvey, Ill., assignors to Pullman Incorporated, Chicago, Ill., a corporation of Delaware
Filed Apr. 6, 1967, Ser. No. 628,855
Int. Cl. B65j 1/22; B60p 7/08
U.S. Cl. 105—366 9 Claims



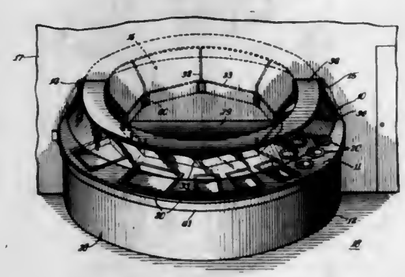
A railway vehicle of the flat deck type which is adapted to transport various forms of cargo such as semi-trailers, containers and the like. A container support arrangement is incorporated into the treadway area of the floor of the railway vehicle and includes a support bracket having a cargo attachment means mounted thereon. The support bracket is mounted in an opening in the floor located in the treadway area thereof and includes a planar surface. The mounting arrangement includes a pivot means for turning the bracket so that the planar surface thereon is disposed substantially coplanar with the treadway areas when the cargo attachment means is in a stored position.

3,437,056
GUIDE RAIL STRUCTURE FOR RAILWAY FLAT CARS
Walter E. O'Leary, Creve Coeur, Mo., assignor to ACF Industries, Incorporated, New York, N.Y., a corporation of New Jersey
Filed Dec. 19, 1966, Ser. No. 602,651
Int. Cl. B61d 17/10, 45/00, 49/00
U.S. Cl. 105—368 12 Claims



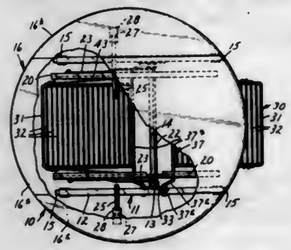
A railway flat car having a guide rail structure on its deck comprising guide rail sections movable between a position extending longitudinally of the car for transporting roadway vehicles and a position extending transversely of the car for supporting ladings, such as containers or lumber, on the deck. The guide rail structure includes a pair of spaced guide rails each having a plurality of sections of a length less than the width of the deck, and means mounting the guide rail sections for movement between a position in which the sections extend longitudinally of the deck and a position in which the sections extend transversely of the deck. The flat car is adapted to carry a trailer secured to a hitch when the hitch is erected and the rail sections extend longitudinally of the deck. When the hitch is collapsed and the rail sections are moved to a position extending transversely of the car, ladings, such as containers or lumber, may be positioned on and supported by the guide rails.

3,437,057
FOOD SERVER
Donald H. Wulff, Manteno, Ill., assignor to Smorgasphere, Ltd., a corporation of Illinois
Filed Aug. 4, 1967, Ser. No. 658,544
Int. Cl. A47f 3/08, 3/10, 5/00
U.S. Cl. 108—22 9 Claims



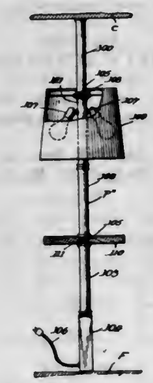
A food server for use in a restaurant and the like having a table and a movable support for the table permitting the table to be moved selectively between a food supplying space and a food serving space. The table is movable through a wall which separates the food serving space from the food supplying space so that the table may be serviced by the restaurant owner behind the wall and then moved through the wall to place the food in an accessible position in the serving space. A guard is disposed above the table to protect the food thereon from contact by the breath of persons selecting food from the table. Heating means and cooling means are provided for controlling the temperature of the food on the table in the serving space.

3,437,058
FOLDING ROOM SERVICE TABLE
Richard C. Bue, Minneapolis, Minn., assignor to Sico Incorporated, Minneapolis, Minn., a corporation of Minnesota
Filed June 2, 1967, Ser. No. 643,116
Int. Cl. A47b 3/00
U.S. Cl. 108—112 4 Claims



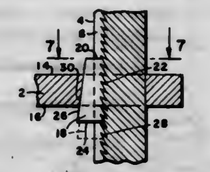
A folding room service table having a rigid supporting structure including a pair of horizontal base members and a pair of centrally located upstanding supporting portions. A drop leaf table top is mounted on the upstanding supporting portions for pivotal movements between a horizontal position and a generally vertical storage portion adjacent the upstanding supporting portions. A pair of shelf members are mounted between the base members on opposite sides of the upstanding supporting portions for pivotal swinging movements between a horizontal shelf position and a vertical storage position adjacent the upstanding supporting portions.

3,437,059
DECORATIVE POLE ASSEMBLY
Russell W. Stonier, Winnetka, and Daniel H. James, Melrose Park, Ill.; said Stonier assignor to Russ Stonier Designs, Inc. Chicago, Ill., a corporation of Illinois
Filed May 17, 1966, Ser. No. 555,211
Int. Cl. A47b 13/04; F16b 7/00; F16m 13/00
U.S. Cl. 108—151 9 Claims



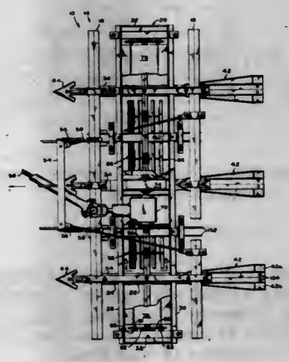
A decorative pole assembly which may be readily installed between, and removed from, the floor and ceiling of a room. The pole assembly includes a plurality of ornamental pole segments and a plurality of connectors. The ends of the pole segments are provided with axially aligned, internally threaded recesses which threadably receive the connectors to form a multi-jointed pole. At least one of the connectors is a coil spring which provides a joint which may be flexed to facilitate the installation or removal of the pole.

3,437,060
ADJUSTABLE FURNITURE CONSTRUCTION
Joseph Giambalvo, 1118 Willoughby Ave., Brooklyn, N.Y. 11237
Filed July 28, 1967, Ser. No. 656,939
Int. Cl. A47b 57/06; F16m 13/02, 11/00
U.S. Cl. 108—151 10 Claims



An adjustable furniture construction having an apertured horizontal member and a vertical columnar member, said vertical member being receivable through the aperture of said horizontal member, and a wedge frictionally receivable between said vertical and horizontal members in the region of the aperture whereby said members will be united and said horizontal member is supported by said vertical member.

3,437,061
MULTIPLE USE AGRICULTURAL IMPLEMENT
Novell E. Wells, 927 Ranch Road, Boise, Idaho 83702
Filed Mar. 16, 1966, Ser. No. 534,845
Int. Cl. A01c 23/02, 5/06; A01b 33/02
U.S. Cl. 111—1 27 Claims

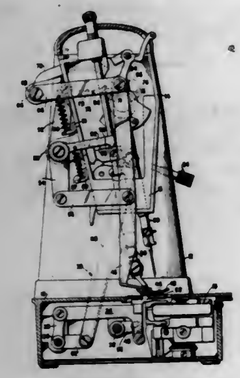


1. An earth-tilling implement adapted to be towed behind a tractor, said implement comprising in combination:
- a frame extending laterally of the direction of travel of said implement,
- a plurality of elongate skid members extending longitudinally beneath said frame and depending from said frame at laterally spaced-apart positions thereon and at least partially supporting said frame for travel on the ground surface,
- a plurality of rotary cultivator elements rotatably carried by said frame with at least one said element being positioned between each adjacent pair of skid members,
- means carried by said frame for rotating said cultivator elements,
- and a bed-shaping element mounted on each said skid member,
- said bed-shaping elements including a pair of opposite sidewalls joined together along the front end of each and flaring outwardly away from one another in a direction rearwardly from said front end and upwardly from said skid member so that said skid member and said bed-shaping element coact together to form a generally flat-bottomed irrigation ditch with outwardly sloping sidewalls.

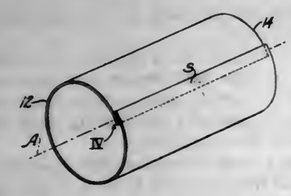
3,437,062
MECHANISM FOR AUTOMATICALLY ADJUSTING THE HEIGHT OF A TOP FEED FOOT
Hans W. Hacklander, Huntsville, Ark., assignor to The Singer Company, New York, N.Y., a corporation of New Jersey
Filed Oct. 11, 1966, Ser. No. 585,899
Int. Cl. D05b 27/04, 27/24
U.S. Cl. 112—212 7 Claims

The following disclosure relates to a four-motion type

upper feed mechanism wherein the range of vertical movement of the upper feeding foot is varied automatically in response to varying vertical movement of a presser-foot associated therewith.



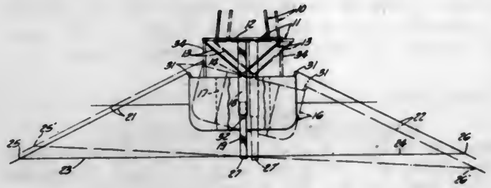
3,437,063
METHODS FOR MAKING CONTAINER BODIES USING THERMOPLASTIC ADHESIVE
William R. Battersby, Lexington, Mass., assignor to United Shoe Machinery Corporation, Flemington, N.J., a corporation of New Jersey
Original application July 6, 1965, Ser. No. 469,513, now Patent No. 3,329,740, dated July 4, 1967. Divided and this application Apr. 28, 1967, Ser. No. 634,761
Int. Cl. B21d *51/04, 51/10;* B65d *3/04*
U.S. Cl. 113—121 **8 Claims**



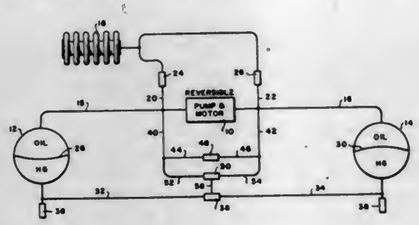
A method for making container bodies in which thermoplastic adhesive having controlled delay hardening ability is applied to a side seaming surface portion of a metallic container blank and the blank is formed into a tubular body with the adhesive in heat activated condition between the side seaming surface portion on which it is applied and an opposite side seaming surface portion. Portions, e.g. end edge portions, are deformed e.g. flanged, the adhesive is caused to increase in hardness and the ends attached to the tubular body. Thereafter, the adhesive is caused to advance further in hardening.

3,437,064
ANTI-ROLL FLOATING SUPPORT
William A. Hunsucker, 3741 Prestwick Drive, Los Angeles, Calif. 90027
Filed Jan. 3, 1967, Ser. No. 606,823
Int. Cl. B63b *35/44, 21/50*
U.S. Cl. 114—.5 **9 Claims**

The drilling platform of a marine drilling structure is mounted on hinges spaced lengthwise of a floating barge or ship, so that the ship may roll relative to the platform. A lever fixed to the drilling platform projects downward through the drilling well in the barge and the submerged lower end of the lever is connected to cables which extend transversely under the ship and are fixed to certain of the anchor lines which hold the ship in position over the drilling site.

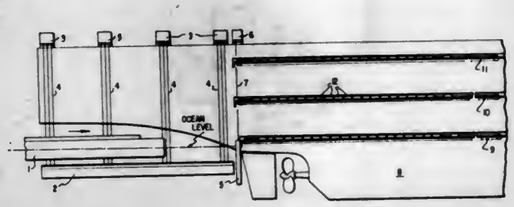


3,437,065
HYDRAULICALLY ACTUATED MERCURY TRIM SYSTEM
Roland W. Robbins, Jr., Arnold, Md., assignor to the United States of America as represented by the Secretary of the Navy
Filed Feb. 26, 1968, Ser. No. 711,155
Int. Cl. B63g *8/26;* B63b *43/06*
U.S. Cl. 114—16 **5 Claims**



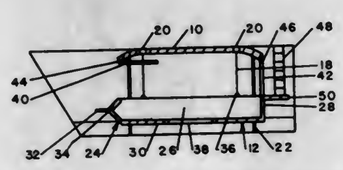
A hydraulically actuated trim system for transferring a fluid balancing medium for statically trimming a vehicle, for example, a submarine. The balancing medium is transferred between containers at opposite ends of the vehicle by pumping a second fluid from one container into the other and thus causing the balancing medium to flow in the opposite direction. A reversible pump is provided and mechanical valves responsive to the direction of flow of the second fluid provide the desired flow paths for both fluids.

3,437,066
BARGE HANDLING EQUIPMENT
Alfred H. Schwendtner, New York, N.Y., assignor, by mesne assignments, to Lykes Enterprises, Inc., a corporation of Louisiana
Filed Feb. 11, 1966, Ser. No. 526,904
Int. Cl. B63b *35/44, 27/16*
U.S. Cl. 114—43.5 **6 Claims**



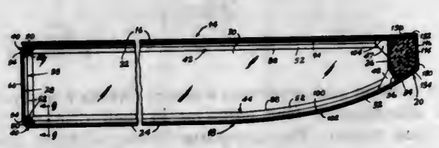
A method and apparatus for engaging free-floating barges and transporting them to storage aboard an ocean-going barge carrier and thereafter returning them from storage to a free-floating attitude. Dollies are used for transporting the barges from an elevator to a storage position within the carrier.

3,437,067
CONVERTIBLE VESSEL
Eugene F. Malin, 201 SE. 2nd St., Fort Lauderdale, Fla. 33301
Filed Jan. 9, 1967, Ser. No. 607,924
Int. Cl. B63b *1/12, 3/00*
U.S. Cl. 114—61 **13 Claims**



A plural hull, convertible vessel with a movable, buoyant body carried between adjacent, side-by-side hulls. The buoyant body may be moved between an upper, intermediate, lower intermediate, and lowermost position to provide the vessel with plural hull vessel characteristics in the upper position, glass bottom boat and houseboat characteristics in the intermediate position, shallow draft vessel characteristics in the lower intermediate position, and dry dock facilities in the lowermost position.

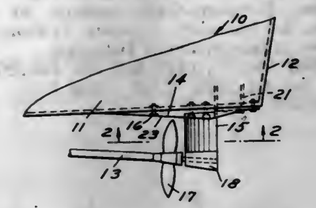
3,437,068
CONCRETE-REINFORCED STEEL VESSEL CONSTRUCTION
Robert W. Eribacher, 920 N. Fountain, Cape Girardeau, Mo. 63701
Filed May 18, 1967, Ser. No. 639,516
Int. Cl. B63b *3/40*
U.S. Cl. 114—65 **6 Claims**



Vessel corner posts or stringers constructed entirely of steel and concrete material. Vessel comprises a deck, a therebelow hull section, and external corner posts or stringer and headlog sections that are integrated with and constitutes the external cover portions of the hull section. Most of the steel components are appropriately welded to one another, whereas some are maintained in position by the concrete material itself.

3,437,069
BOAT CONSTRUCTION
Charles H. Bennett, 14845 Plymouth Road, Detroit, Mich. 48227
Filed Oct. 5, 1966, Ser. No. 584,428
Int. Cl. B63h *5/06, 21/26*
U.S. Cl. 115—34 **2 Claims**

The boat construction shown herein comprises a boat having an engine mounted on the boat and a strut extending downwardly below the waterline. A propeller is mounted on the strut forwardly of the strut and in close proximity thereto. The strut has a horizontal cross section which terminates in spaced edges to form a cavitation area. The exhaust from the engine is directed generally toward the cavitation area.

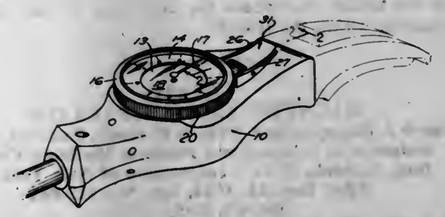


3,437,070
TEMPERATURE INDICATOR
Lloyd B. Campbell, Los Angeles, Calif. (835 Keeaumoku, Honolulu, Hawaii 96814)
Filed Jan. 28, 1966, Ser. No. 523,711
Int. Cl. G01d *21/00*
U.S. Cl. 116—114 **7 Claims**



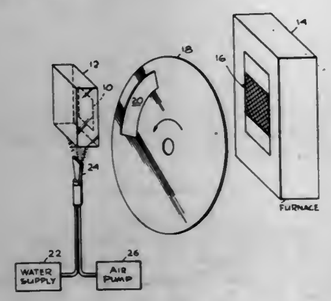
A temperature-indicating device including two reactants combinable to produce a change in color, the reactants being separated by a barrier, which is frangible upon the freezing of one of the reactants to allow access of one reactant to the other, the barrier also being sensitive to elevated temperatures for allowing the reactants to combine upon reaching a predetermined temperature.

3,437,071
BEZEL CLAMP FOR AN INDICATOR
Otto C. Jelinek, Cranston, R.I., assignor to Federal Products Corporation, a corporation of Rhode Island
Filed Jan. 17, 1967, Ser. No. 609,876
Int. Cl. G09f *9/00*
U.S. Cl. 116—129 **4 Claims**



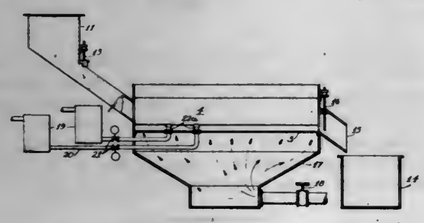
An indicator casing is set into a recess in a handle unit with a lever pivoted in a recess of the handle unit so as to clamp the bezel in its rotative position of adjustment.

3,437,072
APPARATUS FOR FUSING AN ELECTROSCOPIC POWDER PARTICLE IMAGE
Leo Levinson, Berkeley, Calif., assignor, by mesne assignments, to Monsanto Graphic Systems, Inc., St. Louis, Mo., a corporation of Delaware
Filed Apr. 15, 1965, Ser. No. 448,337
Int. Cl. B05c 11/02; G03g 1/20
U.S. Cl. 118—9 5 Claims



An apparatus for fixing a powder image which is deposited on a surface of a thin plastic material comprising means for applying a predetermined duration heat pulse and means for applying a cooling spray to the opposite surface of the plastic material.

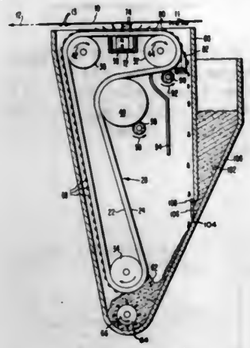
3,437,073
METHOD AND APPARATUS FOR TREATING PARTICULATE MATERIAL IN A FLUIDIZED BED
Edwin George Drake, La Salle, Quebec, and Marius Frechette, Ville St. Michel, Quebec, Canada, assignors to Wisconsin Alumni Research Foundation, Madison, Wis., a corporation of Wisconsin
Filed Dec. 1, 1965, Ser. No. 510,822
Int. Cl. B05c 5/00; B44c 1/06, 1/08
U.S. Cl. 118—24 6 Claims



Apparatus for continuous treatment of particulate material while in a fluidized state consisting of a longitudinally extending trough, the base of which trough contains spaced apertures, divider plates within the trough which divide the trough into a longitudinally extending central zone and two side zones which communicate above and below the divider plates, means for forcing a fluidizing gas upwardly through the apertures in the base of the trough and means for dispersing particle treating material within the trough.

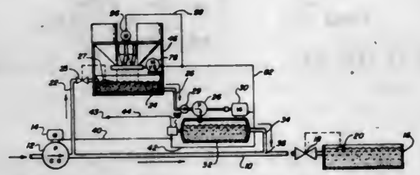
3,437,074
MAGNETIC BRUSH APPARATUS
Jacob J. Hagopian and William E. Steele, San Jose, Calif., assignors to International Business Machines Corporation, Armonk, N.Y., a corporation of New York
Filed Dec. 21, 1964, Ser. No. 419,981
Int. Cl. B05c 5/02
U.S. Cl. 118—623 6 Claims

A magnetic brush apparatus which includes an endless magnetizable belt which is magnetized by a first magnet uniformly across its width. The belt is moved to cause the magnetic pattern to pass through a batch of ferromagnetic powder. The ferromagnetic powder is attracted to the magnetic pattern and the belt with ferromagnetic



powder is then moved adjacent a second magnet which causes a magnetic brush to be formed, while at the same time erasing the magnetic pattern formed by the first magnet.

3,437,075
METHOD AND APPARATUS FOR ADMINISTERING FEED ADDITIVES TO LIVESTOCK AND POULTRY
Roland J. Hawes, Jr., and Wellington C. Pierce, Boise, Idaho, assignors, by mesne assignments, to Roland J. Hawes, Jr.
Continuation-in-part of application Ser. No. 472,207, July 15, 1965. This application Jan. 29, 1968, Ser. No. 709,850
Int. Cl. A01k 5/02, 7/02
U.S. Cl. 119—51 22 Claims

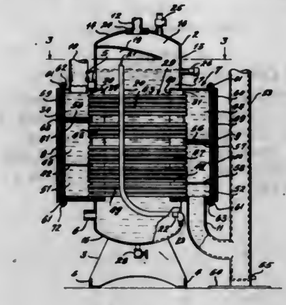


A method and apparatus whereby livestock and poultry are administered feed additives in their drinking water or feed ration. The apparatus stores additive concentrates separately until just prior to use, then on demand measures and dispenses the additive concentrates separately but simultaneously into a flow of water or other fluent carrier. The carrier flows continuously to an additive receiving station, which may be a pressure tank or drinking water trough if the carrier is drinking water, or which may be a feed mill if the carrier is water, molasses or other fluent, consumptive carrier material.

3,437,076
ENERGY CONVERSION APPARATUS AND SYSTEM
Joseph B. Killebrew, Eureka, Mo., assignor to Killebrew Engineering Corporation, St. Louis, Mo., a corporation of Missouri
Filed Sept. 21, 1967, Ser. No. 669,558
Int. Cl. F22d 1/16
U.S. Cl. 122—7 12 Claims

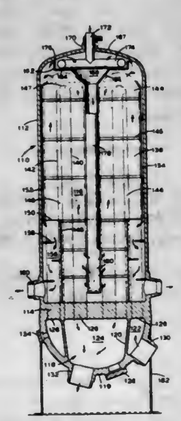
An energy conversion apparatus which produces supplemental energy when used in conjunction with a combustion engine. The apparatus has a vertically disposed receptacle which receives the hot liquid or other cooling

medium from the jacket of the engine, and provides for its separation into the vapor and liquid states. The liquefied cooling medium is further heated and partially vaporized by channelling the exhaust gases from the engine for single or multiple passes through a tube bundle arranged through the liquid space of the receptacle, and the yet remaining liquid phase is then returned to the engine jacket for cooling purposes. The created vapor is



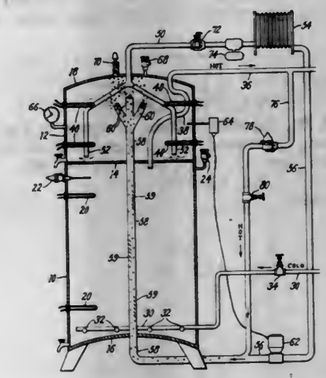
conveyed from the apparatus as an energy source for operation of other devices located remotely. A pair or more of the apparatuses, and their associated engines, may be used jointly and interconnected by a series of flow lines, so that as one apparatus may be functioning, the inactive or idle apparatus may be conveniently primed for ready usage at a proper start-up temperature and water level.

3,437,077
ONCE-THROUGH VAPOR GENERATOR
Johannes H. Ammon, Akron, John Schlichting, Hudson, and Theodore S. Sprague, Akron, Ohio, assignors to The Babcock & Wilcox Company, New York, N.Y., a corporation of New Jersey
Filed Jan. 21, 1966, Ser. No. 522,128
Int. Cl. F22b 1/02
U.S. Cl. 122—32 25 Claims



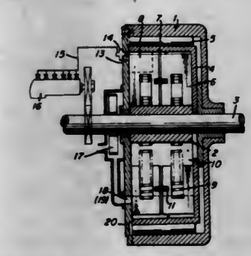
A once-through vapor generator comprising an upright vessel divided by a tube sheet into a vapor generating chamber and a second chamber containing primary fluid inflow and outflow compartments. The vapor generating chamber is occupied by an annular bank of equidistantly spaced U-bend tubes connected to the tube sheet and opening to the primary fluid fluid inflow and outflow compartments. Each tube has upright first and second sections, the first sections being located centrally within the annular bank, the second sections being arranged concentrially about the first sections. Provisions are made for successively vaporizing and superheating secondary fluid by passing it through the vapor generating chamber and over the tubes in indirect heat absorbing relation with the primary fluid.

3,437,078
DUAL PURPOSE HOT WATER HEATING BOILERS
Axel B. Olson, 1 Stage Harbor Road, Chatham, Mass. 02633
Filed Oct. 10, 1967, Ser. No. 674,263
Int. Cl. F22b 33/02
U.S. Cl. 122—37 10 Claims



A vertically disposed pressure vessel, separated by a partition into a smaller upper and a larger lower boiler portion, each having its own electrical heating elements, provides a dual purpose hot water heating boiler. A cold water inlet and a hot water outlet are provided for the larger lower boiler portion, which is adapted to serve as a domestic hot water storage heater, while the smaller upper boiler portion is adapted to serve as a house heating water heater and has a hot water outlet and a return pipe. The hot water outlet from the lower boiler portion passes through the upper boiler portion and includes a heat transferring coil within said upper boiler portion, while the return pipe leading to the upper boiler portion passes upwardly through the lower boiler portion and is provided with groups of spiral fins for facilitating the separation of air from the water therein for release through an air bleed valve located in the dome-shaped top of the upper boiler portion.

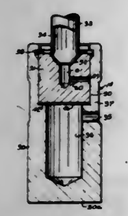
3,437,079
ROTARY MACHINE OF BLADE TYPE
Daisaku Odawara, 520, 5 Ueno Shiba-machi, Sakai-shi, Japan
Continuation of application Ser. No. 418,473, Dec. 15, 1964. This application June 12, 1967, Ser. No. 645,551
Claims priority, application Japan, Dec. 17, 1963, 38/67,990
Int. Cl. F02b 53/00; F02m 29/00; F04c 1/00
U.S. Cl. 123—16 19 Claims



A rotary machine of the blade type includes a plurality of blades mounted on a rotor which is eccentrically and

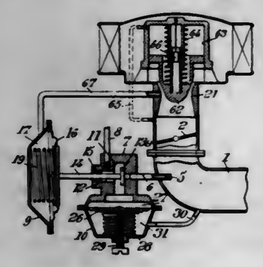
rotatably mounted in a stationary outer casing, and working chambers which undergo periodic changes in volume as the rotor rotates. An air-tight rotor has a circumferential wall extending around the radially outer ends of the blades, and this air-tight rotor is rotatably mounted in and concentric with the outer casing, anti-friction means being disposed between the air-tight rotor and the outer casing. The radially outer ends of the blades maintain close contact with the circumferential wall of the air-tight rotor, and the latter has at least one diametrically extending side wall engaged with the rotor which mounts the blades. The working chambers are defined by the rotor mounting the blades, the air-tight rotor and the outer casing.

3,437,080
VALVE TAPPET
Roy F. Abell, Jr., Saginaw, Mich., assignor to Eaton Yale & Towne Inc., Cleveland, Ohio, a corporation of Ohio
Filed Nov. 13, 1967, Ser. No. 682,401
Int. Cl. F01l *1/14*
U.S. Cl. 123—90 **11 Claims**



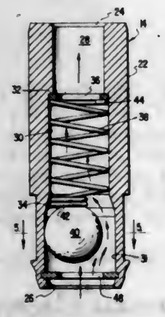
A valve tappet includes a body member which is engageable with a cam member having a base circle or dwell portion and an actuating portion. A socket member is carried by the body member and has a fluid passageway therein to provide for fluid flow to a push rod member operatively connected with a valve of an internal combustion engine. Fluid pressure provides a clearance between the body member and the socket member and through which fluid flows when the body portion of the lifter is in engagement with the base circle portion of the cam. Upon raising movement of the body member of the lifter, the clearance is closed and sealed so as to block flow of fluid to the fluid passageway in the socket member.

3,437,081
FUEL FEED SYSTEMS FOR INTERNAL COMBUSTION ENGINES
André Louis Mennesson, Neuilly-sur-Seine, France, assignor to Societe Industrielle de Brevets et d'Etudes S.I.B.E., Neuilly-sur-Seine, France, a society of France
Filed June 9, 1966, Ser. No. 556,296
Claims priority, application France, June 11, 1965, 20,513; July 27, 1965, 26,216
Int. Cl. F02m *7/06, 59/44*
U.S. Cl. 123—119 **16 Claims**



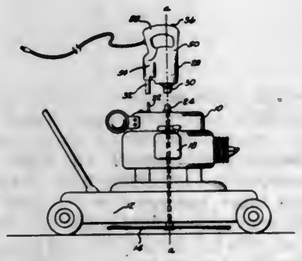
The system includes, in addition to the main carburetting system, an auxiliary device for injecting supplementary fuel into the induction pipe leading to the engine. This auxiliary device includes a fuel accumulator having a variable volume chamber, in which fuel is accumulated under pressure, whose volume is reduced in response to a sudden increase in the air flow rate in the induction pipe. Valve means control the communication between this chamber and the induction pipe: this communication is normally blocked off, but is temporarily opened in response to a sudden increase in the air flow rate in the induction pipe.

3,437,082
FLOW METERING DEVICE
Gerald R. Bouwkamp, Villa Park, and Kenneth W. Lesher, Wheaton, Ill., assignors to Standard Screw Company, Bellwood, Ill., a corporation of New Jersey
Filed June 23, 1967, Ser. No. 648,408
Int. Cl. F02f *9/02*; F02m *25/06*; F16k *17/20*
U.S. Cl. 123—119 **7 Claims**



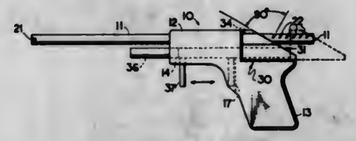
A flow metering device for use in an automotive crankcase ventilation system comprising a valve housing having an inlet end, an outlet end, and a cavity formed therebetween, at least a portion of the cavity having a variable cross section to form a metering orifice. A spring is positioned within the cavity and has a plurality of coils, at least one of which is laterally offset relative to the others. The end offset coil engages a valve member so that the latter is capable of movement within the cavity into and away from the orifice in response to changes in pressure in the ventilation system.

3,437,083
ENGINE STARTER ACCESSORY
Lyle J. Hamman, Eaton Rapids, Mich., assignor to Eaton Stamping Company, Eaton Rapids, Mich., a corporation of Michigan
Filed Sept. 30, 1965, Ser. No. 491,518
Int. Cl. F02n *11/14*
U.S. Cl. 123—179 **2 Claims**



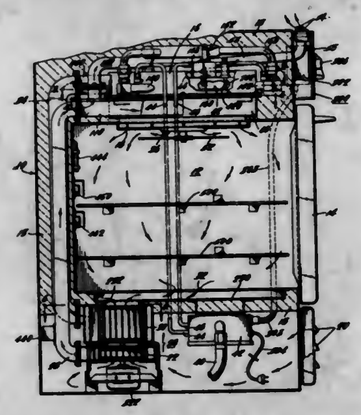
The invention takes the form of a portable electric starter for internal combustion engines, the starter having a coupling with a crankshaft upon relative axial movement between the starter and the crankshaft, the starter and the engine having torque resisting means coupling one with the other during relative axial movement.

3,437,084
ELASTIC LOOP LAUNCHER
Alfred C. Hyter, Toledo, Ohio, assignor to Alaron Pattern & Model, Inc., Toledo, Ohio, a corporation of Ohio
Filed Dec. 22, 1965, Ser. No. 515,639
Int. Cl. F41b *7/08*; F41f *7/00*
U.S. Cl. 124—19 **6 Claims**



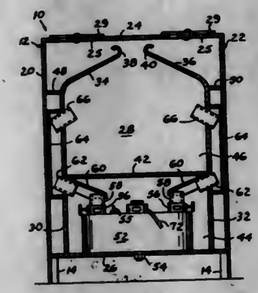
An elastic loop launcher with a pair of spaced stops on a rod carrier, a release means has an inclined plane cam surface and an aperature formed therein through the cam surface to receive the rod and slide thereon. A male guide means may be attached to the release means and slide in a female guide form in a main body portion of the carrier.

3,437,085
SELF-CLEANING GAS OVEN SYSTEM AND GAS BURNER MEANS THEREFOR
Edward H. Perry, Parma, Ohio, assignor to American Gas Association, Inc., New York, N.Y., a corporation of New York
Filed Mar. 1, 1967, Ser. No. 619,635
Int. Cl. A21b *1/02*; F24c *15/32*; F23n *1/00*
U.S. Cl. 126—21 **14 Claims**



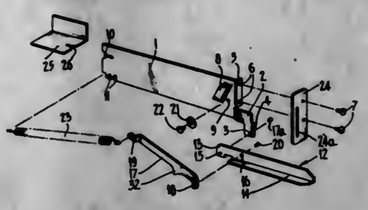
A gas-fired cooking oven using a single forced-draft, swirl-type burner at the top of the oven cavity to produce heat for baking, roasting, broiling and pyrolytic cleaning of the oven. A plurality of gas nozzles direct a mixture of primary air and gaseous fuel around the combustion chamber in a common rotational sense, and secondary air is supplied under pressure by way of slots in the sidewalls of the combustion chamber downstream of the gas nozzles to produce satisfactory combustion. The open bottom end of the combustion chamber is covered with a radiant screen, and communicates with the top of the oven cavity. By switching the number of nozzles to which gaseous fuel is supplied, the burner is operable selectively at a lower heating level for baking or roasting, or at a higher heating level for broiling or pyrolytic cleaning with the screen heated to radiance. A blower arrangement beneath the oven cavity supplies the primary and secondary air for the burner, and also recirculates the oven gases from an opening in the bottom of the oven to the top of a conduit which extends downwardly through the center of the burner back in to the top of the oven cavity. A vent duct passes through the burner so that smoke and odoriferous vapors are oxidized and thereby eliminated from the effluent oven gases. This system reduces the quantity of hot gases released to the room, is efficient, compact and versatile, and provides a relatively short pyrolytic cleaning cycle.

3,437,086
GAS AND LIQUID FUEL BURNING HEATER
John A. Phillip, Rte. 1, Box 17A, Beggs, Okla. 74421
Filed May 11, 1967, Ser. No. 637,664
Int. Cl. F24c *5/02*
U.S. Cl. 126—85 **5 Claims**



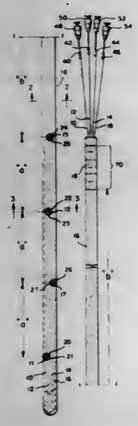
A substantially rectangular door closed housing is provided with an upper heat transferring compartment and a lower liquid fuel containing and burning compartment. Gas and liquid fuel burners, mounted on the liquid fuel container, are movable with the liquid fuel container to a burning position communicating with the heat transfer compartment.

3,437,087
HINGE ASSEMBLY
George Edmond Price, Essendon, Victoria, Australia, assignor to Craig & Seeley Limited, Brunswick, Victoria, Australia, a corporation of Victoria, Australia
Filed Apr. 18, 1967, Ser. No. 631,692
Claims priority, application Australia, Apr. 27, 1966, 4,692/66
Int. Cl. F24c *15/02*; F23m *7/00*
U.S. Cl. 126—191 **15 Claims**



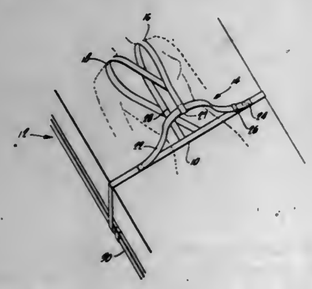
A unitized hinge assembly comprising an elongate substantially flat support plate formed with an integral hinge bracket at one end, a door-engaging arm pivotally connected to said bracket and a tension rod pivotally secured to the arm at one end and secured, through a tension spring, at the other end to the support plate, the door-engaging arm, tension rod and plate being arranged in substantially parallel contiguous planes to enable housing of the unit in narrow spaces. The unit is easily fitted to and removed from its housing body.

3,437,088
APPARATUS FOR MEASURING MOTILITY OF BODY ORGANS
Leonard J. Bielinski, 812 E. 18th St., Marshfield, Wis. 54449
Filed Dec. 1, 1966, Ser. No. 598,427
Int. Cl. A61b 5/10; G01l 7/00; A61m 25/00
U.S. Cl. 128—2 5 Claims



1. A device for making esophageal motility studies comprising,
a flat semi-rigid tape, having a number of spaced openings in one surface,
a number of tubular members embedded in the tape,
each of said tubular members having an open end which terminates in one of said openings,
the other end of each of said tubular members being connected to a transducer means which responds to pressure variations in said openings,
said openings being spaced at predetermined distances along said tape whereby the length, pressure and duration of peristaltic waves and sphincter areas can be determined.

3,437,089
RESTRAINING BELT
John T. Posey, 1739 Meadowbrook Road, Altadena, Calif. 91001
Filed Jan. 23, 1967, Ser. No. 611,022
Int. Cl. A61g 7/04; A61f 5/02
U.S. Cl. 128—134 6 Claims



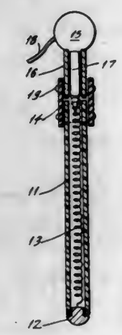
A restraining device for keeping a patient in bed, comprising an elongated strap for securement to a bed, a belt member including two strip members and securing means therefor, and shoulder harness loops each connected at one end to the strap and at the other end secured to the belt.

3,437,090
SYRINGE WITH SINGLE USE CARTRIDGE AND HOLDER
Stanley J. Sarnoff, 7507 Hampden Lane, Bethesda, Md. 20014
Filed June 21, 1966, Ser. No. 559,134
Int. Cl. A61m 5/22
U.S. Cl. 128—218 9 Claims



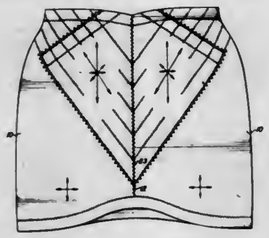
A single use syringe is comprised of a tubular holder, open at both ends but reduced in diameter at one end into which is inserted a cartridge provided with a hollow needle, medicament and plunger. The cartridge and holder are designed so that the cartridge and its needle may be irremovably snapped into place in the holder. After the plunger has been operated to expel the medicament, the whole assembled unit can be discarded.

3,437,091
PACEMAKING DEVICE-ELECTRODE CATHETER AND METHOD
Shmuel Jerushalmi, Rehovoth, and Itzhak Michael Barr, Haifa, Israel, assignors to Yeda Research and Development Co., Ltd., Rehovoth, Israel
Filed Dec. 2, 1966, Ser. No. 598,854
Claims priority, application Israel, Dec. 19, 1965, 24,829
Int. Cl. A61n 1/36
U.S. Cl. 128—404 4 Claims



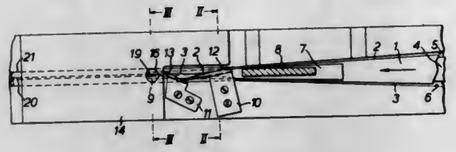
1. A pacemaking device and an electrode catheter of the monopolar type for use therewith comprising in combination a tubular member of electrically insulating resilient material of a length exceeding the required length of the catheter, a metal contact tip inserted at one end of the tube and a metal spiral spring attached at the interior of the tube to the metal tip and extending along the entire length of the tube, a tubular member attached to the pacemaking device, made of electrically insulating material, an electrically conducting metal member provided inside this tubular member, connected to the one pole of the output of the pacemaking device, and adapted to be firmly attached to the spiral spring, means being provided for sealing the contact between the two tubular members hermetically.

3,437,092
GIRDLE
Sallyann Z. Salisky, Garfield, N.J., assignor to International Playtex Corporation, Dover, Del., a corporation of Delaware
Filed Dec. 29, 1966, Ser. No. 605,635
Int. Cl. A41c 1/02
U.S. Cl. 128—542 8 Claims



A girdle having parallel stretchable strip areas of alternately greater and lesser thicknesses which extend from each side of the vertical midline of the front panel upwardly and outwardly to the waistline of the girdle to form nested V's. A distributing tape may extend outwardly and downwardly from the waistline over the upper portions of the said V strips.

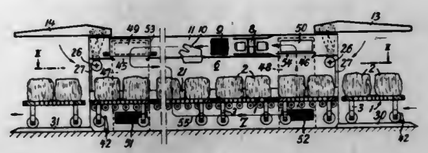
3,437,093
MANUFACTURE OF CIGARETTES
David Theodore Nelson Williamson and Douglas William Ballantyne Muir, Deptford, London, England, assignors to Molins Machine Company Limited, a corporation of Great Britain
Continuation-in-part of application Ser. No. 289,883, June 24, 1963. This application Apr. 26, 1966, Ser. No. 544,613
Claims priority, application Great Britain, June 29, 1962, 25,134/62
Int. Cl. A24c 1/32; A24d 1/02
U.S. Cl. 131—67 5 Claims



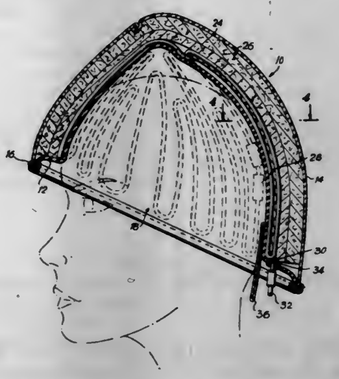
A continuous-rod cigarette-making machine which produces a seam by joining the two edge portions of the paper by ultrasonic vibratory welding. The downstream end of the compression tongue is used as an anvil, coacting with an ultrasonically vibrated welding tip projecting through an aperture in one of the guide members which fold the paper about the tobacco filler.

3,437,094
APPARATUS FOR MOISTENING TOBACCO BALES
Heinrich Stocklöcker, Vienna, Austria, assignor to Schiff & Stern, Gesellschaft m.b.H., Vienna, Austria, a corporation of Austria
Filed Jan. 31, 1967, Ser. No. 612,951
Claims priority, application Austria, Feb. 4, 1966, A 1,023/66
Int. Cl. A24b 3/02, 9/00; F26b 19/00
U.S. Cl. 131—136 7 Claims

An apparatus for moistening tobacco bales, in which a plurality of movable carrying grates supporting tobacco bales is moved through a tunnel having doors at each end for completely closing the tunnel, in which at least one current of moist air is fed through. At predetermined intervals, the same number of carrying grates are removed from the tunnel as are fed into the tunnel, so that all tobacco bales are equally subjected to an even moistening thereof. The grates are sealed against each other and against the longitudinal walls of the tunnel by elastic packing strips. In addition, the grates at each end of the tunnel are sealed against the tunnel doors by similar strips. The sealing by the strips effectively divides the tunnel into separate upper and lower portions.



3,437,095
SYSTEM FOR HEAT ACCELERATED COLORING OR PERMANENT WAVING OF HAIR ON THE HUMAN SCALP
Morton W. Scott, Livingston, N.J., and Raymond K. Hayes, Northport, and Sol Levine, New York, N.Y., assignors to Del Laboratories, Inc., Farmingdale, N.Y., a corporation of New York
Filed Sept. 9, 1966, Ser. No. 578,394
Int. Cl. A45d 6/00, 7/00, 7/02, 8/40, 19/00, 19/18
U.S. Cl. 132—7 7 Claims

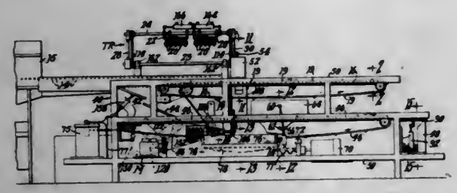


A treatment method comprising applying to hair a chemical coloring or permanent waving agent and then placing on such hair an imperforate hood which has been previously treated by electrically energizing a resistance heating element in the hood. The hood is disconnected from electricity before placement on the head. The hood includes a thick flexible mass of heat insulation predominantly located between the resistance heating element and the exterior surface of the hood and which serves as a source of stored heat that is discharged toward the hair for accelerating the treatment thereof.

3,437,096
EGG TRANSFERRING DEVICE
William H. Warren, Pleasant St., West Brookfield, Mass. 01585
Filed Feb. 13, 1967, Ser. No. 615,692
Int. Cl. B65b 23/06; B08b 3/02
U.S. Cl. 134—104 7 Claims

Automatically arranging eggs to be fed into an egg washing machine or the like and comprising a transfer mechanism utilizing a pair of egg lifters used in con-

junction with eggs on conventional egg trays advancing on a conveyor, lifting the eggs from two trays in separated groups, bringing the groups together so that the eggs are arranged in a series of equally distant spaced rows, moving the egg lifters to a position over the conveyor leading

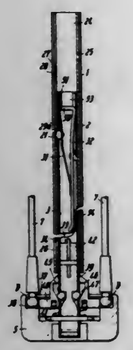


into the egg washer and depositing the eggs in a single group onto said conveyor, so that the egg washing machine receives a full complement of eggs automatically without blanks in the array of eggs being fed into the washer.

3,437,097
COLLAPSIBLE UMBRELLA

Heinz Weber, Hilden, Rhineland, Germany, assignor to Bremshey & Co., Solingen-Ohligs, Germany

Filed Apr. 17, 1968, Ser. No. 722,038
Claims priority, application Germany, Apr. 20, 1967, B 92,149
Int. Cl. A45b *19/06, 25/12*
U.S. Cl. 135—26 4 Claims



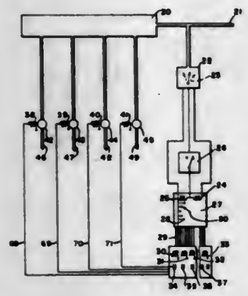
Collapsible umbrella has a hollow stick and roof-supporting ribs, all formed of three telescoping portions, and a handle formed with an annular space for receiving therein, in the fully telescoped condition of the stick and ribs, spherical knobs located at the points of the ribs, the annular space having a radial width at least equal to twice the diameter of the knobs. A latching device is located at the handle and movable within the space for locking the spherical knobs received therein, and a control device located inside the stick and operatively connected with the latching device. The control device is actuable for releasing the latching device into locking condition only when the knobs are received in the space.

3,437,098
SYSTEM OF AUTOMATIC CONTROLS FOR GAS MIXING

Virgil Stark and Jacques Sliosberg, New York, N.Y., assignors to North American Utility Construction Corporation, New York, N.Y.

Filed Oct. 25, 1965, Ser. No. 505,149
Int. Cl. F16k *31/12, 37/00;* F17d *3/00*
U.S. Cl. 137—12 13 Claims

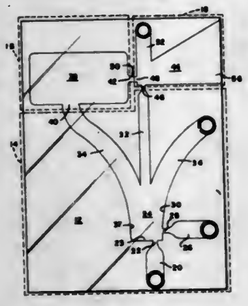
The method of controlling the mixing and supply of a fluid to a demand that varies in the supply line, comprising; providing a plurality of fluid sources to a supply line, wherein the flow rate of each fluid source is independent of the flow rate of the other members of the plurality of sources, connecting each member of the plurality of sources to the supply line so that the number of sources operating simultaneously governs the total flow rate, periodically determining the pressure in the supply line at a preset time interval and comparing this pressure with a preset normal pressure for the supply line operation, and periodically controlling the total flow rate by deviation from said preset normal pressure at said preset timed intervals.



3,437,099
PULSE GENERATOR

Benjamin F. Griffin, Jr., Fairfax County, Va., assignor to Sperry Rand Corporation, New York, N.Y., a corporation of Delaware

Filed Oct. 22, 1965, Ser. No. 502,113
Int. Cl. F15c *1/10*
U.S. Cl. 137—81.5 10 Claims

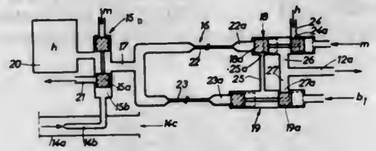


A pure fluid pulse generator utilizing the structure of U.S. Patent 3,159,169 is disclosed. In the identified U.S. patent, three output channels are provided where fluid will transiently exit from a first output channel when being switched from the second output channel to the third output channel and vice versa. A pure fluid inhibit device is connected with its signal input channel to the first output channel of the patented amplifier and its inhibit input to one of the other outputs of the amplifier through a fluid signal delay path. This interconnection operates to suppress from the output of the inhibit device one of the transient signals.

3,437,100
PNEUMATIC OR HYDRAULIC DELAY DEVICE

Jean Rona, Merignac, France, assignor to Societe Nationale d'Etude et de Construction de Moteurs d'Aviation, Paris, France

Continuation-in-part of application Ser. No. 338,709, Jan. 20, 1964. This application Feb. 23, 1968, Ser. No. 707,872
Claims priority, application France, Jan. 22, 1963, 922,311
Int. Cl. F15c *3/00;* F16t *1/12*
U.S. Cl. 137—81.5 13 Claims

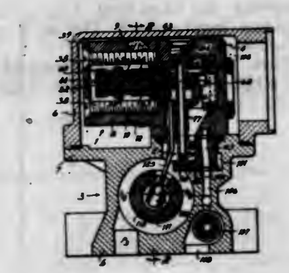


A delay device for transmitting with a determinate time-delay binary signal in the form of high- and low-pressure pulses, comprising two capillary tubes which simultaneously receive the input signals, a transmitter means which emits high- and low-pressure output signals according to whether the pressure at the output of the first capillary tube is greater or less than a predetermined intermediate pressure, and a locking means which prolongs the emission of each high-pressure output signal by feeding to the output of said first capillary tube a pressure greater than said intermediate pressure, as long as the pressure at the output of the second capillary tube is greater than a predetermined pressure less than said intermediate pressure.

3,437,101
SERVOVALVE CONSTRUCTION

James L. Coakley and Charles A. Kubilos, Oxnard, Calif., assignors to Abex Corporation, a corporation of Delaware

Filed Mar. 1, 1966, Ser. No. 530,916
Int. Cl. F15b *9/03, 9/07, 9/12*
U.S. Cl. 137—83 17 Claims

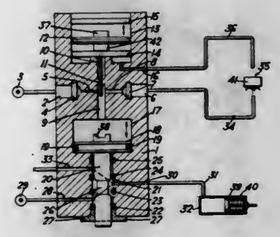


A servovalve of the jet tube type in which a torque motor operated armature is connected to a base by a tube which is placed in torsion when the armature is rotated. A jet tube having a fixed inlet end extends angularly with respect to the torque tube axis, and is deflected at its outlet end by rotation of the armature, applied through an arm connected from a point between the ends of the jet tube to an armature driven shaft. The construction provides both assembly and operating advantages.

3,437,102
PNEUMATIC CONTROL DEVICES

Thomas W. Hamilton, 27 Clevehurst Close, Stoke Poges, Buckinghamshire, England

Filed Mar. 16, 1967, Ser. No. 623,662
Claims priority, application Great Britain, Apr. 4, 1966, 14,911/66
Int. Cl. F16k *11/10;* B23b *49/00*
U.S. Cl. 137—83 9 Claims

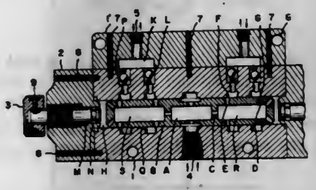


A pneumatic control device which produces a positive and a negative air pressure for performing a control function comprises a housing having an air inlet bore extending into a control bore at right angles to it and an air outlet bore of larger diameter than the inlet bore extending out of the control bore in a position diametrically opposite to the inlet bore so that air flowing through the inlet bore so that air flowing through the inlet bore produces a Venturi effect as it flows across the control bore and then flows out of the outlet bore. An obstructor rod is mounted to slide up and down co-axially into and out of the control bore and is moved by a piston to which it is attached. When the rod is raised by its piston it is clear of the air flow across the control bore so that the Venturi effect produces a negative pressure in the control bore, but when the piston moves the rod downwards into the air flow across the control bore, this flow is disturbed so that it becomes turbulent and the Venturi effect is destroyed and a positive pressure is produced in the control bore.

3,437,103
FLOW CONTROL VALVE

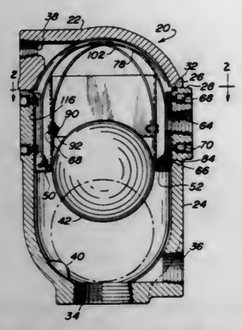
Masao Yoshino, 273, Numabukuro-machi, Nakano-ku, Tokyo, Japan

Filed Feb. 1, 1966, Ser. No. 524,054
Claims priority, application Japan, Apr. 8, 1965, 40/20,323
Int. Cl. F15b *13/02;* F16k *11/07*
U.S. Cl. 137—100 2 Claims



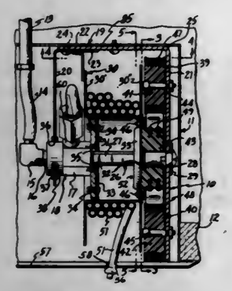
A flow control valve for controlling the flow of a hydraulic fluid between a common source and a pair of hydraulic elements. The flow is divided into two paths through a slidably positionable spool disposed within a bore through the body of the valve. Each of the flow paths communicates with one of the hydraulic elements. In response to differential pressure developed within the valve, the spool member is positionable within the bore to equalize the flow of fluid to the hydraulic elements.

3,437,104
COMBINED AIR ELIMINATOR AND VACUUM BREAKER
George B. Richards, Lake Forest, Ill., assignor to Liquid Controls Corporation, North Chicago, Ill., a corporation of Illinois
Filed Oct. 12, 1966, Ser. No. 586,243
Int. Cl. F16k 45/02; F16l 55/06
U.S. Cl. 137—202 5 Claims



An air eliminator and vacuum breaker employing flexible reed type valves actuated by a float which moves the reeds against and away from associated valve seats as the level of liquid moves up and down in a float chamber. Each reed is connected to the float on the opposite side of the float from the seat portion to which the respective reed is secured.

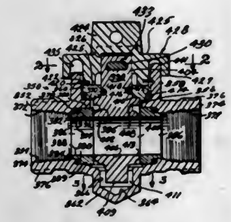
3,437,105
REEL ASSEMBLY
Robert J. Stracek, Mount Prospect, Ill., assignor to Chemetron Corporation, Chicago, Ill., a corporation of Delaware
Filed Jan. 10, 1966, Ser. No. 519,542
Int. Cl. F16l 3/18
U.S. Cl. 137—355.23 3 Claims



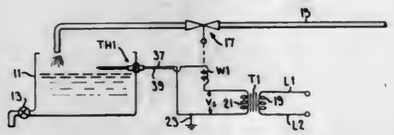
Reel assembly for flexible hose having a reel rotatably mounted on a fixed shaft and a body section attached to the side of the reel in alignment with the shaft. A fixed stem is rotatably received by the body and is in communication with a gas supply and the hose wound on the reel assembly.

3,437,106
BALL VALVES
Frank H. Mueller, Wilbur R. Leopold, Jr., and John J. Smith, Decatur, Ill., assignors to Mueller Co., Decatur, Ill., a corporation of Illinois
Filed Dec. 10, 1964, Ser. No. 417,435
Int. Cl. F16k 35/00; F16l 35/00
U.S. Cl. 137—382 14 Claims

1. A valve assembly comprising an integral valve housing having a passage extending therethrough, the ends of said passage defining an inlet and an outlet, a lateral opening communicating with said passage intermediate the ends thereof, an annular member mounted within said passage adjacent said inlet for limited axial movement, annular resilient sealing means between said annular member and said valve housing providing a fluid tight seal between said annular member and said passage and a valve key received in said housing through said lateral opening, said valve key including a central ball portion and opposed trunnion portions extending from said ball portion, said ball portion including means defining a passage extending laterally therethrough; means defining an upstanding, generally cylindrical wall projecting from said valve housing peripherally adjacent said lateral opening, means defining a generally annular surface on said valve housing between said lateral opening and said upstanding wall, means defining an annular groove in the interior surface of said upstanding wall; a removable retainer received in said groove; means interposed between said retainer and said key to removably retain said key in said housing, the interposed retaining means comprising an annular spacer flange means received on the upper of said opposed trunnions and urging against said generally annular surface; a key cap on said upper trunnion; a resilient washer interposed between the key cap and the removable retainer to provide for limited axial movement of the key to effect a sealing engagement between the key ball portion and the annular member mounted in said passage, said resilient washer having an upwardly diverging conically curved radially exterior surface, and said resilient washer being mounted on means defining an upwardly diverging conically curved seat on said upstanding wall.

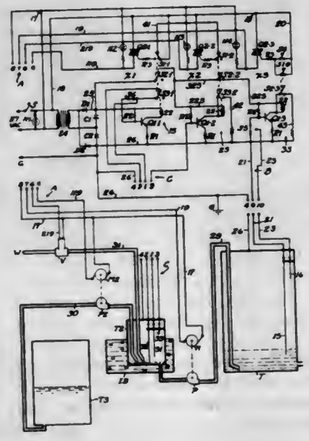


3,437,107
APPARATUS FOR CONTROLLING THE LEVEL OF A LIQUID
Joseph W. Waseleski, Jr., Mansfield, Mass., assignor to Texas Instruments Incorporated, Dallas, Tex., a corporation of Delaware
Filed Nov. 19, 1965, Ser. No. 508,694
Int. Cl. F16k 21/18, 31/42; H01c 7/04
U.S. Cl. 137—392 7 Claims



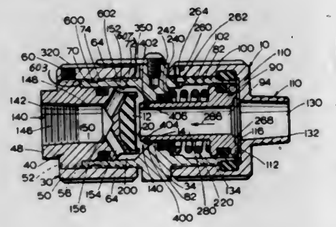
A liquid level controller is disclosed which employs the cooling effect of the liquid being controlled as a means of detecting the presence of the liquid at a predetermined level. A single thermistor of coaxial construction mounted at the predetermined level is connected in series with the actuator of a liquid flow controlling valve across a voltage source. The thermistor comprises a semiconductor material having a negative temperature coefficient and has an equilibrium current-voltage characteristic which includes a positive resistance region at relatively low current levels and a negative resistance region at relatively high current levels. Accordingly, when the thermistor is cooled by the liquid, thermal equilibrium occurs at a level which is less than deenergization threshold of the valve actuator and when the probe is not cooled by the liquid equilibrium occurs at a current level which is greater than the energization level of the actuator. Thus the valve is actuated to maintain the liquid at the preselected level.

3,437,108
FLUID MIXING AND TANK FILLING SYSTEM AND CONTROL CIRCUIT FOR THE SAME
Kenneth G. Sorensen, 12118 Ohio, Los Angeles, Calif. 90025
Filed Apr. 13, 1967, Ser. No. 630,735
Int. Cl. F16k 31/10
U.S. Cl. 137—392 9 Claims



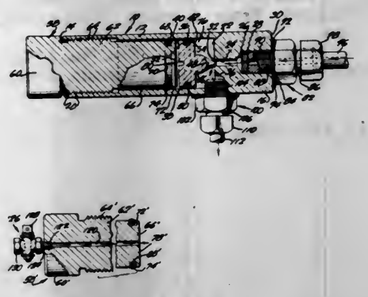
Disclosed herein is a system for mixing fluids and transferring the mixture into a receptacle, such as a tank, from which the mixture is withdrawn as it is used. The system may be utilized, for example, in diluting a syrup with water for a carbonated beverage in a holding tank from which it is withdrawn into a soda fountain carbonator.

3,437,109
AIR PRESSURE REGULATOR
Donald W. Carlson, 3706 Lake St., and Herbert Egerer, 3710 Lake St., both of Omaha, Nebr. 68111
Filed May 26, 1967, Ser. No. 641,673
Int. Cl. F16k 31/36
U.S. Cl. 137—505.25 3 Claims



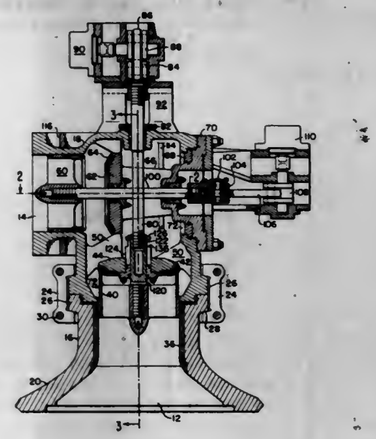
A compact air pressure regulator of light weight and small size having a spring adjusting means incorporating means to prevent rotation of the adjusting knob and means whereby excessive rotation will not result in the loss of the adjusting knob.

3,437,110
FLUID PRESSURE RELIEF VALVE
Dewie W. Birdwell, Snyder, Tex., assignor to Citation Manufacturing Company, Inc., Siloam Springs, Ark., a corporation of Arkansas
Filed Aug. 16, 1965, Ser. No. 480,028
Int. Cl. F16k 17/04, 21/04
U.S. Cl. 137—528 1 Claim



A relief valve comprising: a tubular, externally cylindrical shell having a closed end; a pressure channel penetrating said closed end; a valve member mounted as a sealed piston in said tubular shell and having closure means engaging said channel; an adjusting member having threaded engagement with the interior of said tubular member and having an end with sealed piston engagement with the interior of said tubular shell, there being a passage through said adjusting member for the application of predetermined relief resisting pressure to said valve member; means for closing said passage; said adjusting means operating to compensate for pressure losses after closure of said passage.

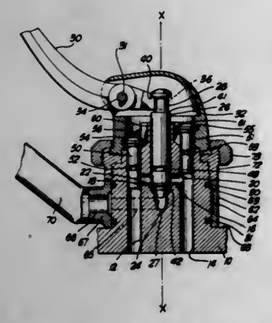
3,437,111
SHUT-OFF VALVE HAVING MAIN AND BACK-UP VALVES
Charles E. Grigsby and Chester L. Long, Newport News, Va., and Alexander V. Hose, Marblehead, Mass., assignors, by direct and mesne assignments, to Newport News Shipbuilding and Dry Dock Company, Newport News, Va., a corporation of Virginia
Filed Feb. 10, 1966, Ser. No. 526,487
Int. Cl. F16k 31/44
U.S. Cl. 137—613 5 Claims



A unitary valve embodying two high-capacity flow valves in series within a single body, the axes of the two valves being at right angles to one another so that

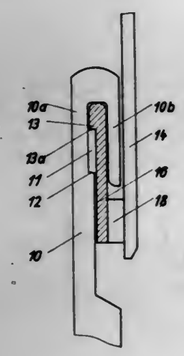
their flow passages intersect within the valve body. The valves are slightly off-set in order that the actuating stems for the respective valves may pass one another within the common flow passage between the two valves.

3,437,112
SINGLE HANDLE MIXING FAUCET
James W. Church, Preston, Ontario, Canada, assignor to Wallaceburg Brass Limited, Wallaceburg, Ontario, Canada
Filed May 29, 1967, Ser. No. 642,112
Claims priority, application Canada, June 17, 1966, 963,240
Int. Cl. F16k 11/18
U.S. Cl. 137—636.2 7 Claims



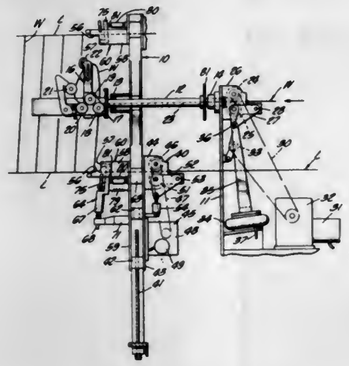
A mixing faucet having a single handle which, when pivoted up or down, moves a flow control stem to control the volume of fluid leaving a mixing chamber through an outlet passage communicating therewith. A pair of proportioning stems, mounted for axial movement in a pair of inlet passages communicating with the mixing chamber, are movable up and down, via cam means, by rotation of the handle, to thereby control the relative amounts of fluid entering the mixing chamber from the inlet passages.

3,437,113
WEAVING HEDDLE FOR RIDER-MOVABLE WEAVING SHAFT
Peter Staehli, Frischetzen, Switzerland, assignor to E. Frohlich AG, Muhlehorn, Switzerland
Filed July 12, 1966, Ser. No. 564,640
Claims priority, application Switzerland, July 13, 1965, 9,981/65
Int. Cl. D03c 9/06, 9/00
U.S. Cl. 139—93 2 Claims



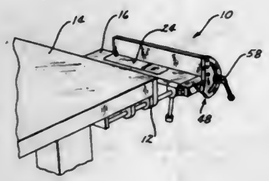
A rider-free weaving heddle for a track member having a single projecting rib portion at one end side thereof and the heddle having a J-shaped hook portion at the end with a back part and a front part forming a recess between them and the back part having an abutment in the lower end of the recess.

3,437,114
MACHINE FOR MAKING A WIRE CAGE
Donald P. Whitacre, 1013 N. Margarita Ave., Alhambra, Calif. 91801, and Victor E. Hass, La Puente, Calif.; said Hass assignor to said Whitacre
Filed Oct. 27, 1966, Ser. No. 590,007
Int. Cl. B21f 15/08, 27/10
U.S. Cl. 140—112 16 Claims



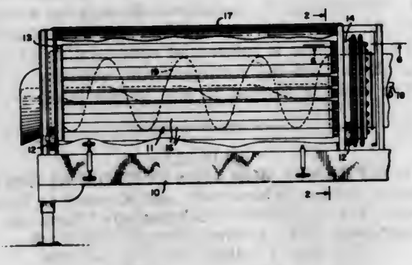
A reinforcing wire cage, comprising a helix wire enclosed within separate longitudinal wires, is formed by a machine having a flyer with a hollow shaft mounted to rotate on a stationary support. The longitudinal wires are advanced axially, and the helix wire is fed through the hollow shaft and is deflected by rollers on the flyer into a circumferential path within the longitudinal wires. Welding devices join the helix wire to each of the longitudinal wires to form the cage, and a brake impedes rotation of the flyer. The diameter of the wire cage is controlled by adjusting the radial position of the advancing devices for the longitudinal wires.

3,437,115
HAND JOINTER
David K. Page, 321 S. Taylor, Mason City, Iowa 50401
Filed Jan. 30, 1967, Ser. No. 612,427
Int. Cl. B27g 13/00, 23/00
U.S. Cl. 144—120 7 Claims



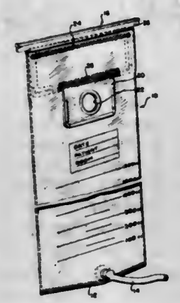
A woodworking tool including a bed member having an opening in which a hand plane is secured in an inverted position such that the blade of the plane will shape the material moving across the bed. A fence is laterally and angularly secured along the length of the bed.

3,437,116
APPARATUS FOR PEELING VEGETABLES OR FRUITS
Ralph K. Daugherty, San Jose, Calif., assignor of one-half to Genevieve I. Hanscom, Saratoga, Calif., and one-half to Genevieve I. Hanscom, Robert Magnuson, and Lois J. Duggan, trustees of the estate of Roy M. Magnuson, deceased
Filed Sept. 12, 1966, Ser. No. 578,747
Int. Cl. A47j 17/14
U.S. Cl. 146—49 4 Claims



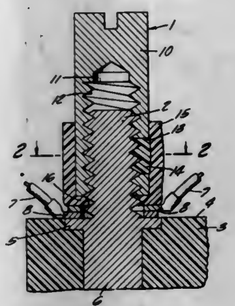
An abrasive peeling machine which provides a rotatable cylinder having its peripheral wall formed of a plurality of parallel horizontally disposed peeling rolls through which material such as potatoes is conveyed for peeling action. For each roll there is provided a removable cartridge drive unit at one end interposed between the driving means and the roll and having a detachable mounting in the drive ring of the cylinder, which ring carries one end of the peripheral series of peeling rolls.

3,437,117
FLUID ADMINISTRATION APPARATUS
John P. Vitello, Duxbury, Mass., and Rene F. Bascobert, Tonawanda, N.Y., assignors to Sterilon Corporation, Braintree, Mass.
Filed Jan. 24, 1967, Ser. No. 611,440
Int. Cl. B65d 33/30; A45c 13/00
U.S. Cl. 150—3 3 Claims



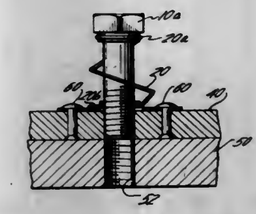
A bag construction wherein a bag mouth rigidifying member is provided with both a bag suspension tab and a bead portion, which when the bag is double folded to position the bead within a fold of the bag, is adapted to be embraced together with the folded body of the bag by a split tubular member for the purpose of providing a fluid sealed bag closure.

3,437,118
INTERNALLY THREADED SELF-LOCKING FASTENER AND METHOD OF MAKING THE SAME
Jan R. Coyle, San Dimas, Calif., assignor, by mesne assignments, to Threadline Fastener Corporation, Covina, Calif., a corporation of California
Filed Oct. 10, 1966, Ser. No. 585,537
Int. Cl. F16b 39/24
U.S. Cl. 151—7 5 Claims



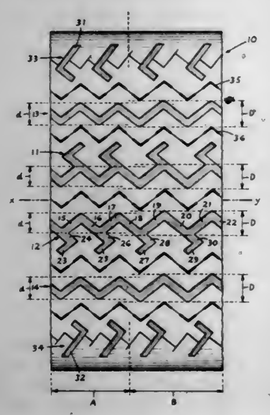
A self-locking threaded fastener including an internally threaded body adapted to engage a threaded stem, the body having a slot containing a resiliently deformable insert engageable with the stem threads, said insert being restrained against outward displacement by a sleeve of heat shrinkable resiliently deformable material having an attaching portion surrounding the body and extending over the outer end of the insert, the attaching portion being shrunk into intimate tight embrace of the body prior to the fastener being engaged with an associated stem, said sleeve portion having an internal flange at one end for augmenting the action of the insert, and in the absence of an insert operating as a locking element by itself, the flange further providing an abutment seal at the inner end of the fastener.

3,437,119
CAPTIVE BOLT UNIT
Ervin J. Dey, Santa Fe Springs, Calif., assignor to Standard Pressed Steel Co., Jenkintown, Pa., a corporation of Pennsylvania
Filed July 26, 1967, Ser. No. 656,268
Int. Cl. F16b 43/00
U.S. Cl. 151—69 7 Claims



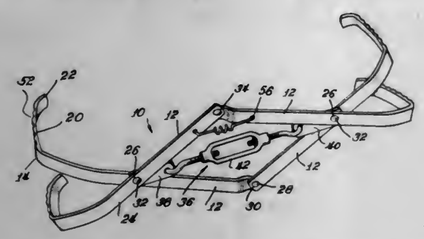
A captive bolt unit in which a bolt is attached to a retainer plate by means of a coil spring which surrounds the shank of the bolt. The retainer plate is adapted for attachment of the unit to a panel and has a central opening through which the shank of the bolt projects. The coil spring and the opening in the retainer plate are arranged to permit the underside of the head of the bolt to pass through as the spring is compressed and the bolt is applied through the panel to a structural member. As a result, the bolt head bears directly against the panel when the bolt is applied to the structural member.

3,437,120
PNEUMATIC TIRES
Henri Verdier, Beauregard-l'Eveque, France, assignor to Compagnie Generale des Etablissements Michelin raison sociale Michelin & Cie, Clermont-Ferrand, Puy-de-Dome, France
Filed Dec. 9, 1966, Ser. No. 600,520
Claims priority, application France, Dec. 11, 1965, 41,912
Int. Cl. B60c 11/00, 27/00
U.S. Cl. 152—209 8 Claims



A tread for a radial carcass tire having a tread reinforcement comprising a ground contacting tread band having a plurality of wavy grooves therein extending circumferentially of the tire in mid and lateral zones of said band, and in which the peripheral grooves in the mid-portion or zone extend over a transverse width greater than the grooves in the lateral or outer zones of the tread.

3,437,121
EMERGENCY TIRE TRACTION DEVICE
Gregory Strapko, 6034 W. Seminole St. 60646, and Frank S. Strapko, 3137 N. Major Ave. 60634, both of Chicago, Ill.
Filed Aug. 21, 1967, Ser. No. 662,019
Int. Cl. B60c 27/20, 27/02
U.S. Cl. 152—213 10 Claims

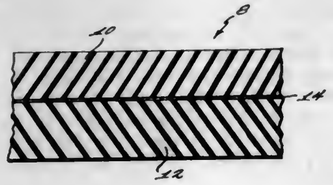


To increase traction between a resilient member mounted on a vehicle wheel and a slippery surface of a natural or a man made path of travel, a collapsible device having elongate structural members is placed over and about the resilient member and together with locking means is effective to secure itself to the resilient member. Upon rotation of the wheel when power is supplied thereto, portions of the elongate members are caused to engage the path of travel of the vehicle wheel. In this manner, the wheel is prevented from slipping or spinning on the path of travel and the wheel is effective to react against the path of travel and thereby cause the vehicle to be moved along the surface of earth.

3,437,122
CORD DIP OF IMPROVED STABILITY
Gerard E. van Gils, Cuyahoga Falls, Ohio, assignor to the General Tire & Rubber Company, Akron, Ohio, a corporation of Ohio
No Drawing. Filed Mar. 1, 1965, Ser. No. 436,274
Int. Cl. B60c 19/00
U.S. Cl. 152—330 15 Claims

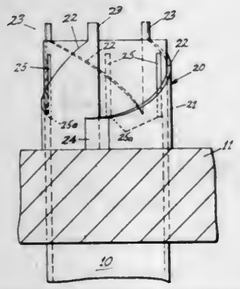
A textile-to-rubber latex adhesive of exceptional stability corresponding to the aqueous dispersion produced by combining and mixing together a rubber latex, resorcinol or other dihydric phenol, at least 1 mole of formaldehyde per mole of the dihydric phenol, and at least ½ mole of ammonia per mole of said phenol, either the ammonia or the formaldehyde being added last during the combining and mixing, the ammonia being added before there is substantial condensation of the dihydric phenol and the formaldehyde, whereby a water-insoluble resin is formed in situ in the latex.

3,437,123
ALKYLPHENYL BORATES IN EPDM RUBBERS
Manuel A. Jordan, Schenectady, and Kenneth C. Petersen, Scotia, N.Y., assignors to Schenectady Chemicals, Inc., Schenectady, N.Y., a corporation of New York
Filed Oct. 27, 1966, Ser. No. 589,886
Int. Cl. C08f 37/16; B32b 27/32
U.S. Cl. 152—330 12 Claims



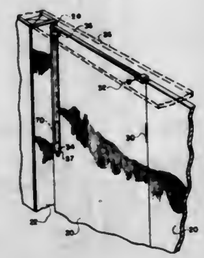
Ethylene-propylene-polyene terepolymer rubber is tackified with a thermoplastic resin which is the reaction product of (1) an aldehyde with a mixture of (2) a phenol and (3) a phenyl borate.

3,437,124
FALLING FILM HEAT EXCHANGER
Harry A. Bryan and Joseph C. Reynolds, Louisville, Ky., assignors to Girdler Corporation, Louisville, Ky., a corporation of Ohio
Filed July 21, 1967, Ser. No. 655,232
Int. Cl. B01d 1/06; F28d 7/00
U.S. Cl. 159—13 8 Claims



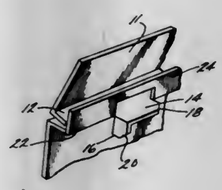
Apparatus for controlling the distribution of liquid to the tubes of a falling film heat exchanger. The tops of the tubes or ferrules attached thereto have secantal or radial slots for the admission of liquid, and rotatable sleeves having saw-tooth upper edges surround the tube tops or ferrules; rotation of the sleeves varies the length of the slots exposed above the saw-tooth edges through which liquid can enter. Each tube is thus individually adjustable after installation.

3,437,125
BI-FOLD DOOR CLOSER
Sanford L. Hargrove, 922 N. Santa Fe, Wichita, Kans. 67214
Continuation-in-part of application Ser. No. 592,952, Nov. 8, 1966. This application July 17, 1967, Ser. No. 653,975
Int. Cl. E05f 1/02, 11/04
U.S. Cl. 160—193 2 Claims



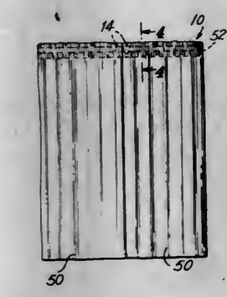
The invention disclosed herein is an apparatus for automatically closing a so-called bi-fold door having at least two hingedly connected sections. These bi-fold doors are commonly used mounted in a door casing having a lintel or another overhead member. For example, bi-fold doors are widely used as closet doors. The apparatus of my invention for closing these doors automatically has a tubular housing which is mounted in vertical position on one of the sections of the bi-fold door, and I employ brackets to mount and maintain the tubular housing on the door section. The tubular housing has a guide for a line in the top. The apparatus also utilizes another guide which is mountable on the top edge of the door section mounting the tubular housing, and this guide is mounted in use relatively remote from the tubular housing. An attachment element is employed which in use is mounted on the lintel or another overhead member of the door casing. A line of cord or the like is used. One end of the line is fastened in use to the attachment element, the line when mounted passing over the guide means and down into the tubular housig where it is secured to a weight slidably mounted in the tubular housing. A check valve is mounted in the lower end of the tubular housing, this check valve providing fluid communication between the lower portion of the housing inside and the atmosphere therearound. The weight is an important element in the automatic closing of the doors under controlled conditions, and the weight has distances thereacross relative the corresponding inside distances across the tubular housing so that there is a relatively small annulus in cross section between the weight and the inside of the housing. Also, the weight is made of length and mass and the annulus of cross section through the operating length so that the air between the bottom of the weight and the bottom and walls of the housing is controllably released around the weight as it falls in the tubular housing with the check valve being closed, and this is the sole means of controllably releasing such air ,that is, by the small annulus between the weight and the walls of the tubular housing. With my invention being employed, the bi-fold door is opened manually causing the weight to be raised in the tubular housing, and as this occurs air automatically enters the tubular housing at the bottom through the check valve. When released the bi-fold door is automatically closed, and relatively slowly, by the force exerted by the weight falling in the tubular housing. The speed of fall is controlled by compressed air below the weight in the housing, and the escape of the air around the weight through the annulus.

3,437,126
FLEXIBLE CURTAIN CONSTRUCTION
Lester F. Schroeder, Grand Rapids, Mich., assignor to Steelcase, Inc., Grand Rapids, Mich., a corporation of Michigan
Filed July 19, 1967, Ser. No. 654,439
Int. Cl. E06b 3/92, 3/48, 9/14
U.S. Cl. 160—235 11 Claims



This disclosure relates to a flexible curtain construction in which a plurality of relatively inflexible slats, preferably made out of metal, are interconnected in such a way so as to permit relative rotation of each slat with respect to adjacent slats about a longitudinal axis. Each slat has a projecting lug extending substantially perpendicular to the plane of the slat surface, and a longitudinal engaging slot at an opposite longitudinal edge thereof, such that each projecting lug is inserted into the slot of an adjacent slat. The projections are L-shaped, and an edge of the projection is bent in order to lock the projection into the slot. The projecting lug and the slot containing surface are preferably positioned on flanges extending substantially perpendicular to the plane of the slat.

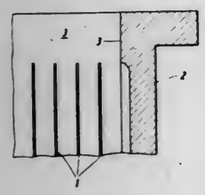
3,437,127
CURTAIN SYSTEM INCLUDING ELASTICIZED TOP CURTAIN PANELS AND SUPPORT FOR SAME
Milton Lukashok, 27 W. 86th St., New York, N.Y. 10024
Filed Mar. 11, 1968, Ser. No. 712,095
Int. Cl. A47h 1/00, 13/14
U.S. Cl. 160—330 10 Claims



Plural curtain panels are suspended from a telescoping curtain rod. The panels have elasticized shirred tops which permit the tops to be stretched to different widths in order to accommodate spaces of differnt widths. Clips are detachably, prehensilely, non-slidably engaged to the

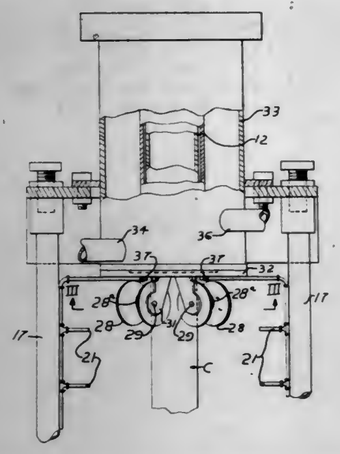
curtain rod at spaced points along the same. Drapery hooks are detachably engaged to correspondingly spaced points along the top of the stretched curtain panels. The drapery hooks detachably engage the clips.

3,437,128
METHOD AND APPARATUS FOR CONTINUOUS CASTING
Werner Poppmeier, Kapfenberg, Richard Wagnergasse 17, Styria, Austria
Filed Sept. 8, 1965, Ser. No. 485,744
Claims priority, application Austria, Sept. 28, 1964, A 8,237/64
Int. Cl. B22d *11/12*
U.S. Cl. 164—82 13 Claims



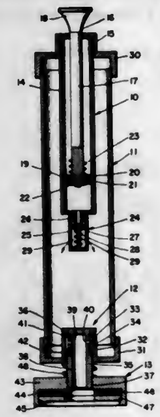
A continuous casting mold provided with a series of normally open expansion grooves on the inner mold surfaces to accommodate temperature gradient stresses in the mold. Furthermore, the melt surface level is kept between the upper and lower limits of said expansion grooves.

3,437,129
APPARATUS FOR CONTINUOUSLY CASTING ELONGATED METAL BODIES
James T. Black, Jr., P.O. Box 2562, Birmingham, Ala. 35202
Original application Mar. 1, 1965, Ser. No. 436,033, now Patent No. 3,303,943, dated Feb. 14, 1967. Divided and this application Jan. 4, 1968, Ser. No. 695,692
Int. Cl. B22d *11/12*
U.S. Cl. 164—282 2 Claims



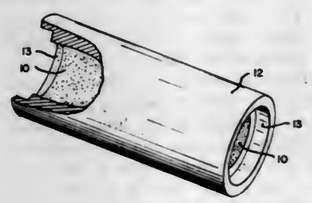
Apparatus restoring to a moving length of metal having a solidified outer skin and a molten interior the desired right angle cross sectional shape. Rollers engage corners of the length of metal as it comes from a mold with the rollers being held spaced from each other to define a confining passageway of fixed dimensions for the length of metal.

3,437,130
PORTABLE SELF-CONTAINED PRESSURIZED AIR DEVICE FOR CASTING
Burt E. Johnson, Canoga Park, and Phillip B. Webb, Jr., Los Angeles, Calif., assignors, by mesne assignments, to Burt E. Johnson
Filed Feb. 25, 1966, Ser. No. 530,200
Int. Cl. B22d *27/12*
U.S. Cl. 164—285 1 Claim



A portable wholly hand operated casting device is provided for forcing molten metal into a cavity within a mold. The device includes a reservoir with a hand pump mounted thereon for pressurizing the reservoir. The lower end of the reservoir includes a movable valve stem adapted to be engaged by an annular plate incorporating a suitable annular gasket structure for engaging the top end of a mold. Downward pressure exerted manually on the reservoir results in movement of the valve stem to release the pressurized air directly into the top of the mold and thus force the molten metal into the mold cavity.

3,437,131
CENTRIFUGAL CASTING APPARATUS WITH SMOOTH REFRACTORY NONHYDROCARBON MOLD COATING
Martin N. Ornitz, Wilkinsburg, Pa., assignor to Blaw-Knox Company, Pittsburgh, Pa., a corporation of Delaware
Filed Oct. 7, 1965, Ser. No. 493,747
Int. Cl. B22c *15/20, 9/12*
U.S. Cl. 164—298 7 Claims



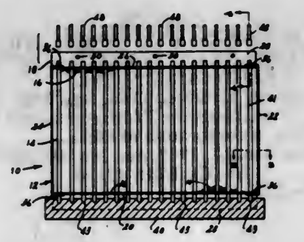
A centrifugal casting mold is provided with an annular stop member receiving recess at each end, means for rotation of the mold and a smooth refractory coating adhered to the mold surfaces between said recesses to provide a thermal barrier for elimination of chills in metal cast therein.

3,437,132
WATER COOLED HEAT SINK
William Venema, North Haledon, N.J., assignor to Vemaline Products Company, Inc., Franklin Lakes, N.J., a corporation of New Jersey
Filed Aug. 30, 1967, Ser. No. 664,357
Int. Cl. F28f *7/02*
U.S. Cl. 165—80 3 Claims



A water cooled heat sink which is formed from an extrusion having at least one passageway therethrough, which passageway is multifaceted along the length thereof to provide additional heat conducting surfaces and which passageway acts as a conduit for water passing through the heat sink to more quickly cool the heat sink.

3,437,133
HEAT EXCHANGER WITH BAFFLE SECURING MEANS
Russell H. Bullard, 118 Hawthorne Drive, Wilmington, N.C. 28401
Filed Mar. 23, 1967, Ser. No. 625,400
Int. Cl. F28f *1/10*
U.S. Cl. 165—149 3 Claims



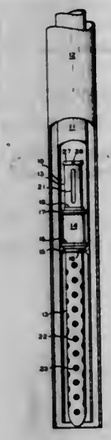
A finned tube heat exchanger wherein a plurality of tubes extend through apertured tube sheets. Baffle sheets interconnect the corresponding ends of the tube sheets. Apertured flanges are provided on the baffle ends wherein one of the tubes extending through the tube sheets also passes through the apertured flanges thereby locking the baffle and tube sheets together.

3,437,134
HEAT EXCHANGER
Edward P. Oddy, Detroit, Mich., assignor to Borg-Warner Corporation, Chicago, Ill., a corporation of Illinois
Filed Oct. 24, 1965, Ser. No. 504,915
Int. Cl. F28d *1/04*; B21d *53/02*
U.S. Cl. 165—151 7 Claims



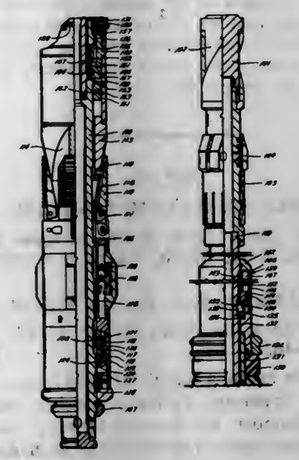
A heat exchanger core comprised of parallel stacked fins which include tube receiving openings and spacer means, the spacer means being struck out of the body of the fin to form spacer loops.

3,437,135
RETRIEVABLE FILTER APPARATUS
Jack C. Cox and Robert F. Meldau, Bartlesville, Okla., assignors to Phillips Petroleum Company, a corporation of Delaware
Filed Jan. 3, 1967, Ser. No. 606,746
Int. Cl. E21b *43/10*
U.S. Cl. 166—115 2 Claims



A filter for fluids injected into underground formations has means to seal the annular space between the filter body and the surrounding pipe, means to limit downward movement of the body, and pulling and running means.

3,437,136
RETRIEVABLE WELL PACKER APPARATUS
David E. Young, 5318 Holley, Bellaire, Tex. 77401
Continuation-in-part of application Ser. No. 578,802, Sept. 12, 1966. This application Dec. 28, 1967, Ser. No. 695,829
Int. Cl. E21b *23/00, 33/12, 33/13*
U.S. Cl. 166—120 7 Claims



The particular embodiments disclosed herein as illustrative of the present invention in well tools comprise

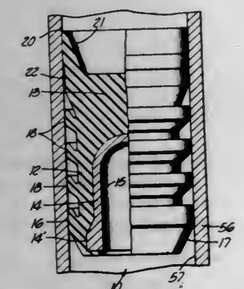
a body member and packing means for packing off a well bore, expander means and normally retracted slip means shiftable by said expander means into positions anchoring against movement in a well conduit in one longitudinal direction, and hydraulically operable means between said packing means and expander means responsive to fluid pressure differentials for exerting force on said expander means in a direction to maintain the said slip means anchored against movement in the opposite longitudinal direction in a well.

3,437,137

CONDUIT PLUG FOR SEPARATING FLUIDS

Lyle B. Scott, South Gate, Calif., assignor to Byron Jackson Inc., Long Beach, Calif., a corporation of Delaware

Filed Oct. 13, 1967, Ser. No. 675,237
Int. Cl. E21b *33/16*
U.S. Cl. 166—153 9 Claims



A plug for separating fluids in a conduit, the plug having peripheral guide means to assure axial alignment with the conduit as it travels therethrough to preclude angular misalignment and resultant leakage past the plug, and to reinforce and increase the sealing effect of the plug against the inside of the conduit. The plug may also include a packer portion, deformable and expandable in response to axially exerted fluid pressure against it, serving to expand the guide means and thereby the sealing effect of the plug against the conduit.

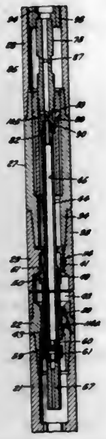
3,437,138

DRILL STEM FLUID SAMPLER

Lyle B. Scott, South Gate, Calif., assignor to Byron Jackson Inc., Long Beach, Calif., a corporation of Delaware

Filed Jan. 24, 1966, Ser. No. 522,650
Int. Cl. E21b *27/00, 33/132, 33/13*
U.S. Cl. 166—162 6 Claims

Apparatus for taking a sample of fluid from a string of well pipe, the apparatus having a housing, including a fluid sample chamber, the housing forming a section of the string of well pipe, valve seats at each end of the housing, and a reciprocable valve assembly having valve members cooperating with the valve seats and operable to open the chamber to admit a fluid sample and to close the chamber to retain the sample, the apparatus further having bypass means for the flow of fluid around the sample chamber. The apparatus is readily converted to



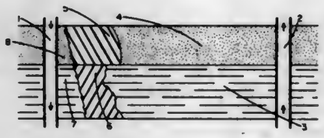
a form suitable for transportation to a testing laboratory without loss of the fluid sample.

3,437,139

PROCESS FOR IN SITU COMBUSTION IN SUBTERRANEAN SURFACE CONTAINING A PERMEABLE ZONE

Robert W. Parsons, Littleton, Colo., and Paul R. Chaney, Beaumont, Tex., assignors to Marathon Oil Company, Findlay, Ohio, a corporation of Ohio

Filed Jan. 17, 1967, Ser. No. 609,805
Int. Cl. E21b *43/20*
U.S. Cl. 166—272 7 Claims



The present invention comprises a process for the recovery of petroleum from subterranean formations which formations comprise at least one petroleum-bearing zone and at least one permeable zone which is more permeable to gases than said petroleum-bearing zone, said formation having at least one production well and at least one injection well drilled therein said injection well passing through both of said zones; said process comprising combination of steps of: (a) injecting into said permeable zone at a point near said injection well a slug of a combustible liquid sufficiently large to substantially decrease the ability of said permeable zone to conduct gas from said injection well toward said production well, said slug being of sufficient quantity to sustain combustion for a substantial time, (b) igniting the petroleum in place in said petroleum-bearing zone and substantially simultaneously igniting said injected slug of combustible liquid, (c) injecting an oxygen containing fluid into said injection well to support combustion in both said zones whereby combustion of oil in said petroleum bearing zone drives petroleum toward said production well and wherein combustion of said slug of said combustible liquid in said permeable zone drives said slug toward said production

well. Crude oil is obviously useful for a wide variety of purposes including starting material for the production of various organic compounds, manufacture of lubricating oils and gasolines, and coke and other carbon products.

3,437,140

WATERFLOOD PROCESS TAKING ADVANTAGE OF CHROMATOGRAPHIC DISPERSION

William R. Foster, Billy G. Hurd, and Peggy M. Dunlap, Dallas, Tex., assignors to Mobil Oil Corporation, a corporation of New York

Filed Oct. 9, 1967, Ser. No. 673,687
Int. Cl. E21b *43/20*; C09k *3/00*
U.S. Cl. 166—273 8 Claims

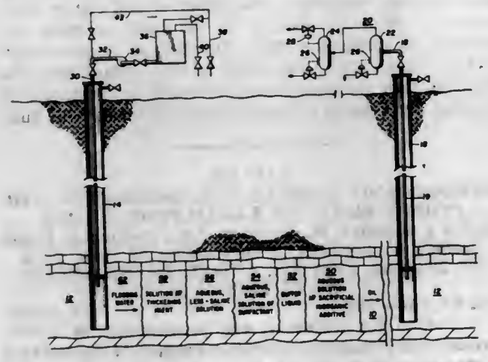
This specification discloses a method of using more effectively a surfactant, having a high molecular weight component and a low molecular weight component, in a flooding operation to recover oil from an oil-containing subterranean formation. Specifically, following the injection into a subterranean formation of an aqueous saline solution of the surfactant, there is injected into the formation a slug of aqueous, less-saline solution of the low molecular weight component of the surfactant. The slug of aqueous, less-saline solution desorbs from the formation the adsorbed high molecular weight component of the surfactant, builds a second bank of surfactant solution, and enables traversing substantially the entire formation with surfactant solution, thus effecting more nearly complete recovery of oil therefrom.

3,437,141

MULTISTEP METHOD OF WATERFLOODING

Carl F. Brandner, Peggy M. Dunlap, William R. Foster, and Billy G. Hurd, Dallas, Tex., assignors to Mobil Oil Corporation, a corporation of New York.

Filed Oct. 9, 1967, Ser. No. 673,734
Int. Cl. E21b *43/20*
U.S. Cl. 166—273 38 Claims



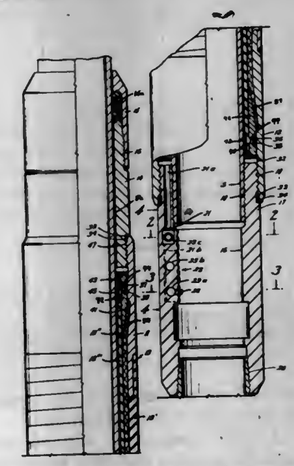
This specification discloses an improved method of waterflooding an oil-containing subterranean formation to recover the oil therefrom. Basically, the improved method comprises injecting through injection means and into the subterranean formation, respectively, (a) an aqueous solution of sacrificial inorganic additive to cover the adsorption sites of the formation, (b) optionally a buffer liquid containing a lower concentration of sacrificial inorganic additive to provide an environment chemically compatible with the surfactant solution to follow, (c) an aqueous, saline solution of surfactant having a salinity of from about 1 to about 2 percent by weight, the surfactant having a high molecular weight component and a low molecular weight component, (d) an aqueous, less-saline solution of the low molecular weight component to desorb from the formation high molecular weight component adsorbed from the aqueous, saline solution of surfactant and to create a second bank of surfactant, (e) optionally a solution of thickening agent having decreasing concentrations of thickening agent to form a zone of graded viscosity between the viscosity of the oil and that of the flooding water to be injected therebehind, and (f) flooding water. Oil is produced to the surface of the earth through production means. Step (e) may be carried out when the viscosity of the oil is above that of the water.

3,437,142

INFLATABLE PACKER FOR EXTERNAL USE ON CASING AND LINERS AND METHOD OF USE

George E. Conover, Houston, Tex., assignor to Lynes, Inc., a corporation of Texas

Filed Oct. 28, 1965, Ser. No. 505,559
Int. Cl. E21b *33/124, 33/127, 33/13*
U.S. Cl. 166—277 29 Claims



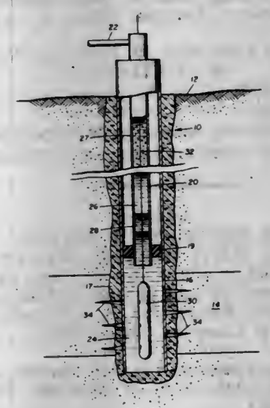
An inflatable packer arrangement for external use on casing tubular member or liners in bore holes.

3,437,143

FORMATION CONSOLIDATION

Evin L. Cook, Dallas, Tex., assignor to Mobil Oil Corporation, a corporation of New York

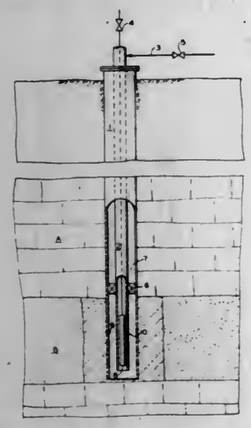
Filed Dec. 27, 1966, Ser. No. 604,903
Int. Cl. E21b *43/11*
U.S. Cl. 166—285 3 Claims



A method of consolidating an incompetent formation surrounding a cased well wherein the interval of casing lying adjacent the incompetent formation is first filled with consolidating fluid. A perforating means is then lowered into said consolidating fluid and actuated in the presence

of said fluid to form perforations in said casing and to force said fluid through said formed perforations and into the formation before detrital material from the formation can enter the well. Pressure is maintained in the casing until the consolidating fluid has cured.

3,437,144
CONSOLIDATION OF FORMATIONS
Henry B. Fisher, Bartlesville, Okla., assignor to Phillips Petroleum Company, a corporation of Delaware
Filed Aug. 26, 1966, Ser. No. 575,447
Int. Cl. E21b *33/138*
U.S. Cl. 166—288 **5 Claims**



Earth formations are consolidated by reacting sulfur and an oil to form a char in the formation.

A solution of sulfur and oil is injected into an unconsolidated earth formation, and then heated sufficiently such that the sulfur and oil chemically react to form a char which binds the particles of the formation together. In a second embodiment, sulfur is injected into an oil-bearing formation, and there caused to form a char by reaction with the oil in place at an elevated temperature.

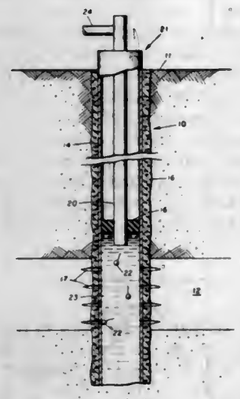
3,437,145
METHOD OF CONSOLIDATING LOOSE SANDS USING FURFURYL ALCOHOL COMPOSITIONS
Billy J. Johnson, Houston, Tex., and Kenneth D. Totty and Bill M. Young, Duncan, Okla., assignors to Halliburton Company, Duncan, Okla., a corporation of Delaware
No Drawing. Filed Mar. 30, 1967, Ser. No. 626,957
Int. Cl. E21b *33/13*
U.S. Cl. 166—295 **8 Claims**

Furfuryl alcohol resins in combination with lactones, dioxanes, pyrrolidones, aldehydes or phenols for sand control in wells and other subterranean formations.

3,437,146
METHOD OF REMOVING PARAFFIN FROM A WELL WITH HEATED SOLVENT
Clifford R. Everhart and Audra B. Cary, Pampa, Tex., assignors of one-half each to Midwest Chemical & Processing Co., Inc., Pampa, Tex., a corporation of Texas, and Skelly Oil Company, Tulsa, Okla., a corporation of Delaware
No Drawing. Filed Jan. 11, 1968, Ser. No. 697,039
Int. Cl. E21b *21/00, 43/28;* C09k *3/00*
U.S. Cl. 166—303 **8 Claims**

A method of removing paraffin deposits from a producing well including injecting heated xylene bottoms solvent into the well bore at a temperature sufficiently high so that the solvent is at least 150° F. when it encounters the producing formation and thereafter pumping from the well to remove the solvent and dissolved paraffin and the solvent therefor which includes reformed aliphatic aromatic hydrocarbons and a stabilizing catalyst additive which functions to accelerate the dissolving of paraffin deposits and to increase the capacity of the solvent to retain the paraffin in solution when the solvent is cooled to the temperature of the producing formation.

3,437,147
METHOD AND APPARATUS FOR PLUGGING WELL PIPE PERFORATIONS
Carl A. Davies, Calgary, Alberta, Canada, assignor to Mobil Oil Corporation, a corporation of New York
Filed Feb. 23, 1967, Ser. No. 618,144
Int. Cl. E21b *33/138*
U.S. Cl. 166—305 **6 Claims**



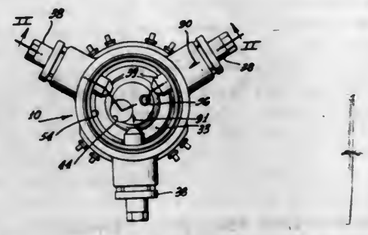
This specification describes certain perforation plugging elements and methods of using the same. The plugging elements comprise a body member and one or more tentacles which are secured to the body member and function to guide the body member to a perforation through which fluid is flowing. In one embodiment, the tentacles may be temporarily confined in proximity to the body by a jacket of material soluble in the well fluid.

3,437,148
METHOD AND ARTICLE FOR INCREASING THE PERMEABILITY OF EARTH FORMATIONS
Patrick J. Colpoys, Jr., Houston, Tex., assignor to Union Carbide Corporation, a corporation of New York
No Drawing. Filed Jan. 6, 1967, Ser. No. 607,630
Int. Cl. E21b *43/26*
U.S. Cl. 166—308 **6 Claims**

A method for increasing the permeability of a subsurface earth formation wherein a fracture is created by a fracturing medium and such fracture is then propped open by a proppant having a sphericity and roundness of at least 0.8; a bulk density of not greater than 85 pounds per cubic foot and having an L/D^2 ratio of between 4000 p.s.i. and about 15,000 p.s.i. when the diameter of such proppant is between about 0.331 inch and about 0.200 inch.

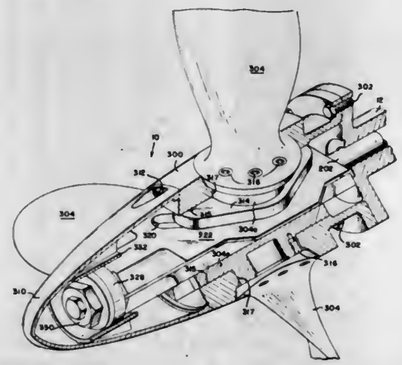
3,437,149
CABLE FEED-THROUGH MEANS AND METHOD FOR WELL HEAD CONSTRUCTIONS
Edward T. Cugini and Wallace S. Jeannerett, Brea, Calif., assignors to Shaffer Tool Works, Brea, Calif., a corporation of California
Filed May 31, 1967, Ser. No. 642,587
Int. Cl. E21b *23/00, 33/06;* H01r *9/04*
U.S. Cl. 166—315 **14 Claims**

A pressure resistant cable feed-through means extending from outside a well head construction to within a well casing and passing through a pressure zone in the well head with coupling means at opposite ends and conductors embedded in a dielectric material molded within



and protected by a rigid metal casing or shell. The feed-through means facilitates assembly of a well head and may be carried by hanger means adapted to be passed through a blow-out preventor.

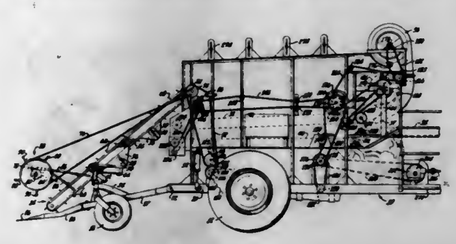
3,437,150
VARIABLE PITCH PROPELLER SYSTEM
Arne Feroy, 20017 42nd S., Kent, Wash. 98031
Filed May 31, 1966, Ser. No. 553,877
Int. Cl. B64c *11/06, 11/38;* F15b *9/03*
U.S. Cl. 170—160.32 **9 Claims**



A hydraulically actuatable variable pitch propeller system is provided with an internal locking valve control mechanism which permits relieving a rotary seal from high pressure hydraulic fluid when propeller blade pitch is not being adjusted. The variable pitch propeller system also is provided with a propeller blade cam plate restrained at one end and free to move laterally at the opposite end which is constructed in a manner to facilitate assembly of the variable pitch propeller hub.

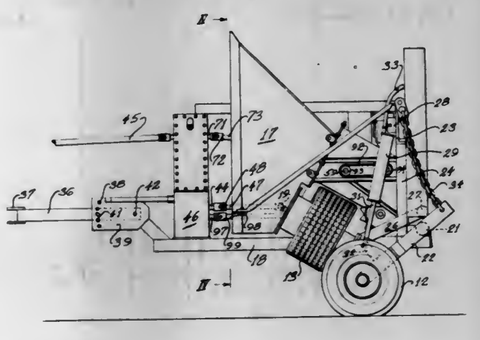
3,437,151
TOMATO HARVESTER
Robert Leslie Button, Rte. 1, Box 205, Winters, Calif. 95694
Original application Dec. 18, 1961, Ser. No. 160,089, now Patent No. 3,193,020, dated July 6, 1965. Divided and this application Mar. 11, 1964, Ser. No. 351,591
Int. Cl. A01d *13/00, 15/00, 23/00*
U.S. Cl. 171—17 **2 Claims**

1. In a tomato harvester of the type having a knife for severing tomato bearing plants from a ground surface, a conveyor for transporting the severed plants upwardly and rearwardly from said knife, and plant processing apparatus having an inlet end disposed in plant receiving relation to said conveyor, the improvement comprising a plurality of plant engaging members secured to said conveyor and projecting therefrom, said members having a forward plant engaging surface of arcuate configuration oriented convexly forward, said members each having a first end fixedly secured to the conveyor and extending generally perpendicularly therefrom, said members each having a second end spaced outwardly and rearwardly of



said first end and constituting the sole projections from said conveyor so that a medial portion of said members contacts the plants before said second end and so that plants are discharged from said conveyor prior to advancement of said second ends past the inlet end of said plant processing apparatus.

3,437,152
APPARATUS FOR PULLING STALKS
Thomas A. Barrentine, Greenwood, Miss. 38930
Filed Sept. 23, 1965, Ser. No. 489,630
Int. Cl. A01d *25/04, 45/00, 49/00*
U.S. Cl. 171—58 **3 Claims**



1. In apparatus for pulling stalks from a row of the same,

(a) a frame supported from the ground for translatory movement down the row of stalks to be pulled,

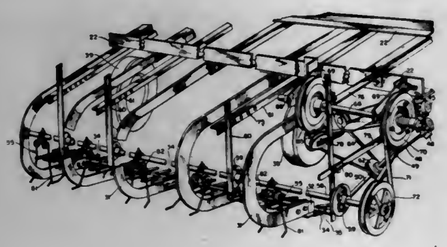
(b) a pair of pneumatic tired wheels having their peripheries in pressure contact with each other and thus forming a nip for the stalks,

(c) means mounting the wheels for rotation in unison and in a plane at an angle to the ground and with the lower end of said nip therebetween preceding the upper end when considering the direction of movement of the apparatus,

(d) conveying means located immediately adjacent the upper, discharge end of the nip and disposed as stalks are discharged from the nip to move the stalks rearwardly, and

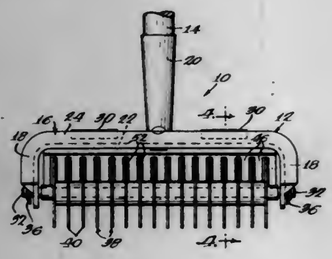
(e) means immediately rearwardly of the conveying means effective to engage the rearwardly moving stalks and comminute the rearward ends thereof while the forward portions are still engaged between said nip.

3,437,153
CLEANING MECHANISM FOR ROD WEEDER
Willard W. Sandstead, 624 Columbine St., Sterling, Colo. 80751
Filed Mar. 31, 1966, Ser. No. 539,195
Int. Cl. A01b *33/10*
U.S. Cl. 172—39 6 Claims



A cleaning device for removing weeds and trash from the C-shaped support members of a rod weeder. The device includes a shaft journaled in supports extending from the rod weeder frame and carrying forked cleaning members. The shaft is rotated by a driving mechanism connected to the drive mechanism of the rod weeder, so that the cleaning members swing past the C-shaped members to remove accumulated trash and weeds.

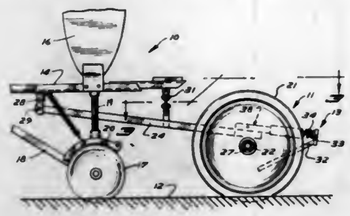
3,437,154
GARDEN TOOL
Mario Anesi, 4949 Natoma Ave., Chicago, Ill. 60631
Filed Mar. 4, 1966, Ser. No. 531,802
Int. Cl. A01b *39/00, 3/02, 3/04*
U.S. Cl. 172—350 2 Claims



The said working garden tool has an inverted U-shaped frame supporting a horizontal axle between its arms. A plurality of relatively closely spaced star-shaped soil working members are freely journaled on the axle. A unitary web spacer is attached to the frame and the axle and has fingers projecting between the members and outside the end members and spaced closely thereto to act as cleaners. The fingers between the members have generally cylindrical shapes around the axle of a diameter substantially greater than that of the axle to provide stabilizing bearing surfaces to hold the members upright.

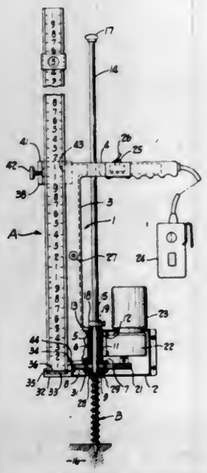
3,437,155
ROCK REMOVING DEVICE
Ludvig O. Honrud, Opheim, Mont. 59250
Filed May 16, 1966, Ser. No. 550,332
Int. Cl. A01b *15/16, 23/06*
U.S. Cl. 172—566 9 Claims

A ground packing implement connected to a grain drill equipped with a rock removing device to remove objects, as rocks, dirt and the like, from between adjacent packer wheels. The rock removing device has spring



mounted arms which project forwardly and downwardly between the packer wheels.

3,437,156
PROCESS OF DRIVING STAKES
Wayne H. Laverty, 30944 Lake Road, Bay Village, Ohio 44140
Original application Aug. 27, 1965, Ser. No. 483,136. Divided and this application Sept. 5, 1967, Ser. No. 688,632
Int. Cl. E21c *1/02, 19/00*; E02d *7/04*
U.S. Cl. 173—1 4 Claims

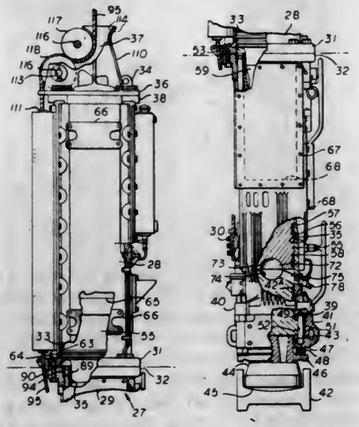


A process for driving stakes to predetermined levels in the earth or the like, according to which a stake is rotated to cause it to penetrate the earth while holding level with the top of the stake a height-indicating member, and ceasing rotation of the stake and the driving thereof when the height-indicating member indicates that the top of the stake is at a predetermined level.

3,437,157
DIESEL PILEHAMMER
Kenneth E. Bailey, Marion, Iowa, Leland J. Frahm, Mendota, Ill., and Theodore M. Leigh, Cedar Rapids, Iowa, assignors to FMC Corporation, a corporation of Delaware
Filed Dec. 2, 1966, Ser. No. 598,663
Int. Cl. E21b *1/00*; E21c *3/00*; B25d *9/00*
U.S. Cl. 173—133 22 Claims

A diesel pilehammer comprising a housing having a bore formed therein for receiving a free piston in sealing engagement therewith and slidably disposed therein for reciprocating axial movement; portions of the piston being formed to cooperate with corresponding portions of the housing for defining a scavenging chamber and a power

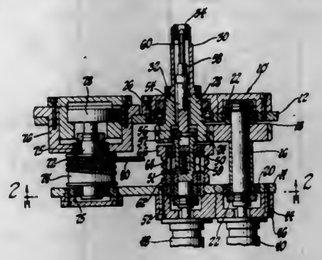
chamber interconnected by a conduit including a valve for allowing gases to pass only in one direction from the power chamber to the scavenging chamber. The housing is formed with a port having valve means to allow gases to pass in one direction from the scavenging chamber to the atmosphere as the piston moves in a direction to decrease the volume of the scavenging chamber. The housing is also formed with a port for allowing the passage of gases to and from the power chamber. The free piston and housing cooperate to define a combustion chamber within the power chamber when the free piston is in a position providing a minimum volume in the power chamber. The diesel pilehammer further comprises appropriate fuel injection means for delivering fuel to the combustion chamber to be ignited and lifting means for raising the piston to its starting position. The lifting means includes a member for engaging a downwardly facing surface formed on the piston and a latch mechanism for automatically retaining the lifting means in its lowermost posi-



tion to facilitate control of the entire hammer at all stages of the hammer operation. The diesel pilehammer, as described above, is a preferred embodiment of one of several apparatus for carrying out a method of operating a diesel pilehammer including igniting a compressed fuel-air mixture in a combustion chamber underlying the piston to cause the piston to ascend; evacuating a space separate from the combustion chamber during the ascent of the piston; permitting gases to flow to said evacuated space from the chamber underlying the piston while also admitting air into the latter space for the scavenging thereof during the ascent of the piston; reversing the direction of movement of the piston due to a reversal of the imbalance of forces acting thereon; forcing the gases in the previously evacuated space to flow to the atmosphere during the descent of the piston; confining and compressing air in the combustion chamber during the descent of the piston; and injecting fuel into the compressed air to be ignited for initiating a subsequent cycle.

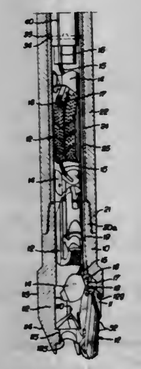
3,437,158
ADJUSTING TOOL
Carl W. Proffer, Cleveland, Ohio, assignor to General Motors Corporation, Detroit, Mich., a corporation of Delaware
Filed Feb. 28, 1967, Ser. No. 619,321
Int. Cl. E21c *1/10, 5/08*; B23q *5/06*
U.S. Cl. 173—163 10 Claims

A power tool having reversible first and second input motors and an output driven by each motor and having motor controls selectively operative to effect rotation of the outputs in either forward or reverse direction, and further having a control reel which automatically couples to a driving shaft for one of the outputs by a one-way locking device; the control reel unwinds a cable of pre-



determined length from a recoil reel to limit the number of rotations the latter output makes in one direction. After the controls are released, the recoil reel automatically rewinds the cable from the control reel to set the second output for subsequent repeat operation.

3,437,159
RETRACTABLE DRILL BITS
Howard D. Link, Harold C. Bridwell, and David S. Rowley, Salt Lake City, Utah, assignors to Christensen Diamond Products Company, Salt Lake City, Utah, a corporation of Utah
Filed Sept. 30, 1966, Ser. No. 583,263
Int. Cl. E21b *9/35*
U.S. Cl. 175—260 24 Claims

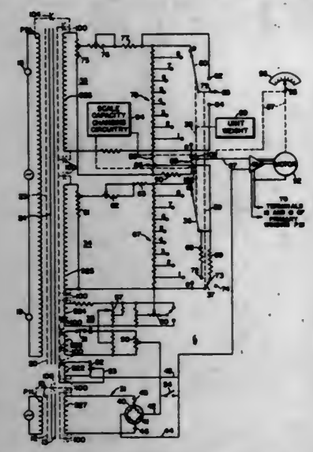


A rotary well drill bit lowered through drill pipe with cutters in tandem array, the cutters being expanded outwardly and locked to the lower end of the drill pipe to drill the bottom of the well bore. The cutters can be pulled by a wire line device back into the drill pipe and elevated through the drill pipe to the drilling rig for replacement or inspection. The bit can include a core barrel apparatus for producing a core during drilling of the hole, the core apparatus being lowered and elevated through the drill pipe with the tandem cutters.

3,437,160
WEIGHING SYSTEM
William T. Hill, Toledo, Ohio, assignor, by mesne assignments, to The Reliance Electric and Engineering Company, Toledo, Ohio, a corporation of Ohio
Filed Feb. 3, 1966, Ser. No. 524,916
Int. Cl. G01g *3/14*
U.S. Cl. 177—211 3 Claims

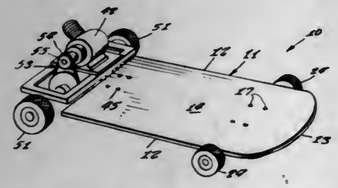
An electronic weighing scale having a servo balance circuit in which there is an inherent, unwanted quadrature

signal. Part of the quadrature signal is canceled by an out of phase quadrature voltage and part of the quad-



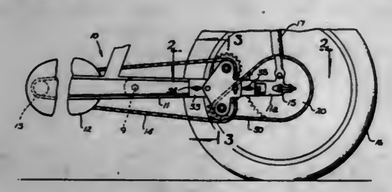
rature signal is neutralized by an in phase voltage to avoid saturation of the servo's amplifier.

3,437,161
KART BOARD
David E. Ufford, Hudson, Iowa (132 W. Mayne St., Blue Grass, Iowa 52726)
Filed Oct. 2, 1967, Ser. No. 672,084
Int. Cl. A63c *17/12;* **B60k** *9/00*
U.S. Cl. 180—1 **2 Claims**



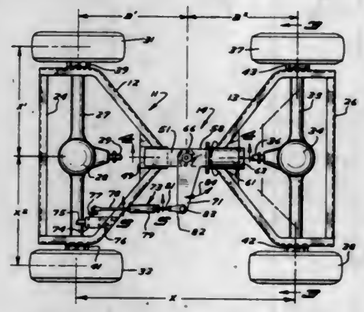
A riding device of the class of surf-boards and skateboards, and upon which a rider may stand, the device including a flat panel, a front axle and steering assembly, and a rear drive assembly including an engine driving a pair of rear wheels.

3,437,162
DUAL RATIO SPROCKET ASSEMBLY FOR MOTORCYCLES
Alan V. Diehl, 11144 Wystone Ave., Northridge, Calif. 91324, and Harold E. Cole, Northridge, Calif.; said Cole assignor to said Diehl
Filed Sept. 7, 1967, Ser. No. 666,046
Int. Cl. B60k *17/06;* **F16h** *9/24, 11/00*
U.S. Cl. 180—33 **11 Claims**



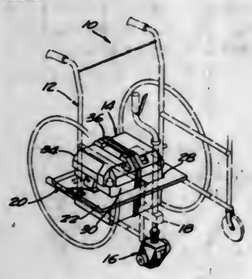
The dual ratio sprocket assembly has a pivoted bearing plate which rotatably supports upper and lower shafts, each of which carries two spaced sprockets. A first set of driven sprockets consists of a sprocket on each shaft located in the same plane and driven by the transmission through a primary chain. A second set of drive sprockets consists of a second sprocket on each shaft located in a second plane, one of which is connected to the sprocket on the rear wheel through a secondary chain. The bearing plate can be pivoted to change the secondary chain from one drive sprocket of the second set to the other sprocket of the second set.

3,437,163
FOUR-WHEEL DRIVE VEHICLE WITH ARTICULATED FRAME
Donald R. Lemmerman, 519 Lincoln Ave. NE., St. Cloud, Minn. 56301
Filed July 27, 1967, Ser. No. 656,478
Int. Cl. B62d *15/00*
U.S. Cl. 180—51 **7 Claims**



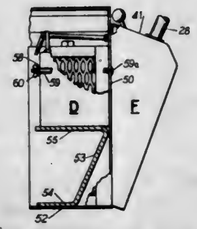
A four-wheel drive vehicle having a front frame and rear frame joined together with an upright pivot located along the longitudinal center line of the vehicle. Identical front and rear wheel and axle assemblies each including a drive differential are secured to the frames equal longitudinal distances on opposite sides of the pivot so that the rear wheels move at all times in a tracking relation in respect to the front wheels. The upright pivot is part of a two-part coupling having a horizontal sleeve bearing allowing the frames to pivot about the longitudinal axis of the vehicle. One part of the coupling has a laterally directed arm connected to a spring biased yielding unit used to link the steering gear box to the end of the arm. The biasing unit yieldingly holds the frames in longitudinal alignment and is part of the steering linkage operable to move one frame relative to the other frame.

3,437,164
BATTERY SUPPORT DEVICE FOR POWER-OPERATED VEHICLES AND THE LIKE
Rodney R. Rabjohn, 9850 Stanwin Ave., Pacoima, Calif. 91331
Filed Feb. 14, 1966, Ser. No. 527,295
Int. Cl. B62d *25/00;* **H01m** *1/04;* **B61l** *3/00*
U.S. Cl. 180—68.5 **9 Claims**



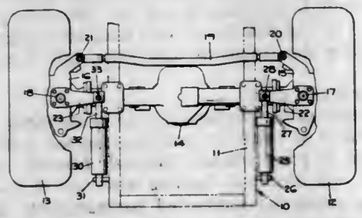
A battery support device for vehicles in which a storage battery is used as the source of electrical power. The battery is carried in a covered container with the terminals connected to two tab-like support brackets. When properly mounted in its support member, the support brackets contact the support member and establish circuit continuity. The support member in turn may also be removably mounted in the frame of the vehicle and hence likewise completes the electrical circuit when properly positioned, this choice becoming a requirement in wheelchairs of the foldable type. In order that all exposed parts of the vehicle frame be tied to ground potential, a nonconductive sleeve having an electrically isolated terminal plate embedded therein is provided for completing the circuit to the battery terminal other than the ground potential terminal.

3,437,165
HOOD AND BATTERY HOLDER FOR TRACTOR
Max Hungerford, La Grange, Mich., assignor to American Machine & Foundry Co., a corporation of New Jersey
Filed Mar. 23, 1967, Ser. No. 625,462
Int. Cl. B62d *25/00*
U.S. Cl. 180—68.5 **5 Claims**



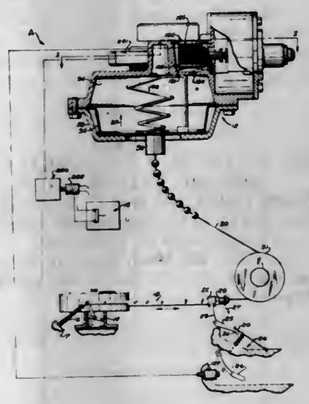
A structure for mounting and securing a battery in tractors, and particularly in small tractors which are designed for compactness. The battery holder embodies a horizontally disposed channel mounting member in which the lower leg of the channel member is relatively narrow in width for permanent attachment to an element of the tractor body assembly and the other leg of the channel member is of greater width for supporting the battery thereon. The base of the channel structure is inclined in a direction upwardly and rearwardly of the tractor and is connected at its ends to spaced parallel upright panels defining in part a housing, the rear wall of which forms a securing means for the heads of clamp bolts.

3,437,166
STEERING SYSTEM FOR VEHICLES
Robert E. Stauffer, Galion, Ohio, assignor to Jeffrey Galion Manufacturing Company, a corporation of Ohio
Filed May 17, 1967, Ser. No. 639,171
Int. Cl. B62d *5/10, 3/14*
U.S. Cl. 180—79.2 **9 Claims**



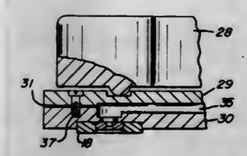
A steering system for a vehicle with a push-pull mechanical linkage to turn the steering wheels. A pair of hydraulic cylinders is connected to the push-pull linkage, and the cylinders are oppositely extended and contracted to operate the linkage. Hydraulic fluid is supplied to opposite ends of the respective cylinders to extend and contract the cylinders. Each cylinder has hydraulic fluid bypass means, and at the limit steering condition of the cylinders in either direction of steering, the supply hydraulic fluid may bypass to the return flow of hydraulic fluid.

3,437,167
VEHICLE SPEED CONTROL MECHANISM
Robert S. Mueller, Southfield, Mich., assignor to Eaton Yale & Towne Inc., Cleveland, Ohio, a corporation of Ohio
Filed Jan. 3, 1967, Ser. No. 606,755
Int. Cl. B60k *31/00*
U.S. Cl. 180—105 **12 Claims**



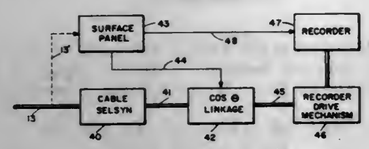
A vacuum operated speed governor unit when energized maintains the speed of the vehicle at a desired value and an inertia switch mechanism is operable in response to inertia or centrifugal forces acting thereon when the vehicle is negotiating a curve, linearly decelerating or going over a series of bumps in the road surface to render the speed governor unit ineffective to control the vehicle speed when such operating conditions are encountered.

3,437,168
AIR BEARING FOR PHOTOGRAMMETRIC TRACING TABLE
Hugo H. Grassl, Greece, N.Y., assignor to Bausch & Lomb Incorporated, Rochester, N.Y., a corporation of New York
Filed Mar. 8, 1967, Ser. No. 621,503
Int. Cl. B60v *1/00*
U.S. Cl. 180—125 **2 Claims**



An apparatus for map plotting instruments of the type that travel over a plane mapping surface and having hydrostatic, air-lubricated bearing rest pads utilizing air pressure to raise the instrument out of physical engagement with the plane surface thereby allowing the instrument to be moved with negligible friction and wear of the bearing rest pad.

3,437,169
METHOD AND APPARATUS FOR LOGGING INCLINED EARTH BOREHOLES
Arthur H. Youmans, Houston, Tex., assignor to Dresser Industries, Inc., Dallas, Tex., a corporation of Delaware
Filed Nov. 16, 1966, Ser. No. 594,744
Int. Cl. G01v *1/00*
U.S. Cl. 181—.5 2 Claims



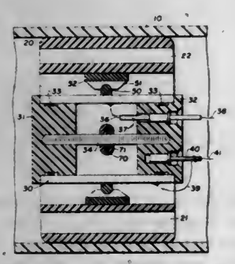
A well logging instrument having an inclinometer and one or more well logging sections is adapted for travel through an inclined borehole, thus providing a means for yielding true-depth corrected surveys of the formations surrounding a borehole on a single pass of the instrument through the borehole.

3,437,170
CONTROL OF ENERGY SPECTRUM IN MARINE SEISMIC EXPLORATION
Fred A. Brock, Dallas, and Roy C. Johnston, Richardson, Tex., assignors to Texas Instruments Incorporated, Dallas, Tex., a corporation of Delaware
Filed Dec. 12, 1966, Ser. No. 601,092
Int. Cl. G01v *1/38*; G10k *11/00*; H04b *13/02*
U.S. Cl. 181—.5 12 Claims



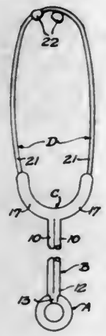
Seismic waves for marine operations generated by producing radiating bubbles at spaced locations where bubbles are of different sizes to oscillate at different frequencies for control of the energy level as a function of frequencies preferably at least three bubbles are employed with at least two bubbles located close enough to coalesce and one other bubble spaced sufficiently to prevent coalescence.

3,437,171
MARINE HYDROPHONE VIBRATION ISOLATION
Billy W. Davis and Roy C. Johnston, Richardson, Tex., assignors to Texas Instruments Incorporated, Dallas, Tex., a corporation of Delaware
Continuation-in-part of application Ser. No. 560,250, June 24, 1966. This application Nov. 3, 1967, Ser. No. 680,394
Int. Cl. F01n *1/00*
U.S. Cl. 181—.5 10 Claims



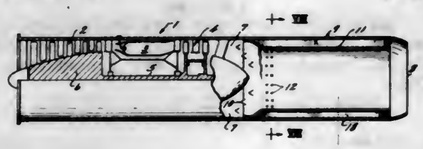
A vibration isolation suspension which reduces vibrations in marine hydrophones. A lightly damped elastic suspension in a seismic streamer is used to circumferentially engage the hydrophone to substantially reduce mechanically induced noise in the seismic frequency band of interest.

3,437,172
STETHOSCOPE WITH BINAURAL SPRING MOLDED INTO TUBING WALL AND METHOD OF FABRICATING THE SAME
Derek R. Allen, Glendale, Calif., assignor to Daimler-Benz Aktiengesellschaft, Stuttgart-Unterturkheim, Germany
Filed May 8, 1967, Ser. No. 636,777
Int. Cl. A61b *7/02*; B29f *1/10*; B29d *3/00*
U.S. Cl. 181—24 9 Claims



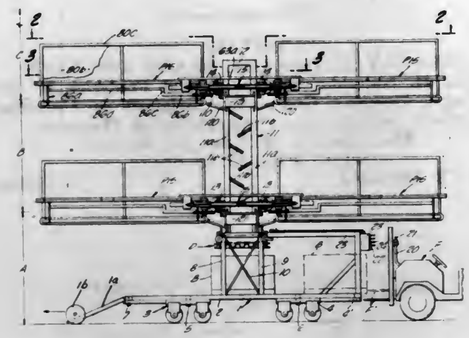
Disclosed herein is a stethoscope binaural Y-coupling of plastic tubing with binaural coupling spring molded into the tubing wall in a manner avoiding any obstruction of coupling passage. A second feature of disclosure is a stethoscope with dual air columns extending substantially full length from microphone to binaurals, for improved transmission of higher frequencies by avoidance of mis-matched impedances which occurs in a single tube stethoscope. The dual air columns are embodied in an integral double tube.

3,437,173
GAS TURBINE ENGINE WITH SCREECH ATTENUATING MEANS
Fredric Franklin Ehrich, Marblehead, Mass., assignor to General Electric Company, a corporation of New York
Filed Nov. 25, 1966, Ser. No. 597,121
Int. Cl. F01n *1/00*
U.S. Cl. 181—48 8 Claims

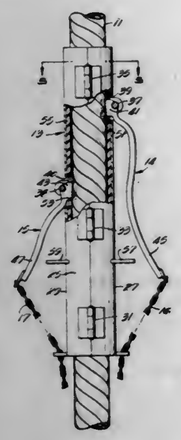


1. In a jet propulsion system including a duct containing a combustion zone, means for attenuating screech mounted on the interior of said duct and extending approximately the length of said zone, said means comprising:
a liner in said duct,
a plurality of perforations located in said liner, and
a plurality of axially extending elongated partitions located at predetermined intervals between said liner and said duct and forming with said duct and said liner elongated segregated compartments extending substantially the length of the duct, said perforations and said partitions cooperating to prevent the build-up of high intensity pressure oscillations which produce screech noise in said jet propulsion system.

3,437,174
MOBILE PLATFORM CONSTRUCTION
Wesley S. Coblentz, Woodland, Paul F. Paddock, Riverside, and Ronald T. Smith, Ontario, Calif., assignors to Sunkist Growers, Inc., Los Angeles, Calif., a corporation of California
Filed Nov. 10, 1966, Ser. No. 593,481
Int. Cl. E06c *1/00, 5/00*; E04g *3/16*
U.S. Cl. 182—16 30 Claims

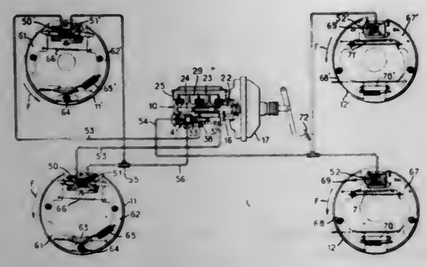


3,437,178
ROPE CLAMP
Columbus E. Postlethwait, Box 72, Red House, W. Va. 25168
Continuation of application Ser. No. 553,993, May 31, 1966. This application Dec. 13, 1967, Ser. No. 690,359
Int. Cl. B65h *59/16*; F16g *11/00*; E06c *7/18*
U.S. Cl. 188—65.2 6 Claims



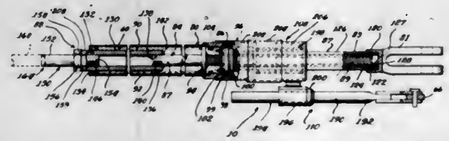
A rope clamp is described comprising: a tube formed in two longitudinal halves which are hinged together on one side and similarly connected on the other side, and are fastenable around a rope and lined with a resilient material; and two levers extending through openings in the tube wall and pivoted to the wall, each lever having a short arm extending into the tube provided with serrations for contacting the rope within the tube and a long arm to which a safety belt is attached.

3,437,179
HYDRAULIC BRAKE SYSTEM AND CONTROL MEANS THEREFOR
Pierre Andre Georges Lepelletier, Chatou, France, assignor to Societe Anonyme Francaise du Ferodo, Paris, France, a corporation of France
Filed June 1, 1967, Ser. No. 642,791
Claims priority, application France, June 9, 1966, 64,835
Int. Cl. B60t *11/10, 13/00*; F15b *7/00*
U.S. Cl. 188—152 4 Claims



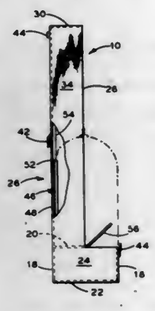
The invention relates to a hydraulic brake system in which each brake of a first wheel axle has a hydraulic actuating chamber and a hydraulic reaction chamber, and each brake of a second axle has a hydraulic actuating chamber. A master-cylinder and a master-piston supplies fluid under pressure to three independent conduits, the two brake reaction chambers of said first axle having a pressure produced by the braking torque of the corresponding wheel and being connected together and to a fourth conduit connected to the master-cylinder through an automatic reversing device mounted movably between a forward-running position in which the fourth conduit is connected to the third conduit, and a reversing position in which said fourth conduit is connected to a tank. The reversing device is comprised of a single plunger actuated in one direction by a spring and the pressure in the third conduit, and in the other direction by the sum of the pressures in the first and second conduits.

3,437,180
TWO-WAY AUTOMATIC BRAKE ADJUSTER
Eldred H. Natschke, Kankakee, and Frederick W. St. Pierre, Downers Grove, Ill., assignors to Universal Railway Devices Co., a corporation of Delaware
Filed June 27, 1967, Ser. No. 649,239
Int. Cl. F16d *65/56, 65/38*
U.S. Cl. 188—202 5 Claims



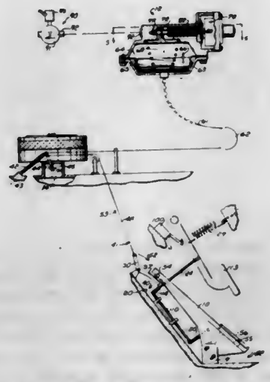
The invention relates to a two-way automatic brake adjuster for use in railroad car brake rigging and is an improvement over that disclosed in Rauglas Patent 3,177,985. In accordance with the improvements of this application, the adjuster is arranged to provide 19 inches of travel within a maximum extended length limitation of 90 inches, and is provided with a fitting arrangement for connecting the adjuster screw rod into the brake rigging that adapts the adjuster for ready application to various car builder car designs. The fitting arrangement includes a throw-away rod element that may be left in place and welded to an adjacent connecting rod component for applying same to the rigging, or may be discarded so that a different type of connecting rod component may be applied to the connection that serves to attach the throw-away element to the adjuster.

3,437,181
SELF-SUPPORTING LUGGAGE UNIT
Charles Blount, Jr., 269 Saugatuck Ave., Westport, Conn. 06880
Filed July 19, 1968, Ser. No. 746,041
Int. Cl. A45c *7/00, 13/00*
U.S. Cl. 190—43 4 Claims



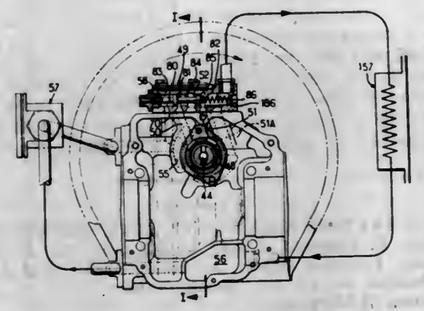
A self-supporting, free standing luggage unit having a base member and an upstanding foldable compartment, with means to retain the upstanding compartment in its unfolded condition.

3,437,182
THROTTLE AND BRAKE CONTROL APPARATUS
Robert S. Mueller, Oak Park, Mich., assignor to Eaton Yale & Towne Inc., Cleveland, Ohio, a corporation of Ohio
Filed Oct. 25, 1966, Ser. No. 589,391
Int. Cl. F16d *67/00*
U.S. Cl. 192—3 16 Claims



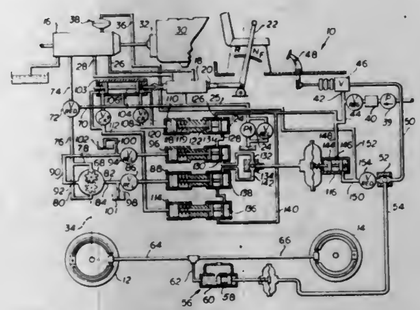
A speed control apparatus for moving an engine throttle member between closed and open positions comprises an actuating member. The actuating member is connected to the throttle member and is effective to move the throttle member to increase engine speed upon movement thereof. A speed governor unit is operatively connected with the throttle member and operable to maintain the engine speed at a desired value when actuated. The speed governor unit is energizable in response to movement of the actuating member in a second direction opposite to the first direction. The actuating member is also connected to engage brake means when moved in the second direction.

3,437,183
CLUTCH AND COUPLING WITH COOLING DEVICE
Jean Maurice, Paris, France, assignor to Societe Anonyme Francaise du Ferodo, Paris, France, a corporation of France
Filed May 29, 1967, Ser. No. 641,892
Claims priority, application France, June 3, 1966, 64,077
Int. Cl. F16d *37/00, 13/60, 13/72*
U.S. Cl. 192—3.33 8 Claims



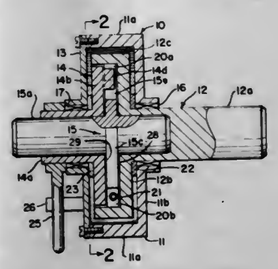
Hydraulic transmissions having, in the same bell casing filled with oil, a hydraulic coupling apparatus (torque converter or hydraulic turbo-coupling), a clutch and an external heat exchanger. The oil under pressure circulating in the bell casing passes through the heat exchanger only when the clutch is engaged.

3,437,184
METHOD OF NEUTRALIZING TRANSMISSION AND BRAKING VEHICLE WHEN SHIFTING BETWEEN FORWARD AND REVERSE
Harry R. Wilson, Libertyville, Ill., assignor to International Harvester Company, Chicago, Ill., a corporation of Delaware
Filed May 29, 1967, Ser. No. 641,872
Int. Cl. F16d *41/24, 67/00*; F16h *57/10*
U.S. Cl. 192—4 5 Claims



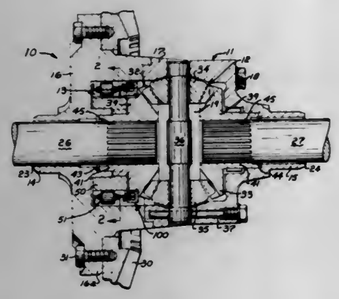
A method of operation in which control signals are produced responsive to both forward and reverse transmission shift conditions and to forward and reverse vehicle movement. Vehicle brake means and transmission disconnect means are operated responsive to the control signals whenever the transmission is operated to a shift condition opposite to that of the direction of vehicle movement.

3,437,185
BI-DIRECTIONAL CLUTCH WITH TWO-WAY OVERRIDE
Frank Z. Daugherty, Kent, Ohio, assignor to Ametek, Inc., a corporation of Delaware
Filed July 10, 1967, Ser. No. 652,154
Int. Cl. F16d *41/04, 41/08*
U.S. Cl. 192—26 11 Claims



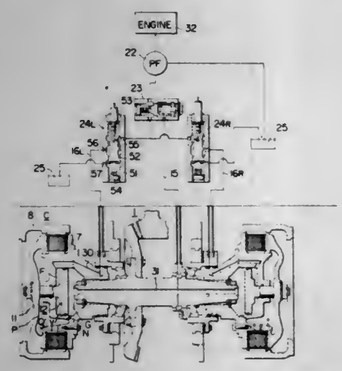
A bi-directional clutch with two-way override comprising a shafted female circularly cylindrically surfaced input member; an aligned shafted roughly elliptically cylindrically male surfaced output member having diametrical edge-slots on its major axis; four curved wedge-like clutching elements complementary to adjacent female and male surfaces when in clutch engaging contact, paired on respective sides of the axis normally biased to engagement by spring means between their adjacent broad ends; and a rotatable release member providing a respective lug projecting between adjacent narrow element-ends and, with clearance, into a said edge-slot, for selectively declutching either diametrically opposite element pair before engaging and rotating the output member. Release stop means effect automatic release.

3,437,186
SPEED RESPONSIVE CLUTCH
Daniel W. Roper, Rochester, Mich., assignor to Eaton Yale & Towne Inc., Cleveland, Ohio, a corporation of Ohio
Filed June 3, 1966, Ser. No. 555,103
Int. Cl. F16d 13/04, 41/00, 43/00
U.S. Cl. 192—35 17 Claims



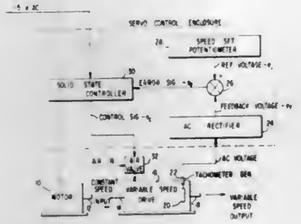
Disclosed herein is a drive mechanism for interconnecting driving and driven members. The drive mechanism includes a clutch assembly which is operated from a disengaged position to an engaged position by an expansible chamber assembly. The axpansible chamber assembly is responsive to a predetermined slip speed between the driving and driven members to operate the clutch assembly to drivingly interconnect the driving and driven members upon the occurrence of the predetermined slip speed between the driving and driven members.

3,437,187
HYDRAULICALLY-CONTROLLED STEERING CLUTCH MECHANISM
Haruhiko Umeda, Kenji Ikemoto, and Mitsuaki Suzuki, Komatsu-shi, Japan, assignors to Kabushiki Kaisha Komatsu Seisakusho, Tokyo-to, Japan, a joint-stock company of Japan
Filed May 16, 1967, Ser. No. 638,881
Int. Cl. F16d 21/08, 25/10; B62d 5/08
U.S. Cl. 192—87.13 5 Claims



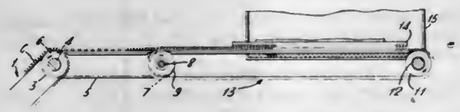
A hydraulic system, including a double-acting hydraulic piston operating in a cylinder in the inner drum of each of two steering clutches is used to accomplish both operations of engaging and releasing the clutch. In addition an elastic device such as a conical disk spring is installed between the piston and one head of the cylinder to maintain the clutch in engaged state even when the engine is not running.

3,437,188
ELECTRIC SPEED CONTROL SYSTEM FOR A FLUID OPERATED DISC CLUTCH
Emile David Long, Elmira, N.Y., assignor, by mesne assignments, to Gillett Tool Co., Inc., Buffalo, N.Y.
Filed May 3, 1967, Ser. No. 635,906
Int. Cl. F16d 23/10, 43/06, 43/24
U.S. Cl. 192—103 9 Claims



A closed loop servo speed control system for motors having a variable speed drive coupled to its output shaft wherein the drive is controlled by an extremely fast-acting air valve which is responsive to a control signal generated in accordance with the desired speed of the drive output as compared with the actual speed of the drive. The actuation of the air valve frequency modulates air flow into the drive for varying the amount of clamping pressure applied to a disc stack thereby varying the amount of torque transmitted to the output shaft.

3,437,189
APPARATUS FOR HANDLING ROD-SHAPED ARTICLES
Desmond Walter Molins, Deptford, London, England, assignor to Molins Machine Company Limited, London, England, a corporation of Great Britain
Filed June 6, 1967, Ser. No. 643,916
Claims priority, application Great Britain, June 15, 1966, 26,709/66
Int. Cl. B65g 47/31, 47/42
U.S. Cl. 198—22 12 Claims

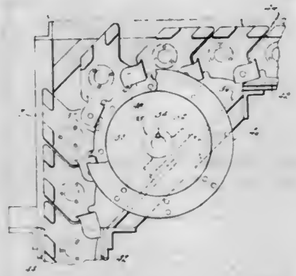


Cigarette-collecting apparatus wherein cigarettes are fed sideways as a row from a supply conveyor via a faster smooth-surfaced conveyor to a fluted conveyor whose speed is controlled responsively to detection of the number of contiguous cigarettes at the downstream end of the smooth-surfaced conveyor to ensure that every flute is filled despite fluctuations in supply. An overhead fluted suction bar moves with and at the same speed as the fluted conveyor to engage a batch of cigarettes and then moves transversely to remove the batch from the conveyor.

3,437,190
CONVEYOR AND NOVEL LINK THEREFOR
Joseph F. Gilewski, Grand Rapids, and Ray E. Teter, Lake Leelanau, Mich., assignors to Electrical & Mechanical Service Co., Grand Rapids, Mich., a corporation of Michigan
Continuation-in-part of application Ser. No. 499,260, Oct. 21, 1965. This application Aug. 22, 1967, Ser. No. 662,415
Int. Cl. B65g 15/00, 17/00, 19/00
U.S. Cl. 198—131 13 Claims

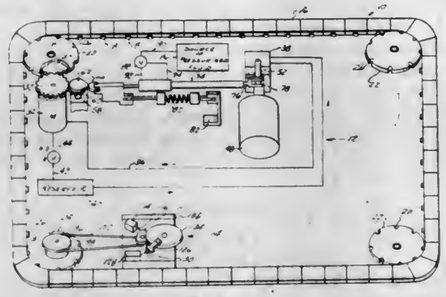
This disclosure relates to a conveyor system, especially adapted for buffing operations, in which system a plurality

of pairs of conveyor support members, for example L-shaped members, face each other and are opposed in a generally horizontal plane forming a closing track for a conveyor chain. The conveyor system is composed of a plurality of rigid links, for example, rotatably attached



at inside corners of each link. A plurality of bearing members are provided on each link, which bearing members have bearing surfaces contracting the opposed guiding walls of the L-shaped members. The shape of the links are such that the links slide between the opposed walls with relatively close tolerances.

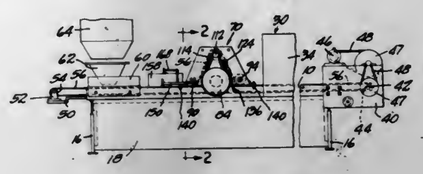
3,437,191
INDEXING DRIVE FOR TRANSFER MACHINE
Marcus J. Auernhammer and William A. Waara, Detroit, Mich., assignors to Visi-Trol Engineering Company, Detroit, Mich., a corporation of Michigan
Filed Sept. 12, 1966, Ser. No. 578,715
Int. Cl. B65g 15/00, 23/06
U.S. Cl. 198—135 8 Claims



A hydraulic motor connected to a variable volume pump provides intermittent driving motion to a transfer apparatus. The output of the motor is proportional to the pump output which is controlled by a movably mounted cylinder having an extensible rod actuated by a dual cam vernier timing means. The cylinder couples the motor output to the pump control member with the movement of the cylinder and rod providing a rough control and the extension of the rod providing a fine control.

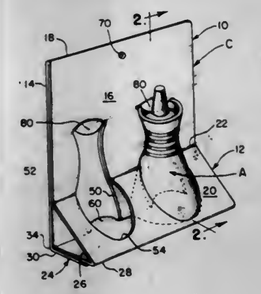
3,437,192
MATERIAL DISTRIBUTING DEVICE
Eugene W. Cauffman, Claypool, Ind., assignor to Supreme Augers, Inc., Silver Lake, Ind.
Filed Mar. 20, 1967, Ser. No. 624,396
Int. Cl. B65g 47/34, 33/04
U.S. Cl. 198—188 23 Claims

A material distributing device having a table supported conveyor belt and a distributor unit for deflecting material laterally from said belt. The device has a drive means in which the conveyor belt is threaded to actuate it, said drive means being reversible by quick-throw means and moving at different speeds in different directions of travel.



The unit includes a distributor plate swinging on a vertical axis to control the direction of material and swinging on a transverse axis to ride over surface irregularities of the belt.

3,437,193
COLLAPSIBLE DISPLAY CARTON
Claude C. Freeman, Mansfield, Tex., assignor to Container Corporation of America, Chicago, Ill., a corporation of Delaware
Filed Aug. 11, 1967, Ser. No. 660,110
Int. Cl. B65d 5/50, 5/36; A47g 23/02
U.S. Cl. 206—45.14 2 Claims

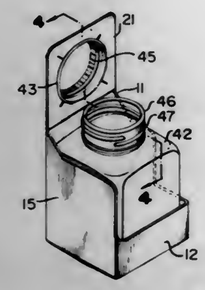


A collapsible display carton having a vertical wall; an inclined wall hinged to and extending forwardly and downwardly from said vertical wall; and a bottom wall extending between the lower edges of the rear and inclined walls and including a pair of inner and outer panels, the outer panel being partially free from attachment to the inner panel and being foldable to permit the carton to be collapsed.

3,437,194
PHARMACEUTICAL PACKAGE
Joseph L. Ames, Morrisville, Pa., and Charles K. Brett, Woodbury, N.Y., assignors to Continental Can Company, Inc., New York, N.Y., a corporation of New York
Filed Aug. 16, 1966, Ser. No. 572,818
Int. Cl. B65d 5/66, 79/00
U.S. Cl. 206—45.31 12 Claims

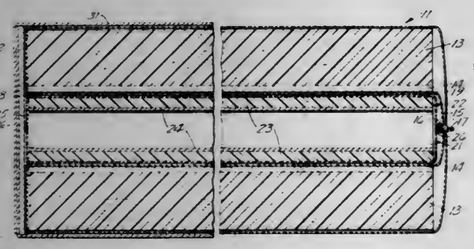
This invention relates in general to new and useful improvements in package constructions, and more specifically to a novel pharmaceutical package. The package includes a carton having a base portion for receiving a container carrying a removable closure which is receivingly interlocked in an opening of a cover panel of the

carton. Thus, upon the removal of the closure from the container the closure is at all times retained in assembled



relationship with the carton by means of the interlocking engagement thereof with the cover panel.

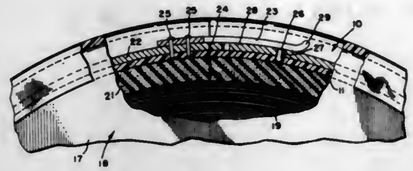
3,437,195
PACKAGING
Ralph L. Hill, St. Paul, Minn., assignor to Minnesota Mining & Manufacturing Company, St. Paul, Minn., a corporation of Delaware
Continuation-in-part of application Ser. No. 583,503, Sept. 29, 1966. This application Aug. 24, 1967, Ser. No. 672,409
Int. Cl. B65d 79/00; B65b 55/00
U.S. Cl. 206—47 5 Claims



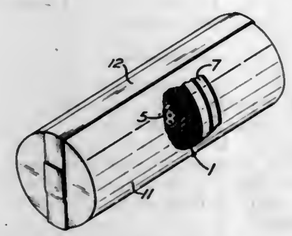
A hermetically sealed package comprising a first elongate annular article hermetically sealed in a plastic wrapper and a compositionally identical second elongate article hermetically sealed in a plastic wrapper and disposed within the central cavity of the first article. The configuration of the package is such that the second article can be readily removed from the package for testing purposes without destroying the hermetic seal of the first article; also, a method for producing the hermetically sealed package.

3,437,196
PROTECTIVE REEL BAND
Thomas S. Kulka, 200 Film Bldg., 2108 Payne Ave., Cleveland, Ohio 44114
Filed Mar. 17, 1967, Ser. No. 623,917
Int. Cl. B65h 55/00, 15/02; B65d 85/04, 85/66
U.S. Cl. 206—53 12 Claims

A band for protecting the flanges of a tape reel and for closing the space between the flanges thereby protecting the tape wound on the reel. In all of the disclosed band forms, the band is provided with an inner peripheral portion contractible upon application of the band to the reel flanges to snugly fit between the reel flanges to hold the band in place. Most forms of the band are economically constructed of available material, and are retained by conveniently manipulatable latching means.

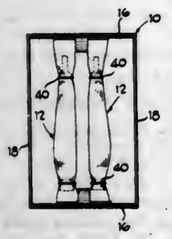


3,437,197
PACKAGING
Emanuel W. Wirfel, McKees Rocks, Pa., assignor to Mobay Chemical Company, Pittsburgh, Pa., a corporation of Delaware
Filed May 2, 1967, Ser. No. 635,498
Int. Cl. B65 55/00, 75/00; B65d 85/66
U.S. Cl. 206—59 5 Claims



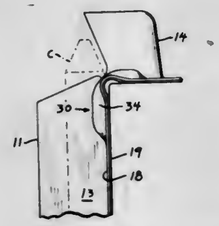
Applying a sizing means to a cellular sheet material; disposing the sheeting for shipment; placing the sheeting into a flexible container which is substantially fluid impervious and which is capable of being reduced in volume; evacuating fluid from the container and permitting the container to be reduced in volume under the influence of atmospheric pressure, thereby compressing the cellular material, and enclosing the container and its contents within a mechanical restraining means such as a paper envelope.

3,437,198
CUSHIONING PACKAGE
Raymond H. Van Saun, Geneva, and Allan E. Foote, Naperville, Ill., assignors to Container Corporation of America, Chicago, Ill., a corporation of Delaware
Filed Aug. 17, 1967, Ser. No. 661,406
Int. Cl. B65d 71/00, 85/00, 5/56
U.S. Cl. 206—65 4 Claims



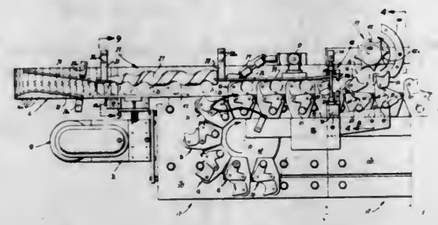
A paperboard cushioning package for an article, including an outer box and an insert having a channel section for cradling the article and being fixed within the outer box to limit relative movement therebetween and means securing the article to the channel section to limit relative movement therebetween.

3,437,199
CONTAINER WITH SELF-CLOSING COVER
William P. Jacobson, Rockford, Ill., assignor to Anderson Bros. Mfg. Co., Rockford, Ill., a corporation of Illinois
Filed Feb. 12, 1968, Ser. No. 704,733
Int. Cl. B65d 73/00; A44b 7/00
U.S. Cl. 206—78 10 Claims



The container has walls defining spaced sides and a rearwardly facing open side. A peripheral flange extends outwardly of the walls, and a back member is sealed thereto. A separation line divides the container into a body portion and a cover portion which is swingable about a hinge line. Channels are formed in the flange and extend crosswise of the hinge line to urge the cover portion to closed position.

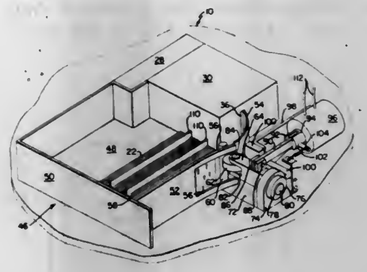
3,437,200
BOTTLE SORTING APPARATUS
Arnold Duerksen, Ben Lomond, Calif., assignor, by mesne assignments, to E. H. Halbach, Santa Cruz, Calif.
Filed Oct. 6, 1965, Ser. No. 493,515
Int. Cl. B07c
U.S. Cl. 209—73 24 Claims



An apparatus for sorting bottles of different characteristics separates the bottles into groups having the same characteristics. A conveyor brings the bottles to be sorted past a station where a designated characteristic of the bottle is sensed. In accordance with the characteristic sensed, bottles are removed from the conveyor. Bottles may be segregated according to height, diameter, configuration or color.

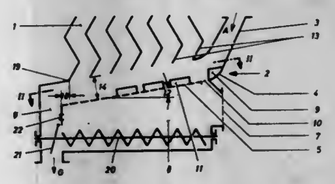
3,437,201
CODED CARD READING AND SELECTING APPARATUS
Merle D. Tyler and Robert W. Bonnema, Denver, and Archie H. Higgins, Arvada, Colo., assignors to Uptime Corporation, Golden, Colo., a corporation of Colorado
Filed Oct. 20, 1965, Ser. No. 498,756
Int. Cl. B07c 5/34
U.S. Cl. 209—110 20 Claims

A method and apparatus for sorting within a single card receiving hopper means cards of two or more classifications as said cards are fed successively into said hopper means wherein the stack of cards formed within said hopper includes a uniform stack of cards having a single classification and cards of one or more classifications which are interleaved in said stack but have a portion



thereof projecting laterally a short distance from the adjacent contour of said stack, said projecting portions serving as their own indicators of the difference in classification.

3,437,202
FLOW CHANNEL FOR ZIGZAG CLASSIFIERS
Fritz W. Kaiser, Hammel, near Augsburg, Germany, assignor to Alpine Aktiengesellschaft, a company of Germany
Filed Apr. 4, 1967, Ser. No. 628,497
Claims priority, application Germany, Apr. 6, 1966, A 52,082
Int. Cl. B07b 7/12, 3/12
U.S. Cl. 209—136 8 Claims

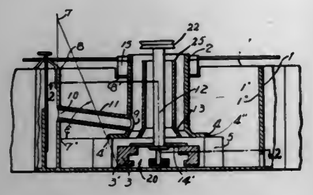


Flow channel for conveying material to be classified transversely across upflowing fluid classifying current in a rising-tube classifier, to provide a flying bed condition therein, including a perforated plate fitted with nozzles for fluid flow and set transversely of the classifier at an angle of 9° or more, the nozzles being inclined in the direction of material flow, a gravity chute for delivering material onto the feed end of the flow channel and a conveyor extending along beneath the flow channel in the lower portion of the classifier.

3,437,203
FLOTATION APPARATUS
Koichi Nakamura, 2270 Kichijoji, Musashinoshi, Tokyo, Japan
Continuation-in-part of application Ser. No. 345,277, Feb. 17, 1964. This application July 5, 1967, Ser. No. 651,187
Claims priority, application Japan, Feb. 20, 1963, 38/7,386; May 7, 1963, 38/22,656
Int. Cl. B03d 1/20
U.S. Cl. 209—169 6 Claims

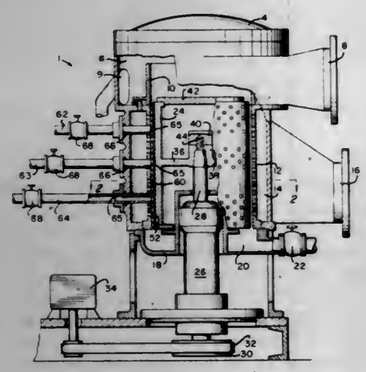
A froth flotation machine including an aerator assembly having a set of guides surrounding its impeller, each of said guides being set at such an angle with respect to the radius of the aerator assembly which passes through

its inner end as to cause logarithmic spiral flow of pulp or the like issuing from the impeller to be laminar, the outer ends of said guides being advanced in the direction of rotation of the impeller beyond the inner ends of said guides. A circular flange is located above the outer ends of the impeller blades. The concentrate froth discharge lip is located in the cell wall in the annular zone of



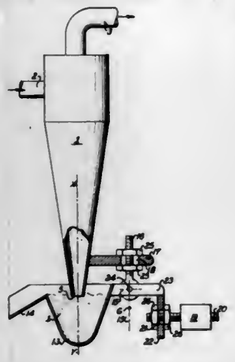
V-shaped cross-section which lies above the plane of the circular flange and below a cone tangent to the lower extremities of the impeller blades and to the outer edge of the flange. The guides may be turned from their laminar flow inducing positions to compensate for the presence of supply pipes or the like in the annular zone. The guides may also be thus turned to compensate for non-circularity of the cell in which the aerator is located.

3,437,204
SCREENING APPARATUS
Ian J. H. Clarke-Pounder, Pierrefond, Quebec, Canada, assignor, by mesne assignments, to Bird Machine Company, a corporation of Massachusetts
Filed Dec. 27, 1965, Ser. No. 516,537
Int. Cl. B07b *1/20*
U.S. Cl. 209—273 **7 Claims**



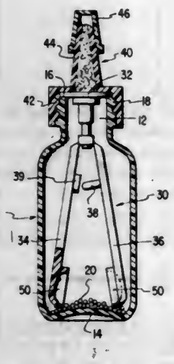
Pressure screening apparatus for paper manufacturing pulp and the like including a rotary drum mounted on a vertical axis and having a circumferential surface carrying pulse generating means, a cylindrical screen surrounding the drum in spaced relationship to provide an annular screening zone therebetween, an inlet for feeding stock to the top end of the screening zone, an accepts outlet on the outside of the screen for discharging acceptable matter and a rejects outlet for discharging rejected matter from the lower end of the screening zone. A conduit extends radially inward through the screen and has a discharge outlet on the inner face of the screen intermediate the top and bottom ends of the screening zone for discharging dilution liquid to the screening zone over a minor portion of the circumference of the screening zone.

3,437,205
HYDROCYCLONE SEPARATORS
Elie Condolios, Grenoble, France, assignor to Societe Grenobloise d'Etudes et d'Applications Hydrauliques, Grenoble, France, a corporation of France
Filed July 26, 1966, Ser. No. 567,870
Claims priority, application France, July 29, 1965, 4,824; June 23, 1966, 4,962
Int. Cl. B04c *5/12;* **B01d** *21/26*
U.S. Cl. 210—84 **8 Claims**



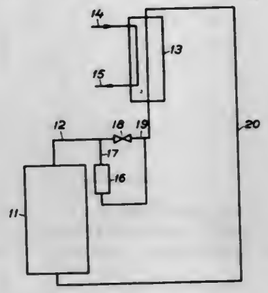
The granular material separating apparatus herein is composed of a cyclone separator having its lower discharge orifice located in a receptacle below an overflow edge of the latter so that during the feed of the mixture being separated such discharge orifice is maintained immersed in a mass of separated out granules and entrained liquid and a dried granular product is continuously discharged over the overflow edge, the apparatus including means to cellect the granular overflow.

3,437,206
COLLECTION ASSEMBLY FOR DIAGNOSTIC TESTING
Alan Kusik, West Orange, N.J., assignor to Organon, Inc., West Orange, N.J., a corporation of New Jersey
Filed Apr. 24, 1967, Ser. No. 633,030
Int. Cl. B01d *23/20, 35/02;* **G01n** *31/00*
U.S. Cl. 210—251 **11 Claims**



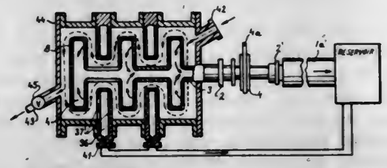
A device for the collection and examination of body excretions is a combination of a flexible container, a closure provided with an emptying tube containing a filter material and an inside seating surface, and a pair of forceps removably extending into the container, the legs of the forceps being fitted with a pair of opposing cups for holding and transferring excretions, all parts being made of transparent or translucent resilient plastic material.

3,437,207
MEANS FOR PURIFYING WATER
Peter Fejes, Vasteras, Sweden, assignor to Allmanna Svenska Elektriska Aktiebolaget, Vasteras, Sweden, a corporation of Sweden
Filed Oct. 5, 1964, Ser. No. 401,491
Claims priority, application Sweden, Oct. 10, 1963, 11,084/63
Int. Cl. B01d *35/02, 29/08*
U.S. Cl. 210—287 **3 Claims**



Water in the primary circuit of a nuclear reactor or feed water for a steam power plant is purified by passing it through a bed of pellets of iron or steel having a thin surface layer of an oxide with spinel structure.

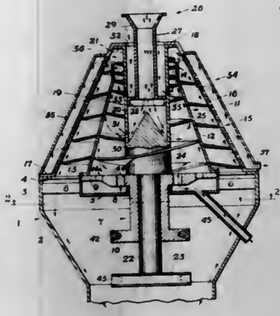
3,437,208
APPARATUS FOR DYNAMIC FILTRATION OF LIQUIDS
Jan Kaspar, 1332 Ukostelicka, Josef Soudek, 1293 Sezemicka, and Karel Gutwirth, 116 Strassova, all of Pardubice, Czechoslovakia
Filed Oct. 21, 1964, Ser. No. 405,547
Int. Cl. B01d *33/02*
U.S. Cl. 210—297 **2 Claims**



A method and apparatus for the dynamic filtration of liquids having solid particles suspended therein. The liquid is passed through a filter diaphragm from one side to the other side thereof so that solid particles continuously cling to the one side of the filter diaphragm. The liquid on the one side of the filter diaphragm is continuously agitated whereby the particles clinging to the filter diaphragm are continuously removed and returned into suspension, thus serving to produce on the one side of the filter diaphragm a thickened thixotropic slurry.

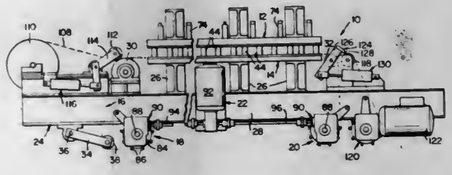
3,437,209
CONTINUOUS CENTRIFUGAL FILTER CONSTRUCTION
Thomas Evans, deceased, late of Westerly, R.I., by Mrs. Ralph H. L. Becker, executrix, Westerly, R.I., assignor to Baker Perkins, Inc., Saginaw, Mich., a corporation of New York
Filed Feb. 1, 1967, Ser. No. 613,963
Int. Cl. B01d *33/06*
U.S. Cl. 210—374 **18 Claims**

A continuously operable contrifugal filter for separating liquids and solids having an imperforate bowl nested within an outer, relatively rotatable, perforate bowl, and scrolls in scraping relation with the interior walls of the bowls for scraping solids therefrom in opposite directions



to discharge solids from the inner bowl to the outer bowl, and including means for directing wash liquid onto the solids as they are discharged to the outer bowl.

3,437,210
RECIPROCATING BELT FILTER
Raymond J. O'Neill, Alameda, Calif., assignor to De Laval Turbine Inc., Milbrae, Calif.
Filed Jan. 25, 1967, Ser. No. 611,739
Int. Cl. B01d *33/00*
U.S. Cl. 210—387 **8 Claims**

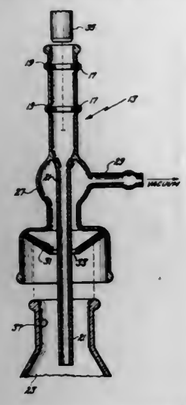


A filter having an elongated filter member disposed between a pair of separable fluid conductors and connected at its ends to a pair of rotatable drums so that the filter member can move in opposed directions when the conductors are separated and when the drums are alternately rotated. A cleaning structure is positioned to clean the filter member as it moves relative to the conductors and a second, disposable filter member can be utilized with the first filter member wherein the latter acts also as a carrier for the second filter member.

3,437,211
VACUUM FILTRATION DEVICE
Marvin H. Lindsey, 3911 E. Palfrey, San Antonio, Tex. 78223
Filed June 6, 1967, Ser. No. 644,469
Int. Cl. B01d *29/42, 35/14*
U.S. Cl. 210—406 **4 Claims**

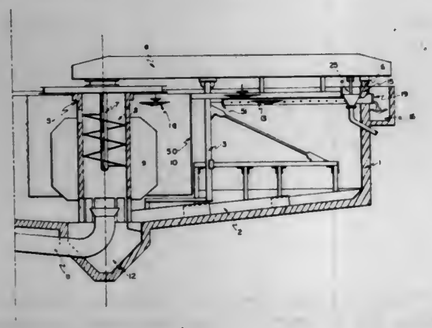
A filtration device for collecting a filtrate under vacuum conditions wherein the material to be filtered is disposed in a filter funnel which is sealed to the neck portion of the device. A resilient gasket of frusto-conical configuration is positioned in the lower section of the device for

engagement with the mouth of a filtrate collection receptacle and a vacuum line is attached to the tubulation sec-



tion for evacuating the collection receptacle to accelerate the passage of the filtrate through the filter funnel.

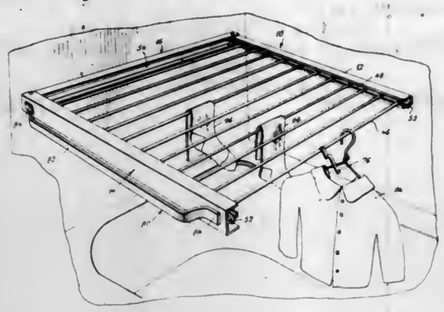
3,437,212
APPARATUS FOR SCUM REMOVAL
Ewald Reinhard Thorn, Ruckershausen, Wilhelm Weber, Diez (Lahn), Ernst Siegfried Lemberg, Michelbach, Nassau, and Josef Blanche, Zollhaus, Nassau, Germany, assignors to Passavant-Werke, Michelbach, Nassau, Germany, a corporation of Germany
Filed Sept. 19, 1967, Ser. No. 668,884
Int. Cl. B01d *43/00*
U.S. Cl. 210—525 **14 Claims**



Apparatus for removing scum from clarified liquid in a clarification tank by providing a plurality of horizontal open topped, radially extending box conduits near the surface with openings below the surface into which clarified liquid can enter. The outer ends of the conduits extend out of the tank for discharge of the clarified effluent. For scum removal, the liquid level is raised by plugging the outer ends of the conduits while rotating blades mounted at the scum line collect scum for discharge through a weir-like collection trough which has a separate discharge outlet to separate scum from clarified effluent.

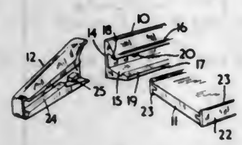
3,437,213
FOLDING INDOOR CLOTHES DRYER
Irving Ruina, Miami Beach, Fla.
(1660 NE. 191st St., North Miami Beach, Fla. 33162)
Filed Feb. 20, 1967, Ser. No. 617,391
Int. Cl. A47b *43/00;* **A47f** *5/08*
U.S. Cl. 211—1.3 **5 Claims**

A folding indoor clothes dryer having a rectangular metal frame composed of channel shaped frame members, swingable into nested relationship, with a series of clothes supporting metal, plastic, wooden or other rods normally extending from side to side when the frame is extended,



and slidable on opposed trackways to collapsed condition around the roller means. A towel rack is supported on the outside of one frame member.

3,437,214
SHELVES
John Sainsbury, Little Aston, England, assignor to Sainsbury & Parkinson Limited, Walsall, Staffordshire, England, a corporation of Great Britain
Filed Aug. 1, 1967, Ser. No. 657,589
Claims priority, application Great Britain, Aug. 6, 1966, 35,311/66
Int. Cl. A47f *5/08;* **A47b** *47/00;* **E04g** *3/04*
U.S. Cl. 211—90 **17 Claims**

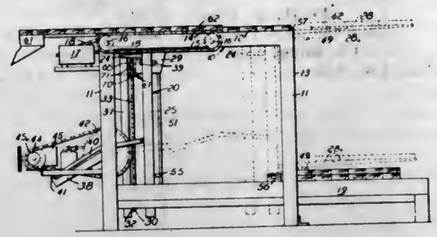


A shelf assembly comprises a mounting strip, a shelf arranged to be supported along one edge in a longitudinal channel in the mounting strip and a pair of end caps. The end caps are arranged to fit over the ends of the mounting strip and shelf to maintain these two members in assembled relationship. The shelf assembly is suitable for mounting on a wall above a central heating radiator and includes means for providing a draught-proof seal between the mounting strip and the wall.

3,437,215
LUMBER STACKER
Sidney L. Lunden, Spokane, Wash., assignor, by mesne assignments, to Moore-IEM, Inc., Spokane, Wash., a corporation of Washington
Filed Jan. 5, 1966, Ser. No. 518,965
Int. Cl. B65g *57/03*
U.S. Cl. 214—6 **10 Claims**

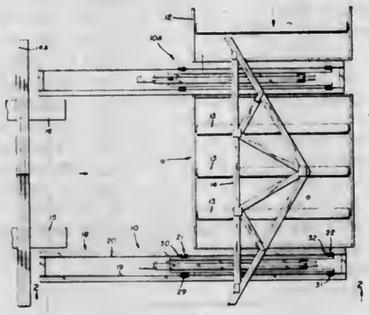
A lumber stacking apparatus has a framework **10** with lumber support surface **12** and upright members **11**. A carriage **20** is reciprocally mounted on the framework **10** for forward and back movement. Vertically movable lumber support arms **26** are mounted on the carriage **20** for up and down movement. A counterweight **30** is connected to the arms **26** for biasing the arms **26** upward when lumber is removed from the arms. As the carriage **20** moves forward the arms **26** are elevated above the surface **11** to engage the forwardmost boards to define a layer and to move the boards forward of the uprights **12**. When the counterweight **30** then permits the arms to move downwardly until a feeler device **49** senses the top of the stack and activates a motor to move the carriage

20 back to pull the arms from beneath the layer to drop the boards onto the stack. When the boards are removed



from the arms **26**, counterweight **30** raises the arms into position for a succeeding cycle.

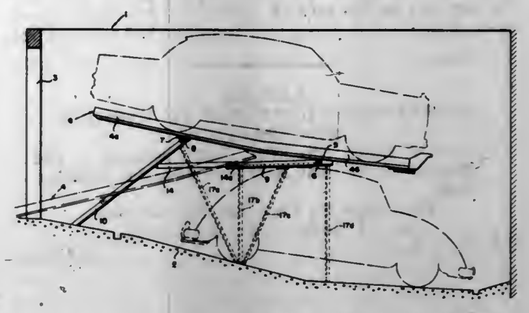
3,437,216
APPARATUS FOR STACKING TRUSSES
Arthur E. McGlinchey, 1122 NE. 1st Ave., Fort Lauderdale, Fla. 33304
Filed June 2, 1967, Ser. No. 657,440
Int. Cl. B65g *57/00;* **B25j** *3/00;* **B61b** *13/00*
U.S. Cl. 214—7 **8 Claims**



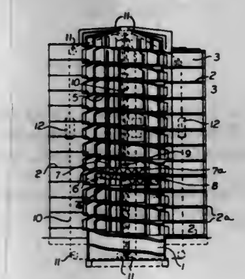
The apparatus has a carriage reciprocatingly movable on a base between a truss receiving station and a stacking station. The carriage is moved by an endless drive chain supported between spaced sprockets on the base. A swing boom is mounted on the carriage to rotate approximately 90° through a vertical plane so that a truss disposed horizontally at the receiving station is lifted to a vertical position and so deposited at the stacking station. A lift hook retains the truss on the boom in juxtaposition to a trip bar. When the truss supported on the boom encounters the resistance offered by engagement of the truss with a stop, or a previously stacked truss, the trip bar is urged rearwardly. This rearward movement of the trip bar withdraws the lift hook by a multiplying mechanism to deposit the truss at the stacking station and actuates a clutching mechanism operatively connected between the carriage and the drive chain to reverse the direction of movement of the carriage without reversing the movement of the drive chain.

3,437,217
DOUBLE-TIER GARAGE
Otto Wöhr, 43 Neuhaldenstrasse, 7015 Korntal, Germany
Filed Dec. 16, 1966, Ser. No. 602,288
Int. Cl. E04h *6/22*
U.S. Cl. 214—16.1 **5 Claims**

A multi-level parking device with a floor forming a lower parking level and a movable platform forming an upper parking level including means for moving a platform from a vehicle receiving position to a vehicle storing position above the floor. The vehicle parking position is located at a height above the floor so as to allow for another vehicle to be placed on the lower level.

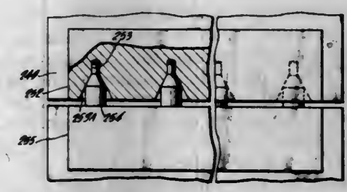


3,437,218
HELICAL ELEVATOR AND LOAD TRANSFER APPARATUS FOR A STORAGE BUILDING
Carl Heinrich Hagel, 24 Eintrachtstrasse, 46 Dortmund, Germany
Continuation-in-part of applications Ser. No. 442,645, Mar. 25, 1965, and Ser. No. 644,270, June 7, 1967. This application Dec. 18, 1967, Ser. No. 691,278
Claims priority, application Austria, Apr. 13, 1964, A 3,186/64
Int. Cl. E04h *6/40, 6/00*
U.S. Cl. 214—16.1 **27 Claims**



An elevator adapted for use in connection with a helically wound track which elevator is supported by the track at at least three points therealong with the support being through a combination of wheels or wheels and sliding surfaces.

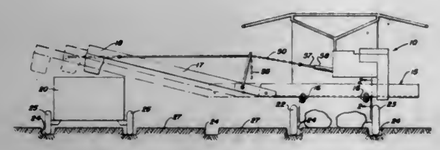
3,437,219
LOAD HANDLING APPARATUS
Clarence H. Stevenson III, 3430 Angeles Ave., Glendale, Calif. 91208
Filed Sept. 12, 1966, Ser. No. 578,821
Int. Cl. B65g *47/52, 13/00, 67/02*
U.S. Cl. 214—38 **4 Claims**



Apparatus for transferring a load from a first bed to a second bed includes means for moving the load from one bed to the other, a socket mounted on the first bed to

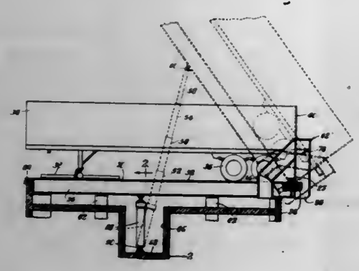
open toward the second bed, and a pin mounted on the second bed to extend toward the socket so the pin enters the socket when the beds are brought together and locks the two beds against relative vertical and horizontal movement as the load is transferred from one bed to the other.

3,437,220
HARVESTER ADAPTABLE TO VARIOUS ROW SPACINGS
Lauren W. Gates, Rio Vista, Calif., assignor to The Regents of the University of California, Berkeley, Calif.
Filed May 29, 1967, Ser. No. 641,960
Int. Cl. B65g *67/08;* **B60b** *19/00*
U.S. Cl. 214—42 **10 Claims**



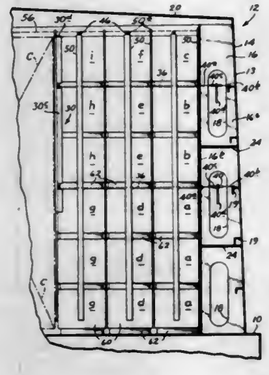
To accommodate differences in row spacings of crops, the harvester is provided with (1) means for adjusting the wheel spacing, (2) means for adjusting the position of an overlength cross-conveyor, and (3) means for adjusting the connection between a pivoted boom conveyor and its lifting apparatus. This enables delivery of the harvested crop to a conveyance moving beside the harvester a few rows away.

3,437,221
TRUCK UNLOADING APPARATUS
Hugh L. Scott, Hammond, Ind., assignor to Screw Conveyor Corporation, Hammond, Ind., a corporation of Illinois
Filed Dec. 21, 1966, Ser. No. 603,480
Int. Cl. B65g *67/40*
U.S. Cl. 214—49 **12 Claims**



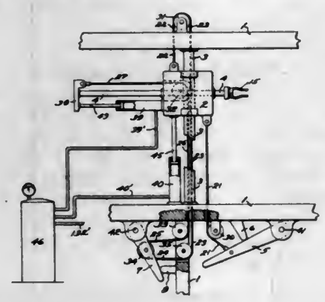
A truck unloading apparatus including a tiltable truck supporting platform, a pair of parallel guide members secured to the platform on opposite sides thereof adjacent the pivotal axis in upstanding relation to the platform, a generally horizontal stop member supported for upward and downward movement by the guide members and extending substantially the width of the platform, and chain and sprocket means operatively associated with the guide members and the stop member and operative to effect selective movement of the stop member to engage the backs of different sized trucks when disposed on the platform for unloading.

3,437,222
METHOD FOR SECURING PACKAGES IN A CARGO SPACE
Henry Sause, Jr., 3829 NE. Flanders, Portland, Oreg. 97232
Filed Oct. 23, 1967, Ser. No. 677,119
Int. Cl. B65g *1/14, 1/20;* **B65d** *57/00*
U.S. Cl. 214—152 **8 Claims**



Apparatus and method for securing in a cargo space packages stacked in vertically extending tiers including tiers disposed one over another to form a column. The cargo space has a backing against which one side of a column of tiers of packages is placed. The apparatus includes a chain adapted to extend out normal to the backing in a space between tiers of packages in a column, an upright pressure bar adapted to abut an exposed side of a column and to be connected to one end of the chain, and a turnbuckle adapted to be connected to the other end of the chain at the rear of the backing, for drawing the pressure bar and chain toward the backing. Flexible dunnage belts are slidably and releasably depended from wires strung above the tiers, and are adapted to be inserted between adjacent columns.

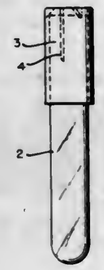
3,437,223
WORK HANDLING AND TRANSFER APPARATUS
Harold A. Haase, Taunton Hill Road, Newtown, Conn. 06470
Filed June 3, 1966, Ser. No. 555,197
Int. Cl. B25j *5/00;* **B65g** *25/00*
U.S. Cl. 214—730 **10 Claims**



Apparatus for transferring work articles selectively from place to place, such as from one processing machine to another, in two-dimensional or three-dimensional space in paths of travel that are selectable by manipulating separate remote control handles sequentially or simultaneously. The article to be transferred may be picked up and may be deposited, or otherwise handled, with high precision by a reaching arm mounted on a carrier block

that is vertically movable, and the arm is otherwise so mounted that it can be moved horizontally as well as being able to sweep about a vertical axis. On the carrier block there is pivotally mounted a cornering pulley. A continuous, flexible, nonstretchable draft member has one end attached to the reaching arm and the other end attached to the carrier block and between the two forms a tackle trained about the cornering pulley and about certain frame stationed pulleys. Regardless of the vertical position of the carrier block and whether the carrier block is still or is moving, the reaching arm can be moved horizontally, and regardless of the horizontal position of the reaching arm and whether the reaching arm is still or is moving, the carrier block can be moved vertically. An additional draft means is employed for causing vertical movement of the carrier block. There are separate handles in a common location reachable by the same operator for pulling on the continuous draft member and on the additional draft means respectively. The draft member and draft means are pulled upon in opposition to biasing means tending to restore the reaching arm and its carrier to normal positions. The movements of the reaching arm and carrier block can be caused in automatically programmed timed relationship by adjustably related actuators such as power driven actuating cams.

3,437,224
VIAL CLOSURE
Robert J. Williams, Dover, Ohio, assignor to Dover Molded Products Company, Dover, Ohio, a corporation of Ohio
Filed Jan. 18, 1967, Ser. No. 610,068
Int. Cl. B65d *51/16*
U.S. Cl. 215—56 **1 Claim**



A one-piece molded plastic closure or cap is provided for vials, such as are used to hold biological cultures, the cap fitting over the end of the vial in such a manner as to allow some access of air from the outside, but through a tortuous path, and being arranged to prevent contamination of the culture from the external atmosphere. The cap is provided with centering fins and stop elements which prevent the cap from completely sealing the culture, and which keep the vial centered within the cap, but out of contact with the major portion of the walls thereof, in order to allow the passage of air.

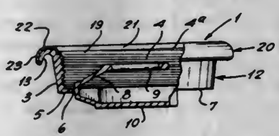
3,437,225
WELDED JOINT STRUCTURE FOR HIGH PRESSURE VESSEL
William J. Wachter and Keith V. Smith, Pittsburgh, Pa., assignors to Westinghouse Electric Corporation, Pittsburgh, Pa., a corporation of Pennsylvania
Continuation of application Ser. No. 397,885, Sept. 21, 1964. This application May 3, 1967, Ser. No. 635,928
Int. Cl. F25j *25/00;* **B65d** *7/34, 7/42*
U.S. Cl. 220—3 **11 Claims**

A large sectionalized solid vessel with laminated sealed joints (9, FIG. 1) (typically 24 feet in diameter), for the fluid of a high-power generator whose sidewalls 11 are made up of dish or barrel-stave-shaped sections 17. The vessel 9 also has a head 15 and a base 13. The joints between the sections 17 are sealed by a laminated pressure-tight seal composed of thin strips 23 and 25 extending along the length of the sections 17 and perpendicular



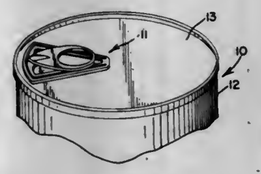
to the contiguous edges of the sections. At least some of the strips are welded pressure-tight to the contiguous sections. The joints between the wall 11 and the head 15 or base 13 may likewise be sealed by thin strips 31, 33 (FIG. 5) extending around this joint. Typically, the strips 23, 25 or 31, 33 are 1/30 to 1/40 of the thickness of the sections.

3,437,226
PLASTIC CLOSURE FLANGE ASSEMBLY
Halsey R. Helwig, Clifton, N.J., assignor to American Flange & Mfg. Co. Inc., New York, N.Y., a corporation of Delaware
Filed Aug. 22, 1967, Ser. No. 662,532
Int. Cl. B65d *41/04*
U.S. Cl. 220—39 **11 Claims**



A plastic closure flange which is secured to an upstanding container wall opening formation by means of a metal sealing ring. The flange is internally threaded and provided with an improved integral gasketing portion. A self gasketing plastic plug is threadedly engaged within the flange so as to effectively seal against the flange gasketing portion.

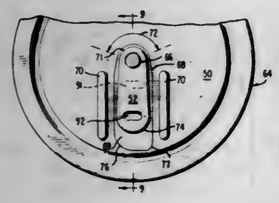
3,437,227
EASY OPENING CONTAINER
Harry A. Peyser, Olympia Fields, Ill., assignor to Continental Can Company, Inc., New York, N.Y., a corporation of New York
Filed Feb. 21, 1968, Ser. No. 707,266
Int. Cl. B65d *17/02, 17/20, 17/24*
U.S. Cl. 220—47 **6 Claims**



As easy opening container having a panel formed with a slot of which the terminal ends are transversely spaced so that the panel portion lying within the confines of the slot is bendable away from the panel to define a pour opening. A pull tab is attached to the bendable panel portion and includes a sealing strip seated in the slot and marginal portions grippingly overlying the marginal wall of the panel and the marginal wall of the bendable portion. A finger tab is formed integral with the sealing strip intermediate the ends of the latter. A

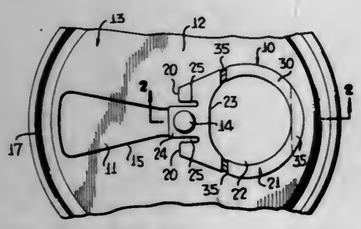
weakening line is formed in the sealing strip in alignment and coextensive with the slot so that upon application of a pulling force to the finger tab, the marginal wall portion and marginal tab portions of the sealing strip separate so that the bendable portion may be bent away from the panel.

3,437,228
CONTAINER STRUCTURE AND MANUFACTURE
William T. Saunders, Weirton, W. Va., assignor to National Steel Corporation, a corporation of Delaware
Filed Oct. 14, 1965, Ser. No. 495,796
Int. Cl. B65d *17/24*
U.S. Cl. 220—54 7 Claims



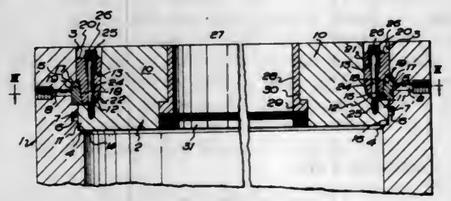
Process for forming a unitary rivet for an easy-open container without substantially decreasing the thickness gage of metal confronting container contents in which the head portion of a rivet is clamped between a yieldably-mounted, spring-loaded pin and a solidly-mounted punch member during formation of the rivet. Easy-open container utilizing a unitary rivet to hold one end of an elongated tab opener to a container. The elongated tab opener has a curvilinear configuration at its secured end for initiating puncture of the container. The container closure has a scoreline which circumscribes and is substantially parallel to such curvilinear configuration of the elongated tab opener. Guide means on the container closure constrain pivotal movement of the elongated tab opener to maintain such parallel relationship.

3,437,229
SOFT LIFT TAB
Nick S. Khoury, Worth, Ill., assignor to Continental Can Company, Inc., New York, N.Y., a corporation of New York
Filed Apr. 28, 1967, Ser. No. 634,661
Int. Cl. B65d *17/20*
U.S. Cl. 220—54 11 Claims



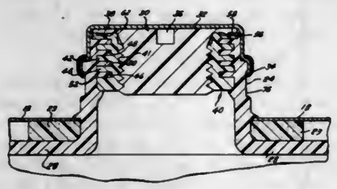
This disclosure has to do with a pull tab for an easy opening container wherein the pull tab is of the lever type and one end thereof must be lifted in order to effect a rupture of the associated container element. The pull tab has a ring portion which is weakened adjacent its connection to the remainder of the pull tab whereby when an initial lifting force is applied to the ring portion, it will bend upwardly a sufficient distance to facilitate the gripping thereof, after which abutment portions will engage to provide a rigid connection between the ring portion and the remainder of the pull tab in the direction of lifting movement.

3,437,230
HYDRAULIC CYLINDERS
Frederick R. Savory, Sutton-in-Ashfield, England, assignor to Steel Construction & Engineering Co. (Notts.) Limited
Filed Nov. 29, 1967, Ser. No. 686,676
Int. Cl. B65d *45/00*
U.S. Cl. 220—55 6 Claims



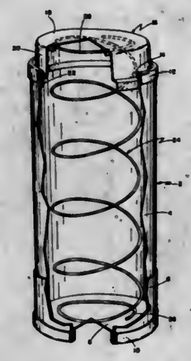
A hydraulic cylinder has a counterbore to receive a flanged end of a circular end plate, a circular groove in the counterbore enabling a thrust ring formed of segmental locking elements to engage the groove while extending from the groove to overlap a portion of the flanged end, with a locking ring securing the thrust ring in position, means to secure the locking ring in position, and sealing means between the flanged end and the cylinder.

3,437,231
PRECISION THREADED INSERT FOR PLASTIC CONTAINERS
Herbert L. Carpenter, Jr., Babylon, N.Y., assignor to The Greif Bros. Cooperage Corporation, Delaware, Ohio, a corporation of Delaware
Filed Aug. 17, 1967, Ser. No. 661,453
Int. Cl. B65d *25/14, 41/04*
U.S. Cl. 220—63 12 Claims



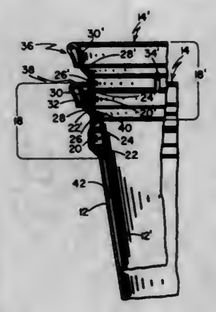
A blow-molded drum body member having side walls with top and bottom portions affixed thereto and a neck extending outwardly from the top defining an opening into the drum interior. A precisely threaded bushing is disposed within the neck and coupled thereto in sealing engagement so that the internally threaded surfaces of the bushing define the passageway through the neck into the drum interior. The outer surface of the bushing is provided with a multiplicity of spaced annular flanges intersected by spaced vertical ribs which serve to prevent rotation of the bushing with respect to the neck. And, the method of affixing the bushing to the drum neck.

3,437,232
ROVING CAN
Elmer C. Goodwin, Jr., Greenville, S.C., assignor to Spaulding Fibre Company, Inc., North Rochester, N.H., a corporation of New Hampshire
Filed Sept. 12, 1966, Ser. No. 578,797
Int. Cl. B65d *25/10*
U.S. Cl. 220—93 2 Claims



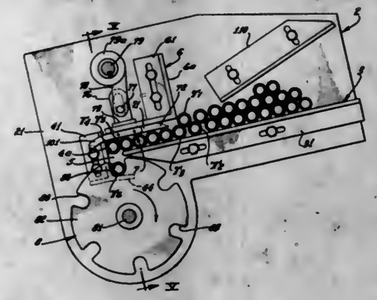
A roving can comprising a cylindrical body having a portion thereof adjacent its open top inset inwardly and a top slideable within the body and having a portion thereof projecting outwardly to engage said inset portion to limit upward movement of the top, and a spring urging said top upwardly.

3,437,233
CONTAINER
Willard J. Rathbun, Castalia, Ohio, assignor to Foster Grant Co., Inc., Leominster, Mass., a corporation of Delaware
Filed Oct. 23, 1967, Ser. No. 677,429
Int. Cl. B65d *21/02, 3/02*
U.S. Cl. 220—97 4 Claims



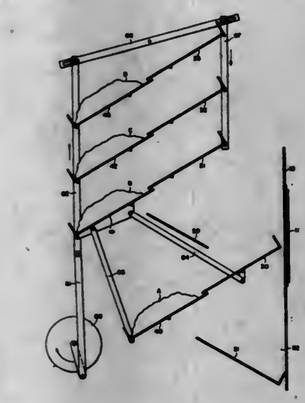
A nestable container of plastic material having a bottom portion, a sidewall portion which flares upwardly and outwardly, and a combination closure-receiving and stacking portion at the top, open end thereof above the sidewall portion. The closure-receiving and stacking portion includes several sections of specific configurations which provide for receiving a lid and nestably stacking adjacent containers in a novel manner.

3,437,234
APPARATUS AND A METHOD FOR DISCHARGING INDIVIDUAL WORKPIECES FROM A SUPERIMPOSED SUPPLY THEREOF
Manuel Izen, 1785 E. Vernon Ave., Los Angeles, Calif. 90058, and George Klotzek, Los Angeles, Calif.; said Klotzek assignor to said Izen
Filed July 28, 1967, Ser. No. 656,821
Int. Cl. B65g *1/08, 47/84*
U.S. Cl. 221—1 9 Claims



Apparatus for positively discharging individual cylindrical workpieces from a supply of superimposed cylindrical workpieces resting upon an inclined surface terminating at a discharge opening, said apparatus including lift and release members reciprocating in a plane above and parallel to the inclined surface whereby stacking, wedging and clogging is eliminated; rear portions of members may include deflecting fingers for positive displacement of workpieces into the discharge opening and onto a transfer mechanism.

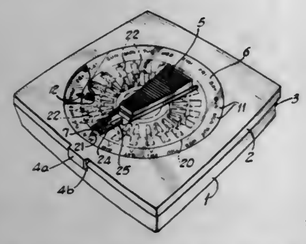
3,437,235
PIVOT SHELF VENDING MACHINE
Richard Guerra, Littleton, Mass., assignor to Westinghouse Electric Corporation, Pittsburgh, Pa., a corporation of Pennsylvania
Filed Oct. 13, 1967, Ser. No. 675,142
Int. Cl. G07f *11/06, 11/48*
U.S. Cl. 221—75 8 Claims



This invention relates to a vending machine vertical storage column structure having vertically spaced pivotally inclined article storage shelves together with vertically spaced pivotally inclined article transfer shelves with linkage interconnecting the shelves to pivot all shelves from a normal first inclined storage direction to a second inclined transfer direction and back to the normal first

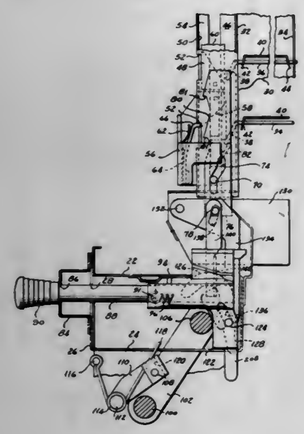
direction during a vending cycle so that an article on the lowest storage shelf is vended and the article from each storage shelf next above a lower storage shelf is transferred to the next lower storage shelf for subsequent vending from the lowest storage shelf.

3,437,236
TABLET DISPENSING DEVICE
Charles M. Huck, Bound Brook, N.J., assignor to Ortho Pharmaceutical Corporation, a corporation of New Jersey
Filed Sept. 26, 1967, Ser. No. 670,637
Int. Cl. B65h *3/28*
U.S. Cl. 221—86 **4 Claims**



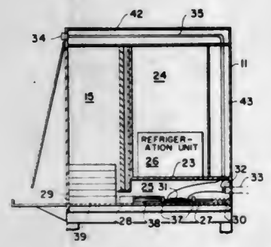
A tablet dispensing device formed from a single piece of resilient material which holds tablets in a fixed position, with a releasing means associated with each tablet.

3,437,237
OPERATING MECHANISM FOR MECHANICAL MERCHANDISING MACHINE
Richard Calzaretta, Lake Hiawatha, Leo Kull, West Caldwell, and Albert Kurimsky, Rockaway, N.J., assignors, by mesne assignments, to Rowe International, Inc., Whippany, N.J., a corporation of Delaware
Filed Apr. 20, 1967, Ser. No. 632,247
Int. Cl. G07f *11/06;* **B65g** *59/00;* **B65h** *3/00*
U.S. Cl. 221—90 **17 Claims**



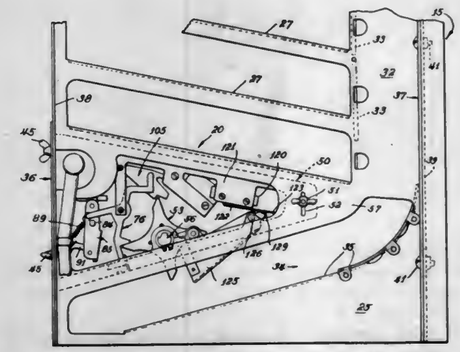
An operating mechanism for a mechanical merchandising machine in which a selectively operated pull rod swings a common operating bar around a pivot spaced from the bar against the action of a relatively constant force torsion spring at the end of the bar remote the bar driven auxiliary mechanism. The operating bar drives a full stroke pawl along an arcuate rack and a link on the bar pivots a bell crank to cause a drive link to actuate a pivoted coin register drive arm which receives a pin on the coin mechanism locking bar. An overspeed locking link rides on a pin on the operating bar link to regulate the rapidity with which a customer can draw a pull bar from its home position. Movement of a pull rod pivots a crank to drive a pin on the dispensing mechanism associated with the rod to initiate a dispensing operation. A one way resilient lost motion connection between each pull rod and the rest of the mechanism prevents too forceful a return of the rod from damaging the mechanism.

3,437,238
AUTOMATIC BUTTER DISPENSER
Marion J. Luba, 660 Westmoreland, Lake Forest, Ill. 60045
Filed Aug. 28, 1967, Ser. No. 663,704
Int. Cl. B65g *59/06;* **B65h** *3/44, 5/16*
U.S. Cl. 221—129 **1 Claim**



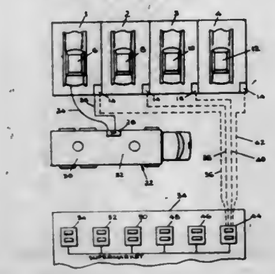
A butter dispenser unit wherein a plurality of vertical stacks of butter pats are positioned in the front face of a refrigerated casing with the bottom pat of a stack being pushed out of a discharge opening by a solenoid operated pusher rod in response to the manual actuation of an operating button located above each vertical compartment.

3,437,239
CAN VENDING MECHANISM
Floyd V. Bookout, Arlington Heights, Ill., assignor to Rock-Ola Manufacturing Corporation, Chicago, Ill., a corporation of Delaware
Filed Sept. 15, 1967, Ser. No. 668,022
Int. Cl. G07f *11/24*
U.S. Cl. 221—241 **2 Claims**



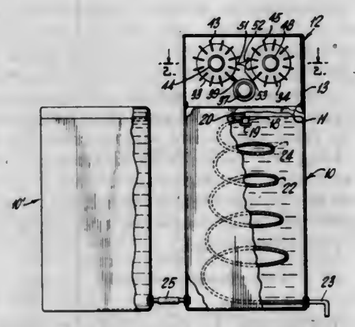
Electro-mechanical apparatus, useful in automatic vending machines, for controlling the selective release and transfer of individual items, from storage, featured by solenoid actuated mechanisms operable to index a delivery wheel through a partial rotational cycle, and an associated interlock system for preventing delivery rotation of the wheel sufficient to release an article except upon the deposit and acceptance of a preselected coin value and preconditioning operation of related vending mechanisms.

3,437,240
GASOLINE DISPENSING SYSTEM WITH REGISTER
Miner S. Keeler II, 2525 Indian Trail SE., Grand Rapids, Mich. 49506
Filed Nov. 2, 1967, Ser. No. 680,082
Int. Cl. B67d *5/06, 5/16, 5/22*
U.S. Cl. 222—25 **12 Claims**



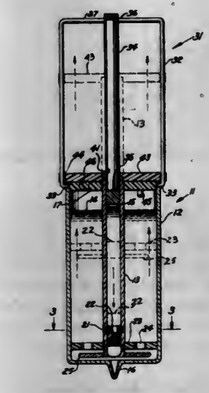
This disclosure relates to a dispensing system for liquids such as gasoline and the like. The system employs a movable dispensing means which is adapted to dispense, for example, a plurality of grades of gasoline to cars in a plurality of stalls. The amount of liquid dispensed at each stall is automatically transmitted to a register in a store spaced from the stall. The register indicates and/or records the quantity of sale or the cost of the sale for each particular stall. Means are provided to reset each meter at the register as the amount of sale is paid by the customer.

3,437,241
LIQUID METERING AND DISPENSING APPARATUS
Hsuen-Ping C. Pei, 505 E. 79th St., New York, N.Y. 10021
Filed Dec. 9, 1966, Ser. No. 600,531
Int. Cl. B67d *5/30*
U.S. Cl. 222—70 **6 Claims**



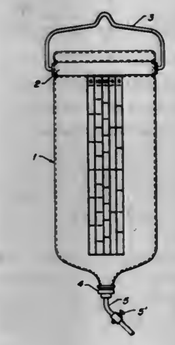
Liquid metering and dispensing apparatus for automatically delivering specific quantities of liquid at specific intervals determined by the timing means.

3,437,242
FLUID STORING, MIXING AND DISPENSING APPARATUS
Edward J. Poitras, 198 Highland St., Holliston, Mass. 01746
Filed Nov. 21, 1966, Ser. No. 595,838
Int. Cl. B67d *5/52, 5/60*
U.S. Cl. 222—135 **22 Claims**



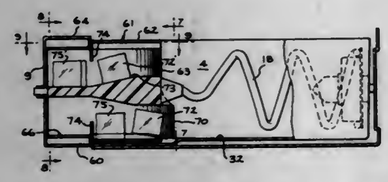
A fluid dispenser with separate, fluid filled containers and a piston actuated by relative movement between the containers to produce fluid flow through an opened seal joining the separate containers.

3,437,243
MEANS FOR GAUGING TIMED DOSAGES FROM A DISPENSING CONTAINER
Helen D. Farnsworth, 12 Hatlen Ave., Mount Prospect, Ill. 60056
Filed June 22, 1967, Ser. No. 648,038
Int. Cl. B67d *5/38;* **G01f** *23/02, 23/00*
U.S. Cl. 222—154 **9 Claims**



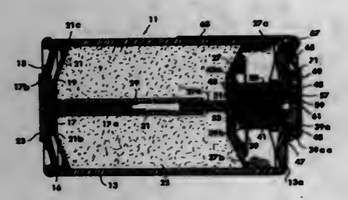
A dispensing container for fluids having gauge markings positioned thereon along its side portion so that there may be readily timed and controlled gauging of fluid flow from the container. One or more columns of gauge markings may be used and each column of markings shall have a predetermined number of transverse subdivisions spaced apart in proportioned relation to the container size and at the same time proportioned to a predetermined time interval, whereby fluid flow from the container can be visually noted and aid in easily maintaining a desired controlled rate of discharge.

3,437,244
ICE DISPENSER HAVING STAGES WITH DIFFERENT FEED RATES
Robert J. Alvarez and Dwight W. Jacobus, Louisville, Ky., assignors to General Electric Company, a corporation of New York
Filed Sept. 18, 1967, Ser. No. 668,600
Int. Cl. G01f 11/20
U.S. Cl. 222—240 9 Claims



An ice piece dispenser comprising a storage receptacle and rotatable dispensing means within the receptacle including a metering section adapted, during each rotation of the dispensing means, to dispense a predetermined number of ice pieces and including means for scooping ice pieces from the receptacle and storing such ice pieces at a rate in excess of that at which the ice pieces are dispensed.

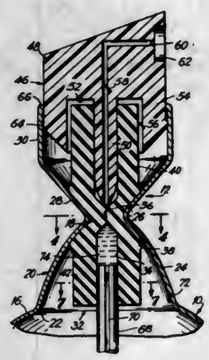
3,437,245
POWDER DISPENSER
John R. Hebert, Towson, Nicholas J. La Costa, Phoenix, and Robert W. Schnepfe, Jr., Timonium, Md., assignors to AAI Corporation, Cockeysville, Md., a corporation of Maryland
Filed Dec. 30, 1966, Ser. No. 606,071
Int. Cl. B05b 11/00, 17/00; B67c 9/00
U.S. Cl. 222—389 10 Claims



A dispenser is disclosed in the form of a canister having a piston for expulsion of a charge of particle material from the canister. The canister has a frangible shear disc closure at one end which is surrounded by a funnel-shaped end wall section, and a tube is longitudinally loosely carried in freely slidable relation between the shear disc closure and the piston by male nipples formed on each of the piston and the closure. The tube is shorter than the distance between the piston and the shear disc closure when the piston is in its quiescent position, thereby enabling initial forward propelled motion of the piston prior to rupturing force application by the tube to the shear disc closure.

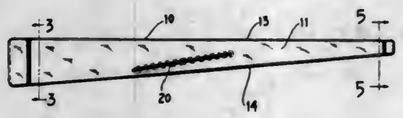
3,437,246
DISPENSING VALVE FOR PRESSURIZED CONTAINER
Clarence P. Clapp, Milford, Conn., assignor to Aerosol Techniques Research Center, Incorporated, Milford, Conn., a corporation of New York
Filed Aug. 24, 1967, Ser. No. 663,107
Int. Cl. B65d 83/14; F16k 17/42, 21/04
U.S. Cl. 222—402.2 22 Claims

A dispensing valve for a container with pressurized contents. The valve is composed of a dispenser and an elastomeric tubing. The tubing has a passageway that is open when the tubing is unstressed. The container has an opening through which the tubing extends. The opening is so shaped and dimensioned with respect to the cross-section of the tubing that the opening laterally pinches the tubing to form an intermediate part of the passageway into a sealing slit. The dispenser has a tubular stem



within the upper end of the tubing and a shoulder above said end. When the dispenser is depressed the tip of the stem penetrates the slit to permit discharge of the pressurized contents and the shoulder compresses the upper end of the tubing to establish a force biasing the dispenser to idle position.

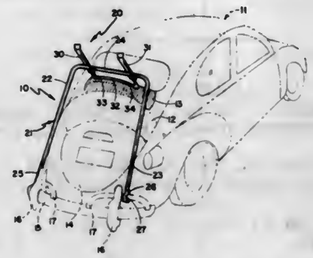
3,437,247
RIFLE COVER
Steven G. Gantress, 1254 Dodge Road, Getzville, N.Y. 14068
Filed Feb. 1, 1967, Ser. No. 613,291
Int. Cl. F41c 27/00
U.S. Cl. 224—2 7 Claims



A rifle cover for protecting a rifle from the elements but which permits the rifle to be fired while encased in the cover which consists of an elongated casing having a first reverse cuff for selectively opening and closing one end for permitting the rifle to be inserted within the casing and a second reverse cuff for selectively opening and closing the opposite end to permit selective exposing of the muzzle, and a selectively closable opening to permit access to the firing mechanism without removing the rifle from the casing, the casing being fabricated from lightweight, transparent foldable material which permits it to be carried in a pocket when not in use, the transparency permitting the rifle to be seen while encased, to enhance ease of firing while so encased.

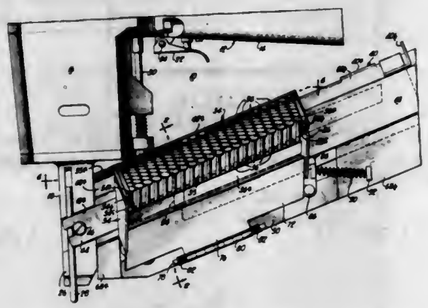
3,437,248
MULTIPURPOSE AUTOMOBILE CARRIER
Richard A. Allen, Bowles Terrace, Lincoln, Mass. 01773
Filed Sept. 5, 1967, Ser. No. 665,619
Int. Cl. B60r 9/06, 19/02
U.S. Cl. 224—42.03 7 Claims

A carrier for carrying objects on an automobile, intended for attachment to the rear portion of the automobile, the carrier comprising a generally M-shaped carrier member adapted for attachment to the body of the automobile and a generally U-shaped support member



for supporting the M-shaped member and adapted for attachment to both the M-shaped member and the automobile.

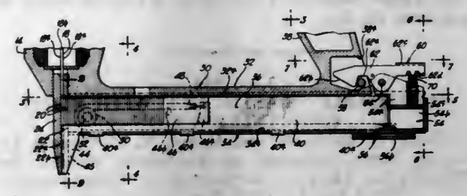
3,437,249
FASTENER DRIVING APPARATUS
William H. Baum, Westchester, Ill., assignor to Fastener Corporation, Franklin Park, Ill., a corporation of Illinois
Filed Aug. 22, 1966, Ser. No. 574,208
Int. Cl. B27f 7/02; B25c 7/00
U.S. Cl. 227—120 13 Claims



A magazine assembly for a fastener driving tool comprising a longitudinally extending guideway for supporting a strip of fasteners in feeding position for movement into the drive track of the tool. The magazine is provided with a lateral opening along one side of the guideway and support means extending laterally outward of said guideway adjacent the opening defining means for holding additional strips of fasteners in lateral side-by-side relation. Means are provided for moving the additional strips laterally inwardly into the guideway through the lateral opening therein so that as the nails in each strip aligned in the guideway are exhausted, a new strip will automatically move into feeding position in the guideway.

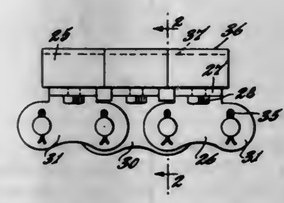
3,437,250
FASTENER DRIVING TOOL
Armin Fiedler, Chicago, Ill., assignor to Fastener Corporation, Franklin Park, Ill., a corporation of Illinois
Filed Apr. 7, 1966, Ser. No. 540,898
Int. Cl. B25c 5/06, 5/02; B27f 7/08
U.S. Cl. 227—127 24 Claims

A magazine assembly for feeding fasteners into the drive track of a fastener driving tool comprising a housing for holding a supply of fasteners and having a longitudinal axis extending angularly outwardly from the driving axis of the drive track. The housing comprises a fixed wall member including one sidewall parallel to the driving axis and a movable wall member including an opposite sidewall parallel to said one sidewall when in a closed position. The movable wall member is slidable rearwardly away from the drive track to an open position exposing



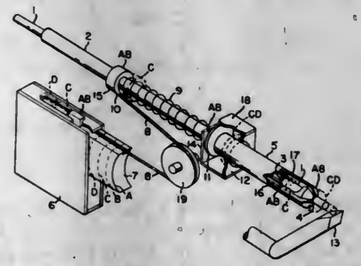
the interior of the housing so that fasteners may be inserted into the housing from one side rather than the ends, top or bottom.

3,437,251
SEGMENTED WELD BACKING BAR
Raymond H. Wilkes, Chester, Pa., assignor to Arcos Corporation, Philadelphia, Pa., a corporation of Pennsylvania
Filed Feb. 21, 1967, Ser. No. 617,705
Int. Cl. B23k 5/22, 9/02
U.S. Cl. 228—50 8 Claims



The disclosure relates to a segmented weld backing bar for retaining weld metal and slag in joining metallic plates by fusion welding, which comprises articulated segments of heat conducting or refractory material which are held by a support and able to accommodate deviations in plate dimensions and position. The support may be a chain such as a roller chain. In one form the segments meet at the face adjoining the hot metal and pivot around an axis corresponding to the point of meeting, preferably being held by tubular inserts fitting in annular grooves. In one embodiment the segments are of a metal of higher linear expansion than the support so as to press against the plates. In another form, the segments are supported by flexible cables.

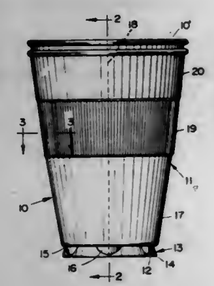
3,437,252
SOLDER WIRE FEED MECHANISM
Bud K. Beaver, 1040 Alameda Blvd., and William S. Burlem, 1700 Miguel Ave., both of Coronado, Calif. 92118
Filed Feb. 20, 1967, Ser. No. 624,640
Int. Cl. B23k 3/06
U.S. Cl. 228—53 8 Claims



In a solder wire feed apparatus to control the supply of solder to the tip of electrically heated solder guns, a

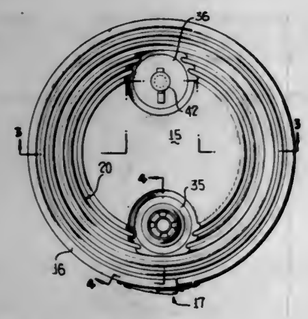
flexible tension member is connected between a trigger and a solder feed tube such that depression of the trigger moves the solder into the heated tip of the gun and release of the trigger withdraws the solder a predetermined distance from the tip.

3,437,253
DISPOSABLE PLASTIC CUP WITH STIFF GRIPPING SECTION
Paul Davis, Swampscott, and Joseph N. McDonald, Lexington, Mass., assignors to Sweetheart Plastics, Inc., Wilmington, Mass., a corporation of Massachusetts
Filed Jan. 12, 1968, Ser. No. 697,350
Int. Cl. B65d *3/00*
U.S. Cl. 229—1.5 **5 Claims**



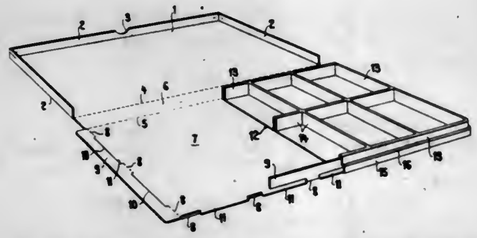
A disposable thin wall plastic cup having a stiff gripping section is provided. The gripping section lies intermediate top and bottom side wall sections and is provided with a large number of axially extending flutes having substantial depth as compared with the thickness of the side wall to maximize stiffening properties of the cup and enable ease and comfort in holding the cup even if filled with hot liquids.

3,437,254
CONTAINER AND COVER ASSEMBLY THEREFOR
Harold A. Bergstrom, Sarasota, Fla., assignor to Continental Can Company, Inc., New York, N.Y., a corporation of New York
Filed Aug. 14, 1967, Ser. No. 660,319
Int. Cl. B65d *3/10, 5/64, 47/32*
U.S. Cl. 229—5.7 **15 Claims**



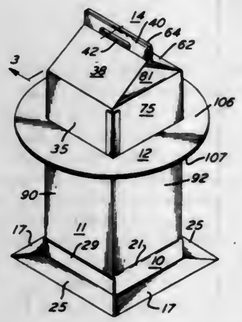
A fibreboard drum having a plastic closure member including a series of concentric circular beads which increase the surface area of the closure member and absorb forces applied to the periphery thereof. The plastic closure member includes depressed pocket areas having vents or dispensing fittings situated therein in reinforcing contact with the plastic closure member. A locking band maintains the closure member upon the drum and is especially adapted for ease of application of the closure member to the drum.

3,437,255
PACKING BOX
Ernest Eltschinger, Freiburg, Switzerland, assignor to CAFAG Cartonnagenfabrik Freiburg AG, Freiburg, Switzerland
Filed June 26, 1967, Ser. No. 648,834
Claims priority, application Switzerland, July 1, 1966, 9,597
Int. Cl. B65d *13/00, 5/48*
U.S. Cl. 229—23 **5 Claims**



A packing box having a container of plastic material connected to a bottom portion of a cardboard carrier of the box by means of lugs of the carrier frictionally engaging into hollow walls of the container.

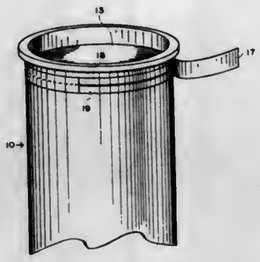
3,437,256
SHIPPING RECEPTACLE
Carl L. Miller, Jr., Bryn Mawr, and Robert G. Miller, Jr., Devon, Pa., assignors to Teltron, Inc., a corporation of Pennsylvania
Filed Aug. 16, 1967, Ser. No. 661,084
Int. Cl. B65d *13/06, 5/56, 5/40*
U.S. Cl. 229—23 **8 Claims**



A shipping receptacle for electronic tubes having a base, a central outer receptacle connected to the base, a top carrying handle, a protective rim adjacent the handle, and an inner moulded plastic container surrounding and carrying the tube.

3,437,257
COMPOSITE CONTAINERS
William J. Bua, Scarsdale, N.Y., assignor of twenty-five percent to Emmanuel J. Lobato, Yonkers, N.Y.
Filed Dec. 16, 1966, Ser. No. 602,232
Int. Cl. B65d *9/16, 9/20, 17/20*
U.S. Cl. 229—51 **11 Claims**

A composite can and a method of manufacturing it with a lid or cap that has a portion of the can body fixed to it and is removable therewith from the remainder of the body and jointly with this remainder defines the whole can body. The lid has a substantially rigid axially extending portion which extends into the principal portion or remainder portion mounting the lid on the can so it is readily reclosable. A separation between the two can body portions allows removal of the cap or lid and readily reclos-



ing of the can. A new removable multilayer tape seal overlies the separation. The axially extending rigid portion of the lid provides a backing during manufacturing so that the separation between the two can body portions is effected by a through-cut in registry with this backing after the can body has been formed as unitary whole and has the lid or a top secured thereto.

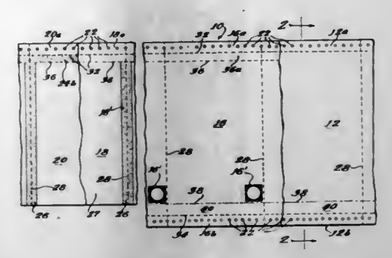
3,437,258
SELF-SUPPORTING LIQUID BAG
Emanuel Kugler, 124 Richmond Place, Lawrence, N.Y. 11559
Filed July 20, 1967, Ser. No. 654,815
Int. Cl. B65d *31/08, 33/02*
U.S. Cl. 229—58 **2 Claims**



A plastic bag to serve as a container for liquid having a self-supporting standing position provided by a bottom gusset formed with an internal pair of triangular shaped enclosures adapted, when filled with liquid, to cause spreading or unfolding of the gusset to thereby provide a standing base for the bag.

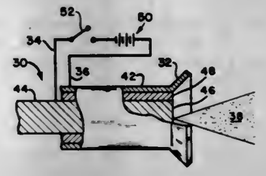
3,437,259
CONTINUOUS ENVELOPE ASSEMBLY
Donald J. Steldinger, Barrington, Ill., assignor to Uarco Incorporated, a corporation of Illinois
Filed Mar. 1, 1967, Ser. No. 619,733
Int. Cl. B65d *27/10, 27/06*
U.S. Cl. 229—69 **10 Claims**

A continuous form envelope assembly comprised of superimposed plies defining fronts and backs of sealed envelopes delimited by spaced glue lines and transverse lines of weakening for separating the individual envelope units from the assembly, wherein each envelope of the



completed assembly is provided with an opening in a marginal edge to facilitate subsequent insertion of additional material, and means in the form of an adhesive line for sealing the opening.

3,437,260
VACUUM ARC GETTERING PUMP
Alexander S. Gilmour, Jr., Williamsville, N.Y., assignor to Cornell Aeronautical Laboratory, Inc., Buffalo, N.Y., a corporation of New York
Filed Aug. 16, 1967, Ser. No. 661,012
Int. Cl. F04b *37/02*
U.S. Cl. 230—69 **7 Claims**

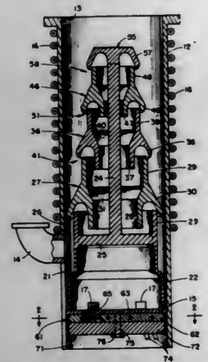


A gettering pump utilizing a solid material cathode as a source of gettering material, a coaxial anode, and circuitry for establishing a vacuum arc between the cathode and anode to generate a plasma flow of gettering material particles that are deposited on the surface of a chamber to be evacuated.

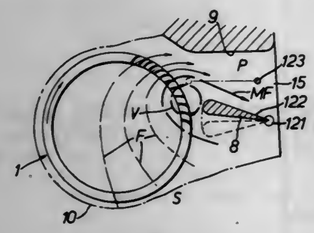
3,437,261
DIFFUSION PUMP
Werner G. Bachler, Hoffnungsthal, and Hans-Georg Noller, Walberberg, Germany, assignors, by mesne assignments, to Leybold-Heraeus G.m.b.H. & Co. KG, Cologne-Bayenthal, Germany
Filed Apr. 3, 1967, Ser. No. 629,059
Claims priority, application Germany, Apr. 5, 1966, L 53,282
Int. Cl. F04f *9/00*
U.S. Cl. 230—101 **7 Claims**

A diffusion vacuum pump of conventional structure including a boiler at the bottom thereof for heating the pump fluid such as oil. The bottom plate of the boiler is designed to have attached to it, in intimate heat transfer relation, either a heating unit or a cooling unit. The cooling unit, in turn, is so designed that it may have intimately attached to it the heating unit; thereby defining a structure wherein a cooling unit is sandwiched between the

bottom plate of the boiler and the heating unit, all of these units being assembled in intimate heat transfer relation. Alternatively, the cooling unit may be omitted from the assembly.



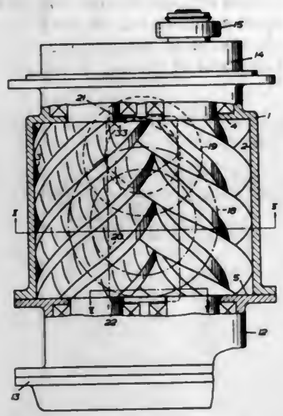
3,437,262
CROSS-FLOW FLUID MACHINES
Bruno Eck, Cologne-Klettenberg, and Nikolaus Laing, Stuttgart, Germany, assignors to Laing-Vortex, Inc., New York, N.Y., a company
Original application May 5, 1965, Ser. No. 453,458, now Patent No. 3,249,292, dated May 3, 1966, which is a division of application Ser. No. 221,620, Sept. 5, 1962, now abandoned which in turn is a continuation-in-part of application Ser. No. 671,114, July 5, 1957, now abandoned. Divided and this application May 2, 1966, Ser. No. 546,811
Claims priority, application Germany, Dec. 7, 1956, L 26,388, L 26,389, E 13,334
Int. Cl. F04d *27/00, 17/08, 29/40*
U.S. Cl. 230—114 6 Claims



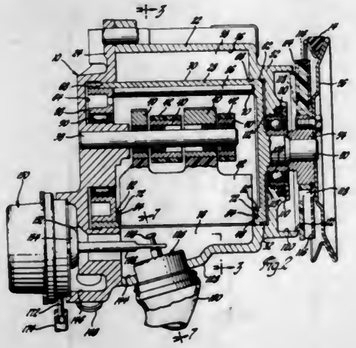
A cross flow fluid machine having an auxiliary guide body in the discharge region of the machine to assist in positioning and stabilizing a fluid vortex within the machine.

3,437,263
SCREW ROTOR MACHINES
Jan Edvard Persson, Ektorp, Sweden, assignor to Atlas Copco Aktiebolag, Macka, Sweden, a corporation of Sweden
Filed June 22, 1966, Ser. No. 564,468
Int. Cl. F04c *17/12;* F01c *1/16*
U.S. Cl. 230—143 10 Claims

A rotary device in which intermeshing helical main and gate rotors cooperate with each other and with an enclosure housing to compress or expand, as the case may be, a working fluid as it is being passed from a low pressure inlet port towards a high pressure outlet port. The wrap angle of the main rotor threads is selected so as to be effective to start compression of the working fluid before the outlet port is closed, when the device is operated as a compressor, and effective to cause the inlet port to open before completion of the expansion when the device is operated as an expander or motor.



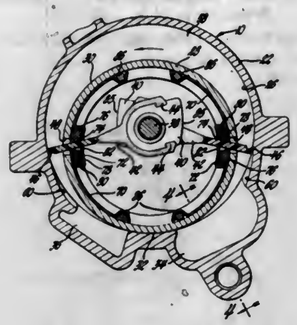
3,437,264
VANE-TYPE ROTARY MECHANISM
Robert P. Rohde, Saginaw, Mich., assignor to General Motors Corporation, Detroit, Mich., a corporation of Delaware
Original application June 9, 1966, Ser. No. 556,367. Divided and this application June 3, 1968, Ser. No. 733,976
Int. Cl. F04c *17/00, 1/04;* F04d *29/02*
U.S. Cl. 230—157 3 Claims



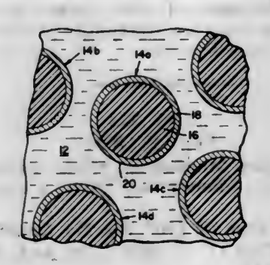
A vane pump supplies air for injection into the exhaust gases of an internal combustion engine. In the pump, the entire surface of the rotor is coated to provide a seal and a bearing surface at each end of the working chamber and at the stripping land.

3,437,265
VANE-TYPE ROTARY MECHANISM
Robert P. Rohde, Saginaw, Mich., assignor to General Motors Corporation, Detroit, Mich., a corporation of Delaware
Original application June 9, 1966, Ser. No. 556,367. Divided and this application June 3, 1968, Ser. No. 734,066
Int. Cl. F04c *17/00;* F04d *29/02*
U.S. Cl. 230—157 4 Claims

A vane pump supplies air for injection into the exhaust gases of an internal combustion engine. In the pump, vane bearing shoes are supported in channels, the facing base portions of the shoes and the channels being formed to maintain a wedge-shaped clearance therebetween.



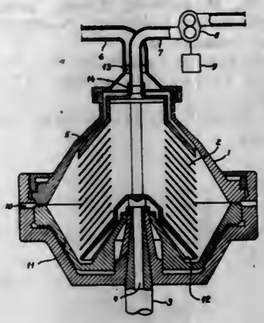
3,437,266
CENTRIFUGAL SEPARATION ENHANCEMENT
James A. Patterson, Los Altos, Calif., assignor to Sondell Research & Development Company, Palo Alto, Calif., a corporation of California
Filed July 3, 1967, Ser. No. 650,941
Int. Cl. B04b *3/00;* B01d *33/00, 33/02*
U.S. Cl. 233—1 6 Claims



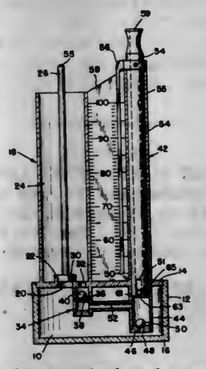
A centrifugation method employing manufactured spheres of prescribed densities. A gradient fraction column formed by manufactured spherical bodies having appropriate densities. Manufactured spheres for density marking each of which spheres has a color or hue indicative of its density.

3,437,267
CENTRIFUGE
Bengt Ingmar Dahlberg, Tullinge, Sweden, assignor to Alfa-Laval AB, Tumba, Sweden, a corporation of Sweden
Filed Mar. 20, 1967, Ser. No. 624,480
Claims priority, application Sweden, Mar. 24, 1966, 3,906/66
Int. Cl. B04b *11/02*
U.S. Cl. 233—21 2 Claims

A centrifugal rotor is provided with an inlet for a mixture of two liquid components to be separated from each other and of which one component is highly viscous, the rotor also having outlets for the respective separated components. A displacement pump is inserted in a stationary discharge pipeline hermetically connected to one of the rotor outlets, preferably the one for the highly viscous component, and the throughput capacity of this pump is adjustable during operation to control the discharge of the two separated components from the rotor.

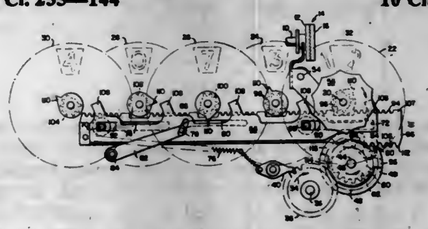


3,437,268
MATHEMATICAL AVERAGING APPARATUS
Roy S. White, Rte. 1, Cleveland, N.C. 27013
Filed June 26, 1967, Ser. No. 648,887
Int. Cl. G06m *1/12*
U.S. Cl. 235—61 8 Claims



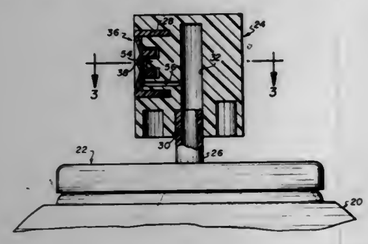
This invention relates to devices for performing mathematical operations and more particularly to an apparatus utilizing volume-ratio principles by which the average of several numbers may be quickly obtained through varying the volume of one container proportionally by the use of one or more volume segments with respect to the constant volume of a second container.

3,437,269
METER DIAL RESETTING MECHANISM
Leif J. Sundblom, Castro Valley, Calif., assignor to Rockwell Manufacturing Company, San Leandro, Calif., a corporation of Pennsylvania
Filed Dec. 29, 1966, Ser. No. 605,689
Int. Cl. G06c *15/42*
U.S. Cl. 235—144 10 Claims



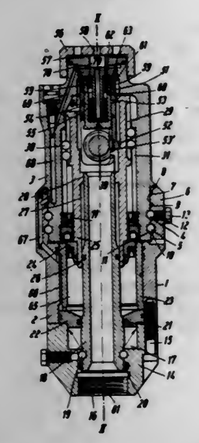
Meter dials are reset from random positions by using an adaptation of a Geneva drive to first set all dials to a full integer, and then a rack-and-pinion drive to set the dials from a full integer position to zero.

3,437,270
SELF-SEALING SPRAY-ACTUATOR BUTTON
Frank Venus, Jr., Watertown, Conn., assignor to The Risdon Manufacturing Company, Naugatuck, Conn., a corporation of Connecticut
Continuation-in-part of application Ser. No. 562,142, July 1, 1966. This application Mar. 12, 1968, Ser. No. 712,429
Int. Cl. B05b *1/28, 15/02;* B65d *83/14*
U.S. Cl. 239—118 7 Claims



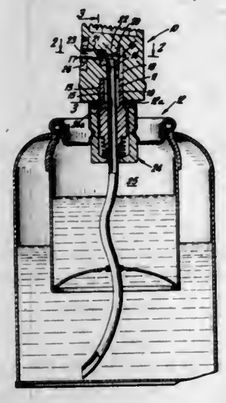
Actuator buttons for aerosol valves, in which the spray orifice of the button is normally blocked or closed in the non-dispensing condition of the valve, there being a diaphragm in the button which is flexed by admission of aerosol fluid under pressure when the valve is opened to unblock the spray orifice and allow discharge of the aerosol fluid, the blocking of the spray orifice reoccurring automatically upon subsidence of fluid pressure when the valve is closed.

3,437,271
NOZZLE HEAD OPERATING ARRANGEMENT
Paul Hammelmann, 17 Zum Sundern, 474 Oelde, Westphalia, Germany
Filed Aug. 1, 1967, Ser. No. 657,676
Claims priority, application Germany, Aug. 2, 1966, H 60,139
Int. Cl. B05b *3/04, 3/16;* F01b *3/00*
U.S. Cl. 239—227 20 Claims



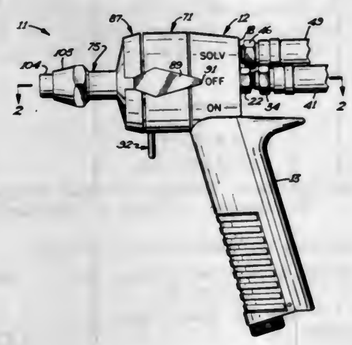
The inlet pipe of the apparatus is connected to a stationary support by one-directional clutch, and has helical guideways for turning a piston during reciprocation of the same by liquid supplied through the inlet pipe. A nozzle head is mounted on the piston or on a rotary housing part connected with the same, so that the nozzle head is step-wise rotated whenever rotation of the inlet pipe is blocked in one direction of rotation. The reciprocating motion of the piston is also used for rotating the nozzle head about a second axis.

3,437,272
VALVE ACTUATOR FOR PRESSURIZED DISPENSERS
Robert Henry Abplanalp, 10 Hewitt Ave., Bronxville, N.Y. 10708
Filed Feb. 2, 1966, Ser. No. 524,527
Int. Cl. B05b *11/00, 7/30*
U.S. Cl. 239—307 12 Claims



A valve actuator and dies for making it for use with a pressurized dispenser having separate product and propellant containers and separate conduits leading respectively therefrom to a discharge zone in the actuator. The actuator includes passages which communicate with the conduits. The passages are arranged to promote discharge with minimum propellant flow.

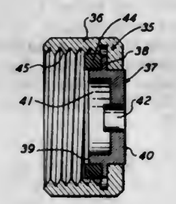
3,437,273
SPRAY GUN
Gerald D. Hagfors, Minneapolis, Minn., assignor to Gray Company, Inc., Minneapolis, Minn., a corporation of Minnesota
Filed June 29, 1967, Ser. No. 649,954
Int. Cl. F23d *13/38;* B05b *7/06;* A62c *11/06*
U.S. Cl. 239—414 21 Claims



An improved airless spray gun for spraying plural fluid component materials, such as foams, thermosetting resins, epoxies, polyesters, and other rapidly reacting chemical materials as a homogeneous mixture. The spray gun includes a body having a generally cylindrical mixing chamber wherein the component materials are introduced at one end through a pair of passages. The passages are arranged so that their longitudinal axes are parallel to each other, and intersect a diameter of the mixing chamber at points equally spaced from the central longitudinal axis of the chamber. In addition, the passages are arranged so that the plane including the diameter of the chamber and the axis of one of the passages is perpendicular to the plane including the diameter of the chamber and the axis of other passage, and the axes of the passages are both disposed at an angle of approximately four degrees with respect to a vertical plane including the central longitudinal axis of the mixing chamber. The arrangement of the mixing chamber and the passages causes the component materials to enter the chamber tangently and to be thoroughly and uniformly mixed by the resulting swirling action in the chamber.

The spray gun uses a rotary valve arrangement to control flow through the passages. More specifically, the gun is constructed so that the body may be rotated about the central longitudinal axis of the chamber relative to the rest of the gun whereby the other ends of the passages may be selectively placed into connection with sources of the component materials or with a source of solvent or disconnected from both the materials and solvent. A novel biasing means, utilizing, in part, the pressure of the component materials and solvent, prevents leakage between the rotatable body and the rest of the gun.

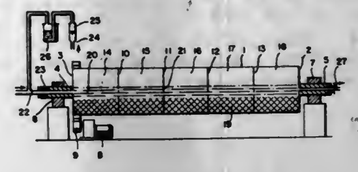
3,437,274
LIQUID SPRAY APPARATUS
Edward W. Apri, 998 Lehigh St., Altadena, Calif. 91001
Filed July 26, 1966, Ser. No. 567,975
Int. Cl. B05b *1/12*
U.S. Cl. 239—599 1 Claim



A pipe or garden hose attachment that comprises an internally threaded retainer which secures a replaceable disc across the discharge of the pipe or hose. The apertures are preferably one in each face of the disc, directly fluidly connected and differing one from the other in orientation of their respective major and flow aperture axes.

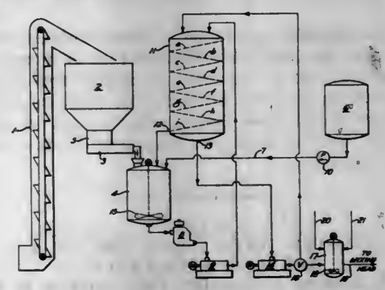
3,437,275
CONTINUOUS WET GRINDING OF SOLID MATERIALS IN TUBE MILLS
Erwin Lehrer, Bad Durkheim, and Josef Woellhaf, Ludwigshafen (Rhine), Germany, assignors to Badische Anilin- & Soda-Fabrik Aktiengesellschaft, Ludwigshafen (Rhine), Germany
Filed Apr. 14, 1966, Ser. No. 542,672
Claims priority, application Germany, Apr. 15, 1965, B 81,471
Int. Cl. B02c *17/00*
U.S. Cl. 241—15 4 Claims

A process for the continuous wet grinding of solids in liquids by means of a compartmented tube mill having grinding balls. The premixed feed is introduced together with a gas current into the rotating mill and forced by



the gas through openings in the compartment partitions using a pressure drop of from 10 to 500 kg./sq. m. between compartments.

3,437,276
SOLID PARTICLE DISPERSING APPARATUS
Jesse Fred Gurley, Jr., Pittsburgh, Pa., Emile F. Harp, New Martinsville, W. Va., and Edward L. Reichard, Pittsburgh, Pa., assignors to Mobay Chemical Company, Pittsburgh, Pa., a corporation of Delaware
Original application May 24 1966, Ser. No. 552,612, now Patent No. 3,396,126, dated Aug. 6, 1968. Divided and this application Nov. 13, 1967, Ser. No. 704,198
Int. Cl. B02b *1/06;* B02c *23/06*
U.S. Cl. 241—38 3 Claims

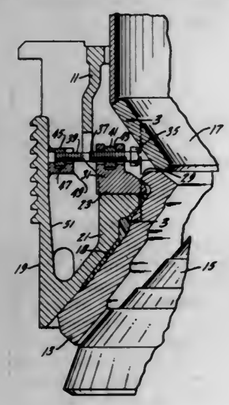


An apparatus for dispersing solid particles into a liquid including a vibrating bin in which the solid particles are stored, a preliminary mixer, a vibrating feeder which conveys the solid particles from the bin into the preliminary mixer, a liquid storage tank, means for conveying the liquid from the tank into the preliminary mixer, a high shearing device which receives the effluence of the preliminary mixer, a deaerator having an inlet and two exit passages, one passage being connected to the preliminary mixer and the other being connected to a pumping means, a recycling means to impel the discharge from the shearing device into the deaerator, the recycling means operating at an output rate greater than that of the pumping means to permit recycling of the deaerator outflow, and an in-line mixer connected to the pumping means wherein additional quantities of the liquid component may be added and mixed.

3,437,277
BOWL SECURING AND BOWL REMOVING MEANS
Rudolph J. Gasparac, Milwaukee, and Arnold P. Szaj, Hales Corners, Wis., assignors to Nordberg Manufacturing Company, Milwaukee, Wis., a corporation of Wisconsin
Filed May 2, 1966, Ser. No. 546,860
Int. Cl. B02c *17/08, 17/22, 17/14*
U.S. Cl. 241—207 11 Claims

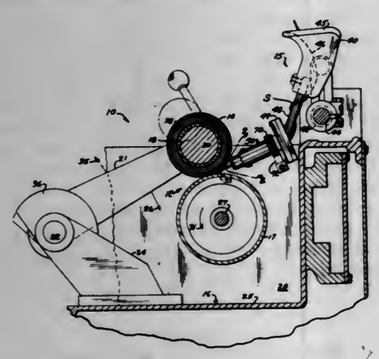
A gyratory crusher having a head mounted for gyratory movement in a bowl. A bowl liner is removably connected to the bowl by wedges which can be moved into

and out of securing engagement with the bowl liner. In one form, the wedges are moved by bolts each having a head located so that it can be engaged by a power tool and right and left hand threads with one set of threads engaging a wedge and the other set engaging the bowl. In another form, a Belleville spring biases a wedge into contact with the bowl liner and a hydraulically operated



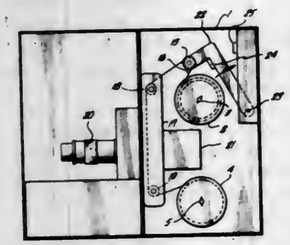
piston and cylinder assembly is used to disengage the wedge from the liner. A hydraulic ram is mounted on the bowl and can be actuated to engage and eject the bowl liner from the bowl. Cofferdam sections are mounted on the top of the bowl between the wedges to prevent peening of the bowl liner over the top of the bowl during crushing operations.

3,437,278
TWISTER DEVICE FOR USE IN A BALLING APPARATUS
Fred J. Janning, Strongsville, Ohio, assignor to The Warner & Swasey Company, Cleveland, Ohio, a corporation of Ohio
Filed May 4, 1967, Ser. No. 636,055
Int. Cl. B65h *75/04*
U.S. Cl. 242—54.4 **5 Claims**



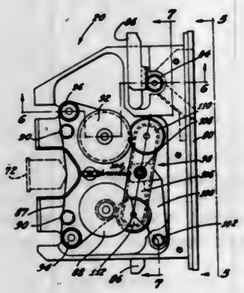
A twister device for imparting a twist to sliver being delivered to a balling mechanism is disclosed. The twister device includes a rotatable member having an opening therethrough through which the sliver passes and a pair of cooperable resilient fingers at one end of the member for frictionally engaging the sliver with a force such that the sliver will be twisted when the member is rotated but yet provide for ready passage of the sliver therebetween.

3,437,279
FILM TRANSPORT SYSTEM
Poul B. Roulund and Peter D. Freeman, Redondo Beach, Calif., assignors to FMA, Inc., Los Angeles, Calif., a corporation of California
Filed Feb. 1, 1967, Ser. No. 613,159
Int. Cl. G11b *15/32*
U.S. Cl. 242—55.11 **10 Claims**



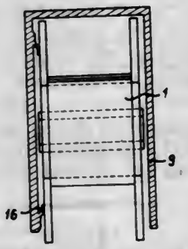
The path of a flexible ribbon between storage reels is lengthened during transfer of the first half of the ribbon from one reel to the other and is shortened during transfer of the second half of the ribbon from the one reel to the other. The reels are driven at the same angular velocity and have hubs with a large diameter relative to the ribbon length. A guide roller in the film path is mounted on a movable spring-loaded member that results in the shortest ribbon path when the spring is fully loaded. As the free end of the ribbon is threaded along the path between reels, the movable member is initially set so the spring is substantially loaded.

3,437,280
RECORDER APPARATUS
R. T. Hood, Jr., Torrance, George A. Ruger, Manhattan Beach, and Thomas M. Messick, Lakewood, Calif., assignors, by mesne assignments, to Lockheed Aircraft Corporation, Plainfield, N.J., a corporation of California
Continuation of application Ser. No. 365,018, May 5, 1964. This application Oct. 26, 1966, Ser. No. 589,760
Int. Cl. G11b *15/32*
U.S. Cl. 242—55.13 **6 Claims**



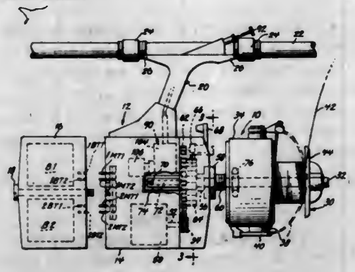
A portable recorder with a removable tape cartridge having openings formed in the cartridge to expose the tape to the recording transducer head and capstan drive units. Take-up and storage reels in the tape cartridge are intercoupled to maintain tape tension by mechanisms which include a pair of floating tape reel engaging wheels carried inside the cartridge for rotation about axes fixed relative to each other. The wheels are spring biased into engagement with the tape reels and coupled by toothed pulleys and a ribbed belt to provide a fixed ratio between wheel peripheral speeds for tensioning the tape.

3,437,281
TAPE REEL
André Quenot, Besancon, Doubs, France, assignor to Quenot & Cie S.a.r.l., Besancon, Doubs, France
Filed June 30, 1967, Ser. No. 650,444
Claims priority, application France, July 11, 1966, 68,986
Int. Cl. B65h *75/16*
U.S. Cl. 242—84.8 **6 Claims**



In a portable linear measuring instrument, frictional brake means are provided to brake the rotational movement of the drum in order to avoid expansion of the tape wound thereon during rewinding or withdrawal of the tape. These means consist of spring blades which can be positioned along the inner sides of a half-casing, on the bevel of the lateral flanges of the winding drum or on its periphery.

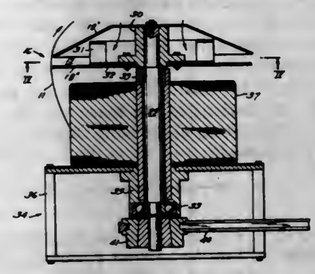
3,437,282
ELECTRICALLY DRIVEN FISHING REEL
Richard A. Honkonen, Monroe, Paul E. Allen, Newtown, Richard K. Way, Monroe, and Carl M. Larime, Fairfield, Conn., assignors to Sperry Rand Corporation, New York, N.Y., a corporation of Delaware
Filed Sept. 14, 1964, Ser. No. 396,211
Int. Cl. A01k *89/00*
U.S. Cl. 242—84.21 **10 Claims**



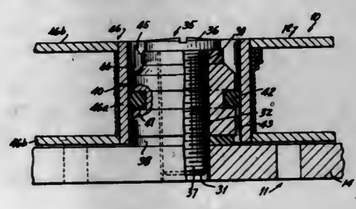
A motorized fishing reel having a power supply means including at least two batteries for energizing the motor wherein control means are provided to selectively vary the speed of said motor which include switch means selectively actuatable to electrically interconnect the batteries in parallel or in series with each other.

3,437,283
UNWINDING AID FOR TEXTILE APPARATUS
Walter Parker, Wilmslow, England, assignor to Ernest Scragg & Sons Limited, Macclesfield, England
Continuation-in-part of application Ser. No. 472,377, Apr. 22, 1965. This application June 15, 1967, Ser. No. 646,314
Claims priority, application Great Britain, Apr. 23, 1964, 16,782/64
Int. Cl. B65h *49/00*
U.S. Cl. 242—128 **14 Claims**

Apparatus for use in withdrawing yarn from a wound package in a predetermined direction, comprising support means for supporting the yarn package; and yarn deflecting means including a rim located in the path of yarn to be withdrawn from the package, and further including means for producing a current of fluid flowing in a direction away from the rim and deflecting the yarn being withdrawn to thereby space the same from the rim.

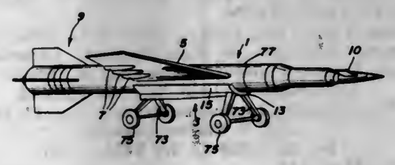


3,437,284
SMOOTH TENSION SEWING MACHINE BOBBIN CASE AND BOBBIN
Joel M. Philips, Hillsdale, N.J., assignor to Advance Silk Thread Corp., Hackensack, N.J., a corporation of New York
Filed Feb. 13, 1967, Ser. No. 615,802
Int. Cl. B65h *49/8*
U.S. Cl. 242—137.1 **14 Claims**



A sewing machine bobbin case and bobbin in which a center shaft fixed on the bottom of the bobbin case serves to rotatably mount a collar on which a bobbin is frictionally fitted, and in which means is provided to adjustably press friction elements against the collar to adjust the drag on the collar whereby to obtain even tension on the thread pulled from the bobbin.

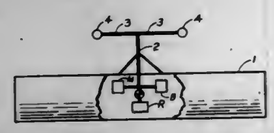
3,437,285
SPACE VEHICLE AND LAUNCHING MEANS THEREFOR
Dario Manfredi, 43—38 48th St., Woodside, N.Y. 11377, and Angelo Raiti, 40—16 Ithaca St., Elmhurst, N.Y. 11373
Filed Aug. 4, 1966, Ser. No. 570,326
Int. Cl. B64f *1/04*; **F41f** *7/00*
U.S. Cl. 244—1 **11 Claims**



Apparatus for launching a space vehicle for travel in stratospheric altitudes comprising a mobile launching platform upon which the space vehicle rests in takeoff

and automatically lifts therefrom when the desired take-off speed is attained. The mobile launching vehicle includes means automatically applying brakes thereto and for ejecting a retarding parachute therefrom. The space vehicle includes apparatus operable when stratospheric altitudes are reached for detaching the wings therefrom and for automatically causing rocket means in the wings to be discharged to insure that the wings are fully projected from the fuselage of the space vehicle, and a parachute is ejected from each wing for its relative safe descent to the ground.

3,437,286
SPACE VEHICLE SPIN CONTROL
Charles A. Lindley, 18900 Pasadero Drive, Tarzana, Calif. 91356
Filed Oct. 12, 1966, Ser. No. 586,163
Int. Cl. B64c *5/00*
U.S. Cl. 244—1 **6 Claims**



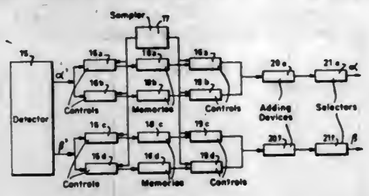
Artificial gravity on a manned space vehicle is selectively provided by spinning the vehicle about its center of gravity. A series of weights rotatable about an axis intersecting the vehicle center of gravity is spun up and its inertial reaction is applied to vehicle to cause it to spin in the opposite direction. Each weight is attached to a cable which is reeled out to increase the moment of inertia of the rotating weight system. The space vehicle is despun by braking the rotary weight system and simultaneously reeling in the weights to their stored position.

3,437,287
MEANS FOR SECURING EASILY DETACHABLE SHIELDS TO AEROSPACE VEHICLES
Calvin M. Dolan, King of Prussia, Pa., assignor to General Electric Company, a corporation of New York
No Drawing. Filed Dec. 22, 1966, Ser. No. 603,782
Int. Cl. B64c *1/00;* **B32b** *31/00;* **C09j**
U.S. Cl. 244—1 **4 Claims**

An interposed layer of a metal easily dissolved by mercury, such as tin, in a conventional bond structure between an aerospace vehicle outer surface and a shield therefor, facilitates removal of the shield from the vehicle. A small amount of mercury, contacting an exposed edge of the tin layer for example, amalgamates the tin and separates the shield from the vehicle surface.

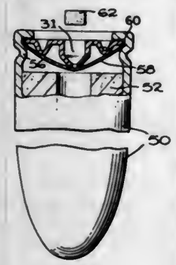
3,437,288
METHOD OF AND APPARATUS FOR STABILIZING A VEHICLE IN SLOW ROTATION, ALONG A FIXED DIRECTION
Do Mau Lam, Paris, France, assignor to Nord-Aviation Societe Nationale de Constructions, Aeronautiques, Paris, France, a joint-stock company of France
Filed Sept. 20, 1966, Ser. No. 580,642
Claims priority, application France, Nov. 13, 1965, 38,275, Patent 1,468,913
Int. Cl. G06f *15/50;* **F42b** *15/02*
U.S. Cl. 244—3.15 **9 Claims**

A method and device for stabilization of a vehicle rotating at slow speed wherein the method includes a time-counter for when the vehicle is in a favorable spatial position for stabilization, measurement in relation to a set of axes and of applying correcting couples. The device includes a detector for comparison to orthogonal axes, a



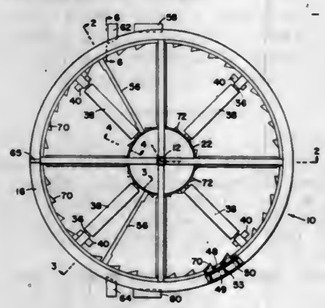
sequence clock, sampling device, with a converter for transforming detector indications to torque impulses with means for applying the impulses for stabilization.

3,437,289
MINIATURE ROCKET NOZZLE
Arthur T. Biehl and Robert Mainhardt, Diablo, Calif., assignors to MB Associates, a corporation of California
Original application Apr. 4, 1966, Ser. No. 541,919, now Patent No. 3,345,902. Divided and this application July 13, 1967, Ser. No. 660,856
Int. Cl. F42b *15/14, 13/24*
U.S. Cl. 244—3.23 **2 Claims**



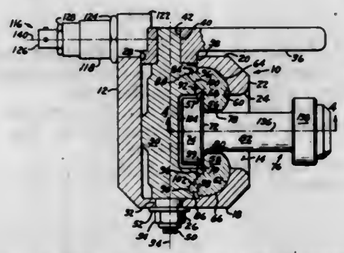
The invention relates to miniature rockets provided with propellant means arranged to be ignited by a primer cap positioned within a cavity of an integrated preformed nozzle provided with equidistantly disposed ruptured gas venting means. It is also contemplated to have a protected blow-out disc interposed between the propellant and the preformed nozzle.

3,437,290
VERTICAL LIFT AIRCRAFT
Francis A. Norman, 3003 Clubview Drive, Columbus, Ga. 31906
Filed Apr. 24, 1967, Ser. No. 633,171
Int. Cl. B24c *29/04, 11/00*
U.S. Cl. 244—23 **9 Claims**



A vertical lift aircraft employing a ducted fan powered by reaction motors, the motors being located near the periphery of the fan blades and the periphery of the fan blades being supported by a supporting and stabilization ring which is supported by an air and magnetic bearings, in turn supported by an outer fuselage, and which is in turn supported by a central support about which there is loacted a passenger cabin fuselage, the fan blades thus being positioned to rotate about the cabin fuselage in a duct between it and the outer fuselage.

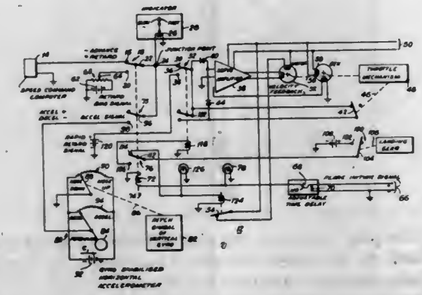
3,437,291
CATAPULT RELEASE MECHANISM
Harry L. Bochman, Jr., Seal Beach, Calif., assignor to Hi-Shear Corporation, Torrance, Calif., a corporation of California
Filed Nov. 22, 1966, Ser. No. 596,268
Int. Cl. B64f *1/06*
U.S. Cl. 244—63 **23 Claims**



A holdback mechanism for holding a release bar includes a housing having a cavity, and lock segments forming an opening through the housing into the cavity. Fast lead worms on a shaft are engaged to the lock segments so that when the shaft is rotated, the lock segments are moved between an open and a closed position. The lock segments hold a head of the release bar when the lock segments are in a closed position. An ordnance device may be provided for operating the lock segments by remote control.

The release bar preferably has a shank having separable means carried thereon and adapted to separate when subjected to a predetermined tension force. Delay means is supported by the release bar to provide a delay in the release of the release bar.

3,437,292
AUTOMATIC AIRCRAFT THROTTLE CLOSURE SYSTEM FOR FLARE
Leonard M. Greene, Chappaqua Town, N.Y., assignor to Safe Flight Instrument Corporation, a corporation of New York
Filed Nov. 21, 1966, Ser. No. 595,703
Int. Cl. B64d *31/00*
U.S. Cl. 244—77 **6 Claims**



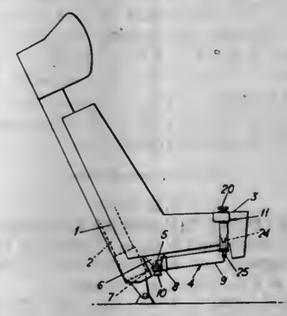
An automatic aircraft throttle closure furnishes upon issuance of a flare initiate signal a throttle retard bias signal and in opposition thereto an inertial deceleration signal, the difference signal indicating and/or controlling correct thrust action during flare so as to initiate and maintain deceleration during flare until touchdown. A touchdown controlled rapid retard signal quickly retards the throttles. This latter signal is prevented from being effective if falsely generated before the flare initiate signal issues.

3,437,293
VEHICLE EJECTION SEATS
James Martin, Southlands Manor, Southlands Road, Denham, near Uxbridge, Middlesex, England
Filed Dec. 23, 1966, Ser. No. 604,354
Claims priority, application Great Britain, Nov. 25, 1966, 52,986/66
Int. Cl. B64d *11/06, 25/02;* **G09f** *9/00*
U.S. Cl. 244—122 **4 Claims**



An ejection seat comprising a rocket motor pack pivotally secured beneath the seat and a linkage assembly between the seat and a position on the pack remote from the pivotal axis thereof, whose length may be varied to adjust and lock the pack in a plurality of angular positions with respect to the seat, the linkage assembly including an indicator significant of airman weight moments about a selected (arbitrary) datum. The indicator enables the length of the linkage assembly to be varied so that the rocket motor pack thrust line for any particular airman may be readily obtained.

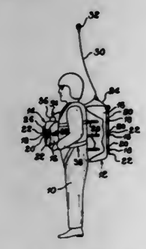
3,437,294
ADJUSTING MECHANISM PRIMARILY FOR EJECTION SEATS
James Martin, Southlands Manor, Southlands Road, Denham, near Uxbridge, Middlesex, England
Filed Feb. 20, 1968, Ser. No. 706,864
Claims priority, application Great Britain, Mar. 8, 1967, 10,930/67
Int. Cl. B64d *25/04, 11/06*
U.S. Cl. 244—122 **7 Claims**



The invention concerns ejection seats with angularly movable rocket motor for assisting in the ejection sequence and in particular concerns an improved adjusting mechanism for moving angularly the rocket motor with respect to the seat to alter its thrust line direction, the mechanism comprising a telescopic assembly having one

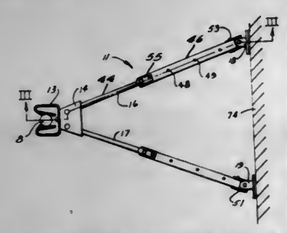
part threaded and engaging a pinion as a worm so that movement of one part is transmitted to a calibrated indicator drum.

3,437,295
PARACHUTING APPARATUS
Jacques A. Istel, Orange, Mass., and Le Roy F. Guilfoyle, Point Pleasant, N.J., assignors to Parachutes Incorporated, Orange, Mass., a corporation of New York
Filed Oct. 6, 1967, Ser. No. 673,470
Int. Cl. B64d *17/40, 17/58;* **B66c** *1/38*
U.S. Cl. 244—148 **10 Claims**



Parachute system for automatically opening a reserve parachute pack in the event that a main parachute malfunctions comprising a reserve ripcord pulling mechanism triggered by a timer which in turn is actuated by the means for pulling the main parachute ripcord.

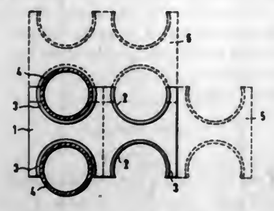
3,437,296
TREE HOLDING APPARATUS
Martin W. Hinz, Geneva Township, Van Buren County, Mich. (R.R. 5, South Haven, Mich. 49090)
Filed May 5, 1967, Ser. No. 636,502
Int. Cl. A47g *33/12*
U.S. Cl. 248—38 **4 Claims**



A pair of elongated elements are pivotally attached near one end of each to an assembly including a substantially U-shaped member for releasably gripping an object, such as the trunk of a tree, at a point spaced from the ends thereof. The other ends of said elongated elements have means thereon for causing the elements to adhere to a surface, such as a wall. Container means receives the lower end of the object and includes both internal and external gripping means for preventing relative movement between the lower end of the object and the surface supporting the container means.

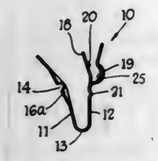
3,437,297
SUPPORT MEMBERS FOR PIPES
Karl Jirka, Munich, and Johann Gütlhuber, Hohlweg, Germany, assignors to Kunststoffwerk Gebruder Anger G.m.b.H. & Co., Munich, Germany
Filed Sept. 8, 1966, Ser. No. 578,044
Claims priority, application Germany, Sept. 14, 1965, K 57,160
Int. Cl. F16l *3/22*
U.S. Cl. 248—68 **7 Claims**

At least one plate provided with a peripheral recess in the shape of a part of a circle greater than 180° by an amount sufficient to retain a pipe in said recess and by an amount whereby said pipe, on being temporarily



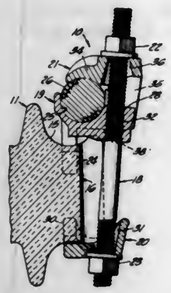
elastically deformed, can be laterally inserted into the said recess, and flanges perpendicularly extending from each said plate and bounding the recesses.

3,437,298
CLIP
Clifford A. Seckerson, Iver Heath, England, assignor, by mesne assignments, to United-Carr Incorporated, Boston, Mass., a corporation of Delaware
Filed Dec. 7, 1966, Ser. No. 599,899
Claims priority, application Great Britain, Dec. 31, 1965, 55,404/65
Int. Cl. F16b *45/00, 3/08;* **A44b** *21/00*
U.S. Cl. 248—71 **2 Claims**



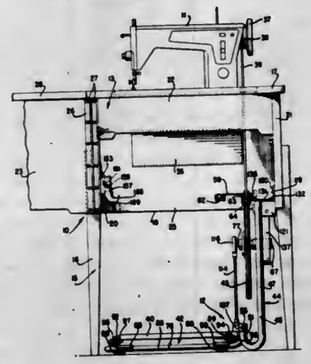
The present invention relates to a clip which is suitable for releasably attaching a rod or cable to an apertured support in such a manner that the clip can be readily removed from the support while remaining attached to the rod or cable and retaining its position thereon.

3,437,299
CONDUCTOR CLAMPING ASSEMBLY FOR USE ON HORIZONTALLY EXTENDING INSULATORS
L. E. Lindsey, 222 Vista Ave., Pasadena, Calif. 91107
Filed Apr. 10, 1967, Ser. No. 629,611
Int. Cl. F16l *3/08*
U.S. Cl. 248—74 **17 Claims**



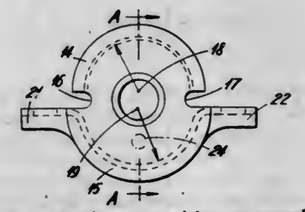
A clamping assembly suitable for mounting on a support such as the outer end of an insulator and including two independently adjustable clamping jaws, one of which is adjustable to clamp the assembly to the support and the second of which is adjustable to clamp or release a power conductor or the like without disturbing the clamped position of the assembly. When loosened, the conducting clamping jaw is tiltable and effective to sustain the jaw in an open position clear of the conductor thereby facilitating servicing of a conductor without interference from the jaw.

3,437,300
PIVOTED BRACKET
Henry J. Milan, Clark, and William G. Hauser, Fanwood, N.J., assignors to The Singer Company, New York, N.Y., a corporation of New Jersey
Original application Aug. 25, 1966, Ser. No. 575,064, now Patent No. 3,407,014, dated Oct. 22, 1968. Divided and this application Feb. 8, 1968, Ser. No. 714,150
Int. Cl. D05b *75/06*
U.S. Cl. 248—291 **4 Claims**



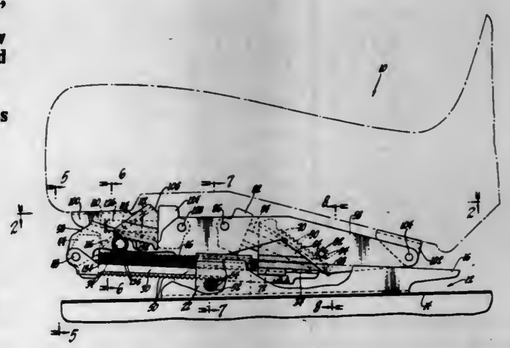
A cabinet for a sewing machine having a folding treadle mechanism comprising a treadle support pivotally carried by a band wheel support and a bracket secured to the cabinet provided with hook means for receiving and supporting the band wheel support and the treadle support when they are folded together. The bracket is constructed and arranged to be pivoted upwardly into a recess formed in the bottom of the cabinet thereby removably mounting the band wheel and the treadle support in stored position.

3,437,301
RESILIENT MOUNTINGS
Samuel Alfred Newberry, Rosliston, and William Robert Brake, Burton-on-Trent, England, assignors to BTR Industries Limited, a company of Great Britain
Filed Feb. 1, 1967, Ser. No. 613,232
Claims priority, application Great Britain, Feb. 2, 1966, 4,644/66
Int. Cl. F16b *15/04*
U.S. Cl. 248—358 **6 Claims**



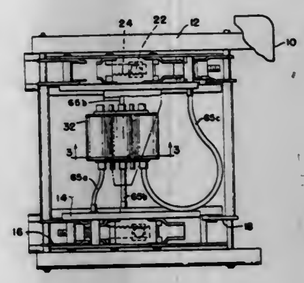
A resilient mounting comprising an annulus of elastomeric material with a rigid outer sleeve bonded to the outer circumference, the outer sleeve being divided into at least two separate arcuate portions and the portions being spaced from one another circumferentially of the annulus whereby the portions may be pressed towards one another to compress the annulus and thereby adjust the radial spring rate.

3,437,302
WEDGE BLOCK SEAT ADJUSTER WITH MOTION TRANSMITTING RODS
Robert I. Homler, Farmington, Mich., assignor, by mesne assignments, to Lear Siegler, Inc., Santa Monica, Calif., a corporation of Delaware
Filed Feb. 23, 1966, Ser. No. 529,312
Int. Cl. F16m *11/04, 11/06, 11/12*
U.S. Cl. 248—394 **26 Claims**



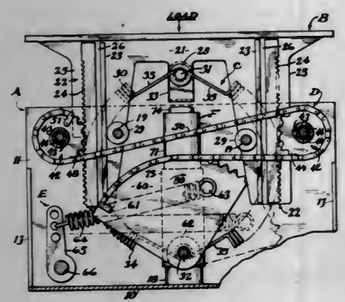
A seat assembly including an adjustment mechanism comprising first and second like and parallel members slidably supported by a support member with a first lever pivotally connected to the first members and a pair of wedge blocks coacting between the first members and the levers for pivoting the levers relative to the members and including a motion transmitting torque bar threadedly engaging and operatively interconnecting the two wedge blocks for moving the wedge blocks in unison.

3,437,303
SEAT ADJUSTMENT MECHANISM
Joseph Pickles, Bloomfield Hills, Mich., assignor to Ferro Manufacturing Corporation, Detroit, Mich., a corporation of Michigan
Application Mar. 31, 1966, Ser. No. 539,037, which is a continuation-in-part of application Ser. No. 480,024, Aug. 16, 1965. Divided and this application July 10, 1967, Ser. No. 652,339
Int. Cl. A47j *47/16;* **A45d** *17/04*
U.S. Cl. 248—394 **6 Claims**



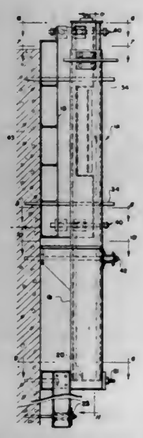
Seat adjustment mechanism providing at least two different adjustments with separate actuating devices therefor, and a motor having a separate armature connected directly to each of said devices, the armatures of said motor being disposed in side by side relationship and provided with permanent magnets establishing the motor field.

3,437,304
SEAT WITH BIFLEX SPRING CUSHIONING AND REBOUND CHECKING
Frederick J. Decker, Pittsford, N.Y., assignor to Russell Vis, San Clemente, Calif.
Filed Aug. 29, 1966, Ser. No. 575,702
Int. Cl. F16m *13/06*; A47c *7/02*
U.S. Cl. 248—399 11 Claims



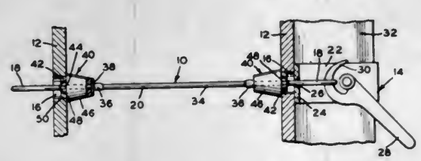
A cushioning seat support combining preloaded bending type coil springs of constant force throughout their compression strokes, together with adjustable load-balancing springs which absorb a portion of the preload and relieve the bending springs of such preload portion. The springs are interposed as a yielding supporting connection between a base and a seat platform which is also connected to the base by levelling mechanism. The bending type springs are bowed laterally on opposite sides of a vertical axis and have a high-rate resistance to preloading so as to absorb and support at least a major portion of the static load.

3,437,305
SELF-RAISING CANTILEVER STEEL FORMS FOR MASS CONCRETE
Winstor W. Curry, San Antonio, Tex., assignor to Ewing-Record & Associates, Inc., Converse, Tex., a corporation of Texas
Filed Sept. 11, 1967, Ser. No. 666,727
Int. Cl. E02b *7/02*
U.S. Cl. 249—10 7 Claims



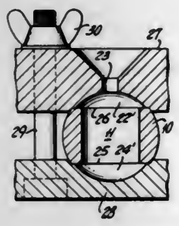
Spaced, stiffened steel panel sections supported against concrete pressure by cantilever members anchored in the previous pour and telescoped to be raised by elevating jack drive connection and transversely by stripping and aligning jacks.

3,437,306
CONCRETE FORM TIE ASSEMBLY AND PLUG THEREFOR
Harris Gordon Gates, Englewood, Colo., assignor to Gates & Sons, Inc., Denver, Colo., a corporation of Colorado
Filed June 24, 1966, Ser. No. 560,302
Int. Cl. E04g *17/12*
U.S. Cl. 249—43 5 Claims



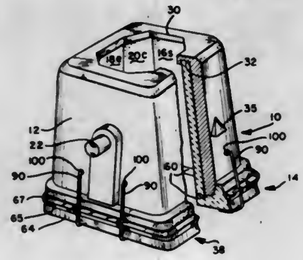
This disclosure relates to a removable grout plug for use on the end of a concrete form tie to form a socket that is later grouted with cement following detachment of the tie end. The plug is frusto-conical in shape and has forwardly-projecting chamfered radial webs on the large end thereof that guide said plug into centered relation in the tie-end opening in the form panel. The small end has a shallow socket formed therein designed to accept the form tie stop washer in recessed relation so that it will always come out with the detached end.

3,437,307
MOLD FOR FILLING A TRUNCATED BALL TO BE GROUND
Franklin S. Atwater, New Britain, Conn., assignor, by mesne assignments, to Textron, Inc., Providence, R.I., a corporation of Delaware
Original application Apr. 30, 1964, Ser. No. 363,889, now Patent No. 3,299,583, dated Jan. 24, 1967. Divided and this application Nov. 16, 1966, Ser. No. 594,822
Int. Cl. B22d *19/00*
U.S. Cl. 249—91 2 Claims



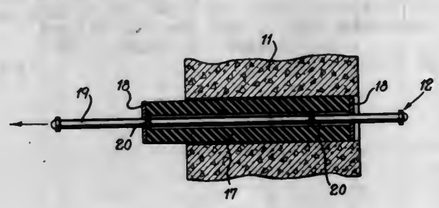
A mold is provided for filling a truncated ball to be ground, the ball having opposed flat end faces defining the truncated ends thereof and a bore extending between said end faces. The mold is composed of a lower mold part having an upwardly facing generally spherical cavity adapted to receive and concentrically locate one of the end faces of the ball and an upper molds part having a downwardly facing generally spherical cavity adapted to engage and be concentrically located by the other of said end faces, the span between concave-surface centers of the upper and lower mold parts when so located being at least no greater than the diameter of the ball, one of the mold parts having an opening for accommodating material to be molded in both cavities and the bore.

3,437,308
COMBINATION HOT TOP, LINER AND BOTTOM RING
Darold W. Thiem and C Wesley Kramlich, Elm Grove, and Richard B. Ballmann, Waukesha, Wis., assignors to Universal Refractories Corporation, Milwaukee, Wis.
Continuation of application Ser. No. 428,731, Jan. 28, 1965. This application Oct. 15, 1967, Ser. No. 677,000
Int. Cl. B22d *7/10*
U.S. Cl. 249—201 6 Claims



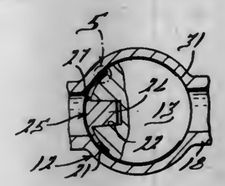
Disclosed herein is a hot top including a unitary cast metal casing having an open center which tapers outwardly from the top toward the bottom and an inwardly projecting flange around the top, an insert liner unit positioned within said casing in engagement with the flange with a portion of the liner projecting beyond the end of the casing and a bottom ring assembly including a refractory bottom ring secured to the metal casing with a groove in the bottom ring in engagement with the portion of the liner projecting beyond the end of the casing and a wiper strip secured to the bottom ring and having outwardly extending wiper blades one of which rests on a ledge on the outer periphery of the bottom ring.

3,437,309
REUSABLE CONCRETE FORM TIE
Dusan Tausanovitch, Greenwich, Conn.
(1 Crestwood Drive, R.D. 1, Northport, N.Y. 11768)
Filed Sept. 26, 1966, Ser. No. 581,908
Int. Cl. E04g *17/06*
U.S. Cl. 249—216 4 Claims



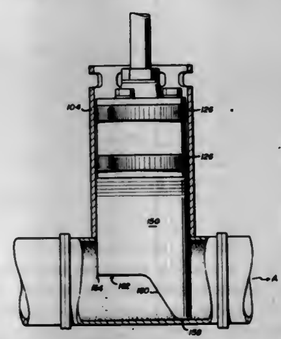
A reusable tie for spacing and tying concrete wall forms having a yieldable tube with a tie rod slidable therewithin interposed between the form walls with means at one end of the tube engageable by means on the tie rod, so that when the tie rod is being pulled from the completed form, the flexible tube elongates, breaks away from the concrete wall and is withdrawn from the concrete wall for reuse thereafter.

3,437,310
O-RING RETAINING CONSTRUCTION FOR ROTARY VALVES
John C. Inch, Marysville, Mich., assignor to Mueller Brass Co., Port Huron, Mich., a corporation of Michigan
Filed Mar. 24, 1966, Ser. No. 537,099
Int. Cl. F16k *5/04*
U.S. Cl. 251—317 2 Claims



A rotary valve carrying an O-ring seal retained by a one-piece plug, the head of the plug fitting in a recess in the stem which conforms to the cylindrical shape of the stem, the seal being retained by reentrant surfaces on the facing edges of the plug head and the stem recess.

3,437,311
VALVE FOR CONCRETE PUMP
Aaron M. Schaible, Rockford, Ill., and John E. Langdon, Racine, Wis., assignors to J. I. Case Company, Racine, Wis., a corporation of Wisconsin
Filed May 1, 1967, Ser. No. 635,146
Int. Cl. F16k *1/06, 3/00*; F16j *15/50*
U.S. Cl. 251—324 4 Claims

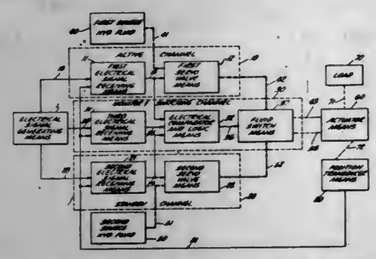


A pump and valve assembly for controlling the flow of aggregate containing concrete. The valve plug includes a piston reciprocated in a valve chamber with an offset portion on one end thereof. A wiping shoulder is formed on the lower end of the piston to prevent collection of concrete in the valve chamber and the offset portion has a flat angularly disposed pressure surface which orients the valve plug in the valve chamber and aids in opening the valve.

3,437,312
ELECTRICAL SIGNAL AND MONITORING APPARATUS FOR REDUNDANT CONTROL SYSTEM
Gavin D. Jenney, Arleta, Calif., assignor to Bell Aerospace Corporation, a corporation of Delaware
Filed Nov. 1, 1966, Ser. No. 591,297
Int. Cl. F01d *17/00*; F15b *13/16*
U.S. Cl. 253—1 9 Claims

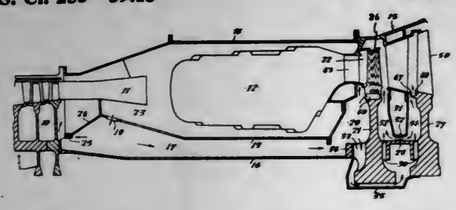
A redundant control system having an active, standby, and monitor electrical signals applied to an electrical comparator and logic to develop an output signal in the event of non-coincidence in the electrical signals. The output signal is utilized to operate a fluid switch means to control the flow of fluid under pressure through first or second servo valve to an actuator which positions a load. The electrical comparator and logic means may

take the form of differential transformers to which the active, standby and monitor signals are applied so as to detect discrepancy in any one of the signals with respect to the other two. The output of the differential



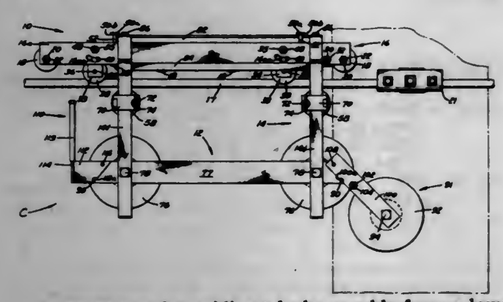
transformers is rectified and applied to a voltage level switch means which produces an output signal only in response to the output of the rectified signal being above a predetermined level.

3,437,313
GAS TURBINE BLADE COOLING
Alan Moore, London, England, assignor to Bristol Siddeley Engines Limited, London, England, a British company
Filed May 17, 1967, Ser. No. 639,226
Claims priority, application Great Britain, May 18, 1966, 22,055/66
Int. Cl. F01d *5/08, 5/18;* F02g *1/00*
U.S. Cl. 253—39.15 4 Claims



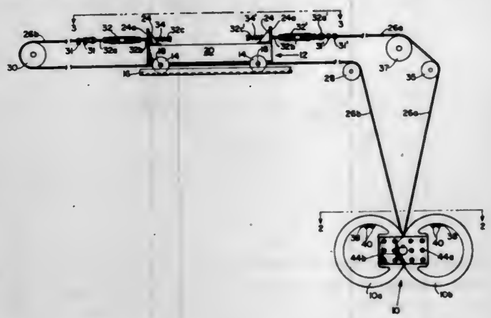
In a gas turbine the air delivered to a turbine rotor disc for delivery to cooling passages in the turbine blades, is at a higher pressure than the gas passing over and driving the turbine blades. A projection extends into the gas flow and uses some of the dynamic pressure head of the gas flow to resist the escape of cooling air into the gas flow.

3,437,314
CABLE GUIDE
Melvin R. Minor, General Delivery, Taft, Calif. 93268
Filed Aug. 18, 1967, Ser. No. 661,668
Int. Cl. B66d *1/36;* B61b *7/10*
U.S. Cl. 254—134.3 10 Claims



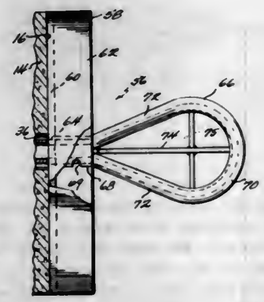
An apparatus for guiding telephone cable from a lower source to sufficient proximity to a support strand to permit its lashing to the strand. The apparatus has upper trolley rollers which permit it to roll along the top edge of the strand, lower rollers positioned to support the cable underneath the strand and an interconnecting framework holding the two sets of rollers together. The upper rollers are mounted in multilevel, and partly pivotal, fashion so that they roll across connectors on the strand without disturbing the level of the lower rollers.

3,437,315
INDEXING MECHANISM
Harrison H. McDonald, Jr., Houston, Tex., assignor to The Procter & Gamble Company, Cincinnati, Ohio, a corporation of Ohio
Filed Dec. 20, 1966, Ser. No. 603,353
Int. Cl. B66d *1/26;* B66c *21/00*
U.S. Cl. 254—184 19 Claims



An indexing drive for moving a carrier between spaced positions and permitting accurate alignment of the carrier at such positions without critical controls, said mechanism comprising a pair of eccentrically mounted similarly sized and configured indexing drums having pitch circumferences equal to the spacing between such positions. The drums are each wound with a length of cable and are adapted to simultaneously rotate whereby to wind and unwind the respective cables at the same rate. The cables are mounted at opposite ends of the carrier and effect displacement thereof between stations as a result of the winding-unwinding action of the cables on the drums.

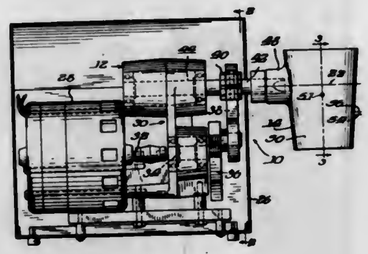
3,437,316
CABLE LOOPING MEANS
Wayne C. Hart, Hyde, Md., assignor to Baltimore Concrete Plank Corp., Baltimore, Md., a corporation of Maryland
Original applications Jan. 22, 1964, Ser. No. 339,506, now Patent No. 3,283,457, and June 2, 1966, Ser. No. 567,026, now Patent No. 3,341,176. Divided and this application May 9, 1967, Ser. No. 651,063
Int. Cl. B66d *1/36;* B28b *23/08*
U.S. Cl. 254—190 2 Claims



The invention relates to a tubular cable looping means having the general form of a closed loop for providing a

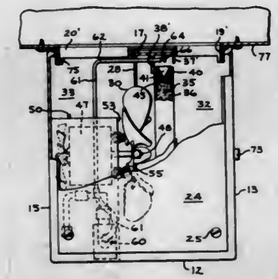
longitudinally extending passage in a plank to be prestressed with two lengths of cable.

3,437,317
SHAKER
Le Roy F. Micin, 826 Sharon Drive, Woodstock, Ill. 60098
Filed May 22, 1967, Ser. No. 640,137
Int. Cl. B01f *11/00*
U.S. Cl. 259—75 9 Claims



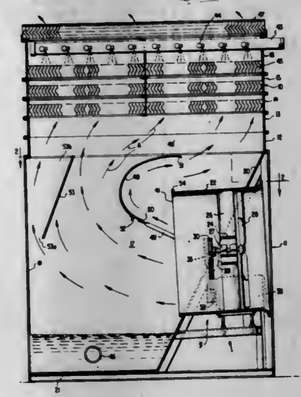
Apparatus for mixing different materials together in a container. A sealed container rests in a container holder and oscillates about a generally horizontal axis of rotation which extends centrally through the materials in the container at or slightly above their center of mass. Mixing is accomplished solely by rapid oscillation of the cup through a limited angle of oscillation about this axis for a brief period.

3,437,318
DUAL-MOUNT FURNACE HUMIDIFIER
Roy W. Abbott, Jeffersontown, Ky., and Donald M. Mullings, Yardley, Pa., assignors to General Electric Company, a corporation of New York
Filed Sept. 14, 1967, Ser. No. 667,831
Int. Cl. F24f *3/14*
U.S. Cl. 261—24 8 Claims



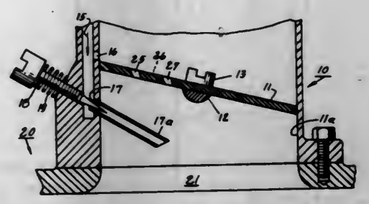
A furnace humidifier that is adapted to be mounted either against a vertical side or the horizontal underside of a warm air distribution duct. The humidifier housing is of compact box-like construction having one side wall and a top wall of general similarity. Each of these two walls has an air inlet opening and an air outlet opening separated by a central wall panel. There is an orifice plate arranged generally perpendicular to the said central wall panels for dividing the housing into an evaporating chamber and a fan chamber. An evaporating element is positioned in the evaporating chamber across the face of the orifice plate, while a motor driven fan is located in the fan chamber. Accordingly the evaporating element is arranged perpendicular to both mounting faces of the humidifier housing.

3,437,319
EVAPORATIVE HEAT EXCHANGER WITH AIR-FLOW REVERSAL BAFFLE
John Engalitcheff, Jr., Gibson Island, Thomas F. Facius, Baltimore, and Wilson E. Bradley, Jr., Ellicott City, Md., assignors to Baltimore Aircoil Company, Inc., Baltimore, Md.
Continuation-in-part of application Ser. No. 711,772, Mar. 8, 1968. This application May 20, 1968, Ser. No. 730,574
Int. Cl. F28c *1/02*
U.S. Cl. 261—29 7 Claims



A blow-through evaporative heat exchanger having an axial flow fan in the lower portion and a surface presenting means in the upper portion to receive fluid to be cooled. The fan ducting projects into the lower portion through an inclined wall, the axial flow fan being located in the ducting and the fan drive motor under the inclined wall so that there is no projection beyond the tower side wall. A baffle reverses part of the air issuing from the fan ducting to promote even airflow through the surface presenting means.

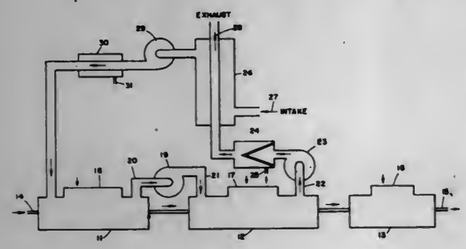
3,437,320
CARBURETOR
Brooks Walker, 1280 Columbus Ave., San Francisco, Calif. 94133, and Frank W. Kertell, Santa Cruz, Calif.; said Kertell assignor to said Walker
Filed Nov. 10, 1966, Ser. No. 593,488
Int. Cl. F02m *7/24*
U.S. Cl. 261—41 6 Claims



A carburetor for reducing smog producing components in the exhaust of an internal combustion engine. The air for idling with a closed butterfly valve is provided by an opening through the valve having an axis directed toward the central zone of the throat of the carburetor. Rich idle fuel and air is delivered to the throat through a conduit having an exit end in said zone. In one form of

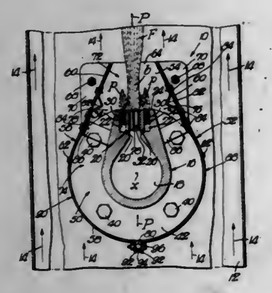
the invention a plurality of openings are formed through the valve. In a second form of the invention an elongated conduit is supported in the valve.

3,437,321
REGENERATIVE PAINT DRYING SYSTEM FOR CONTINUOUS STRIP
Dwight Martin Wilkinson, Rocky River, Ohio, assignor to B & K Machinery International Limited, Etobicoke, Ontario, Canada
Filed May 26, 1967, Ser. No. 641,602
Claims priority, application Great Britain, May 27, 1966, 23,976/66, 23,977/66, 23,978/66
Int. Cl. F27b *9/28, 9/10, 9/36*
U.S. Cl. 263—3 8 Claims



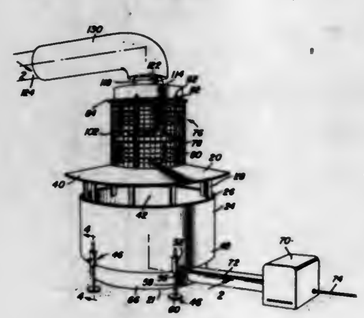
This specification discloses a paint drying system in which the vapours of the volatile solvents are burned to eliminate pollution of the atmosphere and the heat generated by such combustion is employed to preheat the incoming fresh air thereby reducing the fuel required to dry the paint.

3,437,322
AIR-HEATING GAS BURNER
John H. Flynn, 234 Elk Ave., New Rochelle, N.Y. 10804
Filed June 21, 1966, Ser. No. 559,246
Int. Cl. F23l *9/02, 9/04*
U.S. Cl. 263—19 8 Claims



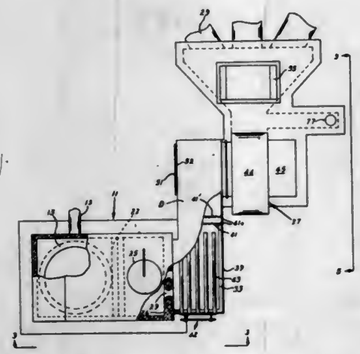
A burner installation located in an air stream to be heated has a burner casing with a flame surface to which lead main and pilot flame ports for flames directed downstream of the air stream. The installation further provides a chamber surrounding the burner casing and having an outlet in line with the flame surface and spaced therefrom downstream of the air stream, as well as an inlet which faces upstream of the air stream, with the cross-sectional area of the inlet being so much smaller than that of the chamber that the latter serves as an expansion chamber substantially without any vacuumatic effect of the air passing therethrough on the flames.

3,437,323
APPARATUS FOR THE FLUE CURING OF TOBACCO
Frank W. Thomas, 510 Railroad Ave., Kingstree, S.C. 29556
Filed Nov. 28, 1966, Ser. No. 597,350
Int. Cl. F23l *9/04*
U.S. Cl. 263—19 7 Claims



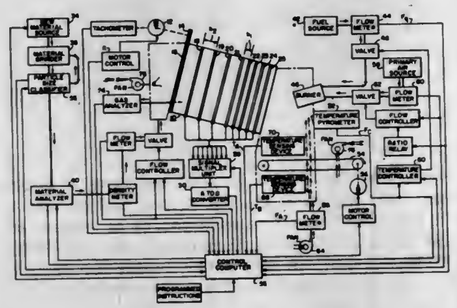
An upwardly directed conical baffle overlying a heating unit in spaced relation thereover. A downwardly directed fan is mounted over the baffle for effecting a downward flow of air onto the baffle which in turn deflects the air laterally outward for heating and circulating throughout a barn or the like. Duct means is provided for selectively communicating the fan with the exterior of the barn.

3,437,324
DIRECT FIRED WASTE WOOD DRYING APPARATUS AND METHOD
Charles L. Wellons, 951 7th Ave., West Linn, Oreg. 97068
Filed July 27, 1967, Ser. No. 656,477
Int. Cl. F23l *9/04*; F23b *1/38, 1/28*
U.S. Cl. 263—19 3 Claims



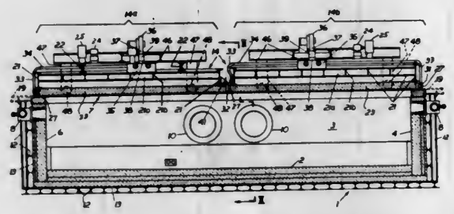
A method and apparatus whereby waste wood fuel is burned in a furnace to create products of combustion and wherein said combustion products are so handled subsequently that the solid unburned particles therein are removed and the temperature thereof regulated at least in part by blending the same with ambient air so that said blended combustion products can be conducted directly into a drying kiln or similar drying chamber for drying the material therein.

3,437,325
HEAT BALANCE CONTROL OF A ROTARY KILN
Richard E. Putnam, Penn Hills, and Lee E. Brecher and Dave H. Archer, Pittsburgh, and Ray L. Zahradnik, Murrysville, Pa., assignors to Westinghouse Electric Corporation, Pittsburgh, Pa., a corporation of Pennsylvania
Filed Apr. 11, 1967, Ser. No. 630,001
Int. Cl. F27b *7/00*; G05d *23/00*
U.S. Cl. 263—32 8 Claims



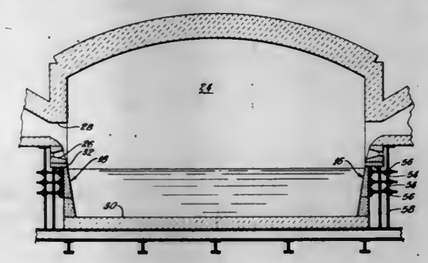
Control of the heat balance relationship of a rotary kiln is effected by measuring the heat flow through the walls of the kiln, and the heat losses in the exhaust gases and clinker, determining the heat energy input to the kiln, and from these obtaining through predetermined calculation the actual heat given up by the reaction taking place within the kiln. By measuring the materials supplied to the kiln, the theoretical and potential exothermic heat of reaction can be determined and utilized as a reference for controlling the operation of the kiln. Any difference between the actual heat of reaction and this reference theoretical heat of reaction is determined and employed as an error signal in a closed loop control arrangement for controlling the kiln operation.

3,437,326
METAL MELTING AND REFINING FURNACE
Alfred Augustine, Pittsburgh, and James M. Guthrie, Crafton Borough, Pa., assignors to Loftus Engineering Corporation, Pittsburgh, Pa., a corporation of Maryland
Filed June 1, 1967, Ser. No. 642,764
Int. Cl. F27b *3/02, 3/16*
U.S. Cl. 263—40 8 Claims



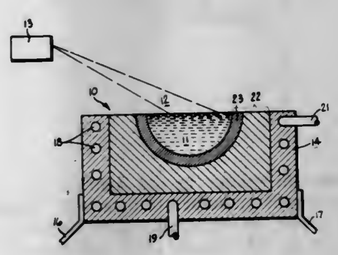
This disclosure relates to metal melting and refining furnaces whose walls extending upwardly from the furnace hearths are curved, as viewed in a horizontal plane of section. The furnace roofs are removable without vertical motion from closed positions on the bodies of the furnaces; the roof merely shifted in a substantially rectilinear horizontal direction. The curved walls of each furnace provide integrity of such wall during the rough serve to which they are subjected by impact of materials deposited in the furnace while charging it through open roof sections, and means are provided to cooperate with the peripherally extending top edge or rim of the furnace walls for gaseously sealing the so-called non-lift roof to the furnace body while the roof is in closed position.

3,437,327
WALL CONSTRUCTION FOR MELTING TANKS
Frank Day, Granville, and Magnus L. Froberg, Newark, Ohio, assignors to Owens-Corning Fiberglas Corporation, a corporation of Delaware
Continuation of application Ser. No. 440,803, Mar. 18, 1965. This application Feb. 26, 1968, Ser. No. 708,423
Int. Cl. F27d *1/12*; F27b *3/24*; C03b *5/22*
U.S. Cl. 263—44 6 Claims



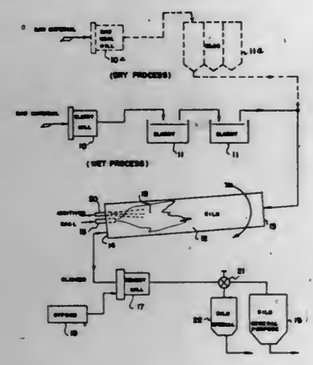
Walls of a glass melting tank are designed with a thick lower portion and a thin upper portion adjacent the glass level. The thin wall portion is cooled on the outer surface by water-cooled passages which are in direct contact with the thin wall portion and are in turn supported from behind so as to directly aid in supporting the thin wall portion as well as be in good thermal contact therewith. The inner surface of the thin wall portion is entirely back of the thick wall portion. To achieve ultimate results, the thin wall portion is less than half the thickness of the thicker portion and, preferably, does not exceed three inches in thickness.

3,437,328
POWDER CRUCIBLES
Kurt David Kennedy, Walnut Creek, and Hugh R. Smith, Jr., Piedmont, Calif., assignors, by mesne assignments, to Air Reduction Company, Incorporated, a corporation of New York
Filed Apr. 13, 1967, Ser. No. 630,642
Int. Cl. F27d *1/10*; F27b *14/06*
U.S. Cl. 263—48 13 Claims



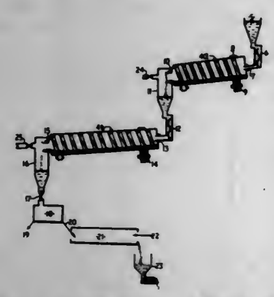
Apparatus is described for evaporation of material from a molten pool, by surface heating. The apparatus utilizes an inert material in particulate form between the molten pool and a cooled outer receptacle to prevent the material in the pool from forming a thermal "short circuit" to the outer receptacle.

3,437,329
PROCESS FOR FORMING SPECIAL CEMENTS
Werner Ostberg and Terry Patzias, Ann Arbor, Mich., assignors to Dundee Cement Company, Dundee, Mich.
Filed June 23, 1967, Ser. No. 648,464
Int. Cl. C04b 7/44, 1/00
U.S. Cl. 263—53 2 Claims



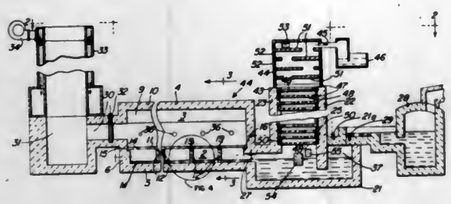
A process for manufacturing special types of portland cement, during operation of a process for forming general purpose portland cement clinker in a cement kiln, utilizing one general purpose slurry or dry, raw meal, by adding to the kiln, and thus mixing and chemically reacting for a predetermined time, a predetermined quantity of at least one of the cement ingredients in pulverized dry form, thereby forming a special cement clinker during that time, while otherwise forming general purpose clinker.

3,437,330
CONTINUOUS PRODUCTION OF ALPHA PLASTER
Howard Knox Worner, North Balwyn, Victoria, Australia, assignor to Conzinc Riotinto of Australia Limited, Melbourne, Victoria, Australia, a corporation of Victoria, Australia
Filed Nov. 14, 1966, Ser. No. 594,104
Claims priority, application Australia, Nov. 26, 1965, 67,142/65
Int. Cl. C04b 1/04
U.S. Cl. 263—53 8 Claims



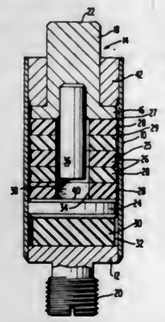
This invention relates to the method and apparatus for the continuous manufacture of a high strength alpha plaster or alpha hemihydrate, also known as "alpha gypsum" and as "Hydrocal." It is achieved by a novel process using a wet gypsum slurry feed to produce a dry, high strength plaster product, by the careful regulation of the temperature and pressure, wherein the temperature and pressure are higher in the second and subsequent calcining chambers than in the first, and with the flow of the gypsum through the calcining chambers being controlled by gravity.

3,437,331
METAL PURIFYING APPARATUS
Erwin C. Handwerk, Grosse Ile, Mich., assignor to Matthiessen & Hegeler Zinc Company, La Salle, Ill., a corporation of Illinois
Filed June 17, 1966, Ser. No. 558,298
Int. Cl. C21c 5/40; F27d 17/00; C22b 19/16
U.S. Cl. 266—37 8 Claims



Apparatus for purifying zinc including a horizontal boiler, inlet means connected to one end of said boiler by a passageway for feeding a charge of impure molten metal containing zinc to be purified into said boiler and receiving vapor from said boiler, means for heating said boiler to above the boil-point of certain materials in said molten metal to thereby vaporize said materials, means dividing said boiler into a tortuous path for said molten metal from said one end to the other end of said boiler, and for said vaporized materials from said other end to said one end, a reflux column mounted on and projecting upwardly from said inlet means in direct communication therewith, and means for discharging molten metal from said other end of said boiler.

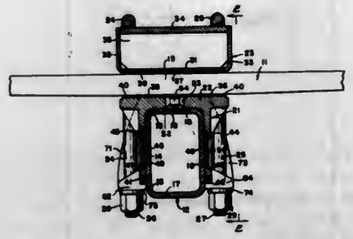
3,437,332
COMPOUND RESILIENT SHOCK ABSORBER
Patrick P. Lee, Tonawanda, N.Y., assignor to Destech Labs, Inc., Buffalo, N.Y.
Continuation-in-part of application Ser. No. 497,873, Oct. 19, 1965. This application Mar. 29, 1968, Ser. No. 717,095
Int. Cl. F16f 1/44; B60g 11/32
U.S. Cl. 267—1 14 Claims



A movable plunger having an extension adapted to terminate compression of one resilient shock absorbing member upon engagement of the extension with a movable abutment plate and thereafter compress a further resilient shock absorber member through movement of the abutment plate in unison with the plunger.

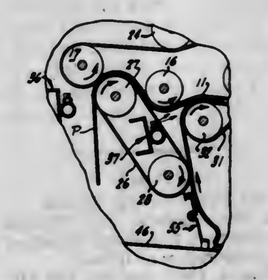
This application is a continuation-in-part of my copending application Ser. No. 497,873 filed Oct. 19, 1965, entitled Shock Absorber, now Patent No. 3,376,031.

3,437,333
SPRING SEAT
Kenneth M. Koch, Dearborn, and William E. Rice, Ferndale, Mich., assignors to North American Rockwell Corporation, a corporation of Delaware
Filed Oct. 24, 1966, Ser. No. 588,879
Int. Cl. B60g 11/02; F16f 1/18
U.S. Cl. 267—52 4 Claims



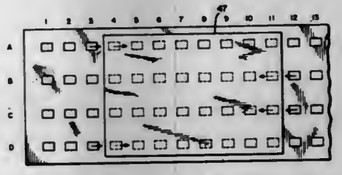
A vehicle axle assembly in which a seat bracket is mounted on a hollow axle member having a substantially rectangular section spring seat region, with the seat bracket having a saddle for directly overlying the upper surface of the axle member at the seat region and parallel depending legs extending along the side surfaces of the axle member. The bracket legs have full surface engagement with and are welded directly to the axle member sides. A pressure plate overlies an intermediate portion of a leaf spring assembly and clamps the assembly upon the seat bracket saddle. U-bolt fastener means extend over the pressure plate and downwardly through the bracket in laterally spaced relation to the axle member sides, the U-bolts each having a bridge portion passing over the pressure plate and parallel legs extending downwardly on the same side of the axle member through vertically aligned recesses in the bracket. The lower ends of the boltlegs are threaded to receive nuts for engaging the lower ends of the bracket legs.

3,437,334
FLATWORK FOLDER AND METHOD
Joseph L. Maldonado, 54 Cordova St., San Francisco, Calif. 94112
Filed Mar. 23, 1965, Ser. No. 442,065
Int. Cl. B65h 45/04, 45/00
U.S. Cl. 270—69 5 Claims



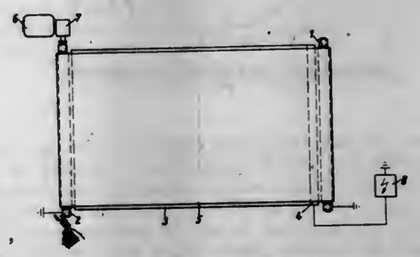
Apparatus and method for eliminating static electrical charges which interfere with folding of linen flatwork pieces in automatic folding machines. A charge neutralizing unit is positioned in the folding machine at a specific location beyond the point at which a first transverse fold is formed in each flatwork piece but in advance of the point at which a first cross fold is thereafter formed in such piece. Each flatwork piece is twice subjected to the effects of the neutralizing unit as it passes such location to insure effective electrical charge neutralization.

3,437,335
FLUID DOCUMENT TRANSPORTER
Richard S. Gluskin, Bala Cynwyd, Pa., assignor to Sperry Rand Corporation, New York, N.Y., a corporation of Delaware
Filed June 16, 1967, Ser. No. 646,556
Int. Cl. B65h 29/24
U.S. Cl. 271—8 11 Claims



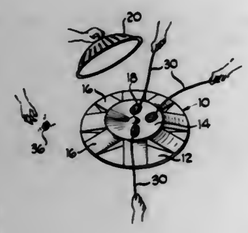
A fluid motion control for document transporting is disclosed. A series of accelerating fluid jets are positioned along the length of the feed bed and are angled relative to the bed so as to apply a force to the document tending to propel it down the length of the bed. A series of retarding jets are positioned along the length of the feed bed and are angled in opposition to the accelerating jets so as to apply a force to the document tending to propel the document up the bed. The fluid pressure applied to the jets is modulated or sequenced so that the net force applied to the document by the accelerating jets exceeds that applied by the retarding jets whereby the document is caused to move down the bed at a rate controlled by the modulation or sequencing frequency of the applied jets.

3,437,336
TRANSPORT SYSTEM FOR SINGLE SHEETS OF PHOTOSENSITIVE MATERIAL
Gerhard Enke and Heinz Isermann, Siegen, Germany, assignors to Meteor-Siegen Apparatebau Paul Schmeck G.m.b.H., Siegen, Germany, a corporation of Germany
Filed Feb. 8, 1967, Ser. No. 614,740
Claims priority, application Germany, Apr. 28, 1966, M 69,327
Int. Cl. B65h 5/02
U.S. Cl. 271—45 5 Claims



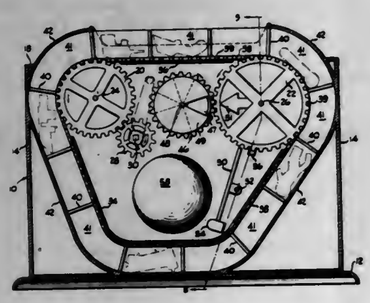
A conveyor belt transporting apparatus for photosensitive sheet material, which belt attracts the sheets electrostatically, the electrostatic charge being applied to the belt by a potential carrying metal strip which extends transversely of the belt and contacts its underside, thus allowing for controlled application of electric charge onto the belt.

3,437,337
MOUSETRAP TYPE GAME APPARATUS
Edward S. Larson, Jr., Libertyville, Ill., assignor to Marvin Glass & Associates, Chicago, Ill., a partnership
Filed Nov. 25, 1966, Ser. No. 596,956
Int. Cl. A63f 9/04
U.S. Cl. 273—1 1 Claim



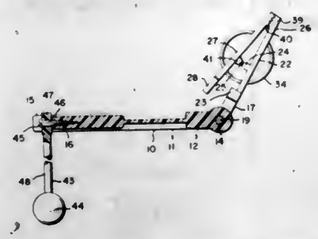
A game comprising a plurality of simulated mice figures, each having its tail detachably fixed to its body, a tray upon which the mice figures are to be placed, a cover for the tray including a handle portion, and a die determining by chance the placement of the cover on the tray during the play of the game in an attempt to trap the players' mice. An attempt to withdraw a trapped mouse from the tray may result in separation of its tail from the body.

3,437,338
CHANCE CONTROLLED GAME PIECE SELECTING DEVICE
Marvin I. Glass and Denise C. Giraud, Chicago, and Gunars Licitis, Lombard, Ill., assignors to Marvin Glass & Associates, Chicago, Ill., a partnership
Filed Feb. 28, 1966, Ser. No. 530,495
Int. Cl. A63f 9/00
U.S. Cl. 273—138 1 Claim



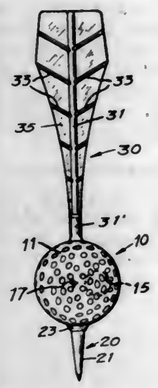
Game apparatus comprising a housing including an endless flexible belt having compartments formed on the outer side and being movable through a path including an opening in the top of the housing. A plurality of playing pieces are provided in sets of different colors and the pieces are initially placed in the belt compartments. The belt is rotated by movement of a gear drive mechanism which also sounds a bell at intervals to signal a player to remove a piece through the housing opening. The gear mechanism rotates a disc divided into segments of different colors corresponding to the colors of the playing pieces, one of said segments being designated by a pointer rotating with one of the gears.

3,437,339
TRAINING DEVICE FOR GOLFERS
Marsh E. Starck, 6330 Neff St., Houston, Tex. 77036
Filed May 24, 1966, Ser. No. 552,628
Int. Cl. A63b 69/36
U.S. Cl. 273—183 9 Claims



A first rod is pivotally secured to a golfer's headpiece for adjustable movement to a horizontal position. A second rod is swingably mounted to the first rod by an adjustable screw passing through the upper end of the second rod and into the outer end of the first rod. A spherical weight is fixed to the lower end of the second rod. Swinging movement of the second rod and weight is restricted to a path which prevents the golfer from being struck thereby during the execution of a golf club swing.

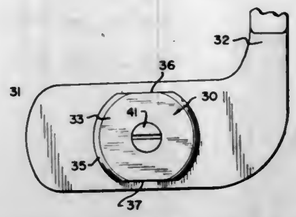
3,437,340
AERIAL PROJECTILE
Frederick G. J. Grisé, Pleasant St., Barre, Mass. 01005
Filed May 3, 1967, Ser. No. 635,833
Int. Cl. A63b 69/36, 65/02
U.S. Cl. 273—183 6 Claims



A unitary golf ball dart with an unbalanced weighted spherical body, an integral tee-shaped point projecting radially therefrom in one direction, and an integral flat elongated flexible very thin guide vane, stiffened by a single central and pairs of branching relatively thicker ribs, projecting radially therefrom in the opposite direction.

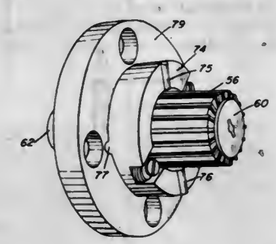
3,437,341
PRACTICE GOLF CLUB
Erwin J. Hasten, Jr., Chicago, and William B. Reed, Glenview, Ill., assignors to General Standard Company, Chicago, Ill., a corporation of Illinois
Filed Jan. 4, 1967, Ser. No. 607,210
Int. Cl. A63b 69/36, 53/04, 53/08
U.S. Cl. 273—186 4 Claims

A practice golf club including a disc-like impact member overlying the sweet-spot of the club head. The peripheral edge of the impact member is formed by an outwardly rounded surface which, if struck by a golf ball, causes the ball to follow an exaggerated improper flight path clearly indicating a failure to impact the club head sweet-spot. The top and bottom portions of the impact member



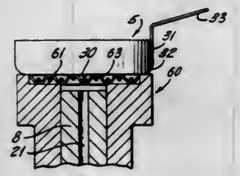
may be segmented for aligning purposes and the impact member may either be integral with the club head or detachably secured thereto.

3,437,342
CHUCK CONSTRUCTION
Charles J. Mann, 1048 Peninsula Drive, Traverse City, Mich. 49684
Filed Aug. 23, 1965, Ser. No. 481,459
Int. Cl. B23b 31/40, 5/22, 5/34
U.S. Cl. 279—2 2 Claims



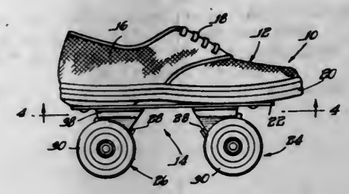
A chuck having a radially yieldable clamping ring controlled by relative axial movement between thrust and conical surfaces, and also having a stop ring shiftable about a transverse axis and providing opposite abutment points on a diameter 90° displaced from said transverse axis about the axis of rotation of said chuck.

3,437,343
GASKETING APPARATUS
Eugene Greck, Westfield, N.J., assignor to American Flange & Manufacturing Co., Inc., New York, N.Y., a corporation of Delaware
Filed Dec. 30, 1965, Ser. No. 517,651
Int. Cl. B23b 31/30, 5/22, 31/10
U.S. Cl. 279—3 1 Claim



A closure gasketing apparatus for applying a semi-liquid flowed in lining compound to cup shaped closure members. A vacuum chuck is provided for gripping the closure member and spinning it at high speeds below a lining nozzle as the lining is applied to the interior of the closure member.

3,437,344
ROLLER SKATE
Joseph F. Shevelson, Oak Park, Ill., assignor to The Chicago Roller Skate Company, Chicago, Ill., a corporation of Illinois
Filed Apr. 7, 1967, Ser. No. 629,201
Int. Cl. A63c 1/02
U.S. Cl. 280—11.2 5 Claims



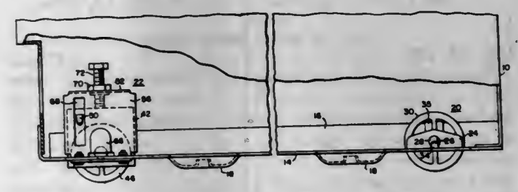
A soft-shoed roller skate for street use in which the shoe has a padded sole confined between a wheeled platform and a mounting platen disposed within the shoe.

3,437,345
SNOWBOARD
Victor T. Berta, 896 Raymond Drive, Apt. 1, Idaho Falls, Idaho 83401
Filed Aug. 28, 1967, Ser. No. 663,841
Int. Cl. A63c 5/04, 9/08
U.S. Cl. 280—11.13 3 Claims



An elongated runner-type device having a recessed area in which are embedded a plurality of magnets which by magnetic flux will adhere to a ferrous metal boot sole, the user to maintain various positions of stance upon the device while traveling upon a slope or being towed by a vehicle. The runner device with the use of its self-contained means supplies sufficient force to hold the boot sole to the device, but when the user spills, the device will separate from the foot, thus preventing broken bones and sprains.

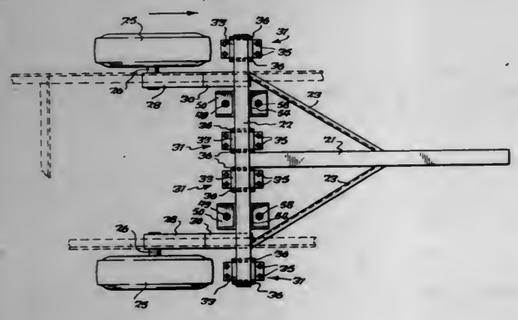
3,437,346
ROLLER STRUCTURE FOR SUPPORTING APPLIANCES AND THE LIKE
William R. Cobb, Columbus, Ohio, assignor to Westinghouse Electric Corporation, Pittsburgh, Pa., a corporation of Pennsylvania
Filed May 4, 1966, Ser. No. 547,664
Int. Cl. B62d 21/18; B60b 3/02
U.S. Cl. 280—43.2 1 Claim



Appliance supporting roller apparatus in which one U-shaped member carrying a wheel is nested in another U-

shaped member, the U-shaped members being adjustable vertically relative to each other by means of an adjusting bolt associated with the bights of both of said U-shaped members.

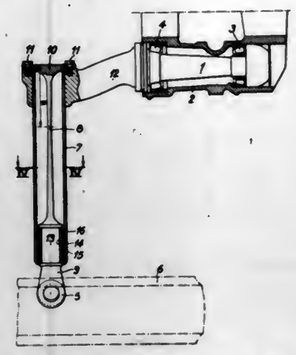
3,437,347
VEHICLE SPRING SUSPENSION
Albert F. Hickman, Eden, N.Y., assignor to Grimar, Inc., Clinton, Mass.
Continuation-in-part of applications Ser. No. 484,849, Sept. 3, 1965, and Ser. No. 591,899, Nov. 3, 1966. This application Apr. 10, 1967, Ser. No. 629,546
Int. Cl. B60g 11/42
U.S. Cl. 280—124 10 Claims



While not limited to any specific service, the suspension is shown between a vehicle frame and one of its supporting wheels, the wheel rotatably supporting an axle, and the axle supporting the free end of an arm, in turn fixed to a hub member or cross shaft journalled on the frame. Short arms project from diametrically opposite sides of the hub member and compressively bear with touching contact against the ends of the major axes of a pair of elongated resilient rubber bodies fixed to the frame and which are substantially symmetrical on opposite sides of their major axes. The back pressures of the bodies so compressed tend to balance each other to avoid corner loading of the hub member bearings and provide a very simple, friction free resilient support for the frame. A rubber body acting against rebound movement of the short arms can be provided, and the suspension is particularly adapted for a self-steering or caster wheels by the interposition of fore-and-aft movable slide members between end bearings journalling the ends of the hub member. If desired, the loading of the rubber bodies can be adjustable.

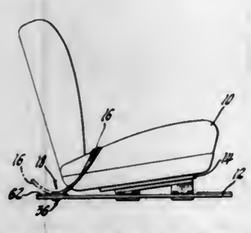
3,437,348
WHEEL SUSPENSION ARMS OF INDEPENDENT WHEEL VEHICLES
Edmond Henry-Biabaud, Paris, France, assignor to Societe Anonyme Andre Citroen, Paris, France
Filed May 11, 1967, Ser. No. 637,711
Claims priority, application France, May 13, 1966, 61,507
Int. Cl. B62d; B60g; B60p
U.S. Cl. 280—124 2 Claims

Suspension arm of a wheel of a vehicle having an independent suspension system, which does not transmit any load and comprises a first portion extending longitudinally in relation to the vehicle on one side thereof, said first portion being adapted to pivot on itself about its axis, and a second portion constituting an outward extension, bent substantially at right angles, of said first portion, the free end of said extension constituting a wheel stub-axle support or a wheel king-pin support; the second portion comprises a vertical resilient blade rigidly secured at its inner end and elastically at its outer end so as to permit,



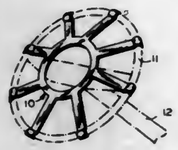
in addition to the normal vertical beats of the wheel, very slight longitudinal movements.

3,437,349
SEAT BELT ANCHORAGE
Nick Feles, Royal Oak, and Rudi F. Quinting, Clawson, Mich., assignors to General Motors Corporation, Detroit, Mich., a corporation of Delaware
Filed Feb. 12, 1968, Ser. No. 704,631
Int. Cl. B60r 21/10; A62b 35/00
U.S. Cl. 280—150 6 Claims



A seat belt attached anchor plate includes an open ended slot for receiving a vehicle body floor-mounted stud having an enlarged head. A flexible boot is retained on the anchor plate and on the seat belt end and includes a locking portion adjacent the slot open end to retain the stud within the slot.

3,437,350
SAFETY GUARD FOR STEERING WHEELS
James R. Clark, 519 Margaret Ave., Johnstown, Pa. 15905
Filed July 29, 1968, Ser. No. 748,411
Int. Cl. B62d 1/04; B60r 27/00
U.S. Cl. 280—150 7 Claims



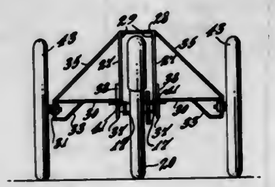
A safety guard for removable attachment to steering wheel rims in a flexed position above the plane of the steering wheel by means of finger-like tension grippers to absorb impacts. The tension grippers securely mount the safety guard at spaced intervals around the rim and are formed to apply a positive gripping pressure to the rim under impact.

3,437,351
UNICYCLE TRAINING ATTACHMENT
St. Clair Newbern, 3705 W. Vickery, Fort Worth, Tex. 76107
Filed Feb. 9, 1967, Ser. No. 614,920
Int. Cl. B62k 1/00; B62h 1/10
U.S. Cl. 280—205 2 Claims



An attachment for unicycles to prevent beginners from falling backwards when learning to ride and comprised of a rearwardly extending support, the extending end of which is above ground level when the unicycle is in an upright position. Additionally, there is an upright handle which the rider may grasp when he loses control and puts his feet on the ground and thereby prevents the unicycle from falling.

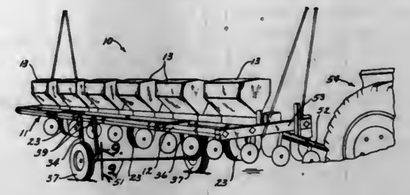
3,437,352
BICYCLE SAFETY-WHEEL ATTACHMENT
Harry N. Longo, 107 N. Trenton Ave., Atlantic City, N.J. 08401
Filed Oct. 17, 1967, Ser. No. 675,806
Int. Cl. A63b 69/16
U.S. Cl. 280—293 6 Claims



This invention is essentially concerned with means for attaching safety wheels to a bicycle and includes an inverted U-shaped member astride the rear wheel of a bicycle having connection means for connection to the bicycle frame adjacent to the rear axle. Structures outstand from opposite sides of the U-shaped member and carry respective outboard wheels for stabilizing ground engagement.

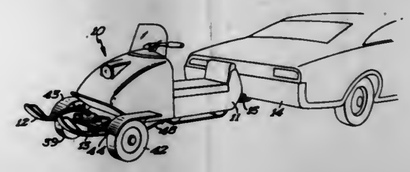
3,437,353
MOUNTING UNIT FOR TRANSFORMING PLANTER ROAD WHEEL TO FIELD TRANSPORT WHEEL
Leonard F. Lange, Rte. 2, Marshalltown, Iowa 50158
Filed Feb. 10, 1967, Ser. No. 615,100
Int. Cl. B60f 5/00; B62d 21/00
U.S. Cl. 280—415 4 Claims

This invention pertains to a pull-type planter unit using an endwise transport system, and is concerned primarily with using the road transport wheels as field transport wheels when the planter is actually being used in the field. More particularly, the invention relates to a mechanical improvement to a field transport wheel unit



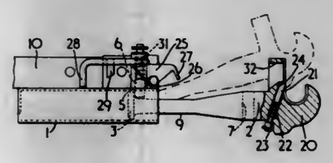
wherein a road transport wheel can be mounted in dual arrangement therewith.

3,437,354
SNOWMOBILE TRANSPORTING APPARATUS
Edgar E. Hetteen, Rte. 5, Thief River Falls, Minn. 56701
Filed Aug. 10, 1967, Ser. No. 659,629
Int. Cl. B60f 5/00; B22b 19/00; B62b 13/18
U.S. Cl. 280—415 9 Claims



This disclosure is directed to a mechanism for towing a snowmobile by using an auxiliary set of wheels and load-supporting mechanism which is placed beneath the skis of the snowmobile and uses the springs of the snowmobile to provide the necessary suspension mechanism for the snowmobile. The mechanism is easily secured in place by having a communicating member secured to the skis and mating members on the load-supporting mechanism. A pair of stabilizing arms are secured beneath the snowmobile and the load-supporting mechanism to prevent rotating of the skis about the shaft supporting the wheels. The rear of the snowmobile is secured to the towing vehicle by a conventional ball and socket hitch.

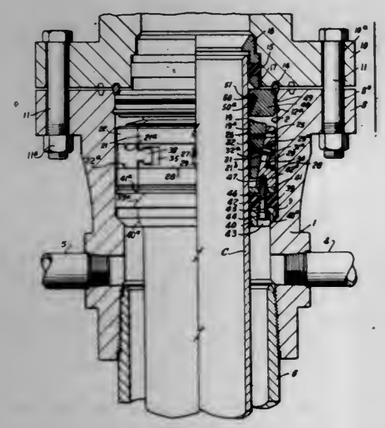
3,437,355
TELESCOPIC COUPLING
Robert Henry Francis Jeffes, Peaches Farm, Minchinhampton, Stroud, Gloucestershire, England
Filed Sept. 25, 1967, Ser. No. 670,099
Claims priority, application Great Britain, Sept. 29, 1966, 43,554/66
Int. Cl. B60d 1/04
U.S. Cl. 280—478 7 Claims



A telescopic coupling having a hook on the outer end of the inner member thereof. The hook is fitted with a

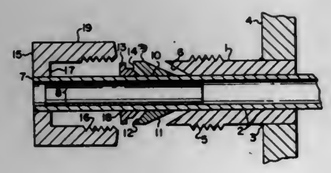
retaining pin which is biased by a spring into a position in which it extends from one side wall of the hook to restrict the mouth of the latter, thereby to hold in the hook a link member placed therein. The retaining pin is retractable to release the link member by direct manual withdrawal of the retaining pin, both when the members of the coupling are retracted and when they are extended. The coupling also carries a lever engageable with the retaining pin only when the members of the coupling are retracted, thereby to provide for retraction of the retaining pin by remote operation of the lever.

3,437,356
CASING HANGER AND SEAL ASSEMBLY
William L. Todd and Bobby L. Ferguson, Fort Worth, Tex., assignors to Rector Well Equipment Company, Inc., Fort Worth, Tex., a corporation of Texas
Filed May 1, 1967, Ser. No. 635,089
Int. Cl. F16l 35/00, 25/00; E21b 19/02
U.S. Cl. 285—3 11 Claims



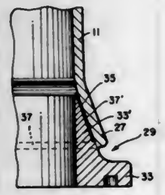
A casing hanger and seal assembly for suspending casing in a well which includes segmented slips carried in a separable bowl. The bowl is retained in assembled relationship about the slips by means of a latch ring which encircles the bowl.

3,437,357
SEAL FOR THIN TUBING
Leonard R. Rubin, Union, N.J., assignor to Engelhard Industries, Inc., Newark, N.J., a corporation of Delaware
Filed Feb. 1, 1967, Ser. No. 613,149
Int. Cl. F16l 19/00
U.S. Cl. 285—55 5 Claims



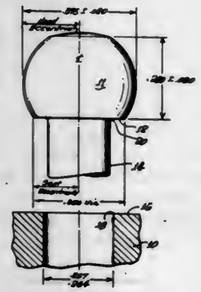
This disclosure pertains to seals useful in securing thin tubes to a tube sheet, and wall or the like. The seals are useful in hydrogen diffusion apparatus which utilize tubing made from palladium or palladium alloys. A special type of seal using ferrules of different hardness and a tube brace is found to greatly decrease the tendency of the seal to leak.

3,437,358
TUBE END CONNECTION
John R. Cepon, Wadsworth, Ill., assignor to Anchor Coupling Co., Inc., Libertyville, Ill., a corporation of Illinois
Filed Sept. 1, 1966, Ser. No. 576,632
Int. Cl. F16l 13/02, 47/02, 25/00, 35/00
U.S. Cl. 285—286 3 Claims



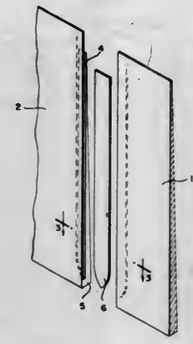
A tube structure embodying an outwardly flared tube with a tapered end fitting disposed in the flared portion in position to support the end of the tube, the tube being brazingly secured to the fitting throughout a portion of the length of the inner end of the latter.

3,437,359
POST TENSIONING CONCRETE ANCHOR ASSEMBLY
Raymond E. Hunter, Lomita, Calif., assignor to Western Concrete Structures Co., Inc., Gardena, Calif., a corporation of California
Filed Apr. 3, 1968, Ser. No. 718,415
Int. Cl. F16b 17/00, 7/00; E04c 3/10
U.S. Cl. 287—20.3 3 Claims



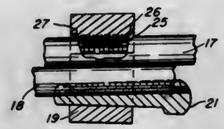
The apparatus of the present invention in its presently preferred form includes a prestressing tendon having a head formed thereon, which tendon is stressed into bearing contact with an anchor seat. The head at the end of the tendon has a planar concentric bearing seat area in bearing contact with a planar bearing surface on the anchor member. A predetermined radius of curvature is provided between the planar bearing area of the head and the wire tendon upon which the head is formed.

3,437,360
SPLINED BUTT JOINT SYSTEM FOR LUMBER SIDING
John V. Gould and James E. Rasmussen, Bellevue, Wash., assignors to Simpson Timber Company, Seattle, Wash., a corporation of Washington
Filed June 6, 1966, Ser. No. 555,309
Int. Cl. F16b 7/00, 5/00, 9/00; E04c 3/00
U.S. Cl. 287—20.92 1 Claim



A butt joint system for abutting ends of lumber siding where slots are provided in the abutting ends of the siding members with the upper end of the slot being opened and the lower end being closed. A thin flat spline member is inserted within the slots so as to span the butt joint.

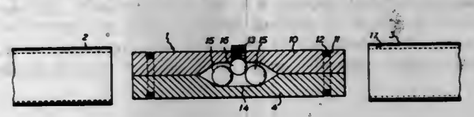
3,437,361
SINGLE-WEDGE SPLICING DEVICE
Chester I. Williams, 347 Greenbriar SE., Grand Rapids, Mich. 49506
Filed Mar. 1, 1967, Ser. No. 619,706
Int. Cl. F16b 7/00; E04b 1/58; B25g 3/36
U.S. Cl. 287—104 3 Claims



A splicing device including a block defining an opening for receiving overlapped rods and a wedge, both having corrugations for engaging the rods, the block being adapted for manufacture by parallel machining operations.

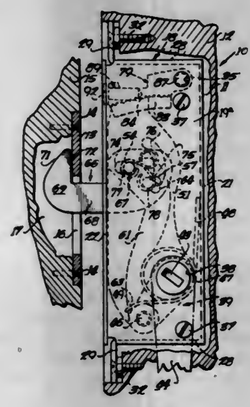
3,437,362
EXPANDING DEVICES
Adrian Gottfried Offenbroich, Sodra Forstadsgatan 49, Malmo, Sweden
Filed Oct. 17, 1966, Ser. No. 587,205
Claims priority, application Sweden, Mar. 20, 1965, 3,628/65
Int. Cl. F16b 7/00; F16d 1/00
U.S. Cl. 287—124 4 Claims

An expanding device including at least two expandable parts received in a passage of a structural member for radial movement into engagement with the structural member. An expander element is slidably received between the expandable parts for camming engagement with cam surfaces formed on the expandable parts at an angle to the axis of the passage. An actuator extends through the structural member at an angle to the axis of the passage for engaging the expander element to slide it into



engagement with the cam surfaces and thus move the expandable parts outwardly into engagement with the structural member.

3,437,363
SLIDING PATIO DOOR LOCK ASSEMBLY
Russell W. Walters, Rockford, Ill., assignor to Keystone Consolidated Industries, Inc., a corporation of Delaware
Filed Sept. 21, 1967, Ser. No. 669,546
Int. Cl. E05c 19/12, 5/00, 1/04
U.S. Cl. 292—113 5 Claims

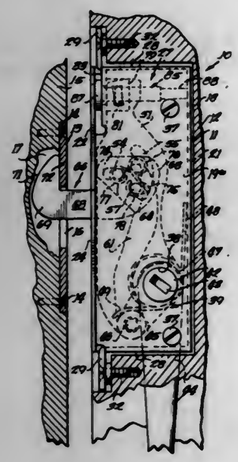


A lock assembly utilized on a sliding door and having a rotatable lock bolt providing an exposed hook end cooperating with a locking plate or strike mounted in the edge of the door jamb and having an opening receiving the hook end of the bolt. The lock assembly is mounted within the edge of the door and has a rotatable hub adapted to be actuated by a suitable handle operatively connected thereto; the hub having a pivot arm normally biased to locked position. A pair of locking arms are operatively connected at one end to the end of the pivot arm opposite to the hub and at the opposite ends to a pin extending through the rotatable lock bolt. A pair of spaced adjusting plates cooperating with the locking arms and bolt being mounted at one end on the hub and at the opposite end having serrations cooperating with a pivoted adjusting member having a clamping screw therefor; the adjusting plates having arcuate slots receiving the pin to define the path of movement thereof to swing the lock bolt between locked and unlocked position.

3,437,364
SLIDING DOOR LOCK ASSEMBLY
Russell W. Walters, Rockford, Ill., assignor to Keystone Consolidated Industries, Inc., a corporation of Delaware
Filed Sept. 21, 1967, Ser. No. 669,547
Int. Cl. E05c 19/12, 5/00, 1/04
U.S. Cl. 292—113 7 Claims

A lock assembly utilized on a sliding door and having a rotatable bolt providing an exposed hook end cooperating with a locking plate mounted in the edge of the door jamb and having an opening receiving the hook

end of the bolt. The lock assembly is mounted within the edge of the door and has a rotatable hub adapted to be actuated by a suitable handle operatively connected thereto; the hub having a pivot arm normally biased to locked position. A pair of locking arms are operatively connected at one end to the pivot arm opposite the hub and at the opposite ends to a control pin extending



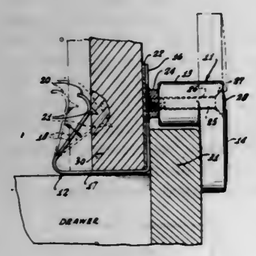
through the rotatable lock bolt. A pair of adjusting plates encompass the locking arms and lock bolt, being mounted at one end on the hub and at the opposite end to an adjusting yoke cooperating with an adjusting rod; the plates having arcuate slots receiving the control pin to define the path of movement thereof to swing the bolt between locked and unlocked position about a pivot pin.

3,437,365

LOCK FOR DRAWERS AND CABINETS

Walter R. Zadanoff, 6002 Greenbush St., Van Nuys, Calif. 91401, and Charles R. Andell, 2020 N. Bronson Ave., Los Angeles, Calif. 90028

Filed Mar. 23, 1967, Ser. No. 625,516
Int. Cl. E05c *3/00, 3/04*
U.S. Cl. 292—202 8 Claims



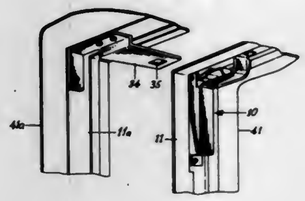
A detachable safety lock for preventing children from opening household drawers and cabinets. A removable spring clip, which fits over the cabinet wall adjacent the aperture to be closed is provided with an extending shaft about which a latch member is free to swing down over the drawer or cabinet door to lock them in closed position.

3,437,366

CARRYING CASE AND LOCKING MEANS THEREFOR

Don I. Korchmar, Cincinnati, Ohio, assignor to The Leather Specialty Company, Cincinnati, Ohio, a corporation of Ohio

Filed Dec. 2, 1966, Ser. No. 598,661
Int. Cl. E05c *9/08*
U.S. Cl. 292—228 5 Claims



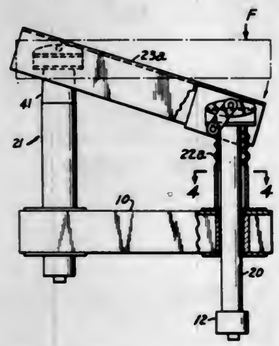
The combination of a carrying case having interfitting annular edge members and a locking means composed of pivotal and stationary members mounted inside the annular members such that no part projects outside the said annular members.

3,437,367

DEFORMED SHOCK ABSORBING DEVICES

Stewart M. Blank, 4634 Manhattan Beach Blvd., Lawndale, Calif. 90260

Continuation-in-part of application Ser. No. 507,626, Oct. 22, 1965. This application Feb. 27, 1967, Ser. No. 618,976
Int. Cl. B60r *19/06*
U.S. Cl. 293—70 5 Claims



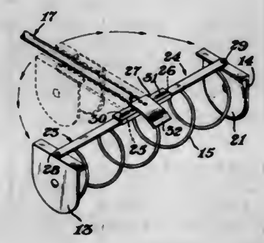
This invention relates to a deflecting bumper assembly incorporating energy absorbing devices to lessen the effect of impact energy. According to this invention, a bumper, such as may be used on a vehicle, is mounted to the frame of the vehicle through energy absorbing devices. The mounting includes pivotal members, such as levers and pins, which allow the bumper to swing in the direction of impact when a non-symmetrical impact load is applied to the bumper, thus deforming one of the energy absorbing members more than any other in the mounting. Allowing the bumper to swing freely, in this case, prevents damage to the bumper, thus deforming one of the energy absorbing transmitted to the vehicle frame. Allowing the bumper to deflect will also permit the bumper to act as an inclined plane, allowing the object which is producing the impact on the bumper to slide away from the vehicle. The deformable energy absorbing members are cylindrical tubular members, having tapered ends to absorb smaller shock loads, with increasing resistance through distance of deflection. The device is adapted to be applied in positions to protect structures such as buildings and telephone poles, as well as to absorb the energy imposed on seat belt devices in vehicles.

3,437,368

BALL RETRIEVER

Robert F. Anderson, Midland, Mich., assignor, by mesne assignments, to Anderson Manufacturing Company, Menominee, Mich., a corporation of Michigan

Filed Dec. 12, 1966, Ser. No. 601,023
Int. Cl. A47f *13/06*
U.S. Cl. 294—19 5 Claims



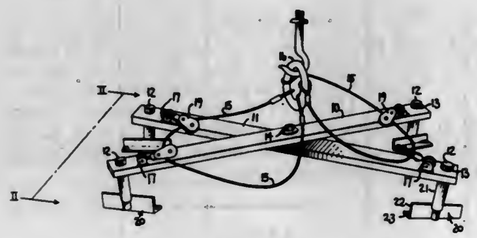
A ball retriever device for dragging over a surface on which a ball is lying and picking up the ball. The device has (1) a frame in the general form of a wide, foreshortened inverted U, (2) a coil spring extending, at least slightly in tension, between the legs of the frame, and (3) a handle. The handle is preferably greatly extensible. The frame may be foldable. Spring guide means may be used to help maintain the coil spring in alignment.

3,437,369

HANDLING APPARATUS

Smith W. Gealy, Pittsburgh, Pa., assignor to PPG Industries, Inc., a corporation of Pennsylvania

Filed Apr. 26, 1967, Ser. No. 633,869
Int. Cl. B66c *1/32*
U.S. Cl. 294—78 1 Claim



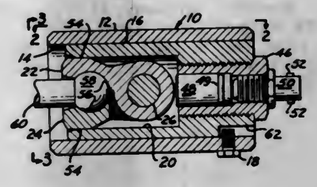
The apparatus has a supporting frame and supporting members fastened at four end portions of the supporting frame which engage a package. Pulleys and wire rope looped through the pulleys exert a closing force about the central pivot of the supporting members, there clamping the package and insuring a slip-free support of any package to be transported.

3,437,370

RELEASE MECHANISMS

Harry L. Bochman, Jr., Seal Beach, and Hobert Kem Thompson, Saugus, Calif., assignors to Hi-Shear Corporation, Torrance, Calif., a corporation of California

Filed Aug. 14, 1967, Ser. No. 660,254
Int. Cl. B66f *17/00, 19/00;* A44b *21/00*
U.S. Cl. 294—83 12 Claims



The present disclosure relates to mechanisms for holding and releasing release bars.

A mechanism according to the present disclosure comprises a housing having a bore with a sleeve slidably mounted within said bore to move between first and second positions within the housing. A shaft is mounted to said housing and extends through the bore. Lock means, forming a socket having an opening, is rotatably mounted to the shaft in the bore to pivot between an open position for permitting passage of the head and shank of a release bar through the opening and a closed position for restraining the head of the release bar in the socket and permitting clearance for the shank of the release bar through the opening. Restraining means is provided for preventing the lock means from moving to its open position when the sleeve is in its first position. Means, such as a gas release device and a piston, is provided for moving the sleeve from its first to its second position thereby permitting the lock means to move from its closed to its open position so that the head of the release bar retained in the socket may be removed from said socket.

According to a preferred but optional feature of the present disclosure, a cam surface is provided on the lock means and is adapted to contact the piston whereby upon release of gas by the gas release device the piston moves the sleeve to its second position and reacts upon the cam surfaces to move the lock segments to their open position.

3,437,371

VEHICLE AIR STREAM ANTITURBULENCE MECHANISM

Daniel G. Gallie, 6757 Cortland, Allen Park, Mich. 48101, and Gunnar Heskestad, 34 Seymour Terrace, Piscataway, N.J. 08854

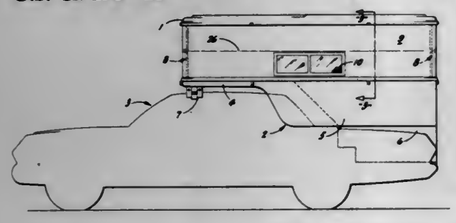
Filed Aug. 15, 1966, Ser. No. 572,462
Int. Cl. B60j *9/00;* B60h *1/26*
U.S. Cl. 296—1 9 Claims



This invention proposes an air suction means for drawing air out of the air stream passing over a vehicle body, and air exhaustion means for ejecting the air out of the vehicle body at a point remote from the air suction means. The air suction means is located at a point on the vehicle where it can bend or draw the air more closely down against the vehicle body surface, and the air exhaust means is located at a point on the vehicle body where it can eject air to fill a partial vacuum which would otherwise

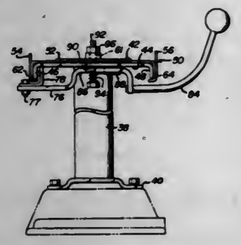
exist on the body surface. The arrangement promotes a streamline flow of air over the vehicle body, thereby minimizing air turbulence and reducing fuel consumption when the vehicle is traveling at high speed.

3,437,372
MOTOR VEHICLE CAMPER WITH ELEVATING ROOF
Russell C. McGarry, Merced, Calif.
(109 Bennett Road, Aptos, Calif. 95003)
Filed May 5, 1967, Ser. No. 636,301
Int. Cl. B60p *3/34*; E04b *7/16*; B60j *7/12*
U.S. Cl. 296—23 **2 Claims**



A motor vehicle camper having an elevating roof movable between a lowered position for travel and a raised position for use of the camper; there being means to support the roof in its raised position, and flexible curtains then spanning in closure relation between the roof and the main body of the camper.

3,437,373
SEAT ASSEMBLY
Charlie L. Boston, West Burlington, Iowa, assignor to J. I. Case Company, Racine, Wis., a corporation of Wisconsin
Filed June 14, 1967, Ser. No. 646,078
Int. Cl. B60n *1/02*; A61g *15/00*
U.S. Cl. 296—65 **4 Claims**



A post mounted seat including structural means for moving the seat along an inclined support to a desired fore-and-aft and an up-and-down position. A reversible seat for accommodating the vehicle operator in a forwardly facing or a rearwardly facing direction including biased lift means for elevating the seat to the desired position. The assembly provides a combined ramp with pivot means for the operation of vehicle and implement controls.

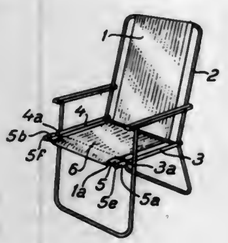
3,437,374
COMBINATION HEADREST AND LIFEVEST CONTAINER
William B. Bennett, 1525 NE. 149th St., North Miami, Fla. 33161
Filed July 6, 1967, Ser. No. 651,452
Int. Cl. A47c *7/38, 7/62*
U.S. Cl. 297—391 **6 Claims**

A combination headrest and lifevest container for incorporation in passenger chairs of the type used in commercial aircraft, including means for its removable attachment at the top of a passenger chair backrest, and having at the front a headrest cushion portion hingedly connected to a container portion and operative to swing outwardly and upwardly with respect thereto for release of an



inflatable lifevest contained therein, the lifevest comprising manually operative release means combinatively associated with the cushion portion to effect easy opening of the container portion for release of the lifevest into the hands of the seat passenger in an emergency.

3,437,375
FURNITURE PIECE HAVING A FABRIC ATTACHABLE THERETO
Heinz Kettler, Parsit uber Werl, Germany, assignor to Firma Heinz Kettler, Metallwarenfabrik, Parsit uber Werl, Westphalia, Germany
Filed June 8, 1967, Ser. No. 644,654
Claims priority, application Germany, June 25, 1966, K 54,875
Int. Cl. A47c *7/00, 31/00*
U.S. Cl. 297—441 **11 Claims**

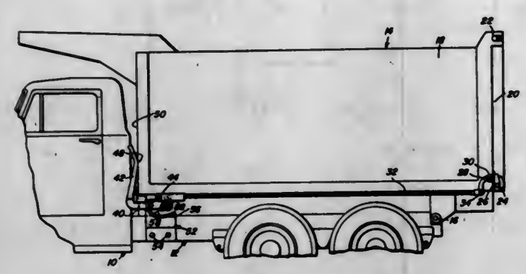


A furniture unit or component part thereof providing one or more planes of fabric on U-frames, the fabric being attached with one end to the U-bar of the frame and with its other end to a crosspiece detachably attachable to the ends of the U-legs. Preferably the means of attachment of the fabric to the crosspiece is a loop in the end of the fabric and preferably means are provided to tension the fabric within the frame.

3,437,376
TAILGATE LATCH
Donald C. Keathly, 3141 S. 3rd St., Louisville, Ky. 40214
Filed Mar. 17, 1967, Ser. No. 623,860
Int. Cl. B60p *1/28*
U.S. Cl. 298—23 **4 Claims**

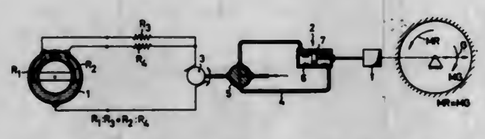
A tailgate latching mechanism for use on trucks including dump bodies and a tailgate movable between first and second positions in and out of position closing the rear end of the dump body with the latching mechanism including (1) the usual manually actuatable portion for

locking and unlocking the tailgate, (2) a deactivatable automatic actuator means to automatically actuate the tailgate latching mechanism in response to movement of the load bed to its horizontally disposed position from a dumping position and to automatically deactivate the



latching mechanism in response to movement of the load bed from the horizontally disposed position, and (3) control means operatively connected between the load bed and the automatic actuator means operative to selectively deactivate the automatic actuator means.

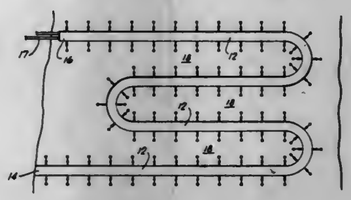
3,437,377
AUTOMATIC DEVICE FOR COUNTERBALANCING REACTION FORCES OF A BORE MINE MACHINE
Hermann Lautsch, Feldhauser Strasse 190, Gladbeck, Germany
Filed Jan. 5, 1967, Ser. No. 607,506
Claims priority, application Germany, Jan. 11, 1966, B 85,343
Int. Cl. E21b *1/06, 1/08, 5/00*
U.S. Cl. 299—1 **5 Claims**



In a bore mining machine a device for counteracting twisting torque of the machine created by the operation of the boring instrumentality. A weight associated with the machine is shiftable in directions transverse to the longitudinal axis thereof by automatic means responsive to the twisting action of the machine, so that the center of gravity is altered to effect a torque equal to and opposite that imposed by the machine. The automatic weight shifting means may comprise a hydraulic motor rendered operative by a measuring instrument, such as a ring potentiometer or a mercury switch, which is electrically connected for causing the hydraulic motor to shift the weight in one direction or the other in accordance with the demands of service.

3,437,378
RECOVERY OF OIL FROM SHALE
John H. Smith, Ponca City, Okla., assignor to Continental Oil Company, Ponca City, Okla., a corporation of Delaware
Filed Feb. 21, 1967, Ser. No. 617,562
Int. Cl. E21c *4/10*
U.S. Cl. 299—2 **11 Claims**

A method for recovering petroleum from relatively impermeable, subterranean oil shale deposits more economically than previously known methods. The method of the invention involves the consecutive practice of three basic steps. First, a subterranean tunnel mining procedure is used to form an elongated, serpentine tunnel through the shale strata, with the removed shale being processed by crushing and retorting to recover oil therefrom. Explosives are then detonated in the tunnel to implode the

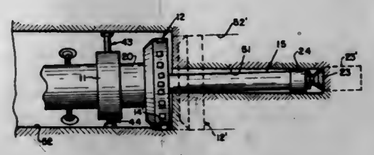


walls and ceiling of the tunnel and fill the tunnel with shale rubble. In the final step of the procedure, in situ combustion is commenced at one end of the tunnel, and the combustion then progressively propagated to the other end of the tunnel to recover a substantial portion of the oil from the rubbleized shale in the tunnel.

3,437,379
PROCESS FOR MINING AND REFINING PHOSPHORUS
Maria G. Dunseth, Baltimore, Casimer C. Legal, Jr., Elkridge, and Preston L. Veltman, Severna Park, Md., assignors to W. R. Grace & Co., New York, N.Y., a corporation of Connecticut
No Drawing. Filed Feb. 17, 1967, Ser. No. 616,773
Int. Cl. E21c *41/00, 41/14*
U.S. Cl. 299—5 **7 Claims**

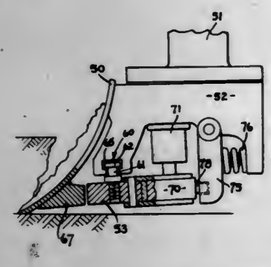
A method for mining natural phosphate matrix by flushing the phosphate matrix within an SO_2-water solution. The solution is recovered, filtered to remove solid impurities and the phosphate is then removed from the solution by precipitation which is effected by reducing the SO_2 content of the solution. The recovered SO_2 and liquid phase are recycled to the mining process.

3,437,380
STEERING METHOD AND APPARATUS
James C. Lawrence, Seattle, Wash., assignor to Alkirk, Inc., Seattle, Wash., a corporation of Washington
Continuation of applications Ser. No. 401,276, Oct. 2, 1964, and Ser. No. 416,075, Dec. 4, 1964. This application Nov. 6, 1967, Ser. No. 681,035
Int. Cl. E01g *3/04*; E21b *7/04*; E21c *9/00*
U.S. Cl. 299—10 **10 Claims**



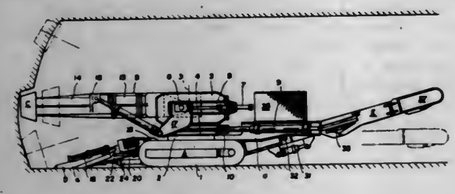
A method and apparatus for steering a tunnel boring machine which includes a main cutter and a pilot cutter including an anchor assembly. Fluid pressure operated jacks mounted on the frame of the machine engage the sidewalls of the tunnel. The machine is steered by pivoting the main cutter relative to the tunnel about the pilot cutter anchor assembly.

3,437,381
VEHICLE MOUNTED SONIC SHEARING DEVICE HAVING PROPULSION AIDING MEANS
Albert G. Bodine, 7877 Woodley Ave., Van Nuys, Calif. 91406
Continuation-in-part of application Ser. No. 627,390, Mar. 31, 1967. This application Feb. 5, 1968, Ser. No. 703,177
Int. Cl. E21c *37/16, 47/00*
U.S. Cl. 299—37 4 Claims



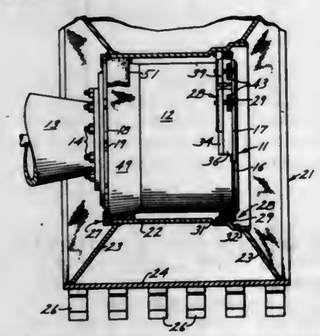
A shearing tool is supported on a vehicle compliantly, such tool frictionally engaging the material to be worked. Sonic energy developed in a resonant vibration system which is excited by means of an orbiting mass oscillator is applied to the tool in unidirectional pulses through a sonic rectifier. A portion of the unidirectional sonic energy is compliantly stored in the tool support, this stored energy subsequently being utilized to apply a force to the tool in a direction opposite to the unidirectional sonic drive, thereby providing a force for aiding in the propulsion of the vehicle.

3,437,382
MINING MACHINE WITH SELECTIVELY RETAINABLE LOADING APRON
Johannes Meissner, Bochum, Gustav Bockau, Bochum-Linden, and Siegfried Reike, Bochum, Germany, assignors to Gebr. Eickhoff, Maschinenfabrik und Eisengiesserei m.b.H., Bochum, Germany, a corporation of Germany
Filed Mar. 7, 1967, Ser. No. 621,201
Claims priority, application Germany, Mar. 10, 1966, E 31,208
Int. Cl. E21c *27/42, 27/38*
U.S. Cl. 299—56 4 Claims



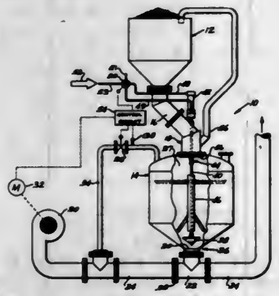
This patent discloses a machine for mining coal or the like of the kind that comprises a chassis movable on the mine floor, a machine body set on the chassis, a cutter head positioned at the free end of an arm swivel-mounted in the machine body for both horizontal and vertical movement, a gathering apron for taking up crushed mineral loosened by the action of the cutting head, and conveyor means for transporting to the rear of the machine the loosened metal ore taken up by the gathering apron. In a machine of this kind, this patent discloses the improvement that is obtained by having the cutter head and its associated arms mounted for movement longitudinally of the machine, so that a greater quantity of mineral can be loosened with the machine standing in one position, and at the same time providing a loading apron that is mounted for movement in the horizontal, i.e., pivoted about a vertical axis and anchorable, preferably by means of hydraulic jacks, in each horizontal position, so that the loading apron may be brought directly under the arm bearing the cutter head, thereby improving the position of stability of the machine. This patent further discloses the use of a stop, operable when the arm bearing the cutter head is in a fully retracted position, to prevent the cutter head from coming into contact with the gathering apron.

3,437,383
REPLACEABLE COMPACTOR WHEELS AND MOUNTING APPARATUS THEREOF
Victor Randour, Pekin Ill., assignor to Caterpillar Tractor Co., Peoria, Ill., a corporation of California
Filed July 7, 1967, Ser. No. 651,959
Int. Cl. B60b *23/00*
U.S. Cl. 301—22 6 Claims



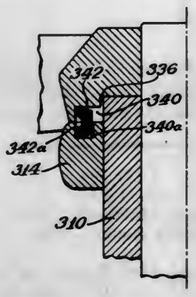
Replaceable compactor wheel and apparatus for mounting same on a standard hub. The replaceable wheel has a rim with an inner edge positively contacting an inner peripheral flange of the hub. An annular member having wedge-receiving surfaces and two wedge rings interact to provide a wedge force between the hub and the replaceable wheel rim to affix the replaceable wheel upon the hub.

3,437,384
CONVEYING SYSTEM AND VALVE CONSTRUCTIONS THEREFOR
Michael J. Bozich, 1059 Bayridge Ave., Pittsburgh, Pa. 15226
Filed Nov. 14, 1967, Ser. No. 682,858
Int. Cl. B65g *53/36, 53/40*
U.S. Cl. 302—53 10 Claims



A system for pneumatically conveying solid granular materials from a delivery bin through a conveying conduit carrying compressed gas. The delivery bin is provided with an inlet valve and an outlet valve operable in unison by a single motor means. The valves are operated reciprocally such that when the outlet valve is closed the inlet valve is opened to admit granular materials from a supply bin into the delivery bin. Conversely, when the inlet valve is closed, the outlet valve is opened to discharge granular materials from the delivery bin to the conveying conduit.

3,437,385
TRACK JOINT HAVING FLOATING SEAL
Jack M. Deli, Wheaton, Ill., assignor to International Harvester Company, Chicago, Ill., a corporation of Delaware
Continuation-in-part of application Ser. No. 576,152, Aug. 30, 1966. This application Jan. 24, 1967, Ser. No. 611,463
Int. Cl. B62d *55/08*; B60s *1/62*; F16j *15/38*
U.S. Cl. 305—11 6 Claims

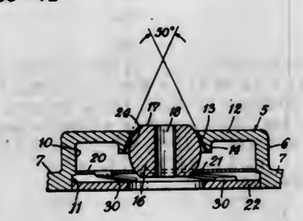


Sealed track chain joint having a bushing, a link counterbore receiving and housing therein the thrust end portion of the bushing, and a floating end-face seal in the link adjacent said thrust end portion and forming within the link a radial interface of sealing contact at least preferably in a ring at the outer end periphery of the bushing or, at most, in an outermost ring of pressure contact spaced apart radially outwardly from the bushing.

ERRATUM

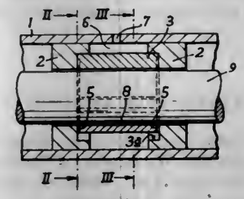
For Class 308—26 see:
Patent No. 3,436,835

3,437,386
SELF-ALIGNING BEARINGS
James D. Cole, 550 Chester Ave., Elgin, Ill. 60120
Filed May 11, 1967, Ser. No. 637,756
Int. Cl. F16c *9/06, 23/00*
U.S. Cl. 308—72 6 Claims



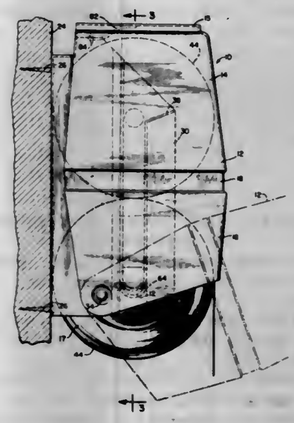
In abstract form, the invention consists of a self-aligning bearing for electric motors and the like, and embodies a spherical bearing member mounted for universal movement and having an opening to accommodate the armature shaft of the motor, and a correspondingly shaped bearing seat on said motor which is provided with a series of equidistantly spaced internal protuberances or rib-like projections against which said universally movable spherical member is yieldingly held in contactual engagement. The spherical member contacting the end portions and said rib-like projections extending in an axial direction.

3,437,387
FLUID BEARINGS
William Colin Dee, Bournemouth, England, assignor to Gilbert C. Davis, Forest Town, Johannesburg, Transvaal, Republic of South Africa
Filed May 3, 1967, Ser. No. 635,741
Claims priority, application Great Britain, May 6, 1966, 20,102/66
Int. Cl. F16c *1/24, 33/66, 13/02*
U.S. Cl. 308—122 5 Claims



A fluid bearing has inner and outer relatively rotatable members. A bearing gap is defined between a cylindrical outer bearing surface of the inner member, and a cylindrical inner bearing surface of the outer member. Fluid under pressure is fed to the bearing gap through a series of slots disposed in the outer member at angular intervals about the axis. The inner end opening of each slot extends axially along the bearing surface, and the slots are arranged with their longitudinal median plane forming a tangent to a circle coaxial with the bearing surface so as to feed the fluid into the bearing gap with an angular flow component. In use, the inner member is rotated in a direction counter to that angular gas flow.

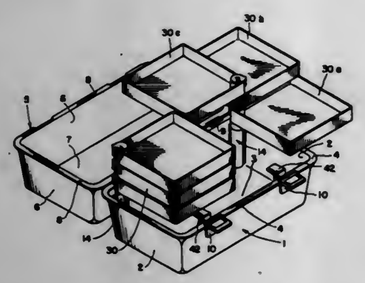
3,437,388
DISPENSER FOR ROLLS OF FLEXIBLE SHEET MATERIAL
Paul W. Jespersen, Westport, Conn., assignor to Georgia-Pacific Corporation, Portland, Oreg., a corporation of Georgia
Filed Sept. 14, 1967, Ser. No. 667,839
Int. Cl. B65h *19/00*
U.S. Cl. 312—39 13 Claims



A device for dispensing a roll of flexible sheet material having an internal supporting means which extends axi-

ally beyond the ends of the roll and which includes a plurality of axially aligned, separable core sections frictionally engaged by the roll, comprising; a framework including a pair of horizontally opposed supporting elements for rotatably engaging the ends of the supporting means to position the roll for rotation about a substantially horizontal axis, wherein at least one of the supporting elements includes integral means for urging the supporting means downwardly so that when the sheet material is substantially exhausted from about the supporting means and the core sections disengaged thereby, the downward urging imparted to the supporting means will facilitate separation of the core sections causing the supporting means to collapse and be discharged from the device.

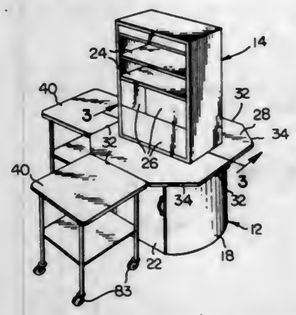
3,437,389
CONTAINER FOR FISHING TACKLE OR THE LIKE
George D. Perkins and David E. Workman, Pasadena, Calif., and Joseph W. Kneier, Chesterland, Ohio, assignors to Pendleton Tool Industries, Inc., Los Angeles, Calif., a corporation of Delaware
Filed Aug. 3, 1967, Ser. No. 658,216
Int. Cl. A47b *53/00, 77/16;* **A45c** *5/12*
U.S. Cl. 312—202 **8 Claims**



A container for fishing tackle which includes a conventional box made up of a pair of box halves connected to each other by a hinge to allow the box to be opened and closed. A pair of socket members are each positioned in a corner of the container and a tubular support post is mounted in the sockets. A plurality of trays are mounted in a stacked or superposed arrangement on these posts so that the trays are positioned above the lower half of the container. The trays swivel or pivot on these posts when the container is open and there are means to limit the amount of pivoting of each tray relative to the tray immediately below to 90° so that the trays can be fanned. This tray arrangement permits free access to the bottom half of the container.

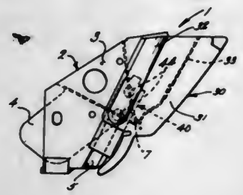
3,437,390
APPARATUS AND METHOD FOR REPAIRING EQUIPMENT
Royce F. Evans, New Haven, Ind., assignor to Tele-Quick Corporation, New Haven, Ind., a corporation of Indiana
Filed June 19, 1967, Ser. No. 647,162
Int. Cl. A47b *83/00, 17/00, 19/00*
U.S. Cl. 312—237 **11 Claims**

An apparatus for facilitating an improved method for repairing and servicing television and radio equipment, which apparatus comprises a pedestal upon which is mounted a cabinet containing instruments for repairing and servicing the equipment, a table arranged for rotation about the axis of the pedestal and a plurality of dollies, each of which is arranged to be selectively latched to the table for rotation therewith. The method comprises the steps of placing the equipment to be repaired



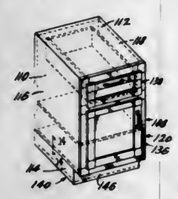
on a dolly, releasably connecting the dolly to the table, repairing the equipment using the instruments in the cabinet, and disconnecting the dolly from the table.

3,437,391
ASHTRAY
Forest L. Middleton, Middleville, Mich., assignor to Lescoa, Inc., Grand Rapids, Mich., a corporation of Michigan
Filed Oct. 31, 1967, Ser. No. 679,486
Int. Cl. A47b *67/02;* **A47f** *5/08;* **B60n** *3/08*
U.S. Cl. 312—247 **3 Claims**



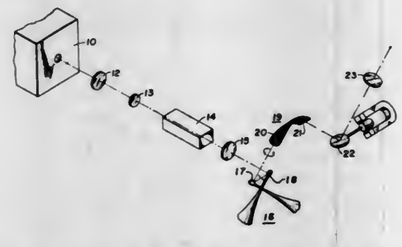
Automobile ashtray with ash box element having a generally vertically extending track at each of its sides, a closure panel having a generally vertically extending track at each of its sides, a carriage element having ball bearings at its sides exposed to lie in the tracks of the ash box and the closure panel whereby the closure panel is vertically movable, and holding means associated with the closure panel and the ash box to releasably hold the closure panel with respect to the ash box.

3,437,392
THREE-DIMENSIONAL STRUCTURE HAVING ADJACENT WALLS JOINED TOGETHER
George C. Hilfinger, Toledo, Ohio, assignor to Wesley Industries, Inc., Toledo, Ohio, a corporation of Ohio
Filed Apr. 7, 1967, Ser. No. 629,239
Int. Cl. A47b *43/02, 47/02*
U.S. Cl. 312—258 **7 Claims**



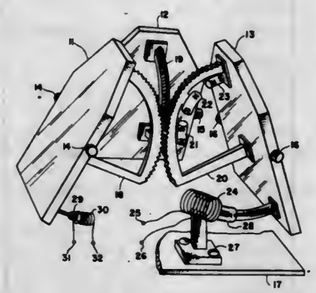
A knock-down construction for structures such as cabinets, drawers, and vanities includes a single two-layer sheet having a thin, outer metal layer and a thick, inner backing layer of hardboard or plywood. The sheet is formed to a predetermined shape and the inner layer is then grooved at joint lines and bent to form adjacent walls of the structure. A metal front frame is then affixed to the front edges of the walls for additional strength.

3,437,393
TORSIONAL VIBRATOR LIGHT BEAM SCANNER
Charles E. Baker and William D. Penn, Dallas, Tex., assignors to Texas Instruments Incorporated, Dallas, Tex., a corporation of Delaware
Filed Sept. 30, 1966, Ser. No. 583,214
Int. Cl. G02b *17/00, 17/06*
U.S. Cl. 350—6 **13 Claims**



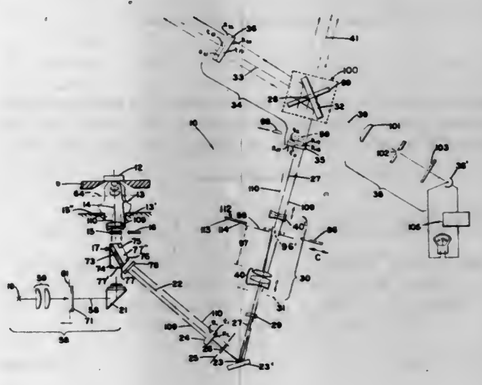
Disclosed for use in a display system is a light beam scanner using torsional vibrators cooperatively to scan a modulated light beam. The modulated light beam impinges upon each of said torsional vibrators to form a predetermined pattern in said display system. Each of said vibrators comprises a cylindrical body with a toroidal coil thereon for magnetically biasing said body to induce torsional motion, a torsional amplifier extending from said body, and a reflector surface at the end of said torsional amplifier.

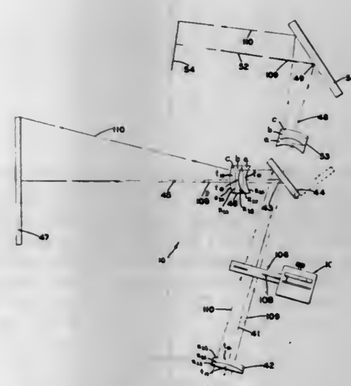
3,437,394
ELECTROMAGNETIC MIRROR DRIVE SYSTEM
Norman M. Hatcher, Gloucester, and Nelson J. Groom and Arthur L. Newcomb, Jr., Newport News, Va., assignors to the United States of America as represented by the Administrator of the National Aeronautics and Space Administration
Filed July 26, 1966, Ser. No. 568,071
Int. Cl. G02b *17/00*
U.S. Cl. 350—6 **4 Claims**



A device for scanning a horizon with a pair of mirrors. The two mirrors scan in the same plane but in different directions. Each of the mirrors has a gear attached to its back and the two gears are meshed together. Electromagnetic means are provided for imparting an oscillatory rotation to one of the mirrors. Hence, this oscillatory rotation is imparted to the other mirror through the two gears.

3,437,395
OPTICAL SYSTEM FOR INVERTED MICROSCOPE
Harold E. Rosenberger, Brighton, N.Y., and Sarkis K. Tchejeyan, Cudahy, Wis., assignors to Bausch & Lomb Incorporated, Rochester, N.Y., a corporation of New York
Filed Sept. 3, 1965, Ser. No. 484,986
Int. Cl. G02b *23/02, 21/18, 7/04*
U.S. Cl. 350—9 **9 Claims**



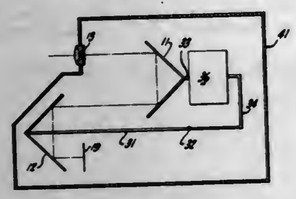


An optical system for a microscope, particularly but not exclusively of the inverted type, incorporating image modifying effects and photographic apparatus. The optical system includes a zoom optical subsystem having a positive front lens component and a rear negative lens component to achieve a greater range of magnefication. A movable phase retardation plate is located between the zoom subsystem lens components and is spaced at a constant distance from the first positive lens component.

3,437,396
OPTICAL STABILIZATION WITH ROOF MIRROR
William E. Humphrey, Berkeley, Calif., assignor to Optical Research and Development Corporation, Oakland, Calif., a corporation of California
Filed Sept. 14, 1966, Ser. No. 579,371
Int. Cl. G02b *23/02*
U.S. Cl. 350—16 **7 Claims**

An optical stabilizer including an objective lens for focusing received light, a plane for displaying an image of the received and focused light and two displaced and

parallel roof mirrors, each of which displaces and retro-directs the focusing light onto the display plane. Each reflecting element is stabilized and pivots on gimbals about



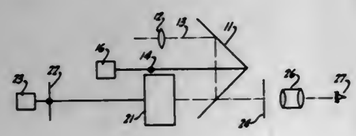
an arm extending parallel to the optic axis with a distance between apex lines (measured along the optic axis) substantially equal to half the focal length of the objective.

3,437,397

DOUBLE-MIRROR SYSTEM FOR OPTICAL STABILIZATION

William E. Humphrey, Berkeley, Calif., assignor to Optical Research and Development Corporation, Oakland, Calif., a corporation of California

Filed Sept. 14, 1966, Ser. No. 579,370
Int. Cl. G02b *23/02*
U.S. Cl. 350—16 5 Claims



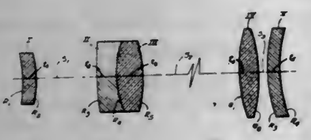
An optical stabilizer including objective lens for focusing received light, a plane for displaying the received image, and first and second stabilized pairs of mutually perpendicular roof mirrors for intercepting and displacing the focusing light therebetween. Each of the roof mirrors has an apex line and is pivoted about a pivot axis parallel to the apex line and at a distance from the apex substantially equal to one-half the focal length of the lens.

3,437,398

PLURAL MICROSCOPE OBJECTIVE USED WITH A COMMON TELESCOPE OBJECTIVE

Robert M. Muller, Cheektowaga, and Milton H. Sussman, Buffalo, N.Y., assignors to American Optical Corporation, Southbridge, Mass., a corporation of Delaware

Filed Feb. 10, 1964, Ser. No. 343,829
The portion of the term of the patent subsequent to May 5, 1981, has been disclaimed
Int. Cl. G02b *7/04, 15/02, 9/00*
U.S. Cl. 350—38 13 Claims



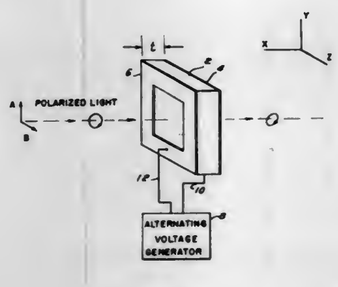
A telescope objective having deliberately introduced axial aberration and spaced rearwardly from any one of a series of microscope objectives is used to correct field aberrations of all of the microscope objective. The microscope objectives are characterized by a negative radius front surface reducing the Petzval sum substantially to zero, a rear doublet having deliberately introduced axial aberrations spaced rearwardly from the front lens components, or a combination of these two features to aid in substantially flattening the tangential image plane for combinations of microscope objective and the telescope objective.

3,437,399

SOLID-STATE CRYSTAL OPTICAL MODULATOR

Dayton D. Eden, Dallas, Tex., assignor to Texas Instruments Incorporated, Dallas, Tex., a corporation of Delaware

Filed May 28, 1964, Ser. No. 371,071
Int. Cl. G02f *1/24, 1/26, 1/28*
U.S. Cl. 350—149 10 Claims



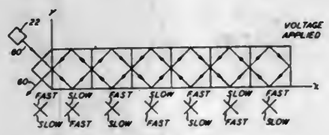
Disclosed herein is an optical modulator of piezoelectric material (such as quartz) having a pair of opposing faces disposed substantially parallel to the *z*-axis of the crystal and means for establishing an alternating electric field within the crystal substantially perpendicular to the *z*-axis. A substantial improvement in the light modulation obtainable results from the combined use of the Pockel's effect as well as the acoustic resonance effect present by operating the alternating electric field at a frequency substantially equal to the natural piezoelectric resonance frequency of the crystal.

3,437,400

ELECTRO-OPTIC LIGHT DEFLECTION APPARATUS

Robert Rosenberg, Summit, N.J., assignor to Bell Telephone Laboratories, Incorporated, New York, N.Y., a corporation of New York

Filed Apr. 19, 1965, Ser. No. 448,982
Int. Cl. G02f *1/26*
U.S. Cl. 350—150 15 Claims



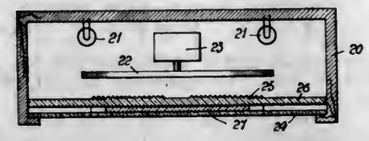
An array of zero degree z-cut cuboidal electro-optic blocks, each oriented with respect to reference *x*, *y*, and *z* axes and each rotated 90° with respect to the preceding block, is arranged such that light incident on said array at approximately 45° with respect to the *x* and *y* axes is internally reflected within said blocks and upon the application of an electric field parallel to the *z*-axis is deflected at each reflection with successive deflections being additive.

3,437,401

LIGHT-INTERCEPTING SHEET FOR AN ILLUMINATED DISPLAY DEVICE

Anthony Siksai, Bloomfield Township, Oakland, County, Mich., assignor to Visorama Printed Motions Company, Detroit, Mich., a corporation of Michigan

Continuation-in-part of application Ser. No. 197,128, May 23, 1962. This application May 25, 1964, Ser. No. 369,942
Int. Cl. G02b *5/30, 27/28;* G02f *1/24*
U.S. Cl. 350—159 19 Claims



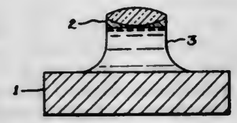
A display device for animating selected portions of a picture comprising a rotary polarizer and a light-intercepting sheet having different patterns of motion lines imprinted on the portions thereof overlying the portions of the picture to be animated. The motion lines are imprinted on the light-intercepting sheet by a master plate or die which enables a large number of light-intercepting sheets to be produced on a production basis.

3,437,402

ARYL THIOETHER IMMERSION LIQUIDS

Philip L. Levins, Lexington, Mass., assignor, by mesne assignments, to Bausch & Lomb Incorporated, Rochester, N.Y.

Filed Feb. 23, 1966, Ser. No. 529,374
Int. Cl. G02b *3/12*
U.S. Cl. 350—179 4 Claims



An immersion liquid interposed between and contacting both the objective lens and the specimen under examination, said immersion liquid comprising an aryl thioether having at least three benzene rings and a high refractive index.

3,437,403

LARGE APERTURE, HIGH MAGNIFICATION REVERSED TELEPHOTO PROJECTION OBJECTIVE

Thomas S. Bird, Rochester, N.Y., assignor to Bausch & Lomb Incorporated, Rochester, N.Y., a corporation of New York

Filed July 13, 1966, Ser. No. 564,884
Int. Cl. G02b *9/64, 17/02*
U.S. Cl. 350—204 5 Claims

1. An image forming optical projection system of the reversed telephoto type working at finite conjugates and having a high magnification and numerical aperture of substantially 150× and .42 respectively and a total field angle at least as great as 23° along with an excellent high resolution and very flat field over the entire format, said system having a collective front lens group optically aligned with a rear dispersive group, said collective group including

a plane parallel cover glass lying substantially in contact with the surface of an object to be projected and designated I,

a negative meniscus lens member designated II and spaced from cover glass I and being concave thereto,

a positive meniscus doublet lens member which is spaced from and is concave toward member II, said doublet being composed of a front double concave element designated IIIa which lies in contact with a double convex element designated IIIb,

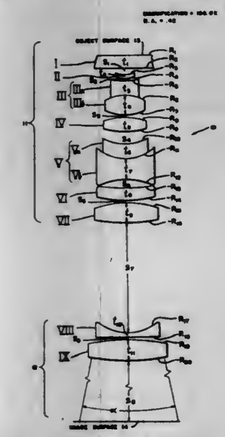
a double convex lens member spaced rearwardly from said doublet and designated IV,

a double concave doublet lens member spaced from member IV and composed of a front positive meniscus lens element designated Va and a double concave lens element lying in contact therewith and designated Vb,

a positive meniscus singlet lens member spaced axially from the last doublet lens member and being concave thereto, said member being designated VI and being in close proximity at the edge with the edge of the second doublet,

a double convex lens member designated VII and spaced from member VI,

said dispersive lens group including a negative singlet lens designated VIII which is widely spaced rearwardly from member VII and is concave thereto, said dispersive group further including



a rearmost double convex lens designated IX which is spaced rearwardly from lens element VIII at an axial distance designated S_8 and at a projection distance designated S_9 from the image produced by said system,

the values of the equivalent focal lengths F_I to F_{IX} respectively of the successive lens members I to IX being given substantially in the tables herebelow in terms of F which represents the equivalent focal length of said system wherein the minus (—) sign indicates negative focal length,

$$F_I=\infty$$
$$F_{II}=25.0F$$
$$F_{III}=5.8F$$
$$F_{IV}=1.97F$$
$$-F_V=1.46F$$
$$F_{VI}=13.23F$$
$$F_{VII}=3.23F$$
$$-F_{VIII}=2.42F$$
$$F_{IX}=6.81F$$

the lens elements II, IIIb, IV, Va, VI, VII and VIII being made of the same kind of glass which has a refractive index absolute value between 1.688 and 1.694, and has an Abbe number absolute value between 51.0 and 58.0,

the lens elements IIIa, Va and IX having a refractive index n_D values respectively which are stated herebelow,

$$n_D(\text{IIIa})-n_D(\text{IIIb})=.029$$
$$n_D(\text{Va})-n_D(\text{Vb})=.074$$
$$n_D(\text{IX})-n_D(\text{VIII})=.029$$

the lens elements IIIa, Va and IX having absolute values for the Abbe numbers ν respectively which are stated herebelow,

$$\nu(\text{IIIb})-\nu(\text{IIIa})=25.0$$
$$\nu(\text{Va})-\nu(\text{Vb})=18.0$$
$$\nu(\text{VIII})-\nu(\text{IX})=25.0$$

the successive lens parts II to IX having air spaces S_1 to S_9 therebetween rearwardly of the cover glass I, which have values stated in terms of F in the table herebelow,

$$.193F<S_1<.198F$$
$$.024F<S_2<.041F$$
$$.024F<S_3<.041F$$
$$.361F<S_4<.426F$$
$$.254F<S_5<.320F$$
$$.018F<S_6<.025F$$
$$4.04F<S_7<4.12F$$
$$.041F<S_8<.057F$$
$$141.0F<S_9<147.0F$$

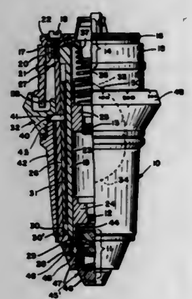
the successive optical parts I to IX having values in terms of F for the axial thicknesses t_1 to t_{11} respectively which are given in the table herebelow,

$$.508F<t_1<.517F$$
$$.286F<t_2<.296F$$
$$.533F<t_3<.560F$$
$$.735F<t_4<.750F$$
$$.620F<t_5<.635F$$
$$.573F<t_6<.583F$$
$$.722F<t_7<.733F$$
$$.468F<t_8<.484F$$
$$.647F<t_9<.673F$$
$$.151F<t_{10}<.177F$$
$$.744F<t_{11}<.792F$$

3,437,404
ZOOM OBJECTIVE MOUNTING POD

Frederick A. Seedhouse, Henrietta, N.Y., assignor to Bausch & Lomb Incorporated, Rochester, N.Y., a corporation of New York

Filed Feb. 25, 1966, Ser. No. 530,069
Int. Cl. G02b *7/10*
U.S. Cl. 350—255 **5 Claims**



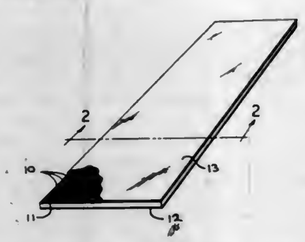
A self-contained, demountable pod for housing a zoom type of microscope objective is disclosed. The positions of the movable zoom lens mounting cells are controlled by cam followers attached to the cells which engage the respective surfaces of a cylindrical cam surrounding the body tube in which the lens cells are fitted. The zoom lens cells are urged against the cam surfaces by biasing springs seated against the ends of the tube carrying the lens cells.

The present invention relates to mounting mechanism for microscope objectives and more particularly it relates to an independently operated mechanical unit wherein a zoom type of objective is mounted.

3,437,405
LIGHT CONTROL PANEL

Harry V. Northrop, Newark, Ohio, assignor to Owens-Corning Fiberglas Corporation, a corporation of Delaware

Continuation-in-part of application Ser. No. 39,837, June 30, 1960. This application Aug. 27, 1964, Ser. No. 392,579
Int. Cl. G02b *17/00, 27/00, 5/14*
U.S. Cl. 350—259 **10 Claims**

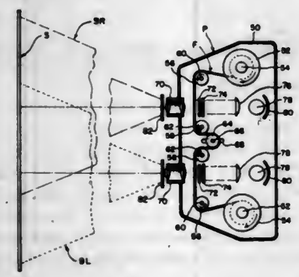


A planar, light controlling panel construction adapted to selectively control the transmission and direction of light and like radiation in the passage thereof normally through the panel, said panel construction including a hardened, light-transmitting, resinous binder forming the principal matrix for said panel and, disposed interiorly within said binder, a plurality of light-transmitting, elongate, vitreous bodies disposed in general parallelism with each other and also in parallelism with the major faces of said panel, said vitreous bodies being located and distributed in sufficient number that the path of light passing through the panel must intersect at least one of said bodies whereby the light passing through the panel is effected, depending upon the relationship between the amplitude of light emanating from a light source and the arrangement of the parallel fibers therewithin.

3,437,406
METHOD AND APPARATUS FOR STEREOSCOPIC PHOTOGRAPHY

Albert T. Rowell, Sr., 4900 W. Lunt Ave., Skokie, Ill. 60076

Filed Oct. 22, 1965, Ser. No. 501,097
Int. Cl. G03b *35/10, 35/20*
U.S. Cl. 352—60 **7 Claims**

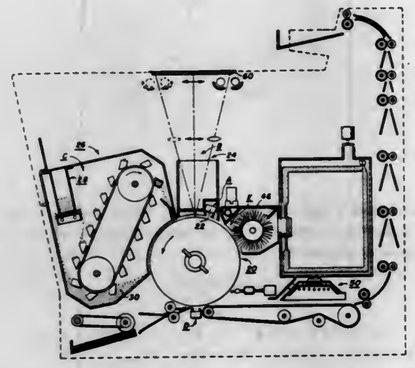


A method and apparatus for photographing and projecting horizontally running motion picture film stereoscopically, wherein two pictures are simultaneously, directly taken or projected at spaced intervals on separate frames of a strip of film which are spaced from each other a distance equal to the length of an even number of frames by means of horizontally spaced lenses, and then the film having sprocket holes only adjacent alternately spaced frames is advanced a distance equal to the length of two frames and then the process is repeated.

3,437,407
XEROGRAPHIC FUSING SYSTEM

James B. Baker, Canandaigua, N.Y., assignor to Xerox Corporation, Rochester, N.Y., a corporation of New York

Filed Mar. 28, 1966, Ser. No. 537,905
Int. Cl. G03g *15/00, 15/20*
U.S. Cl. 355—3 **2 Claims**

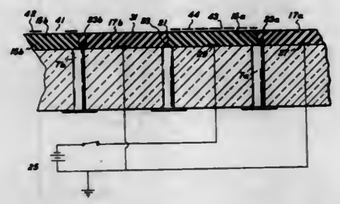


A fusing system having a main heater, a supplemental heater and a circuit for energizing xerographic apparatus and a control system for de-energization of the supplemental heater. The control system including a pair of switches for controlling de-energization of the supplemental heat, the switches being operable by a pair of timers.

3,437,408
MULTIPLE COPY ELECTROSTATIC IMAGING APPARATUS

Benjamin Kazan, Pasadena, Calif., assignor to Xerox Corporation, Rochester, N.Y., a corporation of New York

Filed Sept. 29, 1966, Ser. No. 582,909
Int. Cl. G03g *15/00;* **H01l** *15/00.*
U.S. Cl. 355—3 **8 Claims**



1. Apparatus for establishing potential variations in a pin matrix in accord with an optical input supplied to said apparatus comprising:

(a) a semiconductor field effect layer divided into paired adjacent areas, the first member of each of said pairs being responsive to light impinging thereon by dissipating previously deposited charge in accordance with the intensity of said light, whereby a charge pattern may be established on the totality of said first member areas in accord with said optical input pattern and whereby conductivity variations may be established in the semiconductor volumes underlying said first member areas in accord with said optical input;

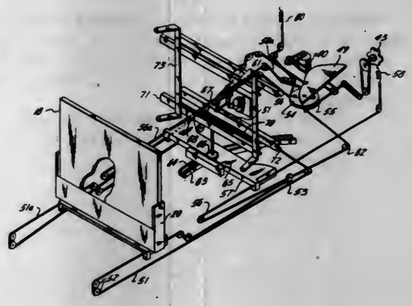
(b) a matrix of conductive pins, individual pins being electrically connected to the boundaries between said paired areas;

(c) means to establish an electrical potential between members of said pairs whereby each of said pins apears electrically at the division point of a voltage divider circuit including in series connection a conductive channel in said first member area displaying fixed conductivity representative of the intrinsic conductivity of said semiconductor and a conductivity channel in said second member area displaying conductivity in accord with the charge pattern thereon, whereby the electrical potential of individual of said pins varies in accord with the conductivity of said first member areas and thus in accord with said optical input.

3,437,409
PHOTOPRINTING AND PROCESSING DEVICE

Murray Friedel, North Miami Beach, Fla., assignor to Visual Graphics Corp., New York, N.Y., a corporation of New York

Filed May 19, 1966, Ser. No. 551,426
Int. Cl. G03b *27/32, 27/52*
U.S. Cl. 355—21 **8 Claims**



A photographic copying device having a light tight space within which light sensitive material is carried and exposed, a control station from which the copying process can be carried out and an adjustable copy receiving board illuminated by movable lamps carried by the copying device and positioned from the control station.

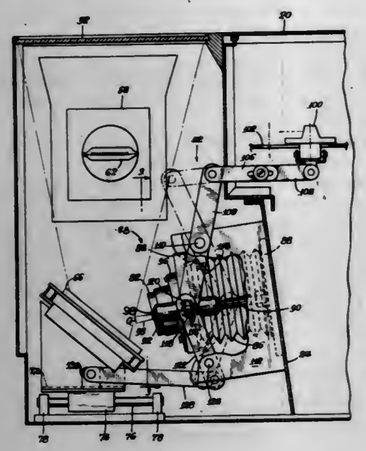
3,437,410
PHOTOCOPYING APPARATUS

John L. Tregay, Wilmette, and William P. Graff, Chicago, Ill., assignors to Addressograph-Multigraph Corporation, Mount Prospect, Ill., a corporation of Delaware

Filed Apr. 26, 1966, Ser. No. 545,344
Int. Cl. G03b *27/36, 27/70*
U.S. Cl. 355—57 **14 Claims**

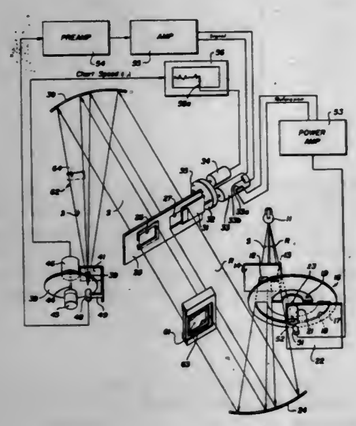
An optical assembly capable of varying the size of a projected image from a fixed illuminating station to a fixed exposure station by simultaneously adjusting the lens and reflective surface. The lens is mounted in a

manner so that adjustment for enlargement or reduction moves the lens in a path that is oblique to the optical axis of the lens. The reflective surfaces and the lens are interconnected by linkage mechanisms so that their move-



ment is coordinated through a single operator. Movement of the lens assembly in this manner moves the field of view of the lens, but does not require any adjusting movement of either the original subject or the plane of exposure.

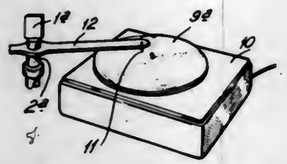
3,437,411
OPTICAL NULL SPECTROPHOTOMETER
Andrew C. Rudomanski, Northridge, and Eugene A. Enfusia, Santa Rosa, Calif., assignors to Optical Coating Laboratory, Inc., Santa Rosa, Calif., a corporation of California
Filed Nov. 24, 1964, Ser. No. 413,432
Int. Cl. G01n *21/00*; G01j *3/00*
U.S. Cl. 356—89 4 Claims



Optical null spectrophotometer having a circular variable filter for isolating a continuously varying wavelength band having portions of sample and reference beams therein and which also may have off axis spherical mirrors.

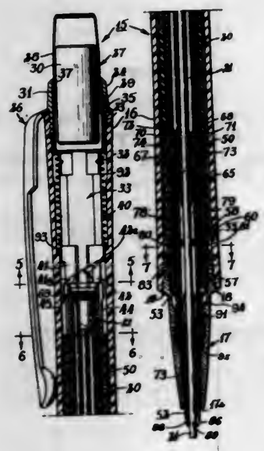
3,437,412
DEVICE FOR IMPARTING A PRESCRIBED ROTATION TO A LIGHT DISPERSING ELEMENT OF AN OPTICAL SPECTROPHOTOMETER
Pierre Raoul Joseph Stehlé, 5 Rue J.B.H. Lafolie, La Garenne, France
Filed June 17, 1965, Ser. No. 464,637
Claims priority, application France, June 22, 1964, 979,081
Int. Cl. G01j *3/00*; G02b *5/18*
U.S. Cl. 356—256 5 Claims

A device for controlling the rotation of a light dispersing element of a monochromator which is mounted on a shaft, in which an arm is rigidly connected to the shaft and carries a stylus which is engaged in a groove formed in a record which is placed on a turntable rotating at a



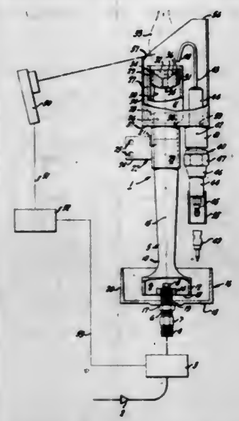
constant and predetermined speed whereby the light dispersing element rotates at a prescribed rotation law as the stylus engages the groove.

3,437,413
CARTRIDGE REPEATER PENCIL
Daniel Parker, Milton Junction, Wis., assignor to The Parker Pen Company, Janesville, Wis., a corporation of Wisconsin
Filed Aug. 18, 1966, Ser. No. 573,240
Int. Cl. B43k *21/16, 21/22*
U.S Cl. 401—67 9 Claims



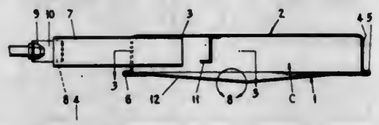
A writing instrument includes a throw-away pencil cartridge comprising a tubular barrel having an actuator assembly slidably mounted in its rearward portion and a self-contained pencil cartridge removably mounted in its forward portion. The self-contained cartridge includes a tubular shell for supporting a lead supply chamber and a lead advancing mechanism in operating engagement with the actuator assembly.

3,437,414
GAS BURNER CONSTRUCTION
Christopher B. Gorman, Oakland, Calif., assignor to Ransome Torch & Burner Co., a corporation
Filed Mar. 13, 1967, Ser. No. 622,777
Int. Cl. F23n *5/08*
U.S. Cl. 431—79 2 Claims



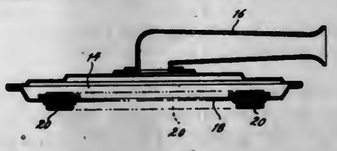
A gas burner having a self-ignition device and a sensing device to operate a safety gas shut-off mechanism is provided with shields to prevent the sensor from responding to the self-ignition device and to prevent wind from extinguishing the flame on the burner.

3,437,415
RADIANT GAS BURNER
James H. Davis, Waverly, New South Wales, John D. Dobie, Montmorency, Victoria, and Maxwell G. Flockhart, Brunswick, Victoria, Australia, assignors to Graig & Seeley Limited, Brunswick, Victoria, Australia, a corporation of Victoria
Filed Aug. 18, 1967, Ser. No. 661,695
Claims priority, application Australia, Aug. 22, 1966, 9,972; Feb. 21, 1967, 17,965
Int. Cl. F23d *13/12, 13/44*; B05b *1/14*
U.S. Cl. 431—328 5 Claims



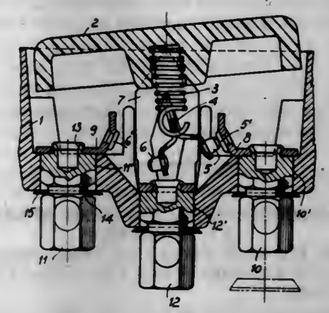
A radiant burner comprising a body defining a chamber having one open face, means for delivering a combustible mixture to the chamber, a single thin perforated radiant member covering said open face so that the mixture will issue through the perforations to be burnt adjacent the outer face of said member to heat said member such that the temperature of the mixture in the chamber does not exceed the flash point thereof, at least said outer face being coated with a black heat resistant material.

3,437,416
RADIANT BURNER
Domenick Saponara, Allentown, Pa., assignor to Caloric Corporation, Topton, Pa., a corporation of Pennsylvania
Filed May 16, 1967, Ser. No. 638,848
Int. Cl. F23d *13/14*
U.S. Cl. 431—329 2 Claims



A gas burning infrared ray generator which comprises a housing which provides a fuel chamber and which has an end wall provided with a plurality of openings therein, each opening containing a burner unit which comprises a cup-like foraminous member projecting through the opening and supported on the inner surface thereof by means which prevents leakage of fuel externally of the housing except through said members.

3,437,417
ASSEMBLY METHOD FOR ELECTRICAL DEVICES
Mario Paganelli, Varese, Italy, assignor to Bassani, S.p.A., Milan, Italy
Filed Dec. 27, 1966, Ser. No. 604,818
Claims priority, application Italy, Dec. 28, 1965, 28,842/65
Int. Cl. H01h *11/00*; H01r *9/04*,*13/50*
U.S. Cl. 29—622 4 Claims



A switch housing has a terminal member secured in an apertured wall thereby by a deformed, initially dished washer secured in an annular groove in the member, on one side of the wall; and by a switch contact holding member swaged onto the member, on the other side of the wall.

CHEMICAL

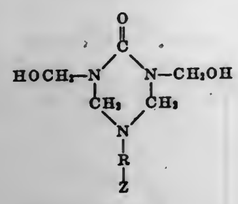
3,437,418
PROCESS FOR DYEING FIBERS OF POLYETHYLENE TEREPHTHALATE AND BLENDS THEREOF WITH COTTON WITH MONOAZO DYESTUFFS
William G. Huey, Nassau, William H. Armento, Albany, and Lester N. Stanley, Delmar, N.Y., assignors to GAF Corporation, a corporation of Delaware
No Drawing. Filed Apr. 16, 1965, Ser. No. 448,879
Int. Cl. D06p *3/24, 1/04*
U.S. Cl. 8—21 3 Claims

A process for dyeing polyester containing textiles using a novel diazo-dyestuff with poracreosol as a coupler.

3,437,419
CELLULOSICS SANITIZED THROUGH REACTION WITH TRIAZONE SUBSTITUTED WITH BIOLOGICALLY ACTIVE QUATERNARY AMMONIUM SALT
Sidney Cohen, Fair Lawn, and Edward Griffin Shay, Belle Mead, N.J., assignors to Millmaster Onyx Corporation, New York, N.Y., a corporation of New York
No Drawing. Filed Jan. 18, 1965, Ser. No. 426,422
Int. Cl. A61l *13/00, 1/00*; D06m *11/00*
U.S. Cl. 8—116.3 7 Claims

1. The process of sanitizing cellulosic materials which

comprises treating cellulosic material in the presence of an acidic catalyst with a triazinone compound having the structure



wherein R is a radical selected from the group consisting of aliphatic, alicyclic and aromatic radicals bearing the residue of an acidic group, and Z is the cation of a microbiologically active quaternary ammonium salt.

3,437,420

KERATIN FIBERS MODIFIED WITH COMBINATION OF HARD POLYMER FORMING AND SOFT POLYMER FORMING MONOMERS TO IMPROVE QUALITY OF KNITTED GOODS MADE THEREWITH

Edgar Dare Bolinger and Greville Machell, Spartanburg, S.C., assignor to Deering Milliken Research Corporation, Spartanburg, S.C., a corporation of Delaware

No Drawing. Filed Dec. 6, 1962, Ser. No. 242,639
Int. Cl. D06m *3/02*
U.S. Cl. 8—127.5 5 Claims

1. A process of producing fabrics having improved properties comprising reacting with keratin fibers at least one ethylenically unsaturated compound having, in polymer form, a glass transition temperature less than about 40° C. and with at least one ethylenically unsaturated compound having, in polymer form, a glass transition temperature greater than about 50° C., the compound having the lower glass transition temperature being present in at least a major proportion, the total weight increase in said fibers being greater than about 50%; and knitting a fabric containing said fibers in at least a major proportion, said fabric being characterized by a high degree of flat stability and feltability.

3,437,421

METHOD OF RETARDING WATER EVAPORATION

William H. Harwood, Ponca City, Okla., assignor to Continental Oil Company, Ponca City, Okla., a corporation of Delaware

No Drawing. Filed June 8, 1960, Ser. No. 34,611
Int. Cl. B01j *1/18*
U.S. Cl. 21—60.5 7 Claims

1. An improved method of retarding normal evaporation from the surface of a body of water open to the atmosphere which comprises heating a fatty alcohol containing 12 to 24 carbon atoms to a temperature in excess of the melting point, spraying the molten alcohol in the atmosphere over said surface, whereby said alcohol settles to said surface; and forming a monomolecular film, thereby retarding said evaporation.

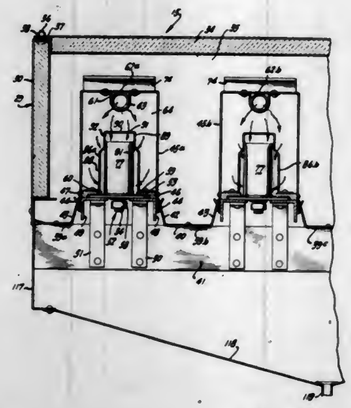
3,437,422

STERILIZER FOR CONTAINERS

Gerhart A. Guckel, Los Altos, Calif., assignor to James Dole Engineering Co., San Francisco, Calif., a corporation of Nevada

Filed Apr. 19, 1965, Ser. No. 449,053
Int. Cl. B65b *55/04*
U.S. Cl. 21—80 17 Claims

A container sterilizer for aseptic canning has an enclosure housing about a tunnel structure through which containers are conveyed; the tunnel structure having a top closure wall and opposite side walls providing a heat confining passageway into which a sterilizing gas is introduced from an apertured conduit above the top closure wall. These tunnel structure walls are apertured for the flow of the gas into the tunnel structure, and the conveyer means is flat to provide a substantially closed bottom for the tunnel structure. The tunnel structure and enclosing housing hood are mounted for removal and replacement



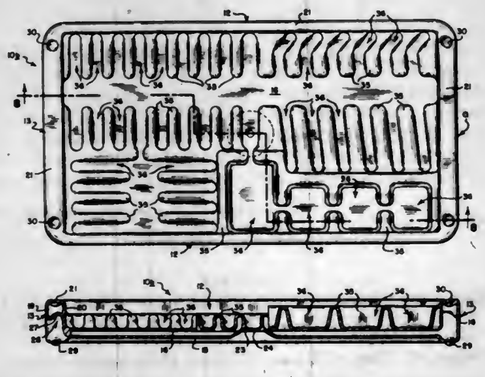
as a unit; and a plurality of sections of these units is provided. For conveying of the containers in a curved path the conveying means comprises a plurality of interconnected articulated plate sections. The aforementioned structure is mounted in an outer casing, the bottom closure of which includes resilient clamp members frictionally engaging the sides of the hood for providing a releasable connection.

3,437,423

STERILIZABLE INSTRUMENT AND APPLIANCE CONTAINER

Dimitri G. Mondiadis, New York, N.Y., assignor to Howmet Corporation, a corporation of Delaware

Filed Apr. 1, 1965, Ser. No. 444,753
Int. Cl. A61l *3/00*
U.S. Cl. 21—83 2 Claims



A sterilizable container for surgical instruments and appliances. The container comprises an open-top, double-wall, tray-like structure integrally formed from a dimensionally stable heat-resistant thermoplastic material. The center portion of the double bottom wall is collapsed to form a single layer of said thermoplastic material and

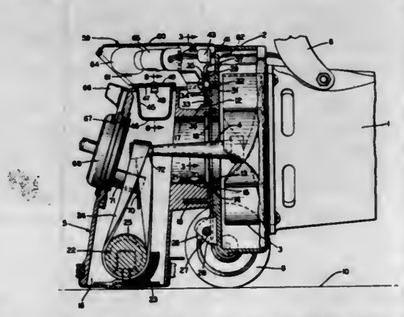
is formed with at least one condensate drainage hole that allows condensed water to drain from the container. The double end walls of the container are provided with handle means integrally formed therein, and the corners of the bottom wall are formed with small projections adapted to fit into similar depressions formed in the top edge closure member of another container. The inner wall member of the double bottom wall is formed with raised partition portions configured to define a plurality of separate compartments adapted to house a preselected assortment of surgical instruments and appliances. The separate compartments defined by the partition portions all communicate with each other and with the drainage hole formed in the bottom wall so that condensate will drain from these compartments and then from the container.

3,437,424

SUCTION CLEANER NOZZLE CONSTRUCTION

Stanley E. Erbor, Cleveland Heights, Ohio, assignor to Royal Appliance Manufacturing Co., Inc., Cleveland, Ohio, a corporation of Ohio

Filed Nov. 26, 1965, Ser. No. 509,867
Int. Cl. A61l *9/02*; A47l *7/04*
U.S. Cl. 21—127 4 Claims



A suction cleaner having a fan housing with an inlet and a suction nozzle having an entrance mouth at its lower end and a passage therefrom to the fan housing inlet. A crystal container is positioned entirely within said passage in the upper portion of the nozzle and has perforations in its lower side providing communication with said passage.

3,437,425

METHOD OF REMOVING OXYGEN FROM CLOSED CONTAINERS AND CATALYST THEREFOR

Camilo Quesada, Park Ridge, Ill., assignor to Universal Oil Products Company, Des Plaines, Ill., a corporation of Delaware

No Drawing. Filed July 12, 1965, Ser. No. 471,453
Int. Cl. B01j *11/00*; B65b *55/00, 31/00*
U.S. Cl. 23—2 6 Claims

Oxygen is removed from closed containers by adding hydrogen thereto and contacting the gaseous mixture with a catalyst prepared by impregnating a base with a palladium chloride solution having a chlorine and palladium molar ratio of from 6 to 1 and 10 to 1 and thereafter drying and reducing the resulting impregnated base.

3,437,426

METHOD OF REMOVING OXYGEN FROM A CONFINED ZONE AND CATALYST THEREFOR

Camilo Quesada, Park Ridge, Ill., assignor to Universal Oil Products Company, Des Plaines, Ill., a corporation of Delaware

No Drawing. Filed Aug. 12, 1965, Ser. No. 479,309
Int. Cl. C01b *23/00*
U.S. Cl. 23—2 5 Claims

Oxygen is removed from confined zones by reaction with hydrogen therein by contacting the gaseous mixture with a catalyst prepared by impregnating alumina with a platinum group metal, drying the freshly prepared catalyst, and thereafter reducing the dried catalyst in the presence of a mixed gaseous stream of nitrogen and hydrazine.

3,437,427

OXYGEN SCAVENGING FROM CLOSED CONTAINERS

Camilo Quesada, Park Ridge, Ill., assignor to Universal Oil Products Company, Des Plaines, Ill., a corporation of Delaware

No Drawing. Filed Mar. 16, 1966, Ser. No. 534,631
Int. Cl. B01j *11/06, 11/78*; B01d *53/00*
U.S. Cl. 23—2 7 Claims

Oxygen can be removed from a closed container by introducing hydrogen into such container and contacting the resulting gaseous mixture with a subdivided catalyst disposed within the container, said catalyst comprising iron and a platinum group metal composited with an inorganic oxide base and containing at least 6 moles of chlorine per mole of platinum group metal.

3,437,428

OXYGEN SCAVENGING FROM CLOSED CONTAINERS

Camilo Quesada, Park Ridge, and Richard W. Neuzil, Downers Grove, Ill., assignors to Universal Oil Products Company, Des Plaines, Ill., a corporation of Delaware

No Drawing. Filed Mar. 21, 1966, Ser. No. 535,680
Int. Cl. B65b *31/00*; B01j *11/16*
U.S. Cl. 23—2 8 Claims

Oxygen can be scavenged from a closed container by introducing hydrogen into the container and contacting the resulting gaseous mixture with a catalyst disposed within the container, said catalyst comprising palladium composited on an inorganic oxide base. The catalyst can be promoted with each of iron, a metal selected from the alkali and alkaline earth metals, and chlorine.

3,437,429

PROCESS FOR THE REMOVAL OF TETRABROMOMETHANE FROM GASES

Roland Dietrich, Biebrich, Germany, assignor to Kalle Aktiengesellschaft, Wiesbaden-Biebrich, Germany

No Drawing. Filed Sept. 26, 1966, Ser. No. 581,757
Claims priority, application Germany, Sept. 28, 1965, K 57,239
Int. Cl. B01d *47/00*
U.S. Cl. 23—2 5 Claims

1. A process for the removal of tetrabromomethane from a gaseous mixture which comprises intimately contacting said gaseous mixture with a fluid washing medium comprising a reactant selected from the group consisting of aliphatic, araliphatic, and heterocyclic amines and hydroxyl-substituted amines.

3,437,430

PURIFICATION OF COLUMBIUM AND TANTALUM PENTOXIDES

Edwin J. Bieleckl, Boyertown, and Robert A. Albright, Quakertown, Pa., assignors to Kawecki Chemical Company, New York, N.Y., a corporation of Pennsylvania

No Drawing. Filed Jan. 17, 1966, Ser. No. 520,889
Int. Cl. C01g *33/00, 35/00*
U.S. Cl. 23—21 2 Claims

Small residual amounts of iron are removed from columbium and tantalum oxides by adding ammonium chloride to the oxide, heating it at the sublimation temperature (about 315° C.) of the ammonium chloride to volatilize and carry off the iron, and finally subjecting the oxide to conventional calcination at a temperature above about 900° C.

3,437,431
RECOVERING PALLADIUM COMPOUNDS BY EXTRACTION WITH AMINES

Rolf Platz, Mannheim, Heinz Nohe, Ludwigshafen (Rhine), and Dominik Schuler, Mannheim, Germany, assignors to Badische Anilin- & Soda-Fabrik Aktiengesellschaft, Ludwigshafen (Rhine), Germany

No Drawing. Filed Dec. 22, 1965, Ser. No. 515,708
Claims priority, application Germany, Dec. 28, 1964, B 79,910
Int. Cl. C01g *55/00*
U.S. Cl. 23—50 6 Claims

A process for recovering palladium compounds from aqueous solutions in which an amine containing at least six carbon atoms per nitrogen atom is placed in contact with said solution, the amine phase is separated, and the palladium compound is extracted therefrom with an aqueous acid. The process provides a highly advantageous method of recovering palladium compounds which process can be carried out continuously in which a high percentage of palladium is recovered.

3,437,432
SINGLE CRYSTALS

Hans J. Borchardt, Wilmington, Del., assignor to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware

Continuation-in-part of application Ser. No. 418,206, Dec. 14, 1964. This application July 21, 1966, Ser. No. 570,121
The portion of the term of the patent subsequent to June 1, 1982, has been disclaimed
Int. Cl. C01g *39/00*
U.S. Cl. 23—51 16 Claims

Stable single crystals having the gadolinium molybdate structure and unit cell dimensions wherein *a* and *b* are equal to 10.39±0.07 A. and C is 10.69±0.09 A. said crystals having one dimension at least 0.01 mm. and represented by the formula $(R_xR'_{1-x})_2O_3 \cdot 3Mo_{1-e}W_eO_3$ wherein R and R′ represent at least one rare earth element having atomic number of from 57–71, scandium and yttrium, *x* is from 0 to 1.0 and *e* is from 0 to 0.2. The crystals are made by conventional single crystal techniques and have fluorescent and ferroelectric properties. The crystals are useful as ceramic insulators, as filters for screening out ultraviolet radiation, as laser materials, as transducers, and as ultrasonic generators.

3,437,433
HIGH DENSITY SODIUM TRIPOLYPHOSPHATE (FORM I)

Jared S. Sproul and Michael J. McCarthy, Fanwood, N.J., and Walter C. Lapple, Alliance, Ohio, assignors to FMC Corporation, New York, N.Y., a corporation of Delaware

Filed June 23, 1966, Ser. No. 559,993
Int. Cl. C01b *25/30*
U.S. Cl. 23—106 11 Claims

Dense granular Form I sodium tripolyphosphate (STPP) having a size of from about −20 mesh to about +100 mesh and a bulk density of 0.95 to 1.3 g./cc. is produced by feeding an aqueous mixture of sodium orthophosphate wherein the Na/P molar ratio is 1.63–1.7 into a first fluidized bed containing discrete particles of sodium tripolyphosphate, maintaining the particles at 220–400° C., removing a portion of the fluidized particles from the first fluidized bed, crushing a portion of the removed particles to obtain a mixture having a smaller average size than the particles within the bed, recycling this mixture of crushed particles back to the first fluidized bed to replace the number of particles removed from the bed, recovering the remaining uncrushed fraction as Form II STPP, feeding the Form II STPP to a second fluidized bed at a temperature of 425–550° C., converting the Form II STPP to Form I STPP and recovering the dense granular Form I STPP as product.

3,437,434
HIGH DENSITY SODIUM TRIPOLYPHOSPHATE

Jared S. Sproul, Fanwood, N.J., and Walter C. Lapple, Alliance, Ohio, assignors to FMC Corporation, New York, N.Y., a corporation of Delaware

Filed June 23, 1966, Ser. No. 559,994
Int. Cl. C01b *25/30*
U.S. Cl. 23—106 11 Claims

Dense granular Form II sodium tripolyphosphate (STPP) having a size of from about −20 mesh to about +100 mesh and a bulk density of 0.95 to 1.3 g./cc. is produced by feeding an aqueous mixture of sodium orthophosphate wherein the Na/P molar ratio is 1.63–1.7 into a fluidized bed containing discrete particles of sodium tripolyphosphate, maintaining the particles at 220–400° C., removing a portion of the fluidized particles from the bed, crushing a portion of the removed particles to obtain a mixture having a smaller average size than the particles within the bed, recycling this mixture of crushed particles back to the bed to replace the number of particles removed from the bed and recovering the remaining uncrushed fraction as Form II STPP product.

3,437,435
METHOD OF PREPARING MANGANESE DIOXIDE

William G. Moore, Midland, Mich., assignor to The Dow Chemical Company, Midland, Mich., a corporation of Delaware

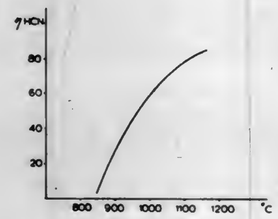
No Drawing. Filed Apr. 29, 1965, Ser. No. 452,967
Int. Cl. C01g *45/02*
U.S. Cl. 23—145 17 Claims

1. A method of preparing manganese dioxide which comprises: reacting a liquid reaction mass of an alkaline hypochlorite solution selected from the group consisting of the hypochlorites of calcium, magnesium and strontium and an aqueous manganese salt solution at a temperature within the range from about 10° C. to about 100° C. and at a pH of from about 1 to about 3.5, while maintaining a ratio of manganous ion to oxychloride ion in the liquid reaction mass of from about 0.01 to about 50, said manganese salt so-reacted having an anion which does not form insoluble solid by-product material with the hypochlorite, thereby forming a solid manganese dioxide precipitate in the liquid reaction mass; and separating said precipitate from said reaction mass.

3,437,436
PROCESS FOR THE PREPARATION OF HYDROGEN CYANIDE

Hendrikus C. M. Ummelen, Beek, and Alexis J. M. Pereboom, Maastricht, Netherlands, assignors to Stamicarbon N.V., Heerlen, Netherlands

Filed Sept. 2, 1966, Ser. No. 577,018
Claims priority, application Netherlands, Sept. 11, 1965, 6511879
Int. Cl. C01c *3/02*
U.S. Cl. 23—151 10 Claims



The preparation of hydrogen cyanide is described, and in particular, a process is disclosed wherein hydrogen cyanide is produced from reaction of ammonia and hydrocarbon in the presence of substantial amounts of carbon disulfide (e.g., at least 0.05 mole per mole of NH_3), and in the absence of a catalyst, whereby thermal decomposition side reactions are decreased and good yields of the hydrogen cyanide are possible even when lower than usual reaction temperatures are employed.

3,437,437
CONTROL OF FOAM FORMATION IN THE SYNTHESIS OF PHOSPHORIC ACID

George E. Dorwart III, Southampton, Pa., assignor to Betz Laboratories, Inc., Philadelphia, Pa., a corporation of Pennsylvania

No Drawing. Filed Oct. 5, 1966, Ser. No. 584,383
Int. Cl. C01b *25/22;* C07c *91/04*
U.S. Cl. 23—165 14 Claims

The present invention concerns anti-foaming compositions and their use in the control of foam during the "wet process" synthesis of phosphoric acid. The invention generally comprises adding to the reaction medium of a phosphate rock and mineral acid a composition comprising the reaction product of between 1 to 4 mols of an acid selected from the group consisting of a saturated fatty acid containing between 4 to 18 carbon atoms and an unsaturated fatty acid containing between 16 to 20 carbon atoms, and 1 mol of a hydroxy amine. The composition is used in an amount of between 0.1 to 5 pounds for every ton of phosphate rock reacted with the mineral acid.

3,437,438
PRODUCTION OF PHOSPHOROUS ACID

Robert L. Carroll and Riyad R. Irani, St. Louis, Mo., assignors to Monsanto Company, St. Louis, Mo., a corporation of Delaware

No Drawing. Filed Feb. 8, 1967, Ser. No. 614,536
Int. Cl. C01b *25/02*
U.S. Cl. 23—165 16 Claims

Phosphorous acids are produced by hydrolyzing a phosphorus trihalide, such as phosphorus triiodide and phosphorus tribromide in the presence of an inert, water-immiscible organic solvent and thereafter separating the phosphorous acid from the hydrogen halide and the organic solvent. If desired, the phosphorus trihalide can be produced by reacting phosphorus and the halogen in the solvent. Additionally, the hydrogen halide can be oxidized to the molecular halogen for reuse. Furthermore, certain oxidizing agents for oxidizing the hydrogen halide to molecular halogen can be regenerated by air oxidation, thus enabling the production of phosphorous acids by a process which consumes only elemental phosphorus, water and air as raw materials.

3,437,439
PREPARATION OF ORTHOPHOSPHOROUS ACID

Robert L. Carroll, St. Louis, Mo., assignor to Monsanto Company, St. Louis, Mo., a corporation of Delaware

No Drawing. Filed Feb. 8, 1967, Ser. No. 614,553
Int. Cl. C01b *25/22*
U.S. Cl. 23—165 11 Claims

Orthophosphorous acid can be prepared in situ by forming an aqueous reaction medium comprising water, elemental phosphorus, iodine and an effective amount of an oxidizing agent having a standard oxidation potential of less than about −0.54 volt.

3,437,440
PREPARATION OF OXO-ACIDS OF PHOSPHORUS

Robert L. Carroll, St. Louis, Mo., assignor to Monsanto Company, St. Louis, Mo., a corporation of Delaware

Filed Feb. 8, 1967, Ser. No. 614,670
Int. Cl. C01b *25/02*
U.S. Cl. 23—165 6 Claims

Phosphorous acids can be prepared by reacting elemental phosphorus and molecular iodine in substantially stoichiometric amounts to form phosphorus triiodide in a heel of molten phosphorus triiodide, withdrawing a portion of phosphorus triiodide from the heel of phosphorus triiodide, followed by hydrolyzing a portion of the phosphorus triiodide to phosphorous acid and hydrogen halide, thereafter separating the phosphorus acid and hydrogen iodide and oxidizing hydrogen iodide to molecular iodine for reuse as a reactant.

3,437,441
PROCESS OF PRODUCING HIGHLY POROUS AND REACTIVE SILICA MATERIALS

Robert K. Mays and Orlando Leonard Bertorelli, Havre De Grace, Md., assignors to J. M. Huber Corporation, Borger, Tex., a corporation of New Jersey

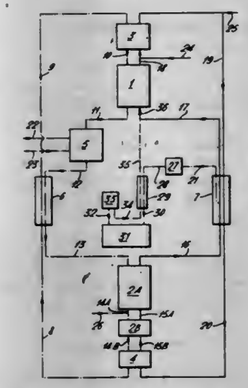
No Drawing. Continuation-in-part of application Ser. No. 149,964, Nov. 3, 1961, now Patent No. 3,328,125, June 27, 1967. This application Mar. 15, 1967, Ser. No. 623,231
The portion of the term of the patent subsequent to June 27, 1984, has been disclaimed
Int. Cl. C01b *33/00*
U.S. Cl. 23—182 13 Claims

Highly porous and reactive silica powder is produced by a violent frothing reaction, followed by digestion for several hours at 90°–105° C., of an aqueous suspension, acidified as by a nearly stoichiometric amount of sulfuric acid to an acid concentration of from 20 to 50% in the liquid medium, of fine particles of an anhydride obtained by strong calcination of finely divided kaolin at 500°–925° C., as by heating for at least 2 hours at 700°–900° C.

3,437,442
PROCESS FOR THE BITHERMAL ISOTOPIC ENRICHMENT OF AMMONIA AND HYDROGEN WITH DEUTERIUM AND APPARATUS THEREFOR

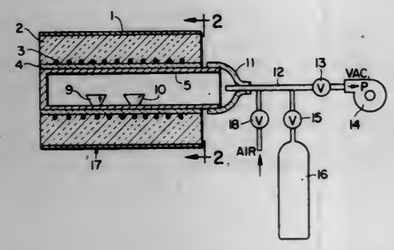
Keith Roderick Poole, Didcot, England, assignor to United Kingdom Atomic Energy Authority, London, England

Filed Mar. 7, 1966, Ser. No. 532,392
Claims priority, application Great Britain, Mar. 10, 1965, 10,088/65, 52,537/65
Int. Cl. C01b *2/04;* C01c *1/00*
U.S. Cl. 23—193 10 Claims



A process for the bithermal isotopic enrichment of ammonia and hydrogen with deuterium, and apparatus therefor, is characterised by subjecting ammonia condensed from the hydrogen on cooling to a cracking process to give a mixture of nitrogen and hydrogen which is isotopically exchanged with ammonia in the cold exchange tower.

3,437,443
METHOD FOR MAKING FIBERS OF TITANIUM CARBIDE AND OF TITANIUM DIOXIDE
William Hertl, Corning, N.Y., assignor to Corning Glass Works, Corning, N.Y., a corporation of New York
Filed July 17, 1967, Ser. No. 653,689
Int. Cl. C01g *23/4*
U.S. Cl. 23—202 6 Claims



This invention relates to the production of microscopic fibers of titanium carbide and, more particularly, to the production of such fibers through the reaction of carbon and titanium dioxide at high temperatures in an atmosphere containing chlorine. Such fibers may be subsequently oxidized to yield fibers of titanium dioxide.

3,437,444
BROMINE PRODUCTION
Joachim Kenat, Beersheba, Israel, assignor to Dead Sea Works Ltd., Beersheba, Israel, a company of Israel
Filed June 13, 1966, Ser. No. 556,951
Claims priority, application Israel, June 27, 1965, 23,817
Int. Cl. C01b *7/10*
U.S. Cl. 23—216 5 Claims

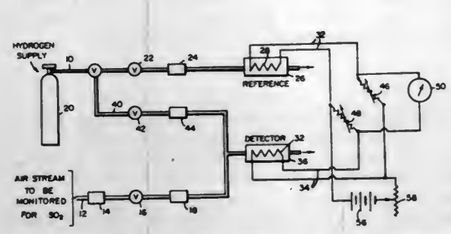
Production of elementary bromine from a bromide brine by treatment with a mixture of HNO_3 and HCl in a molar ratio of approximately 1:3 to produce $NOBr_3$, followed by separation of $NOBr_3$ and heat-decomposition thereof to produce elementary bromine on the one hand and NO on the other hand, which latter is reconverted into HNO_3 which is recycled.

3,437,445
PROCESS FOR OXIDIZING HYDROGEN BROMIDE TO OBTAIN BROMINE
Russell G. Hay, Gibsonia, and William L. Walsh, Glenshaw, Pa., assignors to Gulf Research & Development Company, Pittsburgh, Pa., a corporation of Delaware
No Drawing. Filed Apr. 19, 1967, Ser. No. 631,890
Int. Cl. C01b *7/10*
U.S. Cl. 23—216 11 Claims

A process for obtaining bromine from hydrogen bromide which comprises heating hydrogen bromide in the presence of molecular oxygen at an elevated temperature in the presence of a noble metal, such as platinum or palladium.

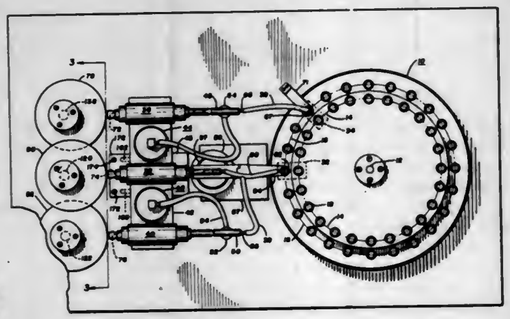
3,437,446
APPARATUS FOR AND METHOD OF DETECTING SULFUR-CONTAINING COMPOUNDS
Russell W. Pierce, Arlington, Mass., assignor, by mesne assignments, to Abcor, Inc., Cambridge, Mass., a corporation of Massachusetts
Filed Oct. 23, 1965, Ser. No. 503,845
Int. Cl. G01n *27/12, 31/06*
U.S. Cl. 23—232 8 Claims

Detection in fluid streams of, e.g., sulfur containing compounds, oxides of nitrogen, carbon dioxide, etc., is accomplished by measuring the changes in the electrical resistivity of a sensing element as a result of the



reversible poisoning of the element by the compound to be monitored.

3,437,447
AUTOMATIC LIQUID MIXING APPARATUS
Duane D. Harmon, Irondequoit, N.Y., assignor to Bausch & Lomb Incorporated, Rochester, N.Y., a corporation of New York
Filed Apr. 8, 1966, Ser. No. 541,288
Int. Cl. G01n *33/16, 31/14*
U.S. Cl. 23—253 8 Claims



A modular type pumping unit wherein a preset pump, a reservoir and interconnections are mounted on a readily disconnectable base that can be inserted into or removed from a liquid mixing system as a preset modular unit.

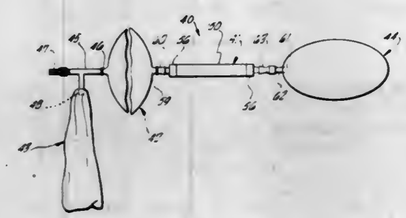
3,437,448
APPARATUS FOR DETERMINING THE ALCOHOL CONTENT OF EXHALED AIR
Lothar Miczka, Wellerfeldweg 225, Marl, Westphalia, Germany
Filed Aug. 25, 1966, Ser. No. 575,104
Claims priority, application Germany, Sept. 23, 1965, M 66,728
Int. Cl. G01n *33/00*
U.S. Cl. 23—254 9 Claims



1. A device for determining the alcohol content of exhaled air comprising, in combination, a rigid tube of transparent material, an indicator substance responsive

to the alcohol content of exhaled air, means for positioning said indicator substance in one longitudinal portion of the tube, a second indicator substance responsive to the exhaled air passing through the tube in order to optically indicate when a prescribed quantity of such air has passed therethrough, and means for positioning said second indicator substance in a second longitudinal portion of the tube, the tube being of a shape such that said first and second longitudinal portions thereof are non-collinear, whereby the said second portion is visible to the user when the said first portion is applied to the mouth.

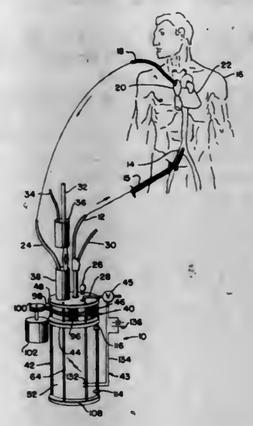
3,437,449
BREATH ALCOHOL DETERMINATION
Manley J. Luckey, 1738 Waterman Ave., San Bernardino, Calif.
Filed June 8, 1966, Ser. No. 556,053
Int. Cl. G01n *31/22, 33/16*
U.S. Cl. 23—254 7 Claims



1. Apparatus for determining the amount of alcohol in a person's breath comprising a first inflatable and elastic container having an inlet adapted to be inflated to a selected size by a person blowing his breath thereinto and for exerting on breath therein a selected pressure when inflated and expanded to said selected size, a second elongate hollow container having a pair of opposite open ends housing therein a quantity of alcohol sensitive reagent which changes color progressively lengthwise therealong in response to alcohol vapor present in gas passed therethrough an amount proportional to the amount of alcohol vapor present in such gas, means securing said reagent in the second container so as to define a selected impedance to gas flowing therethrough, a third inflatable but inelastic container having an inlet and a maximum inflatable volume of predetermined capacity, and means for coupling the second container in gas flow relation between the first and third container so that breath passes through the second container from the first container to the third container at a selected rate until the third container is filled.

3,437,450
HYPERBARIC HEART PUMP OXYGENATOR WITH HYPOTHERMIA
James M. Greenwood, 1 Lafayette Plaisance, Detroit, Mich. 48207
Filed Jan. 4, 1965, Ser. No. 423,052
Int. Cl. A61m *1/00*
U.S. Cl. 23—258.5 15 Claims

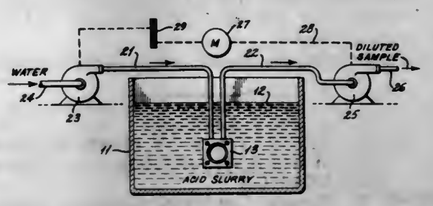
A heart pump comprising a blood reservoir, a blood storage chamber, an output conduit extending from the bottom of the blood storage chamber, a source of pressure, a pair of plates, aligned openings in the plates between the source of pressure and blood storage chamber, and means for transferring blood from the blood reservoir between the plates to the aligned openings between the source of pressure and blood storage chamber. A spiral ramp is provided in the blood storage chamber for oxygenation of blood delivered thereto and heat exchanger means are provided in the blood storage chamber for controlling the temperature of blood in the storage chamber. A blood level responsive switch, is also provided in the storage chamber for turning off the source of pressure on the blood level falling below a predetermined level.



3,437,451
SELECTIVE PRECIPITATION OF POTASSIUM CHLORIDE FROM BRINE USING ORGANOAMINES
Richard L. Every, James O. Thieme, and Burton M. Casad, Ponca City, Okla., assignors to Continental Oil Company, Ponca City, Okla., a corporation of Delaware
No Drawing. Filed Dec. 28, 1965, Ser. No. 517,154
Int. Cl. B01j *17/06*
U.S. Cl. 23—300 8 Claims

Potassium chloride is precipitated from a sodium chloride solution by adding an alkylaminoamine at a temperature at which the amine is soluble in the solution.

3,437,452
METHOD FOR SAMPLING SOLIDS-CONTAINING SOLUTIONS
Benjamin P. Bell, Libertyville, Ill., and Hugh H. Roberts, Lakeland, Fla., assignors to International Minerals & Chemical Corporation, a corporation of New York
Filed Apr. 23, 1965, Ser. No. 450,341
Int. Cl. B01d *11/04*
U.S. Cl. 23—309 3 Claims



A diluted sample of solution is removed from a body containing solution and undissolved solid material by withdrawing a sample of the solution through a filter into a chamber position below the surface of the solution. A stream of diluent liquid is introduced into the chamber to combine with the filtered sample and dilute the same. The diluted sample is withdrawn from the chamber at a rate of flow greater than the rate of introduction of the stream of diluent liquid such that no diluent liquid passes through the filter and into the body of solution.

3,437,453

RECOVERY OF SELENIUM CATALYSTS USING CONCENTRATED AQUEOUS SALT SOLUTIONS

Joseph Serpinet, Sainte-Foy-les-Lyon, France, assignor to Ugine Kuhlmann, Paris, France, a corporation of France

No Drawing. Filed Apr. 21, 1966, Ser. No. 544,072
Claims priority, application France, Apr. 26, 1965, 14,602
Int. Cl. B01j 9/20; C01b 19/00
U.S. Cl. 23—312 13 Claims

1. A process for recovery of selenium oxide and its derivatives which are used as a catalyst in a water soluble form for production of an ethylenic acid by oxidation of an unsaturated aldehyde in an organic medium, said selenium oxide derivatives in a water soluble form being present in said reaction medium which results from the production of said ethylenic acid, the process comprising treating said reaction medium with a concentrate aqueous solution of at least one very water-soluble inorganic salt selected from the group consisting of alkali metal, alkaline earth metal and ammonium halogenides, sulphates, nitrates and phosphates and mixtures thereof to form a saline aqueous phase and an organic phase, said aqueous phase being substantially immiscible with said reaction medium and capturing said selenium oxide derivative, and separating said saline aqueous phase from said organic phase.

3,437,454

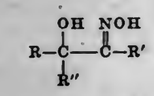
VANADIUM RECOVERY FROM WET PROCESS PHOSPHORIC ACID USING ALPHA-HYDROXY OXIMES

Merle N. Shaw, Soda Springs, Idaho, assignor to Kerr-McGee Corporation, a corporation of Delaware

No Drawing. Filed Apr. 26, 1966, Ser. No. 545,302
Int. Cl. B01j 9/22; C01g 31/00
U.S. Cl. 23—312 9 Claims

1. A process for recovery of vanadium values from wet process phosphoric acid containing the same comprising:

(a) contacting said wet process phosphoric acid at a pH of from 0.0 to 1.5 with an organic extractant phase comprising a liquid hydrocarbon and an α-hydroxy oxime to extract at least a portion of said vanadium values into said organic extractant phase, said α-hydroxy oxime having the formula:



in which R and R′ are organic hydrocarbon radicals selected from the group consisting of alkyl, aryl and alkylaryl radicals and R″ is selected from the group consisting of hydrogen and alkyl, aryl, and alkylaryl radicals; and

(b) recovering the vanadium-containing organic phase.

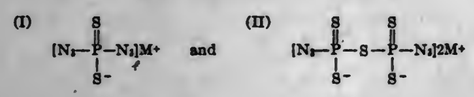
3,437,455

AZIDO DERIVATIVES OF PHOSPHOROUS THIOACIDS AND METHOD FOR THEIR PREPARATION

Herbert W. Roesky, Gottingen, Germany, assignor to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware

No Drawing. Filed Aug. 3, 1966, Ser. No. 569,831
Int. Cl. C01b 21/54; C07c 117/00
U.S. Cl. 23—357 12 Claims

Products having one of the formulas:



(I) $[N_3-\overset{\overset{S}{\|}}{P}(S^-)-N_3]M^+$ and (II) $[N_3-\overset{\overset{S}{\|}}{P}(S^-)-S-\overset{\overset{S}{\|}}{P}(S^-)-N_3]2M^+$

wherein M is hydrogen, an alkali metal cation the ammonium cation NH_4^+, or an onium cation, R_4Y^+ in which Y is nitrogen or phosphorus, and R is a 1–6 carbon hydrocarbon radical free of aliphatic unsaturation are prepared substantially from alkali metal azides and phosphorus pentasulfide. These products find use as reducing agents and as analytical reagents in the gravimetric determination of certain cations or the removal of the latter from solution.

3,437,456

STABLE DIBORANE DIAMMONIATE AND METHOD OF PREPARING SAME

Joseph M. Makhlouf, Mars, Pa., assignor to Mine Safety Appliances Company, a corporation of Pennsylvania

No Drawing. Filed Apr. 8, 1965, Ser. No. 448,567
Int. Cl. C01b 21/06, 35/00
U.S. Cl. 23—358 3 Claims

Diborane and ammonia are reacted in methylene chloride solvent at temperatures below about 0° C. to precipitate a diborane diammoniate stable at room temperature. The diborane diammoniate so formed is aged with excess ammonia in methylene chloride to form a diborane diammoniate of the form $(NH_3BH_2NH_3)(BH_4)$.

3,437,457

REINFORCED METAL FIBER COMPOSITES

James I. Fisher, Orange, Conn., assignor to Huyck Corporation, Stamford, Conn., a corporation of New York

Filed Apr. 13, 1965, Ser. No. 447,718
Int. Cl. B22f 7/02
U.S. Cl. 29—182.2 12 Claims

This invention relates to porous structures useful, for example, as filters, diffusion membranes, sound absorbers, and the like. The structures contain a sintered fiber metal portion, at least one surface of which having embedded and bonded thereto a reinforcing member. Some of the fibers in the fiber metal portion are bonded to each other and to the reinforcing member.

3,437,458

SINTERED FRICTION MATERIAL

Ulrich Völker and Günter Gerloff, Reinbek, Germany, assignors to Jurid Werke G.m.b.H.

Filed Apr. 28, 1967, Ser. No. 634,682
Claims priority, application Germany, Apr. 30, 1966, J 30,722
Int. Cl. B22f 3/10
U.S. Cl. 29—182.5 3 Claims

A sintered material suited for use as a frictional surface, consisting of 10–15% by wt. graphite, 1.5 to 3.5% by wt. of Periodic Table group V_b metals and the remainder iron.

3,437,459

COMPOSITE SUPERCONDUCTOR HAVING A CORE OF SUPERCONDUCTIVITY METAL WITH A NONSUPERCONDUCTIVE COAT

John Eric Charles Watts Williams, Wallingford, England, assignor to United Kingdom Atomic Energy Authority, London, England

No Drawing. Continuation of application Ser. No. 306,346, Sept. 3, 1963. This application Mar. 27, 1967, Ser. No. 626,338
Claims priority, application Great Britain, Sept. 7, 1962, 34,437/62
Int. Cl. H01v 11/08, 11/12
U.S. Cl. 29—183.5 1 Claim

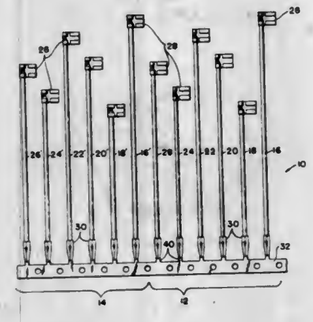
A composite superconductor wire comprising a multiplicity of filamentary conductors of a superconducting material mounted in a non-superconducting carrier is capable of handling a very high current density in a magnetic field in excess of the critical field of the superconductive material. The composite wire is produced from a billet of carrier material containing inclusions of the superconductor material which is drawn down so that filamentary conductors of the appropriate size are produced. The superconductive enclosed element, taken from the group of vanadium, lead, niobium and an alloy niobium and zirconium, is made so small that it remains superconductive even in a field that exceeds the critical field strength for the material.

3,437,460

LEAD WIRE ASSEMBLY

Quentin Berg, % Berg Electronics, Inc., New Cumberland, Pa. 17070

Filed May 12, 1966, Ser. No. 549,728
Int. Cl. B65h 54/00
U.S. Cl. 29—193.5 6 Claims



A continuous lead wire assembly having a plurality of parallel insulated lead wires arranged in a number of like wire groups, each of the groups being made up of a number of lead wires having different lengths and arranged in a predetermined sequence. The wires are held in position by a carrier strip which extends the length of the assembly.

3,437,461

METHOD AND APPARATUS FOR BLENDING GASOLINES

Richard Alan Hoffman, Claymont, and Joe Turner May and Frederick William Meckley, Wilmington, Del., assignors to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware

Filed May 7, 1965, Ser. No. 453,928
Int. Cl. G05d 11/00
U.S. Cl. 44—2 4 Claims

An apparatus and its use in the production of blended gasolines of specification octane quality and comprising a means for determining the difference in octane quality between two gasolines of known and unknown octane quality and producing a signal proportional to said difference, a means for determining the flow rate of the gasoline from the blender and producing a signal proportional to the flow rate, a means for multiplying the aforesaid signals and producing a signal which is a function of octane quality difference and flow rate, a means for integrating the signal from the multiplying means with respect to time and producing a signal which corresponds to an octane quality difference per volume unit, and a means for accumulating, in magnitude and direction, a sequence of signals from the integrator and producing a signal which represents a measurement of the octane quality difference, and the direction of the difference, between the blend and the specification.

3,437,462

GELLED LIQUID HYDROCARBON FUELS CONTAINING CROSS-LINKED ATACTIC PROPYLENE POLYMERS

Richard P. Maloney, Chester, Pa., assignor to Sun Oil Company, Philadelphia, Pa., a corporation of New Jersey

No Drawing. Continuation-in-part of application Ser. No. 590,497, Oct. 31, 1966. This application Mar. 5, 1968, Ser. No. 710,634
Int. Cl. C10l 7/02
U.S. Cl. 44—7 10 Claims

This disclosure describes gelled normally liquid volatile hydrocarbon fuel compositions and processes for obtaining them. These compositions contain 1 to 40 weight percent cross-linked atactic propylene polymers which can be derived from atactic polypropylene, atactic random propylene-ethylene copolymer, or atactic terminal block propylene-ethylene copolymer. The propylene-ethylene copolymers can contain 1–30 weight percent copolymerized ethylene in the polymer chain. The gelled hydrocarbon compositions disclosed herein are particularly suited for use in military applications such as firebombs and flamethrowers.

3,437,463

GELLED LIQUID HYDROCARBON FUELS CONTAINING ATACTIC PROPYLENE POLYMERS AND TREATED BENTONITE CLAY

Richard P. Maloney, Chester, and Wilmer E. McCorquodale, Jr., Havertown, Pa., assignors to Sun Oil Company, Philadelphia, Pa., a corporation of New Jersey

No Drawing. Continuation-in-part of application Ser. No. 590,496, Oct. 31, 1966. This application Mar. 5, 1968, Ser. No. 710,635
Int. Cl. C10l 7/02
U.S. Cl. 44—7 4 Claims

A gelled normally volatile fuel composition consisting essentially of normally liquid volatile fuel containing 10 to 50 weight percent based on the final composition of a gelling agent consisting essentially of 50 to 90 weight percent atactic polypropylene and 10 to 50 weight percent organic base-coated bentonite clay.

3,437,464

GELLING NORMALLY LIQUID VOLATILE HYDROCARBONS WITH ATACTIC PROPYLENE-ETHYLENE COPOLYMERS

Richard P. Maloney, Chester, Pa., assignor to Sun Oil Company, Philadelphia, Pa., a corporation of New Jersey

Continuation-in-part of application Ser. No. 590,974, Oct. 31, 1966. This application Mar. 5, 1968, Ser. No. 729,850
Int. Cl. C10l 7/02
U.S. Cl. 44—7 6 Claims

This disclosure describes gelled normally liquid volatile hydrocarbon fuel compositions and processes for obtaining them. These compositions contain 5 to 45 weight percent atactic propylene-ethylene copolymer, said copolymer containing 1 to 30 weight percent copolymerized ethylene in the polymer chain, and said copolymers being in the form of random or terminal block structure. The gelled hydrocarbon compositions disclosed herein are particularly suited for use in military applications such as fuels in firebombs and flamethrowers.

3,437,465
COMBUSTION PROCESS AND FUEL COMPOSITIONS

William M. Lesuer, Cleveland, Ohio, assignor to The Lubrizol Corporation, Wickliffe, Ohio, a corporation of Ohio

No Drawing. Continuation-in-part of applications Ser. No. 474,479, July 23, 1965, Ser. No. 486,558, Sept. 10, 1965, and Ser. No. 665,934, Sept. 6, 1967 which is a continuation of application Ser. No. 394,337, Sept. 3, 1964. This application Jan. 24, 1968, Ser. No. 700,038
Int. Cl. C10l *10/02, 1/12*; F02b *47/04*
U.S. Cl. 44—51 4 Claims

The invention disclosed herein is directed to an improved combustion process whereby the fuel is efficiently utilized and the formation of undesirable exhaust smoke is reduced. The combustion process comprises the burning of a fuel in which there is incorporated a small amount of metal salts of carbonic, sulfurous and sulfuric acids having a particle size less than about 800 microns. The invention relates further to improved fuel compositions containing such metal salts.

3,437,466
PRECIPITATION OF PARTICULATE SUSPENSIONS IN HYDROCARBON SYSTEMS

Roy J. Betty, Chicago, Byron E. Marsh, Western Springs, and Frederick S. Marsh, Chicago, Ill., assignors, by mesne assignments, to Armour Industrial Chemical Company, a corporation of Delaware

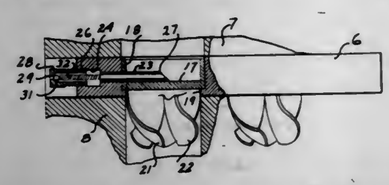
No Drawing. Filed Aug. 28, 1967, Ser. No. 663,496
Int. Cl. C10g *29/20*; C10l *1/22*
U.S. Cl. 44—71 6 Claims

A method of precipitating particulate matter that reside as suspensions in hydrocarbons such as gasoline, kerosene, etc., by adding long chain β-aliphaticpropionamide to the hydrocarbon compound.

3,437,467
AIR INJECTOR FOR A CARBURETOR

Floyd Jacobus, 5941 Sampson Blvd., Sacramento, Calif. 95824

Filed July 10, 1964, Ser. No. 381,839
Int. Cl. F02m *23/00*
U.S. Cl. 48—180 2 Claims



Inserted between the carburetor and the intake manifold of an internal combustion engine is a body having longitudinal pasageways for the flow therethrough of the air-fuel mixture. Disposed within each passageway is a pair of cross bars from which depend helical swirl vanes. An air inlet tube extends laterally inwardly from the atmosphere outside the body to the intersection of the cross bars, the inner end of the air tube being formed at an angular inclination facing toward the oncoming air-fuel mixture so as to inject and intimately mix the air from the tube into the air-fuel mixture.

3,437,468
ALUMINA-SPINEL COMPOSITE MATERIAL

Ludwig Edward Seufert, Boothwyn, Pa., assignor to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware

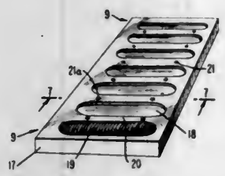
No Drawing. Filed May 6, 1966, Ser. No. 548,077
Int. Cl. C08h *17/12*; C08g *51/12*
U.S. Cl. 51—298 9 Claims

A composite material composed of 35 to 55% magnesium aluminate spinel, 15 to 35% alpha alumina, and 20 to 40% of an elemental phase containing free silicon or a silicon-aluminum intermetallic is useful as a cutting edge or as an abrasive grain. This material is made by heating to a temperature of at least 1000° C. a molten pool of aluminum which is covered with a layer of magnesium silicate in finally divided form. The heating is continued until a dense solid mass is formed on the surface of the aluminum. This mass is the composite material.

3,437,469
PROCESS AND APPARATUS FOR SUPPORTING A SHEET OF GLASS ON A GAS AND LIQUID SUPPORT BED

Pierre Ivan Peychés and Maurice Bourgeaux, Paris, France, assignors to Compagnie de Saint-Gobain, Neuilly-sur-Seine, France

Continuation of application Ser. No. 349,726, Mar. 5, 1964. This application Aug. 16, 1967, Ser. No. 661,129
Claims priority, application France, Mar. 8, 1963, 927,394
Int. Cl. C03b *39/00, 29/04*
U.S. Cl. 65—25 5 Claims

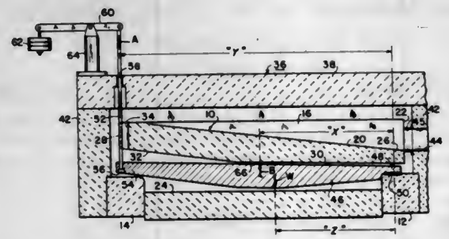


A sheet of glass in the process of formation is supported out of contact with solid objects by the joint use of liquid metal lands and open-ended grooves under substantially uniform gas pressure. The problem of maintaining uniform pressure in a groove of open ends is solved.

3,437,470
CONSTANT FORCE INTERNAL SUPPORT FOR GLASS OVERFLOW WEDGE

Kenneth T. Overman, Painted Post, N.Y., assignor to Corning Glass Works, Corning, N.Y., a corporation of New York

Filed June 17, 1966, Ser. No. 558,483
Int. Cl. C03b *15/02*
U.S. Cl. 65—195 7 Claims

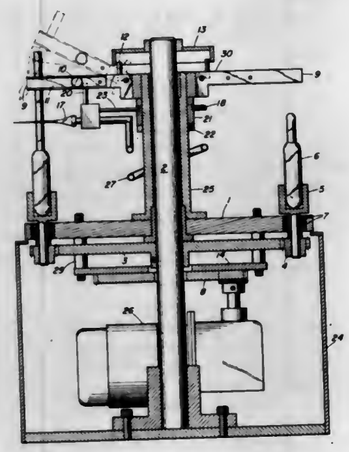


1. In apparatus for forming sheet glass wherein a longitudinally-extending refractory forming wedge member having an opening extending longitudinally therethrough is rigidly supported at its opposite ends to facilitate the unobstructed flow of molten glass downwardly along opposite sides of such member, the improvement comprising an internal support bar member positioned within said longitudinally-extending opening for providing an upward supporting force centrally of the longitudinal extent of said forming wedge, and means for maintaining a constant predetermined supporting force substantially centrally of the longitudinal extent of said forming wedge irrespective of differential deformation and sagging rates between the refractory forming wedge and the support bar.

3,437,471
COMPACT AMPULE SEALER

George S. Bott, Westwood, N.J., assignor to American Cyanamid Company, Stamford, Conn., a corporation of Maine

Filed Mar. 30, 1966, Ser. No. 538,839
Int. Cl. C03b *29/00, 23/18*
U.S. Cl. 65—270 5 Claims



An ampule sealer which rotates about an axis comprising a spring clamp which engages the heat softened ampule neck and pulls the neck out to separate and seal the ampule neck.

3,437,472
ALGAECIDE AND PROCESS OF MAKING THE SAME

Fay E. Marshall, Atherton, Calif., assignor to Mellcor Corporation, a corporation of California

No Drawing. Filed Sept. 18, 1963, Ser. No. 309,892
Int. Cl. A01n *11/06*
U.S. Cl. 71—67 3 Claims

An algaecide containing a colloidally dispersed phase of sulphur in a continuous aqueous phase.

3,437,473
METHODS OF CONTROLLING PESTS WITH METHYLENE PHOSPHONIUM HALIDES

John S. Driscoll, Belmont, and Clifford N. Matthews, Winchester, Mass., assignors to Monsanto Research Corporation, St. Louis, Mo., a corporation of Delaware

No Drawing. Original application Aug. 16, 1963, Ser. No. 302,697, now Patent No. 3,374,256, dated Mar. 19, 1968. Divided and this application Oct. 27, 1967, Ser. No. 699,752
Int. Cl. A01n *5/00, 9/36*
U.S. Cl. 71—71 3 Claims

A method for defoliating plants and controlling the growth or organisms such as insects, bacteria and fungus. The method involves exposing the plants or organisms to organo phosphorus compounds including phosphonium methylene phosphorane trihalides and methylene diphosphonium metal polyhalides.

3,437,474
METHOD OF MAKING ORE AGGLOMERATES

Louis George Imperato, Tenafly, N.J., assignor to Blocked Iron Corporation, a corporation of New York

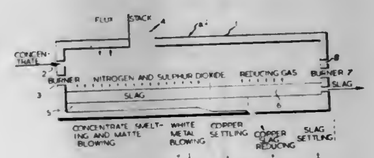
No Drawing. Continuation-in-part of application Ser. No. 374,191, June 10, 1964. This application Oct. 2, 1967, Ser. No. 672,003
The portion of the term of the patent subsequent to May 7, 1985, has been disclaimed
Int. Cl. B22b *1/24*; B21b *1/28*
U.S. Cl. 75—3 8 Claims

A method is provided for producing lump metal ores by admixing the finely divided ore with an alkaline earth oxide or hydroxide and a carbonaceous material, forming the mixture into lumps and reacting it with carbon dioxide in the presence of moisture to form alkaline earth carbonates in situ in the lumps.

3,437,475
PROCESS FOR THE CONTINUOUS SMELTING AND CONVERTING OF COPPER CONCENTRATES TO METALLIC COPPER

Nickolas J. Themelis, Beaconsfield, Ontario, and Paul Spira, Montreal, Quebec, Canada, assignors to Noranda Mines, Limited, Toronto, Ontario, Canada

Filed Jan. 4, 1965, Ser. No. 423,257
Claims priority, application Canada, Nov. 23, 1964, 717,049
Int. Cl. C22b *5/10, 15/06*; C22d *7/00*
U.S. Cl. 75—76 12 Claims



A process for continuously producing copper from concentrates by providing in a furnace separate but connecting smelting and converting, white metal blowing, copper settling and slag separation zones along the length of the furnace and a furnace which has molten metal therein. The concentrates are fed into the smelting zone and the resultant co-current flow of matte and slag is controlled as it flows continuously along the length of the furnace. Oxidizing gas is introduced into the molten material in a controlled manner as the molten material moves along the length of the bath. The resultant copper is allowed to settle and is withdrawn while the slag is treated to provide a relatively copper-clean slag.

3,437,476
PROCESS FOR PURIFYING MERCURY

Ronald L. Dotson and Billy H. Simmons, Baton Rouge, La., assignors to The Dow Chemical Company, Midland, Mich., a corporation of Delaware

No Drawing. Filed Aug. 26, 1965, Ser. No. 482,927
Int. Cl. C22b *43/00*
U.S. Cl. 75—103 11 Claims

A method for purifying mercury contaminated with metal and/or metal compounds which comprises contacting said contaminated mercury with an aqueous reaction solution containing a water soluble nitrogen containing compound selected from the group consisting of ammonium hydroxide, hydroxylamines, organic amines and mixtures thereof, with agitation, for a sufficient period of time to remove said impurities from the mercury and separating a purified mercury product from the aqueous reaction solution.

3,437,477

ABRASION RESISTANT AUSTENITIC STAINLESS STEEL AND PROCESS FOR MAKING SAME

Harry E. McCune III, Huntington Woods, Mich., assignor to Allegheny Ludlum Steel Corporation, Brackenridge, Pa., a corporation of Pennsylvania

Filed May 5, 1965, Ser. No. 453,897
Int. Cl. C22c *41/00, 39/22;* C21d *7/02*
U.S. Cl. 75—128 15 Claims

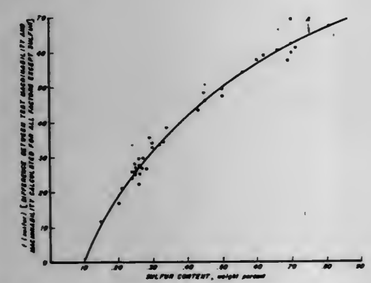
The present invention describes an abrasion resistant, austenitic stainless steel in which the carbon content exceeds the solubility limit of carbon in the austenitic matrix at 2100° F. Various processing and heat treatments are described to produce massive carbides randomly distributed, smaller discontinuous carbides precipitated at the grain boundaries, and fine carbides distributed principally on the slip planes.

3,437,478

FREE-MACHINING AUSTENITIC STAINLESS STEELS

Arthur Moskowitz, Curtis W. Kovach, and Ralph G. Wells, Pittsburgh, Pa., assignors to Crucible Steel Company of America, Pittsburgh, Pa., a corporation of New Jersey

Filed May 14, 1965, Ser. No. 455,863
Int. Cl. C22c *39/22*
U.S. Cl. 75—128 4 Claims



This invention relates to chromium-nickel austenitic stainless steels having improved physical properties, most notably, significantly improved machinability. Specifically, it has been found that steels of this type containing up to 0.50% carbon, from about 0.25 to about 0.45% sulfur, from about 2.0 to about 7.0% manganese, from about 16 to about 30% chromium, from about 5 to 26% nickel, and wherein the manganese-to-sulfur ratio is about at least 8 to 1, are vastly improved with respect to machinability without impairing the corrosion resistance of the alloy to the expected extent at the achieved level of machinability. Optional elements that may be included in the alloy are silicon up to about 3%, molybdenum up to about 4%, zirconium up to about 1%, copper up to about 4%, selenium, tellurium or lead up to about 0.5% each, columbium, tantalum or titanium up to about 2.0% total, nitrogen up to about 0.35%, and phosphorus up to about 0.50%.

3,437,479

CONTACT MATERIALS FOR VACUUM SWITCHES

Yozo Nakajima, Amagasaki, Japan, assignor to Mitsubishi Denki Kabushiki Kaisha, Tokyo, Japan

No Drawing. Filed Apr. 7, 1967, Ser. No. 629,101
Int. Cl. C22c *19/00;* H01h *1/02*
U.S. Cl. 75—170 12 Claims

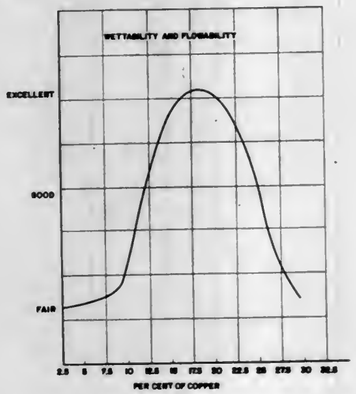
Added to nickel substantially free from oxygen, nitrogen and hydrogen is bismuth or tellurium in an amount of 1 to 10% by weight to provide a contact material for use in vacuum switch excellent in anti-welding property without any increase in cutting through current. Also, in order to improve the anti-welding property of non-magnetic contact materials for use in vacuum switches, 0.05 to 5% by weight of bismuth or tellurium and 25 to 50% by weight of copper are added to nickel substantially free from oxygen, nitrogen and hydrogen. The starting material nickel is refined through its vacuum melt with carbon. As a result of such refining treatment the refined nickel and hence the contact material may include a small amount of carbon for example, 1 to 2.2% by weight of carbon for the magnetic contact material, and 0.2 to 1.0% by weight of carbon for non-magnetic contact material.

3,437,480

NICKEL-BASE ALLOYS CONTAINING COPPER

Arthur T. Cape, Monterey, Calif., assignor to Coast Metals, Inc., Little Ferry, N.J., a corporation of Delaware

Filed May 9, 1967, Ser. No. 637,236
Int. Cl. C22c *19/02*
U.S. Cl. 75—170 2 Claims



A nickel-base alloy containing boron and silicon, and in which copper, in relatively large amounts is incorporated to produce excellent properties from the standpoint of wettability and flowability of the alloy.

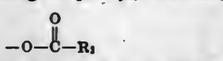
3,437,481

RESIN COMPOSITIONS

Richard B. Graver, Savage, and Walter A. Wallman, Minneapolis, Minn., assignors, by mesne assignments, to Ashland Oil and Refining Company, a corporation of Kentucky

No Drawing. Filed Feb. 15, 1965, Ser. No. 432,882
Int. Cl. G03g *5/04*
U.S. Cl. 96—1.8 12 Claims

Resin compositions, useful as binders for photoconductive coatings in electrostatic copying processes, are obtained by blending an alkyd resin having an acid number of less than 10 and a hydroxyl number of less than 100, said resin being soluble in hydrocarbon solvents, and composed of (1) about 25 to 70% by weight of a monobasic acid of 4 to 26 carbon atoms, (2) about 15 to 60% by weight of a polycarboxylic acid, and (3) about 15 to 45% by weight of a polyhydric alcohol; and (4) from 5 to 40% by weight of the blend of a polymer of a vinyl monomer having the general formula $CH_2=CR_1R_2$, where R_1 is selected from the group consisting of hydrogen, chlorine, and methyl radicals, and R_2 is selected from the group consisting of phenyl, chlorine, fluorine,



and radicals in which R_3 is a lower alkyl group of 1 to 4 carbon atoms, said blend having an acid number of less than 10 and a hydroxyl number of less than 100.

3,437,482

ACCURATE REGISTRATION OF PHOSPHOR STRIPS IN KINESCOPES BY MEANS OF A TRANSPARENT PHOTOGRAPH OF THE POST-DEFLECTION GRID IN COMBINATION WITH A POSITIONING MASK

Masami Yamada, Tokyo, Michio Tamura, Fujisawa-shi, and Hiroshi Adachi, Yokohama-shi, Japan, assignors to Sony Corporation, Tokyo, Japan, a corporation of Japan

Filed Apr. 6, 1966, Ser. No. 540,671
Claims priority, application Japan, Apr. 16, 1965, 40/22,621
Int. Cl. G03c *5/06*
U.S. Cl. 96—36.1 15 Claims



A method of manufacturing striped screen surfaces such as used in post-deflection kinescopes in which the pattern on the screen surfaces is determined by photographic processes. A photographic negative is produced and an optical mask is made from the negative. The mask is then used to produce the screen surface.

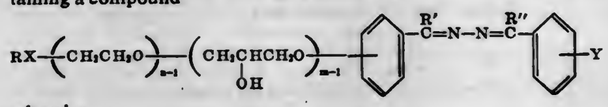
3,437,483

ULTRAVIOLET ABSORBING FILTERS

Fritz Nittel, Cologne-Stammheim, Heinz Meckl, Cologne-Flittard, and Walter Püschel and Hans Ulrich, Leverkusen, Germany, assignors to Agfa Aktiengesellschaft, Leverkusen, Germany, a corporation of Germany

Filed July 21, 1964, Ser. No. 384,154
Claims priority, application Germany, July 31, 1963, A 43,729
Int. Cl. G03c *1/84*
U.S. Cl. 96—84 7 Claims

Color photographic layers and other materials are protected against ultraviolet light by layer of gelatin containing a compound



wherein:

R represents a hydrogen atom, a straight-chain or branched alkyl group with 1–20 carbon atoms, an alkenyl group having up to 20 carbon atoms with nonconjugated carbon-carbon double bonds such as allyl or oleyl, phenyl, and alkaryl such as phenyl substituted with alkyl radicals having up to 20 carbon atoms, or aralkyl such as benzyl or phenylethyl;

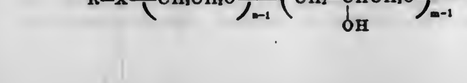
R' represents a hydrogen atom or alkyl, preferably lower alkyl having up to 3 carbon atoms, such as methyl or ethyl;

R" represents a hydrogen atom, alkyl, preferably lower alkyl having up to 3 carbon atoms, such as methyl or ethyl, or aryl such as phenyl or naphthyl;

X represents O, S, or



Y represents hydrogen, halogen such as chlorine or bromine, hydroxy, etherified hydroxy preferably alkoxy having up to 5 carbon atoms, sulfo, carboxyl which may be esterified preferably with lower aliphatic alcohols having up to 5 carbon atoms, or a group of the formula:



n represents an integer from 1–10;

m represents an integer from 1–2, at least *n* or *m* representing an integer larger than 1.

3,437,484

ANTISTATIC FILM COMPOSITIONS AND ELEMENTS

Gale F. Nadeau, Rochester, N.Y., assignor to Eastman Kodak Company, Rochester, N.Y., a corporation of New Jersey

Filed July 26, 1965, Ser. No. 474,632
Int. Cl. G03c *1/82;* C08f *3/34;* B44d *1/24*
U.S. Cl. 96—87 20 Claims



1. An antistatic composition comprising (a) a polyvinyl alcohol binder, (b) an alkali metal halide and (c) a matting agent having particles of cross section diameter in the range of about 0.5 to about 15 microns.

3,437,485

GELATIN COATING COMPOSITIONS CONTAINING A MIXTURE OF AN ACETYLENIC ETHYLENE OXIDE DERIVATIVE AND AN ANIONIC SURFACE ACTIVE AGENT

William J. Knox, Jr., Rochester, N.Y., assignor to Eastman Kodak Company, Rochester, N.Y., a corporation of New Jersey

No Drawing. Filed June 22, 1965, Ser. No. 466,073
Int. Cl. G03c *1/72*
U.S. Cl. 96—94 8 Claims

Film-forming compositions containing a hydrophilic film-forming material such as gelatin and a mixture of an acetylenic ethylene oxide derivative and an anionic surface active agent selected from sodium maleopimarate, dodecyldiphenyl ether disulfonate or isopropylnaphthalene sulfonate as a coating aid and which are useful in preparing photographic layers are described.

3,437,486

MONOBASICALLY SULFATED VINYL COPOLYMERS AS SILVER HALIDE STABILIZERS

James R. King, Jr., Thomas E. Whiteley, and Louis M. Minsk, Rochester, N.Y., assignors to Eastman Kodak Company, Rochester, N.Y., a corporation of New Jersey

No Drawing. Filed Apr. 4, 1966, Ser. No. 539,735
Int. Cl. G03c *1/34*
U.S. Cl. 96—109 7 Claims

1. A photographic silver halide emulsion containing an amount effective to reduce spontaneous fog of a salt of a monobasically sulfated vinyl copolymer at least 5 mole percent of the monomer units thereof being monomers comprising a sulfate moiety, the cations of said salt being members selected from the group consisting of ammonium and alkali metal ions.

3,437,487

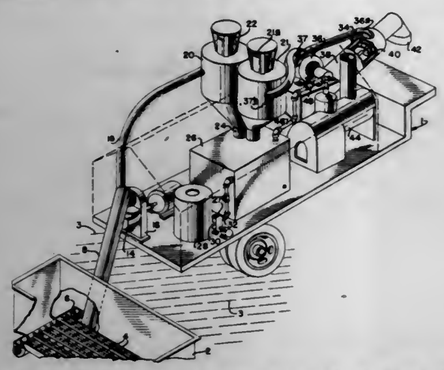
APPARATUS FOR AND METHOD OF RECLAIMING BEDDING MATERIAL

Lowell L. Mason, Carlsbad, N. Mex. (Box 5003, Security, Colo. 80911)

Filed Sept. 2, 1964, Ser. No. 393,868
Int. Cl. A23k *1/00;* A01f *29/00*
U.S. Cl. 99—2 15 Claims

A method of and apparatus for converting bedding material, and the like, into usable feed constituents by con-

veying seed material, into a hammer mill, beating it into a homogeneous mass and blowing this material through a cyclone blower, with the heavy constituents dropping



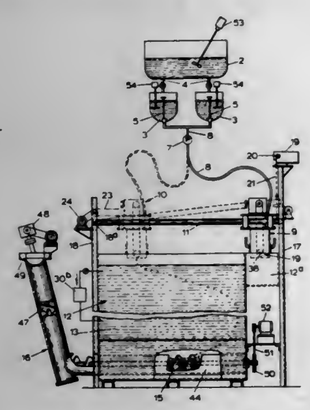
into a pelleting machine, and with the noxious gases created by urine salts and fecal matter being vented therefrom.

3,437,488

METHOD OF AND APPARATUS FOR THE MANUFACTURE OF FISH BAIT

Robert E. Humphreys, Butler, Pa., assignor to Angler Products, Inc., a corporation of Pennsylvania

Filed Dec. 1, 1966, Ser. No. 598,493
Int. Cl. A01n *17/14*
U.S. Cl. 99—3 **10 Claims**



1. In the process of making fish bait from a preparation comprising gelatin, glycerine and water to which a curing agent comprising hexamethylene tetramine is added to cure the mix and reduce the solubility of the gelatin in water and the mix thereafter formed into individual baits, the steps comprising

(a) first forming a heated batch mixture of the gelatin, glycerine and water in a batch tank;

(b) transferring a portion of said batch from the batch tank to a first staging vessel and adding the curing agent thereto while maintaining it heated;

(c) discharging the mix from the staging vessel to a metering device and maintaining it at a controlled temperature in the metering device;

(d) dropping the mix from the metering device in small uniform globules;

(e) moving the metering device over a bath of cold oil in which the mix is insoluble into which the globules of the mix drop and through which they descend in spaced intervals from one another to congeal the globules;

(f) then removing the congealed globules from the bottom of the bath.

4. Apparatus for the forming of fish bait from a gelatinous mix or the like which comprises

(a) a tank;

(b) a metering unit supported for movement over the tank;

(c) means for moving the metering unit back and forth over the tank;

(d) the metering unit having a chamber for holding a quantity of the mix;

(e) valve means operable while the unit is in motion for metering the mix in globules of predetermined size from the said chamber;

(f) an oil bath in the tank, said oil bath being chilled to effect congealing of the globules;

(g) and means for removing the congealed globules from the bottom of the bath.

3,437,489

PROCESS FOR PRODUCING FISHMEALS

Seiji Arakawa, Sunao Tominaga, and Tsuneo Terase, Tokyo, Japan; said Terase assignor to said Arakawa, said Tominaga, and Nichiro Gyogyo Kabushiki Kaisha, Tokyo, Japan, a corporation of Japan

Filed Oct. 7, 1964, Ser. No. 402,152
Claims priority, application Japan, June 20, 1964, 39/34,307
Int. Cl. A23k *1/10*; A23d *5/04*
U.S. Cl. 99—7 **3 Claims**

Process for producing fishmeal for use as animal feed while preventing oxidation of oil and fat therein by grinding fish, adding water thereto to reduce the viscosity, heating instantaneously to about 50° to 65° C., adding hydrogen peroxide in an amount of 0.03 to 0.08% by weight of the fish meat to produce antioxidative ability in the residual fat and oil of the fishmeal, separating solids from liquids and drying the separated solids as rapidly as possible.

3,437,490

TWO STAGE FERMENTATION PROCESS FOR BEER

Orland Otto Schaus and Antonios Papadopoulos, Toronto, Ontario, Canada, assignors to Canadian Breweries Limited, Toronto, Ontario, Canada

No Drawing. Filed Apr. 9, 1965, Ser. No. 447,051
Claims priority, application Canada, Mar. 25, 1965, 926,503
Int. Cl. C12c *11/04*
U.S. Cl. 99—31 **4 Claims**

This invention relates to the making of beer or the like wherein the brewers' wort is fermented at a high pitching rate and the fermentation is carried out in two temperature stages, the first stage being at a low temperature to inhibit the production of off flavours and lasting until the yeast propagation is completed, the second stage commencing at the end of yeast propagation and extending until the end of fermentation and being at a higher temperature to secure an accelerated fermentation. The invention makes it possible to achieve the advantages of accelerated fermentation from a production point of view without the disadvantage of off flavour beer.

3,437,491

TWO-STAGE SEQUENTIAL ION EXCHANGE TREATMENT FOR WINE IMPROVEMENT

Richard G. Peterson and George R. Fujii, Modesto, Calif., assignors to E. & J. Gallo, Winery, Modesto, Calif., a corporation of California

No Drawing. Filed Jan. 27, 1966, Ser. No. 523,274
Int. Cl. C12g *1/00*; C12h *1/04*
U.S. Cl. 99—35 **9 Claims**

A sequential two-stage ion exchange procedure for treating wine, particularly fortified wine, to improve its flavor, aroma and color characteristics in which wine is treated first by a weak basic anion exchange resin and subsequently by an acidic cation exchange resin. A substantial reduction in the pH of the wine is produced without appreciable alteration in its titratable acidity. Effective ratios of the quantities of anion resin to cation resin used is 1:1½ through 4:1.

3,437,492

LIQUID SHORTENINGS

Gabriel P. Lensack, Wilmington, Del., assignor to Atlas Chemical Industries, Inc., Wilmington, Del., a corporation of Delaware

No Drawing. Filed Aug. 2, 1965, Ser. No. 476,644
Int. Cl. A23d *5/00*
U.S. Cl. 99—118 **15 Claims**

Liquid shortenings are disclosed which are clear, stable, and effective for the production of baked goods of excellent volume and texture and which comprise a normally liquid edible triglyceride oil containing dissolved therein an emulsifier prepared by reacting propylene oxide with a fatty acid containing from 12 to 18 carbon atoms, in the presence of a sufficient amount of a catalyst selected from the group consisting of potassium hydroxide, potassium salts of weak organic acids, potassium alcoholates, and mixtures thereof, to furnish at least about 1.0% of KOH equivalent based on the weight of the fatty acid, at temperatures between about 100° C. and about 160° C., until the acid number decreases to less than about 10, venting unreacted propylene oxide and neutralizing the catalyst before the acid number has decreased to less than about 1 with at least about 90 mol percent of acid, based on the amount of catalyst charged, which forms a potassium salt that is insoluble in the reaction product, and separating the potassium salt therefrom, the proportion and composition of emulsifier being so chosen that it provides from about 2% to about 12% by weight of emulsifier based on the liquid shortening as a whole and no more than about 6% by weight of stearic acid ester.

3,437,493

CROSS-LINKED CEREAL STARCH THICKENER FOR FOODSTUFFS

John W. Robinson, George N. Bookwalter, and John V. Tuschhoff, Macon County, Ill., assignors to A. E. Staley Manufacturing Company, Decatur, Ill., a corporation of Delaware

No Drawing. Filed Aug. 2, 1965, Ser. No. 476,742
Int. Cl. A23l *1/14*; C09d *25/02*
U.S. Cl. 99—139 **3 Claims**

A starch thickener composition for foodstuffs comprising a cross-linked cereal starch acylate and a phosphorus oxyhalide cross-linked hydroxypropyl cereal starch having a hydroxypropyl D.S. of at least 0.10 prepared by reacting a phosphorus oxyhalide with granular hydroxypropyl cereal starch.

3,437,494

PROCESS FOR MAKING CHEMICALLY-ACIDIFIED SOUR CREAM TYPE PRODUCT

Ira Loter, Fair Lawn, and John E. Long, Murray Hill, N.J., assignors to Diamond Shamrock Corporation, a corporation of Delaware

No Drawing. Filed May 5, 1965, Ser. No. 453,518
Int. Cl. A23c *13/12*
U.S. Cl. 99—144 **7 Claims**

Process for making a chemically fermented sour cream type product by preparing an emulsion of fat, emulsifier having a melting point below 140° F., and water, adding protein, homogenizing while heating and adding an edible non-toxic acid to provide a pH of 3.5 to 6. The emulsion also contains colloidal stabilizers (gums, starch, flour, etc.) and may also include ammonium or alkali metal salts of inorganic phosphates and edible organic acids (e.g. citric, acetic acids).

3,437,495

ASEPTIC CANNING OF FOODS HAVING SOLID OR SEMI-SOLID COMPONENTS

Morris R. Jeppson, Alamo, Calif., assignor to Cryodry Corporation, San Ramon, Calif., a corporation of California

Filed Sept. 8, 1964, Ser. No. 394,821
Int. Cl. A23l *3/10*; B65b *55/00*
U.S. Cl. 99—182 **9 Claims**

In the aseptic canning of products, such as food products, having characteristics of solid matter, the products are introduced into a sterilzed environment where they are exposed to microwave energy for a predetermined time to effect high temperature short time sterilization, and, while being maintained sterilized at a relatively low temperature following sterilization by the microwave energy, are hermetically sealed in sterilized containers in the sterilized environment.

3,437,496

PROCESS FOR PREPARING STREWABLE WAXES FOR BRIGHT DRYING POLISH EMULSIONS

Guido Von Rosenberg, Gersthofen, and Wolfgang Sapper, Aystetten, Germany, assignors to Farbwerke Hoechst Aktiengesellschaft vormals Meister Lucius & Bruning, Frankfurt am Main, Germany

No Drawing. Filed May 5, 1964, Ser. No. 365,188
Claims priority, application Germany, May 16, 1963, F 39,751
Int. Cl. C09g *1/08*; C08h *9/06*
U.S. Cl. 106—10 **10 Claims**

A process for preparing a strewable wax emulsion, the wax and emulsions obtained therefrom whereby:

(a) 74–90 parts of an ester wax having an acid value of not less than 35 or greater than 100, and

(b) 6–20 parts of an oxidized polyethylene wax having an acid value of 10–80,

(c) 1–6 parts of balsamic resin, and

(d) 3–7 parts of a non-ionic wax emulsifier are admixed in the molten state.

The resulting cooled solid wax product may be strewn in boiling water with agitation in the presence of a volatile amine to obtain a bright drying polish emulsion.

3,437,497

FIRE RESISTANT CELLULOSE ESTER COMPOSITIONS

Robert C. Harrington, Jr. and James H. Bond, Kingsport, Tenn., assignors to Eastman Kodak Company, Rochester, N.Y., a corporation of New Jersey

No Drawing. Original application Nov. 12, 1963, Ser. No. 323,081. Divided and this application Nov. 9, 1967, Ser. No. 701,496
Int. Cl. C08 *21/02*; C09k *3/28*; C07f *9/06*
U.S. Cl. 106—15 **8 Claims**

A fire resistant composition and articles formed therefrom comprising a cellulose ester containing a phosphorous compound derived by reacting a compound having the formula $P_nN_{n-1}Cl_{2n+3}$ wherein n is an integer greater than 1 with a pentahalogenated phenol with or without further reaction with ammonia.

3,437,498

NOVEL DIALKENYL POLYSULFIDE-SULFUR COMPOSITIONS

Donald J. Martin, Irvington, N.Y., assignor to Stauffer Chemical Company, New York, N.Y., a corporation of Delaware

No Drawing. Filed July 20, 1966, Ser. No. 572,633
Int. Cl. C09d *3/66*
U.S. Cl. 106—19 **3 Claims**

Plasticized sulfur compositions having improved impact resistance comprising the reaction product of elemental sulfur and an alkylene polysulfide of the formula

$$R—S_n—R$$

wherein R is an alkenyl group of from 2 to 9 carbon atoms and n is an integer of from 2 to 6 inclusive.

3,437,499
GLASS CONTACT REFRACTORY AND METHOD OF MAKING THE SAME
William Horak, West Hartford, and George Robert Rowland, Bloomfield, Conn., assignors to Emhart Corporation, Bloomfield, Conn., a corporation of Connecticut
No Drawing. Filed Mar. 4, 1966, Ser. No. 531,781
Int. Cl. C04b 35/66, 35/64, 35/48
U.S. Cl. 106—57 1 Claim

The making of a refractory body which is highly resistant to thermal shock and is highly resistant to corrosion by molten glass in a method which involves making a mixture of zircon, stabilized zirconia, alumina, fused mullite, clay, and calcined kyanite in water, molding the mixture to form the body and then sintering the body at a temperature below that at which the zircon decomposes.

3,437,500
URETHANE OILS
Hans Joachim Hennig, Cologne-Stammheim, and Erwin Windemuth and Erich Zankl, Leverkusen, Germany, assignors to Farbenfabriken Bayer Aktiengesellschaft, Leverkusen, Germany, a corporation of Germany
No Drawing. Filed Nov. 22, 1965, Ser. No. 509,153
Claims priority, application Germany, Nov. 20, 1964, F 44,481
Int. Cl. C09d 3/72; C08f 19/14
U.S. Cl. 106—252 7 Claims

Urethane oils which are the reaction product of a polyhydroxyl polyester having ethylenic unsaturation and an isocyanurate which has free NCO groups. The urethane oils have improved properties, particularly good resistance to abrasion and low tendency toward chalking. In addition, they harden rapidly and are resistant to yellowing.

3,437,501
PROCESS FOR THE MANUFACTURE OF WHITE QUARTZ POWDER
Eugen Schneider, 6 Heidberg, 4273 Wulfen, and Erich Wegener, 27 Schillerstrasse, 427 Dorsten, Germany
Continuation-in-part of application Ser. No. 533,413, Mar. 11, 1966. This application Apr. 18, 1968, Ser. No. 722,434
Claims priority, application Germany, Mar. 18, 1965, W 38,789; Jan. 7, 1966, W 40,673
Int. Cl. C09c 1/28
U.S. Cl. 106—288 5 Claims

A method for the manufacture of white quartz powder from quartz-containing sands which includes the steps of mixing a quantity of quartz-containing sand with about 1% of its weight of water and about 1% of its weight of an alkali metal salt, forming the mixture into a layer of about 3 centimeters uniform depth, inserting the mixture into an oven maintained at about 1200° C., heating the mixture while it is in a static condition to substantially said temperature, then grinding it.

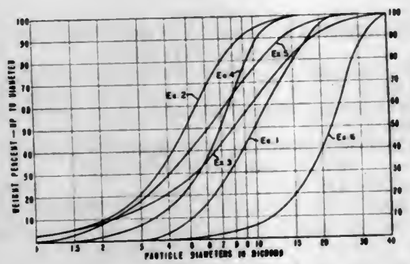
3,437,502
TITANIUM DIOXIDE PIGMENT COATED WITH SILICA AND ALUMINA
Alfred J. Werner, Newport, Del., assignor to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware
No Drawing. Continuation-in-part of application Ser. No. 519,194, Jan. 7, 1966. This application Mar. 28, 1968, Ser. No. 717,029
Int. Cl. C09c 1/36
U.S. Cl. 106—300 11 Claims

Improved titanium dioxide pigments having high opacity and outstanding ease of dispersibility in liquid coating compositions are prepared by wet treatment of a titanium dioxide base pigment by processes wherein from 0.5 to 25 percent of dense silica is precipitated as a dense, adherent coating on the titanium dioxide, and thereafter from 0.1 to 10 percent of alumina is precipitated in an aqueous slurry of the silica-coated pigment, the percents of silica and alumina both being by weight, based on the weight of titanium dioxide. The treated pigment is recovered, dried and preferably dry-milled. Paints made with the finished pigments have excellent smoothness and outstanding durability upon outdoor exposure.

3,437,503
MANUFACTURE OF PIGMENT COMPOSITIONS
Joseph Paul Massam and David Seaman, Manchester, England, assignors to Imperial Chemical Industries Limited, Millbank, London, England, a corporation of Great Britain
No Drawing. Filed Sept. 15, 1966, Ser. No. 579,498
Claims priority, application Great Britain, Sept. 17, 1965, 39,721/65, 39,722/65
Int. Cl. C09b 67/00
U.S. Cl. 106—309 9 Claims

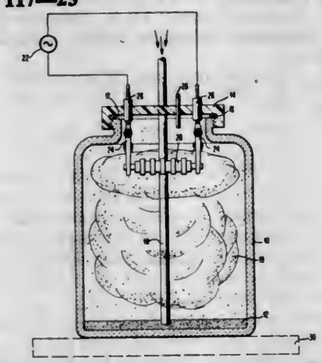
A process for producing a composition for pigmentation of an organic medium which includes salt-milling a pigment with a resin which is at least 5% soluble in the organic medium and preferably softening and rehardening the resin.

3,437,504
ELECTROSTATIC METHOD FOR DECORATING GLASS AND VITREOUS ENAMELS FOR USE THEREIN
Robert W. Mackey, Wilmington, Del., and William J. Morgan, Toledo, Ohio; Maxine L. Morgan, executrix of said William J. Morgan, deceased, assignors, by mesne assignments, to Owens-Illinois, Incorporated, Toledo, Ohio, a corporation of Ohio
Filed Apr. 27, 1964, Ser. No. 363,021
Int. Cl. B44d 1/094; C03c 17/04
U.S. Cl. 117—17.5 5 Claims



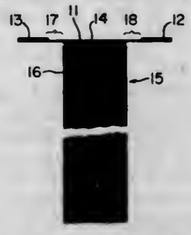
A particulate vitreous enamel, suitable for use in electrostatic methods for decorating hot glass. The enamel consists of enamel particles composed of glass frit particles having dispersed therein pigment particles of average particles size not exceeding 1 micron, which enamel particles have a particle size distribution, on a weight basis, such that not more than 1% of the particles are of sizes up to 1 micron, less than 8% are of sizes up to 2 microns, from 10% to 80% are of sizes from 3 to 10 microns, at least 55% are of sizes from 5 to 20 microns, not more than 10% are of sizes greater than 30 microns, not more than 5% are of sizes greater than 35 microns, and 100% of the particles are of sizes less than 45 microns. Such enamels are usable in electrostatic decorating methods wherein the enamel powder is transferred in an electric field from one electrically charged surface to another electrically charged surface, e.g., from an electrically charged off-set plate to an electrically charged hot glass surface.

3,437,505
METHOD FOR DEPOSITING GLASS PARTICLES ON THE ENTIRE EXPOSED SURFACE OF AN OBJECT
Bernt Narken, Poughkeepsie, and Howard L. Whitaker, Kingston, N.Y., assignors to International Business Machines Corporation, Armonk, N.Y., a corporation of New York
Filed June 28, 1965, Ser. No. 467,484
Int. Cl. C23d 3/00; B44d 1/34
U.S. Cl. 117—23 6 Claims



A method for forming a thin, hole-free, glass film on the entire surface of an object which may be irregular in shape. The object to be coated is suspended in a container above a deposit of glass particles, micron size, in the bottom of the container. The object is heated and a gas under pressure is directed against the deposit of glass particles to raise a cloud of particles surrounding the heated object. Particles from the cloud contact the surface and fuse to form the thin, hole-free film.

3,437,506
BOOKBINDING TAPE
Edward E. Falberg, Naperville, Ill., assignor to Joanna Western Mills Company, Chicago, Ill.
Filed Dec. 28, 1964, Ser. No. 421,462
Int. Cl. B42c 9/00
U.S. Cl. 117—44 2 Claims

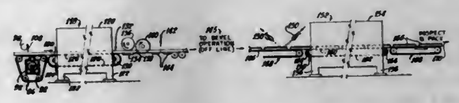


Bookbinding tape comprising an elongated fabric tape with three longitudinal stripes of heat-sealable adhesive thereon, one stripe being located centrally on one side of the tape and having a width approximately equal to the thickness of the pages of the book being bound, and the other two stripes of adhesive being located on the reverse side of the tape adjacent the edges thereon. This tape has uncoated portions between the stripes of adhesive to serve as hinges for the cover of the resulting book.

3,437,507
PLATING OF SUBSTRATES
Darwin P. Jensen, Palos Verdes Estates, Calif., assignor, by mesne assignments, to McDonnell Douglas Corporation, Santa Monica, Calif., a corporation of Maryland
No Drawing. Filed July 16, 1965, Ser. No. 472,698
Int. Cl. B44d 1/092, 1/22
U.S. Cl. 117—47 11 Claims

Process for producing a securely bonded layer of nickel on the surface of a plastic body, e.g., an ABS plastic, to provide a base for subsequent electroplating. The plastic body surface is contacted with an aqueous sulfuric acid solution of a noble metal salt, e.g., palladium chloride, followed by treatment with an electroless nickel plating bath comprising an aqueous solution of nickel salt, e.g., nickel sulfate, and a reducing agent, e.g., sodium hypophosphite.

3,437,508
STRUCTURAL PANEL AND METHOD OF PRODUCTION
Florian T. Gorski, Newark, Ohio, assignor to Owens-Corning Fiberglas Corporation, a corporation of Delaware
Continuation-in-part of application Ser. No. 204,920, June 25, 1962, and a continuation of application Ser. No. 589,158, Sept. 28, 1966. This application Aug. 23, 1967, Ser. No. 662,836
Int. Cl. B44d 1/20
U.S. Cl. 117—54 9 Claims



Method for improving the fiber surface smoothness and appearance of porous fibrous panels made of discontinuous glass fibers or the like, wherein the fibers are bonded to one another only at points of contact by hardened bonding material, with interstices between, which comprises, coating the surface fibers with additional liquid, hardenable material and then hardening the material in order to firm up or stiffen the surface fibers; and then dry grinding to remove fibers and thereby provide improved surface contour, while preserving the porosity of the panel. The product is a porous panel of improved surface finish and smoothness.

The invention overcomes prior art defects including offware due to indentations, stains and binder spots, light density spots, off-tolerance variations in thickness and weight, and poor bevels. Process efficiencies of 15–20% improvement over the prior art have been effected.

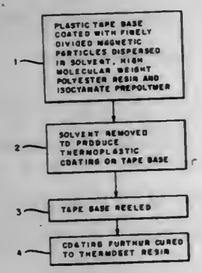
3,437,509
PROCESS FOR COAGULATION OF EMULSIONS WITH STEAM CONTAINING, AS A VAPOR, A MATERIAL WHICH REDUCES EMULSION STABILITY
Hubert Jean Marie Coisne, Armentieres, France, assignor to Lantor Limited, Manchester, England
No Drawing. Filed Apr. 22, 1965, Ser. No. 450,167
Claims priority, application Great Britain, Apr. 30, 1964, 17,911/64
Int. Cl. B44d 1/48; C23c 13/00
U.S. Cl. 117—62 16 Claims

A process for coagulating an emulsion of a high molecular weight organic material within a porous substrate is disclosed, wherein the porous substrate is impregnated with the emulsion and thereafter the impregnated substrate is subjected to the action of steam containing, as a vapor, a material which reduces the stability of the emulsion.

3,437,510
MAGNETIC TAPE BINDER
Frank Diaz, Los Altos, Calif., assignor to Ampex Corporation, Redwood City, Calif., a corporation of California
Filed Nov. 7, 1963, Ser. No. 322,075
Int. Cl. B44d 1/44
U.S. Cl. 117—62 6 Claims

1. The process of making a magnetic recording medium comprising dispersing finely divided magnetic particles in a mixture of a polyester resin having a molecular weight

of at least 10,000, a diphenylmethane diisocyanate polyurethane prepolymer having a molecular weight of from about 1100 to about 5000 and a solvent wherein the mixture contains, on a resin solids basis, from about 25% to



75% by weight of the polyester resin and from about 25% to 75% by weight of the prepolymer, coating an organic plastic tape base with said dispersion, heating the coated tape to drive off the solvent, reeling the tape and curing the same to render the coating thermoset.

3,437,511

METAL SURFACED WITH BORON AND COATING OF SILICON, SILICON CARBIDE OR TITANIUM NITRIDE

Ralph L. Hough, Springfield, Ohio, assignor to the United States of America as represented by the Secretary of the Air Force

Filed Apr. 7, 1966, Ser. No. 541,036
Int. Cl. B32b *9/00;* **B44d** *1/42*
U.S. Cl. 117—69 **5 Claims**

A boron surfaced metallic filament has improved oxidation resistance by having a coating thereon of one or more materials chosen from silicon, silicon carbide and titanium nitride.

3,437,512

RADIATION CURABLE CYCLIC SILICONE-MODIFIED PAINT BINDERS

William J. Burlant, Detroit, and Ivan H. Tsou, Pontiac, Mich., assignors to Ford Motor Company, Dearborn, Mich., a corporation of Delaware

Filed Aug. 13, 1965, Ser. No. 479,445
Int. Cl. G03g *13/00;* **B44d** *1/36*
U.S. Cl. 117—93.31 **22 Claims**

A radiation polymerizable paint binder solution of a polysiloxane modified organic resin in vinyl monomers. The paint binder resin of this invention has a molecular weight in excess of about 1,000, contains about 0.5 to about 3 alpha-beta olefinic unsaturation units per 1,000 units molecular weight, and is further characterized in that at least 10 wt. percent thereof is derived from a cyclic siloxane.

3,437,513

RADIATION CURABLE ACYCLIC SILICONE-MODIFIED PAINT BINDERS

William J. Burlant, Detroit, and Ivan H. Tsou, Pontiac, Mich., assignors to Ford Motor Company, Dearborn, Mich., a corporation of Delaware

Filed Aug. 13, 1965, Ser. No. 487,100
Int. Cl. B44d *1/36;* **C09d** *3/48, 11/10*
U.S. Cl. 117—93.31 **22 Claims**

A radiation polymerizable paint binder solution of a polysiloxane modified organic resin in vinyl monomers. The paint binder resin of this invention has a molecular weight in excess of about 1,000, contains about 0.5 to about 3 alpha-beta olefinic unsaturation units per 1,000 units molecular weight, and is further characterized in that at least 10 wt. percent thereof is derived from an acyclic siloxane.

3,437,514

RADIATION CROSSLINKING OF ALPHA-BETA UNSATURATED PAINT BINDER RESIN

William J. Burlant, Detroit, Mich., assignor to Ford Motor Company, Dearborn, Mich., a corporation of Delaware

No Drawing. Continuation-in-part of application Ser. No. 96,653, Mar. 20, 1961. This application Aug. 2, 1967, Ser. No. 657,795
Int. Cl. C09d *3/76;* **B44d** *1/09;* **B01j** *1/10*
U.S. Cl. 117—93.31 **8 Claims**

A process for providing an exposed external surface of an article of manufacture with a wear and weather resistant coating of paint. The film-forming binder of this paint consists essentially of an alpha-beta, olefinically unsaturated organic resin and a monomeric vinyl compound. The resin is characterized by having about 0.5 to about 3.0 alpha-beta olefinic unsaturation units per 1,000 units molecular weight. The monomeric compound is of lower viscosity than the resin and serves both as a solvent and as a reactant. Thus, the monomer facilitates flow of the binder during application of the film and copolymerizes with the resin when the film is cured. Copolymerization is effected with ionizing radiation at a temperature below the temperature at which significant vaporization of the monomer is initiated to provide when applied to a smooth surface an even film characterized in that distortion of specular reflections therefrom is minimized.

3,437,515

METHOD OF COATING SURFACES WITH HIGH INDEX OXIDES

Charles A. Quinn, Yorktown Heights, Carl J. Rieger, Ossining, and René A. Bolomey, Peekskill, N.Y., assignors to The Mearl Corporation, Ossining, N.Y., a corporation of New Jersey

No Drawing. Continuation-in-part of application Ser. No. 348,855, Mar. 2, 1964. This application Jan. 11, 1965, Ser. No. 424,832
Int. Cl. C03c *25/02*
U.S. Cl. 117—100 **12 Claims**

A novel method is provided for depositing films of oxides of various metals on surfaces. More particularly, the method is applied to the deposition of oxides having a high refractive index upon particles which may then be utilized in products exhibiting nacreous or color effects upon reflection and transmission of light. The method involves the deposition of such materials from hydrogen peroxide complexes of the respective metals.

3,437,516

VAPOR DEPOSITION FROM PERFLUORO-ORGANOMETALLIC COMPOUNDS

Christ Tamborski, Dayton, Ohio, assignor to the United States of America as represented by the Secretary of the Air Force

No Drawing. Filed Apr. 28, 1966, Ser. No. 546,486
Int. Cl. C23c *13/02, 17/02*
U.S. Cl. 117—107.2 **12 Claims**

A method of depositing transition metals on selected surfaces by vaporizing perfluoroorganometallic compounds and bringing the resulting vapor into contact with a surface which is at a temperature above the decomposition temperature of the perfluoroorganometallic compound. Metals deposited are preferably group IV metals such as titanium or zirconium but may be any transition element of groups III, IV or V.

3,437,517

FORMING GLASS FIBER WITH COMBINATION RESIN COATING

George E. Eilerman, Ross Township, John A. Sanguigni, Robert L. Kolek, and James J. Fasnacht, Shaler Township, and Donald E. McWilliams, O'Hara Township, Pa., assignors to PPG Industries, Inc., a corporation of Pennsylvania

No Drawing. Continuation-in-part of application Ser. No. 282,719, May 23, 1963. This application Mar. 21, 1966, Ser. No. 535,683
Int. Cl. C03c *25/02;* **B44d** *1/14*
U.S. Cl. 117—126 **4 Claims**

Glass fibers for reinforcing resins and rubber having a sizing thereon of a binder of a reaction product of a partial ester of a carboxylic acid and a compound containing more than one epoxy group per molecule, a coupling agent and a lubricant which fibers are prepared by applying an aqueous size of the foregoing composition as the fibers are withdrawn from the fiber forming bushings.

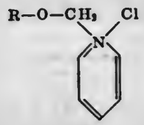
3,437,518

PROCESS FOR FLAMEPROOFING AND WATERPROOFING TEXTILE MATERIALS

Claude Jean Michel Senez, Chantilly, France, assignor, by mesne assignments, to Ugine Kuhlmann, Parish, France, a corporation of France

No Drawing. Filed Dec. 24, 1964, Ser. No. 421,110
Claims priority, application France, Dec. 27, 1963, 958,663
Int. Cl. D06m *15/68, 11/00*
U.S. Cl. 117—137 **3 Claims**

Process for flameproofing and waterproofing cellulosic textile material which comprises impregnating the material in a bath containing an aminated flameproofing substance derived from a phosphonitrile chloride and a waterproofing substance of the general formula



in which R represents an alkyl group containing at least 12 atoms of carbon, and subjecting the impregnated textile material to a heat treatment.

3,437,519

PROCESS FOR PREVENTING SHRINKAGE AND FELTING OF WOOL

Arno Rudolph Friedl, Hordle, near Lymington, and Roger Gavin Dingley, Southampton, England, assignors to The International Synthetic Rubber Company Limited, Southampton, England, a corporation of the United Kingdom

No Drawing. Filed Nov. 15, 1965, Ser. No. 507,661
Claims priority, application Great Britain, Nov. 17, 1964, 46,764/64
Int. Cl. D06m *3/02*
U.S. Cl. 117—141 **9 Claims**

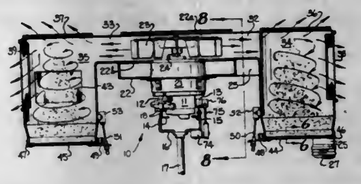
A process for treating wool which provides protection against shrinkage and felting, comprising impregnating on wool an organic solvent solution of an acid chloride modified synthetic rubber selected from the group consisting of butadiene homopolymer, isoprene homopolymer, and copolymers of butadiene, isoprene and minor proportions of monomers selected from the group consisting of styrene, vinyl toluene, and divinyl benzene.

3,437,520

METHOD FOR COLLECTING FIBER WASTE IN TEXTILE MILLS

Robert L. Black, Jr., Charlotte, N.C., assignor to Parks-Cramer Company, Fitchburg, Mass., a corporation of Massachusetts

Original application Apr. 24, 1961, Ser. No. 105,073, now Patent No. 3,188,680, dated June 15, 1965. Divided and this application Feb. 23, 1965, Ser. No. 434,316
The portion of the term of the patent subsequent to June 15, 1982, has been disclaimed
Int. Cl. A47l *7/00;* **B08b** *5/04*
U.S. Cl. 134—21 **5 Claims**



This invention relates to a traveling suction cleaner for removing fiber waste accumulating on the floor of textile mills during the production of such waste by textile machines. The fiber waste laden air is directed into a receptacle on the traveling cleaner in such a way as to move in a generally helical path creating a low pressure area in the center of the chamber for collecting and storing the fiber waste in such a way as to prevent undue restriction of the air flow and to maintain the suction air velocity and volume at an adequate level to pick up and convey fiber waste from the floor. The collection chamber may be emptied after reasonable periods of time.

3,437,521

RADIOACTIVE DECONTAMINATION

Daniel T. Buist, Rolling Hills Estates, Calif., assignor to Purex Corporation, Ltd., Lakewood, Calif., a corporation of California

No Drawing. Filed Jan. 21, 1964, Ser. No. 339,096
Int. Cl. B08b *3/08*
U.S. Cl. 134—26 **16 Claims**

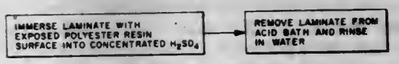
1. A process for removal of radioactive contaminants from the surface of an article, which comprises contacting said article with a first hot fluid medium containing a decontaminating agent effective to remove said radioactive contaminants, cooling said article, contacting said article with hot vapors of a chlorinated hydrocarbon solvent at a temperature above the temperature of said cooled article, and causing said vapors to condense on said article and drain from the surface thereof, rinsing said surface.

3,437,522

PROCESS FOR REMOVING ADHESIVES FROM POLYOLEFIN FILM BY IMMERSION IN SULFURIC ACID

Herbert J. Fick, Northfield, and Roger W. Johnson, St. Paul, Minn., assignors to G. T. Schjeldahl Company, Northfield, Minn., a corporation of Minnesota

Filed Feb. 19, 1965, Ser. No. 442,844
Int. Cl. B08b *3/08*
U.S. Cl. 134—38 **4 Claims**



A technique for removing adhesives from polyolefin films, the adhesive being employed to bond a conductor utilizing printed circuitry onto the polyolefin film. Re-

moval of the adhesive is desirable since the adhesive has different electrical properties than the polyolefin films, and it has been found that the adhesive is generally more hygroscopic than the polyolefin film. The adhesive is removed by immersing the film into a concentrated sulfuric acid solution and subsequently rinsing the treated film in water.

3,437,523

METHOD OF MAKING A BATTERY ELECTRODE CONTAINING META-DINITROBENZENE AND A METALLIC HALIDE

Joseph C. Duddy, Trevose, Pa., and William J. Dermody, Titusville, N.J., assignors to ESB Incorporated, a corporation of Delaware

No Drawing. Filed Aug. 29, 1967, Ser. No. 663,962
Int. Cl. H01m *41/00, 43/00, 15/00*
U.S. Cl. 136—20 6 Claims

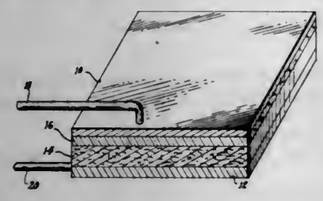
Metallic halide depolarizers are added to a solution containing meta-dinitrobenzene (MDB), the resultant paste is applied to a grid, and the solvent is removed. Alternatively the metallic halides may be mixed into molten MDB together with conductor additives and the resultant composition applied to a grid.

3,437,524

SOLID ELECTROLYTE ALKALI METAL VOLTAIC CELL

Drannan Hamby, McMinnville, Oreg., assignor to the United States of America as represented by the Secretary of the Air Force

Filed Oct. 5, 1966, Ser. No. 584,609
Int. Cl. H01m *3/02*
U.S. Cl. 136—83 5 Claims



1. In an electrochemical cell comprising an alkali metal alloy containing anode, a cathode and an anhydrous electrolyte the improvement in combination therewith which comprise positioning a non-porous, ion-conductive membrane between said anode and said electrolyte.

3,437,525

FUEL CELL WITH TITANIUM-CONTAINING ELECTRODE AND PROCESS OF USE THEREOF

Anna P. Hauel, West Orange, James S. Hill, Cranford, and William E. Reilly, Westfield, N.J., assignors to Engelhard Industries, Inc., Newark, N.J., a corporation of Delaware

Filed Jan. 20, 1964, Ser. No. 338,864
Int. Cl. H01m *27/10*
U.S. Cl. 136—86 6 Claims

6. A process for the production of electrical energy, which comprises contacting a catalytic fuel electrode of a fuel cell with a gaseous fuel, the fuel electrode comprising a porous, coherent skeletal mass of titanium having a porosity with the range of 40%–75% porosity, the pores of the skeletal mass being substantially uniformly distributed throughout the mass and of substantially uniform size, and a platinum group metal as catalytically active material deposited on the surfaces of the pores of the skeletal mass, and contacting an oxidizer electrode of the fuel cell with an oxidizing gas, the oxidizer electrode and the fuel electrode both being in contact with an acid electrolyte.

3,437,526

SINTERED NICKEL BORIDE ELECTRODE AND FUEL CELL THEREWITH

Ingemar Lindholm and Bo Mueller, Vasteras, Sweden, assignors to Allmänna Svenska Elektriska Aktiebolaget, Vasteras, Sweden, a corporation of Sweden

No Drawing. Filed Aug. 23, 1963, Ser. No. 304,101
Claims priority application Sweden, Aug. 27, 1962, 9,237/62
Int. Cl. H01m *27/04*
U.S. Cl. 136—86 13 Claims

1. A fuel cell having electrodes in contact with an electrolyte, at least one of said electrodes being formed of a body material having pores therein and permeable to gas, said body material consisting essentially of a material produced by admixing grains of nickel boride with grains of a carrier material consisting essentially of at least one substance selected from the group consisting of iron, nickel, cobalt carbon, tungsten, and molybdenum; forming the resulting mixture into a body and sintering said body, the amount of nickel boride being from 2 percent to 40 percent by weight of said body material.

4. Electrode material comprising a body material having pores therein and permeable to gas, said body material consisting essentially of a material produced by admixing grains of nickel boride with grains of a carrier material consisting essentially of at least one substance selected from the group consisting of iron, nickel, cobalt, carbon, tungsten, and molybdenum; forming the resulting mixture into a body and sintering said body, the amount of nickel boride being from 2 percent to 40 percent by weight of said body material.

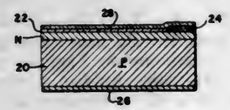
12. Electrode material comprising a body material having pores therein and permeable to gas, said body material consisting essentially of a material produced by admixing grains of nickel boride with grains of a carrier material consisting essentially of at least one substance selected from the group consisting of iron, nickel, cobalt, carbon, tungsten, and molybdenum; forming the resulting mixture into a body and sintering said body, the amount of nickel boride being at least 2 percent by weight of said body material, the sintering being carried out at a temperature of at least about 500° C.

3,437,527

METHOD FOR PRODUCING A SOLAR CELL HAVING AN INTEGRAL PROTECTIVE COVERING

James E. Webb, Administrator of the National Aeronautics and Space Administration, with respect to an invention of Peter A. Iles, Arcadia, Calif.

Filed Oct. 26, 1966, Ser. No. 590,141
Int. Cl. H01m *15/00*
U.S. Cl. 136—89 6 Claims



1. A method for producing a solar cell having an integral protective covering comprising the steps of:
doping the surface of a semiconductor slice of one of the conductivity types in an oxidizing atmosphere to create a diffused surface layer of the opposite conductivity type covered by a thin dielectric layer,
removing the opposite conductivity type layer and dielectric layer from all but the top surface of the semiconductor slice,
applying a metal contact to the top surface of the slice,
depositing glass powder onto the top surface of the slice and over the metal contact,

heating the slice to fuse the glass powder thereto and simultaneously diffusing the metal contact through the dielectric layer to establish ohmic contact with the diffused surface layer, and
applying a second metal contact to the bottom surface of the slice.

3,437,528

ELECTROLYTE RELEASE VALVE AND VENT FOR RESERVE BATTERY

Robert K. Musselman, Chippawa, Ontario, Canada, assignor to Servel (Canada) Limited, Niagara Falls, Ontario, Canada, a corporation

Filed Nov. 7, 1966, Ser. No. 592,379
Int. Cl. H01m *1/06, 1/08, 17/06*
U.S. Cl. 136—90 7 claims

1. In a reserve type electric battery having a battery compartment in the lower part thereof and an electrolyte compartment arranged above the battery compartment, a combined valve and gas vent for releasing the electrolyte to activate the battery and for venting gases generated therein, comprising an open-ended sleeve having an enlarged cup-shaped upper end portion, the top wall and floor of the electrolyte compartment having vertically alined openings therein, said sleeve extending through and mounted in said opening in said top wall with the open top thereof exposed exteriorly of the battery and depending downwardly into said compartment but terminating short of the floor thereof, a valve stem arranged for axial movement within said sleeve and extending into the cup-shaped portion and beyond the bottom end of said sleeve, a valve plug washer affixed to the bottom end of said stem, a flexible sheath extending from said washer to said sleeve enclosing the open bottom end of said sleeve, means for holding said washer in fluid-tight contact with the periphery of said opening in the floor of said electrolyte compartment, and normally cocked spring means for moving said valve stem upwardly to open the valve and release electrolyte from said electrolyte compartment upon the triggering of said spring means, said valve stem having an axial bore throughout its length providing a vent passageway connecting the interior of the battery with the atmosphere when the valve is in open position.

3,437,529

BATTERY ELECTRODE-SEPARATOR ASSEMBLY

Harold N. Honer, Wonewoc, Wis., assignor, by mesne assignments, to ESB Incorporated, Philadelphia, Pa., a corporation of Delaware

Filed July 26, 1966, Ser. No. 567,949
Int. Cl. H01m *17/06, 13/06*
U.S. Cl. 136—100 12 Claims

1. In a reserve battery adapted to be activated by immersion in a liquid electrolyte comprising in combination therewith a battery electrode-separator assembly comprising a plate-like electrode having a plurality of perforations therein, a layer of insulating material on one surface of said electrode, and a plurality of insulating spacers projecting from the other surface thereof, said spacers comprising material from said layer extending through the perforations in said electrode.

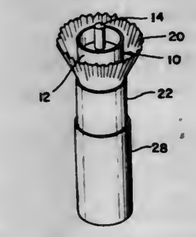
5. A cell assembly for a reserve battery of the type adapted to be activated by immersion in a liquid electrolyte comprising, a sub-assembly comprising a pair of complementary electrode compartments formed of an insulating material and joined by a hinge, a pair of perforated electrodes both of the same polarity and each housed in a separate one of said compartments, the insulating material of said compartments projecting through the perforations in the electrode therein to form a plurality of spacers on the surface of said electrode, electrolyte ports in said compartments, and an electrode of the opposite polarity, said sub-assembly being folded at said hinge around said electrode of opposite polarity to form a cell container in which said electrodes are held in a spaced relationship by said spacers.

3,437,530

LEAK-RESISTANT DRY CELL

Charles E. Anderson, Madison, Wis., assignor, by mesne assignments, to ESB Incorporated, Philadelphia, Pa., a corporation of Delaware

Filed Feb. 24, 1967, Ser. No. 618,443
Int. Cl. H01m *1/02, 21/00*
U.S. Cl. 136—132 16 Claims



A paper or metal jacketed primary dry cell having a flexible plastic enclosure between the cell and the jacket to contain the liquid exudate created when the cell is discharged.

3,437,531

ANHYDROUS CHROMIC ACID METAL TREATING SOLUTION

Rudolf E. Svadlenak, Lewiston, N.Y., assignor to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware

No Drawing. Filed July 26, 1962, Ser. No. 212,712
Int. Cl. C23f *7/26*
U.S. Cl. 148—6.2 7 Claims

1. A metal treating solution consisting essentially of a chlorinated hydrocarbon, chromic acid in an amount sufficient to render a metal base corrosion resistant and a tertiary alcohol in an amount less than 15% by weight and sufficient to form an ester with said chromic acid.

3,437,532

DARK COLORED STAINLESS STEEL SURFACES

Harold L. Helgert and Jesse R. Conner, Jr., Sarver, Pa., assignors to Allegheny Ludlum Steel Corporation, Brackenridge, Pa., a corporation of Pennsylvania

No Drawing. Filed July 14, 1965, Ser. No. 472,019
Int. Cl. C23f *7/04*; C23d *5/02*
U.S. Cl. 148—6.14 6 Claims

A process for producing oxide coated stainless steel having an oxide coating impregnated with an alkali metal silicate to improve resistance to wear.

3,437,533

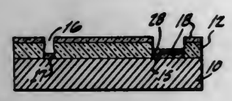
METHOD OF FABRICATING SEMICONDUCTOR DEVICES

Andrew G. F. Dingwall, Bridgewater, N.J., assignor to Radio Corporation of America, a corporation of Delaware

Filed Dec. 13, 1966, Ser. No. 601,479
Int. Cl. H01l *7/44*
U.S. Cl. 148—187 5 Claims

A method of fabricating a semiconductor device by (1) providing a masking layer on a surface of a semiconductor wafer, the layer having randomly distributed pin holes, (2) selectively removing portions of the masking layer to expose the underlying wafer, (3) depositing a dopant source on the masking layer and the exposed

wafer surface, including the pinholes, (4) selectively removing the source from all portions of the masking layer,



including the pinholes, but not from the exposed wafer surface and (5) diffusing the dopant into the wafer from the source remaining on the exposed wafer surface.

3,437,534

EXPLOSIVE COMPOSITION CONTAINING ALUMINUM, POTASSIUM PERCHLORATE, AND SULFUR OR RED PHOSPHORUS

William S. McEwan, China Lake, and Edward W. La Rocca, Miraleste, Calif., assignors to the United States of America as represented by the Secretary of the Navy

No Drawing. Filed Nov. 18, 1963, Ser. No. 324,591
Int. Cl. C06b 11/00
U.S. Cl. 149—30 3 Claims

1. An underwater explosive composition consisting essentially of the following ingredients.

Ingredients:	Percent by weight
Aluminum	18.3
Sulfur	14.6
Potassium perchlorate	67.1

2. An underwater explosive composition consisting essentially of the following ingredients:

Ingredients:	Percent by weight
Aluminum	12.09
Red phosphorus	17.11
Potassium perchlorate	70.80

3,437,535

GASEOUS OZONE, OXYGEN MIXTURE STABILIZED WITH MONOCHLOROTRIFLUOROMETHANE

Gerald M. Platz, Elmhurst, Ill., assignor, by mesne assignments, to Air Reduction Company, Incorporated, New York, N.Y., a corporation of New York

Filed Sept. 15, 1955, Ser. No. 534,879
Int. Cl. C06c 15/00
U.S. Cl. 149—109 1 Claim

1. A stabilized gaseous mixture consisting essentially of ozone, oxygen and monochlorotrifluoromethane, at least about 14.3 volume percent of said ozone, oxygen mixture being ozone and at least about 5 volume percent of the total mixture being monochlorotrifluoromethane.

3,437,536

BOND STRENGTH FOR FOAM-METAL LAMINATES

Gerald G. Vincent and Joseph E. Burkholder, Midland, Mich., assignors to The Dow Chemical Company, Midland, Mich., a corporation of Delaware

No Drawing. Filed Dec. 31, 1964, Ser. No. 422,526
Int. Cl. B32b 5/20, 15/04
U.S. Cl. 156—78 9 Claims

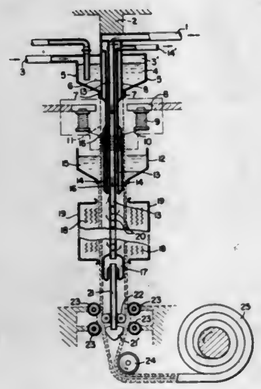
The present invention provides a method of producing foam to metal laminates having improved bond strength which comprises (1) adhering to at least one metal substrate a layer of a thermoplastic olefin polymer composition having a relative crystallinity of at least 30 percent, said olefin polymer composition containing a solid decomposable blowing agent, (2) heating the resulting laminate to a temperature of at least 140° C. to expand the polymer layer and (3) subsequently cooling said laminate to room temperature.

3,437,537

METHOD AND APPARATUS FOR MAKING TUBES OF WOVEN FIBER IMPREGNATED BY A HIGH POLYMERIC COMPOUND

Takezo Takada, 1741 Oaza Hikotomi, Iai-cho, Echi-gun, Shiga-ken, Japan

Filed Dec. 28, 1964, Ser. No. 421,307
Claims priority, application Japan, June 9, 1964, 39/32,396; June 10, 1964, 39/32,607; Aug. 31, 1964, 39/48,655; Sept. 10, 1964, 39/51,029
Int. Cl. B32b 25/04; B29c 17/04
U.S. Cl. 156—149 9 Claims



Manufacture of a woven fabric tube impregnated by a high polymeric compound, wherein the fibers are dried and deaired prior to impregnation by the compound and wherein the impregnated tube is heated under conditions of controlled internal and external air pressure to effect proper penetration of the fabric by the compound.

3,437,538

METHOD OF FORMING AN EXTRUDED SUNSCREEN

Walkley B. Ewing, Fajardo, Puerto Rico, assignor, by mesne assignments, to Sunscreen Corporation, Fajardo, Puerto Rico, a corporation of Puerto Rico

Original application Aug. 10, 1961, Ser. No. 130,524, now Patent No. 3,276,942, dated Oct. 4, 1966. Divided and this application Feb. 14, 1966, Ser. No. 560,397
Int. Cl. B29c 24/00; B29d 23/04
U.S. Cl. 156—167 3 Claims



A method of forming a sunscreen by continuously extruding in a cylindrical helical pattern a plurality of parallel first plastic members and simultaneously continuously extruding a plurality of second plastic members arranged in a cylindrical pattern coaxial to the first pattern. Second members extend in a direction parallel to the axis of the cylindrical pattern.

The first extruded members constantly rotate about the axis to form a helix with the second members located

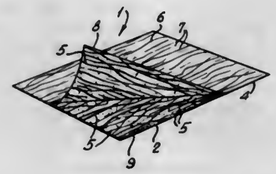
at spaced intervals around the circumference of the helix. After the members are extruded in the cylindrical pattern they are cut longitudinally of the cylinder leaving a substantially flat piece. Louvers are constructed of a material such that when subjected to solar radiation they will soften and droop so as to provide variable light entry control.

3,437,539

METHOD OF MAKING A NON-WOVEN FABRIC BY SPLITTING

Frederick K. Mesek, Downers Grove, and William R. Strickel, Chicago, Ill., assignors to Johnson & Johnson, a corporation of New Jersey

Filed Oct. 18, 1965, Ser. No. 496,841
Int. Cl. B32b 5/26; B26d 3/28
U.S. Cl. 156—254 4 Claims



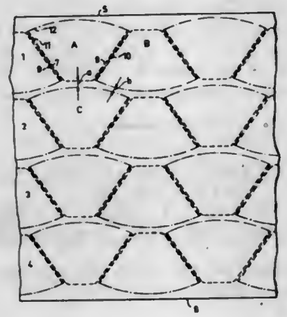
Two non-woven fabrics are made by splitting a composite web having an interlay of fibers having a larger diameter than the web fibers on each side of the interlay. The composite web is split in the area of the interlay.

3,437,540

FILTERING BAG FOR BREWING COFFEE AND METHOD OF MAKING SUCH BAG

Guy John Olof Welin-Berger, Parkgrand 4, Nacka, Sweden

Filed May 5, 1966, Ser. No. 547,935
Claims priority, application Sweden, May 7, 1965, 6,022/65
Int. Cl. B32b 7/14
U.S. Cl. 156—269 2 Claims



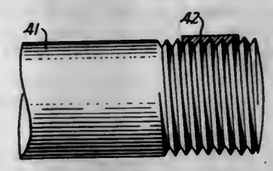
Coffee-brewing filter bags are formed of filtering paper by adhering together two elongated webs of filtering paper along alternately oppositely inclined lines with the more closely adjacent ends of the inclined lines interconnected by stripes of adhesive parallel to the length of the webs. Coffee bags are then cut out along lines that follow the middle of the lines of adhesive, with an open end cut out along a circular arc opposite the bottom edge of the bag. The bag blanks are thus cut from the webs in the pattern shown in the drawings to minimize waste of material.

3,437,541

PRE-FORMED PLASTIC LOCKING ELEMENT FOR FASTENERS

Charles W. Cooper and Michael M. Epstein, Columbus, Ohio, assignors to Standard Pressed Steel Co., Jenkintown, Pa., a corporation of Pennsylvania

Filed Mar. 6, 1967, Ser. No. 620,775
Int. Cl. C09j 5/06, 5/02
U.S. Cl. 156—306 5 Claims



Method of making a plastic locking element bonded to a threaded fastener by pre-forming the locking element from a thermoplastic to have threads matching the threads of the fastener surface to which the thermoplastic is to be bonded, and then heating the thermoplastic above its softening point in situ on the fastener to bond said thermoplastic thereto.

3,437,542

PROCESS FOR BONDING SURFACES

John Arthur Mills, Stockbridge, England, assignor to The Borden Company, New York, N.Y., a corporation of New Jersey

No Drawing. Filed Apr. 8, 1965, Ser. No. 446,705
Int. Cl. C09j 3/08
U.S. Cl. 156—331 2 Claims

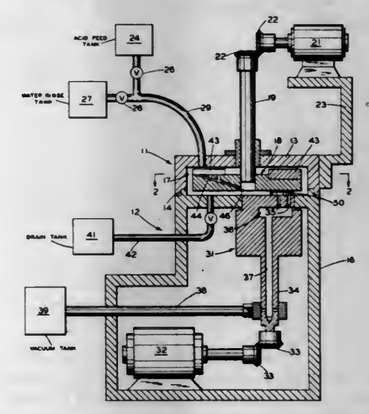
This invention relates to a process for bonding surfaces together which comprises applying to at least one of the surfaces to be bonded and at the surface only, a hardenable liquid resinous component and a second component which is a powder hardener for the resinous component. Thereafter, the surfaces to be bonded are brought together and the components are hardened.

3,437,543

APPARATUS FOR POLISHING

Richard H. Winings, Fleetwood, Pa., assignor to Western Electric Company, Incorporated, New York, N.Y., a corporation of New York

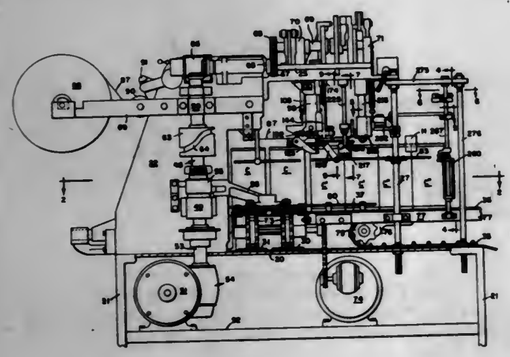
Filed Mar. 9, 1965, Ser. No. 438,317
Int. Cl. C23f 1/08, 3/00
U.S. Cl. 156—345 6 Claims



A semiconductor slice with an undamaged and uncontaminated polished surface is prepared by using apparatus wherein a moving stream of a chemical etchant is caused to move at high average velocities across the surface of

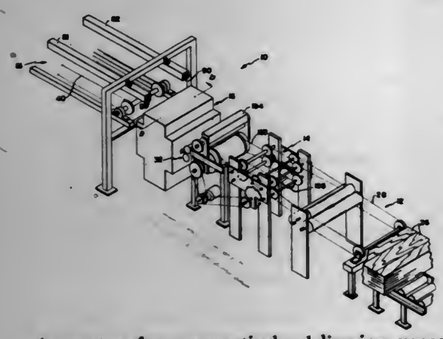
the slice. The chemical etchant and the surface of the slice undergo continuous acceleration and deceleration relative to each other to provide uniform etching that results in a highly polished surface on the slice.

3,437,544
TAPE HANDLE APPLYING MACHINE
Isaac L. Wilcox, Fulton, N.Y., assignor to Phillips Petroleum Company, a corporation of Delaware
Filed June 8, 1964, Ser. No. 373,402
Int. Cl. B26d *5/08*; B32b *31/18*
U.S. Cl. 156—354 7 Claims



A pair of containers are moved by a pusher from an infeed conveyor onto a stationary plate, the containers abutting against a second pair positioned on a constantly running outfeed conveyor and restrained from movement thereon by stop members, a handle band of heat sealable sheet material is secured to the first pair of containers whereupon the second pair are released for advancement by the outfeed conveyor, a succeeding pair of containers are pushed on the plate, pushing the first pair onto the outfeed conveyor, means is provided for perforating the handle band intermediate its edges.

3,437,545
PLYWOOD ASSEMBLY APPARATUS
Merle H. Bacon, South Burnaby, British Columbia, Canada, assignor to MacMillan Bloedel Limited, a corporation
Filed July 20, 1965, Ser. No. 473,407
Int. Cl. B32b *31/10, 21/14*
U.S. Cl. 156—557 18 Claims

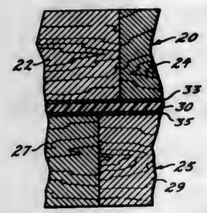


Apparatus for consecutively delivering veneer sheets to a first assembly station, assembling cross-banding core pieces into core sheets at a second assembly station to one side of the first station, shifting said assembled core sheets on to the veneer sheets at the first station alternately to the delivery of the veneer sheets thereto, and applying glue to opposite faces of the core pieces before said pieces reach the first station.

3,437,546
SPIRAL-WOUND DISC FRICTION ELEMENT AND METHOD OF MAKING SAME
Frank Lombardy, Somerville, N.J., assignor to Johns-Manville Corporation, New York, N.Y., a corporation of New York
No Drawing. Filed May 24, 1965, Ser. No. 458,469
Int. Cl. D04h *13/00*; B32b *19/00*
U.S. Cl. 161—35 8 Claims

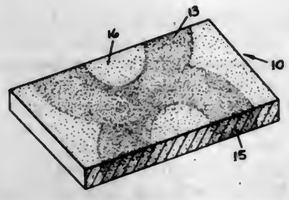
A clutch facing disc comprising a pressed helically wound disc in which rubber-coated asbestos fibers are convolutely wound in disc-form outwardly until the diameter of the disc is at a predetermined diameter, the disc being characterized by a particular rubber-coating composition adaptable for application directly from a solution and/or suspension to the asbestos fibers, the composition typically comprising butadiene styrene rubber copolymer at about 23.2%, phenol-formaldehyde thermosetting resin at about 18.2%, polymerized cashew nut shell liquid resin at about 10%, zinc oxide at about 12.6%, carbon black at about 13.7%, sulfur at about 7.8%, barytes at about 14%, and rubber accelerator at about 0.5%.

3,437,547
LAMINATED BALSA STRUCTURE AND METHOD
Matthew A. Sullivan, 535 Davisville Road, Willow Grove, Pa. 19090
Filed June 7, 1965, Ser. No. 461,629
Int. Cl. B32b *3/16, 3/02, 23/08*
U.S. Cl. 161—40 7 Claims



A laminated composite material is provided wherein a flexible polymer film is disposed between and adhered to a pair of balsa sheets, the adhesive means joining the polymer film to the balsa sheets serving to bind the sheets and film in an integral relationship providing a lightweight, durable, strong and easily workable material.

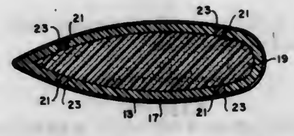
3,437,548
DECORATIVE PRODUCTS AND PROCESS FOR MAKING SAME
Osborn Ayers, Westfield, N.J., assignor to Johns-Manville Corporation, New York, N.Y., a corporation of New York
Filed Dec. 24, 1964, Ser. No. 421,071
Int. Cl. B32b *31/20, 31/18, 19/00*
U.S. Cl. 161—41 11 Claims



Producing decorative, pervaded designs or patterns in hydraulic cementitious materials through density varia-

tions within the mass of the material, and the products thereof.

3,437,549
PROCESS FOR FILLING EXTERNAL STRUCTURAL VOIDS IN SUBMARINES AND THE RESULTING ARTICLE
Allen Winer, 603 Marcia Lane, Rockville, Md. 20851
Filed May 28, 1964, Ser. No. 371,148
Int. Cl. B32b *15/08, 27/40*
U.S. Cl. 161—43 7 Claims



A method for filling external structural voids in the construction of submersible vehicles and the resulting article comprising the steps of filling a void with a heat curable resin; heating the external skin of the void to effect curing of a thin internal layer in intimate contact with the skin within the void; pouring out the uncured portion of the resin; filling the central portion with a low density core material which expands to form a rigid core; plugging the apertures with an ambient temperature curing material; and welding cover plates over the apertures of the void.

3,437,550
GLASS FIBER REINFORCED CRYSTALLINE POLYPROPYLENE COMPOSITION AND LAMINATE
James T. Paul, Jr., Wilmington, Del., assignor to Hercules Incorporated, Wilmington, Del., a corporation of Delaware
No Drawing. Filed Jan. 7, 1966, Ser. No. 519,005
Int. Cl. B32b *29/12, 19/08, 17/06*
U.S. Cl. 161—93 26 Claims

14. A laminate comprising a matrix of crystalline polypropylene reinforced with layers of glass fabric, said glass fabric having a coating comprised of the reaction product of a silane having at least one glass-reactive substituent and at least one acid-reactive organic substituent with crystalline polypropylene modified by addition thereto of about 0.15 to 10% by weight of an α,β-ethylenically unsaturated acid or anhydride.

3,437,551
METHOD OF BONDING THERMOPLASTIC FILM TO POLYURETHANE FOAM AND PRODUCT
Irving L. Marshack, La Jolla, Calif., assignor, by mesne assignments, to Mobay Chemical Company, Pittsburgh, Pa., a corporation of Delaware
Filed Sept. 15, 1964, Ser. No. 396,490
Int. Cl. B32b *5/18*
U.S. Cl. 161—160 9 Claims



A self-sustaining thermoplastic resinous sheet is bound to the surface of a polyurethane foam by interposing between the two a plastisol containing a resin compatible with the sheet and heating and firmly pressing the resulting assembly.

3,437,552
GLASS LAMINATE AND INTERLAYER
Griffith Bowen, Wilmington, Del., assignor to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware
No Drawing. Filed Aug. 1, 1967, Ser. No. 657,486
Int. Cl. B32b *17/10*
U.S. Cl. 161—165 11 Claims

A pair of outer glass sheets laminated to each side of a composite interlayer comprising a rigid polyvinyl butyral core of hydroxyl content about 22 to 32 percent having on each side an adhesive layer of plasticized polyvinyl butyral resin the hydroxyl content of which is low enough to inhibit substantial migration of the plasticizer into the rigid sheet at equilibrium.

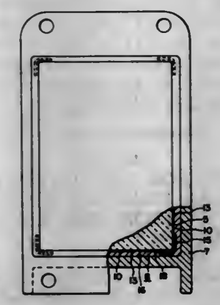
3,437,553
GLASS LAMINATE
Robert Burleigh Hailstone, Wilmington, Del., assignor to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware
No Drawing. Filed June 16, 1966, Ser. No. 557,907
Int. Cl. C03c *27/10*; B32b *17/06*
U.S. Cl. 161—199 7 Claims

5. A safety-glass laminate formed of two glass sheets and having a polyvinyl butyral interlayer, which interlayer has been surfaced with a substantially monomolecular layer of a wetting agent selected from the class consisting of:



wherein m is an integer of from 10 to 18 and n is an integer of from 4 to 25; and alkali metal alkyl sulfates, wherein the alkyl group contains from 10 to 20 carbon atoms, in which the adhesion between the glass and the interlayer for a test strip 3 cm. wide is between 6 and 13 pound in a 180° direction.

3,437,554
JOINT CONSTRUCTIONS
James R. Gamble, Latrobe, Pa., assignor to Westinghouse Electric Corporation, Pittsburgh, Pa., a corporation of Pennsylvania
Continuation-in-part of application Ser. No. 420,421, Dec. 22, 1964. This application Jan. 26, 1965, Ser. No. 433,529
Int. Cl. C09j *1/00*; C03c *27/04*
U.S. Cl. 161—206 15 Claims



An improved joint construction is provided between a ceramic body and a surrounding metallic flange structure secured thereto. A permanently-tacky resilient cushioning layer of a silicone adhesive is applied to the ceramic body, so as to be interposed between the ceramic body and the contiguous cement poured in the intervening space between the inner ceramic body and the surrounding metallic flange support member.

3,437,555
COMPOSITION FOR RENDERING PAPER FORGERY-PROOF AND FORMING PAPER THEREWITH

Joseph Gessner, Woodstown, N.J., assignor to E. I. du Pont de Nemours and Company, Wilmington, Del., a Corporation of Delaware

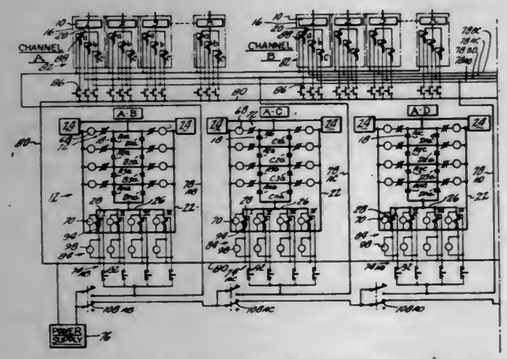
No Drawing. Filed Dec. 3, 1965, Ser. No. 511,363
Int. Cl. D21h 5/10
U.S. Cl. 162—140 6 Claims

A storage-stable, aqueous solution of 2-amino-6-benzothioazole carboxylic acid, useful for rendering paper forgery-proof, consisting essentially of 5 to 20 weight percent of said acid and a sufficient quantity, at least two moles per mole of acid, of a mono-, di- or trialkonalamine, for example, ethanolamine, diethanolamine or triethanolamine, to effect dissolution of said acid.

3,437,556
TEST CIRCUIT FOR REACTOR SAFETY CONTROL SYSTEM

Frank Bevilacqua and Christoffel H. Meijer, Windsor, Conn., assignors to Combustion Engineering Inc., Windsor, Conn., a corporation of Delaware

Filed Oct. 23, 1967, Ser. No. 677,109
Int. Cl. G21c 7/36, 7/00; H02h 7/00
U.S. Cl. 176—19 5 Claims



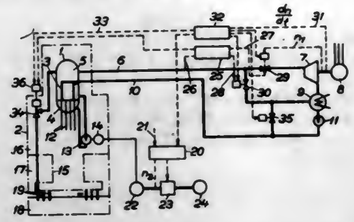
A test circuit for determining the operability of various components of a nuclear power plant safety control system wherein the actuating relays of the control system are provided with double coils, one being operative in the circuitry of the control system and the other operative in the test circuit whereby the actuation of the control system can be simulated by a test circuit that is completely isolated from the circuitry of the control system. The circuitry of the test system is so arranged that testing of the control system can be conducted while the safetv control system remains operative.

3,437,557
ARRANGEMENT FOR PREVENTING SHUTDOWN OF A NUCLEAR REACTOR PLANT WHEN THE LOAD ON A TURBINE DRIVEN THEREBY DECREASES SUDDENLY

Arto Kaipainen, Ake Rullgard, Carl Gosta Skygge, and Cnut Sundqvist, Vasteras, Sweden, assignors to Allmänna Svenska Elektriska Aktiebolaget, Vasteras, Sweden, a Swedish corporation

Filed Apr. 3, 1967, Ser. No. 628,022
Claims priority, application Sweden, Apr. 7, 1966, 4,844/66
Int. Cl. G21d 7/00; G21c 19/00
U.S. Cl. 176—20 7 Claims

In connection with a nuclear reactor driving an electric generator through a turbine, to prevent shutdown if the electric network is suddenly disconnected, the steam in the reactor enclosure is led through rapidly opening valves opened in response to a sudden decrease in turbine load into a tank of water, after which these valves are closed

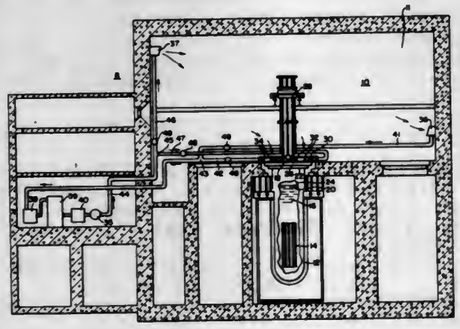


and the steam is led through a dumping valve to a condenser connected to the turbine.

3,437,558
NUCLEAR REACTOR AND REFUELING CELL ARRANGEMENT

William E. Gunson and John D. Sutherland, Monroeville, and Stephen N. Tower, Murrysville, Pa., assignors to Westinghouse Electric Corporation, Pittsburgh, Pa., a corporation of Pennsylvania

Filed Apr. 7, 1967, Ser. No. 629,153
Int. Cl. G21c 19/22
U.S. Cl. 176—52 6 Claims



The various systems of this invention are operative to substantially eliminate the contamination of refueling cells in liquid metal cooled reactors by liquid metal vapor (such as sodium) and fission products contained therein when the vessel containing the liquid is opened for refueling or maintenance purposes. Gas flow devices, mechanical devices, and condensing devices or combinations thereof are situated in the general area of the channel connecting the reactor vessel with the refueling cell. The gas flow devices set up a flow pattern which allows collection of the liquid metal vapor before it reaches the fuel cell to radioactively contaminate the same. The mechanical devices limit the area through which thet vapors have access to the refueling cell, and the condensing devices cause the liquid metal vapor to freeze before it can reach the cell area.

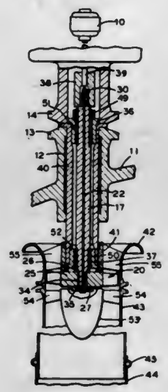
3,437,559
CIRCULATING PUMP FOR AN INTEGRAL NUCLEAR REACTOR

Wolfgang Junkermann and Bruno Sachse, Oberhausen, Rhineland, Germany, assignors to Babcock & Wilcox, Limited, London, England, a corporation of Great Britain

Filed May 16, 1967, Ser. No. 638,939
Claims priority, application Germany, May 17, 1966, D 50,142
Int. Cl. G21d 1/04; G21c 13/00; F04d 3/02
U.S. Cl. 176—87 5 Claims

A circulating pump connected to a nuclear reactor pressure vessel and having an impeller wheel which is

detachable from the drive shaft. A clamping device adjustable from a position external of the pressure vessel is used to operatively engage the impeller wheel with the drive shaft. The clamping device employs frictional force



to achieve the bond between the impeller and the shaft. An alternate arrangement shows a spline-tooth gear construction to engage the impeller and the shaft. The opening in the reactor pressure vessel being sized to allow passage of the shaft and its associated bearings.

3,437,560
USE OF THE ENZYME HEXOKINASE FOR THE REDUCTION OF INHERENT LIGHT LEVELS

Robert C. Seamans, Jr., Deputy Administrator of the National Aeronautics and Space Administration, with respect to an invention of Emmett W. Chappelle, Baltimore, Md.

No Drawing. Filed July 27, 1966, Ser. No. 568,346
Int. Cl. C12d 13/10
U.S. Cl. 195—68 8 Claims

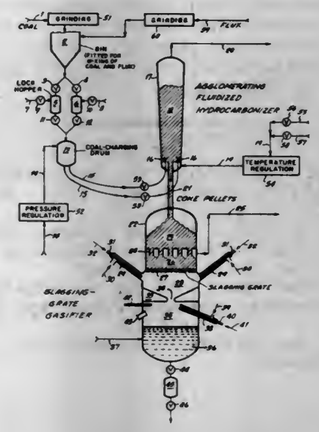
Residual ATP in partially purified luciferase is bound up by adding hexokinase and glucose. Hexokinase is a trans-phosphorylase which catalyzes the transfer of the terminal phosphate of ATP to glucose to give glucose-6-phosphate and ADP. While inherent (residual) ATP of luciferase is bound the additives do not interfere with ATP present in living organisms to be measured during life presence studies.

3,437,561
AGGLOMERATING COAL HYDROCARBONIZATION PROCESS

Arthur M. Squires, 245 W. 104th St., New York, N.Y. 10025

Continuation-in-part of application Ser. No. 337,900, Jan. 15, 1964. This application June 29, 1966, Ser. No. 561,551
Int. Cl. C10b 57/12, 53/08
U.S. Cl. 201—8 8 Claims

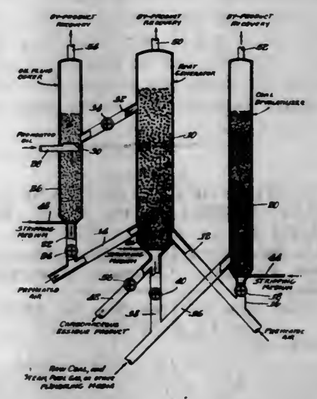
There is provided an improved process for hydrocarbonizing coals, with production of methane and coke, in which advantage is taken of the agglomerating tendencies of most bituminous and subbituminous coals and lignites in hydrogen. Coal is finely ground and injected into a fluidized bed of coke pellets between about 1/64 and 3/4 inch in size. The bed is fluidized with a gas containing hydrogen, preferably at high pressure. The temperature is controlled in a range such that the initial hydrocarbonization products, formed practically instantaneously, include methane and a sticky residue which adheres to the coke pellets and is itself converted to coke within a few seconds. The temperature control is effected by adjusting the rate of supply of the coal and the temperature and pressure of the hydrogen, and optionally by adding methane to the hydrogen to reduce the potential extent to which the hydrogen may react to form methane in accordance with the quasi-equilibrium which limits the reaction. Coke pellets are withdrawn to maintain a constant inventory in the bed. The coke may be gasified in a slagging gasifier with the advantage that ash constituents of the original coal are present in the coke in a finely divided form and can speedily react to form slag; the gasifier may advantageously be of the slagging-grate variety.



3,437,562
PROCESS FOR PRODUCING COMBINED COAL CHAR AND OIL COKE AND COPRODUCTS THEREWITH

Alamjit D. Singh, 4015 N. Whipple St., Chicago, Ill. 60618

Filed Dec. 3, 1964, Ser. No. 415,603
Int. Cl. C10b 55/00
U.S. Cl. 201—22 10 Claims



In accordance with the disclosure of the present invention coal in granular form is heated and introduced into a coal devolatilizer forming a reaction chamber for the coal and from which reaction byproducts are separately

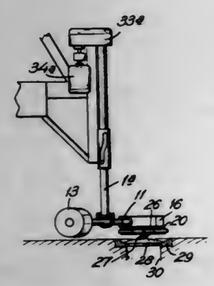
withdrawn. Preheated oil is introduced into an oil fluid coker forming a reaction chamber for the oil, and from which oil reaction products are separately withdrawn. Granular residue from the coal devolatilizer and oil fluid coker are introduced into a heat generator within which further reaction takes place, there being means for effecting an interchange of material between the coal devolatilizer and the heat generator, and between the oil fluid coker and the generator. Means is provided for effecting further byproduct recovery from the heat generator, and for withdrawing from the heat generator a carbonaceous product the individual particles of which comprise combined coal char and oil fluid coke.

3,437,563

DEVICE FOR REMOVING, REPLACING AND APPLYING COKE-OVEN CELL SEALING PLUGS ON THEIR SEATS

Etienne Jean Baptiste Edouard Canivez, Douai, Nord, France, assignor to Houilleres du Bassin du Nord et du Pas-de-Calais, Douai, Nord, France

Filed Apr. 5, 1965, Ser. No. 445,434
Claims priority, application France, Apr. 9, 1964, 970,275
Int. Cl. C10b *25/20;* **B66c** *13/00*
U.S. Cl. 202—262 **10 Claims**



A device for removing, replacing and sealingly applying against a seat a plug closing a charging hole of a coke oven cell, comprising a gripping means for the plug which can be rotated substantially concentrically with the axis of a plug resting on its seat and a tubular shaft axially slidable and rotatably mounted in a bearing for being raised and lowered and turned relative to a support, a transverse arm being supported at the lower extremity of said tubular shaft and in turn supporting at one end a motor and at the other end the plug gripping means which is coupled to the motor via a transmission shaft in said arm connected between said motor and said gripping means.

3,437,564

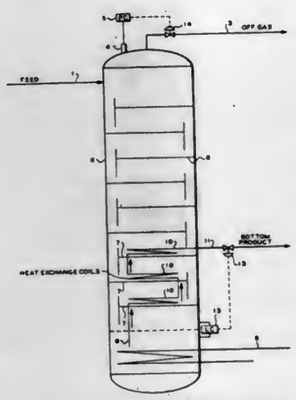
PURIFICATION OF CYCLOHEXANE BY FRACTIONAL DISTILLATION WITH BOTTOMS STREAM HEAT EXCHANGE

Ronald E. Bridgeford, Bartlesville, Okla., assignor to Phillips Petroleum Company, a corporation of Delaware

Filed Mar. 21, 1966, Ser. No. 536,064
Int. Cl. B01d *3/32, 3/14*
U.S. Cl. 203—25 **3 Claims**

1. A method of purifying a liquid cyclohexane stream which contains small quantities of relatively low boiling point normally gaseous contaminants, which method comprises:

(a) passing said liquid stream at its bubble point to the top of a multitray fractionation zone thereby causing a major portion of said contaminants and substantially none of said cyclohexane to vaporize;
(b) removing overhead vapor without refluxing from said top portion of said fractionation zone;
(c) passing the resulting liquid from step (a) downward through said fractionation zone;
(d) heating the bottom of said fractionation zone to a temperature of about 360° F.;



(e) removing liquid cyclohexane from the bottom of said fractionation zone and indirectly heat exchanging the same with downflowing liquid, said heat exchanging taking place solely within the lower portion of said fractionation zone; and
(f) withdrawing the heat exchanged liquid cyclohexane from the fractionation zone immediately following heat exchanging step (e).

3,437,565

ELIMINATION OF CARBON TRACES CONTAINED IN TITANIUM BY THE ADDITION OF ALUMINUM CHLORIDE

Pierre J. H. L. Portes, Jacques Richerd, and Robert Mas, Thann, France, assignors to Fabriques de Produits Chimiques de Thann et de Mulhouse, Thann, Haut-Rhin, France

No Drawing. Filed Sept. 6, 1966, Ser. No. 577,146
Claims priority, application France, Sept. 7, 1965, 30,648
Int. Cl. B01d *3/34*
U.S. Cl. 203—29 **6 Claims**

Process of purifying titanium tetrachloride contaminated by carbonaceous impurities. The contaminated titanium tetrachloride is distilled in the presence of anhydrous aluminum chloride. Pereferably, 0.05 to 3% by weight of the aluminum chloride are added to the contaminated titanium tetrachloride.

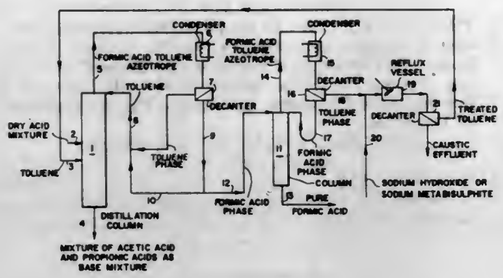
3,437,566

ORGANIC ACID SEPARATION BY AZEOTROPIC DISTILLATION WITH TOLUENE AND SUBSEQUENT CHEMICAL WASHING OF TOLUENE

Clive Gordon Gasser, Cottingham, and James William Hamlin, Beverley, England, assignors to BP Chemicals (U.K.) Limited, London, England, a British company

Filed Oct. 26, 1967, Ser. No. 678,344
Claims priority, application Great Britain, Nov. 9, 1966, 50,169/66
Int. Cl. B01d *3/36, 3/14*
U.S. Cl. 203—33 **6 Claims**

The invention is a process for separating formic acid from a mixture of formic, acetic and propionic acids by distilling with toluene to obtain a formic acid/toluene azeotrope as overhead product. The azeotrope is separated into a toluene phase and a formic acid phase, and the toluene phase is washed with sodium hydroxide or



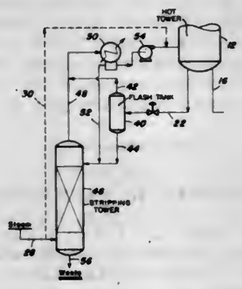
sodium metabisulphite solution before being returned to the distillation stage.

3,437,567

PROCESS FOR RECOVERING H_2S IN HEAVY WATER PRODUCTION

Marcel J. P. Bogart, London, England, assignor to The Lummus Company, Bloomfield, N.J., a corporation of Delaware

Filed Dec. 28, 1965, Ser. No. 516,842
Int. Cl. B01d *3/38, 3/06*
U.S. Cl. 203—93 **6 Claims**



In the concentration of HDO and D_2O in water by isotope exchange with hydrogen sulfide in cold and hot isotope exchange towers, operating at 200–300 p.s.i.g., a process for stripping hydrogen sulfide from the aqueous solution withdrawn from the hot tower wherein the pressure of the solution is reduced to near atmospheric pressure thereby producing a vapor fraction, containing hydrogen sulfide. The still liquid portion is introduced into a steam stripping tower wherein a hydrogen sulfide-containing overhead is recovered. The overhead is combined with the vapor fraction, compressed to the pressure of the exchange towers and recycled to the hot exchange tower.

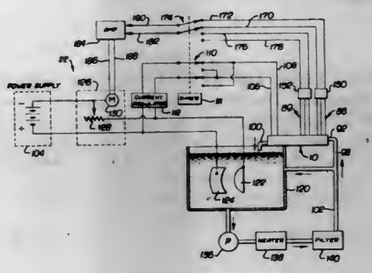
3,437,568

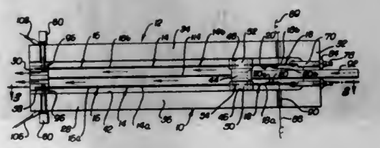
APPARATUS AND METHOD FOR DETERMINING AND CONTROLLING STRESS IN AN ELECTROFORMED PART

Detlev E. Hasselmann, Pasadena, Robert G. Tellkamp, Temple City, and Gary L. Hetherington, Montrose, Calif., assignors to Electro-Optical Systems, Inc., Pasadena, Calif., a corporation of California

Filed July 18, 1966, Ser. No. 565,975
Int. Cl. C23b *7/00*
U.S. Cl. 204—3 **14 Claims**

1. Apparatus for determining the internal stress produced in a part being electroformed, said apparatus comprising: a test member having a plating-receiving area; support means for holding said test member under force in one linear direction; means for operatively connecting said test member to the means that electrolytically form the part to form an electrodeposited plating on said area of said test member; and sensing means for sensing changes in the force on said test member in said linear direction.





10. A method for determining the internal stress in an electroformed part, said method comprising the steps of placing a test member under force in one linear direction; subjecting the test member to electrolytic conditions directly comparable to those under which the part is being electroformed to electrodeposit a coating of metal on the test member; sensing changes in force in said linear direction on the test member.

3,437,569

POLYMERIZATION OF AROMATIC HYDROCARBONS

David G. Walker, Baytown, Tex., and Norvell E. Wisdom, Jr., Elizabeth, N.J., assignors to Esso Research and Engineering Company, a corporation of Delaware

No Drawing. Filed May 12, 1966, Ser. No. 549,482
Int. Cl. C08f *1/00, 13/00;* **B01k** *1/00*
U.S. Cl. 204—59 **14 Claims**

1. A process for preparing polymeric aromatic compounds which comprises electrolyzing a liquid solution comprised of a C_6–C_{20} aromatic compound and a ternary complex having the formula:

$$R:HX:2AlX_3$$

wherein R is a C_6–C_{20} aromatic compound at least as basic as the aromatic in solution and X is selected from the group consisting of chlorine and bromine.

3,437,570

ELECTROLYTIC POLYMERIZATION OF AROMATIC COMPOUNDS

Norvell E. Wisdom, Jr., Elizabeth, N.J., assignor to Esso Research and Engineering Company, a corporation of Delaware

No Drawing. Filed Dec. 11, 1967, Ser. No. 689,350
Int. Cl. B01k *3/00*
U.S. Cl. 204—59 **8 Claims**

Polymeric aromatic compounds are prepared by electrolyzing a liquid solution of a C_6 to C_{20} aromatic compound,

such as biphenyl, and a ternary complex having the formula $R:HX:2AlX_3$ where R is a C_6 to C_{20} aromatic compound at least as basic as the aromatic in solution and X is chlorine or bromine in which the potential of the working anode (vs. the saturated $Cu:Cu_2Cl_2$) is 1.15 for the first two to ten minutes and then is 1.05 to 1.10 and in which the $AlCl_3$ is preferably contained in a porous wall container.

3,437,571

PRODUCTION OF ELECTROLYTIC NICKEL

Louis S. Renzoni, Toronto, Ontario, Canada, George Angelo Di Bari, Haverstraw, N.Y., and Burton B. Knapp, Westfield, and Francis X. Carlin, Elizabeth, N.J., assignors to The International Nickel Company, Inc., New York, N.Y., a corporation of Delaware

Filed July 20, 1964, Ser. No. 383,888
Int. Cl. C22d *1/14*
U.S. Cl. 204—112 4 Claims



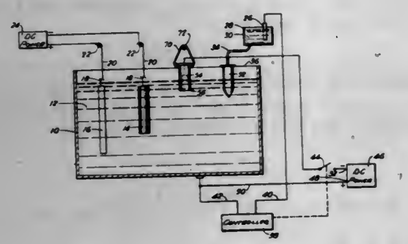
Electrolytic nickel having good appearance and good shearability in heavy sections and good chemical and electrochemical activity is produced by an electrorefining process wherein about 0.005 to about 0.25 gram per liter of sulfur dioxide and about 25 to about 75 milligrams per liter of a sulfur-free agent such as hydracrylonitrile are maintained in the electrorefining catholyte.

3,437,572

METHOD AND APPARATUS FOR PREVENTING ION DEPOSITION ON CORROSION PROTECTION ELECTRODES

William P. Banks and John D. Sudbury, Ponca City, Okla., assignors to Continental Oil Company, Ponca City, Okla., a corporation of Delaware

Filed Oct. 12, 1964, Ser. No. 403,267
Int. Cl. C23f *13/00*
U.S. Cl. 204—147 6 Claims



A method and apparatus for applying anodic protection to an electroplating system wherein a shield of such a nature as to prevent the passage of metal cations but at the same time permit sufficient electrolytic communication between a cathode and the metal vessel to anodically protect said vessel is inserted around said cathode.

3,437,573

PRODUCTION OF ALKYL MONOCHLORIDES

Daniel J. Hurley, Oakmont, Alfred N. Kresge, Verona, Robert W. Rosenthal, Pittsburgh, and Roger C. Williamson, Allison Park, Pa., assignors to Gulf Research & Development Company, Pittsburgh, Pa., a corporation of Delaware

Filed Sept. 1, 1965, Ser. No. 484,344
Int. Cl. C07c *17/10*
U.S. Cl. 204—163 5 Claims

A method for replacing substantially one hydrogen on a paraffin with chlorine to produce monochlorides and for recovering substantially pure HCl.

3,437,574

ANTICORROSIVE TREATMENT OF ZINC AND METALLIC MATERIALS COATED WITH ZINC

Ryuichi Sano, Nishinomiya-shi, and Zenji Ota, Amagasaki-shi, Japan, assignors to Kansai Paint Company, Limited, Amagasaki-shi, Japan

No Drawing. Filed Dec. 6, 1965, Ser. No. 511,979
Claims priority, application Japan, Dec. 7, 1964, 39/68,448
Int. Cl. B01k *5/02*; C23c *13/02*
U.S. Cl. 204—181 17 Claims

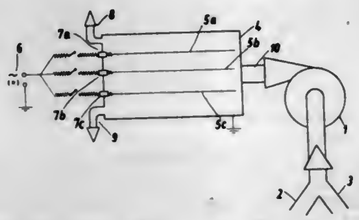
Anticorrosive treatment of zinc and metallic materials coated with zinc which comprises immersing said metal into an alkaline aqueous treating solution consisting of water-soluble or water-dispersible resinate containing ammonium salt of carboxylic acid or organic amine salt, and water-soluble chromate and/or water-soluble bichromate; and supplying direct current to said metal as anode, thus forming resin-chromium-zinc compound such as zinc chromate on the surface of said metal; and subjecting said metal to baking to form a complex anticorrosive film.

3,437,575

LIQUID-LIQUID EXTRACTION

Hans-Werner Gross, Buchschlag, Gottfried Schwedler, Frankfurt am Main, and Eckart Muller, Bergen-Enkheim, Germany, assignors to Metallgesellschaft, Aktiengesellschaft, Frankfurt am Main, Germany, a corporation of Germany

Filed Aug. 23, 1966, Ser. No. 574,377
Claims priority, application Germany, Aug. 25, 1965, M 66,437
Int. Cl. B03c *9/00*
U.S. Cl. 204—186 10 Claims



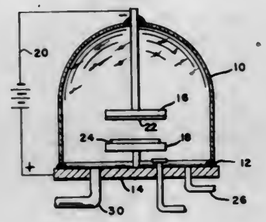
1. In the process of separating liquid mixtures of substantially non-aqueous components, wherein the more polar of said components constitutes about 20 to 75 percent of said mixture, by the application of an electric field; the improvement which comprises operating said electric field at about 1 to 60 volts per centimeter at a voltage of about 10 to 500 volts.

3,437,576

PRODUCTION OF A COOLING MODULE FOR MICROELECTRONIC CIRCUITS BY CATHODIC SPUTTERING

Richard Nelson and John E. McCormick, Rome, N.Y., assignors to the United States of America as represented by the Secretary of the Air Force

Filed July 11, 1966, Ser. No. 564,438
Int. Cl. C23c *15/00*
U.S. Cl. 204—192 1 Claim



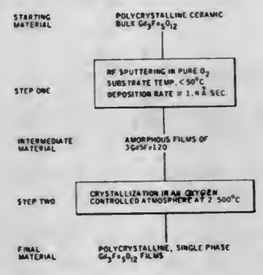
1. The method of producing a cooling module for microelectronic circuits, said process comprising: (1) sputter-depositing an electrical insulating metal oxide directly upon the microelectronic circuit to be cooled, (2) masking for deposition of material on a selected unmasked area, (3) forming a cold junction strap unit by sputtering, deposition of a metallic layer of high electrical and thermal conductivity, (4) masking alternately portions of said cold junction strap, (5) sputter-depositing side by side upon said cold junction strap and in separate operations an element comprising a thin layer of P type thermoelectric material and an element comprising a thin layer of N type thermoelectric material, (6) masking alternately said P type element and said N type element, and (7) sputter depositing hot junction straps upon both P and N type elements and finally providing a thin film of electrical insulation over the module thus produced.

3,437,577

METHOD OF FABRICATING UNIFORM RARE EARTH IRON GARNET THIN FILMS BY SPUTTERING

Eric Kay, Campbell, and Erich Sawatzky, San Jose, Calif., assignors to International Business Machines Corporation, Armonk, N.Y., a corporation of New York

Filed June 26, 1967, Ser. No. 648,811
Int. Cl. C23c *15/00*; C23d *13/00*; B44d *1/44*
U.S. Cl. 204—192 7 Claims



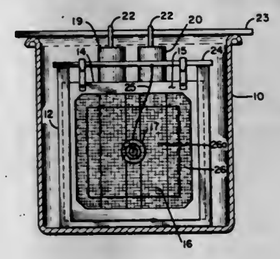
The method of making single phase, polycrystal rare earth iron garnet thin films in a radio frequency sputtering apparatus. The film is sputtered from a source containing the rare earth garnet in bulk form. A substrate which has a thermal expansion coefficient in the range 80×10^{-7}/° C. to 130×10^{-7}/° C. is used. During the sputtering operation, the temperature at the surface of the source is maintained below the vaporization temperature of the rare earth garnet and the substrate is maintained at a temperature less than 50° C. The atmosphere in the apparatus includes at least 10% oxygen. After the film has been formed by sputtering, the film is crystallized at a temperature in the range of 700° C. to 1100° C. in a controlled atmosphere.

3,437,578

ROBBER CONTROL FOR ELECTROPLATING

Norman R. Gibbs, St. Paul Park, and Joseph R. Herriges, St. Paul, Minn., assignors to Buckbee-Mears Company, St. Paul, Minn., a corporation of Minnesota

Filed May 13, 1965, Ser. No. 455,416
Int. Cl. C23b *5/68*
U.S. Cl. 204—231 5 Claims



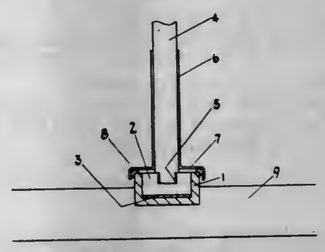
An electroplating apparatus having an element located between the anode and cathode for controlling the thickness of the material deposited on the cathode.

3,437,579

ANODE ASSEMBLY

Frank Smith, Widnes, England, assignor to Imperial Chemical Industries Limited, London, England, a corporation of Great Britain

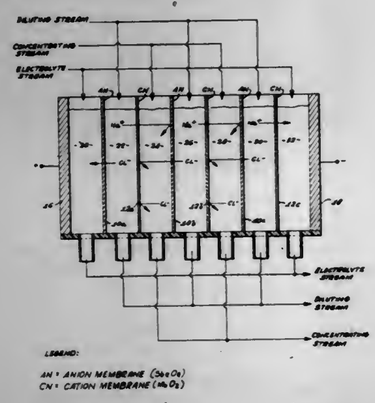
Filed Mar. 28, 1966, Ser. No. 537,745
Claims priority, application Great Britain, Apr. 20, 1965, 16,539/65
Int. Cl. B01k *3/04*; C01b *11/26*
U.S. Cl. 204—288 8 Claims



1. An anode assembly which comprises a horizontally-extending graphite anode plate, a graphite conductor member impregnated throughout with a wax or resin and terminating in a bore in the upper surface of the said plate making intimate electrical connection with the walls of said bore, a cylindrical metal conductor terminating in a bore in the upper surface of the graphite conductor mem-

ber and extending upwardly out of said bore, the walls of the bore in the graphite conductor member being coated with a solderable metal and the metal conductor being fixed thereto by means of a fusible metal or metal alloy solder, and a sleeve of titanium having a cylindrical section closely surrounding the said upwardly extending portion of the metal conductor and having an outwardly and downwardly directed flanged portion at its lower end, which flanged portion is sealed to the upper rim of the graphite conductor member by an interposed layer of sealing material and a bonding agent.

3,437,580
PREPARATION OF HYDROUS METAL OXIDE MEMBRANES AND ACID SALTS THEREOF
Frank C. Arrance, Costa Mesa, and Carl Berger, Corona del Mar, Calif., assignors, by mesne assignments, to McDonnell Douglas Corporation, Santa Monica, Calif., a corporation of Maryland
Filed Nov. 29, 1963, Ser. No. 326,709
Int. Cl. B01k *3/10*; B01d *13/04*
U.S. Cl. 204—295 **30 Claims**



1. A method of making a water-insoluble inorganic membrane, having ion-exchange properties which comprises the steps of:

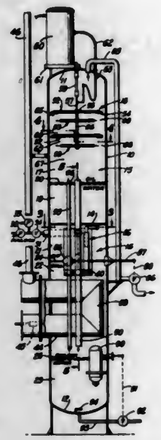
preparing a particulate water-insoluble hydrous metal oxide containing more than about one percent bound water and containing less than about fifty percent bound water of the total capacity of said hydrous metal oxide to be hydrated;

pressing said particulate hydrous metal oxide under a pressure of at least 2000 p.s.i., in the presence of an adhesive, to form a thin member;

and heating and chemically bonding said thin member at a temperature of between about 150° C. to about 500° C. to form said membrane.

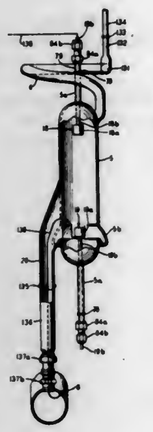
3,437,581
ELECTRIC EMULSION TREATER FOR CRUDE OIL
Lloyd C. Rathburn, Pasadena, Tex., assignor, by mesne assignments, to Combustion Engineering, Inc., a corporation of Delaware
Continuation of application Ser. No. 354,021, Mar. 23, 1964. This application July 31, 1967, Ser. No. 657,427
Int. Cl. B03c *5/02*; C10g *33/02*
U.S. Cl. 204—308 **6 Claims**

A dehydrator of oil field emulsions has a cylindrical shell extended vertically. A heat source is mounted in the shell to heat the incoming emulsion after it has been degassed to an extent. An electrical section is mounted



within the shell to generate an electrostatic field through which the heated emulsion is passed to coalesce water.

3,437,582
APPARATUS FOR PRODUCTION OF O_3F_2
Russell A. Hemstreet, Mountainside, and Alfred H. Taylor, Millington, N.J., assignors to Air Reduction Company, Incorporated, New York, N.Y., a corporation of New York
Filed Jan. 21, 1965, Ser. No. 426,772
Int. Cl. B01k *1/00*
U.S. Cl. 204—312 **23 Claims**

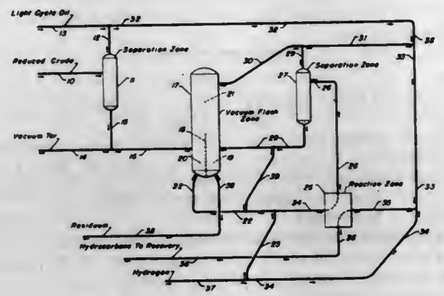


3. A fluid-tight apparatus for producing liquid trioxygen difluoride wherein at least a portion of said apparatus is maintained in a cryogenic bath, which comprises in combination a reaction vessel, means for evacuating said reaction vessel, a pair of electrodes mounted at opposite ends of said reaction vessel, a source of power connected to energize said electrodes to produce between them a continuous glow-discharge, means for supplying a mixture of oxygen and fluorine gases, to said reaction vessel, means comprising a downwardly-inclined tube forming a connection with the lower portion of said reaction vessel for collecting trioxygen difluoride from said reaction vessel, and means for supporting at least a portion of said reaction vessel in a cryogenic bath wherein the outer ends of said electrodes are extended to close proximity with said cryogenic bath for conducting heat away from said electrodes.

3,437,583
ANTI-FOULANT AGENTS FOR PETROLEUM HYDROCARBONS
Gerardo A. Gonzalez, Philadelphia, Pa., assignor to Betz Laboratories, Inc., Trevose, Pa., a corporation of Pennsylvania
No Drawing. Continuation-in-part of application Ser. No. 595,045, Nov. 17, 1966. This application June 13, 1967, Ser. No. 645,590
Int. Cl. C23f *11/00*; C09k *3/00*; C10g *9/16*
U.S. Cl. 208—48 **15 Claims**

Anti-foulants for petroleum hydrocarbon streams and feedstocks which employ the combination of a metal deactivator, a phenolic compound and substituted succinic acids or anhydrides.

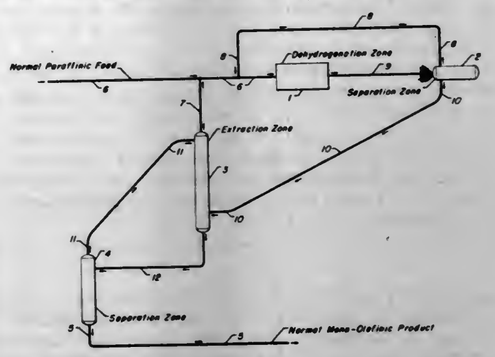
3,437,584
METHOD FOR CONVERTING HEAVY CARBONACEOUS MATERIALS
Robert J. J. Hamblin, Deerfield, Ill., assignor to Universal Oil Products Company, Des Plaines, Ill., a corporation of Delaware
Filed Aug. 9, 1967, Ser. No. 659,374
Int. Cl. C10g *13/00, 23/00, 37/00*
U.S. Cl. 208—93 **7 Claims**



Method for converting relatively heavy hydrocarbonaceous feedstocks, such as black oil, using a two-stage catalytic reaction zone. Facilities for separating selected fractions of feed and product are provided.

3,437,585
OLEFIN PRODUCTION AND SUBSEQUENT RECOVERY
Paul J. Kuchar, Des Plaines, Ill., assignor to Universal Oil Products Company, Des Plaines, Ill., a corporation of Delaware
Continuation-in-part of application Ser. No. 598,229, Dec. 1, 1966. This application Dec. 28, 1967, Ser. No. 694,280
Int. Cl. C10g *37/00, 13/28*; C07c *5/18*
U.S. Cl. 208—96 **4 Claims**

A process for the production and subsequent recovery of mono-olefinic hydrocarbons. A normal paraffnic hydrocarbon feed is contacted with a non-acidic alumina-containing catalyst at dehydrogenation conditions to produce normal mono-olefinic hydrocarbons. The dehydrogenated effluent is contacted with a selective solvent at extraction conditions to separate unreacted normal paraffinic hydrocarbons and recover normal mono-olefinic and alkyl aromatic hydrocarbons. The normal paraffinic hydrocarbons



from the solvent extraction step are recycled to the dehydrogenation reactor.

3,437,586
PETROLEUM PROCESS CATALYST SUPPORTED ON A MOLECULAR SIEVE ZEOLITE
Paul B. Weisz, Media, Pa., assignor to Mobil Oil Corporation, a corporation of New York
No Drawing. Continuation-in-part of application Ser. No. 754,915, Aug. 14, 1958. This application Feb. 12, 1962, Ser. No. 172,757
Int. Cl. C10g *11/04*
U.S. Cl. 208—110 **5 Claims**

A catalyst is provided for upgrading of hydrocarbons in such processes as hydroforming, hydrogenation, dehydrogenation, hydrocracking, aromatization, hydrodealkylation. The catalyst is characterized by a crystalline aluminosilicate component and by the presence of metals or compounds of metals of the platinum group, molybdenum, chromium, tungsten, vanadium, nickel, copper or cobalt or mixtures of the same.

3,437,587
MOLECULAR SIEVE CATALYST
Henry George Ellert and William Judson Mattox, Baton Rouge, La., assignors to Esso Research and Engineering Company, a corporation of Delaware
No Drawing. Filed Nov. 29, 1961, Ser. No. 155,859
Int. Cl. C10g *13/02*; B01j *11/06*
U.S. Cl. 208—120 **39 Claims**

19. A method for cracking a hydrocarbon charge which comprises contacting the same under catalytic cracking conditions with a catalyst of a crystalline metal alumino-silicate which has undergone contact prior to completion of said cracking with hydrogen sulfide present in an amount sufficient to effectively enhance the activity of said catalyst, which catalyst is characterized by a uniform pore structure.

26. A process for enhancing the selectivity of a crystalline molecular sieve catalyst having uniform pore openings which comprises selectively deactivating the external surface activity of said catalyst by treatment with a basic nitrogen compound.

3,437,588
PROCESS FOR HYDROREFINING HYDROCARBONS WITH A CATALYTIC MIXTURE OF INDIVIDUALLY-SUPPORTED ACTIVE COMPONENTS
Stephen M. Kovach, Highland, Ind., and Edward S. Rogers, Hinsdale, Ill., assignors to Sinclair Research, Inc., New York, N.Y., a corporation of Delaware
No Drawing. Filed Oct. 8, 1965, Ser. No. 494,237
Int. Cl. C10g *23/02*
U.S. Cl. 208—216 **8 Claims**

An improvement in a process for hydrorefining nitro-

gen and sulfur-contaminated hydrocarbons which comprises contacting the hydrocarbons with molecular hydrogen under hydrogenation conditions in the presence of a physical mixture of (A) a catalyst having a hydrogenation activity of at least 1.1, and a denitrogenation activity less than 0.7 and (B) a catalyst having a hydrogenation activity of less than 1.0, a denitrogenation activity of at least 0.2 and a ratio of denitrogenation activity to hydrogenation activity of at least 0.6. The weight ratio of catalyst (A) to catalyst (B) is from about 3:1 to about 1:3 and the physical mixture of the catalysts is such that catalysts (A) and (B) are individually supported on discrete particles.

3,437,589

PROCESS FOR PRETREATING HYDROCRACKING STOCK TO REMOVE NITROGEN THEREFROM

Richard G. Goldthwait, Penn Hills Township, Allegheny County, and Stanley J. Kwolek, New Kensington, Pa., assignors to Gulf Research & Development Company, Pittsburgh, Pa., a corporation of Delaware

No Drawing. Continuation-in-part of application Ser. No. 435,044, Feb. 24, 1965. This application June 30, 1967, Ser. No. 650,188

Int. Cl. C10g *23/02*

U.S. Cl. 208—254 **16 Claims**

Nitrogen is removed from a hydrocarbon feed stock by employing a hydrocracking catalyst of nickel-tungsten-halogen on a siliceous cracking carrier having an index greater than 40. The process is carried out by flowing the feed stock and hydrogen cocurrently through the reaction zone at a temperature of 500–850° F. at a hydrogen partial pressure above 700 p.s.i. and hydrogen feed rate of more than 1000 standard cubic feet per barrel of feed stock. Operating conditions limit conversion to lower boiling materials to an amount less than 10% by volume.

3,437,590

SINGLE-RING NAPHTHENE REMOVAL

William J. Asher, Cranford, N.J., assignor to Esso Research and Engineering Company, a corporation of Delaware

No Drawing. Filed July 10, 1967, Ser. No. 651,987

Int. Cl. C10g *25/00;* **C07c** *7/00*

U.S. Cl. 208—310 **10 Claims**

This invention relates to the separation of hydrocarbon mixtures and in particular to the separation of one-ring naphthenes from one-naphthenic hydrocarbons. More specifically, the invention relates to the separation of one-ring naphthenic hydrocarbons from the other non-naphthenic constituents of a jet fuel. This separation is accomplished by selective adsorption of the one-ring naphthenes on a lithium-type molecular sieve having pore openings between 6.5 and 15 angstroms.

3,437,591

LIQUID POLYETHER POLYOL COMPOSITION AND PREPARATION

Janis A. Bungs, Willoughby, Ohio, assignor to Diamond Shamrock Corporation, Cleveland, Ohio, a corporation of Delaware

No Drawing. Continuation-in-part of application Ser. No. 328,201, Dec. 5, 1963. This application Mar. 1, 1965, Ser. No. 436,315

Int. Cl. C09k *3/28;* **C08g** *41/00*

U.S. Cl. 252—8.1 **22 Claims**

A liquid polyether polyol composition having a hydroxyl number of 25–600 is prepared by simultaneously reacting together from 0.5 to 1 mol of an organic compound containing from 39 to 72 percent chlorine, by weight; 1 mol of a polyhydroxy compound having a hydroxyl number of 150–650 and from 0.08 to 0.1 mol of a trivalent antimony compound, as antimony trioxide, antimony trisulfide, an antimonyl derivative of certain aliphatic, alpha-hydroxy organic acids or an antimonous acid ester derived by reacting, e.g., an alkylene oxide or an hydroxy compound with antimony trichloride or antimony trioxide.

3,437,592

ELECTRICALLY CONDUCTIVE SOLID LUBRICANT MEMBERS AND APPARATUS EMPLOYING THEM

David J. Boes, Monroeville, and Lawrence E. Moberly, Penn Hills, Pa., assignors to Westinghouse Electric Corporation, Pittsburgh, Pa., a corporation of Pennsylvania

Original application Nov. 4, 1963, Ser. No. 321,302, now Patent No. 3,300,667, dated Jan. 24, 1967. Divided and this application Dec. 12, 1966, Ser. No. 600,822

Int. Cl. C10m *7/06, 5/02;* **F16c** *29/00*

U.S. Cl. 252—12 **8 Claims**

Tantalum diselenide, tantalum disulfide and niobium disulfide are employed as solid lubricants for bearings, being incorporated in the bearings themselves or applied as a suspension in a liquid carrier.

3,437,593

ANTISEIZE SEALING COMPOUND

Peter N. Bellavin, 113 E. Franklin Ave., Wilmington Manor, New Castle, Del. 19720

No Drawing. Filed May 25, 1966, Ser. No. 553,266

Int. Cl. C10m *7/06*

U.S. Cl. 252—13 **4 Claims**

The subject invention relates to a novel and improved composition having superior antiseize, sealing and other properties, particularly in liquid oxygen systems. The composition includes an intermixture of tetrafluoroethylene, trifluorovinyl chloride, asbestos and molybdenum disulfide. Polychlorotrifluoroethylene may also be included as an ingredient to control the viscosity of the composition.

3,437,594

ALKALINE EARTH METAL CARBOXYLATE DISPERSIONS

Bertil Albin Peterson, Amityville, N.Y., assignor to Mobil Oil Corporation, a corporation of New York

No Drawing. Filed Nov. 25, 1966, Ser. No. 596,785

Int. Cl. C10m *1/08, 1/24;* **B01j** *13/00*

U.S. Cl. 252—40.7 **17 Claims**

Oil dispersions of alkaline earth metal carboxylates having less than 0.55 mole of water per mole of dry carboxylate cannot be obtained without adding a critical amount of water to provide at least 0.55 to 1.0 mole. The temperature of dispersion may range from 100° to 200° F. Preferred calcium acetate dispersions contain from about 6% to 10% of water based on total weight of acetate and water.

3,437,595

PROCESS FOR THE PRODUCTION OF OVERBASED ALKYL PHENATES SUITABLE FOR USE IN LUBRICANT ADDITIVES

Keith Coupland, Hull, England, assignor, by mesne assignments, to Orobis Limited, London, England, a British company

No Drawing. Filed Oct. 5, 1966, Ser. No. 584,352

Claims priority, application Great Britain, Oct. 29, 1965, 45,788/65

Int. Cl. C10m *3/32, 3/48;* **C07g** *17/00*

U.S. Cl. 252—42.7 **13 Claims**

A process is provided for making basic lubricant additives by reacting sulphur and an alkylphenol in the presence of a basic catalyst, followed by the addition in order of an alkaline earth metal compound, a vicinal glycol and carbon dioxide, then distilling off unreacted glycol. The process has advantages over other processes for making basic additives in that more glycol is recovered and additives of higher base number and lower viscosity are obtained.

3,437,596

NOVEL BOROXAROPHENANTHRENE-AMINE COMPOUNDS AS ANTIOXIDANTS

Leo J. McCabe, Glassboro, N.J., assignor to Mobil Oil Corporation, a corporation of New York

No Drawing. Filed July 18, 1966, Ser. No. 565,689

Int. Cl. B01j *1/16;* **C10m** *1/14*

U.S. Cl. 252—49.6 **15 Claims**

Reaction of a 10-hydroxy, -alkoxy, -aryloxy, or -halo 10,9-boroxarophenanthrene or the anhydride thereof and an amine produces novel reaction products which may be used in organic fluids to prevent oxidation deterioration. Tertiary alkyl primary amines and secondary aromatic amines are the preferred amine reactants.

3,437,597

FERROELECTRIC CERAMICS

Pierre Auguste Marcel Belloc, Paris, France, assignor to Societe Anonyme: Societe Alsacienne de Constructions Atomiques de Telecommunications et d'Electronique "Alcatel," Paris, France, a corporation of France

No Drawing. Filed July 28, 1965, Ser. No. 475,570

Claims priority, application France, July 31, 1964 983,866

Int. Cl. C04b *35/00;* **H01v** *7/02*

U.S. Cl. 252—62.9 **12 Claims**

Ferroelectric ceramic sodium-potassium niobates are provided with increased density and uniformity and with improved dielectric properties and reproducibility by replacing substantial small quantities of the alkalis—up to 5%—with magnesium.

3,437,598

CAUSTIC SODA CONCENTRATE

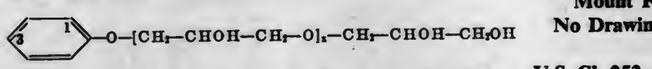
Joseph J. De Voldre, Camillus, Francis R. Baran, Salina, and Tayseer G. Bahouth, Syracuse, N.Y., assignors to Allied Chemical Corporation, New York, N.Y., a corporation of New York

No Drawing. Filed June 9, 1966, Ser. No. 556,270

Int. Cl. C11d *7/06, 7/26*

U.S. Cl. 252—156 **5 Claims**

1. A stable aqueous caustic concentrate consisting essentially of a homogeneous aqueous solution of 40% to 70% by weight sodium hydroxide and 0.005% to 1.0% by weight of a water-soluble glycidol-alkylphenol adduct having the formula:



in which one of the numbered positions in the benzene ring is occupied by an alkyl group having 8 to 18 carbon atoms, and the other numbered position is occupied by a substituent selected from the group consisting of hydrogen and an alkyl group having 1 to 18 carbon atoms; wherein x is a value between 4.5 to 25, the ratio of the value of x to the total number of carbon atoms in the alkyl groups at positions No. 1 and No. 3 being at least 0.50.

3,437,599

HYDROGEN PEROXIDE DECOMPOSITION CONTROL WITH ALKALINE EARTH METAL CARBONATES

William E. Helmick, Doylestown, and Blaine O. Pray, Wadsworth, Ohio, assignors to PPG Industries, Inc., Pittsburgh, Pa., a corporation of Pennsylvania

Filed Oct. 28, 1966, Ser. No. 590,324

Int. Cl. C09k *3/00*

U.S. Cl. 252—186 **6 Claims**

Alkaline earth metal carbonates in amounts of 0.005 to 1 percent by weight are added to aqueous alkaline hydrogen peroxide containing bleaching baths to control the rate of hydrogen peroxide decomposition.

3,437,600

ZINC-SULPHIDE PHOSPHOR

William A. Goldman, East Meadow, N.Y., assignor to Canrad Precision Industries, Inc., New York, N.Y., a corporation of New York

No Drawing. Continuation-in-part of application Ser. No. 387,782, Aug. 5, 1964. This application Feb. 5, 1968, Ser. No. 703,189

Int. Cl. C09k *1/12*

U.S. Cl. 252—301.6 **4 Claims**

The present invention is directed to an improved zinc sulfide phosphor having increased phosphorescence and luminescence, which phosphor contains a silicon-manganese complex dispersed therein. The phosphors of this invention are rendered luminous by impinging radiation and exhibit light for an extended luminescent period.

3,437,601

ZEOLITE REGENERATION PROCESS

Hertha Skala, Lake Zurich, Donald B. Broughton, Evanston, Armand J. de Rosset, Clarendon Hills, and A. Gregory Lickus, Riverside, Ill., assignors to Universal Oil Products Company, Des Plaines, Ill., a corporation of Delaware

Filed Sept. 13, 1965, Ser. No. 486,789

Int. Cl. B01j *11/02*

U.S. Cl. 252—414 **7 Claims**

Zeolites, employed in the separation of straight chain hydrocarbons whereby the capacity and rate of sorption are reduced by the accumulation of impurities, are regenerated. The zeolites are wetted with water diluted with hydrocarbon, then water washed, the water being subsequently displaced with hydrocarbon, and the zeolites dried in the presence of hydrocarbon. The zeolites are not exposed to appreciable amounts of water at temperatures in excess of about 350° F. to obviate hydrothermal damage.

3,437,602

RADIATION SHIELDING MATERIAL AND METHOD OF MAKING SAME

Irving Tashlick, 54 Lorraine Terrace, Boonton, N.J., 07005, and Alan Rosensweig, 34 Treaty Road, Mount Fern, Dover, N.J. 07801

No Drawing. Filed Nov. 25, 1966, Ser. No. 596,797

Int Cl. G21f *1/08*

U.S. Cl. 252—478 **9 Claims**

There is disclosed herein a radiation shielding structural member, and method for making such a member, which comprises a homogeneous mixture containing a major proportion of a finely divided particulate high density metallic ore and a minor proportion of a solid organic thermoset resin that is the product of a quick cured low viscosity thermosetting liquid containing a curable polyester resin and styrene.

3,437,603

MANUFACTURE OF SPHEROIDAL SILICA-ALUMINA PARTICLES

Lee Hilfman, Prospect Heights, Ill., assignor to Universal Oil Products Company, Des Plaines, Ill., a corporation of Delaware

No Drawing. Filed Oct. 17, 1966, Ser. No. 586,926

Int. Cl. B01j *11/40*

U.S. Cl. 252—453 **9 Claims**

Production of spheroidal silica-alumina particles by

commingling ammonium hydroxide and aluminum sulfate in a ratio to effect a pH of from about 3.8 to about 4.5 and a partial hydrolysis of said aluminum sulfate, separately forming a solution comprising an alkali metal silicate acidified with a mineral acid selected from the group consisting of hydrochloric and sulfuric acids and containing the anion of said acid in from about 1.1 to about 1.5 mole ratio with the alkali metal content of the resulting acidified alkali metal silicate solution, admixing the aluminum sulfate partial hydrolysis product with the acidified water glass, passing the resultant mixture in the form of droplets and while still below gelation temperature into an oil bath maintained at a temperature of from about 120° F. to about 500° F. and at a pressure to maintain the water content of said droplets in a substantially liquid phase, and forming said droplets into hydrogel spheres therein, aging the hydrogel spheres in an alkaline medium and thereafter waterwashing and treating the same at calcination conditions.

3,437,604

HYDROCARBON CONVERSION CATALYST PREPARATION

Edward Michalko, Chicago, Ill., assignor to Universal Oil Products Company, Des Plaines, Ill., a corporation of Delaware

No Drawing. Filed July 5, 1966, Ser. No. 562,503
Int. Cl. B01j *11/40, 11/46;* C10g *11/04*
U.S. Cl. 252—455 6 Claims

A catalyst is prepared by dispersing a finely divided alkali metal form of a faujasite in aqueous media and forming a slurry thereof, admixing said slurry with an acidic silica hydrosol at a pH of from about 4.0 to about 4.5 and effecting gelation, adjusting the pH of the resulting slurry to a pH of from about 5 to about 8 and aging the slurry, treating the resulting hydrogel product with an ammonium salt solution and effecting substantially complete removal of the alkali metal content of said hydrogel product, followed by washing the substantially alkali metal-free product free of soluble matter and drying the resultant catalyst composite. The catalyst thus prepared is useful in the catalytic cracking of hydrocarbon oils.

3,437,605

METHOD OF PREPARING A SUPPORTED CATALYST

Carl D. Keith, Summit, N.J., assignor to Engelhard Industries, Inc., Newark, N.J., a corporation of Delaware

No Drawing. Filed Jan. 26, 1965, Ser. No. 428,208
Int. Cl. B01j *11/34*
U.S. Cl. 252—463 5 Claims

In a catalytic structure consisting of a preformed substrate with an alumina coating and a catalyst deposited on the coating, the alumina coating is formed by applying finely divided aluminum powder dispersed in an organic vehicle to a preformed substrate, treating the coated substrate with steam at elevated temperature and pressure and calcining the resultant alumina.

3,437,606

DENSIFICATION OF BORIDE COMPOSITIONS

Robert A. Mercuri, Seven Hills, Ohio, assignor to Union Carbide Corporation, a corporation of New York

No Drawing. Filed Sept. 29, 1966, Ser. No. 583,088
Int. Cl. H01c *13/00;* H01b *1/06*
U.S. Cl. 252—520 6 Claims

Densification of hot pressed ZrB_2, HfB_2 and TiB_2 through the use of an additive selected from the group consisting of rare earth and alkaline earth hexaborides.

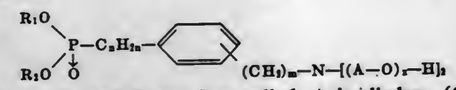
3,437,607

POLYURETHANE PRE-MIXES CONTAINING DIHYDROXY NITROGEN CONTAINING PHOSPHONATES

Abdul-Munim Nashu, Hamden, Harold E. Reymore, Jr., Wallingford, and Adnan A. R. Sayigh, North Haven, Conn., assignors to The Upjohn Company, Kalamazoo, Mich., a corporation of Delaware

No Drawing. Filed Mar. 31, 1965, Ser. No. 444,413
Int. Cl. C08g *22/08, 51/58*
U.S. Cl. 260—2.5 1 Claim

Storage stable premixes, intended for ultimate admixture with polyisocyanates to yield polyurethane foams, are provided. The premixes contain a conventional polyurethane-forming polyol, a blowing agent, a polyurethane catalyst and a phosphorus-containing polyol having the formula:



wherein R_1 and R_2 are lower-alkyl, A is alkylene (C_2–C_3), n=0–8, m=0 or 1 and x=1–3. Reactivity of these premixes with polyisocyanates shows no significant change on storage over prolonged periods.

3,437,608

GEL-RISE RETARDATION IN POLYURETHANE FOAMS

Raymond A. Pohl, Syracuse, N.Y., assignor to Allied Chemical Corporation, New York, N.Y., a corporation of New York

No Drawing. Filed June 1, 1965, Ser. No. 460,578
Int. Cl. C08g *22/44, 22/46*
U.S. Cl. 260—2.5 6 Claims

Invention relates to an improved process for the preparation of moldable polyurethane foams by reacting a crude organic polyisocyanate composition with a polyol and a blowing agent, said crude organic polyisocyanate consisting essentially of the reaction product of a crude organic polyisocyanate and a secondary or tertiary amine having a molecular weight of less than 300 and having at least one active hydrogen per molecule.

3,437,609

POLYURETHANE 1,2-DI-(ISOCYANATOMETHYL) CYCLOBUTANE

Otto Bayer, Rudolf Schrotter, Werner Siefken, and Kuno Wagner, Leverkusen, Germany, assignors to Farbenfabriken Bayer Aktiengesellschaft, Leverkusen, Germany, a corporation of Germany

No Drawing. Original application Sept. 22, 1960, Ser. No. 57,622, now Patent No. 3,232,973, dated Feb. 1, 1966. Divided and this application Nov. 17, 1965, Ser. No. 535,616
Int. Cl. C08g *22/24, 22/44*
U.S. Cl. 260—2.5 8 Claims

Polyurethanes which are used for the prepartion of coatings, elastomers and foamed plastics having good light fastness and prepared by reacting 1,2-di-(isocyanatomethyl) cyclobutane with compounds containing active hydrogen containing groups as determined by the Zerewitinoff method.

3,437,610

RESORCINOL-ALDEHYDE RESIN AND POLYESTER TIRE CORD ADHESIVE MADE THEREFROM

Roy H. Moult, Murrysville, Pa., assignor to Koppers Company, Inc., a corporation of Delaware

Filed Dec. 27, 1965, Ser. No. 516,410
Int. Cl. C08g *5/10;* C09j *3/12;* B60c *9/12*
U.S. Cl. 260—3 9 Claims

A novel resin is prepared by the sequential condensation of resorcinol, first with an aldehyde containing 3–6 carbon atoms, such as n-butyraldehyde, and then with formaldehyde. The novel resin is especially useful for use in rubber adhesive dips and provides sufficient wetting and penetration of polyester fibers to enable good bonding of such fibers to rubber.

3,437,611

MATERIAL AND METHOD FOR TREATING CONCRETE

Wilmot F. Macklin, St. Paul, Minn. (% TK Products, Inc., 5125 Hanson Court, Minneapolis, Minn. 55429)

No Drawing. Continuation-in-part of application Ser. No. 407,916, Oct. 30, 1964. This application May 26, 1966, Ser. No. 553,042
Int. Cl. C08c *7/06*
U.S. Cl. 260—3.3 1 Claim

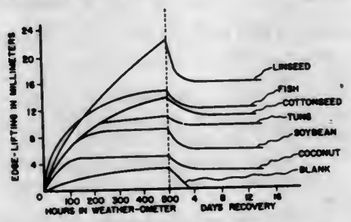
An emulsified solution containing chlorinated rubber or the like, chlorinated biphenyl, an aromatic hydrocarbon solvent, a wetting agent, an emulsifying agent, and water, which emulsion may be applied to porous material such as concrete after it is dry, before it is dry, or as an ingredient in the integral mix of the concrete, and said emulsion will provide a uniform protective coating over the surface and throughout the concrete or other porous material.

3,437,612

FLEXIBLE COATING FORMULATIONS COMPRISING A NONOXIDIZING SUBSTANTIALLY SATURATED NON-VOLATILE SYNTHETIC ALKYD RESINOUS VEHICLE

Rolf Rolles, Allegheny Township, Westmoreland County, and Kenneth E. Luyk, Lower Burrell, Pa., assignors to Aluminum Company of America, Pittsburgh, Pa., a corporation of Pennsylvania

Filed Dec. 23, 1964, Ser. No. 420,645
Int. Cl. C08g *39/08;* C09d *3/66*
U.S. Cl. 260—16 11 Claims



Coating formulations, for application to produce air-dried flexible coatings, are disclosed in which hiding pigments and inert extenders are in admixture with a non-oxidizing substantially saturated non-volatile synthetic alkyd resinous vehicle containing an oil component having an iodine value of 1–60, and a volatile hydrocarbon solvent; and the coating formulations are further characterized by having the hiding pigments and inert extenders present in solids-volume concentration within the range 25 to 60 percent. The coating formulations may also include a non-volatile resinous diluent component for a portion of the alkyd resinous vehicle.

3,437,613

ACID EMULSIONS OF PETROLEUM RESIN-BASED BINDING AGENTS

Charles Gaestel and Marcel Leveuf, Mont-Saint-Aignan, France, assignors to Esso Standard Societe Anonyme Francaise, Paris, France, a corporation of France

No Drawing. Filed Apr. 6, 1964, Ser. No. 357,788
Claims priority, application France, Apr. 9, 1963, 930,983
Int. Cl. C08f *47/18*
U.S. Cl. 260—17 8 Claims

Stable aqueous acidic emulsions of the petroleum resin-in-water type are prepared by emulsifying an admixture of from about 45 to about 75 wt. percent of petroleum resin, water, acid, a cationic emulsifier, and an acid-stable, water-soluble colloid forming compound selected from the group consisting of polyvinyl alcohol, an alkyl cellulose, an alkyl hydroxy alkyl cellulose, polyglycol, polyglycol fatty acid ester, and water-soluble starch. The petroleum resin may be fluxed with a mineral oil prior to its admixture with the other components of the emulsion. The emulsions, with or without added pigments, are useful as coating compositions for bonding mineral aggregates used as road surfaces.

3,437,614

RACETRACK BASE PAVING COMPOSITION

Dale A. Young, Basking Ridge, and Luke W. Corbett, Mountainside, N.J., assignors to Esso Research and Engineering Company, a corporation of Delaware

No Drawing. Filed Dec. 23, 1965, Ser. No. 516,076
Int. Cl. C08f *37/18;* C08h *13/08*
U.S. Cl. 260—17.4 7 Claims

Paving compositions consisting of sand aggregate, asbestos, cork and a binder composition made up of petroleum resin, and amorphous polypropylene and a mineral oil plasticizer have unique resiliency properties. The paving compositions have been found particularly suitable for base constructions in racetracks for horses.

3,437,615

WATER SOLUBLE ADDUCT OF A POLYESTER AND AN ETHOXYLATED FATTY COMPOUND

Richard C. Hanson, Hopkins, Minn., assignor to Ashland Oil & Refining Company, Ashland, Ky., a corporation of Kentucky

No Drawing. Filed Sept. 20, 1967, Ser. No. 669,299
Int. Cl. C08g *39/00, 37/24*
U.S. Cl. 260—21 7 Claims

Water soluble adduct of an alkyd resin and a polyoxyalkylene compound wherein the alkyd resin is the reaction product of a drying oil, a polyhydric alcohol, a polyoxyethylene glycol, a nonoxidizing monobasic carboxylic acid, and a dicarboxylic acid or anhydride and the polyoxyalkylene compound is the condensation product of a straight chain monohydroxy primary alcohol of 12–20 carbon atoms and a mixture of ethylene oxide and propylene oxide such that the product has 12–20 oxyalkylene groups in a ratio of 2:1 to 4.5:1 oxyethylene:oxypropylene groups. Optionally an amino resin, such as urea-formaldehyde or melamine-formaldehyde may be included to cross-link the adduct. The product is useful as a textile finishing agent.

3,437,616

BINDING AGENT SYSTEMS CONTAINING POLYMERIC TRIMETHYLENE OXIDE DERIVATIVES WITH POLYETHER SIDE CHAINS AS LACQUER ADJUVANTS

Joachim Nentwig, Krefeld-Bockum, Hermann Schnell, Krefeld-Urdingen, Rolf Dhein and Karl Raichle, Krefeld-Bockum, and Herbert Gebauer, Krefeld, Germany, assignors to Farbenfabriken Bayer Aktiengesellschaft, Leverkusen, Germany, a corporation of Germany

No Drawing. Filed May 13, 1965, Ser. No. 455,618
Claims priority, application Germany, June 11, 1964, F 43,145
Int. Cl. C08g *23/04;* C09d *3/56, 3/66*
U.S. Cl. 260—22 5 Claims

The combination of a water-dilutable solution of an alkyd resin, a phenol resin, an amino resin or mixtures thereof and a polymeric trimethylene oxide derivative having polyether side chains provides a binding agent system having improved foam-inhibiting and flow properties.

3,437,617

FOG RESISTANT COATING COMPOSITIONS

Lewis F. Bogle, Enfield, Conn., assignor to Monsanto Company, St. Louis, Mo., a corporation of Delaware

No Drawing. Continuation-in-part of application Ser. No. 371,781, June 1, 1964. This application Oct. 27, 1966. Ser. No. 589,801

Int. Cl. C09k *3/18*

U.S. Cl. 260—22 10 Claims

A coating composition for rendering polystyrene surface non-fogging which includes an alkyd resin, a primary surfactant which is either an alkyl aryl fatty sulfate or salt thereof, an alkylaryl fatty sulfate or salt thereof, or an alkyl ester of a polyoxyethylene, and a secondary surfactant which is an alkyl fatty sulfate or salt thereof dissolved in a solvent blend of a 5 to 10 carbon hydrocarbon, an aliphatic alcohol and water.

3,437,618

WATER DISPERSIBLE POLYALKYLENE GLYCOL MODIFIED, NON-DRYING ALKYD RESINS

David D. Taft, Minneapolis, Minn., assignor to Ashland Oil & Refining Company, Ashland, Ky., a corporation of Kentucky

No Drawing. Filed Feb. 23, 1966, Ser. No. 529,238

Int. Cl. C08g *17/14*

U.S. Cl. 260—22 1 Claim

A water-dispenrsible polyalkylene glycol-modified, non-drying oil alkyd resin consisting essentially of the following ingredients and their proportions by weight:

	Percent
Non-drying oil	10–40
Polyhydric alcohol containing 2–8 hydroxyl groups per molecule	10–40
Polyoxyethylene glycol having a molecular weight from 600 to 6000	5–15
Non-oxidizing, monobasic carboxylic acid, having 6 to 18 carbon atoms	10–25
Dicarboxylic acid or anhydride having 4 to 10 carbon atoms per molecule	20–35

and sufficient neutralizing agent to render said alkyd resin water-dispersible. Process for preparing the foregoing composition in which the ingredients are heated at a temperature of 350°–550° F. until the acid value is 5–30, followed by neutralizing the product and dispersing it in an aqueous medium. The product of this invention is a water-dispersible resin, well suited to form water-based paints or other coating compositions which will give clear, hard, glossy films on curing and without the development of surface imperfections.

3,437,619

STABLE COMPOSITIONS OF HYDRAULIC CEMENT AND POLYMERIZABLE UNSATURATED POLYESTER RESIN COMPONENTS COPOLYMERIZABLE BY THE MERE ADDITION OF WATER, AND METHODS OF PRODUCING SAME

William Owen Nutt, Warlingham, England, assignor to Cement Marketing Company Limited, London, England, a corporation of the United Kingdom

No Drawing. Continuation-in-part of applications Ser. No. 317,154, Oct. 18, 1963, and Ser. No. 672,423, Sept. 29, 1967. This application Jan. 4, 1968, Ser. No. 695,548

Claims priority, application Great Britain, Oct. 19, 1962, 39,644/62

Int. Cl. C08f *45/04, 43/00*

U.S. Cl. 260—22 22 Claims

A polymeric cementitious composition is prepared by adding water to a substantially water-free copolymerizable mixture comprising polymerizable, unsaturated polyesters obtained by reacting polycarboxylic acids or anhydrides thereof and polyhydric alcohols or aliphatic oxides, wherein at least one of the reactants contains ethylenic unsaturation; at least one monomeric ethylenic unsaturated crosslinking agent compatible with the polyesters; hydraulic cement; and a water-soluble free-radical-forming copolymerizable initiator which is substantially insoluble in the crosslinking agent and polyester but is effective for initiating the copolymerization of the monomer and polyesters under aqueous alkaline conditions. The mixture may also include an activator such as a reducing agent. Prior to adding water thereto, the mixture is stable in non-copolymerized condition for long periods of shelf life.

3,437,620

DYEABLE POLYPROPYLENE FIBERS CONTAINING A PHENOL SALT-AMINE COMPLEX AND, OPTIONALLY, A FATTY ACID SALT

Tsuzuku Yamamoto, Kazuo Senda, Akira Ichikawa, and Takao Ohzeki, Ohtake-shi, Masakazu Honda, Mitaka-shi, and Shigenobu Masunaka and Minoru Sasaki, Ohtake-shi, Japan, assignors to Mitsubishi Rayon Co., Ltd., Tokyo, Japan, a corporation of Japan

No Drawing. Filed Dec. 21, 1964, Ser. No. 420,123

Claims priority, application Japan, Dec. 23, 1963, 38/69,339; Aug. 24, 1964, 39/48,246; Sept. 26, 1964, 39/55,149

Int. Cl. C08f *45/00*

U.S. Cl. 260—23 8 Claims

Polypropylene fibers modified with a metal phenolate derivative wherein the metal forms a coordinate bond with the nitrogen of ammonia, an aliphatic primary amine, an aromatic amine or a nitrogen-containing heterocyclic compound and, alternatively, modified also with a nickel or zinc carboxylate, which fibers possess superior affinity for dyestuffs capable of forming a coordinate bond with said metal.

3,437,621

RUBBER RELEASE AGENTS COMPRISING FATTY ACID SALTS, POLYETHYLENE GLYCOL ETHER AND HYDROCARBON

Erwin Aron, Paterson, N.J., assignor to Technical Processing, Inc., Paterson, N.J., a corporation of New Jersey

No Drawing. Filed Oct. 30, 1964, Ser. No. 407,901

Int. Cl. C08c *11/72, 11/32, 11/34*

U.S. Cl. 260—23.7 6 Claims

A composition which comprises an oleate salt of a metal, a potassium salt of a fatty acid, a fatty acid, a polyethylene glycol ester or ether, an alkylglycol, or a derivative thereof, a high molecular weight alkylol, and a paraffin. This composition is useful as a mill release agent in rubber bases.

3,437,622

POLYURETHANE-BASED PRESSURE-SENSITIVE ADHESIVES

Rolf Dahl, West Columbia, S.C., assignor to Anchor Continental, which is the trade name under which business is done by Continental Tapes, Incorporated, Columbia, S.C., a corporation of South Carolina

No Drawing. Filed Dec. 6, 1965, Ser. No. 512,002

Int. Cl. C09j *7/04;* C08g *41/00*

U.S. Cl. 260—24 12 Claims

Pressure-sensitive adhesives and methods of making same based upon polyurethane polymers formed in situ by reaction of polyols and organic polyisocyanates.

3,437,623

GRAFTED WAXES

William J. Heintzelman and Michael I. Naiman, St. Louis, Mo., assignors to Petrolite Corporation, Wilmington, Del., a corporation of Delaware

No Drawing. Filed Feb. 14, 1966, Ser. No. 527,044

Int. Cl. C08f *3/62;* C09g *1/10*

U.S. Cl. 260—28.5 11 Claims

Wax-graft copolymer compositions of (1) waxes such as tank bottom microcrystalline waxes, plastic microcrystalline waxes, solvent extracted microcrystalline waxes, Fischer-Tropsch waxes and the like each having a molecular weight of from about 400 to about 3,000, a melting point of from about 140° F. to about 200° F. and a penetration of about 0+ to about 20 (ASTM Test Method D5–25) and (2) a polymerized unsaturated monomer capable of free radical initiated polymerization grafted to said wax, and also polishes and carbon paper inks containing such wax-graft copolymer compositions.

3,437,624

AQUEOUS DISPERSIONS OF POLYURETHANE POLYMERS

Robert C. Dawn, Cleveland, Ohio, and Newlin S. Nichols, Dearborn, Mich., assignors to Wyandotte Chemicals Corporation, Wyandotte, Mich., a corporation of Michigan

Continuation-in-part of application Ser. No. 362,588, Apr. 27, 1964. This application Jan. 29, 1968, Ser. No. 709,156

Int. Cl. C08g *41/00;* C09d *5/02;* B01f *3/12*

U.S. Cl. 260—29.2 19 Claims

Aqueous dispersions of polyurethanae polymers are prepared by reacting together (I) an isocyanate-terminated polyurethane polymer formed from (a) active hydrogen containing organic compounds and (b) organic polyisocyanates and (II) a chain extender containing active hydrogen. Polymer (I) is mixed with water, dispersed in the water at an initial temperature of from about —5 to 20° C., and chain extender (II) added to the water dispersion of polymer (I) with agitation.

3,437,625

COMPOSITONS FOR THE CONSOLIDATION OF SOILS

Bernard Bonnel and Jean Neel, Lyon, France, assignors to Progil, Paris, France, a corporation of France

No Drawing. Filed Oct. 22, 1965, Ser. No. 502,630

Claims priority, application France, Jan. 26, 1965, 45,546

Int. Cl. B01c *7/36;* C08g *9/20*

U.S. Cl. 260—29.4 5 Claims

Improved soil stabilization as obtained by using a composition of (1) an aqueous solution of an alkaline silicate and a gelling agent together with (2) an aqueous solution of a reaction product of formaldehyde and an acrylamide monomer.

3,437,626

STABILE, AQUEOUS EMULSIONS OF ETHYLENE COPOLYMERS

Dietrich Glabisch, Opladen, Germany, assignor, by mesne assignments, to Gulf Oil Corporation, Pittsburgh, Pa., a corporation of Pennsylvania

No Drawing. Continuation of application Ser. No. 79,122, Dec. 29, 1960. This application Apr. 8, 1968, Ser. No. 719,771

Claims priority, application Germany, Jan. 2, 1960, F 30,219

Int. Cl. C08f *1/13, 15/14*

U.S. Cl. 260—29.6 13 Claims

Stabile aqueous emulsions of ethylene copolymers are prepared without the aid of emulsifiers.

3,437,627

POLYAMIDE-DIBENZENYLBENZENE COMPOSITIONS

Armin Gude, Marl, and Willi Haake, Recklinghausen, Germany, assignors to Chemische Werke Huls Aktiengesellschaft, Marl, Germany, a corporation of Germany

No Drawing. Filed June 14, 1966, Ser. No. 557,381

Claims priority, application Germany, Aug. 19, 1965, C 36,683

Int. Cl. C08g *51/28, 51/36, 41/06*

U.S. Cl. 260—31.2 6 Claims

A polyamide, whether a homopolymer or a mixed polyamide, is advantageously plasticized by means of a dibenzylbenzene compound such for example as dibenzyltoluene.

3,437,628

IMPACT RESISTANT NITRILE POLYMER ARTICLES

Ralph E. Isley, Northfield, and Richard C. Adams, Chardon, Ohio, assignors to Standard Oil Company, Cleveland, Ohio, a corporation of Ohio

No Drawing. Filed Sept. 6, 1966, Ser. No. 577,184

Int. Cl. C08f *45/40, 47/14*

U.S. Cl. 260—31.8 7 Claims

Shaped articles of improved impact strength and substantially free from primary solvent such as dimethyl formamide may be obtained from oriented acrylonitrile polymers prepared from a solvent system in which a lower alkyl ester of certain polybasic acid is incorporated as secondary solvent prior to forming the article.

3,437,629

HYDROGENATED POLYMERIZED DAC-B

Paul T. Von Bramer and Charles W. Hequembourg, Kingsport, Tenn., assignors to Eastman Kodak Company, Rochester, N.Y., a corporation of New Jersey

Filed Jan. 13, 1964, Ser. No. 337,223

Int. Cl. C08f *45/52, 45/28*

U.S. Cl. 260—31.8 8 Claims

1. An organic composition prepared by hydrogenating, without prior separation into solid and liquid portions and at an elevated temperature and pressure in the presence of a metallic hydrogenation catalyst, a crude polymer selected from the group consisting of:

(a) the crude homopolymer prepared by polymerizing DAC–B in the presence of an aprotonic Lewis acid polymerization catalyst and

(b) the crude copolymer prepared by copolymerizing DAC–B and an ethylenically unsaturated diacyl monomer in the presence of an aprotonic Lewis acid polymerization catalyst, wherein said DAC–B is the liquid residual fraction of the debutanized residue from the pyrolysis at a temperature of about 700 to about 800° C. and a pressure of about 10 to about 75 pounds per square inch gauge for a period of about one second of a natural gas stream predominantly comprising propane, said liquid residual fraction having an initial boiling point greater than about 60° C., an iodine number of about 195 to about 275, and containing about 87 to about 91 percent carbon and about 9 to about 13 percent hydrogen, and capable of being separated into three portions by distilling without heating at 0.1 mm. pressure.

3,437,630

THREAD SEALING COMPOSITION

Denzal W. Van Winkle, La Mirada, and Fredrick Madden Carlisle, Whittier, Calif., assignors to Baker Oil Tools, Inc., City of Commerce, Calif., a corporation of California

Filed Dec. 20, 1965, Ser. No. 514,902

Int. Cl. C10m *7/28;* C09k *3/10*

U.S. Cl. 260—33.6 8 Claims

Thread sealing composition consisting essentially of a substantial proportion of a grease, a minor proportion of a solid, deformable plastic substance, preferably tetrafluoroethylene resin, and a minor proportion of a pulverulent mineral substance, preferably talc, said resin and talc being in suspension in the grease, such composition having improved pressure sealing and lubricating characteristics and can be employed in both oil well applications and food processing, and is of reduced cost.

3,437,631
BODY PROTECTIVE DEVICE COMPOSED OF POLYCARBONATE RESINS ADMIXED WITH POLYOLEFINS AND PIGMENTS
Thomas H. Cleveland, New Martinsville, W. Va., assignor to Mobay Chemical Company, Pittsburgh, Pa., a corporation of Delaware
Filed Feb. 13, 1967, Ser. No. 615,499
Int. Cl. C08g *39/00*; A42b *3/00*
U.S. Cl. 260—37 — 8 Claims

A body protective shell having improved impact strength is prepared from a polycarbonate resin having incorporated therein from 3% to 7% of a polyolefin polymer.

3,437,632
POLYCARBONATE RESINS CONTAINING GLASS FIBERS SIZED WITH POLYCARBONATES
Wilhelm Hechelhammer and Hugo Streib, Krefeld-Bockum, Germany, assignors to Farbenfabriken Bayer Aktiengesellschaft, Leverkusen, Germany, a German corporation.
No Drawing. Filed Nov. 25, 1964, Ser. No. 414,009
Claims priority, application Germany, Nov. 30, 1963, F 41,439
Int. Cl. C08g *51/10, 39/04*
U.S. Cl. 260—37 — 14 Claims

Polyarylcarbonates containing glass fibers which have been sized with a polyarylcarbonate resin and prepared by mixing a polycarbonate with a glass fiber which has been sized with a polyarylcarbonate.

3,437,633
FORMATE STABILIZED POLYOLEFINS
Keisuke Murayama, Shyoji Morimura, Takao Yoshioka, Hideo Horiuchi, Saburo Akagi, Tomoyuki Kurumada, Ichiro Watanabe, and Shoji Kashiide, Tokyo, Japan, assignors to Sankyo Company Limited, Tokyo, and Asahi Kasei Kogyo Kabushiki Kaisha, Osaka, Japan
No Drawing. Filed Sept. 29, 1966, Ser. No. 583,056
Claims priority, application Japan, Sept. 29, 1965, 40/59,629
Int. Cl. C08f *45/58, 3/08*; C08c *13/08*
U.S. Cl. 260—45.85 — 5 Claims

Vulcanized natural or synthetic rubber and polyolefin are stabilized against degradation by light, heat and oxygen by incorporating in the material phenol formate derivatives containing at least one teritary butyl group and optionally from 1 to 4 alkyl groups other than tertiary butyl group in the phenyl moiety.

3,437,634
REACTIVE FERROCENE POLYMERS
Eberhard W. Neuse, Santa Monica, Calif., assignor to McDonnell Douglas Corporation, Santa Monica, Calif., a corporation of California
No Drawing. Filed June 1, 1964, Ser. No. 371,732
Int. Cl. C08g *33/20*
U.S. Cl. 260—47 — 15 Claims

This invention is directed to novel ferrocene polymers wherein the ferrocene radicals are linked by methylene groups carrying reactive groups which are capable of reacting with crosslinking agents to form cured crosslinked polymers useful in heat-resistant and radiation-stable coatings, laminates, sealants, adhesives and potting compounds.

3,437,635
POLYAMIDE ACIDS AND POLYAMIDES FROM SUBSTITUTED PYROMELLITIC DIANHYDRIDE
Stanley Tocker, Wilmington, Del., assignor to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware
No Drawing. Filed May 4, 1965, Ser. No. 453,207
Int. Cl. C08g *20/32*
U.S. Cl. 260—47 — 2 Claims

Polyamide acids and polyimides characterized by radicals of certain dianhydrides, the radicals having the following structure:



where X and Y are as defined hereinafter, useful as film and for coating applications.

3,437,636
CROSSLINKABLE POLYAMIDE-ACIDS AND POLYIMIDES AND CROSSLINKED POLYMERIC PRODUCTS MADE THEREFROM
Rudolph J. Angelo, Graylyn Crest, Wilmington, Del., assignor to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware
No Drawing. Filed May 2, 1966, Ser. No. 546,552
Int. Cl. C08g *20/32*
U.S. Cl. 260—47 — 6 Claims

Crosslinkable linear polyamide-acids and linear polyimides containing functional hydroxyl groups, and the crosslinked reaction products of those polymers and a compound such as a diisocyanate, particularly useful as adhesives.

3,437,637
NOVEL BISPHENOL POLYCARBONATES
Markus Matzner, Edison Township, Highland Park, and Louis B. Conte, Jr., Newark, N.J., assignors to Union Carbide Corporation, a corporation of New York
No Drawing. Original application Mar. 17, 1964, Ser. No. 352,655, now Patent No. 3,395,186, dated July 30, 1968. Divided and this application Dec. 13, 1966, Ser. No. 607,588
Int. Cl. C08g *17/13, 22/04*; C07c *69/64*
U.S. Cl. 260—47 — 5 Claims

Polycarbonates of bisphenols of 1,4-dimethylene cyclohexane have been prepared. These condensation polymers exhibit high glass transition temperatures, tensile strengths and tensile moduli and are useful for the fabrication of shaped articles and films.

3,437,638
METHOD OF SEPARATING POLYCARBONATES FROM SOLUTION
Ludwig Bottenbruch and Hans-Georg Lotter, Krefeld-Bockum, and Hermann Schnell, Krefeld-Uerdingen, Germany, assignors to Farbenfabriken Bayer Aktiengesellschaft, Leverkusen, Germany, a corporation of Germany
No Drawing. Continuation of application Ser. No. 314,557, Oct. 7, 1963. This application Apr. 17, 1967, Ser. No. 631,558
Claims priority, application Germany, Mar. 28, 1963, F 39,350
Int. Cl. C08g *53/14, 53/02, 17/13*
U.S. Cl. 260—47 — 11 Claims

A method for separating a thermoplastic polycarbonate from a solution containing a halogenated aromatic compound having a boiling point between about 130° C. and about 200° C. and anisole by removing by evaporation substantially all of the solvent in the solution with the exception of the aromatic compound or anisole and thereafter flowing the resulting solution into an extruder where the solution is heated while the solvent is permitted to escape through vents in the extruder and the resulting polycarbonate is extruded.

3,437,639
PROCESS FOR PURIFYING POLYCARBONATES
Joseph L. Beach and Winston J. Jackson, Jr., Kingsport, Tenn., assignors to Eastman Kodak Company, Rochester, N.Y., a corporation of New Jersey
No Drawing. Filed Sept. 10, 1965, Ser. No. 486,565
Int. Cl. C08g *17/13*
U.S. Cl. 260—47 — 10 Claims

Polycarbonates having improved stability are produced by (1) preparing the polymer in a solution containing a tertiary amine and an inert solvent in which the polymer is soluble but in which a tertiary amine-hydrohalide is essentially insoluble, (2) contacting the polymer solution with a hydrogen halide gas, (3) separating the tertiary amine-hydrohalide formed, and (4) recovering the polymer from the solution.

3,437,640
PROCESS FOR PREPARING A MODIFIED POLYOXYMETHYLENE
Carl Earle Schweitzer, Wilmington, Del., and Robert Alton Setterquist, Vienna, W. Va., assignors to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware
No Drawing. Continuation-in-part of application Ser. No. 124,021, July 14, 1961. This application Mar. 24, 1965, Ser. No. 442,545
Int. Cl. C08g *1/22, 1/20, 1/14*
U.S. Cl. 260—67 — 11 Claims

A process for modifying a high molecular weight polyoxymethylene by the addition of units different from polyoxymethylene either at the ends of the polymer chain and/or within the polymer chain which consists of contacting the polyoxymethylene with dioxolane or polydioxolane in the presence of a Lewis acid, e.g. boron trifluoride etherate, and at a temperature in the range 0 to 200° C., optionally in the presence of a diluent, e.g. toluene.

3,437,641
PROCESS FOR IMPROVING THE ACID DYE RECEPTIVITY OF POLYLACTAMS AND POLYLACTAM PRODUCTS SO PRODUCED
Jürgen Lenz, Obernburg, and Ernst Meyer, Erlenbach, Germany, assignors to Vereinigte Glanzstoff-Fabriken AG., Wuppertal-Elberfeld, Germany
No Drawing. Filed Feb. 28, 1966, Ser. No. 530,374
Claims priority, application Germany, Mar. 3, 1965, U 27,948
Int. Cl. C08g *41/02*
U.S. Cl. 260—78 — 10 Claims

Process of improving the acid dye receptivity of polycaprolactam and the resulting product wherein there is homogeneously incorporated in the polycaprolactam a small amount of (a) a phosphoric acid ester or an alkyl or aryl phosphonic acid or an ester thereof, and (b) an alkylene polyamine. The product exhibits improved receptivity for acid dyes with a minimum reduction of its solution viscosity.

3,437,642
METHOD OF PRODUCING RESINS FROM NONTERMINAL EPOXY PHENOLIC ESTERS
William S. Port, Norristown, and Daria M. Ostapiak, Philadelphia, Pa., assignors to the United States of America as represented by the Secretary of Agriculture
No Drawing. Original application Mar. 27, 1961, Ser. No. 98,717, now Patent No. 3,305,564, dated Feb. 21, 1967. Divided and this application June 14, 1966, Ser. No. 568,089
Int. Cl. C08g *30/12*
U.S. Cl. 260—78.4 — 7 Claims

Oleic and linoleic acids were esterified with catechol, resorcinol and hydroquinone, and the esters were epoxidized to provide monomers having predominately two or four epoxy functions per molecule. Resins obtained by heating these epoxy monomers with phthalic anhydride in the presence of a tertiary amine have favorable physical properties, in particular, relatively high heat distortion temperatures.

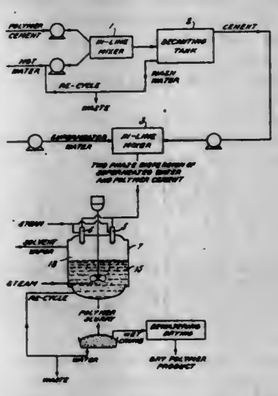
3,437,643
UNSATURATED DICARBOXYLIC ACID HALF ESTER RESIN COMPOSITION
Robert L. Zimmerman, Midland, Mich., assignor to The Dow Chemical Company, Midland, Mich., a corporation of Delaware
No Drawing. Continuation-in-part of applications Ser. No. 82,720, and Ser. No. 82,722, Jan. 16, 1961. This application Mar. 19, 1965, Ser. No. 441,310
The portion of the term of the patent subsequent to Sept. 21, 1982, has been disclaimed
Int. Cl. C08f *19/10, 19/02*
U.S. Cl. 260—78.5 — 22 Claims

Homogeneous copolymers of monovinyl aromatic compounds and partial esters of maleic acid and methods of preparing said copolymers by partially esterifying a vinyl aromatic-maleic anhydride copolymer or by partially esterifying maleic anhydride and thereafter copolymerizing with the desired vinyl aromatic monomer.

3,437,644
SOLUTION POLYMERIZATION
Eberhard W. Neuse, Santa Monica, and Kazuko Koda, Los Angeles, Calif., assignors, by mesne assignments, to McDonnell Douglas Corporation, Santa Monica, Calif., a corporation of Maryland
No Drawing. Filed Mar. 8, 1965, Ser. No. 438,121
Int. Cl. C08g *33/20, 33/00*
U.S. Cl. 260—80 — 8 Claims

Process for polycondensation by a Friedel-Crafts type reaction of aromatic compounds, particularly benzyl derivatives and metallocenes (dicyclopentadienylmetal compounds), in the presence of certain dipolar aprotic solvents. For example, polybenzyl was prepared by reacting benzyl ether in the presence of anhydrous zinc chloride catalyst and dry sulfolane solvent, at a temperature of 105° C. until short strings could be withdrawn from a sample at room temperature.

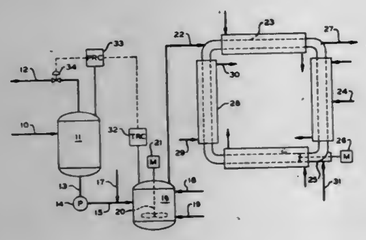
3,437,645
RECOVERY OF RUBBERY POLYMER FROM SOLUTION
John L. Paige, Naugatuck, Conn., and Sebastian M. Di Palma, Baton Rouge, La., assignors to Uniroyal, Inc., a corporation of New Jersey
Filed July 17, 1964, Ser. No. 383,346
Int. Cl. C08f *1/92, 1/88*
U.S. Cl. 260—80.78 — 4 Claims



Rubbery polymer, such as EPDM, prepared by Ziegler-catalyzed solution polymerization, is recovered from the solution by mixing the solution with superheated water

and atomizing the resulting dispersion wtih steam. The atomized spray is directed into a vapor space of a flash tank; the solvent is flashed off and fine polymer particles drop into an agitated body of hot water in the lower part of the tank. The resulting slurry of polymer in water is drawn off from the bottom of the tank, and the polymer particles are separated and dried.

3,437,646
REACTION PROCESS
Jack S. Scoggin, Bartlesville, Okla., assignor to Phillips Petroleum Company, a corporation of Delaware
Filed Oct. 21, 1964, Ser. No. 405,340
Int. Cl. C08f *15/04, 19/02, 3/08*
U.S. Cl. 260—88.2 **5 Claims**



In the production of polymers from at least two olefin feedstocks, one of said feedstocks is first cooled by autorefrigeration and then passed to an adiabatic reaction zone wherein the other feedstock is polymerized. Thereafter, the resulting reaction mass is passed to a second polymerization zone wherein the polymerization goes to completion.

3,437,647
HALOGEN ADDUCTS OF ALKYLATED POLYMERS OF HETEROCYCLIC N-VINYL MONOMERS
Milton Freifeld, Easton, Pa., assignor to GAF Corporation, a corporation of Delaware
No Drawing. Filed Mar. 4, 1966, Ser. No. 531,760
Int. Cl. C08d *27/02, 27/00;* **A61l** *13/00*
U.S. Cl. 260—88.3 **7 Claims**

Stable halogen adduct compositions are provided which are essentially insoluble in water, but soluble in organic solvents, such as alcohols, hexane, mineral oils, paraffin waxes, etc., and which are obtained by complexing with iodine, iodine mono-bromide or iodine monochloride, an alkylated polymer of a 5- to 7-membered heterocyclic N-vinyl monomer, having a carbonyl function adjacent to the nitrogen in its heterocyclic moiety and containing in at least one of said moieties an alkyl group of from 6 to 42 carbon atoms. The halogen content in the adduct ranges from about 1% to about 30% by weight of the alkylated polymer.

3,437,648
PROCESS FOR POLYMERIZING VINYL FLUORIDE IN AQUEOUS SUSPENSION-FREE RADIAL SYSTEM WITH 1,1,2 - TRICHLOROTRIFLUOROETHANE AS AN ACCELERATOR
Joseph J. Dietrich, Painesville, Ohio, assignor to Diamond Shamrock Corporation, a corporation of Delaware
Filed Oct. 5, 1964, Ser. No. 401,530
Int. Cl. C08f *1/60, 3/22*
U.S. Cl. 260—92.1 **15 Claims**

Preparation of polymers by an aqueous suspension process includes polymerizing an ethylenically unsaturated compound in the presence of a free radical catalyst, water and a lower chlorofluoroalkyl hydrocarbon containing at least one fluorine-substituted atom acting as a reaction accelerator.

3,437,649
ISOMERIZATION OF BUTADIENE POLYMERS
Herbert Mueller, Frankenthal, Pfalz, Germany, assignor to Badische Anilin- & Soda-Fabrik Aktiengesellschaft, Ludwigshafen (Rhine), Germany
No Drawing. Filed Oct. 2, 1963, Ser. No. 313,162
Claims priority, application Germany, Oct. 3, 1962, B 69,073
Int. Cl. C08f *27/00;* **C08d** *5/02*
U.S. Cl. 260—94.7 **6 Claims**

Isomerization of polybutadiene containing isolated carbon-carbon double bonds by heating at 100–250° C. in the presence of a catalytic amount of a catalyst consisting essentially of the metals chromium, molybdenum, tungsten, manganese, iron, cobalt, nickel, palladium or platinum, including compounds of these metals where the metal is nonvalent. Examples of the essential catalyst are iron carbonyl or systems for producing the catalyst in situ such as nickel acetylacetonate in combination with triphenyl phosphine and triethylaluminum. The isomerized product is useful in making self-drying lacquers.

3,437,650
METHOD OF PREPARING TALL OIL FATTY ACID COMPOSITIONS
Alfred L. Rummelsburg, Chadds Ford, Pa., assignor to Hercules Incorporated, Wilmington, Del., a corporation of Delaware
No Drawing. Continuation-in-part of application Ser. No. 269,197, Mar. 29, 1963. This application Nov. 23, 1966, Ser. No. 596,466
Int. Cl. C09f *7/06;* **C08g** *17/16*
U.S. Cl. 260—97.5 **6 Claims**

Tall oil fatty acids are heated, in the absence of added water, at temperatures of from about 130° C. to 160° C. and in the presence of a crystalline clay catalyst for a period of time sufficient to provide a composition comprised of, by weight, based on the weight of tall oil fatty acids, from about 10% to 30% polymerized fatty acids and from about 70% to 90% of monomeric fatty acids.

3,437,651
METAL-1,3-DIPHENYLTRIAZENE DERIVATIVES AND THEIR PREPARATION
Frederick E. Brinckman, Washington, D.C., and Hermann S. Haiss, Indian Head, Md., assignors to the United States of America as represented by the Secretary of the Navy
No Drawing. Filed May 14, 1964, Ser. No. 367,599
Int. Cl. C07f *7/00, 5/06, 7/22*
US. Cl. 260—140 **6 Claims**

A metal-1,3-diphenyltriazene and the method for its preparation in which silver-1,3-diphenyltriazene is reacted with an organic metal halide in the presence of a diluent such as benzene.

3,437,652
PROCESS FOR PREPARING PHOSPHATE ESTERS OF CARBOHYDRATES
Ramsey G. Campbell, Berkeley, Charles C. Oldenburg, Mill Valley, and Raymond A. Simone, Walnut Creek, Calif., assignors, by mesne assignments, to The Colonial Sugar Refining Company Limited, Sidney, New South Wales, Australia, a corporation of New South Wales
Filed Feb. 2, 1967, Ser. No. 613,619
Int. Cl. C07f *9/08;* **C07c** *47/18*
U.S. Cl. 260—234 **6 Claims**

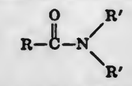
A method of phosphorylating a sugar, such as sucrose, by (1) providing a reaction solution of (a) a sugar (b) water, and (c) calcium oxide, calcium hydroxide, or calcium carbonate, (2) introducing thereto phosphorus oxychloride in the absence of a protectant, e.g. trichloroethylene, to improve the yield (3) reacting these materials at between 0° to about 20° C. and (4) recovering the corresponding calcium sugar phosphate containing material essentially free of calcium chloride in improved yields.

3,437,653
PROCESS FOR THE MANUFACTURE OF PHOSPHORIC ESTERS OF CARBOHYDRATES AND OF POLYHYDRIC ALCOHOLS
John Hedley Curtin, Turramurra, New South Wales, and Julian Gagolski, Chatswood, New South Wales, Australia, assignors to The Colonial Sugar Refining Company, Sydney, New South Wales, Australia
No Drawing. Continuation-in-part of application Ser. No. 584,648, Oct. 6, 1966. This application July 13, 1967, Ser. No. 653,043
Int. Cl. C08b *5/00*
U.S. Cl. 260—234 **15 Claims**

The invention involves a process for the manufacture of phosphoric esters of carbohydrates and polyhydric alcohols in which the carbohydrate or polyhydric alcohol is mixed in water with an inorganic calcium oxy-compound and phosphorylated at reduced temperature with phosphorous oxychloride, the carbohydrate or polyhydric alcohol, the inorganic calcium oxy-compound and the phosphorous oxychloride being employed in the molar ratios 1:2.5:1.

3,437,654
AZIRIDINE PRODUCTION
James S. Dix, Bartlesville, Okla., assignor to Phillips Petroleum Company, a corporation of Delaware
Original application May 20, 1963, Ser. No. 281,691, now Patent No. 3,205,224, dated Sept. 7, 1965. Divided and this application June 18, 1965, Ser. No. 465,072
Int. Cl. C07d *23/04, 23/02*
U.S. Cl. 260—239 **7 Claims**

Aziridines are produced by reacting ammonia with 1,2-dichloroethane, 1,2-dibromoethane, 1,2-dichloropropane, 1,2-dibromopropane, 1-chloro-2-bromoethane, 1-bromo-2-2-chloropropane or 1-chloro-2-bromopropane in the presence of a liquid organic polar compound of the formula



where R is hydrogen or alkyl, R′ is alkyl, with the total number of carbon atoms being a maximum of 8.

3,437,655
LACTAMS FROM CYCLO-ALIPHATIC KETOXIMES BY THE BECKMANN REARRANGEMENT EMPLOYING HCl AS CATALYST
Johan W. Garritsen, Geleen, and Johan A. Bigot, Beek, Netherlands, assignors to Stamicarbon N.V., Heerlen, Netherlands
No Drawing. Filed May 13, 1964, Ser. No. 367,212
Claims priority, application Netherlands, May 14, 1963, 292,749
Int. Cl. C07d *41/06*
U.S. Cl. 260—239.3 **15 Claims**

This invention is directed to the Beckmann Rearrangement of cycloaliphatic oximes to produce lactams, employing HCl as the Beckmann Rearrangement catalyst.

3,437,656
PROCESS FOR THE PREPARATION OF α-AMINO-ω-LACTAMS
Winfried J. W. Vermijs and Johan P. H. Von den Hoff, Geleen, Netherlands, assignors to Stamicarbon N.V., Heerlen, Netherlands
No Drawing. Filed Aug. 5, 1966, Ser. No. 570,439
Claims priority, application Netherlands, Aug. 13, 1965, 6510583
Int. Cl. C07d *41/06*
U.S. Cl. 260—239.3 **3 Claims**

A process for the catalytic hydrogenation of α-nitro-ω-lactams, using a Raney nickel catalyst, is described, for the preparation of α-amino-ω-lactams. The process includes the feature that the Raney nickel catalyst is separated from the liquid phase reaction under hydrogen pressure, so that catalyst losses are minimized.

3,437,657
6-FLUOROMETHYL-3-OXO-4,6-DIENIC STEROIDS AND PROCESS FOR PREPARING SAME
Bernard Ellis, Peter Feather, Hugh MacBride, and Vladimir Petrow, London, England, assignors to The British Drug Houses Limited
No Drawing. Filed Dec. 17, 1965, Ser. No. 514,676
Claims priority, application Great Britain, Dec. 21, 1964, 51,946/64
Int. Cl. C07c *169/30, 169/34;* **A61k** *17/00*
U.S. Cl. 260—239.55 **2 Claims**

New 6-fluoromethyl-3-oxo-4,6-dienic steroids of the pregnane series are disclosed. They are prepared by direct reaction of a corresponding 6-hydroxymethyl-3-oxo-4,6-dienic steroid with a fluorinating agent. The compounds of the invention may possess progestational, ovulation-inhibiting, and gonadotrophin-inhibiting properties.

3,437,658
STEROIDAL [16,17-c]-[1′,2′,5′]OXADIAZOLES AND METHODS FOR THEIR MANUFACTURE
Hans Reimann, Wayne, N.J., assignor to Schering Corporation, Bloomfield, N.J., a corporation of New Jersey
No Drawing. Filed Nov. 25, 1966, Ser. No. 596,747
Int. Cl. C07c *173/00;* **A61k** *17/00*
U.S. Cl. 260—239.55 **8 Claims**

Novel [16,17-c][1′,2′,5′]oxadiazole-N-oxide derivatives of steroids of the androstane and estrane series are prepared by reacting a 16,17-oximino steroid of the androstane and estrane series with a reagent selected from the group consisting of nitrous acid generated in situ, an alkaline earth metal hypohalite, and an alkali metal hypohalite. Treatment of the thereby produced isomeric mixture of [16,17-c]furoxan derivatives with a tri-lower alkyl phosphite yields novel [16,17-c][1′,2′,5′]oxadiazole derivatives of steroids of the androstane and estrane series. The 1,3,5(10) - estratrieno-[16,17-c][1′,2′,5′]oxadiazoles and the N-oxide derivatives thereof are useful as estrogenic agents; the 3-keto-androstano- and 3-hydroxy-androstano [16,17-c][1′,2′,5′]oxadiazoles, the corresponding estrane analogs, the unsaturated analogs thereof as well as the N-oxide derivatives of the foregoing possess anabolic/androgenic activity.

3,437,659
SYNTHESIS FOR HETEROCYCLAMMONIUM BETAINES
Henri Larive, Clichy, and Roger Baralle, Champigny-sur-Marne, France, assignors to Eastman Kodak Company, Rochester, N.Y., a corporation of New Jersey
No Drawing. Filed Mar. 22, 1965, Ser. No. 441,909
Claims priority, application France, Apr. 29, 1964, 972,790
Int. Cl. C07d *91/50, 33/60;* **C09b** *23/00*
U.S. Cl. 260—240 **6 Claims**

New process for preparing heterocyclammonium sulfobetaines by reacting a heterocyclammonium salt with an alkali metal sulfite or an alkali metal bisulfite at approximately room temperature or slightly higher temperatures. Anhydro 1-methyl 2-sulfoquinolinium hydroxide, for example, can be prepared by reacting N-methyl-2-chloroquinolinium methyl sulfate with a solution of sodium sulfite in water. The sulfobetaine compounds are useful intermediates in the synthesis of sensitizing dyes, such as cyanine, merocyanine and styryl dyes, for example.

3,437,660
PRODUCTION OF METHYL-ACETYL-PIMELOGUANAMINE

Pasquale J. Apice, Cresskill, N.J., assignor to Allied Chemical Corporation, New York, N.Y., a corporation of New York

No Drawing. Filed Mar. 28, 1967, Ser. No. 626,382
Int. Cl. C07d *55/20*; C08g *9/24*
U.S. Cl. 260—249.9 9 Claims

A process is provided for producing gamma-methyl-gamma-acetylpimeloguanamine (MAPG), which, when reacted with formaldehyde, produces resins having improved freedom from color. Cyanoguanidine and gamma-methyl-gamma-acetylpimelonitrile are heat-reacted at a temperature maintained below 100° C. in the presence of a strong base and an alcoholic solvent comprising at least 50% lower alkoxyalkanol.

3,437,661
PROCESS OF PRODUCING PURINE DERIVATIVES

Yasuo Fujimoto and Masayuki Teranishi, Tokyo, Japan, assignors to Kyowa Hakko Kogyo Co., Ltd., Tokyo, Japan, a corporation of Japan

No Drawing. Filed Jan. 15, 1965, Ser. No. 425,937
Claims priority, application Japan, Jan. 18, 1964 39/1,944
Int. Cl. C07d *57/38*; C07c *113/00*
U.S. Cl. 260—252 10 Claims

A process for synthesizing a purine derivative from an α-arylazocyanoacetyl derivative by carrying out a sequence of pyrimidine formation by reaction with urea, thiourea or an amidine, reduction, formylation and imidazole ring formation steps in a continuous manner without the isolation of any intermediate products. Purines such as hypoxanthine, guanine, xanthine and derivatives thereof are prepared by this process.

3,437,662
POLYHYDROISOQUINOLINE ANTIVIRAL AGENTS

David R. Gildersleve, Minster, near Ramsgate, and Michael S. Tute, Canterbury, England, assignors to Chas. Pfizer & Co., Inc., New York, N.Y., a corporation of Delaware

No Drawing. Continuation-in-part of application Ser. No. 513,600, Dec. 13, 1965. This application Mar. 31, 1967, Ser. No. 627,293
Claims priority, application Great Britain, Apr. 1, 1966, 14,429/66
Int. Cl. C07d *35/28, 35/14, 35/10*
U.S. Cl. 260—286 10 Claims

A series of 1-phenoxyalkyl-3;4-dihydroisoquinolines and 1-phenoxyalkyl-1,2,3,4-tetrahydroisoquinolines, including their pharmaceutically acceptable acid addition salts, have been found to possess valuable antiviral properties:

1-(4-chlorophenoxymethyl)-3,4-dihydroisoquinoline hydrochloride,
1-(4-hydroxyphenoxymethyl)-3,4-dihydroisoquinoline hydrochloride,
1-(4-hydroxyphenoxymethyl)-7-methyl-3,4-dihydroisoquinoline hydrobromide,
1-(2,6-dimethyl-4-chlorophenoxymethyl)-3,4-dihydroisoquinoline hydrochloride,
1-(4-chlorophenoxymethyl)-3,3-dimethyl-3,4-dihydroisoquinoline and
1-(4-chlorophenoxymethyl)-1,2,3,4-tetrahydroisoquinoline hydrochloride

are particularly effective against viruses of the influenza group, while 1-(4-nitrophenoxymethyl)-3,4 - dihydroisoquinoline hydrochloride as well as 1-(4-chlorophenoxymethyl) - 1,2,3,4 - tetrahydroisoquinoline hydrochloride strongly inhibit the clinically important viruses of the Echo and Coxsackie groups, based on in vitro testing.

3,437,663
ADDITION REACTIONS OF AMINOACETYLENES

Heinz G. Viehe, Linkebeek, Belgium, assignor to Union Carbide Corporation, a corporation of New York

No Drawing. Continuation-in-part of application Ser. No. 376,253, June 18, 1964. This application Nov. 30, 1964, Ser. No. 414,852
Claims priority, application Germany, Dec. 27, 1963, E 26,131
Int. Cl. C07c *93/10, 87/24*; C07d *29/12*
U.S. Cl. 260—294.7 3 Claims

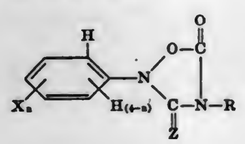
Aminoacetylenes are reacted with active hydrogen-containing compounds such as primary amines, alcohols, hydroxylamine, hydrazine and hydrogen halides to form addition products such as amidines, ketene-O,N-acetals, and the like. The addition products are useful as hydrogen halide acceptors, as sources for hydroxylamine and hydrazine, and as halogenation reagents.

3,437,664
1,2,4-OXADIAZOLIDINES

John Krenzer, Oak Park, Ill., assignor to Velsicol Chemical Corporation, a corporation of Delaware

No Drawing. Filed Mar. 18, 1966, Ser. No. 535,323
Int. Cl. C07d *85/54*; A01m *9/22*
U.S. Cl. 260—307 9 Claims

A compound of the formula



wherein R is selected from the group consisting of alkyl having 1 to 3 carbon atoms and alkenyl having 3 carbon atoms; Z is selected from the group consisting of oxygen and sulfur; X is selected from the group consisting of halogen, lower alkyl, lower alkenyl, lower haloalkyl, lower alkoxy, nitro, amino, lower alkylamino, lower dialkylamino, lower alkylthio, lower alkylsulfoxide, lower alkylsulfone, cyano, and thiocyano and *n* is an integer from 0 to 4, provided a maximum of two X's are selected from the group consisting of nitro, amino, lower alkylamino and lower dialkylamino, when *n* is greater than 2.

Herbicidal compositions comprising, in a quantity toxic to undesirable plant life, the foregoing compounds and a method for destroying undesirable plant life by the application of the herbicidal compositions.

3,437,665
PROCESS FOR PREPARING 1-ARYL-5-CHLORO-1H-TETRAZOLE

Cataldo A. Maggiulli, Rochester, and Raymond E. Paine, Hilton, N.Y., assignors to Eastman Kodak Company, Rochester, N.Y., a corporation of New Jersey

No Drawing. Filed Oct. 26, 1964, Ser. No. 406,556
Int. Cl. C07d *55/56*; G03c *1/34*
U.S. Cl. 260—308 6 Claims

Certain 1-aryl-5-halo-1H-tetrazoles are produced by reacting an arylisocyanodihalide with hydrazoic acid or a salt thereof. These compounds are useful in preparing corresponding 5-substituted tetrazoles by reaction with nucleophilic reagents.

3,437,666
PREPARATION OF ALKYLENES MONOTHIOCARBONATES

Bernard Pfugfelder, Artix, Georges Benne, Pau, and Claude Cazajous, Eogenne Camptort, France, assignors to Societe Nationale des Petroles d'Aquitaine, Paris, France

No Drawing Filed Jan. 11, 1965, Ser. No. 424,810
Claims priority, application France, Jan. 14, 1964, 960,212; Sept. 14, 1964, 988,010
Int. Cl. C07d *89/06*
U.S. Cl. 260—327 7 Claims

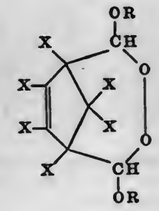
The present invention relates to a new process for the preparation of alkylene monothiocarbonates and more particularly of those of light olefines, particularly those of which the molecule contains 2 to 5 carbon atoms. It is particularly applicable to the manufacture of monothiocarbonates of ethylene and propylene or of chloropropylene. The monothiocarbonates are prepared by condensing a thiocyanate with an alkylene oxide in an aqueous acidic medium and at a temperature of from 0 to 50° C. until the hydroxythiocyanate of the alkylene is produced. The hydroxythiocyanate is then isomerized, cyclized and hydrolized to form the monothiocarbonate. The latter is known to be useful in the preparation of episulfides by pyrolysis which are in turn useful as polymer intermediates and insecticides.

3,437,667
OZONOLYSIS OF HALOBICYCLODIOLEFINS AND PRODUCTS DERIVED THEREFROM

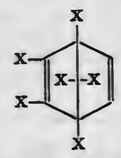
Robert C. Slagel, Burnsville, Minn., assignor to Ashland Oil & Refining Company, Ashland, Ky., a corporation of Kentucky

No Drawing. Filed Sept. 30, 1965, Ser. No. 491,806
Int. Cl. C07d *17/00, 19/00*
U.S. Cl. 260—338 7 Claims

A process for preparing bicyclic peroxides of the formula



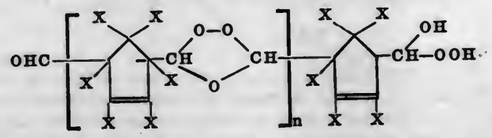
by reacting a hexahalobicyclodiolefin of the formula



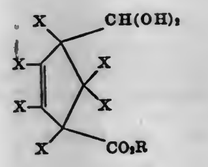
with ozone in the presence of a solvent of the formula

R—OH

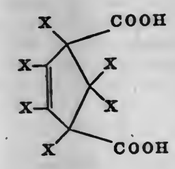
wherein R is hydrogen, and alkyl of 1–10 carbon atoms, or an acyl of 1–10 carbon atoms, and X is halogen. A process for preparing a compound of the formula



by reacting the hexahalobicyclodiolefin with ozone in the presence of a solvent such as carbon tetrachloride or heptane. A process for preparing an aldehydic ester hydrate of the formula



or a dicarboxylic acid for the formula



by reacting the above-mentioned bicyclo peroxide with a protonic solvent or with water.

3,437,668
PRODUCTION OF HALO-SUBSTITUTED CAPROLACTONES

Karl-Heinz Koenig and Horst Pommer, Ludwigshafen (Rhine), Germany, assignors to Badische Anilin- & Soda-Fabrik Aktiengesellschaft, Ludwigshafen (Rhine), Germany

No Drawing. Filed Mar. 15, 1966, Ser. No. 541,438
Claims priority, application Germany, Mar. 20, 1965, B 81,089
Int. Cl. C07d *9/00*
U.S. Cl. 260—343 6 Claims

Production of ε-caprolactones monosubstituted in 3 or 4 position (a) by heating a 3,6-dihalocaproic acid and/or a 4,6-dihalocaproic acid, alone, possibly in the presence of an inert solvent, but in the absence of water to a temperature of from 120° to 280° C. or (b) by treating a 3,6-dihalocaproic acid and/or a 4,6-dihalocaproic acid with an aqueous acid at a temperature of from −10° to +120° C. or with an aqueous alkali at −10° to +50° C., then adjusting the pH value of the reaction mixture to 1 to 4, if necessary with addition of water, and heating the product at least a short time at this pH value at 70° to 150° C., if the reaction has not already been carried out in this pH range and in the said temperature range. The halo caprolactones produced by the process can be used as intermediates to form amino lactones, amino lactams, or hydroxy amino acids. The halo caprolactones can also be polymerized to form solid polyesters. The polyesters can be used as lacquer materials or can be processed to form films or filaments.

3,437,669
PROCESS FOR PRODUCING AN ODOROUS ISOMER OF DIISOPROPYL DIHYDROCOUMARIN

Jerome King, Fairlawn, N.J., assignor to Universal Oil Products Company, Des Plaines, Ill., a corporation of Delaware

No Drawing. Filed Dec. 27, 1966, Ser. No. 604,657
Int. Cl. A61k *7/00*; C07d *5/36, 7/28*
U.S. Cl. 260—343.2 10 Claims

1. A process for producing an odorous diisopropyl-3,4-dihydrocoumarin isomer which comprises contacting a substantially odorless diisopropyl-3,4-dihydrocoumarin isomer with an isomerization catalyst mixture consisting essentially of substantially anhydrous orthophosphoric

acid and from about 2 to 12 percent of phosphorus pentoxide based upon the weight of the mixture, and thereafter recovering the desired product.

3,437,670
PROCESS FOR PREPARING DIISOPROPYL-3,4-DIHYDROCOUMARINS

Jerome King, Fairlawn, N.J., assignor to Universal Oil Products Company, Des Plaines, Ill., a corporation of Delaware

No Drawing. Filed Dec. 9, 1966, Ser. No. 600,399
Int. Cl. C07b *27/00;* **C07d** *5/36*
U.S. Cl. 260—343.2 **9 Claims**

1. A process for preparing diisopropyl-3,4-dihydrocoumarins which comprises condensing propylene with 3,4-dihydrocoumarin at a temperature of from about 110° to 180° C. in the presence of a catalyst mixture consisting essentially of substantially anhydrous orthophosphoric acid and from about 2 to 12 percent of phosphorus pentoxide based upon the weight of the mixture, and thereafter recovering the desired product.

3,437,671
METHOD OF MAKING POLYESTERS BY THE REACTION OF ANHYDRIDE ACID HALIDE WITH POLYOLS AND RESULTANT ADHESIVE COMPOSITIONS

Stanley Robert Sandler, Springfield, and Florence Ray Berg, Philadelphia, Pa., assignors to The Borden Company, New York, N.Y., a corporation of New Jersey

No Drawing. Filed June 10, 1966, Ser. No. 556,542
Int. Cl. C08g *17/08;* **C09j** *3/16*
U.S. Cl. 260—346.3 **3 Claims**

This invention relates to the method of preparing polyesters having terminal aromatic anhydride groups by reacting aromatic anhydride acid halides with polyols under substantially anhydrous conditions and at a temperature below about 15° C.

3,437,672
CONDENSATION OF ALKYLFURANS WITH POLYHALOOLEFINS

Louis Schmerling, Riverside, Ill., assignor to Universal Oil Products Company, Des Plaines, Ill., a corporation of Delaware

No Drawing. Filed June 10, 1965, Ser. No. 463,027
Int. Cl. C07d *5/14;* **A01n** *9/28*
U.S. Cl. 260—346.1 **8 Claims**

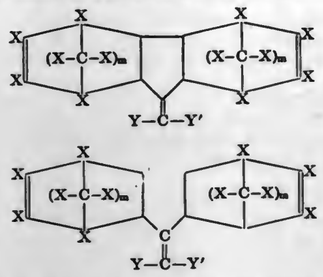
Preparation of a 3-chloroallylic furan by heating a mixture of an alkylfuran, a polyhaloolefin and a free radical generating compound at a temperature of 50°–300° C. and at least as high as the decomposition temperature of the free radical generating compound, the alkylfuran being characterized in that it contains at least one hydrogen atom attached to an alpha-carbon atom of an alkyl substituent and the polyhaloolefin being characterized in that it contains at least one chlorine atom attached to each of two double-bonded carbon atoms.

3,437,673
DICARBOXYALKYLIDENE COMPOUNDS CONTAINING HALO SUBSTITUTED BICYCLOALKENE MOIETIES AND DERIVATIVES THEREOF

Louis Schmerling, Riverside, Ill., assignor to Universal Oil Products Company, Des Plaines, Ill., a corporation of Delaware

No Drawing. Filed Aug. 12, 1965, Ser. No. 479,295
Int. Cl. C07d *5/00;* **C07c** *69/00, 61/00*
U.S. Cl. 260—346.6 **20 Claims**

Preparation of halo-dicarboxycycloalkylidene acids, corresponding anhydride, methyl or ethyl esters and alkali metal salts thereof said acids having the formulae:



wherein X is chlorine, bromine or hydrogen at least two X's of each ring being chlorine or bromine; Y and Y′ are independently selected from the group consisting of carboxy and carboxyalkyl and *m* is one or two by reacting in the presence of a basic catalyst an alkadiene hydrocarbon having a pair of active hydrogen atoms on a carbon atom with a keto alkanedioic acid and thereafter reacting the resultant compound with two mole proportions of a polyhalo-cyclopentadiene or polyhalo-cyclohexadiene.

3,437,674
OXIME ESTERS OF 19-NORANDROSTENES

Arvin P. Shroff, Piscataway, N.J., assignor to Ortho Pharmaceutical Corporation, a corporation of New Jersey

No Drawing. Filed July 6, 1966, Ser. No. 563,081
Int. Cl. C07c *169/12*
U.S. Cl. 260—397.1 **7 Claims**

3-oxime esters of 19-norandrostenes which are potent oral antilittering agents.

3,437,675
16-HALO-9β,10α-STEROIDS OF THE PREGNANE SERIES

Engbert Harmen Reerink, Pieter Westerhof, and Hendrik Frederik Louis Scholer, Van Houtenlaan, Weesp, Netherlands, assignors to North American Philips Company, Inc., New York, N.Y., a corporation of Delaware

No Drawing. Continuation of application Ser. No. 472,703, July 16, 1965. This application Aug. 30, 1967, Ser. No. 664,568
Int. Cl. C07c *169/30, 169/34*
U.S. Cl. 260—397.3 **5 Claims**

Novel 16-halo-9β,10α pregnanes are disclosed, for example 16α-fluoro19β,10α-pregn-4-ene-3,20-dione and 16α-bromo-9β,10α pregna-1,4,6-triene-3,20-dione. The compounds are progestationally active. As a starting material 16α-acetoxy - 9β,10α - pregna-4,6-diene-3,20-dione is disclosed.

3,437,676
CARBONYLATION OF OLEFINICALLY UNSATURATED COMPOUNDS

Nikolaus von Kutepow, Karlsruhe, and Knut Bittler and Dieter Neubauer, Ludwigshafen (Rhine), Germany, assignors to Badische Anilin- & Soda-Fabrik Aktiengesellschaft, Ludwigshafen (Rhine), Germany

No Drawing. Filed Aug. 7, 1964, Ser. No. 388,266
Claims priority, application Germany, Aug. 9, 1963, B 73,054
Int. Cl. C07c *67/00*
U.S. Cl. 260—468 **6 Claims**

A carbonylation process in which an olefinically unsaturated compound is reacted with carbon monoxide and water to produce a carboxylic acid or with carbon monoxide and an alcohol or a phenol to produce a carboxylic acid ester, these reactions being carried out under the influence of a complex palladium salt as a catalyst in an amount of 0.01 to 1% by weight with reference to the olefinically unsaturated compound. For example, the catalyst may be bistriphenylphosphine palladium dichloride.

3,437,677
N,N′-DIOLEYLDITHIOOXAMIDE AND POLYVALENT METAL COMPLEXES THEREOF

Hugh C. Bertsch, St. Louis, Mo., Richard N. Hurd, Terre Haute, Ind., John P. McDermott, Dearborn, Mich., and Wesley R. White, University City, Mo., assignors to Mallinckrodt Chemical Works, St. Louis, Mo., a corporation of Missouri

No Drawing. Filed May 23, 1967, Ser. No. 640,468
Int. Cl. C07f *3/06;* **C10m** *1/54;* **B41m** *5/00*
U.S. Cl. 260—429 **5 Claims**

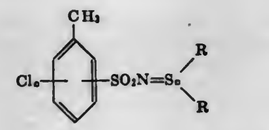
N,N′-dioleyldithiooxamide (DODTO) is prepared by the Wallach reaction and is purified by chromatography on a column of fuller's earth or activated alumina. The pure compound is a yellow liquid, miscible with hydrocarbon and other organic solvents. It is useful as an antiozonant for white rubber and as a chromogen in copying and duplicating processes. The zinc, nickel and cadmium complexes are soluble in hydrocarbon solvents.

3,437,678
N-(DIBUTYLSTANNYLENE)CHLOROTOLUENESULFONAMIDES

John J. Barch, Crestwood, and Pasquale P. Minieri, Woodside, N.Y., assignors to Tenneco Chemicals, Inc., a corporation of Delaware

No Drawing. Filed Oct. 14, 1966, Ser. No. 586,673
Int. Cl. C07f *9/22;* **A01n** *9/16*
U.S. Cl. 260—429.7 **3 Claims**

1. A compound having the structural formula



wherein each R represents a member selected from the group consisting of alkyl groups having from 1 to 12 carbon atoms, phenyl, chlorophenyl, and alkylphenyl and *n* represents an integer in the range of 1 to 4.

3,437,679
PROCESS FOR THE PRODUCTION OF 2,2,6,6-TETRAMETHYL-2,6-DISILA-1,4-DIOXAN

Walter Simmler, Odenthal-Schlinghofen, Hans Niederprum, Monheim, and Hans Sattlegger, Cologne-Buchheim, Germany, assignors to Farbenfabriken Bayer Aktiengesellschaft, Leverkusen, Germany, a corporation of Germany

No Drawing. Filed July 6, 1966, Ser. No. 563,045
Claims priority, application Germany, July 30, 1965, F 46,755
Int. Cl. C07d *103/02*
U.S. Cl. 260—448.2 **2 Claims**

1. A process for the production of 2,2,6,6-tetramethyl-2,6-disila-1,4-dioxan which comprises heating 1,3-di(hydroxymethyl(tetramethyldisiloxane in the presence of p-toluene sulphonic acid as catalyst in a column distillation apparatus to a temperature in the range 100 to 150° C. at atmospheric pressure until about 0.8 mol water per mole of disiloxane has distilled over together with part of the product, adding to the reaction mixture a further catalytic amount of p-toluene sulphonic acid, and then heating the mixture under reduced pressure at 120 to 180° C. to distil over the remainder of the product.

3,437,680
TRICHLORO-BROMOALKYL ISOCYANATES

William J. Farrissey, Jr., North Branford, Francesco P. Recchia, New Haven, and Adnan A. R. Sayigh, North Haven, Conn., assignors to The Upjohn Company, Kalamazoo, Mich., a corporation of Delaware

No Drawing. Filed Aug. 10, 1965, Ser. No. 478,737
Int. Cl. C07c *119/04;* **C08g** *22/18, 22/44*
U.S. Cl. 260—453 **2 Claims**

Trichloro-bromo-aliphatic and araliphatic isocyanates are prepared by reacting trichlorobromomethane with an unsaturated isocyanate having the formula

$$R—CH{=}CH—(A)_n—NCO$$

wherein R is hydrogen, lower-alkyl or lower-isocyanatoalkyl, A is lower-alkylene or arylene and *n* is an integer from 0 to 1. The reaction is carried out at 60 to 150° C. in the presence of a source of free radicals [e.g., 2,2′-azobis(2-methylpropionitrile)]. The isocyanates have the formula:

$$R—\underset{CCl_3}{CH}—\underset{Br}{CH}—(A)_n—NCO$$

where R, A and *n* are as above defined, and are useful in the preparation of fire-retardant polyurethanes and in the fireproofing of cellulosic materials.

3,437,681
NOVEL PREPARATION OF ALKYL BIS(2,4-DINITROPHENYL)ACETATES

Robert A. McIvor, 1 Addison Gardens, London W. 14, England, and Raynor K. Miller, 2066 Westbury Road, Ottawa 5, Ontario, Canada

No Drawing. Filed Jan. 7, 1964, Ser. No. 336,105
Int. Cl. C07c *69/76*
U.S. Cl. 260—471 **12 Claims**

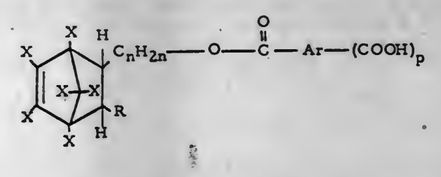
The process of preparing alkyl bis(2,4-dinitrophenyl) acetates which comprises condensing in a temperature between 25°–153° C. 1-chloro-2,4-dinitrobenzene with an alkyl 2,4-dinitrophenylacetate in a solvent comprising dimethylformamide in the presence of a base forming a hydrochloride salt.

3,437,682
HALOGENATED POLYFUNCTIONAL CARBOXYLIC ESTER

James William Finnamore, Minneapolis, Minn., assignor to Ashland Oil & Refining Company, Ashland, Ky., a corporation of Kentucky

No Drawing. Filed Apr. 11, 1966, Ser. No. 541,485
Int. Cl. C07c *69/82, 69/76, 69/80*
U.S. Cl 260—475 **6 Claims**

Novel halogenated carboxylic esters having the general formula:



wherein X is chlorine or bromine, R is $—C_mH_{(2m+1)}$ or $C_{(m+1)}H_{(2m+1)}OH$, Ar is an aryl radical, *m* and *n* are integers from 0 to 8, inclusive and *p* is an integer from 1 to 5. These esters are useful as flame retardant monomers for polyesters.

3,437,683
CONVERSION OF TRINITROMETHYL COMPOUNDS

Donald J. Glover, Bowie, and Mortimer J. Kamlet, Silver Spring, Md., assignors to the United States of America as represented by the Secretary of the Navy

No Drawing. Continuation-in-part of application Ser. No. 236,169, Nov. 7, 1962. This application Apr. 23, 1965, Ser. No. 450,549
Int. Cl. C07c *79/04, 103/00, 79/36*
U.S. Cl. 260—478 8 Claims

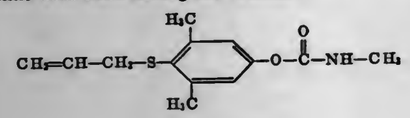
A process for converting a compound containing a terminal trinitromethyl group to the metallic salt of the corresponding compound containing a terminal dinitromethyl group which consists of reacting said trinitromethyl compound with a solution of a metallic iodide in an alkanol to produce said metallic salt. These metallic salts have use as explosives per se as well as intermediates for the preparation of other explosives and propellants.

3,437,684
3,5-DIMETHYL-4-α-ALLYL MERCAPTOPHENYL-N-METHYL CARBAMIC ACID ESTER

Rudolf Heiss, Willi Halin and Wolfgang Behrenz, Cologne-Stammheim, and Günter Unterstenhöfer, Opladen, Germany, assignors to Farbenfabriken Bayer Aktiengesellschaft, Leverkusen, Germany, a corporation of Germany

No Drawing. Filed June 17, 1965, Ser. No. 464,834
Claims priority, application Germany, July 4, 1964, F 43,353
Int. Cl. C07c *125/04*; A01m *9/12*
U.S. Cl. 260—479 1 Claim

1. 3,5 - dimethyl - 4-α-allyl mercapto-phenyl-N-methyl carbamic acid ester having the formula:



3,437,685
DIHALOSULFONES

Harry F. Brust, Midland, Mich., assignor to The Dow Chemical Company, Midland, Mich., a corporation of Delaware

No Drawing. Filed July 14, 1964, Ser. No. 382,642
Int. Cl. C07c *147/02*
U.S. Cl. 260—481 4 Claims

1. The compound having the structure

$$R—SO_2—CH_2—CX_2—Y$$

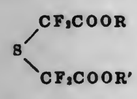
wherein X represents bromide or chlorine, R represents alkyl containing from 1 to 12 carbon atoms, inclusive or benzyl, Y represents —COOH, —$COOR_1$ or —$CONH_2$ and R_1 represents lower alkyl containing from 1 to 4 carbon atoms, inclusive.

3,437,686
PERFLUORINATED THIODIGLYCOLIC ACID AND DERIVATIVES THEREOF

Robert C. Siagel, Burnsville, Minn., assignor to Ashland Oil & Refining Company, Ashland, Ky., a corporation of Kentucky

No Drawing. Filed Mar. 7, 1966, Ser. No. 532,065
Int. Cl. C07c *149/22, 69/34*
U.S. Cl. 260—481 5 Claims

A new class of compounds of the formula:



wherein R is either hydrogen, a cation such as sodium, potassium, ammonium, lithium, ½ calcium or ½ magnesium, or an aryl, aralkyl, aliphatic or cycloaliphatic radical; and R′ is either R or the radical:

$$[X—OOC—CF_2—S—CF_2—COO]_n^R$$

wherein n is 0 to about 50 and X is the divalent radical of a polyhydric alcohol such as a glycol, a glycerol or a dihydric phenol.

This class of compounds includes perfluorinated thiodiglycolic acid, its salts, and its esters.

3,437,687
CHLORINATED METHYLMUCONATES AND THEIR PREPARATION

Lewis F. Hatch, Marburg am der Lahn, Germany, assignor to Sun Oil Company, Philadelphia, Pa., a corporation of New Jersey

No Drawing. Filed July 29, 1966, Ser. No. 568,743
Int. Cl. C07c *69/52*
U.S. Cl. 260—485 11 Claims

The invention relates to a new composition of matter and a method of preparing the same. Specifically the invention relates to the halogenation of α,α′-dimethylmuconate esters to produce 2,3-dihydro-2,3,4-trihalo-α,α′-dimethylmuconate esters which are useful as extreme pressure addition agents in lubricants.

3,437,688
PREPARATION OF LOWER FATTY ACID ESTERS OF CARBORANE ALCOHOLS

Nelson N. Schwartz, Trenton, N.J., assignor to Thiokol Chemical Corporation, Bristol, Pa., a corporation of Delaware

No Drawing. Continuation-in-part of application Ser. No. 844,821, Oct. 2, 1959. This application June 1, 1965, Ser. No. 460,495
Int. Cl. C07c *67/00, 69/00*; C07d *107/02*
U.S. Cl. 260—491 14 Claims

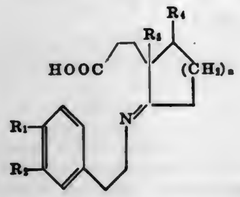
A method has been provided for making a lower fatty acid monoester or diester of a carborane alcohol or diol, respectively, which comprises reacting a coordination compound of decaborane and a nitrogen-containing compound selected from the group consisting of primary and secondary amines and diamines, nitriles and dinitriles with a lower fatty acid monoester or diester of an acetylenically unsaturated alcohol or diol, whereby decaborane is added to the triple bond of said monoester or diester.

3,437,689
AROMATIC AMINO ACID

Richard E. Brown, Hanover, and Robert I. Meltzer, Rockaway, N.J., assignors to Warner-Lambert Pharmaceutical Company, Morris Plains, N.J., a corporation of Delaware

No Drawing. Original application July 18, 1963, Ser. No. 296,088, now Patent No. 3,265,700, dated Aug. 9, 1966. Divided and this application Jan. 13, 1966, Ser. No. 520,367
Int. Cl. C07c *101/78, 101/40, 101/72*
U.S. Cl. 260—518 1 Claim

The present invention discloses compounds of the formula:



wherein R_1 and R_2 each may represent hydrogen or lower alkoxy, R_3 represents hydrogen or lower alkyl, R_4 represents hydrogen, hydroxy or keto, and n is 1 or 2.

The corresponding lactams are useful for the production of 8-azasteroids as described in U.S. Patent No. 3,341,543, issued Sept. 12, 1967.

3,437,690
VAPOR PHASE PROCESS FOR PREPARING UNSATURATED ALIPHATIC ALDEHYDES AND MONOCARBOXYLIC ACIDS

Howard S. Young and Edgar L. McDaniel, Kingsport, Tenn., assignors to Eastman Kodak Company, Rochester, N.Y., a corporation of New Jersey

No Drawing. Continuation of application Ser. No. 375,305, June 15, 1964. This application Nov. 21, 1967, Ser. No. 684,874
Int. Cl. C07c *51/20, 45/04*
U.S. Cl. 260—533 20 Claims

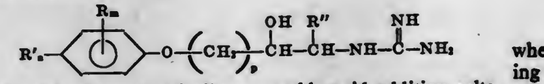
Process for preparing acrolein and acrylic acid comprising reacting in the vapor phase propylene and oxygen in the presence of a catalyst comprising a calcined mixture of an oxide of arsenic, a molybdochromic heteropoly acid and a carrier. The catalyst may optionally include an oxide of chromium, an oxide of manganese, an oxide of iron, or an oxide of boron.

3,437,691
(β-HYDROXY-ω-PHENOXYALKYL) GUANIDINE COMPOUNDS

Herman E. Faith, Indianapolis, Ind., assignor to The Dow Chemical Company, Midland, Mich., a corporation of Delaware

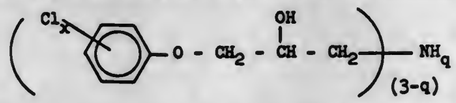
No Drawing. Continuation-in-part of application Ser. No. 629,416, Apr. 10, 1967. This application June 2, 1967, Ser. No. 643,032
Int. Cl. C07c *129/08, 93/06*; A61k *27/00*
U.S. Cl. 260—564 7 Claims

(β-Hydroxy-ω-phenoxyalkyl)guanidine compounds of the formula



and their pharmaceutically acceptable acid addition salts are useful as agents to control the behavior of animals and are especially useful as hypotensive agents. In the foregoing formula, R represents methyl, methoxy, bromo, or chloro; R′ represents R, amino, or hydroxy; R″ represents hydrogen or methyl; p represents an integer of from 1 to 4, m represents an integer of from 0 to 3, n represents an integer of from 0 to 1, and the sum of m and n is an integer of from 0 to 3.

Starting materials and by-products of the formula



wherein q represents 1 or 2 can also be employed as agents to control the behavior of animals and are useful to control the growth of plants, especially bacteria and fungi.

3,437,692
FLUORINATED ALLYL ETHERS AND USE THEREOF

Allen G. Pittman, El Cerrito, and William L. Wasley, Berkeley, Calif., assignors to the United States of America as represented by the Secretary of Agriculture

No Drawing. Original application Feb. 18, 1965, Ser. No. 433,818, now Patent No. 3,382,222, dated May 7, 1968. Divided and this application Apr. 27, 1967, Ser. No. 647,273
Int. Cl. C07c *43/14, 41/00*; D06m *15/30*
U.S. Cl. 260—611 10 Claims

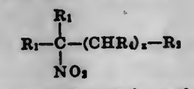
Allyl ethers which contain a fluorine group on the alpha carbon atom of the alcohol moiety are prepared by reacting a ketone with an alkali metal fluoride, and then reacting the resulting fluorocarbinolate intermediate with an allyl halide. The allyl ethers are useful, in monomeric and especially polymeric form, for imparting water- and oil-repellency to textiles and other fibrous materials.

3,437,693
NITROHYDROXYETHERS

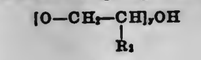
John A. Frump, Terre Haute, Ind., assignor to Commercial Solvents Corporation, New York, N.Y., a corporation of Maryland

No Drawing. Continuation-in-part of application Ser. No. 588,709, Oct. 24, 1966, which is a division of application Ser. No. 302,470, Aug. 15, 1963, now Patent No. 3,296,313, dated Jan. 3, 1967. This application Oct. 30, 1967, Ser. No. 679,171
Int. Cl. C07c *43/20, 77/02*; A01n *9/24*
U.S. Cl. 260—611 1 Claim

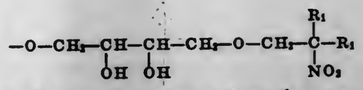
Nitrohydroxyethers of the formula



wherein R_4 is a member selected from the group consisting of methyl and hydrogen; wherein R_1 is a member selected from the group consisting of alkyl radicals, for instance, of about 1 to 10 or 20 carbon atoms, including lower alkyl radicals; lower hydroxyalkyl radicals, for instance, of up to 5 carbon atoms; and a radical having the formula —$(CH_2)_x$—R_2; wherein R_2 in the above formula and radical is selected from the group consisting of

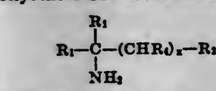


and



wherein R_2 is a member selected from the group consisting of hydrogen, phenyl, nitro-substituted phenyl, halo-substituted phenyl, hydroxy-substituted alkyl, halo-substituted alkyl, alkene and phenyl-substituted alkyl radicals; y is an integer ranging from 1 to 10 or 20 and x in the above formula and radical is an integer ranging from about 1 to 20 which are useful in preparing the corresponding amino compounds. Exemplary of such compounds is 2,11 - dimethyl-2,11-dinitro-4,9-dioxa-6,7-dihydroxydodecane.

Aminohydroxyethers of the formula



wherein R_1, R_2, R_3, R_4, x and y have the values assigned them above which are useful as corrosioon inhibitors, bactericides, pigment wetting and dispersing agents, emulsifiers and intermediates in the preparation of non-ionic surface active agents. Examplary of such amino-hydroxyethers is 2,11 - dimethyl - 6,7-dihydroxy-4,9-dioxa-2,11-dodecanediamine.

3,437,694
STABILIZED POLYETHER POLYOLS

Arthur L. Austin, Southgate, Mich., assignor to Wyandotte Chemicals Corporation, Wyandotte, Mich., a corporation of Michigan

No Drawing. Filed Feb. 28, 1966, Ser. No. 530,318
Int. Cl. C07c *41/12*; C08f *47/10*
U.S. Cl. 260—611.5 3 Claims

Polyether polyols may be synergistically stabilized against oxidation by incorporating therewith certain phenolic combinations such as 2,6-di-t-butyl-4-methylphenol and 2,4-dimethyl-6-t-butylphenol. The stabilized polyols

synergistically inhibit color formation when employed in the preparation of polyurethane foams.

3,437,695

POLYMERIZATION

Carl W. Kruse, Bartlesville, Okla., assignor to Phillips Petroleum Company, a corporation of Delaware

No Drawing. Filed Oct. 5, 1964, Ser. No. 401,691
Int. Cl. C07c *43/20, 149/32;* C08f *1/00*
U.S. Cl. 260—613 10 Claims

Process for the polymerization of halomethyl-substituted aromatic compounds is provided wherein an oxidized charcoal is employed as polymerization catalyst.

3,437,696

PROCESS FOR PREPARING PHENOLS

René Victor Julien Achard and Noël Crenne, Lyon, Rhone, France, assignors to Rhone-Poulenc S.A., Paris, France, a corporation of France

No Drawing. Filed Nov. 19, 1964, Ser. No. 412,300
Claims priority, application France, Nov. 22, 1963, 954,709
Int. Cl. C07c *43/20, 39/24, 39/02*
U.S. Cl. 260—613 7 Claims

Phenols are prepared by oxidizing a substituted or unsubstituted aromatic hydrocarbon with a hydroperoxide in the presence of boric anhydride, boric acid or a lower alkyl orthoborate and hydrolysing the borate ester of a phenol so produced.

3,437,697

LOW-FOAMING SURFACTANT COMPOSITIONS

John A. Hodgkiss, Edison, N.J., Joseph A. Komor, Allentown, Pa., and Leslie M. Schenck, Mountainside, N.J., assignors to GAF Corporation, a corporation of Delaware

No Drawing. Filed Sept. 10, 1965, Ser. No. 486,513
Int. Cl. C07c *43/12*
U.S. Cl. 260—615 4 Claims

Novel low-foaming surface active products having good detergency, which are the chlorides of nonionic surface active agents obtained by condensing 1 molar proportion of a branch chain alkanol of from 8 to 12 carbon atoms with from 6.75 to 23.6 molar proportions of ethylene oxide, said novel compounds having the formula:

$$R—(OCH_2CH_2)_nCl$$

wherein R represents a branched chain alkyl group containing from 8 to 12 carbon atoms, *n* is an integer having an average value of from 6.67 to 23.6 such that the oxyethylene groups constitute from 66.6% to 83.5% by weight thereof.

3,437,698

THE CATALYTIC ISOMERIZATION OF UNSATURATED ACETALS AND HYDROCARBONS

Thomas M. O'Grady, Chicago Heights, Ohio, and Robert M. Alm, Crown Point, and Melvern C. Hoff, Highland, Ind., assignors to Standard Oil Company, Chicago, Ill., a corporation of Indiana

No Drawing. Continuation-in-part of application Ser. No. 197,599, May 25 1962, which is a continuation-in-part of application Ser. No. 105,875, Apr. 27, 1961. This application Sept. 7, 1965, Ser. No. 485,540
The portion of the term of the patent subsequent to June 22, 1983, has been disclaimed
Int. Cl. C07c *43/30, 5/24*
U.S. Cl. 260—615 5 Claims

Double bond isomerization in carbon chains of certain unsaturated compositions toward an activating group is accomplished at relatively low temperatures without other skeletal change or polymerization in the presence of a catalyst comprising gamma-type alumina, metallic sodium and a transition metal compound, especially iron oxide. For example, allylbenzene and 1-phenylbutene-2 are isomerized, respectively, to beta-methyl and beta-ethyl styrenes; unconjugated open-chain di- and triene hydrocarbons are conjugated and dialkyl acetals of buten-3-als are isomerized to the corresponding acetals of buten-3-als which, when converted to the corresponding aldehydes, places the chain double bond in conjugated position with the aldehyde-oxygen and makes the chain unsaturation more active.

3,437,699

PHENOL PURIFICATION

Earl Dan Flickinger, El Dorado, Kans., assignor to Skelly Oil Company, Tulsa, Okla., a corporation of Delaware

No Drawing. Filed Nov. 19, 1965, Ser. No. 508,837
Int. Cl. C07c *37/22*
U.S. Cl. 260—621 6 Claims

Purification of phenol to render innocuous color-forming impurities therein by treating phenol with hydrogen in the presence of a hydrogenation catalyst.

3,437,700

MANUFACTURE OF ALCOHOLS

Herbert Niggebrugge, Arthez de Bearn, France, assignor to Societe Nationale des Petroles d'Aquitaine, Courbevoie, France

No Drawing. Filed Nov. 12, 1965, Ser. No. 507,573
Claims priority, application France, Nov. 13, 1964, 994,751
Int. Cl. C07c *29/00*
U.S. Cl. 260—642 4 Claims

There is provided a novel process for the preparation of aliphatic alcohols suitably in the range of alcohols having between 3 and 23 carbon atoms per molecule. The process comprises the telomerization of lower aliphatic alcohols by heating said alcohols with olefins in the presence of sulfide initiators.

3,437,701

ALKYL ADAMANTANES

Eugene C. Capaldi, Broomall, Pa., assignor to Atlantic Richfield Company, Philadelphia, Pa., a corporation of Pennsylvania

No Drawing. Filed Nov. 30, 1967, Ser. No. 686,838
Int. Cl. C07c *3/18, 13/54*
U.S. Cl. 260—666 7 Claims

Novel compositions of matter comprising alkyl adamantanes useful as intermediates in the preparation of alkyl substituted adamantane derivative compounds such as, for example, epoxides of alkyl adamantanes and acrylates and methacrylates of alkyl adamantanes which are useful as intermediates in the preparation of polymers. The polymers are useful in making rubber-like compositions, crash pads, and protective coatings, etc.

A process for the preparation of alkyl adamantanes comprising contacting an adamantyl halide in the presence of a catalyst, with a material selected from the group consisting of substituted allyl halides and olefins in order to produce a material selected from the group consisting of adamantyl dihaloalkanes and adamantyl haloalkanes respectively and thereafter reducing said adamantyl dihaloalkanes and said adamantyl haloalkanes in order to produce said alkyl adamantanes.

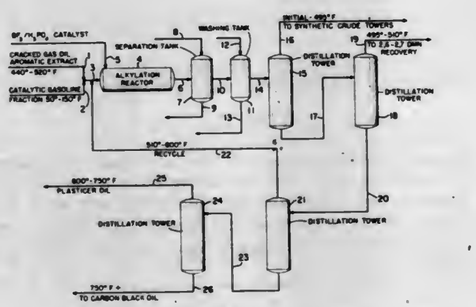
3,437,702

METHOD FOR TREATING CRACKED GAS OIL

Merritt C. Kirk, Jr., Claymont, Del., and Craig R. Andersson, Chester, Pa., assignors to Sun Oil Company, Philadelphia, Pa., a corporation of New Jersey

Filed Apr. 3, 1967, Ser. No. 627,887
Int. Cl. C07c *15/24;* C08g *51/30*
U.S. Cl. 260—668 13 Claims

A concentrate of 2,6- and 2,7-dimethylnaphthalene (DMN) and a polyvinyl chloride (PVC) plasticizer is obtained from cracked gas oil (CGO) by alkylating the CGO with an olefin in the presence of an alkylation catalyst then distilling off a cut which will include the 2,6- and 2,7-DMN. In the alkylation, the other dialkylnaphthalenes which are normally difficult to separate from the 2,6- and 2,7-DMN are preferentially alkylated and end up as higher boiling materials of which a 600–750° F. fraction is a PVC plasticizer. Thus, when a 495° F. to 510° F. fraction of the alkylation product is taken, it will be greatly enriched in the 2,6- and 2,7-DMN. For example, a 495° F.–508° F. CGO fraction is alkylated with a 50° F.–105° F. fraction of catalytic gasoline which contains 60% C_5-olefins in the presence of a BF_3/H_3PO_4 catalyst. The charge contained a total of 67.3% DMN (15.5% 2,6- and 14.9% 2,7-DMN) and the 495° F.–508° F. fraction of the alkylation product contained 52.3% total DMN (26.2% 2,6- and 25.7% 2,7-DMN). This concentrate is then subjected to a further purification such as liquid extraction followed by neat crystallization. The heavy alkylated material (600–750° F.) is a good PVC plasticizer.



3,437,703

CATALYTIC DEHYDROGENATION PROCESS AND COMPOSITIONS

Ronald E. Reitmeier, Middletown, Ky., and Franklin D. Mayfield and James H. Mayes, Baton Rouge, La.; said Reitmeier and said Mayfield assignors to Foster Grant Co., Inc., Leominster, Mass., a corporation of Delaware

No Drawing. Filed May 5, 1966, Ser. No. 561,303
Int. Cl. C07c *5/18, 15/00*
U.S. Cl. 260—669 8 Claims

Hydrocarbons are dehydrogenated in the presence of oxygen and steam with a catalyst selected from iron oxide, magnesia and calcium nickel phosphate in combination with a platinum or palladium oxidation catalyst.

3,437,704

SEPARATION OF VINYL AROMATIC HYDROCARBONS

Rodney D. Beckham, St. Ann, and Earle C. Makin, Jr., St. Louis, Mo., and Wilbert H. Urry, Chicago, Ill., assignors to Monsanto Company, St. Louis, Mo., a corporation of Delaware

No Drawing. Filed July 15, 1966, Ser. No. 565,417
Int. Cl. C07c *15/02, 15/10*
U.S. Cl. 260—669 10 Claims

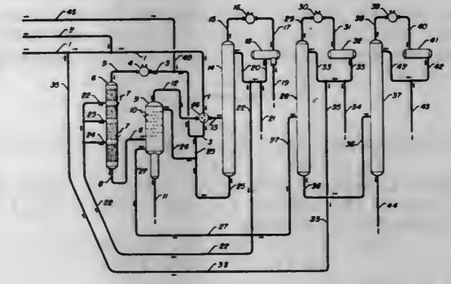
1. A process for the separation of straight-chain vinyl aromatic hydrocarbons from non-straight-chain vinyl aromatic hydrocarbons which comprises contacting a mixture of said hydrocarbons with a complex comprised of a halogen salt of a noble metal and a nitrile, thereby forming a second complex of said nitrile, said halogen salt of a noble metal and the straight-chain vinyl aromatic hydrocarbons of said mixture.

3,437,705

PROCESS FOR AROMATIC ALKYLATION AND OLEFINIC OLIGOMERIZATION

Edwin K. Jones, Kenilworth, Ill., assignor to Universal Oil Products Company, Des Plaines, Ill., a corporation of Delaware

Filed Mar. 2, 1967, Ser. No. 620,178
Int. Cl. C07c *3/50, 3/02, 7/04*
U.S. Cl. 260—671 10 Claims



A process for alkylating an alkylatable aromatic compound with a molar deficiency of olefin-acting compounds, in the presence of an unreactive vapor diluent. The reaction effluent is passed into a rectified flash zone under conditions sufficient to separate the diluent and a part of unreacted alkylatable aromatic compound from the alkylated aromatic product. At least a portion of unreacted alkylatable aromatic compound is returned to the alkylation zone and the alkylated aromatic product is recovered in high concentration. The process is equally applicable to the oligomerization of an olefin-acting compound in the presence of an unreactive vapor diluent where at least a portion of partially-oligomerized product is returned to the oligomerization zone. Specific application of the process is in the synthesis of ethylbenzene, cumene, propylene-trimer, and propylene-tetramer.

3,437,706

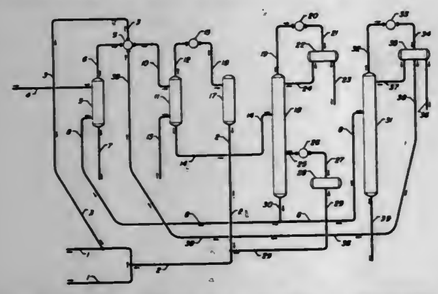
PROCESS FOR AROMATIC ALKYLATION AND OLEFINIC OLIGOMERIZATION

James E. Gantt, Elmwood Park, and Thomas L. Sulzbach, Elk Grove Village, Ill., assignors to Universal Oil Products Company, Des Plaines, Ill., a corporation of Delaware

Filed Sept. 12, 1967, Ser. No. 667,121
Int. Cl. C07c *3/50, 7/04*
U.S. Cl. 260—671 13 Claims

Separation process for a reaction zone effluent containing at least three components, such as an aromatic

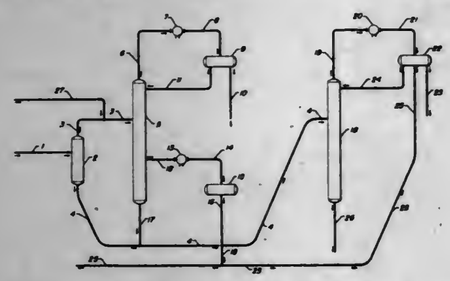
alkylated aromatic compound. The second and third liquid comprising alkylatable aromatic compound and alkylation reaction zone effluent. The effluent is passed liquids are then separated under conditions sufficient to provide the recovery of alkylated aromatic compound, while the first vapor and the side-cut fraction are returned to the reaction zone. The process is equally effective in the separation of the effluent from an oligomerization reaction zone. Specific application of the process is in the synthesis of ethylbenzene, cumene, heptene, and propylene-trimer.



3,437,707
PROCESS FOR AROMATIC ALKYLATION AND OLEFINIC OLIGOMERIZATION

Thomas L. Sulzbach, Elk Grove Village, Ill., assignor to Universal Oil Products Company, Des Plaines, Ill., a corporation of Delaware

Filed Sept. 12, 1967, Ser. No. 667,122
Int. Cl. C07c *3/50, 7/04*
U.S. Cl. 260—671 **10 Claims**



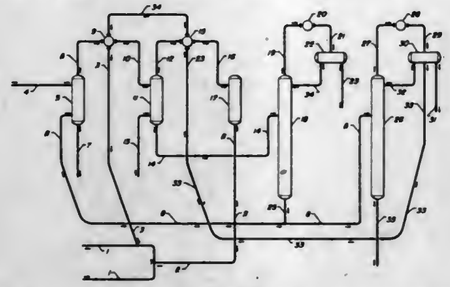
Separation process for a reaction zone effluent containing at least three components, such as an aromatic alkylation reaction zone effluent. In the separation of an aromatic alkylation zone effluent, at least a part of the reaction effluent is fractionated to provide unreactive diluent, a side-cut fraction comprising alkylatable aromatic compound, and a bottoms fraction comprising alkylatable aromatic compound and alkylated aromatic compound. The bottoms fraction is separated to provide a first fraction comprising alkylatable aromatic compound and a second fraction comprising alkylated aromatic compound. The side-cut fraction and at least a part of the first fraction are returned to the reaction zone. The process is equally effective in the separation of the effluent from an oligomerization reaction zone wherein at least a portion of partially-oligomerized product is returned to the oligomerization zone. Specific application of the process is in the synthesis of ethylbenzene, cumene, heptene, and propylene-trimer.

3,437,708
SEPARATION PROCESS FOR ALKYLATED AROMATIC COMPOUNDS AND OLEFINIC OLIGOMERIZATON PRODUCTS

James E. Gantt, Elmwood Park, Ill., assignor to Universal Oil Products Company, Des Plaines, Ill., a corporation of Delaware

Filed Sept. 12, 1967, Ser. No. 670,514
Int. Cl. C07c *7/04*
U.S. Cl. 260—671 **13 Claims**

Process for separating a reaction zone effluent containing at least three components which comprises passing the effluent to a flash zone, passing the resulting flash vapor to a partial condensing zone, recycling the resulting vapor component from the partial condensing zone to the reaction zone, passing the resulting flash zone liquid and the resulting partial condensing zone liquid to a fractionation zone, separating the liquids therein to provide at least a first liquid component and a second liquid component, recycling a part of the first liquid component to the reaction zone, and recovering the second liquid component. The process is particularly applicable to the recovery of alkylated aromatic compounds such as cumene and to recovery of oligomerized products such as propylene-trimer.



3,437,709
DISPROPORTIONATION OF ALKYL AROMATICS WITH A CRYSTALLINE ALUMINOSILICATE AND OXYGEN

Frank J. Chloupek, South Holland, Ill., assignor to Sinclair Research, Inc., New York, N.Y., a corporation of Delaware

No Drawing. Filed Dec. 21, 1967, Ser. No. 692,328
Int. Cl. C07c *3/62, 3/52*
U.S. Cl. 260—672 **18 Claims**

A disproportion process which comprises contacting a methyl-substituted aromatic compound and a small amount of an oxygen-supplying material in a reaction zone with a calcium, magnesium, or manganese-exchanged crystalline alumino-silicate-containing catalyst at a temperature of about 200 to 1100° F. to disproportionate the methyl-substituted aromatic compound. The crystalline aluminosilicate has a pore size of about 8 to 15 A. and a silica to alumina mole ratio of about 3 to 8:1.

3,437,710
TRANSALKYLATION PROCESS

Ernest L. Pollitzer, Hinsdale, Ill., assignor to Universal Oil Products Company, Des Plaines, Ill., a corporation of Delaware

No Drawing. Continuation-in-part of application Ser. No. 560,786, June 27, 1966. This application Dec. 26, 1967, Ser. No. 693,071
Int. Cl. C07c *3/52, 3/58, 3/62*
U.S. Cl. 260—672 **6 Claims**

A mixture of a C_9 aromatic hydrocarbon and toluene is transalkylated utilizing a catalyst comprising a crystalline aluminosilicate suspended in a refractory inorganic oxide matrix and having at least one active catalytic ingredient carried by the matrix.

3,437,711
PROCESS FOR PRODUCING ISOPRENE FROM ISOBUTYLENE AND FORMALDEHYDE IN ONE STAGE

Masaya Yanagita, 162 Kamihoya, Hoyamachi, Kitatamagun, and Takashi Mitsui, 1 1-chome, Nakameguro, Meguro-ku, both of Tokyo, Japan, and Masao Kitahara, 5–3 3-chome, Tendai, Chiba-shi, Chiba-ken, Japan

No Drawing. Continuation-in-part of application Ser. No. 328,467, Dec. 6, 1963, now Patent No. 3,253,051. This application Apr. 27, 1966, Ser. No. 545,570
Claims priority, application Japan, May 13, 1963, 38/23,961, 38/23,962, 38/23,963, 38/23,964, 38/23,965
Int. Cl. C07c *1/24, 11/18*
U.S. Cl. 260—681 **6 Claims**

This invention relates to a process for obtaining isoprene with high yield from isobutylene and formaldehyde in one stage in vapor phase using a catalyst deposited on a carrier of silica gel, said catalyst being composed of phosphoric acid and the oxides or hydroxides of the elements in Group II*a* of the Periodic Table (calcium, magnesium, beryllium, strontium and barium), and heat-treated at a temperature between 650 and 900° C., in the presence of air.

3,437,712
PROCESS FOR SEPARATING OLEFINS FROM ADMIXTURES WITH HIGH POROSITY CUPROUS HALIDE SALTS

Robert B. Long, Wanamassa, N.J., and Warren Alfred Knarr, Baton Rouge, La., assignors to Esso Research and Engineering Company, a corporation of Delaware

Continuation of application Ser. No. 333,925, Dec. 27, 1963. This application Nov. 2, 1966, Ser. No. 591,650
Int. Cl. C07c *7/16, 7/02*; C01g *3/04*
U.S. Cl. 260—681.5 **19 Claims**

Attrition-resistant, highly-porous particles of cuprous chloride or bromide are used for separations by preferential complexing of complexable compounds such as diolefins, olefins, etc. from vapor phase. The CuCl or CuBr particles are 10–60 micron macroparticles, composed of joined microparticles smaller than 5 microns, prepared by slowly precipitating a stable complex from a dilute solution of the cuprous halide in a mono-olefin and then decomposing the complex, leaving a porous structure.

3,437,713
PROCESS FOR SEPARATING OLEFINS FROM ADMIXTURES WITH HIGH POROSITY CUPROUS HALIDE SALTS

Robert B. Long, Atlantic Highlands, N.J., assignor to Esso Research and Engineering Company, a corporation of Delaware

Continuation-in-part of application Ser. No. 601,208, Dec. 22, 1966, which is a continuation of application Ser. No. 333,926, Dec. 27, 1963, which is a continuation-in-part of application Ser. No. 163,075, Dec. 29, 1961. This application Sept. 21, 1967, Ser. No. 683,045
Int. Cl. C07c *7/16*; C01g *3/04*
U.S. Cl. 260—681.5 **33 Claims**

Improved novel processes for the separation of a compound capable of forming a complex with a cuprous halide from a mixture containing it are (a) separations other than diolefin from monoolefin separations effected in the absence of the presence of water or alcohols utilizing solid unsupported porous unitary particles of cuprous chloride or cuprous bromide having a porosity of above 10% (of the total volume of a particle) 550–10,000 A. pores and (b) vapor phase separations generally including diolefin from monoolefin separations using said unsupported high porosity cuprous chloride or bromide particles. Also, preferred methods of preparing said high porosity particles are described.

3,437,714
PROCESS FOR THE PRODUCTION OF ETHYLENE

Julian Newman, East Meadow, N.Y., assignor to The Lummus Company, New York, N.Y., a corporation of Delaware

No Drawing. Filed May 21, 1965, Ser. No. 457,863
Int. Cl. C07c *11/04, 5/00*
U.S. Cl. 260—683 **11 Claims**

A process for cracking naphtha to increase the production of ethylene wherein a feed, containing in addition to the naphtha, steam and propylene recycled from the cracking process is cracked under the following conditions: a residence time of less than one second, a heat input of 20–40M B.t.u./hr. per sq. ft.; and an outlet gas temperature of at least 1500° F. The propylene comprises up to 25% of the feed, exclusive of steam.

3,437,715
RESIN COMPOSITION

Ettore Da Fano, Pasadena, Calif., assignor, by mesne assignments, to Pittsburgh Plate Glass Company, Pittsburgh, Pa., a corporation

No Drawing. Filed Apr. 15, 1955, Ser. No. 501,727
Int. Cl. C08f *1/80, 21/02, 21/00*
U.S. Cl. 260—863 **7 Claims**

Resin-soluble organic copper salts such as copper naphthenate when added in relatively small amounts function as gelation inhibitors in uncatalyzed unsaturated polyesters and as promoters when catalyst is added. The copper salts are particularly effective when used in conjunction with quaternary ammonium salts or tertiary amine salts as inhibitors.

3,437,716
PROCESS FOR ACCELERATING POLYMERIZATION OF ETHYLENICALLY UNSATURATED MONOMERS USING TRIVALENT ANTIMONY COMPOUNDS

John R. Leebrick, Old Lyme, Conn., assignor, by mesne assignments, to Cosan Chemical Corporation, Clifton, N.J., a corporation of New Jersey

No Drawing. Filed Dec. 13, 1966, Ser. No. 601,307
Int. Cl. C08f *1/72, 1/74, 21/00*
U.S. Cl. 260—863 **10 Claims**

Ethylenically unsaturated monomers or resins are polymerized with catalysis by a hydroperoxide, accelerated by 1 to 50% by weight, based on the weight of the hydroperoxide, of antimony trichloride or tri-isooctylthioglycollate.

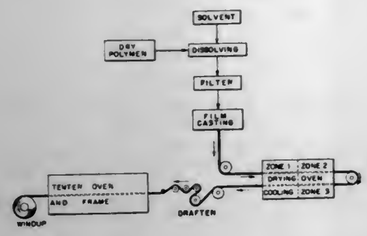
3,437,717
PROCESS FOR PRODUCING BIAXIALLY STRETCHED FILMS FROM A NITRILE POLYMER SOLUTION AND PRODUCT

Ralph E. Isley, Northfield, Richard C. Adams, Chardon, and Lawrence E. Ball, Akron, Ohio, assignors to The Standard Oil Company, Cleveland, Ohio, a corporation of Ohio

Filed June 22, 1964, Ser. No. 377,041
Int. Cl. C08f *47/14, 15/34*; B29d *7/24*
U.S. Cl. 260—881 **7 Claims**

Biaxially oriented films of interpolymers of an alpha, beta-monoolefinically unsaturated nitrile such as acrylo-

nitrile and a polyalkenyl monomer such as butanediol-1,4-divinyl ether are prepared by stretching in longitudinal



and transverse directions a solvent-containing film of said interpolymer and then heat setting and drying the film.

3,437,718

POLYMER BLENDS

Richard Watkin Rees, Orange, Tex., assignor to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware

No Drawing. Continuation-in-part of abandoned application Ser. No. 239,821, Nov. 23, 1962, which is a continuation-in-part of application Ser. No. 209,789, July 13, 1962. This application Jan. 23, 1967, Ser. No. 610,818

Int. Cl. C08f *29/36, 29/56*

U.S. Cl. 260—889 5 Claims

The present invention relates to compatible polymer blends formed from incompatible polymers which are made compatible by ionic linking with metal ions acid groups which are attached to each of said polymers.

3,437,719

DYEABLE POLYPROPYLENE COMPOSITIONS

Nathan L. Zutty, Westfield, N.J., and Frank J. Welch and Edward M. Sullivan, Charleston, George M. Bryant, South Charleston, and Andred T. Walter, Charleston, W. Va., assignors to Union Carbide Corporation, a corporation of New York

No Drawing. Original application Dec. 27, 1963, Ser. No. 334,045, now Patent No. 3,355,440, dated Nov. 28, 1967. Divided and this application Apr. 28, 1967, Ser. No. 634,486

Int. Cl. C08f *29/02;* D01f *7/02*

U.S. Cl. 260—897 35 Claims

Dyeable polypropylene compositions prepared by blending polypropylene with a copolymer of a vinylphosphine oxide with ethylene or with an alkoxyethyl acrylate. If desired a magnesium chloride complex of the vinylphosphine oxide can be employed in lieu of the vinylphosphine oxide itself.

3,437,720

CARBOXYLATED HYDROXY PHOSPHITES

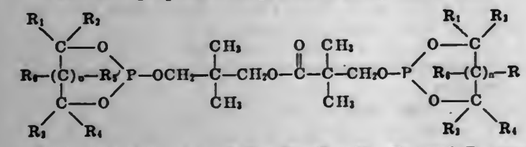
Alvin Guttag, Bethesda, Md., assignor to Weston Chemical Corporation, New York, N.Y., a corporation of New Jersey

No Drawing. Filed Aug. 3, 1966, Ser. No. 569,817

Int. Cl. C07d *105/04;* C08f *45/58*

U.S. Cl. 260—927 9 Claims

There are prepared compounds having the formula



where n is 0 or 1 and R_1, R_2, R_3, R_4, R_5 and R_6 are hydrogen or lower alkyl. The products are useful as stabilizers for polymers.

3,437,721

PHOSPHATO-PHOSPHORUS COMPOUNDS AND PROCESS FOR PREPARING SAME

Charles F. Baranauckas, Memphis, Tenn., and Irving Gordon, Niagara Falls, N.Y., assignors to Hooker Chemical Corporation, Niagara Falls, N.Y., a corporation of New York

No Drawing. Filed Sept. 1, 1964, Ser. No. 393,778

Int. Cl. C07f *9/12, 9/08*

U.S. Cl. 260—928 10 Claims

Compounds such as (a) tris(1-chloro-3-diphenyl phosphato-2-propyl) phosphite, and (b) tris(2-diisooctyl phosphato-ethyl) phosphite, and a process for producing the compounds, such as by reacting dimethyl phosphate with triphenyl phosphite, typically at about 145° C. to about 155° C.

3,437,722

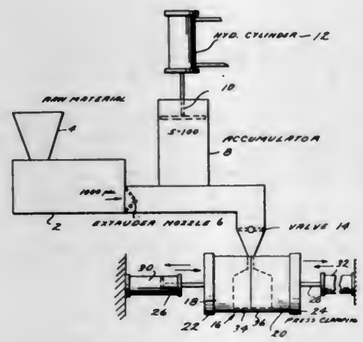
TRANSFER MOLDING OF FOAM

Edward W. Cronin, Wilmington, and Walter O. Weber, Newark, Del.; said Cronin assignor to Hercules Incorporated, a corporation of Delaware, and said Weber, assignor to Haveg Industries, Inc., Wilmington, Del., a corporation of Delaware

Filed Apr. 27, 1965, Ser. No. 451,202

Int. Cl. B29d *27/04*

U.S. Cl. 264—48 13 Claims



A hot, foamable thermoplastic polymer is extruded at a first pressure, allowed to foam and accumulate in a chamber at a second pressure which is lower than the first pressure. Then the foamed polymer is transferred at a pressure less than the first pressure into a mold and formed into a molded article. Preferably, the mold walls are cooled so that a skin of unfoamed material is formed on the article.

3,437,723

METHOD OF MAKING REFRACTORY BODIES FORMED WITH A MULTIPLICITY OF CLOSELY SPACED LONG AND NARROW PASSAGES THERETHROUGH

Heinz Habermann, Fleschgasse 34, Vienna, 13, Austria

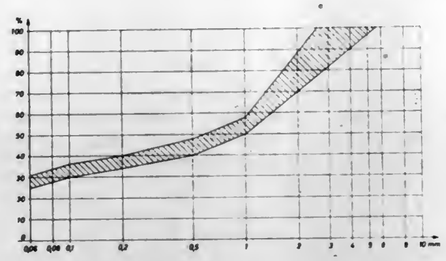
Filed Oct. 26, 1965, Ser. No. 505,262

Claims priority, application Austria, Nov. 4, 1964, A 9,365/64

Int. Cl. B28b, *1/08*

U.S. Cl. 264—69 5 Claims

Smooth-walled, closely spaced ducts having a diameter as small as 4 mm. and a length-to-diameter ratio up to 200:1 can be formed in refractory bodies mainly consisting of magnesia in a mold equipped with suitably dimensioned and arranged wire cores by gravity casting a mixture of magnesia of specified grain size distribution (FIG. 7) with 1–4% inorganic binder and 5–7% water



and by removing the cores after the composition solidifies by partial evaporation of the water.

3,437,724

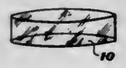
LANTHANUM FLUORIDE INFRARED TRANSMITTING OPTICAL ELEMENTS

Edward Carnall, Jr., Rochester, N.Y., assignor to Eastman Kodak Company, Rochester, N.Y., a corporation of New Jersey

Original application Sept. 18, 1961, Ser. No. 138,846, now Patent No. 3,206,279, dated Sept. 14, 1965. Divided and this application Mar. 8, 1965, Ser. No. 452,427

Int. Cl. B29f *5/02*

U.S. Cl. 264—125 6 Claims



1. The method of forming a transparent homogeneous solid of molded lanthanum fluoride having a density in the range of from 99% up to and including theoretical density which comprises molding lanthanum fluoride powder in an inert atmosphere under a pressure of at least 36,000 pounds per square inch and at a temperature within the range of 825° C. to 875° C.

3,437,725

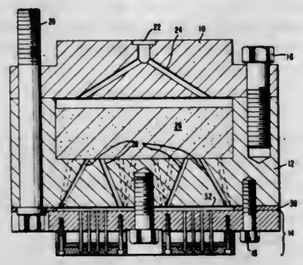
MELT SPINNING APPARATUS AND METHOD

Norwin Caley Pierce, Greenville, N.C., assignor to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware

Filed Aug. 29, 1967, Ser. No. 664,059

Int. Cl. B28b *3/20*

U.S. Cl. 264—176 2 Claims



Improvements in a filter pack are disclosed for melt spinning synthetic linear polymer of high relative viscosity without heating the polymer sufficiently to cause significant degradation. The polymer passes from a conventional filterholder to a spinneret assembly having a top plate attached to the filterholder and a spinneret plate mounted parallel to the top plate wtih an insulating space between the two. The polymer flows into generally tubular inserts which extend through the two plates and have spinning capillaries at the spinneret-plate end. The spinneret plate is heated to provide a steep temperature gradient in the polymer so that shear stress is reduced momentarily at the wall of the capillary without degrading the polymer. The insulating space keeps the top plate and top-plate end of the insert from being heated to a temperature at which polymer degradation will occur.

3,437,726

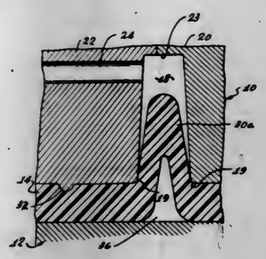
METHOD OF IMPACT FORMING PLASTIC SHEET MATERIAL

Foster M. Hagmann, 130 N. Bristol, Los Angeles, Calif. 90049

Continuation of application Ser. No. 511,586, Dec. 2, 1965. This application Jan. 29, 1968, Ser. No. 701,477

Int. Cl. B29c *3/00*

U.S. Cl. 264—323 3 Claims



Method for impact forming a relatively narrow projection of concavo-convex cross section in plastic sheet material. Plastic sheet material at ambient temperature is positioned between a pair of dies, one of which has a projection-forming recess and the other has a flat sheet-engaging surface, and they are brought into contact with the sheet material with a high impact, compressive force. The projection is free-formed within the recess into a concavo-convex configuration due to the lateral extrusion of the plastic material beyond its elastic limit. Means are provided on one die member for restraining the outward lateral extrusion of the plastic material away from the recess.

3,437,727

METHOD OF REFINISHING THE SURFACES OF A PLASTIC ARTICLE

Walter S. Boyhan, Laurelton, Rudolf Mayer, Roslyn Heights, and Arthur H. Staheli, Seaford, N.Y., assignors to Western Electric Company, Incorporated, New York, N.Y., a corporation of New York

No Drawing. Filed Oct. 23, 1965, Ser. No. 504,214

Int. Cl. B29c *25/00*

U.S. Cl. 264—341 3 Claims

The surfaces of a cellulose acetate butyrate or a cellulose propionate plastic article are refinished by applying thereon a solvent which removes any outer, deteriorated layers of plastic, exposes new surfaces, and dissolves a portion of the newly exposed surfaces. The article is then subjected to a atmosphere of the vapors of the solvent to evenly distribute a coating of the plastic containing the solvent thereover. Next, the article is dried in heated air to evaporate the solvent and to redeposit the dissolved plastic. Finally the article is dried for a sufficient period of time at ambient temperatures to remove any solvent absorbed therein.

3,437,728

PROTRACTED RELEASE PHARMACEUTICAL COMPOSITIONS

Gerhard Renwanz, Karl Credner, and Erika Glantz, Berlin, Germany, assignors to Diwag Chemische Fabriken GmbH.

No Drawing. Filed June 15, 1964, Ser. No. 375,698
Int. Cl. A61k 27/12
U.S. Cl. 424—21 14 Claims

The sustained release pharmaceutical composition of this invention comprises

(a) a compressed core containing the active ingredient embedded in or impregnated with paraffin and being provided with

(b) a protective coating composed of a mixture of paraffin and a higher fatty acid, preferably stearic acid, and having incorporated therein a finely divided acid and alkali-resistant mineral material, such as talc, bolus alba, aluminum hydroxide.

Part of the paraffin-fatty acid mixture of the coating may be replaced by acetyl cellulose.

The composition has the advantage over heretofore prepared sustained release compositions that it releases the drug gradually and at a uniform rate during its absorption by the gastro-intestinal tract. Heretofore such gradual release could be achieved only by mixing a number of pellets, pills, etc., of different solubility in the gastro-intestinal fluids whereby each group had to be prepared separately, or by providing a multilayer tablet, pill, or the like whereby the layers were of different solubility in the gastro-intestinal fluids.

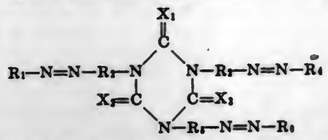
3,437,729

TRIS(ARYLAZOARYL)-s-TRIAZINE 2,4,6(1H,3H,5H) TRIONE AND TRITHIONE AS TOXICANTS

John H. Cornell, Jr., Arlington, Mass., assignor to Monsanto Research Corporation, St. Louis, Mo., a corporation of Delaware

No Drawing. Original application Aug. 24, 1965, Ser. No. 482,239, now Patent No. 3,361,735, dated Jan. 2, 1968. Divided and this application Sept. 27, 1967, Ser. No. 679,955
Int. Cl. C07d 55/50; A01n 9/22, 9/14
U.S. Cl. 424—226 3 Claims

1. A method of poisoning an animal which comprises administering to said animal a toxic amount of a composition containing an active ingredient of the formula:



wherein each of R_1, R_2, R_3, R_4, R_5 and R_6 is an aromatic hydrocarbon radical of from 6 to 12 C atoms, and each of X_1, X_2 and X_3 is a chalkogen element selected from the class consisting of oxygen and sulfur.

3,437,730

METHOD OF COMBATING INSECTS WITH MONOCHLOROMETHYL THIOCYANATE

Horst Werres, Berlin, Dietrich Baumert, Kirchheim, and Clemens Kotter, Berlin, Germany, assignors to Schering, A.G., Berlin, Germany

No Drawing. Continuation-in-part of application Ser. No. 361,579, Apr. 21, 1964. This application Dec. 7, 1964, Ser. No. 416,615
Claims priority, application Germany, May 4, 1963, Sch 33,232
Int. Cl. A01m 9/12
U.S. Cl. 424—302 1 Claim

Monochloromethyl thiocyanate is used as a pesticide which term is used herein in a dictionary or generic sense to mean: killing of destructive or noxious living organisms including fungi, nematodes, bacteria and wood dwelling insects.

3,437,731

METHOD OF RELIEVING EXAGGERATED UTERINE CONTRACTIONS

Josef Schmitt, L'Hay-les-Roses, and Marcel Daniel Pierre Brunaud, Paris, France, assignors to Etablissements Clin-Byla, Paris, France, a French company

No Drawing. Original application June 22, 1964, Ser. No. 377,070. Divided and this application Feb. 9, 1967, Ser. No. 643,749
Claims priority, application France, June 28, 1963, 939,795
Int. Cl. A61k 27/00; C07c 93/06, 91/16
U.S. Cl. 424—330 1 Claim

Method of relieving exaggerated uterine contractions by administering the B forms of N-(2-phenyl-1-methylethyl) 2-phenoxy-1-methylethylamine.

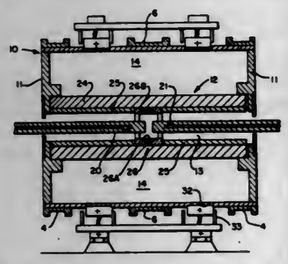
ELECTRICAL

3,437,732

HIGH MELT ENGINE OF THE ROTARY TYPE

Aristid V. Grosse, Philadelphia, Pa., assignor to Reynolds Metals Company, Richmond, Va., a corporation of Delaware

Filed Mar. 31, 1966, Ser. No. 539,017
Int. Cl. H05b 7/18
U.S. Cl. 13—9 6 Claims



1. A novel high melt arrangement for a high melt engine of the rotary molten-liquid-pipe type having an axial inner chamber, comprising:

(A) a pair of 1st and 2nd electrodes providing an anode and a cathode within said chamber,

(1) one of said electrodes extending along the axis of said chamber, and

(2) the other of said electrodes having high melt electrode material extending about the axis thereof and means mounting the other of said electrodes to rotate with the engine; and

(B) means for connecting said electrodes across a suitable source of electrical power to maintain an electrical arc therebetween.

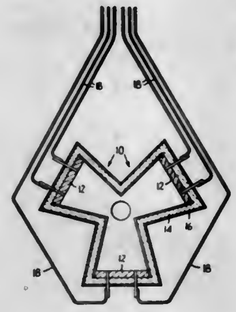
3,437,733

METHOD FOR PRODUCING ELECTRODE PASTE

Niles Johan Haavik, Nordstrand, Oslo, and Gunnar Nyberg, Vagsbygd, near Kristiansand, Norway, assignors to Elektrokemisk A/S, Oslo, Norway, a corporation of Norway

Original application Mar. 4, 1966, Ser. No. 531,700, now Patent No. 3,388,205, dated June 11, 1968. Divided and this application Oct. 16, 1967, Ser. No. 687,407
Int. Cl. H05b 7/10
U.S. Cl. 13—9 7 Claims

An electrode paste comprising a mixture of carbonaceous material and a binder therefor is made by electrically preheating the carbonaceous material, before it is mixed with the binder, in a zone the cross-sectional area of which transverse to the path of current flow therein increases from a predetermined point in the zone to the point at which the current is fed to the carbonaceous material, whereby temperature differences between various portions of the zone are kept below about 100° C. After the carbonaceous material is so preheated, it is then mixed with the binder to form the electrode paste.

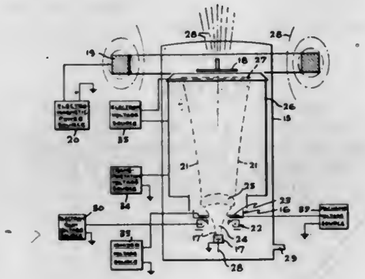


3,437,734

APPARATUS AND METHOD FOR EFFECTING THE RESTRUCTURING OF MATERIALS

Leonard F. Roman, North Hollywood, and George H. Elliott, Granada Hills, Calif., assignors to Isofilm International, Chatsworth, Calif., a corporation of California

Filed June 21, 1966, Ser. No. 559,198
Int. Cl. H05b 9/02, 11/00
U.S. Cl. 13—31 44 Claims



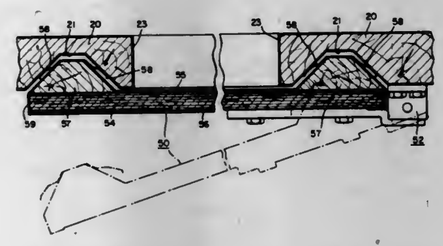
An apparatus and method is disclosed herein for depositing a restructured coherent atomic layer of source material on the surface of a substrate located within a vacuum chamber including means for producing a vapor cloud from the source material and means for ionizing the atoms contained in the vapor cloud. Means are provided for establishing an electrostatic potential gradient between the ionizer means and the substrate to accelerate and control the direction of travel of the ionized atoms and further provided are electromagnetic means for generating a uniform magnetic field in the area of the substrate having magnetic flux lines extending normal to the surface of the substrate for controlling the ionized atom deposit on the surface of or in the structure of the substrate.

3,437,735

DOOR CONSTRUCTION FOR SHIELDED ROOM

Clarence Randall Schaller, Jr., Huntingdon Valley, Pa., assignor to Ace Engineering & Machine Co., Inc., Huntingdon Valley, Pa., a corporation of Pennsylvania

Filed Sept. 21, 1966, Ser. No. 580,983
Int. Cl. H05k 9/00
U.S. Cl. 174—35 3 Claims



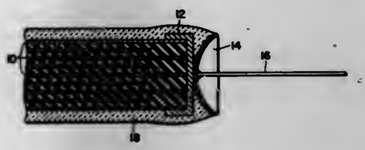
A doorway construction for a radio-frequency shielded enclosure is disclosed in which the door frame is provided with a conductively surfaced recess of truncated wedge-shaped cross-section which completely frames the doorway. The door has a wedge-shaped conductively-surfaced projection along its four edges which is received into the recess in the door frame when the door is pivotally closed. Spring leaf wiping fingers of conductive material are secured to the sloping surface of either the wedge-shaped recess or projection for making good wiping contact with the other sloping surface.

3,437,736

TERMINAL ASSEMBLY FOR ENCAPSULATED ELECTRICAL DEVICES

John W. Asher, Elmira, and Stewart A. Claypoole, Painted Post, N.Y., assignors to Corning Glass Works, Corning, N.Y., a corporation of New York

Filed Sept. 1, 1967, Ser. No. 665,068
Int. Cl. H05k 5/06
U.S. Cl. 174—52 5 Claims



An improved terminal assembly composed of a bowl shaped member of low electrical resistance and having a sharp edged rim. The sharp bowl rim provides a positive stop during the application of encapsulating material to the device, and prevents its flow across the bowl rim and around portions of the terminal lead wire.

3,437,737

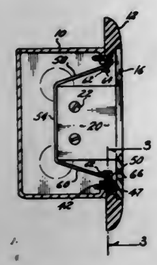
MODULAR UNIT OUTLET

Milan Francis Wagner, 3248 Stoddard Ave., San Bernardino, Calif. 92405

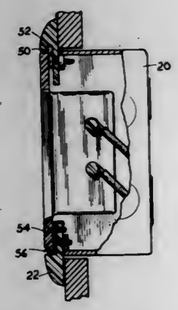
Filed Oct. 11, 1965, Ser. No. 494,761
Int. Cl. H01r 13/46; H01h 9/02
U.S. Cl. 174—55 6 Claims

Apparatus including a back plate that is detachably but securely connected to an outlet box, the back plate being apertured and having recessed tapered ledges to receive

the front plate of a modular electrical unit having flexible arms snapping under the ledges but releasable by means of an instrument inserted through an opening in the front plate.

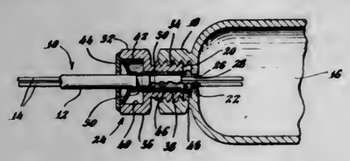


3,437,738
MODULAR TYPE ELECTRICAL OUTLET
Milan F. Wagner, 3248 Stoddard Ave., San Bernardino, Calif. 92405
Continuation-in-part of application Ser. No. 494,761, Oct. 11, 1965. This application Nov. 17, 1967, Ser. No. 683,926
Int. Cl. H01r 13/46; H01h 9/02
U.S. Cl. 174—55 7 Claims



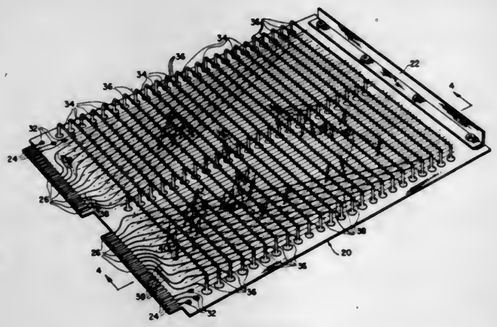
An apparatus in which a back plate is adjustably but fixedly attached to an outlet box, the plate being apertured and recessed in a manner to receive substantially flush therein a quick detachable modular electrical unit of any desired type.

3,437,739
MI CABLE TERMINAL CONNECTION
Azriel Jay Rabinowitz, Rochester, N.Y., assignor to Burndy Corporation, a corporation of New York
Filed June 28, 1967, Ser. No. 649,524
Int. Cl. H02g 3/18
U.S. Cl. 174—65 3 Claims



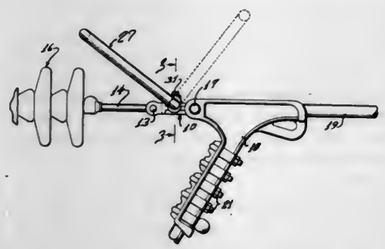
A terminal connection between a mineral-insulated electrical cable and a junction box having a threaded outlet with a shoulder at the base of the threads. A compression member having threads to engage the junction box also engages a cable sleeve fixed to the sheath of the cable and compresses a bushing positioned between the cable sleeve and the shoulder of the outlet to seal the junction box to the cable.

3,437,740
MATRIX BOARD APPARATUS
Roger L. Rosenberg and Donald W. Watson, Arlington Heights, and Robert D. Zielinski, Mount Prospect, Ill., assignors to C. P. Clare and Company, Chicago, Ill., a corporation of Delaware
Filed Jan. 9, 1967, Ser. No. 608,062
Int. Cl. H05k 1/04, 1/16
U.S. Cl. 174—68.5 15 Claims



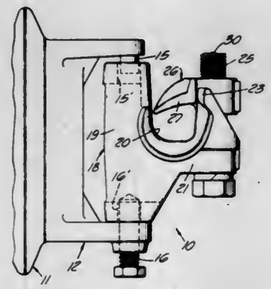
A matrix board includes a first array of conductors on one surface connected to terminals on the board, and a second, transverse array spaced from the board. Conductors on the other surface connect the transverse array to other terminals on the board. Diodes, resistors, etc., may be soldered or frictionally held between conductors of the first and second arrays. The board-mounted conductors may have apertures for frictionally receiving the coupling elements, the apertures defining flexible, centrally directed fingers. The second, spaced conductors may include rigid contact members with latching elements for releasably holding coupling elements against the contact members.

3,437,741
TILTING CORONA SHIELD
John C. Beck, Birmingham, Ala., assignor to Bethea Company, Inc., a corporation of Alabama
Filed July 12, 1967, Ser. No. 652,764
Int. Cl. H01b 17/48
U.S. Cl. 174—141 6 Claims



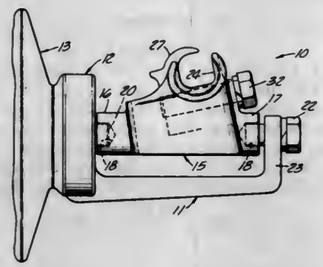
A corona shield having shaft-like supporting elements mounted for pivotal movement relative to a yoke or other attachment assembly. Cooperating stop members carried by the yoke assembly and the supporting elements of the shield engage each other to limit rotation of the shield relative to the yoke or attachment assembly. Retaining members hold the shield at selected positions relative to the yoke assembly.

3,437,742
CONDUCTOR CLAMPING ASSEMBLY
L. E. Lindsey, 222 Vista Ave., Pasadena, Calif. 91107
Filed Apr. 10, 1967, Ser. No. 629,609
Int. Cl. H01b 17/16
U.S. Cl. 174—169 12 Claims



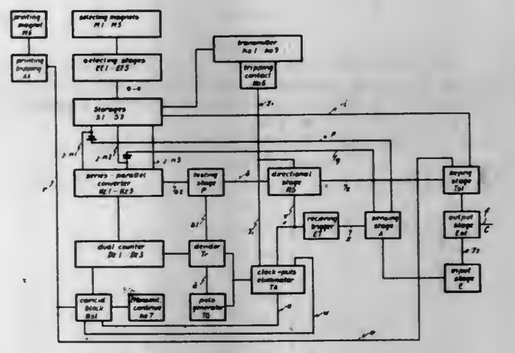
A conductor clamp assembly for use at the outer end of a generally horizontally supported pole line insulator and comprising an L-shaped main body pivotable about the opposite ends of its vertical leg and having a captive clamping jaw overlying an upwardly opening conductor seating channel. When loosened, the jaw pivots to one side of the seating channel and tilts to a position clear thereof.

3,437,743
HIGH TENSION CONDUCTOR CLAMPING ASSEMBLY
L. E. Lindsey, 222 Vista Ave., Pasadena, Calif. 91107
Filed Apr. 10, 1967, Ser. No. 629,610
Int. Cl. H01b 17/16
U.S. Cl. 174—169 15 Claims



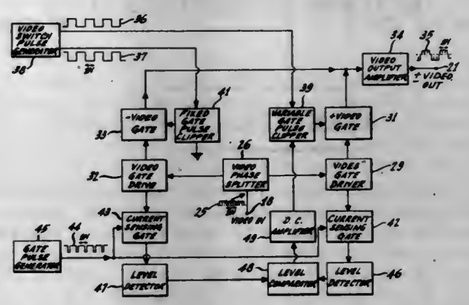
A conductor clamping assembly mounted for pivotal movement on an axis parallel to the longitudinal axis of a power line insulator by means of a boss and an aligned cap screw on a C-shaped bracket secured to the outer end of the insulator. The clamping assembly has adjustable conductor clamping means comprising a fixed jaw constituting an upwardly opening conductor seating channel and a sliding jaw cooperable therewith and movable with respect to the fixed jaw by means of a cap screw threaded within the sliding jaw. The sliding jaw is positioned at an angle with respect to the horizontal so that it naturally gravitates to open position as the cap screw threaded thereto is loosened.

3,437,744
ELECTRONIC TELEPRINTER TRANSMITTING AND RECEIVING SYSTEM
Werner Schiebeler, Eutingen, Baden, Germany, assignor to International Standard Electric Corporation, New York, N.Y., a corporation of Delaware
Filed Mar. 9, 1965, Ser. No. 438,206
Claims priority, application Germany, Mar. 14, 1964, St 21,839
Int. Cl. H04l 15/00, 15/18, 15/24
U.S. Cl. 178—2 9 Claims



A transmit/receive system for semi-electronic teleprinters in which the same groups of components are used for receiving as well as the transmitting, and to supervise the coincidence of a fed-in element with the element actually transmitted over the telegraph line, the system operates as a transmitter during the first half of a signal element and is switched over to operate as a partial receiver during the second half of the signal element to scan the telegraph line.

3,437,745
BLACK LEVEL SETTING CIRCUIT FOR COLOR SUBCARRIER MODULATOR
Peter Haferl, Zurich, Switzerland, assignor to Radio Corporation of America, a corporation of Delaware
Filed Sept. 21, 1966, Ser. No. 581,027
Int. Cl. H04n 5/38, 9/32
U.S. Cl. 178—5.4 9 Claims



1. A signalling system for producing a video signal of constant black level and alternating in polarity at a given periodicity, comprising:
first and second video signal gate circuits;
means supplying first and second opposite polarities of a video signal respectively to said first and second gate circuits;
a video signal output circuit;

switching means operative at said given periodicity to couple said video signal gate circuits alternately to said output circuit;

first black level setting means coupled to said first video signal gate circuit to establish the black level of said first polarity video signal relative to a fixed reference potential; and

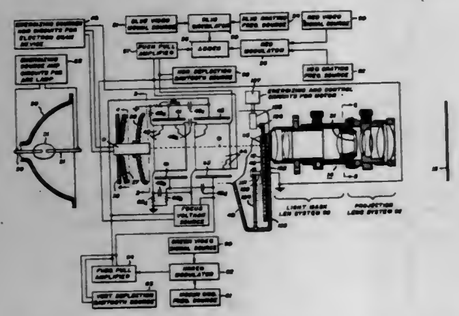
second black level setting means coupled to said second gate circuit to establish the black level of said second polarity video signal relative to the black level of said first polarity video signal.

3,437,746

PROJECTION SYSTEM AND METHOD

William E. Good, Liverpool, and Thomas T. True, Camillus, N.Y., assignors to General Electric Company, a corporation of New York

Filed Dec. 18, 1964, Ser. No. 419,495
Int. Cl. H04n 5/38
U.S. Cl. 178—5.4 15 Claims
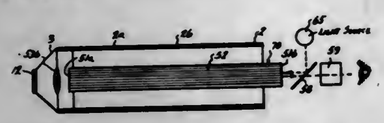


There is is disclosed a light modulating medium, for use in a projection system, deformably responsive to charge patterns which medium has geometrical and physical properties such that the time of rise and fall of the deformations is comparable to a field of scan.

3,437,747

DEVICES FOR INSPECTION USING FIBEROPTIC MEMBERS

Edward Emanuel Sheldon, 30 E. 40th St., New York, N.Y. 10016

Filed Mar. 24, 1964, Ser. No. 354,393
Int. Cl. H04n 7/18; G02b 5/16; H01j 5/16
U.S. Cl. 178—6 29 Claims



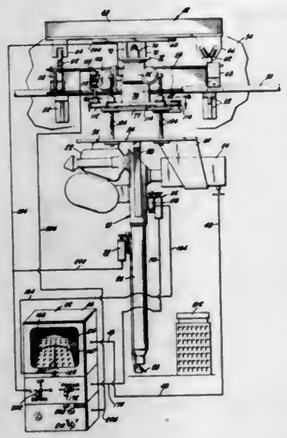
This invention relates to novel endoscopic devices for transmission of images of inaccessible parts. These devices are characterized by the use of plurality of light conducting members comprising fibers of material of a high index of refraction in which the external surface of sidewalls of said fibers is made very smooth in order to prevent the escape of conducted light and provided with coating means which have lower index of refraction than said fibers. In some devices light opaque means are provided in addition to reduce further the escape of light from one of said members to another member. In addition some of the above devices are characterized by the absence of focusing optical means mounted between the examined part and said light conducting members and their ability to transport an image in spite of the absence of said optical means.

3,437,748

MOTION PICTURE CAMERA SYSTEM

William R. Latady, 345 E. Gowen Ave., Philadelphia, Pa. 19119, and Norman Paul Kenworthy, Jr., 11915 Goshen Ave., Los Angeles, Calif. 90049

Continuation-in-part of application Ser. No. 454,287, May 10, 1965. This application Nov. 24, 1967, Ser. No. 685,438
Int. Cl. H04n 7/00
U.S. Cl. 178—6.8 12 Claims



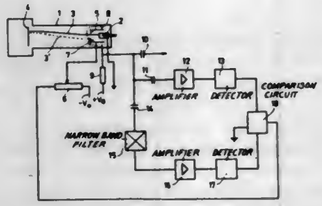
A motion picture camera system including a motion picture camera which is mounted on a support means permitting selective X, Y and Z movement as well as rotation. An elongated lens tube extending from the motion picture camera terminates in an angularly adjustable mirror which directs an image into the lens tube and camera. A television camera is mounted with the motion picture camera to view the image recorded by the motion picture camera either by means of a beam splitting arrangement or by directing the television camera into the view finder or a reflex motion picture camera. The image photographed may thus be simultaneously viewed remotely on a television receiver and the movement of the camera gauged and remotely controlled according to the image presented on the television screen.

3,437,749

BEAM CURRENT CONTROL CIRCUIT FOR TELEVISION CAMERA PICK-UP TUBE

Adrianus Klem, Delft, Netherlands, assignor to N.V. Optische Industrie "De Oude Delft," Delft, Netherlands, a corporation of the Netherlands

Filed Oct. 4, 1965, Ser. No. 492,415
Claims priority, application Netherlands, Oct. 6, 1964, 6411589
Int. Cl. H04n 5/38
U.S. Cl. 178—7.2 2 Claims



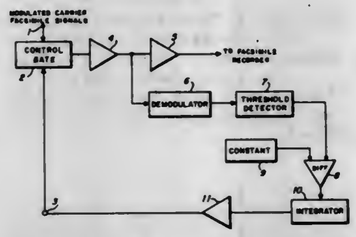
A beam current control system for an image orthicon television camera which automatically controls the scanning beam intensity in response to variations in the output signal. The system derives its control signal from a comparison circuit comparing two unidirectional voltages, one proportional to the video signal and the other proportional to the high frequency noise level in the output signal, and tends to maintain a constant ratio between the two voltages.

3,437,750

AUTOMATIC GAIN CONTROL CIRCUIT FOR FACSIMILE RECORDER

Earl G. Hedger, San Diego, Gary R. Huckell, El Cajon, and Daniel R. Leonard, San Diego, Calif., assignors to the United States of America as represented by the Secretary of the Navy

Filed Nov. 4, 1965, Ser. No. 506,907
Int. Cl. H04n 5/38, 5/52
U.S. Cl. 178—7.3 5 Claims



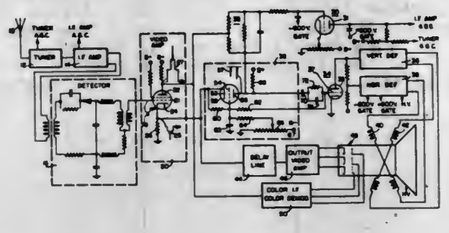
An AGC system is provided for a facsimile recorder in which the received facsimile signal is demodulated and applied to a threshold detector. The detector performs the function of passing only signals having a magnitude equal to that of the facsimile phasing pulses. The signals thus passed are applied to a differential amplifier and subsequently to an integrator. The resultant integrated voltage is then employed to control the magnitude of the received signals before demodulation.

3,437,751

SIGNAL TRACKING NOISE CANCELLATION FOR TELEVISION RECEIVER

Robert B. Hansen, Arlington Heights, Ill., assignor to Motorola, Inc., Franklin Park, Ill., a corporation of Illinois

Filed Oct. 24, 1965, Ser. No. 504,840
Int. Cl. H04n 3/16, 5/44
U.S. Cl. 178—7.5 3 Claims



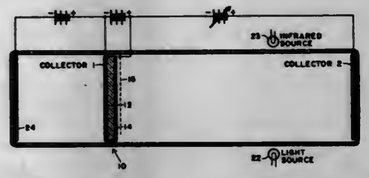
A noise pulse separating device is coupled to a television signal source so that only the alternating current portion is applied thereto. A fixed bias applied to the separating device causes amplitude separation of the noise from the television signal to be used for cancellation purposes. A control signal from the synchronizing signal separator is variable with the alternating current component of the signal and is applied to the separating device to change the fixed bias for differing signal levels.

3,437,752

APPARATUS FOR ELECTRON SMOOTHING IN IMAGE DISSECTOR TUBES

Holland C. Ford, Inglewood, Calif., assignor to the United States of America as represented by the Secretary of the Navy

Filed Sept. 29, 1965, Ser. No. 491,467
Int. Cl. H01j 29/00, 29/89
U.S. Cl. 178—7.87 4 Claims



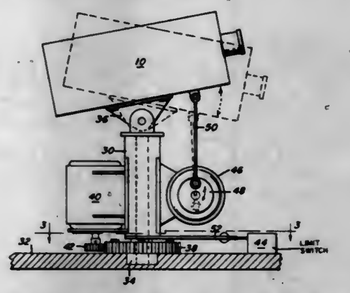
A dissector type low-light-level imaging tube system capable of storing an image indefinitely or integrating a stationary scene for any desired period having a target which simultaneously emits electrons and provides smoothing action, i.e., both provides image intensification and improves the signal to noise ratio of the electron image; the target being a thin film sandwich consisting of a dielectric, in which conduction is induced by electron bombardment, sandwiched between a thin metal conductor and a thin metal photoemitting grid.

3,437,753

PAN AND TILT TELEVISION CAMERA

Joe D. Stith, Muskogee, Okla., assignor to Coburn Manufacturing Company, Inc., Muskogee, Okla., a corporation of Oklahoma

Filed Dec. 7, 1965, Ser. No. 512,058
Int. Cl. H01j 29/02; H04n 3/10; G03b 17/00
U.S. Cl. 178—7.81 2 Claims



This invention is directed to a remote control system for controlling the orientation of remotely positioned cameras. The system comprises a network of switches for actuating electric motors each of which are mounted on the camera support. One motor causes a horizontal scanning movement of the camera through a gear arrangement; another motor causes a vertical scanning movement of the camera through a crank and pitman arrangement.

3,437,754

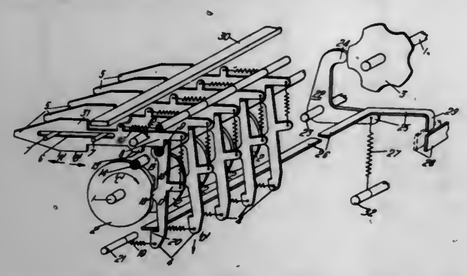
TELEGRAPH RECEIVERS

Frank Arthur Moore, Croydon, Surrey, England, assignor to Creed & Company Limited, Croydon, Surrey, England, a British company

Filed May 19, 1965, Ser. No. 456,956
Claims priority, application Great Britain, July 28, 1964, 29,980/64
Int. Cl. H04l 15/24
U.S. Cl. 178—33 5 Claims

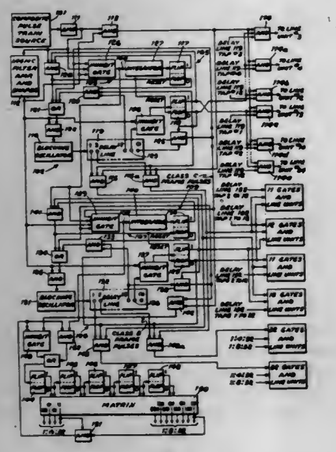
A teleprinter selector mechanism in which there are four components specifically engaged in the mechanical translation and transfer of electrical signals under the con-

trol of receiver cams, a control cam and a solenoid. The mechanism includes a set of code bar setting members each normally retained in a rest position, indicative of a "space" element of a code combination, by a corresponding one of a like number of code levers. The code levers are acted on sequentially by corresponding ones of a like number of receiving cams, during reception of a code combination, to pivot each from a first position to a second position while retaining the corresponding code bar setting member in the position in which it is indicative of a "space" element. In the event that an element of the



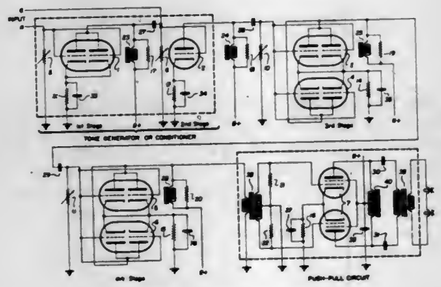
received combination is in the "mark" condition a code lever setting bar is acted on by a control cam and an interposer under the control of the receiver electromagnet to cause the corresponding code lever to move from the setting (second) position to a third position, which movement permits the corresponding code bar setting member to move from the rest position indicative of a "space" element to a position in which it is indicative of a "mark" element. On termination of reception of all the elements, the code bar setting members reside in positions representative of element conditions of the received code combination.

3,437,755
MULTIPLEX CHANNEL GATE PULSE GENERATOR FROM AN INTERMIXTURE OF TIME DIVISION MULTIPLEX PULSE TRAINS
Warren G. Brown, River Vale, N.J., assignor to International Telephone and Telegraph Corporation, a corporation of Delaware
Filed Mar. 11, 1965, Ser. No. 439,037
Int. Cl. H04l *5/22*; **H03k** *5/06, 3/04*
U.S. Cl. 178—50 **19 Claims**



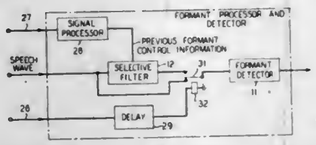
Channel gate pulses are produced for an intermixture of three TDM trains of different repetition rates by a first delay line and logic circuitry to produce and synchronize channel gate pulses for a first TDM train in response to the intermixed pulse trains, a second delay line and logic circuitry to produce and synchronize channel gate pulses for a second TDM train in response to the intermixed pulse trains and a control signal from the first logic circuitry indicating synchronization therein, and a counter and decoding matrix to produce and synchronize channel gate pulses for a third TDM train in response to a control signal from the second logic circuitry indicating synchronization therein. The delay lines each have at least half as many taps as required to produce the associated channel gate pulses, the delay line being triggered by the intermixed trains and retriggered through the logic circuitry by the channel gate pulse appearing at the last tap of the delay line to produce the required number of channel gate pulses.

3,437,756
AUDIO AMPLIFIER PRODUCING HIGH FIDELITY SOUND REPRODUCTION
Robert E. Oliver, 143 Holly Hill Way, Los Gatos, Calif. 95030
Filed Apr. 8, 1966, Ser. No. 541,326
Int. Cl. H04m *1/00*; **H03f** *1/00, 3/00*
U.S. Cl. 179—1 **5 Claims**



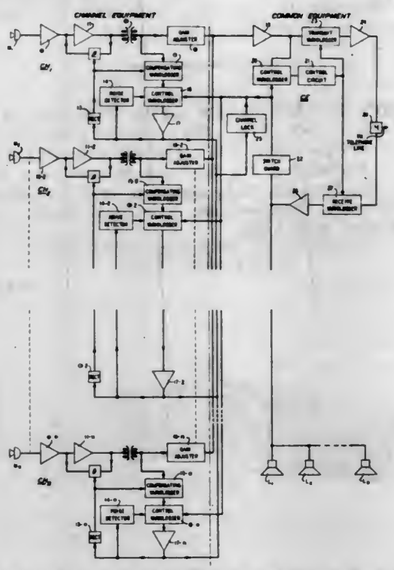
A special electron tube amplifier circuit utilizes more or less conventional components arranged in a novel manner. Combinations of unusual plate and grid resistances and amplification factors result in high fidelity sound reproduction without the use of special microphones or speakers.

3,437,757
SPEECH ANALYSIS SYSTEM
Cecil H. Coker, Berkeley Heights, N.J., assignor to Bell Telephone Laboratories, Incorporated, Murray Hill, Berkeley Heights, N.J., a corporation of New York
Filed June 15, 1966, Ser. No. 557,687
Int. Cl. H04b *1/66*; **G10l** *1/06*
U.S. Cl. 179—1 **10 Claims**



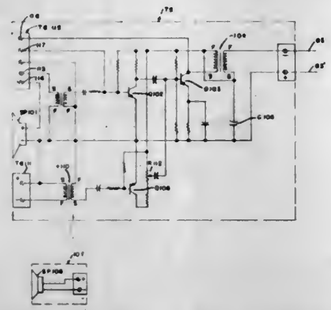
In a resonance vocoder, in order to avoid losing track of a formant during brief periods of unvoicing, a preemphasis filter is used to accentuate those frequencies in the incoming speech wave which are adjacent the formant frequency. Operation of the filter is delayed at the onset of voicing to allow the vocoder to locate the formants to be tracked.

3,437,758
CONFERENCE TELEPHONE SYSTEM
Frank J. Clement, Matawan, N.J., assignor to Bell Telephone Laboratories, Inc., Murray Hill, Berkeley Heights, N.J., a corporation of New York
Filed July 29, 1966, Ser. No. 568,951
Int. Cl. H04m *3/08*; **H04b** *3/20*
U.S. Cl. 179—1 **12 Claims**



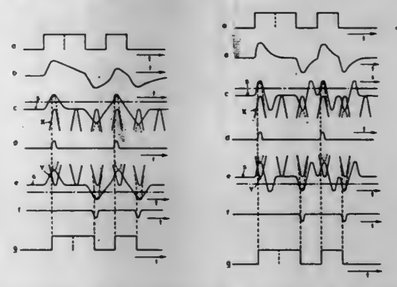
In a conference call circuit, the additive effects of noise are minimized by reducing the gain of all of the nonactive microphone channels proportional to the number of active channels. Similarly, each microphone channel is gain-controlled by the incoming signal.

3,437,759
BURGLAR ALARM DEVICE FOR DETECTING SOUNDS IN A PROTECTED AREA
George T. McKinzie, 2207 Ave. E, Bismarck, N. Dak. 58501
Continuation-in-part of application Ser. No. 424,313, Jan. 8, 1965. This application Oct. 21, 1965, Ser. No. 506,430
Int. Cl. H04m *11/04*
U.S. Cl. 179—5 **2 Claims**



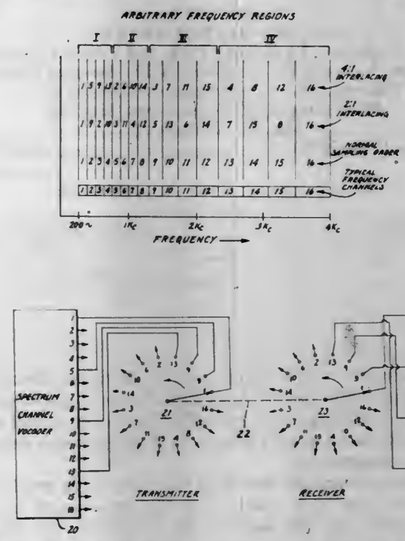
The invention comprises a receiver and pick up unit with telephone lines connecting said receiver unit to said pick up unit, said pick up unit being powered by said receiver unit via said telephone lines, said pick up unit being adapted to pick up sounds within its range and transmit them to said receiver unit, said receiver unit having an amplification system, a reproducing system, and a triggering system, said triggering system including adjustable means preventing amplification and reproduction of said sounds by said receiver unit until said sounds have reached a level set by said adjustable means, said receiver also including a second adjustable means to compensate for different lengths of telephone lines.

3,437,760
PULSE CODE MODULATION REPEATERS
Masao Kawashima, Yokohama-shi, and Tsukumo Higeta, Kawasaki-shi, Japan, assignors to Fujitsu Limited, Kawasaki, Japan, a corporation of Japan
Continuation of application Ser. No. 386,126, July 30, 1964. This application June 3, 1966, Ser. No. 562,038
Claims priority, application Japan, Mar. 9, 1962, 37/9,321
Int. Cl. H04j *3/08*
U.S. Cl. 179—15 **7 Claims**



An equalizer in a regenerative repeater of a pulse code communications system has a characteristic which is such that the total of the frequency characteristic of the transmission line and the frequency characteristic of the equalizer is a differentiated cosine-squared characteristic.

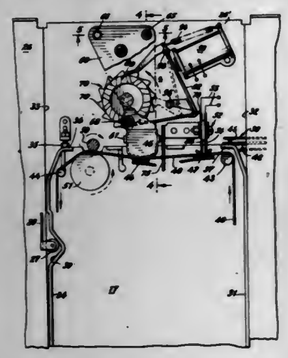
3,437,761
SPEECH APPARATUS WHICH PRODUCES A TIME-MULTIPLEX SIGNAL HAVING AN INTERLACE PATTERN
Robert W. Steele, Philadelphia, Pa., assignor to Philco-Ford Corporation, a corporation of Delaware
Filed Nov. 26, 1963, Ser. No. 326,170
Int. Cl. H04b *1/66*; **H04j** *3/18*
U.S. Cl. 179—15.55 **6 Claims**



Time-multiplex speech transmission method and appa-

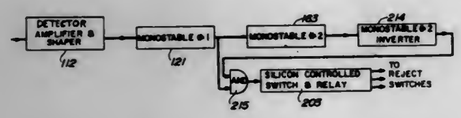
ratus in which the frequency spectrum of a speech signal is divided into a plurality of frequency bands each having a plurality of frequency channels and in which the channels are sampled in an interlace pattern.

3,437,762
MULTI-TRACK TAPE CARTRIDGE PLAYER
William P. Lear and Samuel H. Auld, Wichita, Kans., assignors to Lear Jet Industries, Inc., a corporation of Delaware
Filed Aug. 26, 1964, Ser. No. 392,213
Int. Cl. G11b *15/60*
U.S. Cl. 179—100.2 **3 Claims**



The magnetic tape player automatically accommodates multi-track magnetic tape cartridges, such as those containing tape in endless array. A cartridge is readily inserted in the player, and directly engaged in the play mode. The forward exposed portion of its tape is thereupon positioned and maintained at a predetermined level in the player during transport of the tape across the transducer, in play. A series of spaced cam regions actuate the transducer in step-by-step scanning across the tape and return, synchronized with the parallel record-tracks for continuous play of the inserted cartridge.

3,437,763
RECORD REJECT SYSTEM
Carl J. Anderson, La Grange Park, and Edwin J. Meixner, Mount Prospect, Ill., assignors to The Seeburg Corporation, Chicago, Ill., a corporation of Delaware
Filed June 8, 1966, Ser. No. 556,138
Int. Cl. G11b *3/08*
U.S. Cl. 179—100.4 **9 Claims**



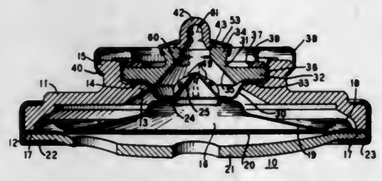
1. A record reject system of the character described and adapted for use in association with a phonograph in which a phonograph needle may pass over a wall separating two sections of a groove of a record being rotated for play comprising:

detection means for detecting relatively large amplitude signals that may result from the phonograph needle passing over the wall of the groove of the record being played;

timing means responsive to said detection means for determining if at least two of said relatively large amplitude signals occur in sequence at a time separation corresponding to the time of one revolution of the record; and

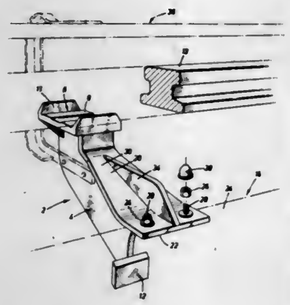
switching means operatively connected to said timing means and activated only upon the occurrence of at least two of said relatively large amplitude signals in sequence at said time separation to cause the record being played to be rejected.

3,437,764
CARBON TRANSMITTER WITH MOVING ELECTRODE FINS FOR GRANULE LOOSENING AND ENHANCED ELECTRODE COUPLING
Miles C. Huffstutler, Jr., Berkeley Heights, and Becky T. Kerns, Summit, N.J., assignors to Bell Telephone Laboratories, Incorporated, New York, N.Y., a corporation of New York
Filed Dec. 20, 1965, Ser. No. 515,059
Int. Cl. H04r *21/02*
U.S. Cl. 179—124 **9 Claims**



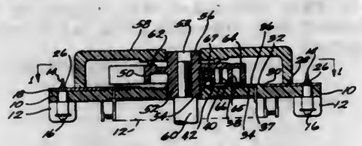
A study of granule packing in a carbon transmitter led to the identification of a region in the carbon aggregate which accounts for most of the resistance modulation. To assure that this region stays freest of packing, several fins are attached to the moving electrode and extended into the region. As the diaphragm is vibrated, the fins slice in and out of the region loosening the granules and promoting shear coupling particularly in that region.

3,437,765
SUPPORT MEANS FOR A CONDUCTOR RAIL
Johan L. Harmsen, 68 Hawkridge Ave., Markham, Ontario, Canada
Filed Apr. 13, 1967, Ser. No. 630,742
Int. Cl. B60m *1/30*
U.S. Cl. 191—32 **7 Claims**



A support member for a railway conductor rail made of electrical insulating material that is secured to a railway tie on a top surface and on an adjacent end surface. The railway tie is electrically insulated from the conductor rail.

3,437,766
TAP SWITCH ASSEMBLY WITH IMPROVED DETENT AND CONTACT STRUCTURE
Robert H. Ahrens, Milwaukee, Wis., assignor to Milwaukee Chaplet & Mfg. Company, Inc., Milwaukee, Wis., a corporation of Wisconsin
Filed Nov. 15, 1966, Ser. No. 594,536
Int. Cl. H01h *19/58, 21/78*
U.S. Cl. 200—11 **11 Claims**



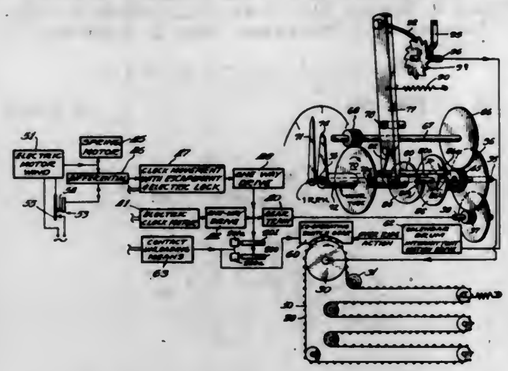
Terminal mounting blocks are mounted along the side or sides of a base plate. Centrally thereon is a printed circuit board having printed conducting leads radiating to the respective terminals and traversed by a rotatable contactor.

In the preferred construction the contactor comprises a switch carrier having a plurality of spring pressed contact balls, one of which moves from one to another of the radial printed contacts while another may traverse an annularly continuous contact ring.

The base board or the cover may have separate annular series of radial grooves for fixing operative circuit closing positions of the rotor, the rotor having spring pressed ball means or the like successively engaged in the grooves.

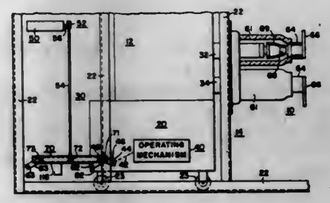
The rotor may provide 3-point engagement with supporting surfaces of the circuit board and base plate.

3,437,767
PROGRAM SYSTEM
Arvid N. Montgomery, Owensville, Ind., assignor to Du Kane Corporation, St. Charles, Ill., a corporation of Delaware
Continuation-in-part of application Ser. No. 259,083, Feb. 18, 1963. This application June 20, 1966, Ser. No. 558,894
Int. Cl. H01h *7/08, 43/10*
U.S. Cl. 200—38 **13 Claims**



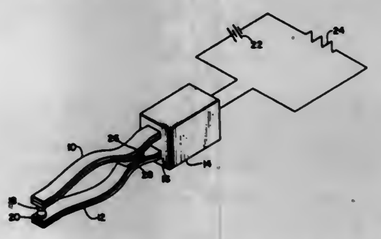
A master clock system for programming various electrical devices utilizes an endless belt of a plastic having limited elasticity. This belt has parallel regularly spaced control track apertures each one of which may accommodate a control pin. The belt is driven at horological speed by an electric synchronous motor under normal conditions and by an alternate means (as a conventional clock drive) in case of power failure. Each control track has a track follower finger means for actuating electric switch means, such follower cooperating with belt pins only during normal conditions when electric power is available. In the absence of power, the track follower finger means is clear of the belt tracks. A calendar means disables the track finger follower means for certain idle periods as Saturdays or Sundays, as an example. The track follower finger means is adapted to utilize available electric switch means and has lost motion finger mounting arrangements providing a sensitive and simple system. Fast and slow cams provide accurate timing control for belt pin control and for calendar drum control.

3,437,768
DRAWOUT SWITCHGEAR OPTIONALLY INTERLOCKED WITH AN AUXILIARY SWITCH
Robert D. Miller, Penn Hills, Pittsburgh, and Gordon G. Gernhardt, Swissvale, Pa., assignors to Westinghouse Electric Corporation, Pittsburgh, Pa., a corporation of Pennsylvania
Filed Sept. 18, 1967, Ser. No. 668,403
Int. Cl. H01h *9/20, 33/41*
U.S. Cl. 200—50 **6 Claims**



A switchgear structure having a drawout circuit interrupter disposed in a cubicle or housing and movable between test and operating positions is disclosed. An auxiliary switch means is mounted on the cubicle and is operatively connected to the operating mechanism of the circuit interrupter in the operating position of the circuit interrupter by a control means to be actuated between operating positions whenever the operating mechanism moves between corresponding operating positions. The auxiliary switch means is normally operatively disconnected from the operating mechanism of the circuit interrupter when the circuit interrupter is in the test position, but the control means is actuable to operatively connect the auxiliary switch means to the operating mechanism of the circuit interrupter to actuate the auxiliary switch means between operating positions upon the movement of the operating mechanism between operating positions when the circuit interrupter is in the test position.

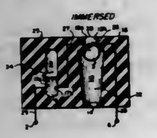
3,437,769
LIQUID SENSITIVE SWITCH
Thomas G. Vincent, Brooklyn Center, Minn., assignor to Honeywell Inc., Minneapolis, Minn., a corporation of Delaware
Filed Mar. 13, 1967, Ser. No. 622,525
Int. Cl. H01h *29/00*
U.S. Cl. 200—61.04 **5 Claims**



Ions are produced by wetting an area between two bimetal strips which have been treated with sodium chloride. The ions support a current flow when a potential

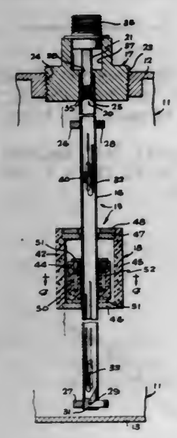
is impressed across the strips, the current heating the wetting agent and causing the bimetal strips to bend, contact, and complete a primary circuit.

3,437,770
AUTOMATIC UNDERWATER "AND" GATE SWITCH
Edward Piernik, Star Rte. 1, Box 224, Chesapeake Beach, Md. 20732
Filed Oct. 12, 1966, Ser. No. 587,378
Int. Cl. H01h 35/02, 35/14
U.S. Cl. 200—61.47 11 Claims



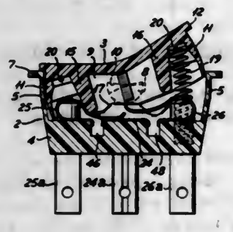
1. An AND gate switch unit for operation in an immersible fluid comprising:
a mass of electrically non-conductive material forming the body of said unit,
first and second gravity operable switches carried by said body and electrically connected in series relationship, and
means included in said second switch responsively operable to fluid pressure to maintain said second switch in closed circuit condition when said unit is immersed in fluid in a predetermined position,
said switches being oriented on said body in such manner that gravity will retain at least one of said switches in an open condition for any position of said unit when not immersed in a fluid.

3,437,771
LIQUID LEVEL SENSING MEANS
Henry Nusbaum, Los Angeles, Calif., assignor to Roylyn Incorporated, Glendale, Calif., a corporation of California
Filed May 9, 1967, Ser. No. 637,283
Int. Cl. H01h 35/18
U.S. Cl. 200—84 10 Claims



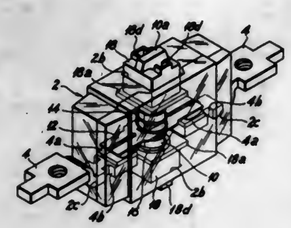
The application discloses a liquid level or sensing means embodying a two-element float with one element confined by the other with limited relative movement therebetween mounted on a vertical guide tube and carrying magnetic means to operate a magnetically sensitive switch or the like along the path of the float.

3,437,772
CONTACT STRUCTURE FOR ELECTRICAL SWITCHING DEVICE AND METHOD OF ASSEMBLY
Earl T. Piber, Milwaukee, Wis., assignor to Cutler-Hammer, Inc., Milwaukee, Wis., a corporation of Delaware
Filed June 6, 1966, Ser. No. 555,389
Int. Cl. H01h 9/00
U.S. Cl. 200—166 2 Claims



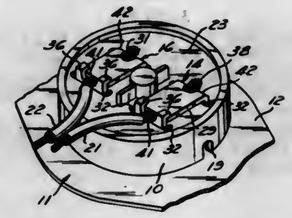
An electrical switch device wherein stationary and movable contacts and associated terminals of each pole are formed as a single piece preformed and then emplaced by a straight line tool motion in seated relation in the cavity of an insulating housing. Portions of each terminal extend exteriorly of the housing through individual apertures within which each terminal has an interference fit with the housing. By a subsequent straight line cutting tool motion portions between each contact are severed to isolate the same and their respective terminals from each other. An insulated rocker button having a snap-in mounting in the housing is pivotable to press portions of a movable contact into engagement with stationary contacts.

3,437,773
CONVERTIBLE ELECTRIC SWITCH MODULE
Nobel H. Koertge, Elm Grove, Wis., assignor to Cutler-Hammer, Inc., Milwaukee, Wis., a corporation of Delaware
Filed Aug. 24, 1967, Ser. No. 663,160
Int. Cl. H01h 3/00
U.S. Cl. 200—166 6 Claims



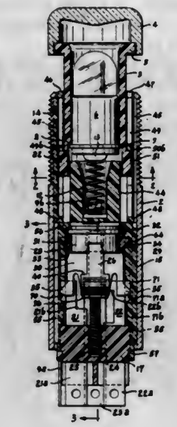
A metal contact carrier is guided at opposite ends for straight through movement in a transparent case by spring retainers which are slidable with respect to both the carrier and the case. Two springs bias the retainers against the respective ends of the carrier and abut a flange on the carrier and a bridging contact carried thereby, respectively. By fixing either retainer with respect to the case and pushing the opposite end of the carrier, either normally closed or normally open contact actuation modes may be achieved.

3,437,774
TERMINAL STRUCTURE FOR THERMOSTATS AND THE LIKE
Harold F. Snider, Mansfield, Ohio, assignor, by mesne assignments, to Therm-O-Disc, Incorporated, a corporation of Ohio (1968)
Filed Oct. 27, 1967, Ser. No. 678,691
Int. Cl. H01h 9/02
U.S. Cl. 200—166 9 Claims



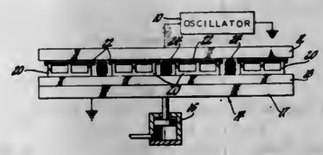
A terminal structure for thermostats or the like is described including an electrical terminal connector which is substantially immune to damage caused by vibration or end loading of a lead wire. The lead wire is welded to a U-shaped strap imbedded in the body of the terminal structure. The ends of the U-shaped strap mechanically grip the lead wire ahead of the weld to prevent vibration or end loads from reaching the weld. The strap is also provided with an opening through which the end of the wire projects to prevent spreading of the wire during welding. The structure is arranged to provide a low profile to minimize the space requirement of the terminal.

3,437,775
ILLUMINATED PUSHBUTTON SWITCH AND METHOD OF ASSEMBLING SAME
Earl T. Piber, Oconomowoc, Wis., assignor to Cutler-Hammer, Inc., Milwaukee, Wis., a corporation of Delaware
Filed Dec. 27, 1966, Ser. No. 604,707
Int. Cl. H01h 9/18
U.S. Cl. 200—167 13 Claims



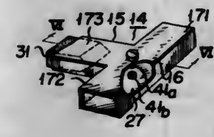
A pushbutton switch having a cylindrical outer shell and a flexible insulating liner. Before assembly the liner is initially planar with various functional surfaces molded therein. The liner is rolled and inserted into the outer shell where the molded functional surfaces cooperate with various movable parts of the switch. The inserted liner also serves to support various stationary parts such as a conductor strip which is retained between the liner and shell and insulated from the aluminum shell by an anodized layer.

3,437,776
DIELECTRIC HEATING DEVICE AND RF CONTROL COILS THEREFOR
Marvin G. Schaeffer, Farmington, and William A. Hays, Royal Oak, Mich., assignors to General Motors Corporation, Detroit, Mich., a corporation of Delaware
Filed Apr. 13, 1967, Ser. No. 630,723
Int. Cl. B23k 13/02
U.S. Cl. 219—10.53 6 Claims



In a dielectric embossing apparatus containing several embossing dies, RF tuning coils between the dies are releasably connected across the electrodes to minimize an uneven voltage distribution.

3,437,777
MICROWAVE HEATING APPARATUS
Torao Nagai, Yokohama-shi, Masanobu Aiura and Shuzo Tanaka, Tokyo, and Shu Chiba, Yokohama-shi, Japan, assignors to Tokyo Shibaura Electric Co., Ltd., Kawasaki-shi, Japan, a corporation of Japan
Filed June 13, 1967, Ser. No. 645,775
Claims priority, application Japan, June 17, 1966, 41/38,890; June 30, 1966, 41/42,225; Oct. 15, 1966, 41/67,423; Nov. 19, 1966, 41/75,756
Int. Cl. H05b 9/06
U.S. Cl. 219—10.55 13 Claims

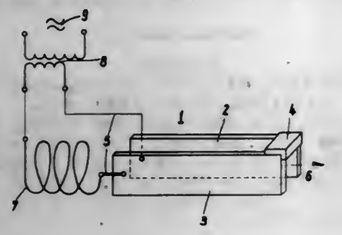


A waveguide connection interconnected between a microwave oscillator for supplying microwave energy and an enclosed heating cavity defined by a metal wall structure comprises at least one circulator in the form of a branched rectangular waveguide arranged to lead microwave energy reflected from the heating cavity to a microwave absorber so as to prevent the reflected microwave from returning to the microwave oscillator.

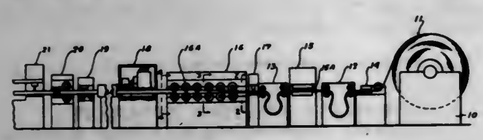
3,437,778
APPARATUS FOR INDUCTIVELY HEATING ELECTRICALLY CONDUCTING WORKPIECES
Gerhard Seulen and Axel von Starck, Remscheid, Germany, assignors to AEG—Elotherm G.m.b.H., Remscheid-Hasten, Germany
Filed Oct. 27, 1966, Ser. No. 589,888
Claims priority, application Germany, Dec. 1, 1965, A 50,926
Int. Cl. H05b 5/08, 5/02
U.S. Cl. 219—10.71 6 Claims

An electrically conducting workpiece is inductively

heated by advancing it through an inductor-produced magnetic field first extending in one direction and subsequently extending in another direction disposed at right angles to the one direction.

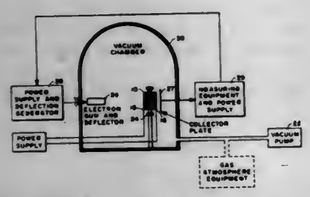


3,437,779
TUBING
Charles W. Attwood, 4077 2nd St., Wayne, Mich. 48184
Original application July 2, 1962, Ser. No. 206,888. Divided and this application Mar. 14, 1966, Ser. No. 553,592
Int. Cl. B23k *31/06*
U.S. Cl. 219—59 9 Claims



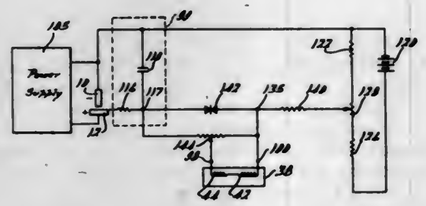
A method of forming a tubular structural member includes the steps of perforating a flat sheet of metal, bending the metal sheet into the desired cross sectional shape with the edges of the sheet meeting at a corner of the tube, welding the tube together at the corner, and rounding the outer surfaces of the corners so that the inner flash material from the weld will not interfere with telescoping one of such tubes into the next larger size tube.

3,437,780
DEVICE FOR MEASURING AND EQUALIZING THE GAIN CHARACTERISTICS OF CHANNEL IMAGE INTENSIFIER ARRAYS
Klaus J. Hecker, Oberursel, Germany, assignor to the United States of America as represented by the Secretary of the Navy
Filed May 24, 1965, Ser. No. 458,523
Int. Cl. B23p *1/00*; H01j *39/12*; B23k *9/00*
U.S. Cl. 219—68 4 Claims



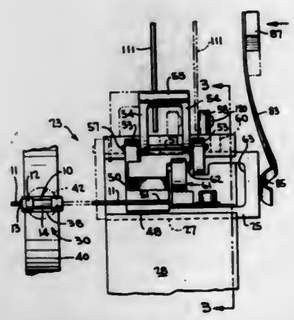
A device is provided for measuring and equalizing the gain characteristics of individual elements of a channel image intensifier array. The channel image intensifier array consists of a plurality of tube elements stacked in parallel relationship having their inner surfaces of a conductive secondary emissive material and electrode means on each end thereof. An electron beam of variable intensity is directed at the input surface of the channel image intensifier array such that electrons emerge from the output surface of the array onto a collector plate. A measuring means is connected to the collector plate for measuring one-by-one the gain of the different elements of the array which in turn supplies this information to an electron beam deflection system which controls the electron beam such that the gain characteristics of the individual elements is equalized.

3,437,781
SERVO FEED SYSTEM FOR ELECTRICAL DISCHARGE MACHINING
Robert S. Webb, Bloomfield Hills, Mich., assignor, by mesne assignments, to Elox Inc., Troy, Mich., a corporation of Delaware
Filed Sept. 16, 1965, Ser. No. 487,744
Int. Cl. B23p *1/08*; G05b *11/00*
U.S. Cl. 219—69 6 Claims



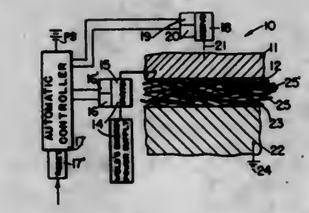
A spark discharge servo feed system for controlling gap spacing between electrode and workpiece. The system includes a gap voltage sensing means, a reference voltage source, and an electrically operated motive means connected therebetween. A velocity control potentiometer is connected across the motive means and a double anode refrence diode across the variable resistor of the potentiometer for providing a maximum vlotage limit thereacross.

3,437,782
METHODS OF AND APPARATUS FOR PERCUSSIVELY WELDING AN ELEMENT TO AN OBJECT
Wilhelm E. A. Schmidt, Winston-Salem, N.C., assignor to Western Electric Company, Incorporated, New York, N.Y., a corporation of New York
Filed Mar. 24, 1965, Ser. No. 442,254
Int. Cl. B23k *9/22, 11/12*
U.S. Cl. 219—95 7 Claims



This disclosure concerns percussive welding of a wire lead to a metal cap of an electrical component. A wire lead is inserted in a chuck which exerts a predetermined gripping force. A potential difference is established between the lead and the metal cap. The chuck is then accelerated with an initiating force that is only applied during a portion of the movement toward the component. The inertia of the chuck impacts the lead against the cap and a discharge is obtained. Upon impact the motion of the lead is terminated while the chuck continues to move, sliding over the lead to prevent it from rebounding from the cap during welding.

3,437,783
MATTE STRUCTURE AND METHOD OF PRODUCING SAME
Jerome H. Lemelson, 85 Rector St., Metuchen, N.J. 08840
Continuation-in-part of applications Ser. No. 239,034, Nov. 20, 1962, and Ser. No. 241,904, Dec. 3, 1962. This application July 26, 1966, Ser. No. 573,148
Int. Cl. B23k *9/00*
U.S. Cl. 219—117 8 Claims

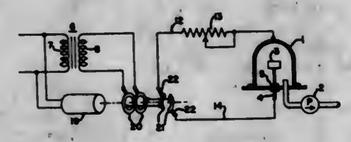


Methods for producing new and improved matte structures and composite structures which include arrays of welded filaments.

The composite structures have applications as filter elements and structural elements for use at elevated temperatures and where extreme physical loading is experienced. The structures are made of elongated wire or whisker elements which are welded together where they cross.

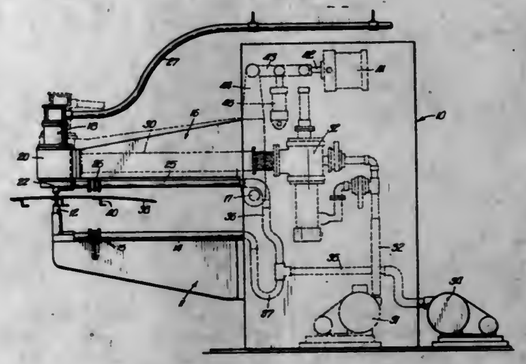
Composite matte structures are also provided which include plate-like, frame or lattice support means for a matte of filament elements which are welded to the support means.

3,437,784
POWER SUPPLY FOR REDUCING ARCING DAMAGE IN GLOW DISCHARGE APPARATUS
Claude K. Jones, Marblehead, and Stuart W. Martin, Salem, Mass., assignors to General Electric Company, a corporation of New York
Filed Feb. 16, 1966, Ser. No. 527,666
Int. Cl. B23k *9/06*
U.S. Cl. 219—121 4 Claims



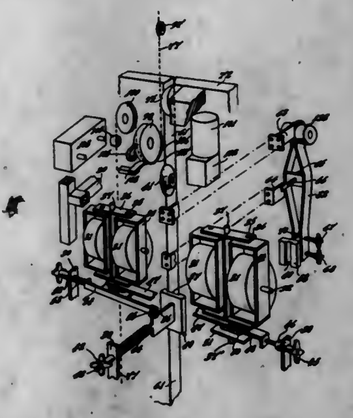
Glow discharge voltage is periodically applied to establish a glow for time interval less than that in which arcing damage would occur on work piece and then glow is extinguished for time interval sufficient for ions to recombine should arc have occurred. The glow establishing and extinguishing intervals are continuously alternated.

3,437,785
METHOD FOR ELECTRON BEAM WELDING OF OVERLAPPED SHEETS
David Sciaky, Chicago, Ill., assignor to Welding Research, Inc., Chicago, Ill., a corporation of Illinois
Filed May 6, 1966, Ser. No. 548,199
Int. Cl. B23k *9/08, 37/02, 11/10*
U.S. Cl. 219—121 7 Claims



A method of spot welding overlapped sheets by an electron beam apparatus is disclosed. The electron beam apparatus includes an upper and lower arm member for clamping the overlapped sheets between opposed tubular dies so that each die has surrounding relation with the area to be welded. Sufficient pressure is then applied to the dies such that an annular seal is formed at the dies and at the mating surfaces of the overlapped sheets. The dies are then evacuated and an electron gun is energized to spot weld the respective sheets.

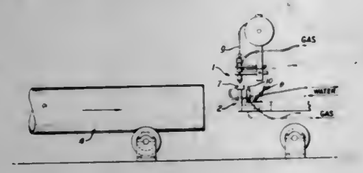
3,437,786
MAGNETIC CRAWLER
Rene D. Colinet, Philadelphia, and James E. Norcross, Media, Pa., said James E. Norcross assignor to Arcos Corporation, Philadelphia, Pa., a corporation of Pennsylvania, and said Rene D. Colinet assignor to Industrial Research Laboratory, Inc., Philadelphia, Pa., a corporation of Pennsylvania
Filed Feb. 21, 1966, Ser. No. 529,092
Int. Cl. B23k *9/12*
U.S. Cl. 219—126 4 Claims



A carriage capable of travelling upward along a vertical weld groove, carrying with it shoe means for retaining molten metal in the groove, guided by a guiding roll

in the weld groove, raised by hoisting means and held against magnetic work by free idling magnetic rolls.

3,437,787
DUAL ARC WELDING PROCESS
John J. Chyle, Milwaukee, Wis., assignor to A. O. Smith Corporation, Milwaukee, Wis., a corporation of New York
Filed July 20, 1965, Ser. No. 473,334
Int. Cl. B23k *9/02, 9/16*
U.S. Cl. 219—137 7 Claims



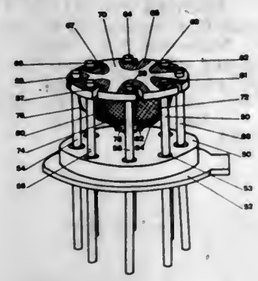
This disclosure relates to a welding method employing a consumable, "leading" gas-shield electrode disposed on one side of the work and a nonconsumable, "following" electrode disposed on the other side and following the consumable electrode by 1½ to 3 inches. The electrode spacing is fixed and the electrodes are moved as a unit relative to the work at approximately 40 inches per minute. The leading electrode provides penetration to within about 1/16 to 1/8 inch of the opposite side of the workpiece. The following electrode provides sufficient additional heat and fusion energy from the opposite side to create an overlap of at least .010 inch between the two fusion zones.

3,437,788
PROCESS FOR HYPODERMIC NEEDLES HAVING PLASTIC HUBS AND METAL CANNULAE
Robert Crawford Lingley, Dover, Mass., assignor to Baxter Laboratories, Inc., Morton Grove, Ill., a corporation of Delaware
Original application May 4, 1960, Ser. No. 26,893. Divided and this application Apr. 13, 1964, Ser. No. 364,351
Int. Cl. H05b *3/00*; B29c *27/30*; A61m *5/32*
U.S. Cl. 219—162 3 Claims



A hub is secured to a cannula by setting hub plastic which has been heated to a flowable state by passing an electric current between a pair of cannulae connected electrodes one of which supports the hub.

3,437,789
THERMALLY STABILIZED ELECTRONIC ASSEMBLY
Roger Charbonnier, 15 Rue Emile, Meudon 92, France, and Jean Royer, 22 bis Par de Montretout, Saint-Cloud 75, France
Filed Sept. 28, 1966, Ser. No. 582,662
Claims priority, application France, Oct. 7, 1965, 34,127
Int. Cl. H05b *1/02, 11/00*
U.S. Cl. 219—209 2 Claims

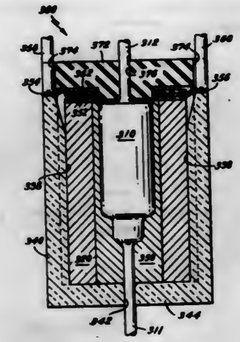


1. An electronic assembly comprising: a base; at least one circuit component; a support of thermosensitive material presenting a rapid increase of electric resistance in a range of regulation situated on both sides of a critical reference temperature, said support having first and second faces, said first face being in thermal contact with said circuit component; a plurality of electric current conductors mounted on the periphery of said base, said conductors having rigid portions of substantially the same length on one side of said base, substantially at right angles to the surface thereof, a thermally conductive plate of electrically insulating material mounted at the ends of said rigid portions substantially parallel to said base, said plate being in thermal contact with said second face, and means connecting said circuit component and the first and second faces of said thermosensitive support to said electric current conductors, said first face being coupled to the ambient temperature through a first thermal resistance, said second face being coupled to the ambient temperature through a second thermal resistance, said first thermal resistance being substantially larger than said second thermal resistance.

3,437,790
COMPONENT OVEN
Leo Marcoux, Pawtucket, R.I., assignor to Texas Instruments Incorporated, Dallas, Tex., a corporation of Delaware
Original application Oct. 24, 1965, Ser. No. 508,643, which is a continuation-in-part of application Ser. No. 435,166, Feb. 25, 1965. Divided and this application May 27, 1968, Ser. No. 732,409
Int. Cl. H05b *1/00*
U.S. Cl. 219—210 12 Claims

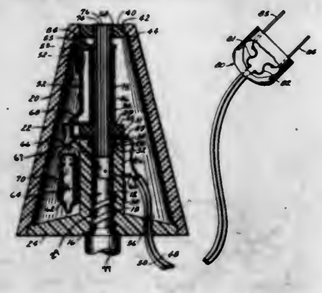
Method and means for providing a relatively constant ambient for temperature sensitive devices are disclosed. The method includes the steps of forming an enclosure, in which the controlled ambient will be effected, at least partially of material having a positive temperature coefficient of resistance (hereinafter referred to as PTC) and applying a voltage thereto. The material acts as a heater and also as its own temperature regulator. The enclosure is formed by various structures or means including a single hollow cylindrical element, a stack of annular discs and two or more pieces of PTC material. Another embodiment discloses a design particularly useful

with transistor-type devices while yet another is particularly useful with diode-type devices. Several materials



are disclosed which exhibit a PTC characteristic useful in the practice of this invention.

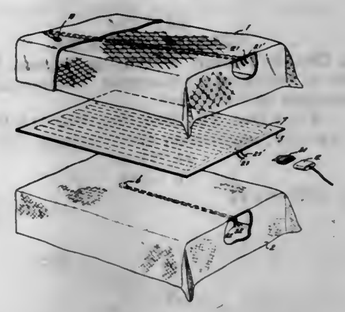
3,437,791
ELECTRICAL HEATING ATTACHMENT FOR AEROSOL CANS
Charles S. Gardner, 3408 S. Manhattan Ave., Tampa, Fla. 33609
Filed Oct. 21, 1965, Ser. No. 499,848
Int. Cl. H05b *3/06*
U.S. Cl. 219—301 3 Claims



A heating attachment detachable securement to the valve stem of an aerosol can has a sealed chamber with a discharge passage extending therethrough. The passage is in communication with the valve stem and receives products discharged from the can. A thermostatically controlled electric heating coil is provided about the passage to heat the discharged products. A gravity operated switch in the housing permits energization of the heating coil only when the can is tilted. Short circuit protection is provided by fuses located in the plug portion of the attachment power cord. An adapter permits use of the attachment with cans having horizontally oriented discharge valves.

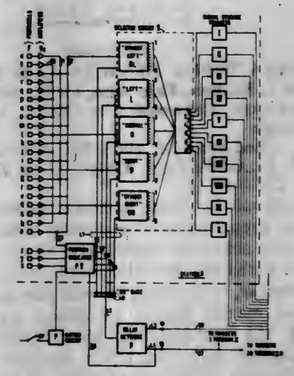
3,437,792
ELECTRICAL HEATING DEVICE WITH TEMPERATURE CONTROL MEANS
Peter Lauck III, Princeton, N.J., assignor, by direct and mesne assignments, to J. P. Stevens & Co., New York, N.Y., a corporation of Delaware
Filed Oct. 31, 1967, Ser. No. 679,467
Int. Cl. H05b *1/02*
U.S. Cl. 219—505 13 Claims

An electrical heating device which comprises an integrated structure having three connected layers or plies of material for use as an electric blanket and the like. The first layer comprises a decorative layer that may be used as a cover. The second layer is normally positioned adjacent to the selected area to be heated. A third layer is interposed between the first and second layers and contains a heating element that is substantially coextensive with the area to be heated. The second layer is of sufficient size so that, when the heating device is used as an electric blanket, it may be tucked into the bed. The first



layer is of sufficient size so that it may then be used as a decorative bed cover. An electrical control circuit including an electronic switch that comprises a thyristor is used to control activation of the heating element, and comprises a temperature control means mounted in the second layer that functions to maintain the selected area at a temperature determined by temperature selection means mounted in the first layer.

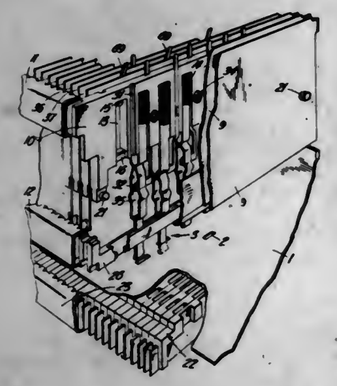
3,437,793
INFORMATION BEARER AND PHOTO-ELECTRIC READING DEVICE THEREFOR
Petrus Ludovicus Maria van Berkel, Voorburg, and Arie Adriaan Spanjersberg, Leidschendam, Netherlands, assignors to De Staat der Nederlanden, ten Deze Vertegenwoordigd Door de Directeur-Generaal der Posterijen, Telegrafie en Telefonie, The Hague, Netherlands
Continuation-in-part of application Ser. No. 82,495, Jan. 13, 1961. This application Feb. 11, 1965, Ser. No. 431,926
Int. Cl. G06k *15/18*
U.S. Cl. 235—61.7 11 Claims



A photoelectric reading device for an information bearer having a grid of columns and rows of marking areas aligned with synchronization marks, which device includes a light filter means so that only the synchronization marks and marks made in the marking areas are detected by the photoelectric reading device. This device

also includes means for indicating the relative position of the bearer wtih respect to the photoelectric scanners, and selector means responsive to this position indicating means for controlling which scanners will be connected to detect the marks made in the marking areas. Also this device has two successive scanning stations for each of the marks read, and means for comparing the scanning results from each station for the detection of errors.

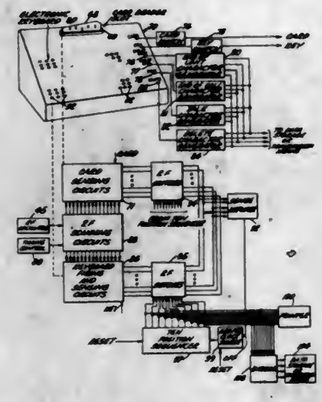
3,437,794
SENSING DEVICES
Stanley Thomas Deakin, Walton-on-Thames, England, assignor to Sealectro Corporation, Mamaroneck, N.Y., a corporation of New York
Filed Dec. 15, 1964, Ser. No. 418,479
Claims priority, application Great Britain, Dec. 17, 1963, 49,792/63
Int. Cl. G06k *7/04*
U.S. Cl. 235—61.11 **15 Claims**



A card reader for sensing the data holes in a punched data card. A plurality of pins, one for each hole space, are arranged for resilient application to the card. The pins sense a hole, pass through the card and cause an electrical contact to be made between the sensing pin and the turned-over end of a fixed conductive pin. The pins which do not sense a hole, limit against the surface of the card, compressing an operating spring, and no contact is made. The sensing pins are returned to normal by a series of bails.

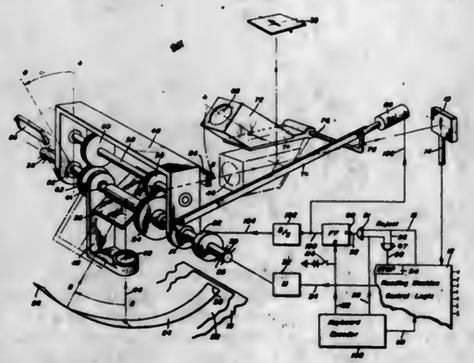
3,437,795
DATA INPUT DEVICES AND SYSTEMS
Maynard J. Kuljian, Palo Alto, Calif., assignor to Ampex Corporation, Redwood City, Calif., a corporation of California
Filed June 28, 1965, Ser. No. 467,494
Int. Cl. G06k *7/00;* **H01h** *35/00;* **H04m** *1/26*
U.S. Cl. 235—61.11 **4 Claims**

An electronic keyboard system composed of completely electronic, capacitive sensing circuits which are responsive to manually actuated, capacitance variations. A plurality of circuit paths are provided, each including an exposed touch member, and energized with bias means such as an RF signal means. Signal variations are introduced by changing the conductance characteristics created by human contact with the touch member. A number of signal channels may be arranged to cooperate with a single sense amplifier that responds to all channels of input sources formed of, for example, a punched card reader and a manual keyboard in accordance with the invention. The use of a single sense amplifier is possible by employing both a column scanning circuit and a row sequencer which scan the card; i.e., the scanning circuit steps through the columns and the signal channels are scanned by the row sequencer. The row sequencer stops upon the detection of a data signal manifestation whereby



the position of the row sequencer when stopped is an indication of the numerical value of the hole in the punched card.

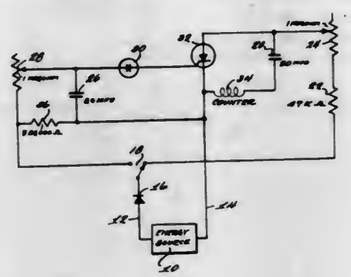
3,437,796
READING MACHINE OPTICAL SYSTEM FOR SELECTED SCANNING AND DISPLAY
Edward F. Lapornik, Washington, D.C., assignor to Control Data Corporation, Rockville, Md.
Filed Oct. 18, 1965, Ser. No. 496,989
Int. Cl. G06k *7/00;* **G01n** *21/30;* **H04n** *3/00*
U.S. Cl. 235—61.11 **7 Claims**



A character reading machine optical system which provides a fixed-length optical path between a document and the machine scanner while presenting to the scanner images of successive characters of a line of print of appreciable length on the document. The optical system includes a lens and mirror assembly which is movable upon a command signal into optical path to display one or more of the characters and movable from the optical path, unblocking it and enabling the images to be formed on the scanner.

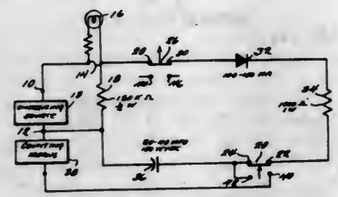
3,437,797
ELECTRONIC DEFECT COUNTER
Littleton Upshur, Greensboro, N.C., assignor to Burlington Industries, Inc., Greensboro, N.C., a corporation of Delaware
Filed Sept. 17, 1965, Ser. No. 488,167
Int. Cl. G06f *7/38;* **G06g** *7/02*
U.S. Cl. 235—92 **12 Claims**

Apparatus for counting the number of service operations that a machine operator performs and for preventing fraudulent or inadvertent attempts on the part of the operator to register a false number of counts wherein a first time interval is determined by the charging of a capacitor through a potentiometer so a count cannot be registered



until after the passing of the first time interval. This first time interval commences with the initiation of the service operation. A second time interval is initiated at the completion of the service operation and is determined by a second capacitor and resistor combination.

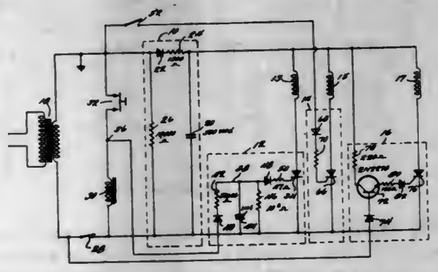
3,437,798
ELECTROMECHANICAL DEFECT COUNTER
Myron Scott Stringer, Florence, Ala., assignor to Burlington Industries, Inc., Greensboro, N.C., a corporation of Delaware
Filed Sept. 17, 1965, Ser. No. 488,168
Int. Cl. G06f *7/38;* **G06g** *7/02*
U.S. Cl. 235—92 **14 Claims**



Apparatus for counting the number of service operations that a machine operator performs for preventing fraudulent attempts on the part of the operator to register a false number of counts of the service operations performed by the operator wherein two time delay relays are actuated by a cam arrangement and in conjunction with a counter-actuating capacitor enable the counter to record only legitimate service operations. One of these relays permits energization of the counter only after a predetermined time interval has elapsed from the initiation of a repair while the other prevents a second count from being registered for a predetermined time after completion of a service operation.

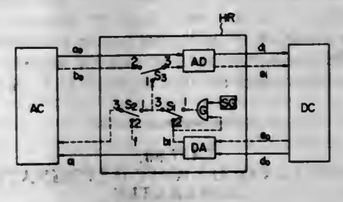
3,437,799
LOOM STOP COUNTER
Littleton Upshur, Greensboro, N.C., Raymond D. Joy, Clarksville, Va., and John M. Cochran, Jr., Greensboro, N.C., assignors to Burlington Industries, Inc., Greensboro, N.C., a corporation of Delaware
Filed Feb. 10, 1967, Ser. No. 615,178
Int. Cl. G06c *29/00*
U.S. Cl. 235—92 **11 Claims**

This invention relates to circuitry for counting the number of times which a loom stops. In particular, the circuitry provides three counts which respectively correspond to warp, filling and mechanical stops. The three counters are actuated from a single charged capacitor. When the warp stop motion is actuated, the warp stop counter is not energized until an appropriate delay occurs to ensure that false counts are not registered whenever the warp stop motion is only momentarily actuated, which is often the case. Further, the invention employs an improved switch for actuating the filling stop counter whenever a filling stop is sensed. This switch comprises a metal-sheathed magnetic reed switch inserted into an



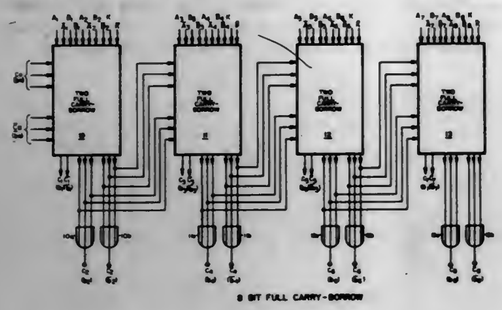
aluminum block, mounted, for example, on the loom structure. This switch is actuated, whenever a filling stop is sensed, by the movement of a magnetic member to a position adjacent the switch to close the contacts thereof. Hence, accidental closure of this switch during maintenance of the loom is prevented. The mechanical stop counter section is so interrelated with the other two sections that whenever a loom stop occurs that is due neither to warp or filling stop motions, the mechanical stop counter is actuated.

3,437,800
SYNCHRONOUS AND ASYCHRONOUS CONTROL FOR HYBRID COMPUTER
Takeo Miura, Kokubunji-shi, Tokyo-to, and Chikafusa Hirano, Kodaira-shi, Tokyo-to, Japan, assignors to Kabushiki Kaisha Hitachi Seisakusho, Tokyo-to, Japan, a joint-stock company of Japan
Continuation-in-part of application Ser. No. 346,448, Feb. 21, 1964. This application Jan. 23, 1968, Ser. No. 699,883
Int. Cl. G06j *1/00*
U.S. Cl. 235—150.5 **1 Claim**



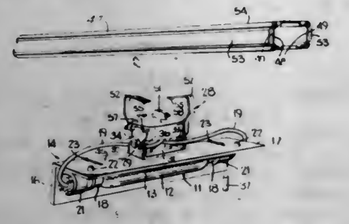
A hybrid computer of the type that is provided with an analog computer, a digital computer and conversion means between the analog and digital computers, has a synchronous pulse generator, an AND-gate circuit, three interconnected switching means, means for applying the logical product and a completion signal to the respective switching means, and means for producing a hold signal, whereby shifting may be accomplished among the computation systems and control methods of the analog and digital computers.

3,437,801
CARRY-BORROW SYSTEM
Frederick A. Wilhelm, Jr., Eatontown, N.J., assignor to Electronic Associates Inc., Long Branch, N.J., a corporation of New Jersey
Filed May 23, 1966, Ser. No. 552,033
Int. Cl. G06f *7/385, 7/42, 7/50*
U.S. Cl. 235—175 21 Claims



The specification describes an improved carry-borrow system utilizing a plurality of NOR circuits wherein the inversion logic required by the prior art is eliminated by the use of both the true and complementary carry-borrow equations.

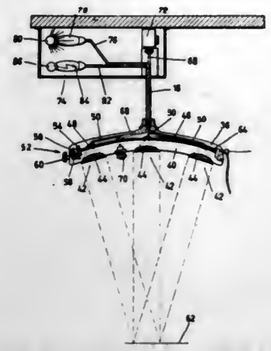
3,437,802
HIGH INTENSITY LIGHTING FIXTURE
Charles Intrator, 31 Western Drive, Ardsley, N.Y. 10502
Continuation-in-part of application Ser. No. 556,130, June 8, 1966. This application Dec. 11, 1967, Ser. No. 691,683
Int. Cl. G03b *15/02*
U.S. Cl. 240—1.3 14 Claims



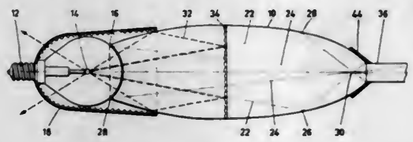
A lamp having a high intensity linear light bulb (e.g. having a color temperature of over 3100° K.) mounted in the open angle of an L-shaped reflector whose planes are substantially parallel to the bulb. The sides of the reflectors which face the bulb have satin surfaces thereon. The reflector is carried on a support structure which is adjustably mounted on a channel having parallel bus bars. The parallel bus bars cooperate with the support structure to electrically connect the light bulb to a source of potential.

3,437,803
SURGICAL COLD LIGHT ILLUMINATING APPARATUS
Ernst-Otto Seitz, Hanau, Volker Schafer, Bruchkobel B., Hanau, and Juergen F. Schafer, Gelnhausen, Germany, assignors to Quarzlampen Gesellschaft m.b.H., Hanau am Main, Germany
Original application Apr. 5, 1965, Ser. No. 445,530, now Patent No. 3,360,640, dated Dec. 26, 1968. Divided and this application Oct. 26, 1967, Ser. No. 678,316
Claims priority, application Germany, Apr. 11, 1964, Q 783
Int. Cl. F21v *33/00*; A61g *13/00*
U.S. Cl. 240—1.4 9 Claims

A surgical illuminating apparatus employing one or more sources of light and one or more fiberglass light conducting bundles arranged to conduct light from the source or sources to lenses suspended over a work area and to one or more sockets or connectors adapted to receive and impart light to flexible light conducting bundles which pass light on to instruments, cap lamps, handlamps, etc. The sockets or connectors are mounted on the lens support.



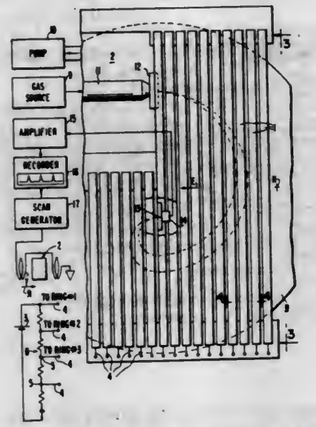
3,437,804
LIGHT TRANSMITTING DEVICE
Volker Schaefer, Bruchkobel, and Juergen Schaefer, Niedermittlau, Kreis Gelnhausen, Germany, assignors to Quarzlampen Gesellschaft mbH, Hanau am Main, Germany
Filed Apr. 5, 1965, Ser. No. 445,527
Claims priority, application Germany, Apr. 11, 1964, Q 784
Int. Cl. F21v *7/20*
U.S. Cl. 240—41.35 8 Claims



A light source is placed at one focus of an elliptical reflecting surface and a light transmitting fiber bundle is placed adjacent the other focus of the surface. A heat-blocking reflector is placed between the two foci and a heat radiation transparent reflector is placed behind the one focus. The reflecting surface can be the internal surface of a hollow body or it can be the surface of a transparent solid. The surface can be that of an ellipsoid of revolution or of a cylindrical ellipsoid. The fiber bundle is located such that all entering light rays are totally reflected within the bundle.

3,437,805
MATCHED ELECTRIC AND MAGNETIC FIELD HOMOGENEITY FOR OPTIMUM RESOLUTION CYCLOIDAL MASS SPECTROMETERS
Harmon W. Brown, Sunnyvale, Calif., assignor to Varian Associates, Palo Alto, Calif., a corporation of California
Filed Feb. 21, 1966, Ser. No. 528,755
Int. Cl. H01j *39/34*
U.S. Cl. 250—41.9 8 Claims

A high resolution cycloidal mass spectrometer is disclosed. The spectrometer includes an array of ring-shaped electrodes, separately energized with different electrical potentials for producing an ion focusing electric field at right angles to a D.C. magnetic field in which the array of electrodes is to be immersed in use. Gas to be analyzed is ionized in an ion source and the ions are projected into the analyzing region containing the crossed electric and magnetic fields. Under the influence of the crossed electric and magnetic fields the ions are caused to traverse a cycloidal trajectory with ions of a certain charge to mass ratio being focused at an ion detector. The magnetic or electric field intensity is scanned to produce an output mass spectrum. It has been found that a certain minimum number of elec-

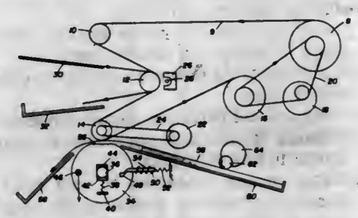


tric field producing electrodes may be utilized to obtain a certain maximum obtainable mass resolution when the electrodes are dimensioned according to the formula;

$$\frac{W}{S}=\frac{(2.71)}{3}\text{ Log }R$$

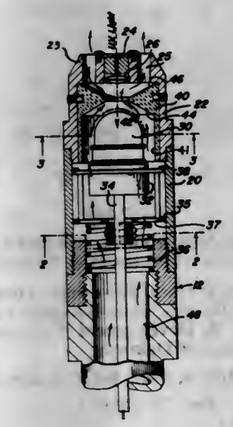
where W is the width of the open space in the ring-shaped electrodes taken in a direction normal to the ion trajectories, S is the spacing between the midplanes of adjacent electrodes taken in the direction along the axis of the array of electrodes and at right angles to the direction along which W is measured, and wherein R is the mass resolution of the derived output spectrum.

3,437,806
THERMOGRAPHIC COPYING APPARATUS FOR MAKING A PREDETERMINED NUMBER OF COPIES
Kenneth F. Seil, Rochester, and Paul F. Swift, Penfield, N.Y., assignors to Eastman Kodak Company, Rochester, N.Y., a corporation of New Jersey
Filed Mar. 25, 1966, Ser. No. 537,472
Int. Cl. G01n *21/34*
U.S. Cl. 250—65 6 Claims



A copying machine having a web matrix which is movable in intimate pressure contact with an original through an exposing station and having the original removed therefrom immediately after exposure. The exposed matrix is then moved into intimate pressure engagement with a receiving sheet for producing a copy of the original. The machine includes means for reciprocally moving the web in timed relation relative to a copying station so that a plurality of discrete receiving sheets can be fed into engagement with the web to provide for making any predetermined number of copies.

3,437,807
ULTRAVIOLET SENSITIVE FLAME DETECTOR IN COOLED HOUSING
William J. Moore, Dallas, Tex., assignor to Forney Engineering Company, Dallas, Tex., a corporation of Texas
Continuation of application Ser. No. 618,677, Feb. 27, 1967. This application Apr. 8, 1968, Ser. No. 719,768
Int. Cl. G01t *1/12*; H01j *39/02*
U.S. Cl. 250—83 6 Claims

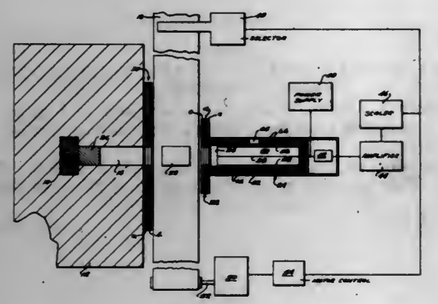


1. A flame detector comprising
a housing including an open end;
a front piece partly closing said open end, said piece comprising a front face including aperture means disposed axially relative the axis of the housing, a plurality of passageways spaced peripherally from said aperture means in said front face;
an ultraviolet sensing element within the tube;
means positioning the sensing element axially within the tube in line with the aperture means close to but spaced from said front face;
source means to flow a cooling fluid in said housing through said passageways;
an insert within said housing encompassing said sensing element, the insert comprising an opening axially disposed between the sensing element and said front face, an inside surface approximately paralleling the surface of said sensing element to direct a uniform flow of cooling fluid over the surface of said sensing element, and outwardly to said passageways;
the insert being of a heat resistant non-heat transmitting non-metallic material.

3,437,808
QUALITY CONTROL BY NEUTRON TRANSMISSION
William E. Mott, O'Hara Township, Allegheny County, and Donald F. Rhodes, Plum Borough, Pa., assignors to Gulf Research & Development Company, Pittsburgh, Pa., a corporation of Delaware
Filed July 6, 1965, Ser. No. 469,659
Int. Cl. G01t *3/00*; H01j *39/32*; B07c *5/344*
U.S. Cl. 250—83.1 17 Claims

The presence of a treating material in a workpiece can be determined by a neutron transmission method of

quality control. Thus a beam of thermal neutrons is directed at a workpiece and parallel neutrons passing there-



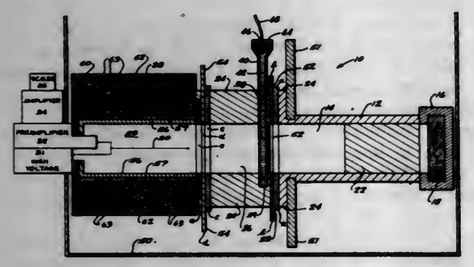
through are detected. A neutron count above a predetermined level causes the workpiece to be rejected.

3,437,809

NEUTRON TRANSMISSION METHOD OF ANALYSIS AND APPARATUS THEREFOR

William E. Mott, O'Hara Township, Allegheny County, and Donald F. Rhodes, Plum Borough, Pa., assignors to Gulf Research & Development Company, Pittsburgh, Pa., a corporation of Delaware

Filed July 6, 1965, Ser. No. 469,660
Int. Cl. G01t 3/02
U.S. Cl. 250—83.1 18 Claims



A neutron transmission method of quantitative analysis yielding high accuracy and precision by use of a high neutron count, a signal to noise ratio of at least 3.0, accurate determination of the noise of the system, expression of the concentration as a function of transmitted neutrons and relation of that function to the neutron scattering cross section of the elements present in the sample so as to reduce the effect of the noise upon the results.

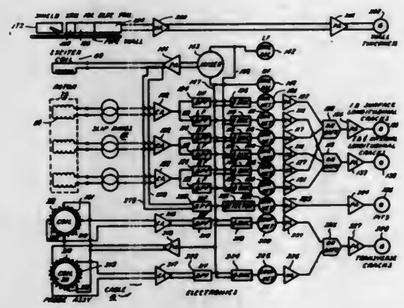
An apparatus for measuring the number of neutrons transmitted through a sample which provides a beam of substantially parallel thermal neutrons to the sample and a beam of substantially parallel neutrons transmitted through the sample to a detector. The apparatus is shielded to exclude the effect of neutrons other than transmitted neutrons and is adjusted to provide a signal to noise ratio of at least 3.0.

3,437,810

NON-DESTRUCTIVE TUBULAR GOODS INSPECTION APPARATUS

Fenton M. Wood, Sugarland, William T. Walters, Philip A. Rogers, and Noel B. Proctor, Houston, Tex., assignors to American Machine and Foundry Company, New York, N.Y., a corporation of New Jersey

Filed Feb. 26, 1964, Ser. No. 347,506
Int. Cl. G01t 1/16, 1/20; C01r 33/12
U.S. Cl. 250—83.3 25 Claims



20. An apparatus for passing axially through the inside of a pipe and for detecting a plurality of different types of defects in the wall of said pipe comprising:

an elongate housing for passing through said pipe,

means for effecting relative movement of said housing through said pipe,

a wall thickness measuring inspection unit comprising,

a radioactive source mounted in a shield,

said shield being mounted for rotation in said housing and having an aperture therein extending outwardly from said source for projecting a beam of rays into the wall of said pipe,

means for rotating said shield,

radiation detection means mounted axially apart from said shield and in a stationary position within said housing and omnidirectionally responsive to radiation scattered from said wall to produce electrical signals which vary according to the intensity of said scattered radiation, and

means for indicating the output of said radiation detection means as indication of variations in the thickness of said wall, and

a first magnetic responsive inspection unit comprising,

a rotor mounted in said housing and having the axis thereof generally coincident with the longitudinal axis of said pipe,

means for rotating said rotor,

a plurality of encircling-type search coils mounted about the periphery of said rotor,

rotatable coupling means connected to each of said search coils,

an eddy current detection circuit connected to said coupling means and responsive to longitudinal defects in said pipe, and

indicator means connected to said eddy current detection circuit for indicating the output therefrom as indications of longitudinal defects, and

transverse defect flaw detection means including

at least one toroid shaped coil having its axis generally coincident with the pipe,

a detection bridge circuit, including said toroid shaped coil as legs of said bridge circuit for producing electrical signals as an incident of transverse variations detected by said coil in said pipe, and

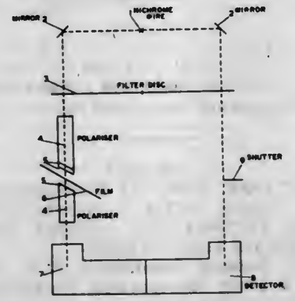
indicating means connected to said detection bridge circuit for indicating transverse defects in the wall of said pipe.

3,437,811

METHOD AND APPARATUS FOR MEASURING THE THICKNESS OF A FILM

Harry Arthur Willis and William Allan Boyes, Welwyn Garden City, England, assignors to Imperial Chemical Industries Limited, Millbank, London, England, a corporation of Great Britain

Filed Apr. 14, 1967, Ser. No. 630,937
Claims priority, application Great Britain, May 4, 1966, 19,754/66
Int. Cl. G01t 1/16
U.S. Cl. 250—83.3 18 Claims



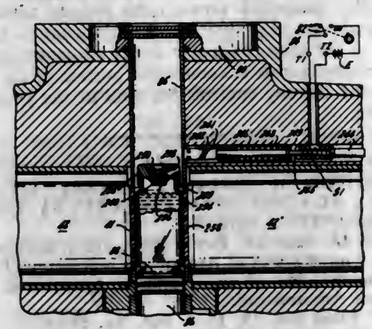
Measuring the thickness of film by infra-red absorption in which infra-red radiation is passed through the film and (a) the angle of incidence is such that any doubly internally reflected radiation is polarised in the plane of incidence and (b) a polariser is placed in the beam before or after the film so that it removes (or would remove) the polarised light.

3,437,812

VIAL CONSTRUCTIONS FOR USE IN STANDARDIZATION PROCEDURES INVOLVING LIQUID SCINTILLATION SPECTROMETRY EQUIPMENT AND HAVING A SEPARATE COMPARTMENT FOR AN INTERNAL STANDARD RADIATION SOURCE

Lyle E. Packard, Hinsdale, Ill., assignor to Packard Instrument Company, Inc., Downers Grove, Ill., a corporation of Illinois

Original application June 18, 1964, Ser. No. 376,000, now Patent No. 3,188,468, dated June 8, 1965. Divided and this application Mar. 24, 1965, Ser. No. 442,241
Int. Cl. G21h 5/00; G01t 1/20
U.S. Cl. 250—106 5 Claims



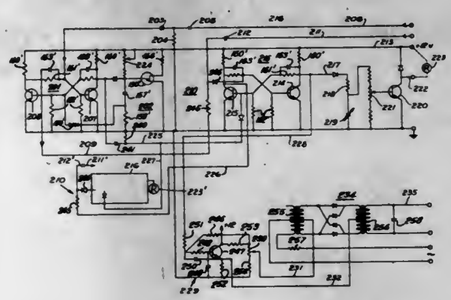
An improved sample vial for use in transporting discrete test samples including a liquid scintillator and a radioactive isotope to and from a radiation detection station adapted to produce output signals in response to detection of light scintillations occurring in the liquid scintillator. The sample vial comprises a receptacle formed of light transmissive material for receiving and storing a quantity of the liquid scintillator and the radioactive isotope to be analyzed, and a removable closure for closing the receptacle. The vial also includes a compartment having its interior portions spaced away from any liquid scintillator contained within the receptacle so as to permit reception and normal maintenance of a solid standard radioactive source of radiation having relatively low penetrating power in spaced proximity to the liquid contained within the receptacle. Means are provided for permitting the standard radioactive source to be automatically discharged from the compartment into the liquid receptacle.

3,437,813

PATTERN TRACING APPARATUS EMPLOYING CROSSLINE DETECTION CIRCUITS TO CONTROL AUXILIARY FUNCTIONS

Robert H. Eisengrein, Skaneateles, and Francis O. Blackwell III, Seneca Falls, N.Y., assignors to SFM Corporation, a corporation of New Jersey

Filed Mar. 3, 1967, Ser. No. 620,493
Int. Cl. G05b 13/02
U.S. Cl. 250—202 12 Claims



A rotary optical scanner causes successive leading and trailing pulses to be generated upon scanning a path line being traced. A drive signal is generated and controlled by the leading pulses, the trailing pulses being rejected. Code pulses are generated upon scanning a code line extending on one side of the path line. A code signal is produced in response to a code pulse generated during the first 180° of scanning following a leading pulse, and is used to control an auxiliary function or the machine drive. The system can respond to more than one code line during each such 180° of scan.

3,437,814

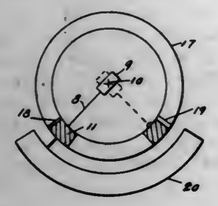
SCANNER DRIVING PHOTOSENSOR WITH SIMPLE HARMONIC MOTION

Jacob S. Zuckerbraun, New York, N.Y., assignor to Kollsman Instrument Corporation, Elmhurst, N.Y., a corporation of New York

Original application Aug. 5, 1960, Ser. No. 47,837, now Patent No. 3,244,886, dated Apr. 5, 1966. Divided and this application Mar. 17, 1965, Ser. No. 440,374
Int. Cl. G01j 1/20; G01d 5/36; H04n 3/00
U.S. Cl. 250—203 5 Claims

A scanning device for light source tracking devices is disclosed utilizing a photosensitive element mounted on a reed that oscillates the photosensitive element about a central position with simple harmonic motion at a predetermined frequency so as to permit intermittent impinge-

ment of light on the element in a relationship to generate a signal having a frequency equal to twice the frequency of oscillation when the center of the image is at such central position and to generate an error signal having



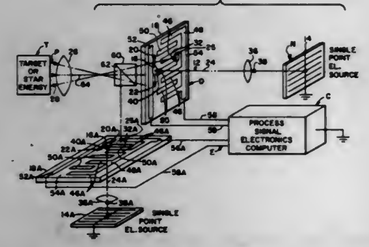
a frequency equal to the frequency of oscillation when the image is displaced from such central position, the phase of the error signal being dependent upon the direction of such displacement.

3,437,815

SOLID STATE SCANNING ARRANGEMENT FOR DETERMINING LOCATION OF A LIGHT SPOT ON A PANEL

Irving Bleicher, Fair Lawn, N.J., assignor to General Precision Inc., Little Falls, N.J., a corporation of Delaware

Filed Aug. 31, 1966, Ser. No. 576,358
Int. Cl. G01j *1/20*
U.S. Cl. 250—203 9 Claims



System for determining location of distant light source using optical prism means to project the light on two detection panels disposed at right angles. The location of the spot on each panel formed by the projected light is determined by a plurality of conductors on the panels arranged in a special geometric pattern.

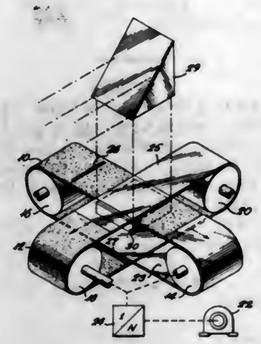
3,437,816

ENERGY CORRELATOR EMPLOYING CROSSED ENDLESS BELTS WITH SLITS THEREIN

Albert Mushinsky, Framingham, Mass., assignor to General Precision Inc., Little Falls, N.J., a corporation of Delaware

Filed Dec. 14, 1966, Ser. No. 601,677
Int. Cl. H01j *3/14*
U.S. Cl. 250—206 6 Claims

This patent specification discloses an energy correlator comprising a pair of tapes in the form of crossed endless belts driven in synchronism by a synchronous motor. The belts are provided with slits which alternately scan a focal plane at right angles to one another. A photodetector is positioned adjacent to the intersection of the tapes to receive light passing through the slits from the scanned focal plane. The photodetector produces pulses the time of occurrence of which represent the X and Y coordinates of a point of light in the focal plane. Converters are provided



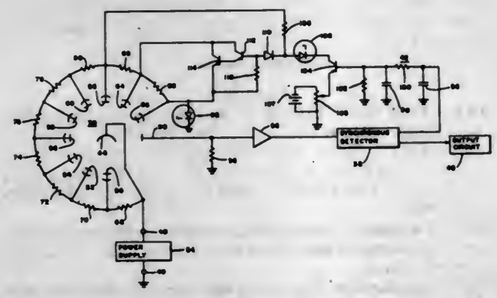
to produce amplitude modulated pulses representing the X and Y coordinates of the point of light.

3,437,817

GAIN CONTROL CIRCUIT FOR PHOTOMULTIPLIER TUBES WITH A SEMI-CONDUCTOR DEVICE CONNECTED ACROSS THE LAST RESISTOR OF THE DIVIDER

Douglas D. Doonan, Irondequoit, N.Y., assignor to Bausch & Lomb Incorporated, Rochester, N.Y., a corporation of New York

Filed Apr. 25, 1966, Ser. No. 544,869
Int. Cl. H01j *39/12*
U.S. Cl. 250—207 6 Claims



A photomultiplier gain control circuit wherein a semiconductor device is connected across a portion of a voltage divider connected between the dynode adjacent the anode and the next dynode. A gain control signal is applied to the semi-conductor device to control the voltage developed across the connected portion of the voltage divider and thereby controls the gain of the photomultiplier tube.

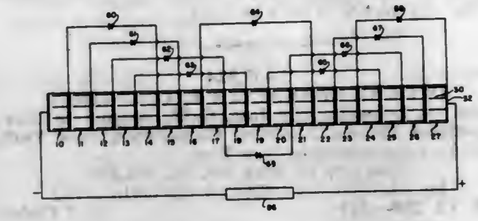
3,437,818

PROTECTION OF SERIALLY CONNECTED SOLAR CELLS AGAINST OPEN CIRCUITS BY THE USE OF SHUNTING DIODE

Russell D. Shattuck, Bay Village, Ohio, assignor to the United States of America as represented by the Administrator of the National Aeronautics and Space Administration

Filed Oct. 19, 1966, Ser. No. 588,671
Int. Cl. H01j *39/12*
U.S. Cl. 250—212 5 Claims

Maintaining current flow through an array of serially connected solar cells even though the array has some open connections. All junctions are shunted by at least



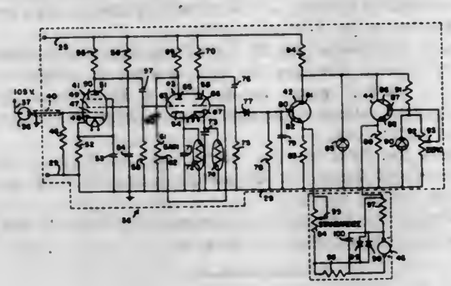
one protecting diode, and each connection has at least one completely redundant shunting diode.

3,437,819

REFLECTANCE COLORIMETER WITH HYBRID TYPE STABILIZED AMPLIFIER

Patrick M. L. Simmons, San Jose, Calif., assignor of one-half to Genevieve I. Hanscom, Saratoga, Calif., and one-half to Genevieve I. Hanscom and Lois J. Duggan, as trustees of the estate of Roy M. Magnuson

Filed Feb. 14, 1966, Ser. No. 527,243
Int. Cl. H01j *39/12*
U.S. Cl. 250—214 7 Claims



1. In a direct reading reflectance colorimeter, the combination of a light-sensitive cell, means illuminating a specimen to be color graded, means supporting said light-sensitive cell so that it receives light reflected from said illuminated specimen, an amplifier having the input circuit thereof connected to said light-sensitive cell, said amplifier having an output circuit comprising a bridge circuit and an indicating instrument connected to said bridge circuit, a source of current supply connected to said amplifier, a pair of transistors connected to two legs of said bridge circuit, one of said transistors forming the output stage of said amplifier, and means equalizing the operating temperatures of said transistors to prevent unequal temperatures thereof from effecting the operation of said bridge.

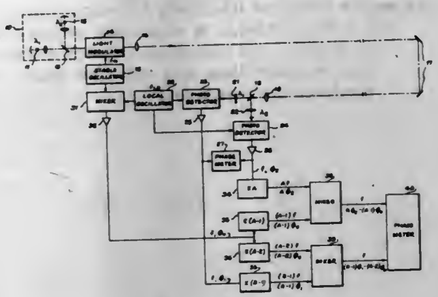
3,437,820

OPTICAL DISTANCE MEASURING EQUIPMENT UTILIZING TWO WAVELENGTHS OF LIGHT IN ORDER TO DETERMINE AND COMPENSATE FOR THE DENSITY OF THE AIR

Moody C. Thompson, Jr., and Lockett E. Wood, Boulder, Colo., assignors to the United States of America as represented by the Secretary of Commerce

Filed May 9, 1967, Ser. No. 638,195
Int. Cl. G01c *3/08*
U.S. Cl. 250—217 4 Claims

A light beam having two different wavelength components is modulated with an R-F signal and projected over an atmospheric path to be measured. The received beam is divided into its components and the modulation on each is detected. The phase difference between the detected signals, which is proportional to the average density of the atmospheric path, is measured. Also, the



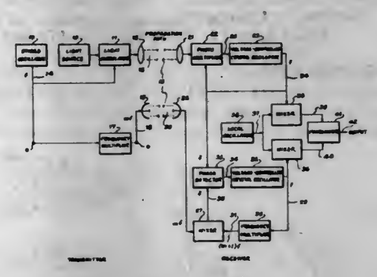
detected signals and the original signal are each frequency and phase multiplied and mixed so as to provide a phase difference which is proportional to the length of the path, corrected for the refractive index of the path.

3,437,821

RADIO-OPTICAL REFRACTOMETER FOR MEASURING INTEGRATED WATER VAPOR REFRACTIVITY

Moody C. Thompson, Jr., and Lockett E. Wood, Boulder, Colo., assignors to the United States of America as represented by the Secretary of Commerce

Filed Nov. 8, 1966, Ser. No. 593,240
Int. Cl. G01n *21/26*
U.S. Cl. 250—218 5 Claims



A refractometer which transmits simultaneously a radio signal and an optical signal over a related propagation path. At the far end of the path, these signals are received, and the difference in their times of arrival is measured. This time difference is used to determine the integrated water vapor refractivity of the path.

3,437,822

METHOD AND APPARATUS FOR MEASURING RADIATION ABSORPTION EMPLOYING A FEEDBACK AMPLIFIER TO CONTROL THE LAMP SUPPLY

Alan Edward Fitzsimmons, Sutton, England, assignor to Vickers Limited, London, England, a British company

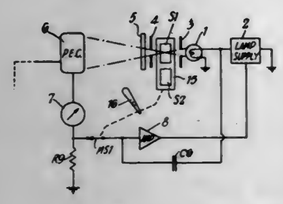
Filed Apr. 12, 1966, Ser. No. 542,149
Claims priority, application Great Britain, May 3, 1965, 18,606/65
Int. Cl. G01n *21/26*
U.S. Cl. 250—218 20 Claims

1. A radiation-absorption measuring device comprising:
(a) a radiation source for supplying radiation at a variable source output power to a sample of a substance to be investigated;

(b) a radiation-sensitive member for receiving radiation transmitted through a sample from said source and connected for providing an electric current dependent upon the intensity of such transmitted radiation; and

(c) means operative selectively between:

(i) a first condition in which said means operates to stabilize the magnitude of such electric current by controlling said radiation source in dependence thereupon, and



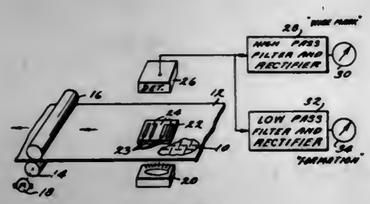
(ii) a second condition in which said means operates to stabilise said radiation source output power in dependence upon that value of the source output power which obtained when said means was last operating in said first condition, and in which said source output power is independent of such electric current.

3,437,823

METHOD AND APPARATUS FOR DETECTING A GIVEN PATTERN IN A MOVING WEB SUCH AS WIRE MARK IN PAPER

William B. Joyce, Columbus, Ohio, assignor to Industrial Nucleonics Corporation, a corporation of Ohio

Filed Aug. 11, 1965, Ser. No. 478,963
Int. Cl. G01n *21/30;* **G01j** *1/20*
U.S. Cl. 250—219 **32 Claims**



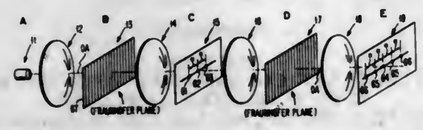
A masking arrangement containing apertures disposed in a pattern to detect in a moving web a given pattern, to which the mask pattern corresponds at least partially, by detecting the intensity of that given pattern when energy is transmitted through the mask arrangement and web. Specifically the web is paper and the given pattern its wire mark. The masking arrangement may take any one of several forms. It generally has the same size and shape as the mark to be detected, and in one embodiment contains a plurality of parallel slots separated the same as the successive wire marks, the slots being perpendicular to the direction of paper movement. The detected output signal is passed through a filter to attenuate non-wire mark frequencies, with the filter output being metered to provide a measure of the variations or intensity of the wire mark. The intensity detector can also measure the size of the wire mark. In one embodiment, the mask arrangement is adjustable so as to regulate the dimensions of its apertures. The mask arrangement is a single piece in one embodiment but is made up of two or more relatively movable plates in other embodiments. By use of the wire mark detector, paper speed may be determined along with the size of the wire mark.

3,437,824

OPTICAL CHARACTER RECOGNITION

Adolf W. Lohmann, San Jose, Calif., assignor to International Business Machines Corporation, New York, N.Y., a corporation of New York

Filed Oct. 16, 1964, Ser. No. 404,399
Int. Cl. G02b *5/18;* **G06k** *9/08;* **G01n** *21/22*
U.S. Cl. 250—219 **8 Claims**



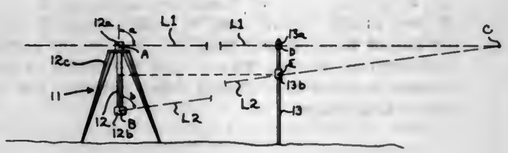
1. An optical character recognition system comprising:
a first optical means for forming a Fraunhofer diffraction pattern of a first character;
means for randomizing the phase of the light of said diffraction pattern, said randomizing means being positioned at the diffraction pattern;
means for collimating the light from said randomizing means and directing the light to a second character;
second optical means for forming a Fraunhofer diffraction pattern of the light received from said second character; and
means for detecting the intensity of the light at the center of the diffraction pattern formed by said second optical means;
whereby the similarity or dissimilarity between said second characters can be detected.

3,437,825

DISTANCE MEASURER USING CONVERGING SIGHT BEAMS AND MOVABLE PHOTORECEPTORS

Robert H. Studebaker, Dayton, Ohio, assignor to Process Equipment Co. of Tipp City, a corporation of Ohio

Filed Oct. 20, 1966, Ser. No. 588,117
Int. Cl. H01j *39/12;* **G02b** *27/00*
U.S. Cl. 250—220 **6 Claims**



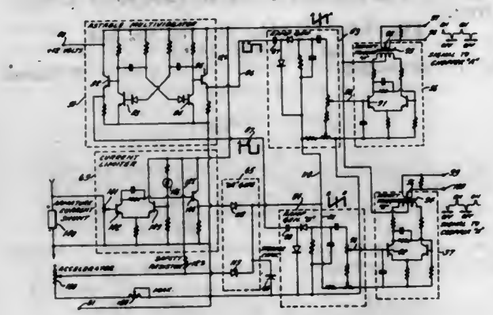
This invention relates to a distance measuring system utilizing laser beam projecting apparatus which projects two laser beams along converging paths from vertically spaced points at a reference location. Vertically spaced and relatively vertically adjustable beam receivers are provided at a second location spaced from the laser beam projector. When the vertical spacing and height of both beam receivers are adjusted so that both beam receivers respectively receive the beam, the elevation of the second location and its distance from the reference location may be precisely determined.

3,437,826

CONTROL CIRCUIT FOR CONTROLLING DUTY OF A PLURALITY OF D-C SOURCES

Thomas Ray Kelley, Audubon, N.J., assignor to I-T-E Circuit Breaker Company, Philadelphia, Pa., a corporation of Pennsylvania

Filed Feb. 20, 1967, Ser. No. 617,402
Int. Cl. H02j *1/10*
U.S. Cl. 307—11 **5 Claims**



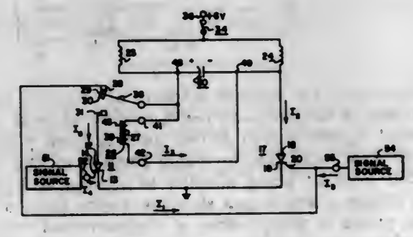
A control circuit delivers sequential pulses used to turn a chopper circuit on the same time within a cycle of an A-C source, but to turn it off at a selected time within the A-C phase so that the chopper can deliver voltage for only a predetermined length of time depending upon the adjustment of the off pulse. A square wave generator is connected to a ramp generator which generates a sawtooth rising voltage having a sharply defined trailing edge. A D-C component, which is determined in magnitude by the manual adjustment of an operator or by an automatic load current measuring system is superimposed on the ramp voltage to raise or lower the ramp voltage with respect to the threshold value of a Schmitt trigger. The Schmitt trigger will generate a pulse corresponding to the rapidly decaying edge of the sawtooth over a wide range of D-C bias values so that the Schmitt trigger will deliver an "on" pulse to the chopper at the same instant as for an A-C wave. A subsequent "off" pulse will be obtained when the ramp voltage reaches the Schmitt trigger threshold voltage, this point being adjustable in time depending upon the magnitude of the biasing voltage superimposed on the ramp voltage.

3,437,827

FLIP-FLOP

Roland E. Ripplinger, Phoenix, Ariz., assignor to General Electric Company, a corporation of New York

Filed May 20, 1965, Ser. No. 457,399
Int. Cl. H02j *1/00, 3/00, 3/14*
U.S. Cl. 307—38 **14 Claims**



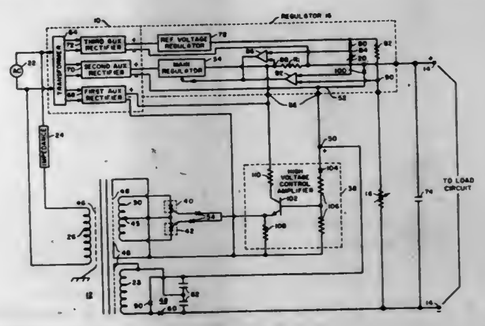
A pair of silicon controlled rectifiers are cross-coupled to form a flip-flop. A relay prevents both of the silicon controlled rectifiers from conducting at the same time.

3,437,828

REGULATED POWER SUPPLY

Brett M. Nordgren, Berkeley, Heights, N.J., assignor to Hewlett-Packard Company, a corporation of California

Filed Mar. 18, 1966, Ser. No. 535,536
Int. Cl. H02j *1/04*
U.S. Cl. 307—61 **8 Claims**



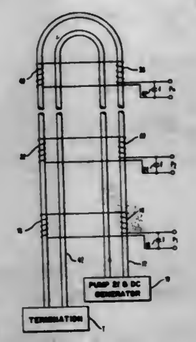
High and low voltage power supplies are coupled in series to an output. The low voltage supply is regulated by a main regulating circuit. The high voltage supply includes a transformer having two secondary windings, one of which provides the high voltage output and the other of which is shorted by switching circuitry when the voltage drop across the main regulating circuit increases above a predetermined level. The shorted secondary winding loads the transformer and decreases the high voltage output therefrom until the total output voltage to the load is within a range that can be easily controlled by the main regulating circuit. In effect the system provides for "course" and "fine" adjustment of the load voltage.

3,437,829

TRANSMISSION LINE PUMPING SYSTEM FOR PARAMETRICALLY EXCITED OSCILLATORS

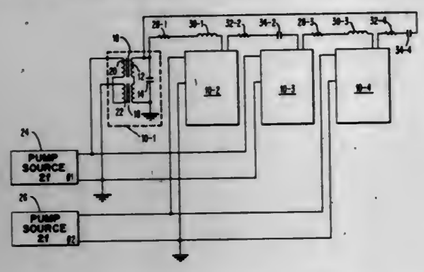
Donald T. Best, Plymouth Meeting, Pa., assignor to Sperry Rand Corporation, New York, N.Y., a corporation of Delaware

Filed Oct. 2, 1964, Ser. No. 401,137
Int. Cl. B61f *17/00;* **F16c** *1/24*
U.S. Cl. 307—88 **7 Claims**



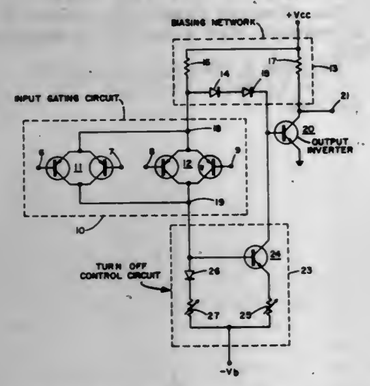
A system for exciting a plurality of parametrons is disclosed. The system comprises a transmission line which has a pump source connected at one end thereof and to which a plurality of parametron circuits are connected. Each parametron comprises a pair of reactive elements. The reactive elements of each parametron are connected to corresponding points above and below the electrical mid-point of the transmission line.

3,437,830
TWO PHASE PARAMETRON SYSTEM
Thomas Michael Lo Casale, Warminster, Pa., assignor to Sperry Rand Corporation, New York, N.Y., a corporation of Delaware
Filed June 4, 1965, Ser. No. 461,261
Int. Cl. H03f 21/00
U.S. Cl. 307—88 18 Claims



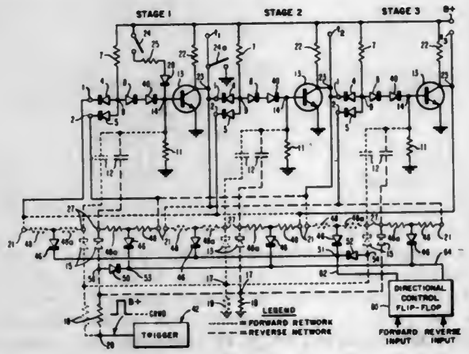
A cascaded parametron amplifier system is described wherein each alternate stage of the cascade is intercoupled to the next stage of the cascade through a respective phase shift network providing a phase shift of one sense and each intermediate stage of the cascade is intercoupled to the next stage of the cascade through a phase shift network providing a phase shift of the opposite sense; and wherein the pump signal applied to the alternate stages of the cascade is phase shifted relative to the pump signal applied to the intermediate stage of the cascade.

3,437,831
LOGIC CIRCUIT
Walter C. Seelbach, Scottsdale, Ariz., and Frederick J. Kirkpatrick, Austin, Tex, assignors to Motorola, Inc., Franklin Park, Ill., a corporation of Illinois
Filed Mar. 21, 1966, Ser. No. 536,029
Int. Cl. H03k 19/08
U.S. Cl. 307—215 11 Claims



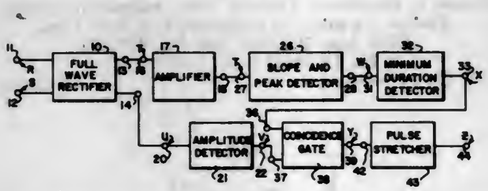
1. A logic gate including in combination:
(a) an output inverter having input, output and control electrodes,
(b) biasing circuit means connected to said inverter,
(c) a plurality of parallel connected gating means, each connectable to a source of binary logic switching signals and connected to said biasing circuit for changing the conductive state of said inverter, and,
(d) inverter turn-off control circuit means including impedance means connected to said plurality of parallel connected gating means and conductively connected to said inverter only when said inverter is driven non-conducting and during its non-conducting state whereby said impedance means is conductively disconnected during the time in which said inverter is driven into conduction and during the conductive state thereof.

3,437,832
RING COUNTER
Frederick J. Kopetski, Annapolis, Md., assignor to the United States of America as represented by the Administrator of the National Aeronautics and Space Administration
Filed May 23, 1966, Ser. No. 552,344
Int. Cl. H03k 23/08
U.S. Cl. 307—222 7 Claims



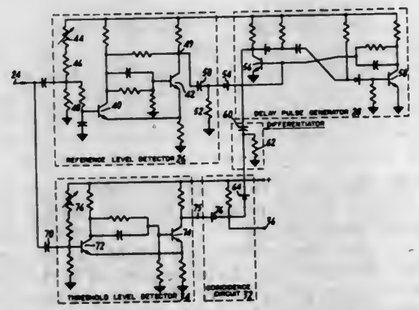
The invention relates to a semiconductor ring counter circuit for use in counting, dividing, multiplexing and sequencing applications. According to the invention, pulse steering and gating techniques are used so that ring stepping is accomplished directly by the leading edge of the triggering pulse. This versatility enhances monolithic-type ring constructions, and the component design of the ring is compatible with the monolithic construction techniques.

3,437,833
SIGNAL PULSE SHAPER
Leo C. Razaitis, Windsor, Conn., John D. Meng, Milpitas, Calif., and John R. Nowell, Phoenix, Ariz., assignors to General Electric Company, a corporation of New York
Filed May 18, 1964, Ser. No. 368,195
Int. Cl. H03k 5/20
U.S. Cl. 307—231 7 Claims



1. Apparatus for use with a source of electrical signals comprising: a rectifier; said rectifier being adapted to receive said signals and to deliver unidirectional pulses; a slope detector, said detector being coupled to said rectifier, said detector being adapted to receive said pulses and to deliver a first output signal when the slope of one of said pulses is greater than a predetermined value; a duration detector, said duration detector being coupled to said slope detector and responsive to said first output signal, said duration detector delivering a second signal representing the duration of said first output signal; an amplitude detector, said amplitude detector being coupled to said rectifier, said amplitude detector being adapted to receive said pulses and to deliver a third output signal when the amplitude of one of said pulses is greater than a predetermined value; a rectangular pulse producing means, said means being coupled to said duration detector, and said means being coupled to said amplitude detector and responsive to said second signal and to said third signal, said means delivering a first rectangular pulse when said second signal and said third signal both reach a predetermined value; and a pulse stretcher, said stretcher being coupled to said means and responsive to said first rectangular pulse, said stretcher delivering a second rectangular pulse having a predetermined minimum duration when one of said first rectangular pulses is produced.

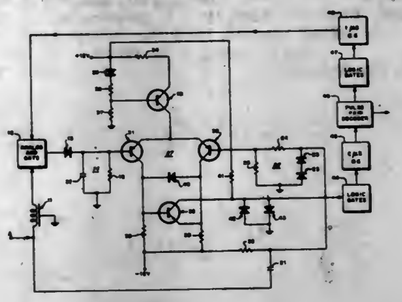
3,437,834
CIRCUIT FOR DETECTING TIME OF OCCURRENCE OF SIGNALS HAVING AN AMPLITUDE WHICH EXCEEDS A PREDETERMINED LEVEL
Robert J. Schwartz, Houston, Tex., assignor, by mesne assignments, to Schlumberger Technology Corporation, Houston, Tex., a corporation of Texas
Filed Aug. 27, 1965, Ser. No. 483,225
Int. Cl. H03k 5/20, 17/00
U.S. Cl. 307—235 11 Claims



Apparatus for accurately detecting the time of occurrence of an electrical input signal in which a first pulse is generated each time the amplitude of the input signal exceeds a preselected signal reference level, with the leading edge of the pulse occurring at the beginning of an excursion of the input signal amplitude beyond that level. In response to initiation of each such first pulse, a second pulse is generated having a fixed time duration. In addition, for each such excursion of the input signal amplitude beyond a given amplitude level having an absolute value greater than the reference level, a further pulse is generated. That further pulse, together with a pulse occurring at the trailing edge of the second pulse, feeds a coincidence circuit to produce at the output thereof an output pulse which bears a fixed time relation to the time at which the input signal crosses the reference signal level.

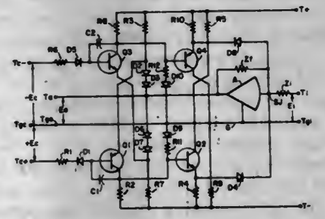
3,437,835
COCHANNEL SIGNAL ELIMINATOR
Frederick J. Mimken, Fairport, and Dwight T. Howard, Rochester, N.Y., assignors, by mesne assignments, to the United States of America as represented by the Secretary of the Navy
Filed Dec. 27, 1965, Ser. No. 516,789
Int. Cl. H03k 5/20
U.S. Cl. 307—235 6 Claims

1. A cochannel signal eliminator comprising:
a storage network for storing an electrical charge thereon;
comparator means for comparing the charge on said network with a succession of pairs of input pulses



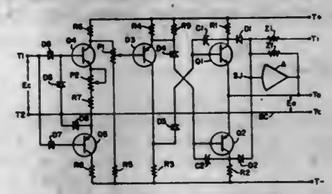
and issuing an output pulse for each input pulse of a level greater than the charge on said network; and
a logic circuit for passing to said network the second of each of said pairs of pulses.

3,437,836
VOLTAGE ADJUSTABLE LIMITER FOR OPERATIONAL ELEMENTS
Robert E. Hull, Amherst, Buffalo, N.Y., assignor to Westinghouse Electric Corporation, Pittsburgh, Pa., a corporation of Pennsylvania
Filed Nov. 17, 1965, Ser. No. 508,224
Int. Cl. H03k 5/08
U.S. Cl. 307—237 7 Claims



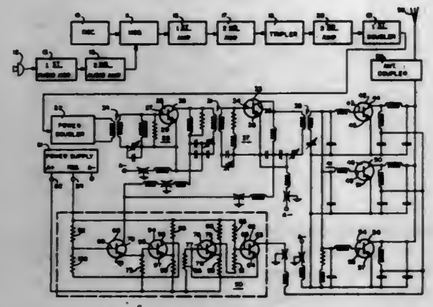
A limiter circuit for controlling the output limits of an operational amplifier is disclosed wherein the output limits of either polarity are independently adjustable in response to the magnitude and polarity of a control voltage.

3,437,837
ADJUSTABLE AMPLITUDE LIMITER CIRCUIT
Robert E. Hull, Amherst, Buffalo, N.Y., assignor to Westinghouse Electric Corporation, Pittsburgh, Pa., a corporation of Pennsylvania
Filed Nov. 19, 1965, Ser. No. 508,778
Int. Cl. H03k 5/08, 5/20
U.S. Cl. 307—237 7 Claims



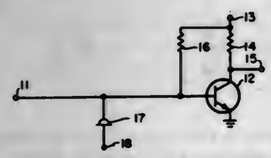
A voltage limiter for operational amplifiers is disclosed wherein the positive and negative voltage limits of the operational amplitude may be set by a control voltage, with the amplitude of the control voltage establishing the limits independently of the polarity of the control voltage.

3,437,838
DUAL TRANSISTOR CURRENT LIMITER
William W. O'Connor, Chicago, Ill., assignor to Motorola, Inc., Franklin Park, Ill., a corporation of Illinois
Filed May 25, 1966, Ser. No. 552,973
Int. Cl. H03k 5/08; H02h 7/20
U.S. Cl. 307—237 7 Claims



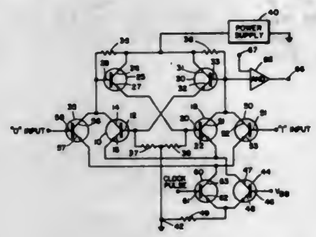
1. A protection circuit for a semiconductor device including in combination, current regulating transistor means having an output electrode coupled to the semiconductor device, an input electrode and a control electrode, first and second input terminals adapted to receive a direct current potential, resistance means coupling said first input terminal to said input electrode, first bias network means coupled to said control electrode of said current regulating transistor means to establish a particular first bias potential thereat whereby said current regulating transistor means provides operating current to the semiconductor device with said operating current flowing through said resistance means to generate a control potential thereacross, proportional to the magnitude of said operating current, control transistor means having a control electrode coupled to said resistance means, a first electrode coupled to said first bias network means and a second electrode, second bias network means coupled to said first and second input terminals and said second electrode for establishing a second bias potential thereat whereby said control transistor means is biased to nonconduction, said control transistor means being responsive to said control potential above a predetermined magnitude to become conductive and thereby to develop a control signal, said first bias network being responsive to said control signal to change said first bias potential whereby the magnitude of said operating current is limited to a safe value.

3,437,839
NON-DESTRUCTIVE READ-OUT CIRCUIT UTILIZING TUNNEL DIODE
Masao Kawashima, Shigehiko Hinoshita, and Maroshi Hoshino, Yokohama-shi, Japan, assignors to Fujitsu Limited, Kawasaki, Japan, a corporation of Japan
Filed Sept. 24, 1965, Ser. No. 490,047
Claims priority, application Japan, Sept. 26, 1964, 39/55,157
Int. Cl. H03k 1/00
U.S. Cl. 307—238 9 Claims



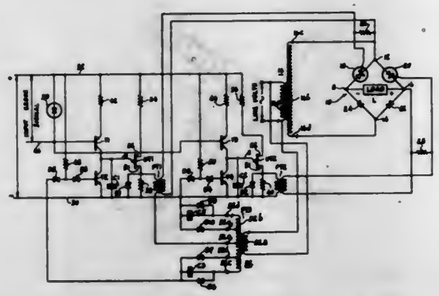
A bistable circuit comprises a transistor and a tunnel diode having a negative resistance characteristic connected to the base electrode of the transistor and having two stable operating points. An output is connected to the collector electrode of the transistor. A read-out pulse is directly supplied to one terminal of the tunnel diode for producing a zero output signal at the output when the read-out pulse is smaller in magnitude than the barrier potential without changing the operating point of the device and for producing an output signal at the output when the read-out pulse is larger in magnitude than the barrier potential and the bistable circuit is in its other stable state of operation without changing the operating point of the tunnel diode.

3,437,840
GATED STORAGE ELEMENTS FOR A SEMICONDUCTOR MEMORY
Donald E. Murray and Walter C. Seelbach, Scottsdale, Ariz., assignors to Motorola, Inc., Franklin Park, Ill., a corporation of Illinois
Filed Sept. 9, 1965, Ser. No. 486,043
Int. Cl. H03k 17/56
U.S. Cl. 307—247 8 Claims



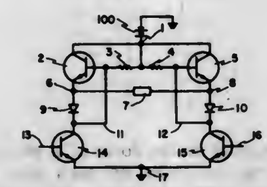
1. An input gating circuit for a bistable memory circuit, the memory circuit including first and second current switching means coupled in a bistable circuit configuration and operative to alternately conduct as the memory circuit is switched from one to the other of its two bistable states, the input gating circuit adapted to be connected to the output terminals of a prior memory stage and differentially driven thereby, said input gating circuit including, in combination: a first preset gate coupled in parallel with said first current switching means and a second preset gate coupled in parallel with said second current switching means, the first and second preset gates connected to a first common node and the first and second current switching means connected to a second common node, a current switching reference gate differentially connected to a current switching clocking gate, means for connecting said current switching gates to a source of differential signals which differentially control the conductivity of said current switching gates, one of said current switching reference and clocking gates connected to said second common node and the other of said current switching reference and clocking gates connected to said first common node, said one current switching gate operatively biased into conduction to maintain the memory circuit in its previous conductive state when signals applied thereto override the potential applied to said other switching gate, and said other switching gate operatively biased into conduction when a signal applied thereto overrides the potential on said one switching gate, said other switching gate enabling the memory circuit to be switched from one to the other of its two stable states by input signals applied to said first and second preset gates, input terminal means for connecting said first and second preset gates, respectively, to the output terminals of the prior memory stage, said input terminal means connected to each of said first and second preset gates for receiving binary input signals that override the potentials on said first and second current switching means and change the conductive state of said memory circuit.

3,437,841
CONDUCTION CONTROL CIRCUIT FOR SEMICONDUCTOR CONTROLLED RECTIFIERS
Robert W. Siebers, Milwaukee, and Robert W. Spink, Wauwatosa, Wis., assignors to Cutler-Hammer, Inc., Milwaukee, Wis., a corporation of Delaware
Filed Mar. 10, 1966, Ser. No. 533,312
Int. Cl. H03k 17/30
U.S. Cl. 307—252 5 Claims



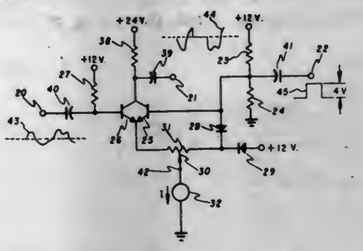
1. The combination with a load, a single phase alternating current supply source, a gate controlled semiconductor rectifier connected in circuit with said source and said load and means for rendering said rectifier conductive at selected points in the conducting half cycles of said rectifier and comprising a storage device for developing a linearly increasing voltage and a triggering device responsive to said linearly increasing voltage attaining a predetermined magnitude during such conducting half cycle to subject the gate of said rectifier to a current pulse rendering said rectifier conducting, of means in circuit with said source and the first mentioned means and responsive to each non-conducting half cycle of alternating potential applied across said rectifier to prevent charging of said storage device for a predetermined portion of each last mentioned half cycle and thereafter causing said first mentioned means to charge said storage device for the remainder of each half cycle.

3,437,842
FAIL SAFE BRIDGE OUTPUT SWITCH
Harvard Brouwer, Grand Rapids, Mich., assignor to Lear Siegler, Inc.
Filed Oct. 20, 1965, Ser. No. 498,276
Int. Cl. H03k 17/60
U.S. Cl. 307—254 16 Claims



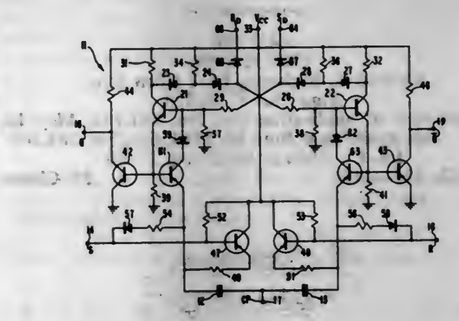
This invention provides an electronic bridge circuit for providing D.C. currents of either polarity to a specified load in response to a command input. The invention basically comprises a four branch bridge circuit which includes a switching element in each of the branches.

3,437,843
GATE CIRCUIT WITH MEANS FOR INHIBITING OUTPUT SIGNALS
James L. Phillips, Dallas, Tex., assignor to Texas Instruments Incorporated, Dallas, Tex., a corporation of Delaware
Filed Aug. 9, 1965, Ser. No. 478,268
Int. Cl. H03k 17/00
U.S. Cl. 307—254 5 Claims



A gate circuit is disclosed which is capable of transmitting a signal from the input terminal to the output terminal thereof, except during the application of an inhibiting pulse to the gate circuit, during which substantially no output signal is transmitted to the output terminal.

3,437,844
FLIP-FLOP CIRCUIT INCLUDING COUPLING TRANSISTORS AND STORAGE CAPACITORS TO REDUCE CAPACITOR RECOVERY TIME
Hua-Thye Chua, Sunnyvale, Calif., assignor to Fairchild Camera and Instrument Corporation, Syosset, N.Y., a corporation of Delaware
Filed Jan. 27, 1966, Ser. No. 523,445
Int. Cl. H03k 3/281
U.S. Cl. 307—292 15 Claims

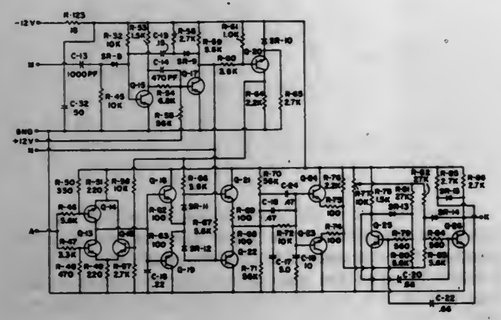


A flip-flop circuit including a pair of flip-flop transistors, a pair of coupling transistors, a pair of buffered transistors, and a pair of storage capacitors, all of which are connected to produce a reduced capacitor recovery time and minimum loading.

3,437,845
PHASE COMPARISON CIRCUIT
Stephen E. Townsend, Rochester, N.Y., assignor to Xerox Corporation, Rochester, N.Y., a corporation of New York
Filed Oct. 26, 1964, Ser. No. 406,454
Int. Cl. H03k 1/16
U.S. Cl. 307—295 7 Claims

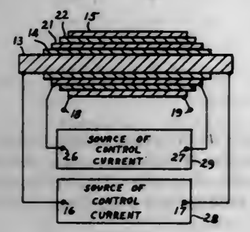
A facsimile sychronization system wherein sychronization (sync) and video signals are combined at a facsimile transmitter and sent to a facsimile receiver where the combined signal is gated and the sync and video signals

are separated, wherein the separated sync signal is compared to a local clock signal produced by the receiver with the phase relation between the signals giving rise to an error signal used to vary the frequency of the local clock in order to obtain synchronization between the sync and clock signals, wherein the combined sync and video signal is gated to a sync separator circuit initially during the entire period of the combined signal, and after synchronization is established, only during the synchronization portion of the combined signal, the gating of the combined



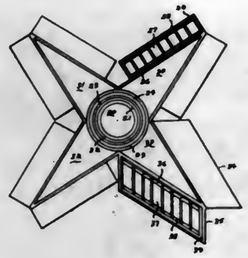
signal enabling the sytem to readily distinguish between the synchronization and video information, and wherein the comparison between the sync and local clock signals is made by a comparator circuit employing a ramp generator and switching means which produce a signal having an amplitude proportional to the phase angle between the two signals, with this signal being stored in a capacitor and applied from the capacitor to the receiver clock generator where its amplitude causes a change in the clock frequency required to effect synchronization.

3,437,846
CRYOTRON
Richard K. Richards, 1821 Allen Ave., Ames, Iowa 50010
Continuation of application Ser. No. 661,143, May 23, 1957. This application June 14, 1963, Ser. No. 288,860
Int. Cl. H03k *3/38, 15/24, 17/00*
U.S. Cl. 307—306 **33 Claims**



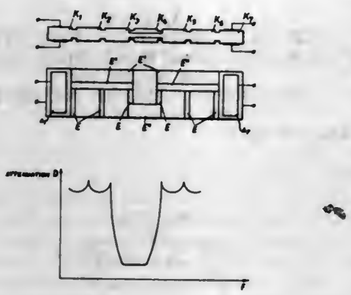
1. A cryotron device comprising at least three concentrically arranged electrically conductive elements, the outermost of said elements being made from a material having superconductive characteristics whereby said outermost element has two conductive states which can be controlled by a magnetic field, means connected to apply a control current through the innermost of said elements thereby to create a magnetic field for controlling the conductivity of said outermost element, means connected to apply a current to be controlled through said outermost element, and means connected to apply a current through an intermediate one of said elements.

3,437,847
CASCADED THERMIONIC-THERMOELECTRIC DEVICES UTILIZING HEAT PIPES
David Raspet, Inglewood, Calif., assignor to the United States of America as represented by the Secretary of the Air Force
Filed Aug. 29, 1967, Ser. No. 664,224
Int. Cl. H02n *3/00, 7/00*
U.S. Cl. 310—4 **8 Claims**



A "heat pipe" energy transfer system is used to transfer the heat flux from the thermionic generator to the thermoelectric generator of thermionic-thermoelectric converters. A stainless steel heat pipe with capillary grooves conducts the heat flux, with negligible temperature drop and heat flux loss, from the small area high heat flux density of the thermionic surface to the large area relatively low heat flux density of the thermoelectric surface.

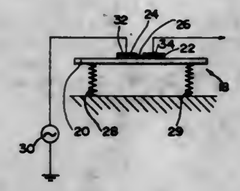
3,437,848
PIEZOELECTRIC PLATE FILTER
Manfred Börner, Ulm (Danube), and Hans Schüssler, Beimerstetten, Germany, assignors to Telefunken Patentverwertungs-G.m.b.H., Ulm (Danube), Germany
Filed Sept. 23, 1965, Ser. No. 489,614
Claims priority, application Germany, Sept. 24, 1964, T 27,072
Int. Cl. H02n *1/00, 7/00*
U.S. Cl. 310—8.2 **10 Claims**



A crystal resonator in the form of a plate of a single piece having two electrodes on each side thereof the electrodes on the same side being electrically separated from each other. Zones of smaller depth and thus having smaller cross sections than the cross sections of the plates are provided by means of recesses in the plate in order to provide at least one crystal zone which separates the electrodes on the same side of the plate from each other. In one embodiment the recesses not only are provided

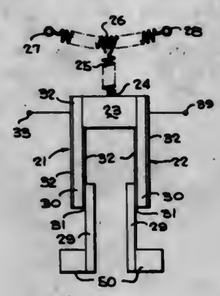
transverse to the longitudinal axis of the resonator but also parallel thereto in order to provide for a particular type of desired coupling.

3,437,849
TEMPERATURE COMPENSATION OF ELECTRICAL DEVICES
James E. Treatch, Chicago, and Gerald C. von Schwedler, Schiller Park, Ill., assignors to Motorola, Inc., Franklin Park, Ill., a corporation of Illinois
Filed Nov. 21, 1966, Ser. No. 595,964
Int. Cl. H02n *11/00;* **H03b** *5/30*
U.S. Cl. 310—8.9 **6 Claims**



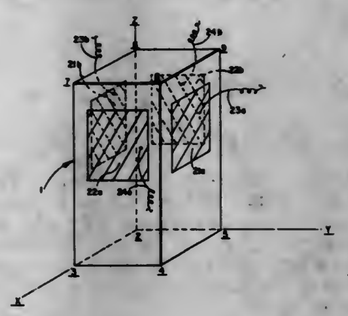
1. A temperature compensated electromechanical resonating device including in combination, a metal resonator having a controllable frequency temperature coefficient, a piezoelectric ceramic layer fixed to said metal resonator, said ceramic layer having a predetermined frequency temperature coefficient, said frequency coefficient of said metal substrate being equal in magnitude but opposite in sign to said frequency coefficient of said ceramic layer, so that under changing temperature conditions said frequency temperature coefficient of said metal substrate and said frequency temperature coefficient of said piezoelectric ceramic layer combine to maintain a low frequency temperature coefficient for the electromechanical resonating device.

3,437,850
COMPOSITE TUNING FORK FILTERS
David A. Bunger, Cincinnati, Ohio, assignor to D. H. Baldwin Company, a corporation of Ohio
Filed Aug. 19, 1963, Ser. No. 303,060
Int. Cl. H01v *7/00;* **G10d** *13/08;* **G10g** *7/02*
U.S. Cl. 310—9.6 **12 Claims**



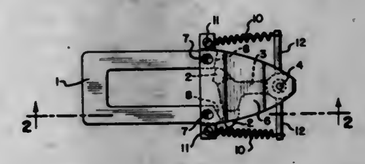
Ceramic piezoelectric semitone filters, for a musical instrument, which employ composite metallic and ceramic piezoelectric tines, of sufficiently high Q to impart a relatively long build up or onset, and a relatively long decay, to the individual tone components. Filters may be slightly detuned with respect to their driving signal, in order to establish responses which are musically desirable, and may introduce chiff by transient excitation of certain of the resonators. Response of filters may be applied to harmonic generators, which generate frequency spectra appropriate for tone generation.

3,437,851
PIEZOELECTRIC TRANSDUCER
Walter G. Cady, Providence, R.I., assignor to North American Rockwell Corporation, a corporation of Delaware
Filed Aug. 17, 1966, Ser. No. 572,969
Int. Cl. H01v *7/00*
U.S. Cl. 310—9.6 **9 Claims**



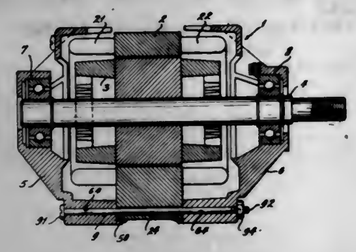
A piezoelectric transducer independently responsive to forces along two orthogonal axes. The transducer comprises a piezoelectric crystal of a homogeneous material having non-zero stress coefficients along one diagonal of a 2 x 2 submatrix of shearing stress coefficients and having zero-valued stress coefficients along the other submatrix diagonal. Two pair of electrical contacts are disposed on opposite sides of the transducer, by means of which electrical signals are obtained independently related to mechanical shearing forces exerted on the transducer along two orthogonal axes.

3,437,852
OSCILLATING ELECTRIC MOTOR STRUCTURE
Ernest Francis Cox, Ryde, Isle of Wight, England, assignor to Ronson Corporation, Woodbridge, N.J., a corporation of New Jersey
Filed Mar. 30, 1966, Ser. No. 538,755
Claims priority, application Great Britain, Mar. 31, 1965, 13,745/65
Int. Cl. H02k *1/34*
U.S. Cl. 310—36 **3 Claims**



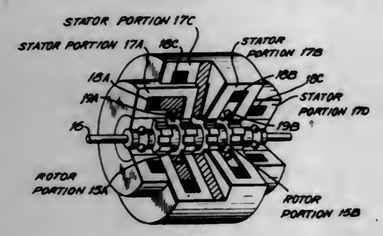
Precise and efficient positioning of the stator-armature assembly in the construction of electric razors is accomplished by means of a number of mutually interengaging protuberances and depressions on the stator and frame which accurately positions these parts with respect to each other, thus eliminating the need for individual adjustment of each razor.

3,437,853
ELECTRIC MOTOR WITH REMOVABLE END SHIELDS AND METHOD OF MAKING IT
Harold D. Arnold, Bellefontane Neighbors, Mo., assignor to Emerson Electric Co., a corporation of Missouri
Filed Aug. 28, 1967, Ser. No. 663,624
Int. Cl. H02k *15/14*
U.S. Cl. 310—42 10 Claims



An electric motor with removable and shields and a method of making it in which a rotor is positioned within a stator by shims in the air gap, end shields are mounted on the rotor shaft, a part of each end shield extending axially over a part of the stator and spaced radially therefrom, one of the parts is coated with a released agent, and curable adhesive (e.g. epoxy) is placed between the parts and adhered to only one of them. While the rotor stator and end shields are held in the desired configuration with respect to one another, the adhesive is cured. The cured, solid plastic does not adhere to the surface which has been coated with release agent. The end shields can then be removed, and replaced, the bridges of cured adhesive material adhered to one part serving as permanent locating bosses and the end shield being mounted in any suitable selectively demountable way, as by stator screws and nuts, or through bolts. These are preferably in place during the curing process and can be coated with some kind of release agent to ensure that no adhesive adheres to them.

3,437,854
ELECTRIC ROTARY STEP MOTOR WITH PLURAL OFFSET STATOR WINDINGS
Mitsuo Oiso, Kawasaki-shi, Japan, assignor to Fujitsu Limited, Kawasaki, Japan, a corporation of Japan
Filed Nov. 4, 1966, Ser. No. 592,180
Claims priority, application Japan, Nov. 8, 1965, 40/68,399; Nov. 13, 1965, 40/69,598
Int. Cl. H02k *37/00*
U.S. Cl. 310—49 5 Claims



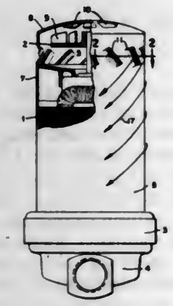
1. An electric step motor of low inertia and high torque, comprising

a rotatably mounted rotor having a peripheral surface and a plurality of spaced teeth extending outwardly from said peripheral surface, each of the teeth of said rotor having a first determined width in a circumferential direction;

a plurality of fixedly mounted stator portions coaxially positioned around said rotor each having an inner circumferential surface and a plurality of spaced teeth extending inwardly from said inner circumferential surface toward the teeth of said rotor, each of the teeth of each of said stator portions having a second determined width in a circumferential direction which is less than half said first determined width; and

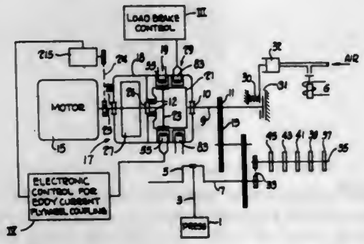
an excitation winding provided in each of said stator portions for rotating said rotor step by step upon simultaneous and successive excitation of selected ones of said excitation windings.

3,437,855
AIR COOLED ELECTRIC MOTOR
Nikolaus Laing, 35–37 Hofener Weg, 7141 Aldingen, near Stuttgart, Germany
Filed Aug. 1, 1967, Ser. No. 657,546
Int. Cl. H02k *9/06*
U.S. Cl. 310—62 8 Claims



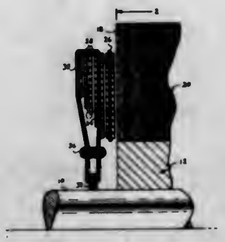
Forced air cooling means for an electrical motor enclosed within a thermally conductive metal jacket in which a motor driven rotary blower within the jacket induces a flow of air into the jacket and over interior vanes to convectively cool the jacket, the air then being forced through tangential slits within the jacket wall to project a tangential spiral flow of air over the exterior jacket surface to further convectively cool the jacket.

3,437,856
CONTROL SYSTEM FOR CONSTANT LEVEL FLYWHEEL ENERGY BOLSTER PRESS
Theodore R. La Vallee, Detroit, Mich., assignor to Eaton Yale & Towne Inc., a corporation of Ohio
Filed Oct. 28, 1964, Ser. No. 407,042
Int. Cl. H02p *15/00*
U.S. Cl. 310—94 5 Claims



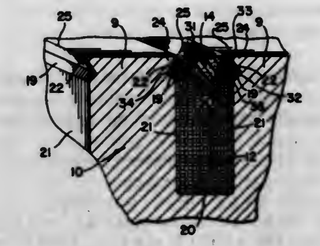
A press drive system which includes a press, a flywheel driven by a prime mover, such as an A.C. motor, and an eddy-current coupling interposed between the flywheel and the press for driving the press by the flywheel, a speed responsive device, such as a tachometer generator connected to the flywheel producing a signal which is proportional to the speed of the flywheel, the output of the speed responsive device being applied to the eddy-current coupling whereby the speed of the flywheel is maintained substantially equal to a predetermined level when the press is disconnected from the flywheel.

3,437,857
SALIENT FIELD POLE HAVING RADIAL AIR DUCTS BETWEEN END TURN LAYERS
Kurt G. Seeliger, Niskayuna, and Carleton L. Strunk, Schenectady, N.Y., assignors to General Electric Company, a corporation of New York
Filed Oct. 14, 1966, Ser. No. 586,801
Int. Cl. H02k *1/24*
U.S. Cl. 310—180 8 Claims



1. A rotor for a synchronous machine comprising: a rotatable shaft; a plurality of salient field poles circumferentially spaced about said shaft for rotation therewith; field windings on said poles having axially spaced end turn layers and radially extending ventilation ducts between adjacent end turn layers; and an end turn support comprising a loop of hard insulating material encircling at least a portion of said end turn layers to provide restraint against end turn radial deflection without substantially restricting said radially extending ventilation ducts.

3,437,858
SLOT WEDGE FOR ELECTRIC MOTORS OR GENERATORS
Roger B. White, Cleveland, Ohio, assignor to The Glastic Corporation, Cleveland, Ohio, a corporation of Ohio
Filed Nov. 17, 1966, Ser. No. 595,109
Int. Cl. H02k *3/98*
U.S. Cl. 310—214 14 Claims



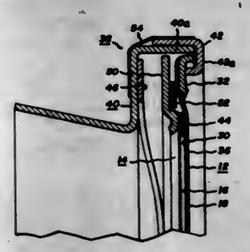
1. A slot wedge adapted to be positioned in a coil slot of an electric motor or generator wherein the outer portions of the slot sidewalls each have an inwardly facing surface forming a tooth lip therebeyond, the extreme ends of which lips each define a radially extending shear plane, said wedge having a width greater than the distance between said planes and having edges defined by angled surfaces to mate with the inwardly facing surfaces, the improvement which comprises: a pair of spaced portions one in each of the shear planes and an intermediate portion, said intermediate portion being comprised of a plurality of fibers bound together by a hardened thermosetting resin, said fibers and resin having a low shear strength, said spaced portions being comprised of means having a substantially higher shear strength and being integrally bound to said intermediate portion by said resin.

3,437,859
WINDING SUPPORT STRUCTURE FOR A DYNAMOELECTRIC MACHINE
Edward E. Gibbs, Almy D. Coggeshall, and Harold R. Shirk, Schenectady, N.Y., assignors to General Electric Company, a corporation of New York
Filed May 23, 1966, Ser. No. 552,171
Int. Cl. H02k *3/46*
U.S. Cl. 310—260 8 Claims



A support structure for spaced dynamoelectric machine windings employing resin-impregnated roving arranged as wrap-and-frap bindings providing integral tension-compression modules holding the windings in place.

3,437,860
IMAGE ORTHICON GLASS TARGET WITH ALUMINUM-TANTALUM OXIDE COATING
Robert J. Ney, Liverpool, N.Y., assignor to General Electric Company, a corporation of New York
Filed Apr. 6, 1967, Ser. No. 628,965
Int. Cl. H01j *31/26*; H05k *3/00*; H05b *33/28*
U.S. Cl. 313—65 2 Claims

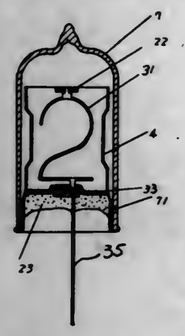


A storage target for image orthicons or other camera tubes having an improved protective coating thereon, said protective coating consisting of an oxide of an alloy containing 2–10 percent tantalum and the balance aluminum.

3,437,861
GAS FILLED COLD CATHODE INDICATOR TUBE
Michio Koshizuka, Naoji Ohfuji, and Shinetsu Sato, Tokyo, Japan, assignors to Nippon Radio Company Limited, Tokyo, Japan, a corporation of Japan
Filed Feb. 14, 1966, Ser. No. 527,280
Claims priority, application Japan, Feb. 19, 1965, 40/9,396; July 21, 1965, 40/44,057
Int. Cl. H01j *7/42*
U.S. Cl. 313—109.5 11 Claims

A discharge type indicator tube having a stem which includes a shell and an insulator spacer for supporting and locating a plurality of cathode electrodes which have predetermined shapes. If a shell is fabricated from an insulating material, it may also function as the spacer. The

stem also provides means to pass lead wires from the cathodes therethrough and the shell is adapted to be sealed



to the lower portion of the tube bulb, thereby closing off the tube.

3,437,862

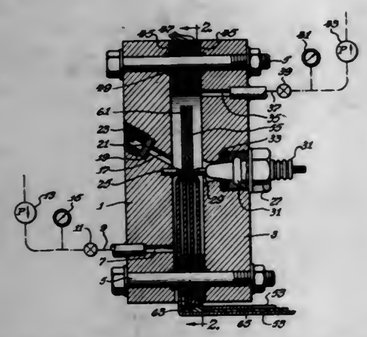
METHOD AND APPARATUS FOR PRODUCING HIGH TEMPERATURES BY A MAGNETIC FIELD SURROUNDING AN ELECTRIC ARC

Winfield W. Salisbury, Palo Alto, Calif., assignor to Zenith Radio Corporation, a corporation of Delaware

Continuation-in-part of application Ser. No. 510,311, May 23, 1955. This application July 19, 1957, Ser. No. 673,077

Int. Cl. H01j *61/28;* **H05b** *31/26;* **G21b** *1/00*

U.S. Cl. 313—161 **36 Claims**



1. Apparatus for producing high temperatures comprising: an inductance coil structure encompassing a magnetic-field-free reaction space; means for producing an electric current pulse in said inductance coil structure to develop a concentrated magnetic field, of an intensity of at least of the order of 10^6 gauss, substantially encompassing said reaction space; and means for producing a cloud or plasma of ions in said reaction space during the existence of said magnetic field.

3,437,863

HIGH-VOLTAGE MERCURY-ARC RECTIFIER

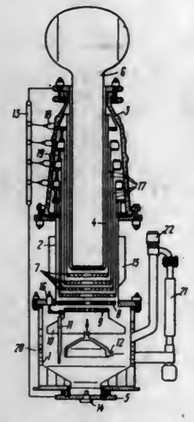
Filipp Ivanovich Butaev, Krasnokazarmennaya ulitsa 19, kv. 43; Nikolai Semenovich Klimov, Krasnokazarmennaya ulitsa 19, kv. 94; Alexei Alexandrovich Pertsev, Krasnokazarmennaya ulitsa 19, kv. 136; Nikolai Pavlovich Stepanov, Sadovo-Sukharevskaya ulitsa, 2/34, kv. 6; Alexandr Mikhailovich Shemaev, Metrosroevskaya ulitsa 9, kv. 3; and Ilya Dmitrievich Shkolin, B. Spasskaya ulitsa 7, kv. 15, all of Moscow, U.S.S.R.

Filed July 29, 1965, Ser. No. 475,833

Int. Cl. H01j *13/34, 13/26, 13/32*

U.S. Cl. 313—167 **4 Claims**

A high voltage mercury arc rectifier which has a housing with channels for the passage of a coolant, which channels increase in size from inlet to outlet so that a higher rate of coolant flow can be obtained at the inlet in comparison with the outlet to prevent formation of a film between the coolant and the housing walls. Also provided is an evacuation system for the housing which includes



a valve controlled by an electromagnetic drive. A slot igniter is mounted in a cathode in the housing and is sealed in the cathode by a soft iron wire which is sandwiched between hard metal portions of the cathode and igniter.

3,437,864

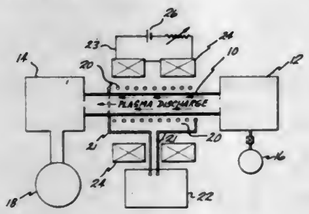
METHOD OF PRODUCING HIGH TEMPERATURE, LOW PRESSURE PLASMA

Melvin J. Kofoid and Paul L. Zieske, Seattle, Wash., assignors to The Boeing Company, Seattle, Wash., a corporation of Delaware

Filed Aug. 29, 1966, Ser. No. 575,694

Int. Cl. H01j *17/26, 61/28*

U.S. Cl. 313—231 **1 Claim**



1. The method of efficiently producing a high temperature, low pressure plasma comprising the steps:

(a) passing a gas through a low pressure chamber; and

(b) subjecting the gas, while passing through the low pressure chamber, simultaneously to parallel and substantially equal alternating and steady magnetic fields.

3,437,865

THERMIONIC ELECTRON EMITTER HAVING A POROUS REFRACTORY METAL MATRIX AND AN ALLOY OF ACTIVE METAL AND MOBILIZER METAL THEREIN

Dennis Gabor, London, and Michael Joseph Albert, Harlow, England, assignors to National Research Development Corporation, London, England, a British company

Filed Dec. 13, 1965, Ser. No. 513,523

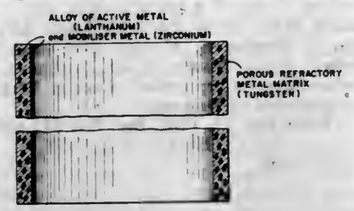
Claims priority, application Great Britain, Dec. 23, 1964, 52,228/64

Int. Cl. H01j *1/14*

U.S. Cl. 313—346 **6 Claims**

A thermionic emitter, particularly suitable for operation at high emission densities, comprises a porous matrix

formed of a refractory metal, emissive material comprising an active metal which is in the elemental state, and is such that it does not alloy with the refractory metal but is capable of being atomically adsorbed on the surface thereof to provide an electron emissive layer, and a



mobiliser metal having at least partial solubility in the active metal and whose alloy with the active metal wets the refractory metal, at least in the molten state. The cathode thus formed does not contain oxides or other compounds of the metallic elements which would tend to reduce electrical conduction and heat conduction to an emissive surface.

3,437,866

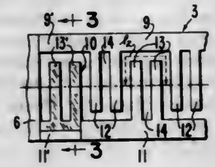
NON-REFLECTIVE INTERNAL LOSSY TERMINATIONS FOR SLOW WAVE CIRCUITS AND TUBES USING SAME

John E. Hentschel, East Brunswick, N.J., assignor to S-F-D Laboratories, Inc., Union, N.J., a corporation of New Jersey

Filed June 14, 1966, Ser. No. 557,398

Int. Cl. H01j *25/34, 1/38, 19/06*

U.S. Cl. 315—3.5 **8 Claims**



1. In a microwave periodic slow wave circuit, means forming a periodic slow wave circuit structure having a succession of periodic conductive elements for supporting traveling microwave energy thereon, means providing a lossy termination for such slow wave circuit at one end thereof, said lossy terminating means including at least one terminal periodic element for said periodic slow wave circuit structure, said terminal element having generally the same physical configuration as said conductive periodic elements of said slow wave circuit structure, said terminal periodic element having a circuit length of at least one period of said periodic slow wave circuit, and said terminal element being comprised in its entirety of a material having a resistivity greater than 1000×10^{-6} Ω centimeters, whereby the field configuration of the microwave energy propagating into said lossy termination means is not abruptly changed and whereby the termination requires only a short length of the slow wave circuit.

3,437,867

TELEVISION IMAGE PICKUP TUBE DEVICE

Shoichi Miyashiro and Shunzi Shirouzu, Yokohama-shi, Japan, assignors to Tokyo Shibaura Electric Co., Ltd., Kawasaki-shi, Japan, a corporation of Japan

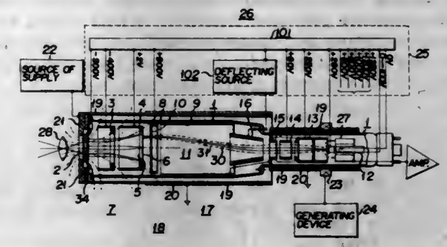
Filed June 15, 1967, Ser. No. 646,234

Claims priority, application Japan, June 17, 1966, 41/38,882

Int. Cl. H01j *31/26, 29/76*

U.S. Cl. 315—10 **6 Claims**

A television image pickup tube device having an magnetic field generator close to the photoelectron cathode of the image section thereof, whereby it is possible to accelerate and focus photoelectrons on the target by the action of the magnetic field and electric field, to avoid the scattering of returned electron beam from said target



and at the same time to prevent the bad influence due to said magnetic field from being given to a scanning section by regulating the leakage magnetic field of the target at its scanning side to be less than 25 gausses.

3,437,868

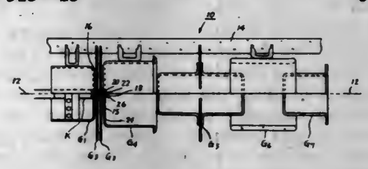
ELECTRON GUN DEVICE

Akio Ohkoshi, Takehiko Nii, and Yoshihiro Tsukamura, Tokyo, Japan, assignors to Sony Corporation, Tokyo, Japan, a corporation of Japan

Filed Oct. 11, 1965, Ser. No. 494,566

Int. Cl. H01j *29/48*

U.S. Cl. 315—15 **6 Claims**



A colored television kinescope electron gun for producing a stream of electrons along a path coincident with the central axis of the gun including a cathode and a series of apertured electrodes downstream from the cathode whereby the electron beam emitted from the gun may be proportional to either the sum or the product of the signal impressed upon selected electrodes of the gun.

3,437,869

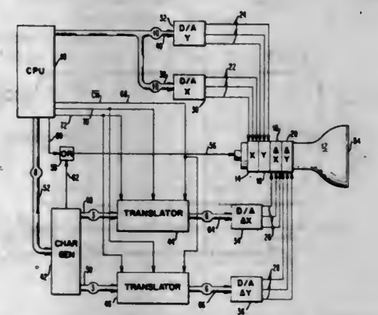
DISPLAY APPARATUS

Richard O. Cobb and Raymond A. Skov, Poughkeepsie, N.Y., assignors to International Business Machines Corporation, Armonk, N.Y., a corporation of New York

Filed Nov. 1, 1965, Ser. No. 505,795

Int. Cl. H01j *29/72*

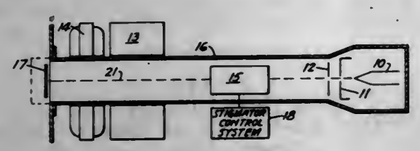
U.S. Cl. 315—18 **8 Claims**



A display wherein X, Y input data in one number set is translated into another set X(A), Y(A); X(B), Y(B);

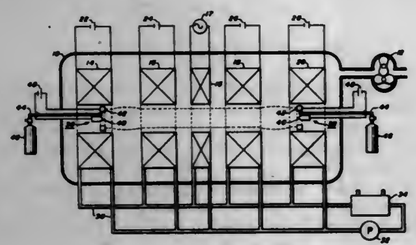
or X(C), Y(C) having more orders and having symmetry around a central position defined by one of the additional orders. By a plurality of such translations sharing the same central position, characters of different sizes A, B, C can be drawn, each symmetrical about the central position. The character generator deflection is held at that relative position during non-character mode vector operation of the display, so that characters, when later drawn on the vectors, will appear in centered relation thereon.

3,437,870
SCAN LINE MASKING SYSTEM
Edward W. Reed, Jr., St. Paul, Minn., assignor to Minnesota Mining and Manufacturing Company, St. Paul, Minn., a corporation of Delaware
Filed Nov. 3, 1965, Ser. No. 506,192
Int. Cl. H01j 29/56
U.S. Cl. 315—31 9 Claims



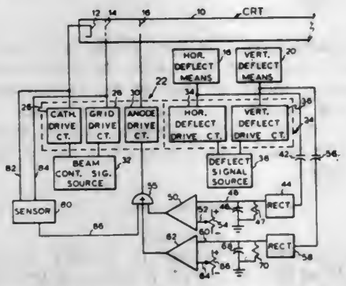
A scan line masking system for use in an electron gun assembly adapted to generate an electron beam and scan the beam in a scan pattern composed of scan lines over a beam target area in response to synchronizing signals is provided wherein the cross-sectional shape of the electron beam is changed a plurality of times during each scan line to produce scan lines with spaced variations in width. In the preferred embodiment, changing means are located in the electron gun assembly between the beam generating means and the beam target area and comprise a stigmator for placing a symmetrical field around the path of the electron beam for urging the beam into a generally circular cross-sectional shape. An oscillator is operatively coupled to the stigmator for placing a high frequency signal across part of the stigmator for periodically varying the shape of the field, and thereby varying the cross-sectional shape of the beam. The oscillator may be phase locked to the synchronizing signals.

3,437,871
PLASMA CONTAINMENT APPARATUS WITH ION CYCLOTRON RESONANCE HEATING
Gordon L. Cann, Laguna Beach, and Robert L. Harder, Altadena, Calif., assignors to Xerox Corporation, Rochester, N.Y., a corporation of New York
Filed Apr. 27, 1966, Ser. No. 545,700
Int. Cl. H01j 7/24
U.S. Cl. 315—111 4 Claims



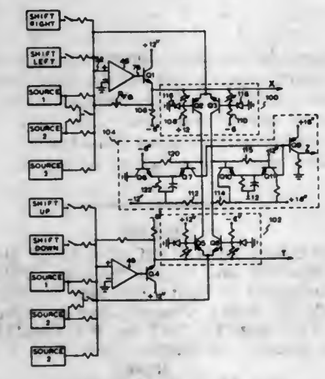
Apparatus to electromagnetically contain a high temperature plasma is disclosed. The apparatus produces a longitudinally symmetrical, continuous magnetic field and a radially inward electric field within the plasma for ion confinement. The plasma receives additional energy through ion cyclotron resonance heating.

3,437,872
CATHODE RAY TUBE PROTECTION APPARATUS
Martin C. Henderson, Canoga Park, and John E. Higbee, Santa Susana, Calif., assignors to The Bunker-Ramo Corporation, Canoga Park, Calif., a corporation of Delaware
Filed Jan. 23, 1967, Ser. No. 611,100
Int. Cl. H01j 29/70, 29/76
U.S. Cl. 315—20 9 Claims



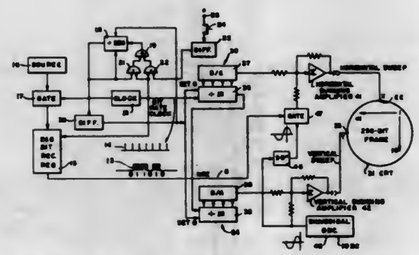
Apparatus for use in conjunction with a cathode ray tube (CRT) for preventing the CRT beam from burning a spot in the phosphor face due to failure of either the major deflection or the video system. Failure of the deflection system is sensed by AC coupling the deflection amplifiers to threshold circuits which provide a logical signal to blank the beam when the beam remains undeflected for more than a predetermined duration. Failure of the video system is sensed by monitoring the potential between the CRT grid and cathode to provide a logical signal to the anode to blank the beam when the grid-cathode potential would otherwise continuously maintain the beam unblanked.

3,437,873
DISPLAY SYSTEM SECTOR SELECTION AND AMPLIFICATION MEANS
Carl A. Eggert, Canoga Park, Calif., assignor to The Bunker-Ramo Corporation, Canoga Park, Calif., a corporation of Delaware
Filed Jan. 20, 1967, Ser. No. 610,613
Int. Cl. H01j 29/70
U.S. Cl. 315—22 11 Claims



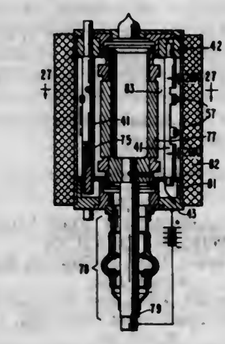
Apparatus particularly useful in a cathode ray tube display system for enabling any one of nine fractional portions of the display to be enlarged and presented as a full scale display. The apparatus includes means for centering the selected fractional portion and for increasing the gain of the deflection signals to cause the fractional portion to occupy the full display area. In addition, the apparatus includes means for sharply limiting the amplitude of the deflection signals prior to their subsequent application to the deflection amplifiers. Means are also provided for sensing when limiting is required and for blanking the CRT beam in response thereto.

3,437,874
DISPLAY FOR BINARY CHARACTERS
John R. Cressey, Hyattsville, and Charles E. Cote, Riverdale, Md., assignors to the United States of America as represented by the Administrator of the National Aeronautics and Space Administration
Filed Feb. 28, 1967, Ser. No. 619,908
Int. Cl. H01j 29/70
U.S. Cl. 315—24 4 Claims



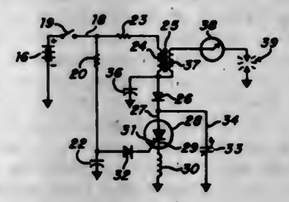
Disclosed is a CRT system for displaying ones and zeros in a binary wave train. The CRT beam is discretely stepped to a plurality of horizontal and vertical discrete locations with stair step generators. At each location a one or zero is written utilizing Lissajous pattern techniques. If the binary signal being monitored is a zero, orthogonal sinusoidal voltages are applied to a particular discrete location on the CRT face while a binary one signal causes only one of the sinusoids to be applied to the CRT.

3,437,875
MIXED LINE COMPOSITE MAGNETRON INTERACTION CIRCUITS OF FORWARD WAVE AND BACKWARD WAVE TYPES
George K. Farney, New Providence, N.J., assignor to S-F-D Laboratories, Inc., Union, N.J., a corporation of New Jersey
Filed Dec. 27, 1965, Ser. No. 516,271
Int. Cl. H01j 25/34, 25/58
U.S. Cl. 315—39.3 14 Claims



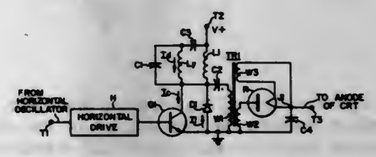
Improved mixed-line magnetron interaction circuits and microwave tubes using same are disclosed. Each of the mixed-line interaction circuits is formed of at least a first and second circuit section having different dispersion characteristics but the composite circuit characterized in having one predominant common mode of electronic operation such common operating point typically occurring at the π mode. The mixed-line interaction circuits have a common basic circuit type for the plural circuit sections, i.e., either a bar or vane circuit forms the basic circuit element used in the plural circuit sections of the composite circuit. Several composite circuit geometries are disclosed which have the advantage of being relatively easily constructed and are characterized by having improved power handling capability. Included in the circuits disclosed are circuits having a forward wave circuit portion selected from the class consisting of helix coupled bar, ladder line, capacitively loaded ladder line, alternating series and shunt element bar, unstrapped vanes, helix coupled vanes, and reactively loaded interdigital line. The other circuit section is a backward wave section selected from the class consisting of strapped bar, inductively loaded bar, alternating series and shunt element interaction bar, and interdigital line.

3,437,876
AUTOMOTIVE SEMICONDUCTOR IGNITION CONTROL APPARATUS
Gianni A. Dotto, 3005 Claar Ave., Dayton, Ohio 45429
Original application July 12, 1962, Ser. No. 209,402, now Patent No. 3,217,316, dated Nov. 9, 1965. Divided and this application June 3, 1965, Ser. No. 473,542
Int. Cl. H05b 37/02, 41/36
U.S. Cl. 315—219 23 Claims



A semiconductor ignition apparatus including semiconductor means and a rotary capacitance means and inductance means wherein the rotary capacitor means and the inductance means cooperates to apply a determined value of reverse voltage to the semiconductor means when the capacitance value of the rotary capacitor means attains a determined value the semiconductor means is biased to nonconduction.

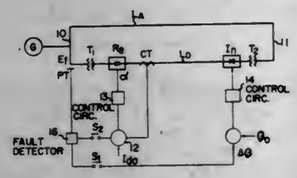
3,437,877
SCANNING CIRCUIT
Charles B. Heffron, Metuchen, N.J., assignor to Westinghouse Electric Corporation, Pittsburgh, Pa., a corporation of Pennsylvania
Filed June 20, 1966, Ser. No. 558,847
Int. Cl. H01j 29/70
U.S. Cl. 315—27 6 Claims



A horizontal scanning circuit for use in a television receiver is disclosed utilizing a semiconductor switching device, such as a transistor, which is protected from

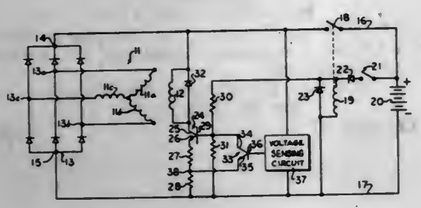
damage due to high voltage arcing by employing a capacitor to couple the switching device to the high voltage transformer. The capacitor is selected to provide a relatively low impedance at the retrace frequency but a relatively high impedance at the trace frequency when arcing is most likely to occur.

3,437,878
CONTROL SYSTEM FOR IMPROVING TRANSIENT STABILITY OF A.C. SYSTEM BY JOINT USE OF D.C. SYSTEM
Takehiko Machida, Tokyo-to, Japan, assignor to Zaidan Hojin Denryoku Chuo Kenkyusho, Tokyo-to, Japan
Filed Sept. 13, 1965, Ser. No. 486,609
Claims priority, application Japan Mar. 8, 1965, 40/13,052
Int. Cl. H02h *3/28*
U.S. Cl. 317—31 **2 Claims**



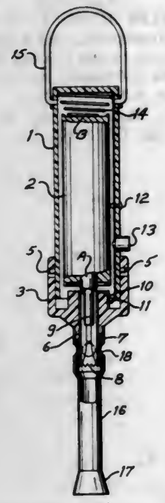
A D.C. transmission line connected in parallel to an A.C. transmission line including a rectifier at the sending terminal and an inverter at the receiving terminal to improve the stability of the complete system during a fault. The D.C. transmission line is normally in a stand-by relationship and upon the occurrence of a low voltage condition on the A.C. transmission line, the power output of the D.C. transmission line is greatly increased to stabilize the system. Upon cessation of the fault condition, the D.C. transmission line is returned to a stand-by condition through the operation of a switching means which is responsive to the absence of a fault condition.

3,437,879
TRANSIENT PROTECTION FOR SEMICONDUCTOR DEVICE
Marion L. Snedeker, Cleveland, Ohio, assignor to The Leece-Neville Company, Cleveland, Ohio, a corporation of Ohio
Filed Dec. 19, 1966, Ser. No. 602,603
Int. Cl. H02h *1/04, 3/28*
U.S. Cl. 317—31 **12 Claims**



In a regulator circuit for a vehicle alternator, a transistor which controls the energization of the alternator is protected from destructive electrical transients when a switch for the load relay is operated. When the switch is closed or opened, the voltage on the control electrode of the transistor changes immediately, but the inherent time delay in the closing or opening of the load relay contacts retards the voltage change at the output electrodes of the transistor.

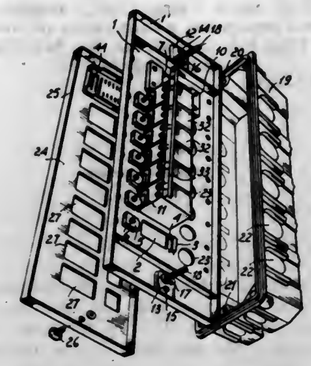
3,437,880
ELECTRIC GAS IGNITOR
Franz Profunser, Collalbo, Bolzano, Italy
Filed Feb. 16, 1967, Ser. No. 616,713
Int. Cl. F23q *7/10*
U.S. Cl. 317—98 **4 Claims**



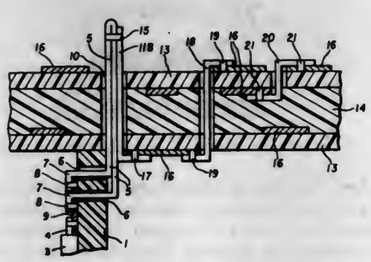
A gas ignitor having an electrically conductive filament which when energized is capable of igniting a combustible gas. The filament is carried by an electrode means which with the filament forms part of an electrical circuit which, when closed, energizes the filament to ignite a gas therewith. A support means carries the electrode means with the filament situated beyond and spaced from the support means, and an elongated hollow tube is carried by the support means surrounding the filament. This tube has an inner end fixed to the support means and it is at the region of this inner end that the filament is located, the tube having distant from its inner end an outer open end and being formed in the region of its inner end with at least one opening passing through a wall portion of the tube so that the combustible gas can flow along the interior of the tube to engage the filament to be ignited thereby when energized. The tube has an outwardly flaring configuration at its outer end to promote the flow of the gas through the tube. Also, the tube is straight and of substantial length so that when the operator uses the ignitor he will be protected from a flame at the outer end of the tube. The filament is in the form of a spiral and preferably made of an alloy of platinum and iridium.

3,437,881
MOUNTING ASSEMBLY FOR MODULAR WIRING DEVICES
Mario Paganelli, Varese, Italy, assignor to Bassani, S.p.A., Milan, Italy
Filed Mar. 28, 1967, Ser. No. 626,507
Claims priority, application Italy, Apr. 12, 1966, 8,315/66
Int. Cl. H02b *1/02*
U.S. Cl. 317—99 **6 Claims**

An electrical mounting assembly for modular wiring includes a housing with a component plate disposed upon one open face. Another plate overlies the component plate and provides the sealing function of protecting the electrical components in the interior of the housing. The component plate is easily detachable from the housing.



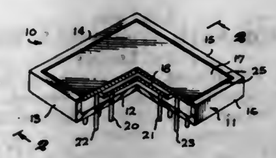
3,437,882
CIRCUIT BOARD STRUCTURE WITH INTERCONNECTING MEANS
John Anthony Cayzer, Brickhill, England, assignor to Texas Instruments Incorporated, Dallas, Tex., a corporation of Delaware
Filed Jan. 14, 1966, Ser. No. 520,595
Int. Cl. H02b *1/04*
U.S. Cl. 317—101 **2 Claims**



Interconnected circuit board assemblies are disclosed each comprising a first circuit board having a plurality of apertures therein and a plurality of second circuit boards with interconnecting electrical circuit members attached thereto, projecting beyond one edge thereof, and secured through said apertures to conductive members on said first circuit board. The interconnecting electrical circuit members provide mechanical rigidity to an entire assembly, electrical conductivity between the circuit modules and ease of connection and disconnection of the different boards for repair and change of connections.

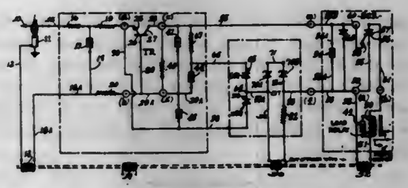
3,437,883
MICROMODULAR ELECTRONIC PACKAGE UTILIZING CANTILEVERED SUPPORT LEADS
Charles W. Smith, Canoga Park, Calif., assignor to The Bunker-Ramo Corporation, Canoga Park, Calif., a corporation of Delaware
Filed Dec. 9, 1966, Ser. No. 600,640
Int. Cl. H02b *1/04, 1/10*
U.S. Cl. 317—101 **7 Claims**

A micromodular electronic circuit package constructed so as to avoid damaging effects of temperature variations. The package can include a plurality of stacked component laden substrates with each substrate being physically supported on and electrically connected to, the ends of a different set of conductive pins extending through a case bottom portion. The pins are secured to the case bottom portion so that the pin portions extending to the



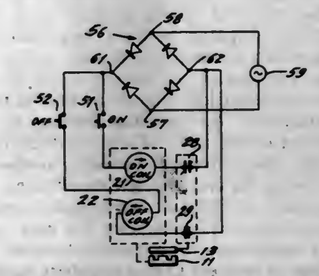
substrates are effectively cantilevered whereby they may flex to adjust to relative expansion between the case bottom portion and the substrate without subjecting the pin-substrate connections to excessive shear forces.

3,437,884
FLAME MONITORING CIRCUIT
Richard F. Mandock, Schiller Park, and Ronald F. Plambeck, Chicago, Ill., assignors to Protection Controls, Inc., Skokie, Ill., a corporation of Illinois
Filed Nov. 21, 1966, Ser. No. 595,976
Int. Cl. H01h *47/32;* **G08b** *21/00*
U.S. Cl. 317—148.5 **11 Claims**



A flame monitoring apparatus having a silicon controlled rectifier supplied with a continual triggering voltage from a triggering circuit to hold a load relay normally in sustained operation so long as the monitored flame is present. A transistor, which is normally biased in an off condition by the presence of the monitored flamed, is rendered conductive as a result of cessation of the flame and provides a diversionary path for the triggering circuit so that no triggering voltage is supplied to the silicon controlled rectifier thereby causing the silicon controlled rectifier to become nonconductive and thus deenergize the load relay.

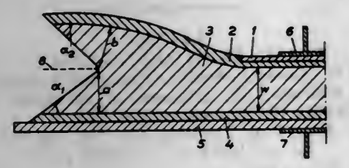
3,437,885
ELECTROMAGNET
Frank W. Kussy, Birmingham, and Bernard Di Marco, Lincoln Park, Mich., assignors to I-T-E Circuit Breaker Company, Philadelphia, Pa., a corporation of Pennsylvania
Filed July 25, 1966, Ser. No. 567,538
Int. Cl. H01h *47/32, 51/22*
U.S. Cl. 317—150 **13 Claims**



This invention relates to electromagnets in general and in particular relates to a novel construction of an electromagnet that can be energized and deenergized by the ap-

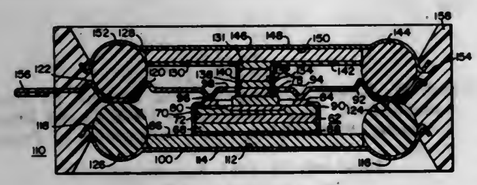
plication of instantaneous voltage signals and will remain in the position dictated by the last applied signal even if all power is removed from the operating coil.

3,437,886
THYRISTOR WITH POSITIVELY BEVELLED JUNCTIONS
Olle Edqvist, Jakobsberg, Per Svedberg, Vallingby, and Bengt-Arne Vedin, Jakobsberg, Sweden, assignors to Allmänna Svenska Elektriska Aktiebolaget, Vasteras, Sweden, a corporation of Sweden
Filed Mar. 24, 1966, Ser. No. 537,101
Claims priority, application Sweden, Mar. 25, 1965, 3,849/65
Int. Cl. H01l *5/00*
U.S. Cl. 317—234 1 Claim



A semiconductor device is formed of a disc-shaped semiconductor body having layers of different conductivity types and at least two pn-junctions between the layers. The thickness of the edge portion of the body is considerably thicker than the rest of the body, and is bevelled in such a way that the bevel angle is positive at at least two of the junctions.

3,437,887
FLAT PACKAGE ENCAPSULATION OF ELECTRICAL DEVICES
Thomas P. Nowalk and Herbert E. Ferree, Hempfield, Greensburg County, Pa., assignors to Westinghouse Electric Corporation, Pittsburgh, Pa., a corporation of Pennsylvania
Filed June 3, 1966, Ser. No. 555,136
Int. Cl. H01l *5/02*
U.S. Cl. 317—234 8 Claims



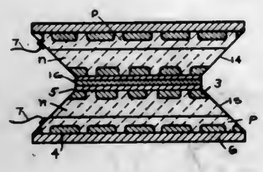
A flat package electrical device comprises a body of semiconductor material having at least three regions of semiconductivity disposed between two electrically and thermally conductive metal membranes which form opposed major surfaces of the device. Each of the membranes forms an electrical contact to one of the regions of semiconductivity. An electrical contact is affixed to the third region of the body of semiconductivity and has an electrically conductive tab extending outwardly from the body between the two opposed membranes. The body of semiconductor material is hermetically sealed within the electrical device by embedding the outer peripheral edges of the membranes in a plastic material, cooperating with a pair of resilient O-ring members each of which is disposed between one of the membranes and the electrical contact to the third region of the body of semiconductor material.

3,437,888
METHOD OF PROVIDING ELECTRICAL CONTACTS BY SPUTTERING A FILM OF GOLD ON A LAYER OF SPUTTERED MOLYBDENUM
John H. Hall, Santa Clara, Calif., assignor to Union Carbide Corporation, a corporation of New York
Filed July 1, 1966, Ser. No. 562,379
Int. Cl. H01l *3/12, 7/00*
U.S. Cl. 317—234 7 Claims



A process for providing an electrical contact on a surface of a semiconductive body by sputtering a film of molybdenum over the surface of the body, and thereafter sputtering a film of gold over the molybdenum.

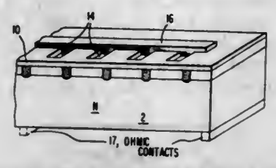
3,437,889
CONTROLLABLE SEMICONDUCTOR ELEMENT
Edouard Eugster, Windisch, Switzerland, assignor to Aktiengesellschaft Brown, Boveri & Cie, Baden, Switzerland, a joint stock company
Filed Nov. 14, 1966, Ser. No. 593,797
Claims priority, application Switzerland, Dec. 22, 1965, 17,684/65, Patent 437,538
Int. Cl. H01l *11/10*
U.S. Cl. 317—235 6 Claims



A four layer p-n-p-n semiconductor structure comprises a disc of semiconductor material in the shape of a cone frustum, there being two outer zones adjacent the electrodes applied to opposite faces of the structure, and an inner zone adjacent each of the outer zones. The outer zones are interrupted at various places over their surface area to establish short-circuit connections between the facing electrodes and the corresponding inner zone. A pair of such frustoconical four layer semiconductor structures can be joined together at their end surfaces which have the least diameter, or one such four layer semiconductor structure can be similarly joined to a frustoconically configured semiconductor diode structure.

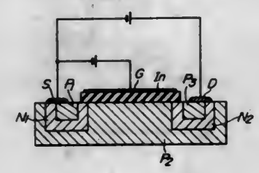
3,437,890
DIFFUSED-EPITAXIAL SCANISTORS
Robert James Krohl, Scotia, and Edward Stanley Wajda, Poughkeepsie, N.Y., assignors to International Business Machines Corporation, Armonk, N.Y., a corporation of New York
Filed Nov. 21, 1966, Ser. No. 595,701
Int. Cl. H01l *11/00, 15/00*
U.S. Cl. 317—235 16 Claims

The present invention relates to low voltage, epitaxially and/or diffusion formed, semiconductor radiation scanning devices. These devices consist of discrete diode-pairs (asymmetrical junctions) connected to a voltage gradient producing layer where each diode-pair includes a radiation sensitive diode and a blocking diode. One diode in each pair is formed by a first relatively thin discrete region deposited onto a relatively thick continuous substrate. The other diode in each pair is formed by a second relatively thin region deposited through openings in an insulating layer onto the first thin region. This epitaxially



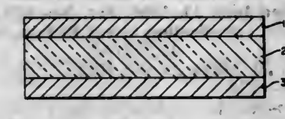
and/or diffusion produced, thin-layered construction fosters a diode-pair density approaching 1,000 per inch thereby providing a scanner having increased resolution.

3,437,891
SEMICONDUCTOR DEVICES
Akio Yamashita, Ikeda-shi, Japan, assignor to Matsushita Electric Industrial Co., Ltd., Osaka, Japan, a corporation of Japan
Continuation of application Ser. No. 494,500, Oct. 11, 1965. This application Oct. 9, 1967, Ser. No. 674,017
Claims priority, application Japan, Oct. 17, 1964, 39/59,387; June 29, 1965, 40/39,607
Int. Cl. H01l *11/04*
U.S. Cl. 317—235 2 Claims



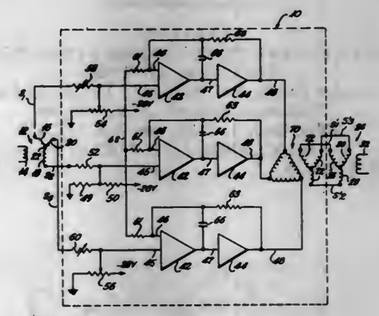
A semiconductor device capable of bidirectionally switching a large power with a small control power including two separate double diffused regions formed in one surface of a semiconductor substrate in such a manner that a p-n-p-n-p or a n-p-n-p-n structure is formed in the surface of the substrate, two electrodes provided on each of said double diffused regions, an insulating layer extending over the intermediate n-p-n or p-n-p regions of said p-n-p-n-p or n-p-n-p-n structure, and a control electrode on said insulating layer.

3,437,892
CAPACITOR DIELECTRIC COMPOSITIONS AND CAPACITORS MADE THEREFROM
Lewis C. Hoffman, Wilmington, Del., assignor to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware
Filed Dec. 5, 1966, Ser. No. 598,906
Int. Cl. H01g *1/01*
U.S. Cl. 317—258 7 Claims



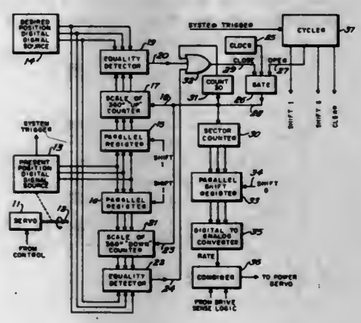
An electrical capacitor with dielectric compositions which are composed of finely divided glass powders dispersed in an inert vehicle. The particular glass powders are characterized by low electrical loss properties and are composed of critical proportionate amounts of SiO_2, B_2O_3, Al_2O_3, ZrO_2, ZnO, PbO and alkali metal oxides.

3,437,893
BUFFER AMPLIFIER SYSTEM WITH THREE MATCHED AMPLIFIER CHANNELS TO PROVIDE SYMMETRICALLY BALANCED INPUT AND OUTPUT IMPEDANCE
Charles Rauch, Sherman Oaks, Calif., assignor to Singer-General Precision, Inc., a corporation of Delaware
Filed May 3, 1966, Ser. No. 547,222
Int. Cl. G05b *6/02*
U.S. Cl. 318—18 6 Claims



A buffer amplifier system is provided which employs three matched amplifier channels to provide symmetrically balanced input and output impedance; D.C. feedback is used to reduce bias saturation of the transformers. Each channel is directly connected to one input winding of the synchro transmitter and the signal thereon is amplified, thus eliminating the need for grounding one of the synchro transmitter leads.

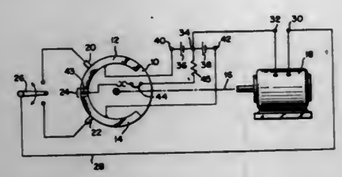
3,437,894
MULTIPLE SPEED SERVOMECHANISM DRIVE SYSTEM FOR POSITIONING AN ANTENNA IN DIRECT RESPONSE TO DIGITAL SIGNALS
James E. Pohl, San Diego, Calif., assignor to the United States of America as represented by the Secretary of the Navy
Filed Mar. 29, 1966, Ser. No. 538,928
Int. Cl. H02p *7/36*
U.S. Cl. 318—18 4 Claims



The instant disclosure relates to electronic systems for controlling servomechanism motors coupled to antenna systems that are responsive to digital signals. The dis-

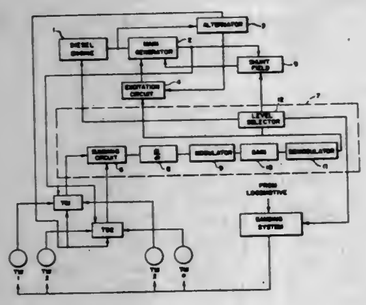
closed invention provides drive rate signals to a servomechanism in response to digital data signals without necessitating the conversion of the digital data signals into analog signals. Due to an intricate electronic system passing comparison signals to a pair of equality detectors, one giving an output signal when the actual position of the servomechanism is greater than a predetermined angular deviation, and the other giving an output signal when the actual position of the servomechanism is less than the angular deviation, the electronic circuit drives the servomechanism at varying speeds in direct response to digital signals representative of the difference between an antenna's actual direction and the direction that the antenna should point to without the conversion to analog signals.

3,437,895
ROTATIONAL POSITIONING SYSTEM FOR ELECTRIC MOTORS
Nicholas Peters, P.O. Box 401, 15 Lorelei Drive, Yorktown Heights, N.Y. 10598
Filed Dec. 8, 1965, Ser. No. 512,429
Int. Cl. H02p *1/22, 1/40, 3/20*
U.S. Cl. 318—33 **13 Claims**



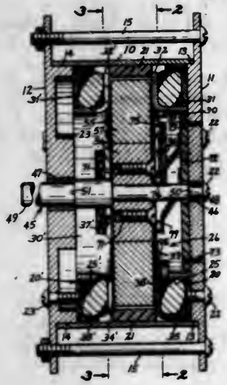
Motor **18** (FIG. 1) is energized through a selected brush member **20** to produce rotation until rotation of commutator **10** centers dwell segment **24** beneath selected brush **20**. As dwell segment **24** approaches the centered position, an auxiliary commutator contact **43** engages brush **20** to complete a shunt circuit (**44, 45, 34, 32**) across motor **18**.

3,437,896
WHEEL SLIP DETECTION SYSTEM
Henri H. Hoge, Baltimore, Md., assignor to Summit Electronics Incorporated, Cambridge, Md., a corporation of Maryland
Filed July 5, 1966, Ser. No. 562,836
Int. Cl. H02p *5/46, 7/74, 7/80*
U.S. Cl. 318—52 **10 Claims**



A highly sensitive wheel slip detection and correction signal generation system for locomotives wherein any slip of the locomotive wheels on the rails may be detected and corrected by reducing the excitation of the generator supplying electrical energy to the motors driving the wheels. The rate of acceleration of the slipping wheel determines the magnitude of the correction signal used to control the excitation of the main generator. Transductors connected between first and second sets of wheel and axle assemblies provide an electrical signal corresponding to wheel slippage. When the wheel slippage signal exceeds a predetermined value a relay is actuated which, among other functions, controls the application of sand to the rails.

3,437,897
AXIAL AIR GAP ELECTRIC MOTOR SYSTEM WITH PERMANENT MAGNET DISC ROTOR
Charles M. Lenny, 839 W. Hoyt Ave., St. Paul, Minn. 55117
Filed June 8, 1966, Ser. No. 556,100
Int. Cl. H02p *5/06, 5/28;* **H02k** *29/00*
U.S. Cl. 318—138 **8 Claims**

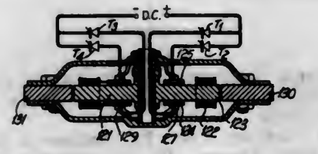


A motor having first and second frameworks of magnetic material each constructed so as to be generally toroidal in shape with alternating poles positioned along one surface thereof and a coil wound inside thereof, situated adjacent a magnetized disc rotor so as to be axially spaced therefrom at either side thereof and means for energizing the coils so that the poles of the first and second frameworks alternate to drive the rotor. For operation on direct current the energizing means may comprise a commutator with spark suppressors or transistorized commutating circuitry with rotor position pickup coils. For operation on alternating current the means may comprise SCR commutating circuitry.

3,437,898
DYNAMO-ELECTRIC MACHINE INCLUDING COMMUTATORS FED FROM ELECTRONIC DISCHARGE DEVICES
James John Bates, Esh Village, England, assignor to National Research Development Corporation, London, England, a corporation of Great Britain
Filed June 23, 1966, Ser. No. 559,869
Claims priority, application Great Britain, July 29, 1965, 32,571/65
Int. Cl. H02k *29/00;* **H02p** *1/16, 3/06*
U.S. Cl. 318—138 **6 Claims**

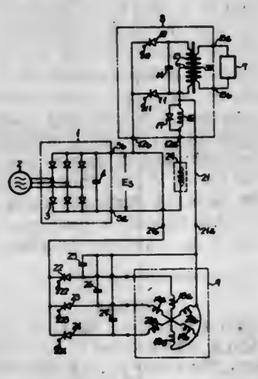
A dynamo-electric machine having a low ratio of axial length to diameter including an armature having a winding formed from a plurality of separate coils wound on individual axes and connected together to form a closed winding, a pair of commutators each comprising conducting segments and intersegmental insulation, the intersegmental insulation having spans equal to the spans of the

segments, a pair of current leads from supply terminals to the commutators wherein triggered electronic discharge devices are included in each of the current leads and wherein the commutators and pairs of brushes are positioned such that each supply terminal is always connected to a segment on at least one commutator and as the machine rotates it is intermittently connected to segments



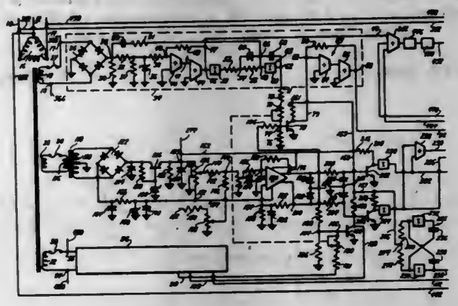
on both commutators simultaneously to complete circuital paths each embracing a pair of current leads and a triggered electronic discharge device included therein and an armature coil wherein extinction voltage generating means are included for applying extinction voltages through such circuital paths to a triggered electronic discharge device included therein during such intermittent connection.

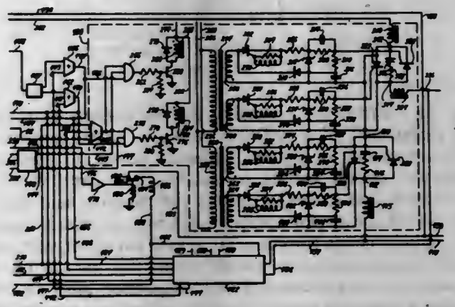
3,437,899
POWER SOURCE DEVICE FOR DRIVING STEP MOTOR OF GYRO
Yoichi Hirokawa, Musashino-shi, Tokyo, Japan, assignor to Kabushikikaisha Tokyo Keiki Seizosho (Tokyo Keiki Seizosho Co., Ltd.), Tokyo, Japan, a corporation of Japan
Filed Aug. 4, 1966, Ser. No. 570,296
Int. Cl. H02k *29/00*
U.S. Cl. 318—138 **4 Claims**



1. A power source device for driving a step motor of a gyro comprising a DC power source, an inverter connected thereto and converting the power source voltage into an AC voltage, the inverter consisting of a plurality of control rectifier elements, a converting coil connected between the anodes of the control rectifier elements and an impedance connected between the middle point of the converting coil and the plus side of the DC power source, a gyro drive motor actuated by one portion of the output current of the inverter, a step motor for the gyro actuated by the other portion of the current from the inverter, a control circuit connected to the inverter and consisting of control rectifier elements for sequentially applying the DC current including pulses from the inverter to the windings of the step motor, means for connecting the terminal of the impedance opposite from the plus side of the DC power source to the one terminal of the windings of the step motor for the gyro, and means for connecting the minus side of the DC power source to the minus side of the second-mentioned control rectifier elements.

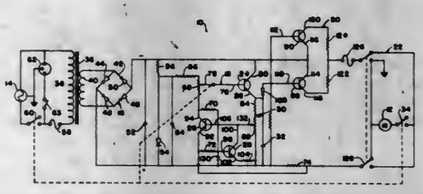
3,437,900
STATIC CONTROL SYSTEM FOR ALTERNATING CURRENT MOTOR EMPLOYING ANALOG TO DIGITAL CONVERTER
Melvin D. Kennedy, St. Louis, Mo., assignor to U.M.C. Industries, Inc., St. Louis, Mo., a corporation of Delaware
Filed Feb 13, 1967, Ser. No. 615,412
Int. Cl. H03k *13/02*
U.S. Cl. 318—207 **26 Claims**





An analog signal, which represents the desired speed and direction of rotation of the rotor of an alternating current motor, is converted to a digital signal that is used to control the speed and direction of rotation of the rotor of that motor.

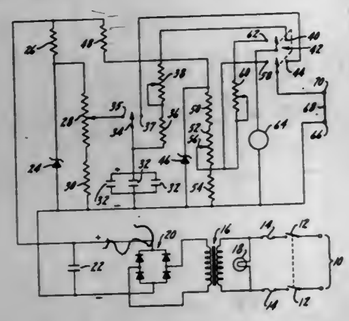
3,437,901
CONSTANT SPEED COMPENSATED ELECTRONIC CONTROL CIRCUIT
Kenneth G. Slotkowski, Oak Park, Mich., assignor, by mesne assignments, to Ritter Pfandler Corporation, Rochester, N.Y., a corporation of New York
Filed Sept. 27, 1965, Ser. No. 490,374
Int. Cl. H02p *5/00*
U.S. Cl. 318—332 **11 Claims**



An electronic control circuit for a dental handpiece having a direct current electric motor attached thereto and provided with, a permanent magnet field and a rotatable armature, said circuit having a power transistor in series with the armature and having full rectification

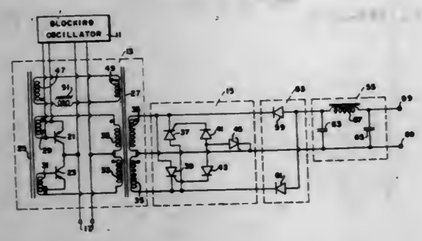
for providing a well-filtered, ripple-free direct current to the armature, together with means for maintaining a substantially constant motor speed for said dental handpiece over the range of possible motor speeds and over a wide variation in load at all speeds, especially at very low speeds of operation of the dental handpiece.

3,437,902
FIRING CONTROL CIRCUIT
John E. Jones, Jr., Zion, Ill., assignor to Fuel Research & Instrument Co., Chicago, Ill., a corporation of Illinois
Filed Dec. 9, 1965, Ser. No. 512,640
Int. Cl. G01r *27/26, 11/52*
U.S. Cl. 320—1 **9 Claims**



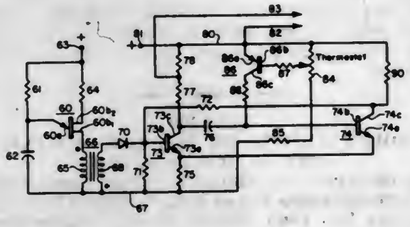
1. In a circuit for providing electric energy to an electric component of a sufficient value to cause ignition of said component, a source of electric power, at least one capacitor, circuit means connecting said capacitor and said source and including means for charging said capacitor, circuit means for adjusting the charge on said capacitor, switch means for connecting said capacitor with said electric component, and circuit means for measuring the amount of energy stored in said capacitor prior to connection to said component and for measuring the amount of energy dissipated in said component, prior to the time it is burned.

3,437,903
PROTECTION FOR ENERGY CONVERSION SYSTEMS
James E. Webb, Administrator of the National Aeronautics and Space Administration, with respect to an invention by Edward R. Pasciutti, Beltsville, and Michael W. Talbot, Greenbelt, Md.
Filed May 17, 1967, Ser. No. 640,781
Int. Cl. H02m *3/32*
U.S. Cl. 321—2 **13 Claims**



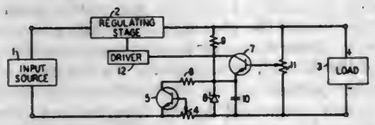
This invention is an apparatus for protecting a thermoelectric-generator source-power system against an abnormal load causing the thermal destruction of the generator or a voltage step-up converter used with the generator. A current feedback inverter is used to reflect the output voltage and current of the inverter back to the generator. During high-load or short-circuit conditions, Peltier cooling by electric heat pumping from the thermoelectric generator's hot junction to the radiator or cold sink cools the junction to prevent thermal destruction. During light-load or no-load conditions a sensing device ignites a shorting silicon-controlled rectifier to short the output of the inverter. This shorted output is reflected back to the thermoelectric generator and again Peltier cooling prevents thermal destruction.

3,437,904
RECTIFIER SYSTEM WITH ZERO CROSSING CONTROL CIRCUITS FOR SEMICONDUCTOR SWITCHES
Thomas C. Jednacz, York, Pa., assignor to Borg-Warner Corporation, Chicago, Ill., a corporation of Illinois
Filed May 22, 1967, Ser. No. 640,026
Int. Cl. H02m *7/52*
U.S. Cl. 321—5 **5 Claims**



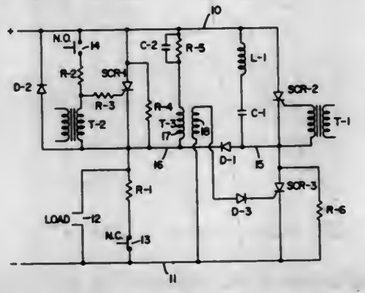
A three phase rectifier arrangement includes, in each phase, a diode with an SCR which has its gate coupled over a transformer to the A-C input circuit. When the varying A-C input is of the wrong polarity to make the SCR conduct, it is of the proper polarity to cause current flow across the transformer to the SCR gate. As soon as the input A-C polarity across the SCR changes, the SCR immediately conducts because current is already flowing in the gate circuit. A transistor is coupled in parallel with the transformer primary winding and, when gated on, effectively shunts the primary and prevents current injection into the SCR gate, thus preventing conduction of the SCR during a particular cycle or cycles. A pulse generator which includes a thermostat applies cycle control signals to all the transistor switches.

3,437,905
VOLTAGE AND CURRENT REGULATOR WITH VARIABLE REFERENCE VOLTAGE
Robert J. Healey, Morristown, and Donald S. Kimmel, Summit, N.J., assignors to Bell Telephone Laboratories, Incorporated, Murray Hill, N.J., a corporation of New York
Filed Jan. 16, 1967, Ser. No. 609,633
Int. Cl. H02m *1/08*
U.S. Cl. 321—19 **4 Claims**



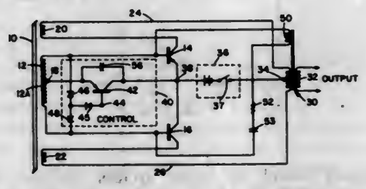
A constant-voltage, constant-current switching regulator wherein the crossover process from constant voltage to constant current regulation is accomplished smoothly over a relatively small range of load voltages and currents without competition between the load voltage and load current error detectors.

3,437,906
D-C CHOPPER
William Brooks, 1042 Inverness Way, Sunnyvale, Calif. 94086
Filed June 6, 1967, Ser. No. 643,970
Int. Cl. H02m *7/52, 7/78*
U.S. Cl. 321—43 **11 Claims**



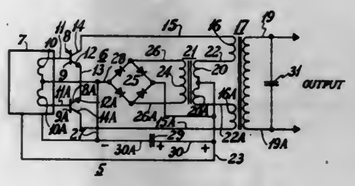
This D.C. chopper circuit comprises a controlled unidirectional conducting device, such as a silicon-controlled rectifier, a load in series therewith, a source of direct current connected across the load and the device, a first switching circuit responsive to a first signal for causing the device to conduct, and a second switching circuit responsive to a second signal for causing the device to cease conducting. The second switching circuit includes a second unidirectional current-conducting component connected across the device and poled to conduct current in a direction opposite thereto, and to cause a resonant circuit connected across the component. A third unidirectionally conducting member is connected between the second component and the source of direct current and is poled to conduct current in the same direction as that component; conduction in this member is caused by a switching circuit responsive to conduction of the device.

3,437,907
FREQUENCY CONTROLLED INVERTERS
Lawrence Merrill Palmer, Arcadia, Calif., assignor to Motorola, Inc., Franklin Park, Ill., a corporation of Illinois
Filed July 28, 1967, Ser. No. 656,824
Int. Cl. H02m *7/48*
U.S. Cl. 321—45 **6 Claims**



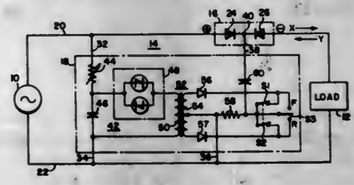
A two-transformer voltage inverter circuit having a frequency control connected in effective series circuit with the base electrodes of two transistors in the inverter circuit and the base drive winding of the frequency determining transformer. The frequency control provides a voltage drop between the base drive winding and the transistors to minimize the effect of V_{BE} variations on inverter frequency. This voltage drop is provided, for example, by a transistor connected therebetween or a Zener diode connected to oppose normal emitter current flow. The frequency control may also be resistor or forward biased diodes. Diodes with negative temperature coefficient may be used to compensate negative temperature coefficient of saturation flux density, Bs, of saturable core in frequency determining transformer. Control circuitry is provided for controlling the impedance across the base drive winding.

3,437,908
FEED INDUCTOR FOR STATIC INVERTER
Peter A. Vincent, Little Silver, N.J., assignor to The Bendix Corporation, a corporation of Delaware
Filed Aug. 23, 1967, Ser. No. 662,776
Int. Cl. H02m *7/52*
U.S. Cl. 321—45 **5 Claims**



A feed inductor for a static inverter in which primary windings of the feed inductor are connected in series between the output windings for operation on a A.C. flux.

3,437,909
POWER CONTROL APPARATUS WITH NOVEL SYMMETRICAL SWITCHING ARRANGEMENT
Alec H. B. Walker, Trafford, Pa., assignor to Westinghouse Electric Corporation, Pittsburgh, Pa., a corporation of Pennsylvania
Filed Oct. 19, 1966, Ser. No. 587,871
Int. Cl. H02m *7/46;* **H03k** *17/74*
U.S. Cl. 321—47 **4 Claims**

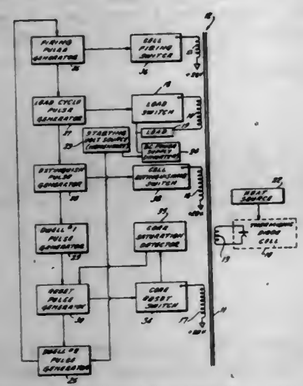


Apparatus for supplying power to a load from an A.C. source is disclosed wherein a symmetrical switch is utilized including a pair of switching diodes which are oppositely poled and connected in series between the A.C. source and the load. Each of the diodes has an easy conduction direction for one polarity and a normally blocking direction for the other polarity. The diodes are responsive to be fired in response to firing signals of the opposite polarity. A firing circuit is provided for generating firing signals of opposite polarities which are selectively applied to the diodes for alternately firing each of them to apply A.C. to the load or to fire only one of them to provide D.C. of either polarity to the load.

3,437,910
AUTOMATIC RESETTING MEANS FOR TRANSFORMER ENERGIZED BY ASYMMETRICAL WAVEFORMS
Lewis L. Haring, Brooklyn, and Walter R. Oppen, Plandome, N.Y., assignors to Sperry Rand Corporation, Ford Instrument Company Division, Long Island City, N.Y., a corporation of Delaware
Filed May 18, 1967, Ser. No. 639,528
Int. Cl. H02m *1/00;* **H02m** *7/44*
U.S. Cl. 322—2 **10 Claims**

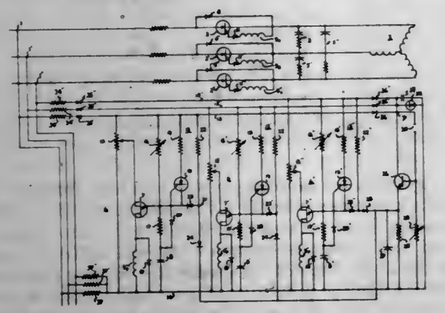
In a system for stepping up the voltage output of thermionic converters by utilizing a transformer, a signal produced by monitoring the voltage across the transistorized reset switch to detect the approach of transformer saturation during the reset pulse is utilized for the automatic production of a reset pulse of variable and

proper length so that the volt-seconds appearing across the transformer during the power delivery and extinguish



cycles are equal and opposite thereby preventing saturation of the transformer core.

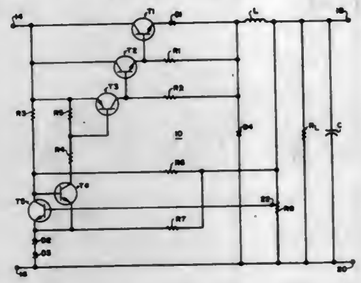
3,437,911
CONTROL CIRCUIT FOR CONTROLLING THE POWER TO AN INDUCTIVE LOAD FROM A POLYPHASE SOURCE
Frank W. Gutzwiller, Auburn, N.Y., assignor to General Electric Company, a corporation of New York
Filed Apr. 25, 1966, Ser. No. 545,118
Int. Cl. G05f *1/40, 1/52*; H02m *3/08*
U.S. Cl. 323—22 10 Claims



A controlled rectifier circuit is provided for controllably supplying power to an inductive load. Trigger circuit means is coupled to a controlled rectifier for controlling the point during each input voltage cycle at which the controlled rectifier is to be fired. The trigger circuit includes means for generating a phase controlled train of pulses in response to the source voltage. It further includes means for coupling the train of pulses to the gate circuit of the controlled rectifier, the last-mentioned means and the gate circuit being so constructed and arranged that the power for the gate circuit is derived solely from the train of pulses.

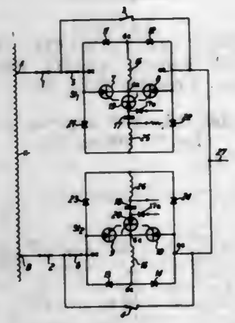
3,437,912
CONSTANT POTENTIAL POWER SUPPLY
David Morris, Brooklyn, N.Y., assignor to General Precision Inc., Little Falls, N.J., a corporation of Delaware
Filed Dec. 30, 1966, Ser. No. 606,146
Int. Cl. G05f *1/40*; H02p *13/16*
U.S. Cl. 323—22 7 Claims

A constant potential power supply for use in airborne equipment having an integrating capacitor across its output and which is maintained charged to potentials within a predetermined range. The capacitor discharges through the power supply load and a Schmitt type trigger is actuated as the output potential reaches a certain minimum value. The change in state of the trigger, through additional circuitry causes a line switch to close, applying a



charging current to the capacitor. On reaching a certain maximum output potential value, a reverse action occurs, opening the switch. Bias potentials applied to the trigger from the power supply output terminal through resistive elements facilitate faster and more effective trigger action, effecting a lower hysteresis, or difference between maximum and minimum output potentials.

3,437,913
TAPPED REGULATING TRANSFORMER HAVING THYRISTOR TRANSFER SWITCH MEANS
Manfred Matzl, Regensburg-Zeitlarn, Germany, assignor to Maschinenfabrik Reinhausen Gebruder Scheubeck K.G., Regensburg, Germany
Filed Feb. 28, 1967, Ser. No. 619,228
Claims priority, application Germany, Mar. 5, 1966, M 68,658
Int. Cl. H02p *13/06*; H03k *17/74*
U.S. Cl. 323—43.5 12 Claims

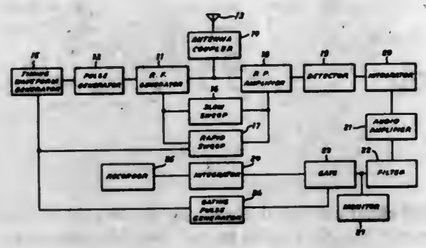


A transfer switch to effect arcless changes between transformer taps, includes a pair of networks arranged in parallel, each network including a pair of diodes, a pair of thyristors and a forced commutation circuit composed of a thyristor, capacitor and inductor.

3,437,914
METHOD AND APPARATUS FOR REMOTE SENSING OF SUBSTANCES HAVING CHARACTERISTIC MAGNETIC RESONANCE PROPERTIES
Anthony Rene Barringer, Willowdale, Ontario, and George Arnold Lantz, Richmond Hill, Ontario, Canada, assignors to Barringer Research Limited, Rexdale, Ontario, Canada, a corporation
Filed May 24, 1965, Ser. No. 458,218
Int. Cl. G01n *27/72*
U.S. Cl. 324—0.5 16 Claims

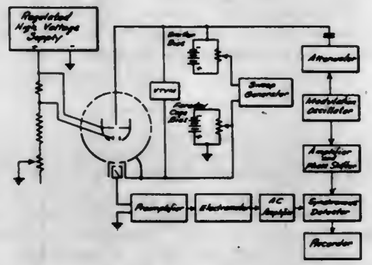
Method and apparatus are disclosed for remote detection of selected substances utilizing magnetic resonance

phenomenon. Radio frequency energy is transmitted toward the earth to cause magnetic resonance absorption in



substance in the earth. Resonance signals radiated from the earth are received and their characteristics measured to determine the presence of the selected substance.

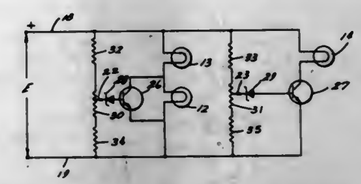
3,437,915
APPARATUS FOR MEASURING THE ENERGY DISTRIBUTION OF ELECTRONS EXTRACTED FROM SOLIDS
Allan M. Russell, Riverside, Calif., assignor to the United States of America as represented by the Secretary of the Navy
Filed Jan. 2, 1964, Ser. No. 335,447
Int. Cl. G01r *31/22*
U.S. Cl. 324—24 3 Claims



This invention relates generally to instruments utilized for the measurement of the energy distribution of electrons extracted from solids, particularly semiconductors. The measurement of the total energy of the electrons outside the solid is an indication of the total energy that these electrons had within such solid. The invention may include a spectrometer tube which contains a collector and an emitter tip of the solid to be investigated. A DC bias, a linear sweep, and an AC modulation may be applied to the emitter tip so that detection of the output from the collector will provide the desired indication.

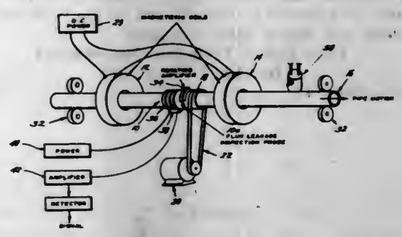
3,437,916
THREE LIGHT TESTING ARRANGEMENT FOR TESTING THE VOLTAGE OUTPUT OF AUTOMOBILE VOLTAGE REGULATORS
Anatolijs Mazurkevics, Kalamazoo, Mich., assignor to Allen Electric and Equipment Company, Kalamazoo, Mich., a corporation of Michigan
Filed Oct. 23, 1965, Ser. No. 503,907
Int. Cl. G01r *31/02*
U.S. Cl. 324—28 1 Claim

A testing arrangement for testing the voltage across the output terminals of an automobile voltage regulator having three lights whose sources of energy are biased in a manner such that the output voltage of the voltage regulator will cause the selected lights to be turned on and



off for indicating the condition of the voltage regulator prior to and during adjustment of said regulator.

3,437,917
METHOD OF AND APPARATUS FOR HIGH SPEED MAGNETIC INSPECTION OF TUBULAR GOODS
Walter A. Gunkel and William R. Van der Veer, San Antonio, Tex., assignors to Southwest Research Institute, San Antonio, Tex.
Filed Dec. 13, 1966, Ser. No. 601,399
Int. Cl. G01r *33/12*
U.S. Cl. 324—37 10 Claims

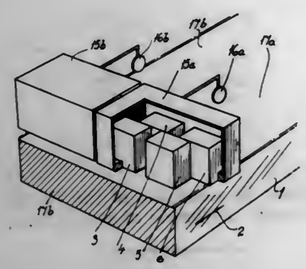


A method and apparatus for detecting flaws in tubular ferromagnetic members is disclosed which includes a magnetizing means, such as a pair of spaced apart coaxial coils mounted about the surface of the member, for establishing a longitudinal magnetic field of substantially constant flux density along at least a portion of the tubular member. A sensing unit including a mechanical support element having an electrical signal generating device fixed thereon is rotated at high speeds, for example, 1800 r.p.m., in close proximity to but spaced from and out of contact with the outer surface of the tubular member. A flaw in the member will cause a variation in the density of magnetic flux along the member and this variation will generate an electrical signal in the probe indicative of the presence of a flaw; means are included for determining the relative magnitude of this signal, and if desired, an alarm or a marker may be activated when the magnitude of this signal exceeds a predetermined level.

3,437,918
INDUCTIVE BRIDGE CIRCUIT FOR FLAW SENSING IN WHICH ALL COILS OF THE BRIDGE ARE POSITIONED ADJACENT THE TEST PIECE
Anders Ingvar Arnelo, Vasteras, Sweden, assignor to Essem Metotest AB, Skultuna, Sweden
Filed Feb. 1, 1967, Ser. No. 613,146
Claims priority, application Sweden, Feb. 24, 1966, 2,432/66
Int. Cl. G01r *33/12*
U.S. Cl. 324—37 2 Claims

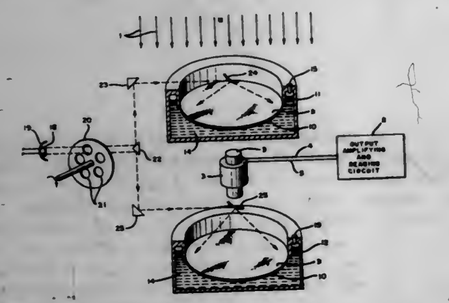
An apparatus for use in the non-destructive testing of metals, which enables material of arbitrary shape and dimensions to be tested for flaws by stationary means and which indicates the positions where detected flaws are located in the material. Arrays of sensing coils, for eddy

currents induced in the material, are arranged in the path of the material to be tested so that the entire width of the



material is probed irrespective of the speed at which the material is advanced.

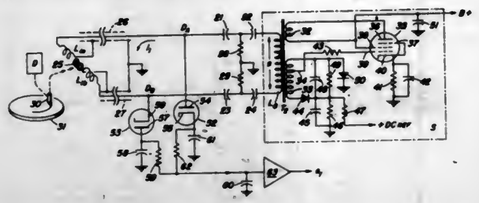
3,437,919
CRYOGENIC APPARATUS FOR MEASURING THE INTENSITY OF MAGNETIC FIELDS
John Dimeff, San Jose, Calif., assignor to the United States of America as represented by the National Aeronautics and Space Administration
Filed July 1, 1965, Ser. No. 469,013
Int. Cl. G01r *33/02*
U.S. Cl. 324—43 **3 Claims**



A cryogenic magnetometer. A sensing coil is positioned between two sheets of superconductive material. The temperature of the sheets is periodically changed above and below the transition temperature of the sheets so that a magnetic field under test is periodically gated. The effects of residual magnetism in the coil core are obviated because the residual field is not gated. The unknown field passing through the sheets is pinched during the gating process increasing the flux density at the coil, and the amplitude of the resultant signal.

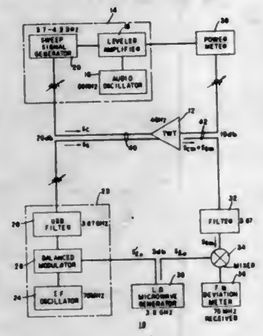
3,437,920
TRANSDUCER CIRCUITS WITH FREQUENCY-AMPLITUDE CONTROL
Norman J. Anderson, 152 Fairview Ave., Boonton, N.J. 07005
Continuation of application Ser. No. 848,041, Oct. 22, 1959. This application Sept. 14, 1965, Ser. No. 495,004
Int. Cl. G01r *27/16, 17/06*
U.S. Cl. 324—57 **14 Claims**

A translating system for converting a variable quantity into a related electrical signal including an energizing source coupled across an oscillatory network having a reactance element connected in parallel with a pair of series-connected reactance elements, one of which is variable and responsive to said variable quantity, and automatic amplitude control means for maintaining the amplitude of the voltage appearing across said network constant, where-



by said electrical signal appearing across said variable reactance is linearly related to said variable reactance.

3,437,921
AM/PM CONVERSION TESTING BY TRANSMITTING HIGH AND LOW AMPLITUDE SIGNALS OF DIFFERENT FREQUENCIES THROUGH THE DEVICE UNDER TEST AND MEASURING THE PHASE MODULATION INDUCED IN THE LOW LEVEL SIGNAL
Stroud S. Custer, Jr., Fleetwood, Pa., assignor to Bell Telephone Laboratories, Incorporated, Murray Hill, N.J., a corporation of New York
Filed Nov. 16, 1966, Ser. No. 594,725
Int. Cl. G01r
U.S. Cl. 324—58 **7 Claims**



1. Apparatus for measuring the AM/PM conversion of a transmission system having a particular bandwidth characteristic and producing phase modulation in signals of time varying power level;

said apparatus comprising:

means for generating an amplitude modulated first signal at a frequency transmitted by said transmission system and at a particular average power level;

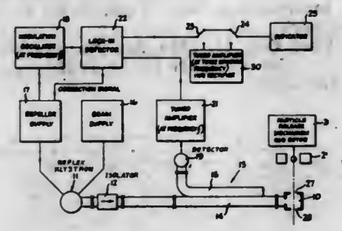
means for generating a second signal at a frequency transmitted by said transmission system, but at a frequency different from the frequency of the first signal, and at an average power level substantially less than the average power level of the first signal, thereby reducing cross modulation between the first and second signals;

means for coupling the first and second signals to the input of said transmission system;

said transmission system producing phase modulation in the second signal in accordance with the amplitude modulation of the first signal, whereby a frequency deviation is produced in the second signal; and

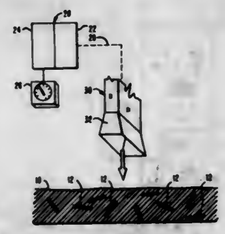
means for measuring at the output of said transmission system the frequency deviation of the second signal, whereby a measure of the AM/PM conversion is obtained.

3,437,922
MICROWAVE DIMENSIONAL MEASURING APPARATUS AND METHOD
Park H. Miller, Jr., Del Mar, Calif., assignor, by mesne assignments, to Gulf General Atomic Incorporated, San Diego, Calif., a corporation of Delaware
Filed Oct. 2, 1963, Ser. No. 313,303
Int. Cl. G01r *27/04*
U.S. Cl. 324—58.5 **4 Claims**



4. A method of measuring a selected characteristic of a body of material, comprising the steps of exciting a resonant cavity with a high frequency signal, modulating said high frequency signal so that a range of frequencies is fed to the resonator including the resonant frequency thereof prior to the introduction of the body thereto, monitoring the signal reflected from said resonator, deriving an electrical signal indicative of the difference between the resonant frequency of the cavity prior to the introduction of the body and the resonant frequency of the cavity with the body therein, varying the frequency of the high frequency source in response to said electrical signal for returning the resonator to a resonant condition with the body therein, and measuring said electrical signal whereby the selected characteristic of the body can be determined.

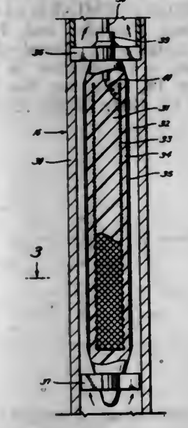
3,437,923
METHOD OF DETERMINING AVERAGE ORIENTATION OF WIRES IN MATERIAL
Kenneth A. Lucas, Sacramento, and Robert B. Oliver, Citrus Heights, Calif., assignors to Aerojet-General Corporation, El Monte, Calif., a corporation of Ohio
Filed Jan. 6, 1965, Ser. No. 423,803
Int. Cl. G01r *27/02*
U.S. Cl. 324—58.5 **4 Claims**



This disclosure relates to methods for determining the average orientation of a plurality of metallic wires embedded in a material.

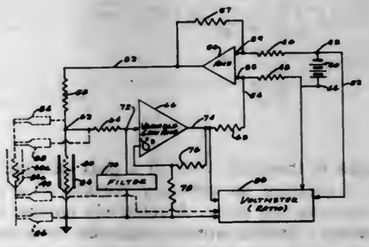
The method according to the present disclosure comprises directing polarized microwave radiation toward a material having a plurality of metallic wires embedded therein. The radiation is directed along each of a plurality of mutually perpendicular axes of the material. Microwave reflected from the material is measured and the average orientation of the wires may be determined by ascertaining the two axes yielding the greatest microwave reflection.

3,437,924
FLUID ANALYZER PROBE INCLUDING THIN PLIABLE METAL ELECTRODE
Jean Louis Tocanne, Lozere-sur-Yvette, France, assignor to Societe de Prospection Electrique Schlumberger, S.A., Paris, France, a French corporation
Filed Nov. 30, 1965, Ser. No. 510,620
Claims priority, application France, Dec. 17, 1964, 999,046
Int. Cl. G01r *27/26; G01v 3/18*
U.S. Cl. 324—61 **9 Claims**



Disclosed is a novel electrode structure for use in a fluid analyzer device to be utilized for in situ analysis of the production fluid in producing oil wells. This electrode structure utilizes an outer metal tubular housing as one electrode of a capacitor together with a thin pliable metal inner electrode embedded in an electrical insulator forming a structural support member and protective housing for said inner electrode. The inner electrode assembly is capable of thermal expansion and contraction without adverse deterioration effects.

3,437,925
CIRCUIT FOR CONVERTING RESISTANCE VALUES OF UNKNOWN RESISTOR TO ELECTRICAL POTENTIAL SIGNAL FOR MEASUREMENT PURPOSES
Garry C. Gillette, Costa Mesa, Calif., assignor to Dana Laboratories, Inc., Irving, Calif., a corporation of California
Filed Oct. 23, 1965, Ser. No. 503,390
Int. Cl. G01r *27/02*
U.S. Cl. 324—62 **6 Claims**



An ohmmeter circuit is disclosed wherein a reference impedance is energized with a substantialy-constant, unreferenced potential, e.g. a battery, to receive a current that also passes through the resistor being tested. The

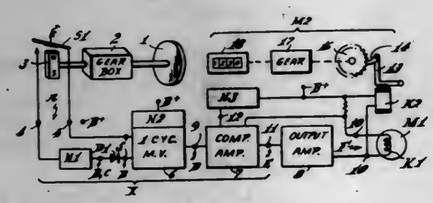
return from the reference impedance to the battery is accomplished through an isolation amplifier and the voltage output from that amplifier manifests resistance because of the fixed nature of the reference impedance and the characteristic of the isolation amplifier. A circuit is also disclosed which incorporates differential-amplifier input to the reference impedance, A.C. filtering, a variable-gain isolation amplifier and a ratio voltmeter output.

3,437,926

PULSE RESPONSIVE ELECTRICAL METER CIRCUIT INCLUDING MEANS FOR PRODUCING PULSES OF PREDETERMINED CURRENT VALUE

David B. Spaulding, Carlisle, and Jeffry A. Wisnia, Newton, Mass., assignors to Comstock & Wescott, Inc., Cambridge, Mass., a corporation of Massachusetts

Filed Apr. 18, 1966, Ser. No. 548,346
Int. Cl. G01r *11/02, 23/02*
U.S. Cl. 324—70 12 Claims



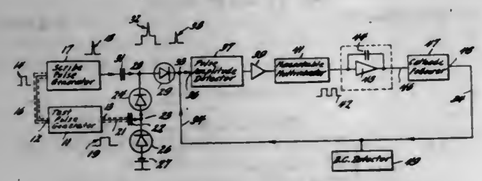
A rotor of a vehicle closes a switch with each revolution in either direction and produces input pulses at the rotation rate which are applied through an electronic circuit to the coil of a speedometer. The circuit includes a resistance in series with the coil and carrying the coil current so as to develop a voltage drop proportional to the coil current. The voltage drop is compared by an amplifier with a reference voltage source in the circuit and the difference voltage applied to a pulse output amplifier to cause the amplifier to supply output pulses of constant duration and amplitude.

3,437,927

PEAK DETECTION SYSTEM FOR ARBITRARY PORTIONS OF REPETITIVE PULSES

Robert Cornwell, Jr., and John G. Fields, Burlington, N.C., assignors to Western Electric Company, Incorporated, New York, N.Y., a corporation of New York

Filed Feb. 2, 1966, Ser. No. 524,416
Int. Cl. G01r *19/04, 27/28*
U.S. Cl. 324—102 3 Claims



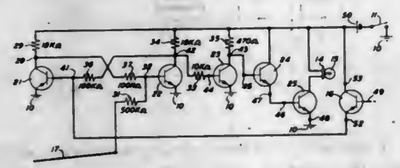
Changes in threshold level of a peak detector are employed to measure an arbitrary portion of a relatively wide, repetitive test pulse. A relatively narrow repetitive pulse having a predetermined amplitude value and occurring at the first pulse rate is superimposed on the first pulse in time coincidence with the portion to be measured. The portion of the resulting composite pulse having an amplitude above the first value operates the peak detector, which generates a feedback signal that effectively raises the detector threshold level in discrete steps by an amount equal to the amplitude of the selected portion of the test pulse.

3,437,928

SELF-CONTAINED TEST PROBE WITH INDICATOR LAMP RESPONSIVE TO CONTINUOUS OR PULSED VOLTAGES

William E. Baker, Middletown, and Daniel M. Foltz, Red Bank, N.J., assignors to Bell Telephone Laboratories, Incorporated, New York, N.Y., a corporation of New York

Filed Dec. 21, 1964, Ser. No. 419,996
Int. Cl. G01r *19/14, 19/16*
U.S. Cl. 324—133 4 Claims



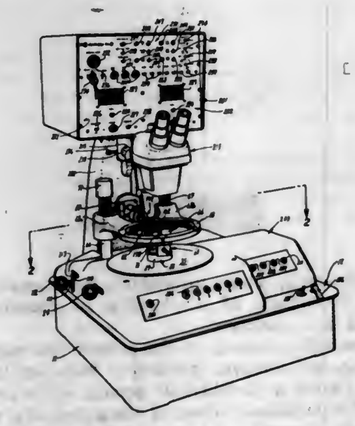
A test probe for detecting continuous or pulsed voltages employ its own power source, an indicator lamp, and circuitry for lighting the lamp in response to input signals above a certain level. The signals are applied from a metallic probe to a bistable transistor flip-flop switch. When the signals are greater than a selected magnitude, the lamp is lighted. A photodiode or the like adjacent to the lamp conducts when the lamp intensity reaches a predetermined level, causing the flip-flop to switch, provided that the voltage input is no longer present. Regardless of pulse duration, the arrangement allows the indicator lamp to stay lit long enough to be seen.

3,437,929

AUTOMATICALLY INDEXED PROBE ASSEMBLY FOR TESTING SEMICONDUCTOR WAFERS AND THE LIKE

David A. Glenn, Cupertino, Calif., assignor to Electroglas Incorporated, Menlo Park, Calif., a corporation of California

Filed Aug. 5, 1965, Ser. No. 477,427
Int. Cl. G01r *31/02*
U.S. Cl. 324—158 19 Claims



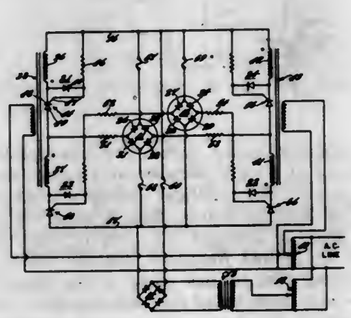
Wafer die sort machine having a chuck assembly for holding the wafer and a plurality of probes for contacting the wafer and means for automatically causing sequential movement of the chuck assembly and the probes relative to each other for checking the dies to be formed from the wafer.

3,437,930

APPARATUS FOR APPLYING FORWARD CURRENT AND INVERSE PEAK VOLTAGES TO BRIDGE RECTIFIERS

Robert L. Sels, Reading, Pa., assignors to Western Electric Company, Incorporated, New York, N.Y., a corporation of New York

Filed Oct. 23, 1965, Ser. No. 503,284
Int. Cl. G01r *31/22, 31/26*
U.S. Cl. 324—158 11 Claims



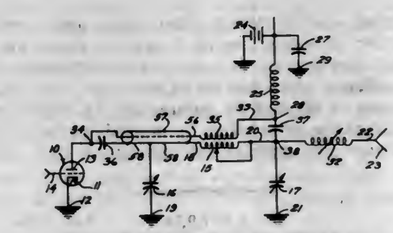
An appartus for aging a bridge rectifier, having a diode in each arm thereof, has a switching subcircuit associated with a different one of the bridge diodes. Each of the subcircuits has a silicon-controlled rectifier arranged so that during one half cycle of operation, the silicon-controlled rectifiers pass forward current through diodes associated therewith in a first pair of opposed arms of the bridge while inverse peak voltage is applied to the diodes in a second pair of opposed arms of the bridge. During the other half cycle of operation, forward current is passed through the second pair of opposed arms of the bridge while inverse voltage is applied across the first pair.

3,437,931

SHUNT FED PI-L OUTPUT NETWORK

Porter F. Schultz, Jr., Liberty, Ill., assignor to Gates Radio Company, Quincy, Ill., a corporation of Illinois

Filed Dec. 16, 1965, Ser. No. 514,325
Int. Cl. H04b *1/66, 1/04;* H03f *1/00*
U.S. Cl. 325—172 7 Claims



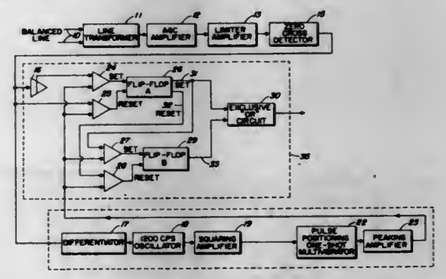
A device for coupling the plate supply voltage to a power amplifier in a radio frequency transmitter including a high impedance circuit means to isolate RF frequencies from the power supply and a low impedance circuit means to couple the plate supply directly to the output of an output filter network. The plate supply is also coupled through an ideal transformer relationship with a tuning coil of the output filter and is applied directly to the plate of the power amplifier device.

3,437,932

FSK RECEIVER WHEREIN ONE BINARY SIGNAL IS REPRESENTED BY A HALF CYCLE OF A GIVEN FREQUENCY AND THE OTHER BINARY SIGNAL IS REPRESENTED BY A FULL CYCLE OF TWICE THAT FREQUENCY

Louis Malakoff, Huntington Beach, Calif., assignor to Collins Radio Company, Cedar Rapids, Iowa, a corporation of Iowa

Continuation of application Ser. No. 337,480, Jan. 13, 1964. This application Oct. 30, 1967, Ser. No. 700,660
Int. Cl. H04b *1/16*
U.S. Cl. 325—320 5 Claims



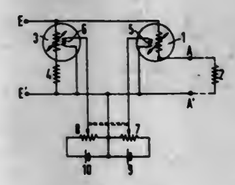
Means for demodulating a time synchronous data carrying received signal consisting of half cycles of frequency f_1 representing "0's" and full cycles of frequency $2f_1$ representing "1's" with the peak amplitudes of both frequencies being equal and with bit transitions occurring at the peak amplitudes of the half and full cycles. The zero crossings are detected to produce a two-level signal which changes level at each zero crossing. A change in polarity from one bit transition period to the next determines the data stored therein and is detected by sampling the two-level signal at the bit transition time. The use of frequencies f_1 and $2f_1$ enables the derivation of the sampling pulses from the zero crossings of the received signal. Appropriate shift register means compare the samplings of adjacent bit transition times.

3,437,933

ADJUSTABLE FOUR-POLE ATTENUATOR WITH CONSTANT INPUT RESISTANCE UTILIZING SEPARATELY HEATED THERMISTORS

Josef Gammel and Kurt Huggle, Munich, Germany, assignors to Siemens Aktiengesellschaft, a corporation of Germany

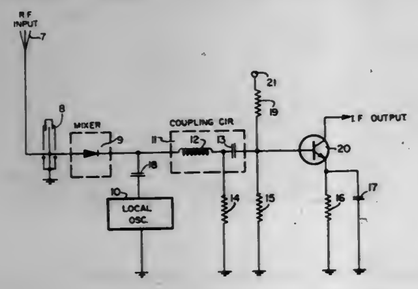
Filed Aug. 18, 1965, Ser. No. 482,323
Claims priority, application Germany, Aug. 21, 1964, S 92,749
Int. Cl. H04b *1/18*
U.S. Cl. 325—415 2 Claims



A four-pole with adjustable attenuation transmission having a first separately heated thermistor disposed in the circuit as a series element and a second separately heated thermistor and a resistance in series therewith disposed in the circuit at the input side as a shunt element and a DC circuit containing said thermistors with the latter con-

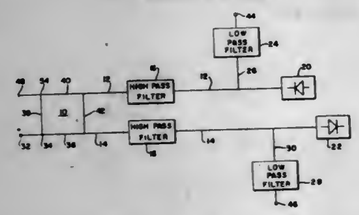
nected in parallel with respect to DC, said DC circuit producing a control potential for regulating the heating of the second thermistor to effect a constant input resistance.

3,437,934
SERIES RESONANT CIRCUIT FOR COUPLING OUTPUT OF MIXER TO INPUT OF INTERMEDIATE FREQUENCY AMPLIFIER
Frank L. Pawlowski, Skokie, Ill., assignor to Motorola, Inc., Franklin Park, Ill., a corporation of Illinois
Filed Jan. 12, 1966, Ser. No. 520,257
Int. Cl. H04b *1/26*
U.S. Cl. 325—439 **5 Claims**



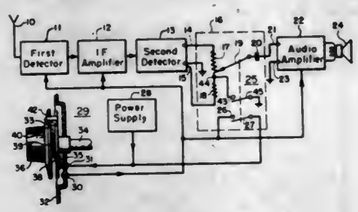
Coupling circuit for coupling output of diode mixer to base electrode of transistor of intermediate frequency amplifier, comprising an inductor and a capacitor connected in series and forming a series resonant circuit at the intermediate frequency. The junction between the inductor and capacitor is connected to ground by a resistor which damps the circuit and provides a direct current return for the mixer. The inductor acts to keep the oscillator frequency from the amplifier, and the capacitor isolates the mixer from the bias voltage at the base of the transistor.

3,437,935
VARACTOR HIGH LEVEL MIXER
James E. Webb, Administrator of the National Aeronautics and Space Administration with respect to an invention by Nicholas J. Penque, Torrance, and Harold A. Rosen, Santa Monica, Calif.
Filed Oct. 26, 1966, Ser. No. 590,159
Int. Cl. H04b *1/26*
U.S. Cl. 325—446 **11 Claims**



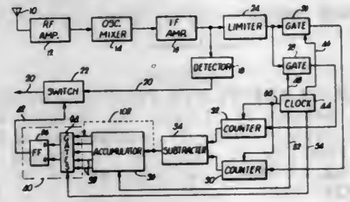
A stripline mixing circuit wherein a primary frequency signal is applied to a hybrid which splits the signal and applies each of the resultant signals through a high pass filter to a varactor mixing diode. Secondary frequency signals are applied through low pass filters to each of the diodes. The heterodyned signals are reflected back through the high pass filters to the hybrid.

3,437,936
AUTOMATIC RADIO TUNER FOR BLIND-TUNING TO A PREDETERMINED FREQUENCY
Clement R. Tompson, Melrose Park, Ill., assignor to Zenith Radio Corporation, Chicago, Ill., a corporation of Delaware
Filed Dec. 16, 1965, Ser. No. 514,227
Int. Cl. H04b *1/06;* **H03j** *5/02*
U.S. Cl. 325—456 **6 Claims**



An automatic tuning system for accomplishing rapid blind-tuning of a radio receiver to a predetermined carrier frequency. An electrical switch mechanically coupled to the receiver tuning shaft is angularly positioned on that shaft to energize the receiver only when it is tuned to the desired frequency, thereby audibly informing a listener that he has tuned to the desired station. Circuitry may be included for predetermining the volume level at which the receiver will operate when it is blind-tuned to the desired station.

3,437,937
DIGITAL SQUELCH SYSTEM
John N. Warfield, Lawrence, Kans., assignor to Wilcox Electric Company, Inc., Kansas City, Mo., a corporation of Kansas
Filed Aug. 8, 1966, Ser. No. 570,889
Int. Cl. H04b *1/10, 1/16*
U.S. Cl. 325—478 **12 Claims**

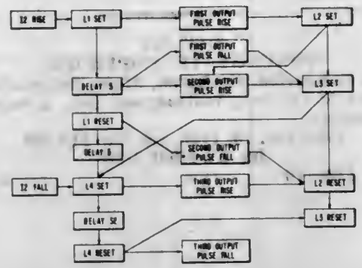


A digital squelch system determining and comparing the number of oscillations of a received signal during a particular time interval with a similar determination made over a different time interval of the same duration. The comparison is effected by subtraction to obtain intelligence indicative of whether a desired transmission or noise forms the primary component of the received signal.

3,437,938
CLOCK PULSE GENERATOR
Matthew A. Krygowski, Wappingers Falls, N.Y., assignor to International Business Machines Corporation, Armonk, N.Y., a corporation of New York
Filed Dec. 17, 1965, Ser. No. 514,501
Int. Cl. H03k *3/04, 3/64*
U.S. Cl. 328—62 **20 Claims**

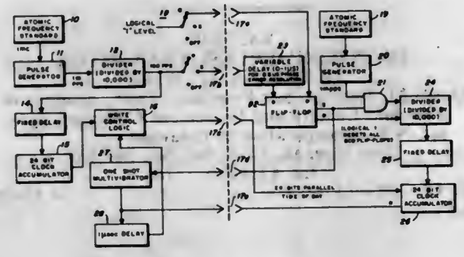
A clock pulse generator for generating a sequence of electrical pulses comprising a plurality of latches, each associated with the generation of particular ones of the sequence of the electrical pulses. A single input pulse in

conjunction with attendant logic circuitry and the plurality of latches generates the sequence of electrical pulses



unless malfunctions exist so as to stop the clock pulse generator operation.

3,437,939
SYNCHRONIZATION SYSTEM
Emanuel Montalvo, Kenneth G. Kranhold, and Wayland A. Carlson, San Diego, Calif., assignors to the United States of America as represented by the Secretary of the Navy
Filed Sept. 30, 1965, Ser. No. 491,844
Int. Cl. H03k *3/04, 1/00*
U.S. Cl. 328—63 **11 Claims**



1. A system for generating substantially synchronous signals from discrete first and second asynchronous signal sources of substantially the same frequency comprising:

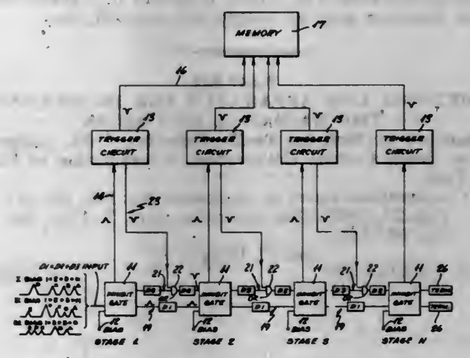
a first frequency divider connected for dividing the frequency of said first asynchronous signal source to a first subfrequency;

a second frequency divider adapted to divide said second asynchronous frequency to a second subfrequency equal to said first subfrequency;

a coincidence gate operative to produce an output in response to a determinable minimum coincident duration of two input signals substantially equal to one periodic full cycle of said asynchronous sources, said coincidence gate being connected to receive one input from said second asynchronous signal source and having its output connected to said frequency divider; and

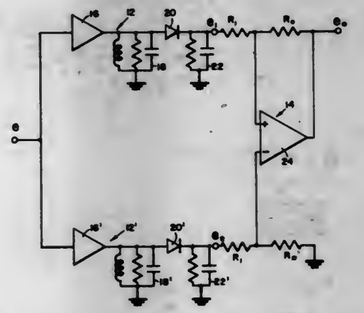
means connectable between said first frequency divider output and said coincidence gate and including electrical delay means connected in circuit with said first frequency divider signal, said electrical delay means being of a value which, when summed with the inherent electrical delay of the system, will cause coincidence of said first frequency divider signal with said second asynchronous signal for at least said determinable minimum duration to render said coincidence gate operative.

3,437,940
PULSE SORTING APPARATUS AND METHOD
Zoltan Tarczy-Hornoch, Berkeley, Calif., assignor, by mesne assignments, to W. K. Rosenberry, doing business as Zelta Research, Lafayette, Calif.
Filed Apr. 21, 1960, Ser. No. 23,739
Int. Cl. G11c *11/26;* **G11b** *5/00;* **H03k** *5/20*
U.S. Cl. 328—121 **25 Claims**



1. In a pulse sorting apparatus, a memory, a single stage connected to the memory for sorting pulses, said stage including a monostable trigger circuit, the speed of sorting by said stage being determined by the characteristics of the stage, the stage being unable to sort another pulse until the trigger circuit has recovered, and at least one additonal stage connected to the memory and having its input serially connected to said first named stage to receive the pulses after they are received by the first named stage and for sorting all of the input pulses which are not sorted by the first stage, each additional stage including a gate and a monostable trigger circuit connected to the gate, the number of stages required being dependent on the rate and distribution of the input pulses relative to the resolution characteristics of the stages.

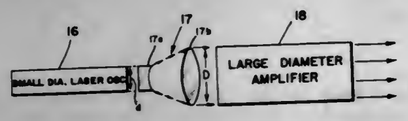
3,437,941
WIDE BAND FREQUENCY DISCRIMINATOR
James C. Leary, Baltimore, Md., assignor, by mesne assignments, to the United States of America as represented by the Secretary of the Navy
Filed Apr. 7, 1966, Ser. No. 541,033
Int. Cl. H03d *1/18, 3/18, 3/26*
U.S. Cl. 329—142 **3 Claims**



A wide band frequency discriminator for sensing frequency excursions above and below a normal frequency. The discriminator has two parallel circuits, one tuned above the normal frequency and the second tuned below

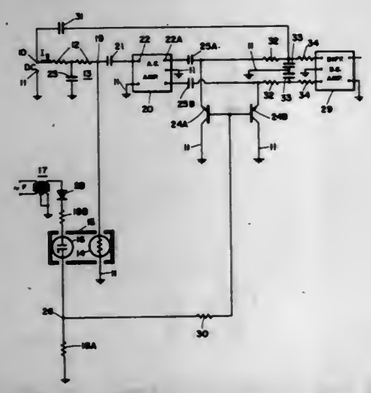
the normal frequency. Each parallel circuit consists serially of a buffer amplifier, a tuning network, a detector and a filter, and the outputs from the two circuits are combined via load and feedback resistors in a differential amplifier. The sensitivity of the circuit is adjusted by selection of the load and feedback resistors, and the bandwidth of the circuit may be varied independently of the sensitivity by proper choice of the parameters of the tuning networks. The circuit is devoid of transformers, and therefore may be readily microminiaturized.

3,437,942
METHOD AND APPARATUS FOR INCREASING THE RADIANCE OF LASERS
Theodore H. Maiman, Pacific Palisades, Calif., assignor to Union Carbide Corporation, a corporation of New York
Continuation-in-part of application Ser. No. 503,461, Oct. 23, 1965. This application Dec. 7, 1966, Ser. No. 607,345
Int. Cl. H01s *3/02*
U.S. Cl. 330—4.3 **4 Claims**



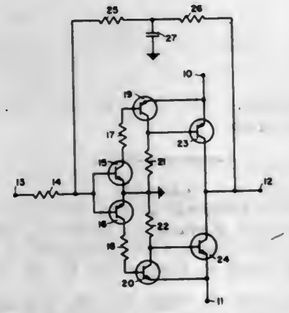
The brightness or radiance of a laser beam is increased by using a small diameter laser rod for providing a beam having a small angle of divergence and passing this beam through a beam expander. The output from the beam expander is then passed through a large diameter light amplifier to restore or even surpass the initial power density. The beam divergence is not appreciably affected in the light amplifier since the light will only make one pass through the amplifier. Beam divergence resulting from imperfections in the laser rod and amplifier can also be reduced by adjusting the optics in the beam expander.

3,437,943
SYNCHRONIZED MODULATOR-DEMODULATOR SYSTEM
James M. Mader, Lansdale, Pa., assignor to Leeds & Northrup Company, Philadelphia, Pa., a corporation of Pennsylvania
Filed Mar. 16, 1965, Ser. No. 440,180
Int. Cl. H03f *3/38, 17/00*
U.S. Cl. 330—10 **2 Claims**



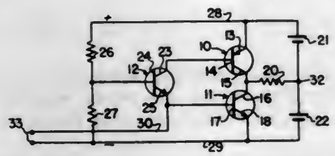
A synchronized modulator-demodulator system in which the DC input circuit of an AC amplifier includes a photosensistive device and in which the output circuit of the AC amplifier includes a solid-state switch triggered by the voltage drop across resistance means in series with a neon bulb which periodically illuminates the photosensitive device.

3,437,944
THREE-STATE AMPLIFIER
Hans R. Camenzind, Lexington, Mass., assignor to P. R. Mallory & Co. Inc., Indianapolis, Ind., a corporation of Delaware
Filed Jan. 10, 1966, Ser. No. 519,508
Int. Cl. H03f *3/38*
U.S. Cl. 330—10 **6 Claims**



A three state asymmetrical amplifier having regenerative feedback to the output of the amplifier.

3,437,945
TRANSFORMERLESS TRANSISTOR OUTPUT AMPLIFIER
David M. Duncan, San Francisco, Calif., assignor to Fairchild Camera and Instrument Company, Syosset, N.Y., a corporation of Delaware
Filed Nov. 10, 1965, Ser. No. 507,139
Int. Cl. H03f *3/18*
U.S. Cl. 330—13 **4 Claims**

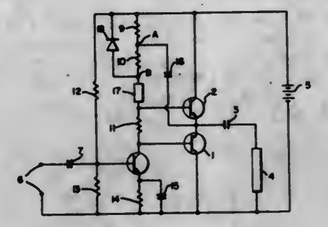


A transformerless transistor amplifier circuit having a complementary symmetry transistor amplifier, an input drive circuit for the amplifier, and a drive transfer circuit connected between the amplifier and the input drive circuit, the drive-transfer circuit including a biasing circuit adapted to prevent either transistor of the complementary pair from being driven either to saturation or to cutoff in the absence of an input current to the input drive circuit.

3,437,946
COMPLEMENTARY SYMMETRY TRANSISTOR AMPLIFIER CIRCUIT EMPLOYING DRIVE SIGNAL LIMITING MEANS
Sadamichi Someda, Hirakata-shi, Japan, assignor to Matsushita Electric Industrial Co., Ltd., Osaka, Japan
Filed Sept. 14, 1966, Ser. No. 579,274
Claims priority, application Japan, Nov. 1, 1965, 40/67,752, 40/67,754
Int. Cl. H03f *3/18, 3/26, 3/42*
U.S. Cl. 330—13 **18 Claims**

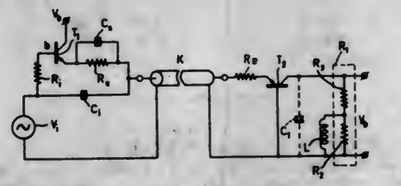
1. A transistor amplifier circuit comprising a first and second transistor which are opposite conductivity types and each having base, emitter and collector electrodes;

an output circuit connected in common with the emitter electrodes of said first and second transistors for deriving output signals therefrom; a direct current power supply means having a first and second terminal, the first and second terminal of said direct current power supply means being connected to the collector electrodes of said first and second transistors, respectively; an input circuit connected in parallel to the base electrodes of said first and



second transistors for applying drive signals thereto; and biasing circuit means connected between the second terminal of said direct current power supply means and the base electrode of said second transistor for supplying a bias voltage to said first and second transistors, said biasing circuit means including drive signal limiting means for said second transistor to prevent said second transistor from bottoming.

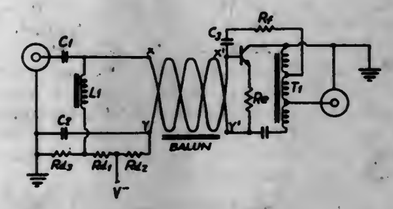
3,437,947
SIGNAL AMPLIFIER HAVING GROUNDED-BASE STAGE FOR A CABLE TERMINATING IMPEDANCE
Henricus Ernest Beekman, Emmasingel, Eindhoven, Netherlands, assignor to North American Philips Co., Inc., New York, N.Y., a corporation of Delaware
Filed Nov. 2, 1967, Ser. No. 680,247
Claims priority, application Netherlands, Nov. 8, 1966, 6615721
Int. Cl. H03f *3/16*
U.S. Cl. 330—20 **2 Claims**



A wide band signal amplifier composed of an emitter-follower having its output electrode connected to a coaxial cable. The other end of the cable is connected to a load via an amplifier connected in common base configuration. The high frequency response of the amplifier is improved by connecting a capacitor in parallel with the emitter-follower and a given resistor in series with the input electrode of the emitter-follower.

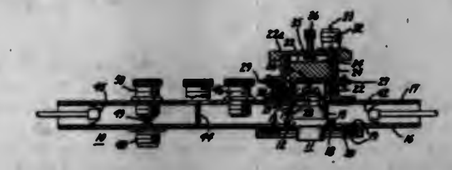
3,437,948
GROUNDED COLLECTOR AMPLIFIER CIRCUIT
Keneth A. Simons, Bryn Athyn, Pa., assignor to Jerrold Electronics Corporation
Filed Dec. 14, 1966, Ser. No. 601,761
Int. Cl. H03f *1/08, 1/34*
U.S. Cl. 330—28 **1 Claim**

A radio frequency amplifier includes a transistor arranged in common emitter configuration with the collector grounded. A balun couples the input source to the base-emitter of the transistor, and a voltage feedback means is coupled between a tap on an output transformer and



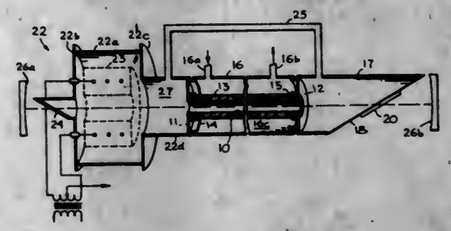
the transistor base. Current feedback is simultaneously provided by a resistor in series with the emitter.

3,437,949
OUTPUT CIRCUITS FOR MICROWAVE DISCHARGE DEVICES
Norman T. Lavoo, Latham N.Y., assignor to General Electric Company, a corporation of New York
Filed Apr. 29, 1966, Ser. No. 546,274
Int. Cl. H03f *3/60, 3/68*
U.S. Cl. 330—53 **6 Claims**



A rectangular multituned waveguide output circuit for providing wideband high-gain operation of space-charge controlled tubes particularly triodes, at high frequency employs a waveguide divided into three adjacent cavity resonators coupled through adjustable irises and tuned by capacitive members located on the longitudinal center of the second and third resonators. An additional capacitive member is provided at the iris between the second and third resonators.

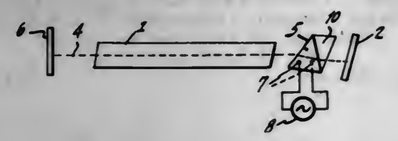
3,437,950
ION LASER HAVING A METAL TUBE SHRINK-FITTED ONTO THE CERAMIC DISCHARGE TUBE
Akira Okaya, Pasadena, and Serge de Witte, West Los Angeles, Calif., assignors to Electro-Optical Systems, Inc., a corporation of California
Filed Nov. 12, 1965, Ser. No. 507,349
Int. Cl. H01s *3/22*
U.S. Cl. 331—94.5 **7 Claims**



1. A gas-laser structure comprising a cylindrically-shaped discharge tube made of an insulative heat-resistant material; a pair of annular-shaped metal caps in which the ends of said discharge tube are respectively mounted; a metal tube shrink-fitted over said discharge tube between said metal caps; a cylindrical jacket having spaced inlet

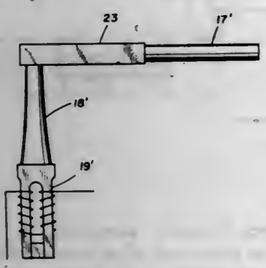
and outlet ports mounted concentrically with said discharge and metal tubes, said jacket being made of an insulative material and being supported at the ends thereof on the perimeters of said caps; a pair of metal members respectively mounted on the perimeters of said pair of caps on either side of said jacket and in alignment therewith; laser optical means respectively enclosing said members; cathode means mounted within the laser optical means enclosing one of said members; coolant means for causing a fluid to flow through said jacket via said inlet and outlet ports; and a pressure-equalizing tube intercoupling said members.

3,437,951
MODULATING OR Q-SWITCHING A LASER
John L. Dailey, West Berlin, N.J., assignor to Radio Corporation of America, a corporation of Delaware
Filed May 28, 1965, Ser. No. 459,557
Int. Cl. H01s *3/00;* **G02f** *1/26, 1/28*
U.S. Cl. 331—94.5 **4 Claims**



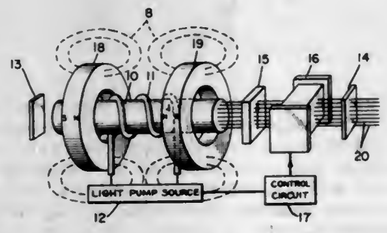
A laser is modulated or Q-switched by inserting within the optical cavity a prism of material having transverse electro-optic characteristics. The prism is positioned between the laser material and a second of two reflectors defining the optical cavity, which second reflector is positioned at an oblique angle with respect to a first of these two reflectors. The prism is shaped and oriented such that in the absence of a given electric field controlled by an external signal the beam is refracted through the prism at that specified angle which results in the beam being incident at a normal angle to the second reflector's surface. In the presence of the given electric field, the beam is refracted at an angle deviating from the specified angle by an amount determined by the external signal. In a more specific embodiment of the invention, a second prism is utilized which magnifies any deviation from the specified angle provided by the electro-optic prism.

3,437,952
OPTICAL MASER OUTPUT CONTROLLING APPARATUS
Noboru Tsuya, Sendai, Japan (11–S Ridge Road, Greenbelt, Md. 20770); and Fumio Inaba, Apt. 1–22, 68, Kameoka, and Seizo Kainuma, 11–36 Koshiji, Nagamachi, both of Sendai, Japan
Filed Apr. 6, 1964, Ser. No. 357,493
Int. Cl. H01s *1/00;* **H04b** *9/00*
U.S. Cl. 331—94.5 **1 Claim**



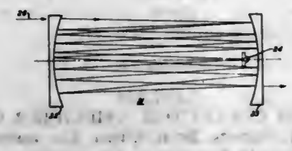
An electro-acoustic transducer is coupled directly to an optical maser medium for transmitting ultrasonic vibrations thereto. The vibrations are imparted to the crystal either in the axial direction or at right angles to the crystal. Vibration of the crystal during operation thereof as an optical maser causes the output pulses, which are normally irregular in period and intensity to become regular in period and much higher in uniform intensity. This results from the periodic variation of the regeneration of the optical cavity by the ultrasonic vibration.

3,437,953
GIANT PULSE LASER CONTROL SYSTEM
William W. Buchman, Los Angeles, Calif., assignor to Korad Corporation, a corporation of New York
Filed June 19, 1964, Ser. No. 376,494
Int. Cl. H01s *3/11*
U.S. Cl. 331—94.5 **6 Claims**



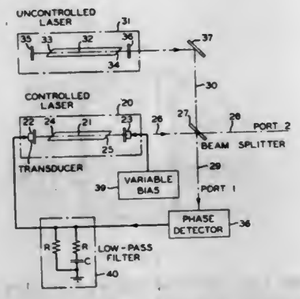
A giant pulse laser system is provided particularly useful for very high gain laser materials. The system includes a first Q-spoiling means such as an electro-optical shutter enabling a rapid switching of the Q of the optical cavity of the laser at a desired point in time. In combination with this first Q-spoiling device is a second means for effectively spoiling the Q of the cavity. This second Q-spoiling means constitutes means for providing a magnetic field which varies in value along the axis of the laser crystal thereby lowering the internal gain of the crystal per unit length. The combination of these two Q-spoiling means enables considerably greater giant pulses to be provided by high gain laser materials than heretofore possible, the increased magnitude pulse being possible by the use of the magnetic field which decreases the gain of the crystal enabling a large inverted population level to be established and the generation of the pulse itself being accurately controlled by the fast switching characteristic of the external or electro-optical Q-switching device.

3,437,954
OPTICAL DELAY LINE DEVICES
Donald R. Herriott, Morris Township, Morris County, and Harry J. Schulte, Jr., Berkeley Heights, N.J., assignors to Bell Telephone Laboratories, Incorporated, New York, N.Y., a corporation of New York
Filed Mar. 31, 1965, Ser. No. 444,307
Int. Cl. H01s *3/00;* **H03f** *1/00*
U.S. Cl. 331—94.5 **10 Claims**



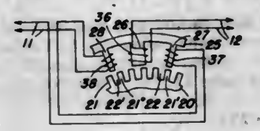
An optical delay line has a pair of curved mirrors forming a resonator into which an off-axis beam is introduced to trace a plurality of off-axis paths between the two mirrors. Perturbing means within the resonator interrupts the beam and directs it along new paths to produce greatly increased delay.

3,437,955
PHASE LOCKED LASER OSCILLATOR
Louis H. Enloe, Marlboro, and John L. Rodda 2nd, Middletown, N.J., assignors to Bell Telephone Laboratories, Incorporated, New York, N.Y., a corporation of New York
Filed Dec. 29, 1964, Ser. No. 421,774
Int. Cl. H01s *3/10;* **H04b** *9/00*
U.S. Cl. 331—94.5 **4 Claims**



In the apparatus disclosed, one laser oscillator is phase-locked to another laser oscillator by feeding back a phase-sensitive signal to tune the first laser oscillator. The phase-sensitive signal is derived from a detecting device, such as a photomultiplier, which is subject to outputs from both oscillators. The phase-sensitive signal is passed through a low-pass filter in the closed loop of the first laser oscillator and its feedback path and then is applied to control the optical pathlength in the first oscillator.

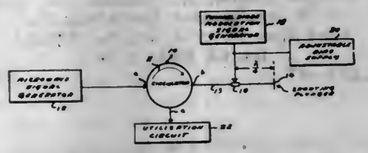
3,437,956
POSITION INDICATOR
Sidney Davis, East Norwich, N.Y., assignor to Vernitron Corporation, Farmingdale, N.Y., a corporation of New York
Filed June 21, 1967, Ser. No. 647,860
Int. Cl. H03b *5/08, 5/18*
U.S. Cl. 331—172 **6 Claims**



A high-gain amplier has its output connected back to its input by a feedback circuit which contains a variable coupling element. The coupling element is comprised of a movable member and a reference member whereby the position of the movable member with respect to the reference determines the amount of coupling. Thus, when the coupling exceeds a critical value, the amplifier breaks into oscillations thereby giving a sharp ON-OFF indication of position.

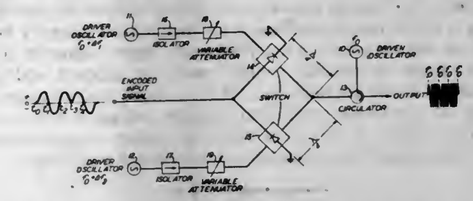
3,437,957
MICROWAVE PHASE SHIFT MODULATOR FOR USE WITH TUNNEL DIODE SWITCHING CIRCUITS
Stephen Alexander Ames, Baltimore, Md., assignor, by mesne assignments, to the United States of America as represented by the Secretary of the Air Force
Filed June 28, 1966, Ser. No. 562,430
Int. Cl. H03c *7/04*
U.S. Cl. 332—16 **1 Claim**

A phase shift modulator has a ferrite circulator with three parts. A microwave signal is supplied to the first part of the circulator. The energy is circulated in the circulator and enters a terminated transmission line connected to the second port. A shorting plunger is provided at the terminated end of the transmission line. A point contact diode is positioned in the transmission line intermediate the port and the terminated end thereof. A direct current bias source is provided to set the bias on the point contact diode. The bias on the point contact diode and position of the shorting plunger are selected to present a



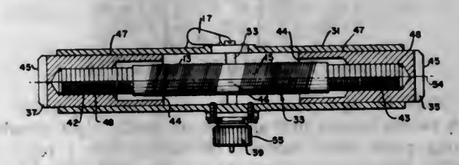
load impedance at the second port equal to $1+j0$. A tunnel diode signal generator switching circuit is connected to the point contact diode to switch the phase relation between the incident wave and the reflected wave between a 0 phase shift and a π radians out of phase condition. A utilization circuit is connected to the third port of the circulator.

3,437,958
PHASE MODULATOR INCLUDING A DRIVER AND A DRIVEN OSCILLATOR
Robert C. Shaw, Colts Neck Township, Monmouth County, N.J., and Harry L. Stover, Dallas, Tex., assignors to Bell Telephone Laboratories, Incorporated, Murray Hill, N.J., a corporation of New York
Filed Sept. 27, 1966, Ser. No. 582,404
Int. Cl. H03c *3/02*
U.S. Cl. 332—16 **6 Claims**



1. A phase modulator for converting baseband pulses to phase modulated carrier signals comprising:
input means for receiving baseband pulses;
a driven oscillator having a free-running frequency f_0;
at least one driver oscillator operating at a frequency different than f_0;
and means responsive to said baseband pulses for coupling signals from said driver oscillator to said driven oscillator thereby changing the frequency of said driven oscillator.

3,437,959
HELICAL COAXIAL RESONATOR RF FILTER
James E. Webb, Administrator of the National Aeronautics and Space Administration, with respect to an invention of Myron Walter Maxwell, Dayton, N.J.
Filed Jan. 20, 1966, Ser. No. 521,998
Int. Cl. H03j *3/22, 3/26;* **H01p** *7/04*
U.S. Cl. 333—73 **5 Claims**



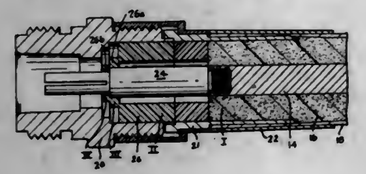
A narrow band RF filter for shunting a plurality of undesired narrow bands of frequencies out of a transmis-

sion line utilizing a novel helically wound coaxial resonator having a plurality of winding mounted upon a tunable core.

3,437,960
DIELECTRIC BEAD STRUCTURE FOR COAXIAL CONNECTORS

George William Ziegler, Jr., Carlisle, Pa., assignor to AMP Incorporated, Harrisburg, Pa.

Filed Mar. 30, 1966, Ser. No. 538,681
Int. Cl. H01p 1/04
U.S. Cl. 333—97 19 Claims

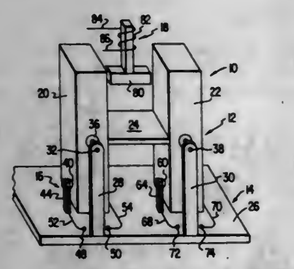


A dielectric bead structure for coaxial connectors used in high frequency signal transmission as disclosed, featuring a bead of dielectric material shaped to bear against outer and inner conductive portions of a coaxial device in separate segments and to be free of the conductive portions in other segments with structural integrity between segments. The thickness of the different segments, in conjunction with the radial position of the segments in the span between inner and outer coaxial conductive paths, is adjusted to match characteristic impedance or to provide a given characteristic impedance for compensation purposes. The various segments are made integral by providing a radial overlap sufficient for mechanical integrity but of an effective zero axial thickness. Insert segments are thus made to provide center conductor support and/or sealing. Insert segments are also extended and supported free of conductor contact to increase voltage breakdown length while, at the same time, providing compensation or adjustment for characteristic impedance matching.

3,437,961
SWITCH HAVING A BALANCE ARMATURE TO PREVENT CONTACT BOUNCE

Hugh M. Baker, Jr., Washington, D.C., assignor to HB Engineering Corp., Silver Spring, Md., a corporation of Maryland

Continuation-in-part of application Ser. No. 565,430, July 15, 1966. This application Mar. 19, 1968, Ser. No. 714,216
Int. Cl. H01h 3/60, 1/50
U.S. Cl. 335—193 10 Claims

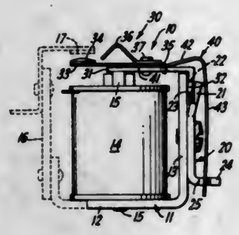


A switch having first and second bodily rigid members having equal mass moment of inertia with a relatively flexible means interconnecting the first and second members for transmitting rotary movement of the first member into counter-rotary movement of the second member.

3,437,962
CLAPPER TYPE RELAY WITH IMPROVED ARMATURE

Richard E. Bell, Princeton, Ind., assignor to American Machine & Foundry Company, a corporation of New Jersey

Filed June 12, 1967, Ser. No. 645,239
Int. Cl. H01f 7/14
U.S. Cl. 335—270 10 Claims

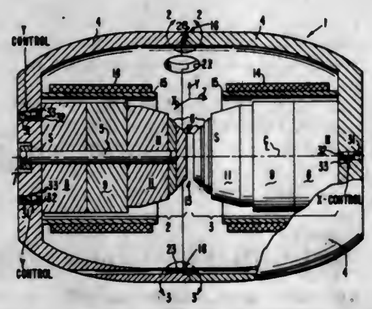


A clapper type relay having an armature with a flange at one end extending into a slot housing formed by the free end of the supporting leg and a bracket connected thereto. The armature is limited to pivotal movement by limited movement of its flange in the slot housing which includes a stop provided by a lip flange of the bracket which is engaged by the flange in the housing to limit pivotation of the armature away from the relay core. A leaf spring is connected at one end to the armature, extends axially towards the armature flange and diverges from the armature, and has a tail portion space outwardly of the supporting leg with the free end thereof interlocked with an arm means extending from said bracket thus retaining the spring means tensioned for biasing the armature to pivot away from the relay core and to urge the flange into the slot housing.

3,437,963
PERMANENT MAGNET HAVING AN ENCLOSING YOKE STRUCTURE WITH POLE ALIGNING MEANS

Robert E. Gang, Sunnyvale, and Richard L. Johnson, Menlo Park, Calif., assignors to Varian Associates, Palo Alto, Calif., a corporation of California

Filed June 12, 1967, Ser. No. 645,392
Int. Cl. H01f 3/00
U.S. Cl. 335—298 6 Claims

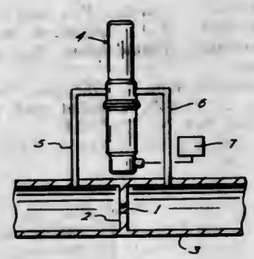


A high field permanent magnet is disclosed which is suitable for high resolution nuclear resonance. The magnet includes a pair of coaxially disposed permanent magnets enclosed by a magnetically permeable yoke. The enclosing yoke serves as a flux return path between the magnets and as a shield for shielding the gap of the magnet from external magnetic fields.

3,437,964
RELIEF VALVE FOR PROTECTING A DIFFERENTIAL PRESSURE TRANSDUCER

Gilbert H. Tausch, Houston, Tex., assignor to Camco Incorporated, Houston, Tex., a corporation of Texas

Filed Nov. 2, 1967, Ser. No. 680,136
Int. Cl. H01f 21/04
U.S. Cl. 336—30 4 Claims

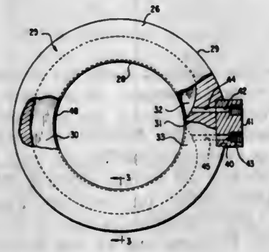


In an electromechanical transducer having a differential transformer including relatively movable armature and coil members and a bellows connected to one of the members and movable in response to and meausring the differential fluid pressures on opposite sides thereof, a relief valve in which both the valve seat and valve element are connected to and move with only one of the members for providing pressure relief thereby protecting the bellows. A relief valve having a valve seat and valve element seated on the valve seat but allowing disengagement of the valve element upon a predetermined fluid pressure differential across the seat in a first direction, and stop means aligned with the valve element for disengagement of the valve element from the seat when the valve is moved in said second direction by the bellows upon a predetermined fluid pressure differential across the seat in a second direction.

3,437,965
HEAT EXCHANGE APPARATUS FOR COOLING ELECTROMAGNETIC DEVICES

George Ragsdale, Ogallala, Nebr., assignor to Ogallala Electronics Mfg., Inc., a corporation of Nebraska

Filed Dec. 27, 1963, Ser. No. 333,935
Int. Cl. H01f 27/08; H02b 1/00; H01b 7/34
U.S. Cl. 336—61 6 Claims

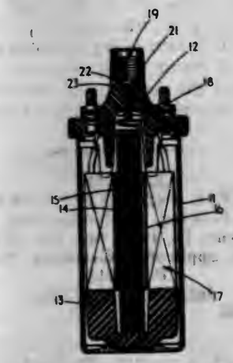


5. A heat exchange apparatus comprising
a plate consisting of a single piece of material possessing high heat conductivity characteristics and having a pair of closely spaced opposing side surfaces and a pair of opposing edge surfaces including an internal end surface and an external edge surface,
the groove forming a groove in said plate means having side and bottom walls defined by the material of the plate,
the groove extending from the internal edge surface of the plate with the side walls of the groove extending between the pair of closely spaced opposed side surfaces of the plate and the bottom wall being spaced inwardly of the internal edge surface of the plate,
cover means adjacent the internal edge surface of the plate closing the groove to define with the walls of the groove a fluid coolant passageway,
the fluid coolant passageway extending about the internal edge surface of the plate at least in part adjacent the internal edge surface of the plate and having an inlet end and an outlet end spaced by material of the plate and located adjacent the internal edge surface of the plate,
means forming a fluid inlet opening and a fluid outlet opening adjacent the external edge surface of the plate,
and means forming a fluid passage in the plate between the fluid inlet opening and the inlet end of the fluid coolant passageway and a fluid passage in the plate between the fluid outlet opening and the outlet end of the fluid coolant passageway.

3,437,966
IGNITION COILS

Leslie Tolley, Great Barr, Birmingham, England, assignor to Joseph Lucas (Industries) Limited, Birmingham, England

Filed July 12, 1967, Ser. No. 652,894
Claims priority, application Great Britain, Aug. 8, 1966, 35,380/66
Int. Cl. H01f 27/04
U.S. Cl. 336—90 3 Claims



An ignition coil including a hollow casing, closed by an insulating cap, a core extending axially within the casing, and comprising a plurality of axially extending laminae, and a high tension terminal carried by the insulating cap, one of said laminae extending from the core, and being shaped to define a compression spring, the spring engaging a part associated with the high tension terminal, and serving electrically to interconnect the core and the terminal.

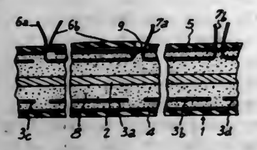
3,437,967
LINEAR INDUCTION SYSTEM FEEDING A LOW VOLTAGE CURRENT

Bernard Jean Josse, 7 Ave. Pierre Grenier, 92 Boulogne-Billancourt, France

Filed Apr. 21, 1967, Ser. No. 632,724
Claims priority, application France, Apr. 29, 1966, 59,739
Int. Cl. H01f 27/02, 17/06
U.S. Cl. 336—96 10 Claims

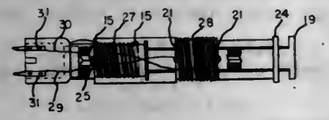
A compound cable comprising an inducing lead fed with A.C. and a succession of induced lead sections, the

arrangement being surrounded by a magnetic sheath and embedded in an insulating material. The utilisation ap-



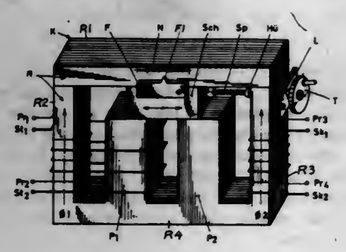
paratus such as heated resistances or grids embedded in ground are connected across the terminals of the induced sections so as to be fed with low voltage current.

3,437,968
TRANSFORMER
Albert R. Hildebrandt, Cincinnati, Ohio, assignor to Paul Smith Inc., Cincinnati, Ohio, a corporation of Ohio
Continuation-in-part of application Ser. No. 656,841, July 28, 1967. This application July 3, 1968, Ser. No. 748,126
Int. Cl. H01f *21/06, 27/28*
U.S. Cl. 336—119 **14 Claims**



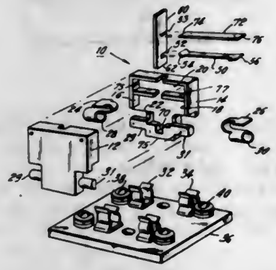
A transformer composed of two coils each having a core capable of axial adjustment within the coil for tuning, each coil with its core being mounted on a coil form, one of which coil forms is telescopingly engaged within the other whereby the coupling of the coils may be adjusted without disturbing the tuning of each core in its respective coil.

3,437,969
ADJUSTABLE INDUCTIVE APPARATUS
Josef Pfanzelt, Freising, am Neugereuth 10, Germany
Filed Nov. 16, 1967, Ser. No. 683,685
Claims priority, application Germany, Nov. 17, 1966, P 40,815
Int. Cl. H01f *21/06*
U.S. Cl. 336—134 **16 Claims**



Inductive apparatus usable, for example, as an adjustable transformer, regulator, phase shifter or choke coil comprises two relatively movable core parts of which the first is a frame providing a closed magnetic path and at least two control pole pieces which partially bridge the frame, leaving a space in which the second core part is movable to vary the magnetic coupling between the respective control pole pieces and an opposite portion of the frame. As the total magnetic coupling surface between the first and second core parts remains constant, magnetic reaction forces opposing relative movement of the core parts are avoided. Windings provided on the first core part according to the use and desired characteristics of the apparatus include winding portions on the frame and at least one of the control pole pieces.

3,437,970
CIRCUIT BREAKER DEVICE INCLUDING SIMPLIFIED HOUSING ASSEMBLY AND EXTERNAL CONTACTS
Howard R. Shaffer, Glenside, Pa., and Carl E. Gryctko, Haddon Heights, N.J., assignors to I-T-E Circuit Breaker Company, Philadelphia, Pa., a corporation of Pennsylvania
Original application Sept. 7, 1966, Ser. No. 577,772, now Patent No. 3,379,843. Divided and this application Feb. 23, 1968, Ser. No. 707,534
Int. Cl. H01h *61/00, 73/00*
U.S. Cl. 337—91 **3 Claims**



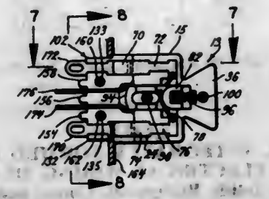
A compact and relatively inexpensively constructed circuit breaker having complementary housing halves provided with extensions forming plug-in type cylindrical contacts.

3,437,971
CURRENT LIMITING FUSE
Harvey W. Mikulecky, Racine, Wis., assignor to McGraw-Edison Company, Elgin, Ill., a corporation of Delaware
Continuation-in-part of application Ser. No. 408,017, Nov. 2, 1964. This application June 26, 1967, Ser. No. 652,395
Int. Cl. H01h *85/06*
U.S. Cl. 337—158 **3 Claims**



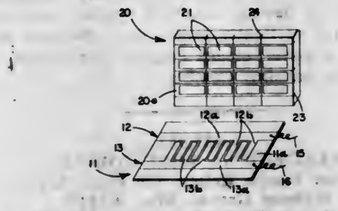
This disclosure relates to a current limiting fuse wherein a fusible element is wound on a support and both are arranged within a fuse casing and embedded in an inert granular material of high dielectric strength. The support is made of gas evolving material and includes radial portions which engage the fusible element. The fusible element is helically wound on the support and is engaged only by the radial portions at spaced points along the length thereof. The portions of the fusible element between the points of contact are separated from the spider and surrounded by the inert granular material so that the spider is exposed to the arc drawn only at the points of engagement with the fusible element to thereby achieve a limited, controlled amount of gas evolution sufficient to extinguish the arc and prevent restriking but wholly within the fuse. Engagement between the fusible element and support is limited generally to less than 50% of the fusible element and preferably is within a range having a lower limit on the order of 5%–8% and an upper limit on the order of 30%.

3,437,972
PROTECTORS FOR ELECTRIC CIRCUITS
Angelo Urani, St. Louis, Mo., assignor to McGraw-Edison Company, Elgin, Ill., a corporation of Delaware
Filed Feb. 27, 1967, Ser. No. 618,863
Int. Cl. H01h *85/30, 85/36, 85/46*
U.S. Cl. 337—221 **28 Claims**



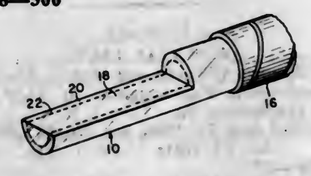
The plunger, of an indicating-type electric fuse, which has a conductive surface thereon is normally held away from the contacts of an indicating circuit by the short, taut fusible element of that fuse, but will move into engagement with those contacts when that fusible element fuses. Those contacts plus the terminals for that fuse are held by the sections of a plural-section socket.

3,437,973
ELECTRICAL SWITCH
John C. Mabbett, Hollywood, Calif., assignor to Crosby Research, Inc., Los Angeles, Calif., a corporation of California
Filed Mar. 15, 1967, Ser. No. 623,445
Int. Cl. H01c *9/06*
U.S. Cl. 338—99 **7 Claims**



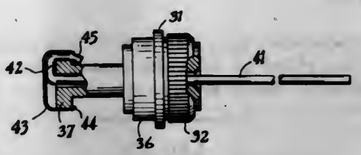
A pair of switch contact elements are formed on the surface of a first substrate member, each of such elements having a plurality of finger portions. The finger portions of the switch contact elements are interleaved with each other. Contact bridging elements are formed on the surface of a second substrate member. The two substrate members are placed against each other with the bridging elements making light surface contact with the switch contact elements. When pressure is applied to bring the bridging element into intimate contact with the switch contact elements, a low resistance electrical path is provided between the switch contact elements.

3,437,974
HIGH STRENGTH RESISTOR
John Spiegler, Bradford, Pa., assignor to Corning Glass Works, Corning, N.Y., a corporation of New York
Filed Dec. 9, 1966, Ser. No. 600,512
Int. Cl. H01c *7/02;* **H01b** *17/62*
U.S. Cl. 338—300 **7 Claims**



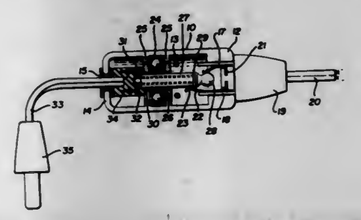
A resistor, the substrate of which comprises a glass core with a glass sheath on the core, the coefficient of expansion of the sheath being lower than that of the core to strengthen the substrate. A resistive film is placed on the sheath.

3,437,975
BRUSH ASSEMBLY FOR ROTARY ELECTRICAL APPARATUS
Harry W. Fletcher, Lynwood, Calif., assignor to Spectrol Electronics Corporation, Industry, Calif., a corporation of Delaware
Filed Apr. 11, 1966, Ser. No. 541,587
Int. Cl. H01r *39/00, 5/00*
U.S. Cl. 339—1 **4 Claims**



A brush assembly for a miniature rotary electrical component is disclosed. The brush is a wire which extends through a terminal in the component housing. The wire is held in physical and electrical contact with the terminal only by a cap member clamping means.

3,437,976
SWIVELING CONNECTOR FOR ELECTRIC CORD
Russell A. Nelson, 4 Rousseau St., Hayward, Calif. 94544
Filed May 11, 1967, Ser. No. 637,813
Int. Cl. H01r *35/00*
U.S. Cl. 339—8 **6 Claims**

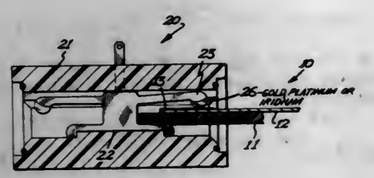


A female electrical connector having holes to receive stiff prongs of a plug is rotatable about a rigid support-member having a plurality of axially spaced contacts (e.g., like a multi-conductor plug) and contains resilient leaves situated to be contacted directly by said prongs and to bear against said contacts; the rear end of the support member is connected to an electrical circuit, e.g., a flexible cord, stiff prongs forming a plug, or, when embodied in a convenience outlet fixture, wires fast to a base to which the connector is fixed. The connector is in the form of a housing which is rotatable relatively to the support member and its electrical circuit by antifriction means, such as a ball bearing ring.

3,437,977
DEMOUNTABLE ELECTRICAL CONTACT ARRANGEMENT
Walter A. Gammel, Sr., Minneapolis, and John S. Strobel, Northfield, Minn., assignors to G. T. Schjeldahl Company, Northfield, Minn., a corporation of Minnesota
Filed Mar. 22, 1967, Ser. No. 625,200
Int. Cl. H05k *1/08;* **H01r** *3/02, 9/04*
U.S. Cl. 339—17 **8 Claims**

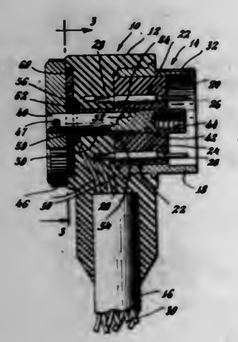
An arrangement for enhancing the convenience of making an electrical contact between the conductors of a

printed circuit, and the contacts of a connector assembly, the conductors on the printed circuit being of copper and coated with a film of indium metal, and the portions of



the contacts which mate with those indium coated conductors being plated or otherwise coated with a film of a precious metal such as gold.

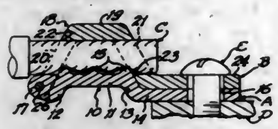
3,437,978
MOLDED ANGLE CONNECTOR
Edward C. Quackenbush, Woodbridge, Conn., assignor to The Whitney Blake Company, New Haven, Conn.
Filed July 11, 1967, Ser. No. 652,617
Int. Cl. H01r *13/54, 9/08*
U.S. Cl. 339—92 10 Claims



The disclosed molded electrical connector comprises a core mounting plural, parallel contact members whose rearward ends are connected to conductors of a multi-conductor cable arranged perpendicular to the contact members. A bearing sleeve is flared to provide a molding seal between it and an axial bore in the core in which it is inserted. An insulating disc, spaced from the contact member rearward ends, provides backing for a molded connector body encasing the connector parts and prevents protrusion of conductors through the body housing during molding. A shaft extending through the bearing sleeve has exposed threads for securing mating contact members together.

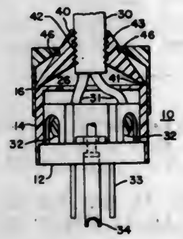
3,437,979
ELECTRICAL CONNECTOR WITH WIRE-GRIPPING MEANS
John E. Beaudion, Granada Hills, Calif., assignor, by direct and mesne assignments, to Electro-Clamp Corporation, Beverly Hills, Calif., a corporation of California
Filed Nov. 15, 1966, Ser. No. 594,441
Int. Cl. H01r *11/20, 7/08, 7/06*
U.S. Cl. 339—95 7 Claims

An electrical connector embodying a pair of wire-clamping jaws formed in respective levers hinged together at one end and having tails at their opposite ends, adapted to be separated to open the jaws to receive a conductor wire, and to be brought together and secured



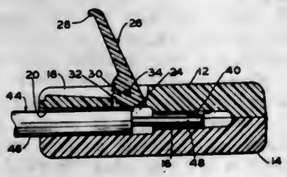
to a support and to thereby clamp the wire between the jaws.

3,437,980
INTERNAL, INTEGRALLY FORMED CORD GRIP FOR ELECTRICAL WIRING DEVICES
Clarence M. Smith, Bridgeport, Conn., assignor to Westinghouse Electric Corporation, Pittsburgh, Pa., a corporation of Pennsylvania
Filed Dec. 11, 1967, Ser. No. 689,506
Int. Cl. H01r *13/58, 13/50*
U.S. Cl. 339—103 6 Claims



An electrical cord gripping assembly comprising a housing member having integrally formed cord gripping fingers effective to tightly grip a cord disposed therebetween when a cover means engages the fingers and is secured to the housing member.

3,437,981
ELECTRICAL WIRE JOINER
Robert Joseph Keller, 315 Plant Ave., Webster Groves, Mo. 63119
Filed June 29, 1967, Ser. No. 649,995
Int. Cl. H01r *13/42, 7/06, 13/46*
U.S. Cl. 339—103 9 Claims

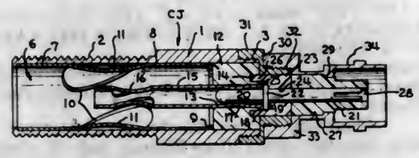


This electrical wire joiner is designed to connect two electrical wires in an electrical circuit. It consists of an outer insulated rectangular case having two apertures into which the electrical wires are inserted and secured thereto by clamps. Inside the insulated rectangular case is an electrical conductor which is in contact with each of the electrical wires, thereby forming the electrical circuit.

3,437,982
COAXIAL JACK
Michael Francis O'Keefe and Robert Stanley Stull, Mechanicsburg, Pa., assignors to AMP Incorporated, Harrisburg, Pa.
Filed Aug. 22, 1966, Ser. No. 573,958
Int. Cl. H01r *17/06, 17/18*
U.S. Cl. 339—177 4 Claims

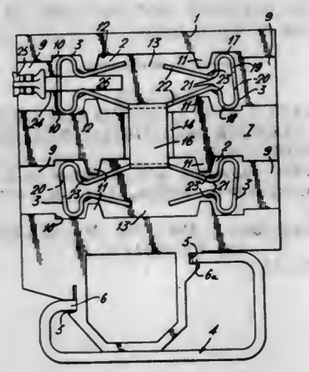
A coaxial jack comprises a shell provided with coaxial inner and outer spring contact means spaced from each

other via dielectric means for electrical engagement with respective outer and inner contacts of a coaxial plug member and coaxial-connecting means connectable onto



the shell and having a center contact element engageable with the center contact means carried by the dielectric means, the coaxial-connecting means taking different coaxial connectors.

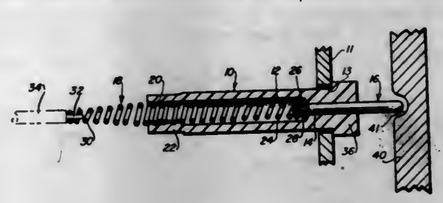
3,437,983
ELECTRICAL CONNECTOR ASSEMBLY AND MOUNTING MEANS THEREFOR
Herman Petrus Johannes Gilissen, Vlijmen, Netherlands, assignor to AMP Incorporated, Harrrisburg, Pa.
Filed May 16, 1967, Ser. No. 638,802
Claims priority, application Netherlands, July 26, 1966, 6606948
Int. Cl. H01r *7/06, 9/12, 11/22*
U.S. Cl. 339—198 11 Claims



A connector having an insulating housing provided with a passageway in which an electrical contact is disposed. The passageway is provided with camming projections that cooperates with curved portions of the electrical contact so that extraction force on a contact member disposed in electrical engagement with the electrical contact is increased by movement of the curved portions of the electrical contact in engagement with the camming projections. The insulting housing is provided with means for releasably mounting the housing in a support rail.

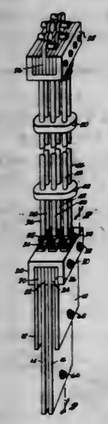
3,437,984
PROBE ASSEMBLY
Harry P. Yorgensen, Manchester, Conn., assignor to The J. M. Ney Company, Bloomfield, Conn., a corporation of Connecticut
Filed Feb. 8, 1968, Ser. No. 703,972
Int. Cl. H01r *9/08, 13/24, 13/50*
U.S. Cl. 339—213 11 Claims

There is disclosed a novel probe assembly provided by a body member having a contact probe and a spring supported therein. The body has a cavity and a channel providing communication between one end of the cavity and the exterior of the body through which the contact probe extends. The contact probe is slidably received in the body member with its inner end portion secured to



the spring, which is limited in movement by means on the body member so as normally to bias the probe outwardly of the body member, but being compressible to allow sliding movement inwardly of the channel.

3,437,985
FLEXIBLE BUS-BAR CLAMP
Richard D. Jones, 14851 Lewis Road, Miami Lakes, Fla. 33012
Filed Nov. 3, 1966, Ser. No. 591,869
Int. Cl. H01r *13/24, 9/00, 7/08*
U.S. Cl. 339—242 7 Claims

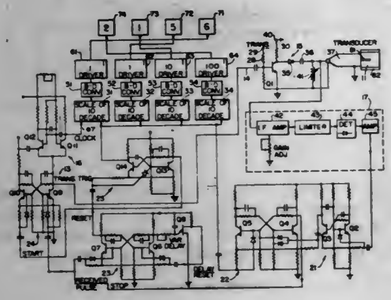


A bus-bar clamp and flexible cable for tapping into an electrical bus-bar, wherein the clamp comprises a plurality of equi-distantly spaced, flat connector plates electrically and mechanically interconnected at one end, whereat they interconnect with the electrical cable, the plates defining spaces, open at one end, within which bus-bars of a bus conductor are interfittingly received, and clamp means in the form of a through bolt provided at the free ends of the plates for clamping them in place with respect to the bus conductors received within the recesses.

3,437,986
ECHO SOUNDING APPARATUS
Earl W. Noble, 41 Edgerly Road, Boston, Mass. 02115
Filed Dec. 12, 1966, Ser. No. 600,980
Int. Cl. G01s *9/66*
U.S. Cl. 340—3 4 Claims

An echo sounding system has an electroacoustical transducer that may sit at the bottom of a well. When shock

excited, the transducer emits an acoustical pulse that is reflected from the water-air interface to produce an echo pulse transduced by the transducer into electrical form for amplification by a receiver to produce a received output pulse. At the time the sounding pulse is transmitted, a clock pulse generator is started. The received output pulse stops this clock pulse generator so that the number

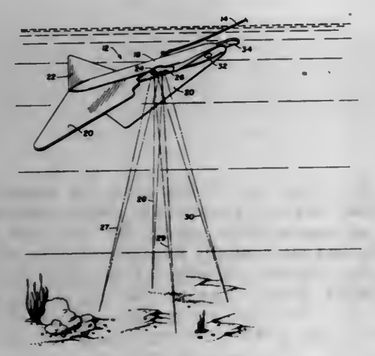


of clock pulses generated during the clock pulse source ON time interval is representative of the water level in the well and indicated on a nixie tube digital display. The transistor circuitry includes a normally nonconducting transistor biased substantially at avalanching potential in the nonconducting state so that transistors normally rated at relatively low collector-emitter potentials may be operated at much higher collector-emitter potentials.

3,437,987
UNDERWATER NAVIGATION METHOD AND SYSTEM

Kenneth E. Burg, Dallas, Tex., assignor to Texas Instruments Incorporated, Dallas, Tex., a corporation of Delaware

Filed July 10, 1967, Ser. No. 652,262
Int. Cl. G01s *9/32*
U.S. Cl. 340—3 **4 Claims**

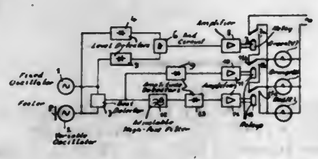


A vessel towed by a ship travels underwater in the general region of the bottom. The towed vessel carries a marine Doppler system for propagating directional signals toward the surface of the bottom, for receiving signals reflected from the bottom surface, and for generating navigational information in response to the Doppler frequency shift between the generated and received signals. A temperature responsive device corrects the navigational information for changes in the temperature of the water. The towed vessel also carries a bottom profiler to provide indications of the distance between the underwater bottom surface and the vessel.

3,437,988
MEANS FOR WARNING OF THE RELATIVE APPROACH OF AN OBSTACLE IN THE PATH OF A VEHICLE

Jeannine C. M. Vachon, 12 Square Montsouris, and Henri N. Aubert, 23 Rue de l'Abbe Groult, Paris, France

Filed Oct. 1, 1965, Ser. No. 492,990
Claims priority, application France, July 5, 1965, 23,419
Int. Cl. G08g *1/14*
U.S. Cl. 340—51 **9 Claims**

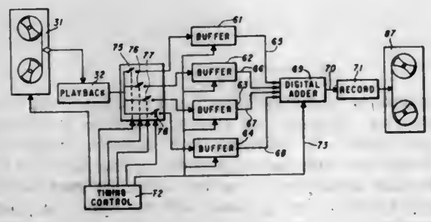


An obstacle detector, which detects the relative approach of a vehicle to an obstacle, having a fixed frequency oscillator and a variable frequency oscillator, the frequency of which varies because of a capacity change of a conductor responsive to approach of the obstacle. The outputs of the oscillators are combined and compared in a control unit and used to selectively energize a set of signal lights.

3,437,989
APPARATUS AND METHOD FOR CONTINUOUS MARINE MULTICHANNEL SEISMIC EXPLORATION

Jack M. Proffitt, Houston, Tex., assignor to Texas Instruments Incorporated, Dallas, Tex., a corporation of Delaware

Filed June 7, 1966, Ser. No. 555,760
Int. Cl. G01v *1/13*
U.S. Cl. 340—15.5 **12 Claims**

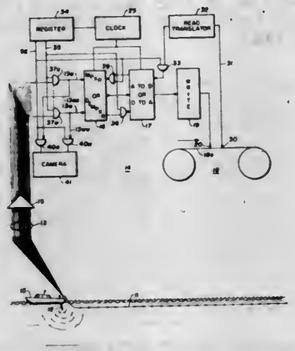


A plurality of groups of marine seismometers are spaced apart predetermined distances and are moved together with a mobile seismic source along a marine traverse. The signals from seismometers in each group are combined to produce a plurality of electrical signals in response to seismic disturbances from the seismic source. The source is preferably actuated at predetermined time intervals related to the distance traveled by a given seismometer group such that seismic disturbances are created at distances of the order of the spacing between seismometer groups. Digital analog signals are produced representative of the analog electrical signals and preferably are combined as digital signals which represent energy derived from common distance points.

3,437,990
READ AFTER WRITE DIGITAL FIELD SYSTEM MONITOR

Edwin B. Neitzel. Dallas, Tex., assignor to Texas Instruments Incorporated, Dallas, Tex., a corporation of Delaware

Filed Dec. 30, 1966, Ser. No. 606,076
Int. Cl. G01v *1/38*
U.S. Cl. 340—15.5 **5 Claims**

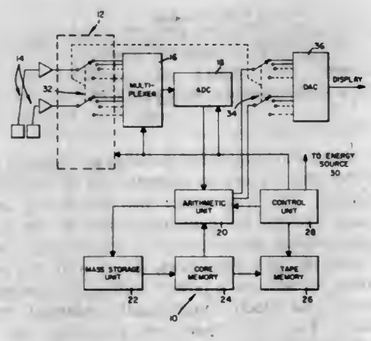


In seismic exploration, seismic signals are digitized and stored on magnetic tape in a field operation. A circuit is provided for reading the data recorded on the magnetic tape concurrently with recording by passing the data through the same converter and multiplexer as employed for the initial recording for monitoring the magnetic tape.

3,437,991
SYSTEM FOR RECORDING A MINOR NUMBER OF INFORMATION CHANNELS IN A MULTICHANNEL SUMMING RECORDING SYSTEM

James A. Porter, Jr., Houston, Tex., assignor to Mandrel Industries, Inc., Houston, Tex., a corporation of Michigan

Filed July 25, 1967, Ser. No. 655,916
Int. Cl. G01v *1/00*
U.S. Cl. 340—15.5 **4 Claims**

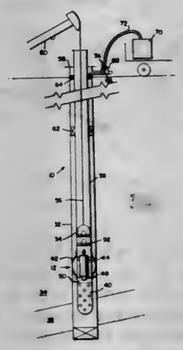


Apparatus and process for recording one or more channels of information in a multichannel summing recorder, employing switch means disposed between the seismic analog inputs and the multiplexer to allow successive selection of a particular channel or channels of the multichannel recorder. The apparatus permits sequential selection of the particular channel or channels, sequential placement of the data in the successive channels of a temporary storage unit of the summing recorder, and final transfer of the entire sequence of channels of data from the storage unit to a permanent memory (e.g., tape) with the sequentially taken data recorded in side-by-side relationship.

3,437,992
SELF-CONTAINED DOWNHOLE PARAMETER SIGNALLING SYSTEM

Norris Johnston, Ojai, Calif., assignor to Kirk R. Shirley, Long Beach, Calif.

Filed Feb. 23, 1967, Ser. No. 618,182
Int. Cl. G01v *1/40*
U.S. Cl. 340—18 **13 Claims**



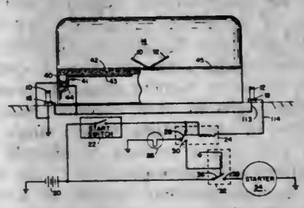
A system for signalling downhole parameters, such as temperature and pressure, from a producing well includes the combination of a mechanically driven electrical power supply, a parameter magnitude-to-time interval converter, and an impulse telemetering circuit for transmitting information to the surface.

The longitudinal vibration of the tubing string, resulting from pumping, drives a linear alternator, including a "tuned" inertial mass, permanent magnet assembly that generates alternating current. A rectifier converts A.C. to D.C. and stores electrical energy in a large heat insensitive capacitor. An electrical timing circuit converts parameters such as temperature and pressure to time intervals marked by signal pulses. A stepdown transformer applies the signal pulse between tubing and casing, and an inductive pick-up at the surface between the tubing and casing steps up the signal pulses to usable levels for recording.

3,437,993
PASSENGER SEAT BELT SAFETY SYSTEM FOR AUTOMOTIVE VEHICLE

Orlando Recio, 2107 Basel Drive 35811; Richard A. Holloway, 215 Curtis Drive SE. 35803; Ronald L. Lancaster, 2811 Hester Lane NW. 35810; Dennis J. Jones, 315 Dell Ave. SE. 35802; and George R. Motley, 2727 A Clayton Drive 35810, all of Huntsville, Ala.

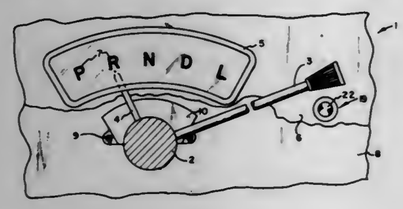
Filed Dec. 6, 1965, Ser. No. 511,905
Int. Cl. B60q *9/00*
U.S. Cl. 340—53 **6 Claims**



A system for insuring that automobile seat belts are worn in which seat belts for any occupied seat must be fastened before the automobile can be started employing

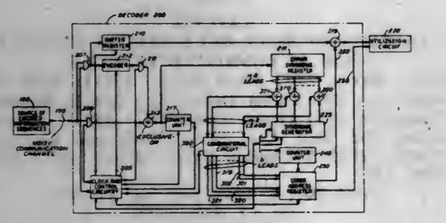
means for sensing when a seat is occupied and means for sensing when the seat belt for that particular seat is fastened.

3,437,994
SIGNALING APPARATUS FOR MOTOR VEHICLES
Norman P. Forsberg, 11429 S. Dixie Highway, Holly, Mich. 48442
Filed June 23, 1966, Ser. No. 559,812
Int. Cl. B60q *1/30*
U.S. Cl. 340—70 5 Claims



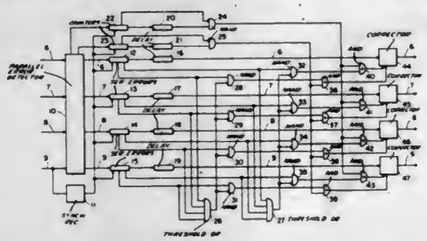
1. In an automotive vehicle having at least one back-up lamp mounted at the rear thereof and adapted for electrical connection in circuit with a source of electrical energy, gear selector means movable to and from a plurality of selected positions one of which is a vehicle reversing position, and switch means movable with said selector means into and out of one position in which said lamp is connected in circuit with said source, said one position of said switch means corresponding to the reversing position of said selector means: the improvement comprising a manually operable switch shunting said switch means and operable independently of said switch means to connect said lamp in circuit with said source regardless of the position of said selector means.

3,437,995
ERROR CONTROL DECODING SYSTEM
Robert N. Watts, Westfield, N.J., assignor to Bell Telephone Laboratories, Incorporated, New York, N.Y., a corporation of New York
Filed Mar. 15, 1965, Ser. No. 439,649
Int. Cl. G08b *29/00*; G08c *25/00*
U.S. Cl. 340—146.1 10 Claims



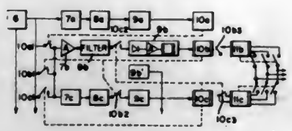
A decoder for automatically detecting and correcting certain types of erroneously-received digital data sequences that have been encoded in accordance with a cyclic or pseudo-cyclic code includes a combinatorial circuit having the same number of output leads as there are information digits in each encoded sequence. This circuit functions in combination with a single syndrome shift register unit and a counter to identify the error syndrome patterns that correspond to all the single- and double-error occurrences that include at least one information digit. In the course of this identification process the combinatorial circuit provides a unique signal on that one of its output leads which corresponds to the digit position of a single erroneous information signal. If two information signals are in error, the identification is accomplished by the energization of a single one of the output leads and by the registration contained in the associated counter.

3,437,996
ERROR CORRECTING CIRCUIT
Jacques V. Deregnaucourt, Ottawa, Ontario, Canada, assignor to Northern Electric Company Limited, Montreal, Quebec, Canada
Filed Apr. 30, 1965, Ser. No. 452,177
Int. Cl. G08b *29/00, 25/00*; H04j *3/02*
U.S. Cl. 340—146.1 6 Claims



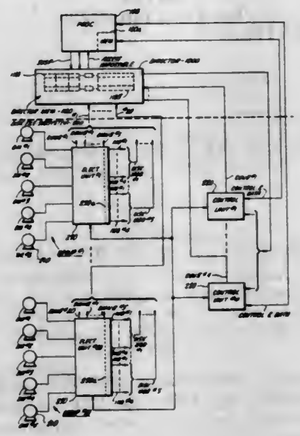
An error correcting circuit for a digital data link particularly for use on PCM telephone lines, utilizing a serial parity check and a parallel parity check and including a delay means for delaying the data by one frame and error correcting means for correcting an error on a line of the data link designated by a serial parity error and at the time designated by a parallel parity error. The application of the invention to the T1 type of PCM telephone system is disclosed.

3,437,997
AUDIOFREQUENCY REMOTE CONTROL SYSTEM FOR WORKING EQUIPMENT
Muneo Yoshida, Kobe-shi, Masaru Inoue, Tokyo, and Tsuyoshi Fukunaga, Heikichi Oguchi, and Koishi Shioya, Kobe-shi, Japan, assignors to Mitsubishi Jukogyo Kabushiki Kaishi, Chiyoda-ku, Tokyo, Japan
Filed Jan. 19, 1965, Ser. No. 426,570
Int. Cl. H04q *1/02*; H04b *11/00*
U.S. Cl. 340—171 6 Claims



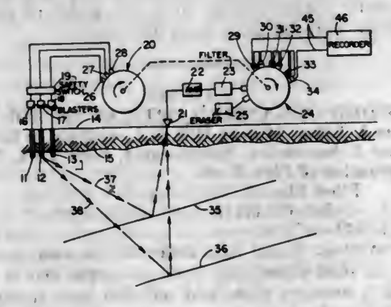
A remote control arrangement includes a manually portable transmitter and a receiver mounted on the equipment to be controlled. The transmitter has frequency generators and push buttons for each operation of the equipment, a power source, a modulator, a transmitter and an aerial. The receiver has amplifiers, filters and relays for each operation, as well as a power source for energizing electric motors and electromagnetically released brakes for the motors. For each operation, including the connection of the receiver power source to the receiver, a push button on the transmitter is depressed to successively connect two frequency generators, of different audiofrequencies, to the modulator, the first connected audiofrequency signal establishing a circuit for transmission of the second or later connected audiofrequency signal and then being terminated with the second audiofrequency signal being maintained for as long as the respective push button is depressed. Relay back contacts are provided to prevent subsequent contradictory signals from interfering with operation of the equipment.

3,437,998
FILE CONTROL SYSTEM
James Russell Bennett and William W. Parker, Glendora, and Eugene Schachner, Los Angeles, Calif., assignors to Burroughs Corporation, Detroit, Mich., a corporation of Michigan
Filed Nov. 26, 1965, Ser. No. 509,925
Int. Cl. G11b *13/00*
U.S. Cl. 340—172.5 18 Claims



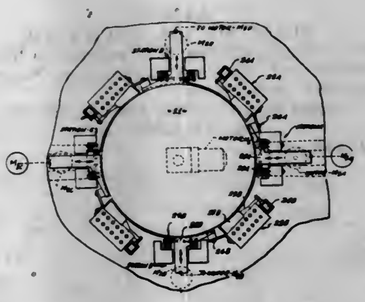
A plurality of disk file storage devices arranged into a plurality of groups. A plurality of electronic units is provided, one for each group of storage devices for causing reading and writing in the corresponding group of disk file storage devices. A director means receives and stores requests for access to the storage devices in a random sequence. Each request for access designates an electronics means and a storage means and a storage location in such storage means for accessing. The director means includes apparatus for selecting from all the stored requests for access one which identifies a storage location about to become available for accessing. Apparatus initiates an access through an electronics unit to the storage means designated by the selected request for access.

3,437,999
SEISMIC PROCESSING EMPLOYING DISCRETE PULSE DECONVOLUTION
Ralph A. Landrum, Jr., Tulsa, Okla., assignor to Pan American Petroleum Corporation, Tulsa, Okla., a corporation of Delaware
Filed Sept. 6, 1966, Ser. No. 577,437
Int. Cl. G01v *1/16*
U.S. Cl. 340—15.5 16 Claims



In this seismic prospecting method, a plurality of essentially identical shocks are applied to the ground at equal time intervals. The resultant received seismic waves at any desired spread are delay-line filtered to compress the plural wavelets into one resultant wavelet. Actually, such a filter produces a spurious signal in addition to the useful signals, but by the use of multiple filter elements, the spurious signal is time-delayed until it is completely off the record.

3,438,000
MULTIPLE STATION RANDOM ACCESS STORAGE AND RETRIEVAL DEVICE
Eugene H. Irasek, Inglewood, Calif., assignor to HF Image Systems, Inc., Culver City, Calif., a corporation of California
Continuation-in-part of application Ser. No. 528,231, Feb. 17, 1966. This application July 7, 1966, Ser. No. 563,514
Int. Cl. G11b *13/00*
U.S. Cl. 340—172.5 17 Claims

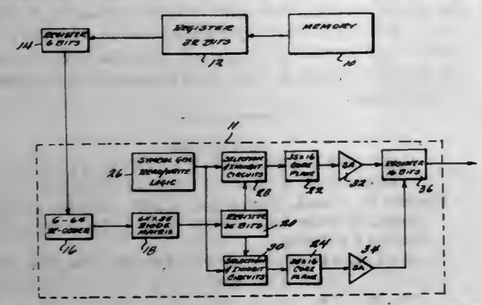


A random access storage and retrieval device for card type items having a delivery station at which a previously addressed and selected card is withdrawn from the store and returned thereto after use and which provides for completely automatic operation in returning an old card to the store, selecting a new card and locating it at the delivery station, and withdrawing the card from the store, all under the control of the X direction motion. A plurality of such stations are provided at which the cards may be recalled as desired, card selecting and positioning devices and X, Y positioning mechanisms being duplicated for each station. The stations are interlocked to prevent operation of a second station while another station is conducting a sequence of card manipulation although cards may be addressed without selection regardless of another station conducting a sequence. Priority orders of access to the store are provided between the stations, whereby a station of higher priority initiates its sequence of operation prior to that of a station of lower priority when both stations desire access to the store at the same time.

3,438,001
CHARACTER WRITING TECHNIQUE AND SYMBOL GENERATION
Manuel C. Langtry, Kronberg, Taunus, Germany, and Stephen A. Banks, Torrance, Calif., assignors to Control Data Corporation, Minneapolis, Minn., a corporation of Minnesota
Filed May 10, 1966, Ser. No. 548,940
Int. Cl. G11b *13/00*
U.S. Cl. 340—172.5 28 Claims

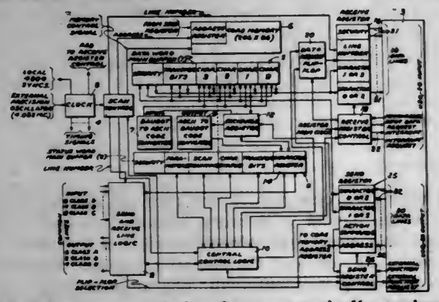
Apparatus for displaying digital information contained at M storage elements for display at M visual displays. A de-coder and converter are utilized to convert P bit words to N bit characters which are suitable for display at the visual displays on a character space comprising an A x B matrix. Memories responsive to the con-

verter are provided and a read sequencer, sense amplifiers and a register are associated with the memory for



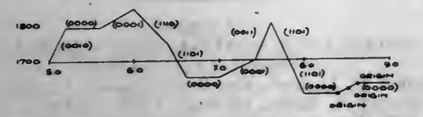
serially transferring the data from the memory to the display consoles.

3,438,002
PULSE SIGNAL EXCHANGE
Joseph M. Murgio, Clifton, N.J., assignor to International Telephone and Telegraph Corporation, Nutley, N.J., a corporation of Delaware
Filed May 31, 1966, Ser. No. 553,847
Int. Cl. G06f *7/24*
U.S. Cl. 340—172.5 **9 Claims**



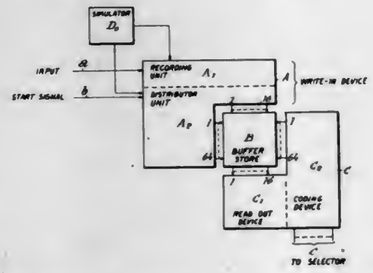
An input-output device for automatically exchanging pulse information signals between a multiplicity of signal lines and a central processor such as a digital computer. The device includes common hardware for time sharing the signal lines and includes bit-at-a-time character assembly-disassembly with variable speed sampling for accommodating various types of signals and recurrence rates.

3,438,003
DATA COMPRESSION SYSTEM
Roland F. Bryan, Chatsworth, Calif., assignor to The Bunker-Ramo Corporation, Stamford, Conn., a corporation of Delaware
Filed June 10, 1966, Ser. No. 556,684
Int. Cl. G06f *3/14*
U.S. Cl. 340—172.5 **11 Claims**



A system including display equipment responsive to digitally represented data for presenting a visual display of such data on a display point matrix such as is provided by a cathode ray tube. The system responds to applied origin codes to display any point in the matrix and to applied vector codes to display unit length vectors extending from previously displayed points in directions identified by the codes. Selected vector codes include additional information defining vector length; e.g., a defined plurality of unit length vectors.

3,438,004
TIME SELECTORS, ANALYSERS OR RECORDERS, FOR ELECTRICAL PULSES WHICH MAY FOLLOW ONE ANOTHER AT VERY SHORT INTERVALS
Edouard Laviron, Montgeron, France, assignor to Commissariat a l'Energie Atomique, Paris, France, an organization of France
Filed Aug. 23, 1966, Ser. No. 574,328
Claims priority, application France, Sept. 1, 1965, 30,118
Int. Cl. G11b *13/00*
U.S. Cl. 340—172.5 **8 Claims**

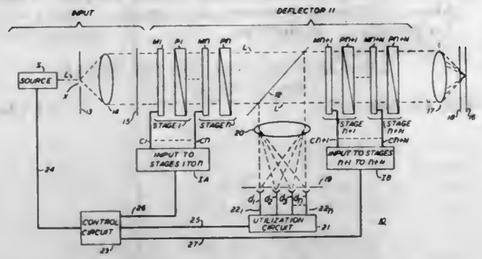


Time selectors, analysers or recorders adapted to receive and classify, according to their successive arrival times, pulses which may follow one another at very short intervals comprising a shaping unit which converts each incoming pulse to an electrical square wave, at least two delay lines, a distribution unit having one input connected to the output of the shaping unit to receive the electrical square waves, and at least two outputs connected each to the input of one of the delay lines and delivering the received square waves cyclically to each delay line during the delay time thereof. The apparatus includes sampling means for detecting the state of each of the delay lines at predetermined intervals which includes storage elements adapted to store the different states of the sampled delay lines. Comparator elements are provided for comparing two successive storage elements and delivering a pulse presence signal whenever the first storage element of two successive storage elements stores a state corresponding to the existence of a square wave at the corresponding sampling time, and which has been immediately preceded by an even number of elements storing such a state. The apparatus also includes a buffer store having a plurality of recording points, and transfer means adapted to transfer the storage element contents, thus compared to the store. A distribution unit is adapted to distribute the outputs of the transfer means to the successive groups of recording points of the store. A control unit is provided to control first, the distribution unit, the sampling means, the storage elements and the transfer means, and secondly, the distribution unit to apply the transfer means outputs to a new group of points of the buffer store on each delay line cycle.

3,438,005
WORD ORGANIZED OPTICAL MEMORY
William J. Tabor, Murray Hill, N.J., assignor to Bell Telephone Laboratories, Incorporated, New York, N.Y., a corporation of New York
Filed Mar. 8, 1965, Ser. No. 437,769
Int. Cl. G11b *7/00*; G02f *1/00*
U.S. Cl. 340—173 **6 Claims**

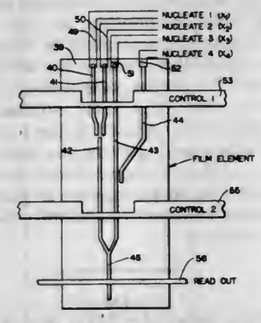
A multistage digital light deflector operated in a mode where all light emanating from an output end is passed through a memory plane and reflected back through the deflector for detection is said to be operated in a reflective mode. A deflector operated in a reflective mode is adapted herein to a word-organized memory arrange-

ment by routing a plurality of beams in parallel through the deflector to access simultaneously a pattern of ob-



structions on the memory plane. The pattern of obstructions defines a binary word.

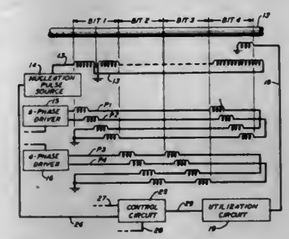
3,438,006
DOMAIN TIP PROPAGATION LOGIC
Robert J. Spain, Brighton, Mass., assignor, by mesne assignments, to Cambridge Memory Systems, Inc., Farmington, Mass., a corporation of Massachusetts
Filed Jan. 12, 1966, Ser. No. 520,195
Int. Cl. G11b *5/00*
U.S. Cl. 340—174 **6 Claims**



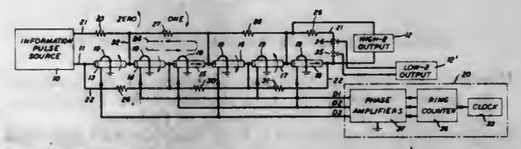
4. A magnetic logical element comprising, a magnetic medium initially magnetized in a first direction, first, second and third channels located within said magnetic medium, each of said channels being defined as an area exhibiting a substantially lower coercive force characteristic than said medium, each of said channels intersecting at a common point, means for nucleating within said first channel a domain of magnetization reversed in direction from the direction of said initial magnetization, and means for applying a magnetic field to said magnetic medium, said magnetic field having at least one component opposite in direction to the direction of said initial magnetization, and exhibiting sufficient intensity to propagate said reversed domain of magnetization into one or the other of said second and third channels, the selection of said second or third channels being determined by the resultant direction of all of the components of said applied field.

3,438,007
MAGNETIC DOMAIN PROPAGATED WORD RECOGNIZER
Peter S. Warwick, Middletown, N.J., assignor to Bell Telephone Laboratories, Incorporated, New York, N.Y., a corporation of New York
Filed Mar. 14, 1966, Ser. No. 533,910
Int. Cl. G11b *5/62*
U.S. Cl. 340—174 **9 Claims**

1. A recognizer circuit comprising a magnetic medium of a material capable of sustaining a stable magnetized condition including a domain wall therein in response to a first field in excess of a nucleation threshold and of moving that domain wall in response to a second field in excess of a propagation threshold and less than said nucleation threshold, means for providing said first field in a first position of said medium, first and second propagation means each including a pair of conductors coupled to said medium in a manner for providing stepalong said second fields in first and second coded portions of said medium, said first and second propagation means also including first and second four-phase drivers responsive to first and second input pulse respectively for so pulsing the corresponding conductor pairs.



3,438,008
MAGNETIC THIN FILM STORAGE NETWORK FOR SHIFT REGISTERS AND OTHER LOGIC
George W. Dick, Cooksville, Ontario, Canada, and Wayne D. Farmer, Plainfield, N.J., assignors to Bell Telephone Laboratories, Incorporated, New York, N.Y., a corporation of New York
Filed Mar. 8, 1966, Ser. No. 532,637
Int. Cl. G11b *5/62*
U.S. Cl. 340—174 **25 Claims**

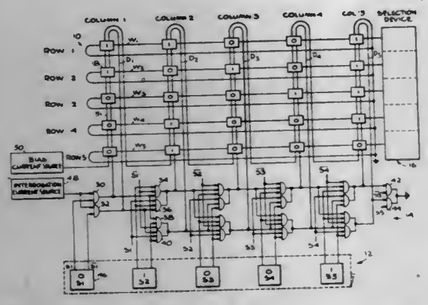


1. An information storage network comprising
a wire,
a plurality of segments of anisotropic magnetic material coupled to different portions of said wire, said material having an easy direction of magnetization and a hard direction of magnetization,
means supplying n-phase magnetomotive forces to different ones of said segments in a recurring sequence so that each of said segments is driven to its hard direction of magnetization once during each period of said signals and at substantially the same time that an adjacent one of said segments has a phase of said forces removed therefrom to permit it to fall back from its hard to its easy direction of magnetization, n being at least 3,
$n-1$ resistor connections, each of said connections having connected in series therein a plurality of resistors, and
means connecting different ones of said resistors across different groups of $n-1$ of said segments so that each pair of adjacent portions of said wire is shunted by $n-2$ circuits each including one of said resistors.

3,438,009
CONTENT ADDRESSABLE MEMORY

Samuel Nissim, Malibu, Calif., assignor, by mesne assignments, to The Bunker-Ramo Corporation, Stamford, Conn., a corporation of Delaware

Filed Jan. 3, 1964, Ser. No. 335,522
Int. Cl. G11c *5/02*; G11b *5/64*
U.S. Cl. 340—174 3 Claims

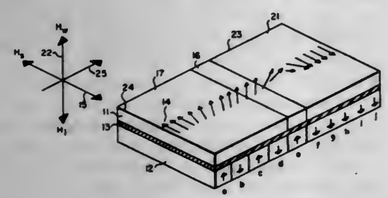


A memory element particularly useful in a content addressable memory. The memory element constitutes a magnetic device having a preferred axis of magnetization and including means for selectively orienting a storage field in first and second directions along the preferred axis. The storage field is displaced from the preferred axis by a DC bias field. First and second interrogate fields are employed to rotate the storage field in opposite directions to develop different output signals depending on the storage state. Thus, the state stored by the element can be compared with a search bit by employing different interrogate signals depending on the search bit state. The element is therefore well adapted for content addressable memory use. The content addressable memory columns can be interrogated in sequence with each column being energized after an interrogate pulse has traversed the previous column.

3,438,010
HIGH CAPACITY DATA PROCESSING TECHNIQUES

Harrison W. Fuller, Needham Heights, Mass., assignor, by mesne assignments, to Laboratory for Electronics, Inc., Boston, Mass., a corporation of Delaware

Original application Nov. 18, 1957, Ser. No. 697,058, now Patent No. 3,140,471, dated July 7, 1964. Divided and this application Jan. 13, 1964, Ser. No. 337,230
Int. Cl. G11b *5/66*; G11c *11/14*
U.S. Cl. 340—174 2 Claims

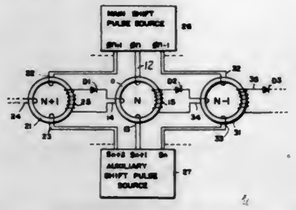


A data storage assembly for a data processing apparatus which includes two adjacent anisotropic magnetic thin films. Both films are initially magnetized in one direction and, by reversing the direction of magnetization of specified zones in one film, a magnetic field external to that film is created which reverses the direction of magnetization of corresponding zones in the second film. The direction of magnetization of specified zones is used to store data.

3,438,011
SHIFT REGISTER HAVING MAIN AND AUXILIARY SHIFT WINDINGS

Roy W. Reach, Sudbury, and David Shapiro, Lincoln, Mass., assignors, by mesne assignments, to Barry Wright Corporation, Watertown, Mass., a corporation of Massachusetts

Filed June 26, 1964, Ser. No. 382,435
Int. Cl. G11b *5/06*
U.S. Cl. 340—174 11 Claims

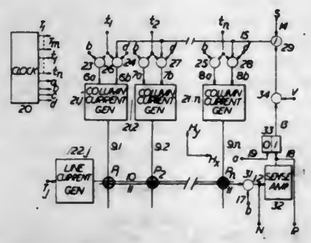


A magnetic core shift register has main and auxiliary shift pulse windings, an input winding and an output winding having more turns than the input winding. A diode couples the output winding of one stage to the input winding of the following stage. There is a source of main shift pulses and auxiliary shift pulses with means for applying one of the main shift pulses to the main shift winding of one storage element and one of the auxiliary pulses to the auxiliary shift winding of a following storage element in overlapping time relationship so that the main pulse energy establishes the reset state in the one element output winding when that element is thereby switched from the set state which output pulse is coupled by the diode to the following core stage input winding to oppose the switching energy then applied to the following core stage auxiliary winding and prevent the following core stage from being switched to the set state, the switching energy then applied to the following core stage auxiliary winding otherwise being sufficient to establish the set state in the following core stage.

3,438,012
SEQUENTIAL DESTRUCTIVE READ-OUT AND REWRITE THIN-FILM MEMORY ARRANGEMENT

André Jacques Judeinstein, Antony, and Jerzy Marek Tyszka, Neuilly-sur-Seine, France, assignors to International Standard Electric Corporation, New York, N.Y., a corporation of Delaware

Filed Nov. 3, 1964, Ser. No. 408,558
Claims priority, application France, Nov. 14, 1963, 953,663
Int. Cl. G11b *5/00*
U.S. Cl. 340—174 4 Claims

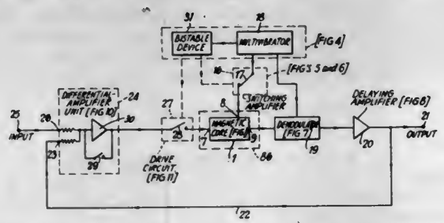


A magnetic thin-film memory plane of the serial type with destructive read-out operation in which the word and sense conductors of each memory cell are parallel to the easy axis of the thin-film material and the digit conductor is parallel to the hard axis. The *n* digit conductors are selected in succession by clock pulses and, during its time allotment, each digit conductor receives successively currents of equal amplitude and opposite polarity. The first current induces a read-out longitudinal field which reverses the magnetization of a corresponding cell and the second current induces a write longitudinal field which similarly reverses the magnetization of the cell. Each magnetization reversal induces a read-out signal in the sense conductor, with the first of said signals being presented to a sense amplifier, and used for rewriting if such is desired.

3,438,013
ANALOGUE INFORMATION STORAGE SYSTEMS

Derek Arthur Linkens, Burham, Rochester, and George C. A. Talbot, Chatham, England, assignors to Elliott Brothers (London) Limited, London, England, a company of Great Britain

Filed Jan. 5, 1965, Ser. No. 423,469
Claims priority, application Great Britain, Jan. 6, 1964, 596/64
Int. Cl. G06f *11/04*; G11b *5/06*
U.S. Cl. 340—174 36 Claims

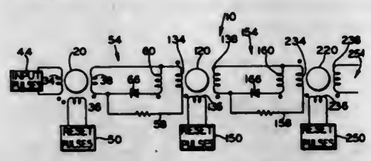


An analogue-type information-storage system which comprises a magnetic core with an associated input winding, interrogate winding and output winding. A non-destructive read-out circuit is arranged to apply an interrogate signal of a selected frequency to the interrogate winding and to derive from the output winding output signal representing the information stored within the core. A delay circuit is connected for delaying the output signal. Comparison circuit is arranged to compare the delayed output signal with an input signal representing the information required to be stored to derive an error signal. The error signal is applied to the input winding to modify the information stored within the core so as to reduce the error signal. A switching device is operable at a frequency lower than the selected frequency to alternately connect the non-destructive read-out circuit to the interrogate winding and the comparison circuit to the input winding.

3,438,014
MAGNETIC CORE COUNTING CIRCUIT

Albert Regalado, Warren Township, N.J., assignor to Burroughs Corporation, Detroit, Mich., a corporation of Michigan

Filed May 27, 1965, Ser. No. 459,355
Int. Cl. G11b *5/44*, *5/00*; G11c *5/08*
U.S. Cl. 340—174 10 Claims

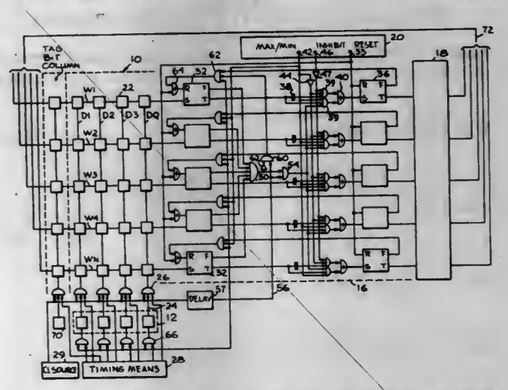


A magnetic core circuit including a first core and a second core coupled together by a coupling circuit. The first core can be set and reset and can generate output pulses of resultant opposite polarities in the coupling circuit when it is set or reset. The circuit path includes two oppositely wound windings on the second core which generate currents which oppose and cancel each other whenever the output pulse has one polarity. However, when the output pulse has the opposite polarity, only one of the two windings is operative and it permits the pulse to be applied to and operate the second core.

3,438,015
CONTENT ADDRESSABLE MEMORIES

Ralph J. Koerner, Canoga Park, Calif., assignor to The Bunker-Ramo Corporation, Stamford, Conn., a corporation of Delaware

Filed Aug. 16, 1965, Ser. No. 479,947
Int. Cl. G11b *5/00*
U.S. Cl. 340—174 14 Claims

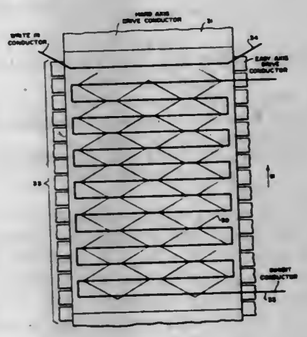


A content addressable memory which permits the words stored therein to be easily searched to locate the maximum or minimum stored word. In order to locate the maximum stored word, the bits of all of the stored words are compared in order, from the most to least significant with an all "1's" search word. Mismatch signals will be developed at some point in the comparison sequence for all those stored words which are not comprised solely of "1's." If at some point in the comparison sequence only a single stored word exists from which a mismatch signal has not as yet been developed, then this word is of course the maximum stored word.

3,438,016
DOMAIN TIP PROPAGATION SHIFT REGISTER

Robert J. Spain, Paris, France, assignor, by mesne assignments, to Cambridge Memory Systems, Inc., Farmington, Mass., a corporation of Massachusetts

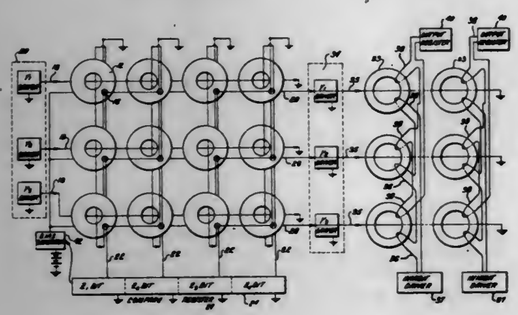
Continuation-in-part of application Ser. No. 431,364, Feb. 9, 1965. This application Oct. 19, 1967, Ser. No. 681,047
Int. Cl. G11b *5/62*
U.S. Cl. 340—174 9 Claims



A shift register formed of a zig-zag low coercive force channel in a magnetic film medium which has an easy

axis of magnetization. Conductors are arranged to nucleate a small domain of reversed magnetization at one end of the channel. Other conductors are energized in sequence to produce magnetic fields at an angle to said easy axis to extend the reversed magnetic domain along one leg of the channel and then to return the original area of reversed magnetization to a magnetization state the same as the remainder of the film leaving, however, a small domain of reversed magnetization at the further end of the zig-zag leg.

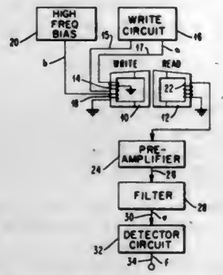
3,438,017
STORAGE APPARATUS FOR COMPARING INFORMATION
Robert C. Minnick, Arcadia, Calif., assignor to Burroughs Corporation, Detroit, Mich., a corporation of Michigan
Filed Dec. 12, 1958, Ser. No. 780,056
Int. Cl. G11b *5/44*
U.S. Cl. 340—174 **25 Claims**



24. A multiple electronic comparing device for simultaneously comparing a plurality of memory words with a test word, comprising: a comparison register; a magnetic core matrix having bit storage elements arranged in bit order columns and word rows; columnar lines, each respectively related to a particular bit order, associated with a bit storage element in said comparison register and traversing the corresponding order bit storage element of each memory word; word sense lines traversing the word rows of bit storage elements, each word sense line being related to a particular word row; and means controlled by the values of the particular bits in the comparison register and by respectively different values of the corresponding order bit storage elements in the memory for generating mismatch pulses along word sense lines traversing said bit storage elements.

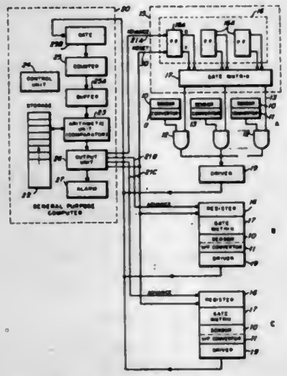
3,438,018
APPARATUS AND METHOD FOR MAGNETIC RECORDING
Richard E. Braun, Wappingers Falls, N.Y., assignor to International Business Machines Corporation, Armonk, N.Y., a corporation of New York
Filed Dec. 23, 1964, Ser. No. 420,591
Int. Cl. G11b *5/00*
U.S. Cl. 340—174.1 **3 Claims**

A magnetic recording system utilizing a two gap read/write head. The write head precedes the read head in the directions of travel of the tape. A bias coil is provided on the same pole-piece as the conventional write coil and is driven by a high frequency bias current source. The amplitude of the write current bias is just less than that necessary to drive the tape into the saturation region. A write current provided by a write circuit is sufficient when added to the bias current to drive the tape into the saturation region. Because ordinarily in a read/write head the write pole-piece is very close to the read pole-piece the flux produced by the write-head coils induces noise feed-through in the read pole-piece. In this recording system the noise is comprised mainly of the high frequency



bias, since the low frequency current from the write circuit is of low amplitude with respect thereto. Feed-through from the high frequency bias is filtered out by a filter leaving only the amplified tape signal induced in the read coil by the tape signal written on tape.

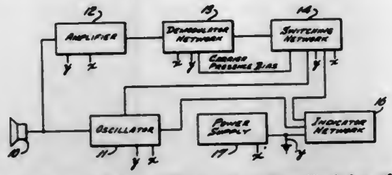
3,438,019
DATA GATHERING SYSTEM
Richard L. Gowan, Coronado, Calif., assignor to the United States of America as represented by the Secretary of the Navy
Filed Oct. 11, 1965, Ser. No. 494,990
Int. Cl. G08b *19/00;* **H04g** *3/04*
U.S. Cl. 340—214 **3 Claims**



Parameters, such as voltages, in an equipment to be tested are converted in situ to series of pulses, the repetition rates being functions of the parameters. The pulse series are successively gated to a single long line to a remote computer. A signal pulse at the computer indicates completion of readout of one series and triggers the gate for the next series.

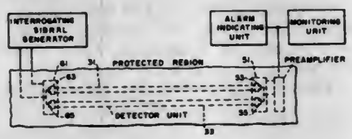
3,438,020
APPARATUS FOR DETECTING OBJECT MOVEMENT
Julius O. Lerner, Verona, N.J., assignor of fifty percent to David Herman, Livingston, N.J.
Filed Jan. 3, 1966, Ser. No. 518,250
Int. Cl. G08b *13/24*
U.S. Cl. 340—258 **17 Claims**

A moving object detector includes a preferably supersonic oscillator coupled to an electro-mechanical transducer such as a speaker unit which is coupled to and establishes a standing wave field in a monitored space, the field varying with time in the presence of a moving object. The standing wave is picked up and transduced to a corresponding electric signal which is demodulated and the demodulated signal controls an alarm in response to



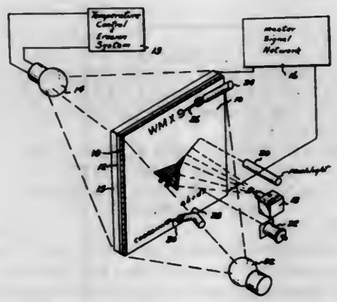
the modulation. The oscillator is controlled by the demodulated signal to increase the oscillator output with an increase in the demodulated signal whereby to increase the detector sensitivity and stability.

3,438,021
PERIMETER INTRUSION ALARM
Arthur Nelkin, Charles B. Durgin, Fred G. Gell, and John H. Thompson, Pittsburgh, Pa., assignors to Westinghouse Electric Corporation, Pittsburgh, Pa., a corporation of Pennsylvania
Filed July 26, 1965, Ser. No. 474,582
Int. Cl. G08b *13/20, 21/00*
U.S. Cl. 340—261 **9 Claims**



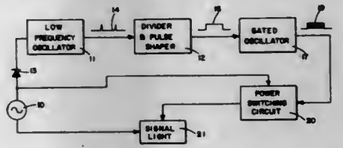
This invention relates to a perimeter intrusion alarm system which includes a flexible hose member containing a fluid capable of transmission of energy impulses in response to pressure applied to the external portion of the flexible tube. The pressure impulses are detected by a transducer means which converts this mechanical energy into an electrical energy manifestation and indicates an intrusion over the flexible detector hose means. In addition, the system provides a piezo-electric crystal member for sensing said intrusion and also means for interrogating said system by means of providing an interrogating energy pulse into said detection system.

3,438,022
THERMOCHROMIC DISPLAY DEVICE
Robert O. Teeg, Grosse Pointe Farms, and Robert W. Hallman, St. Clair Shores, Mich., assignors to Teeg Research, Inc., Detroit, Mich., a corporation of Delaware
Filed July 7, 1966, Ser. No. 563,570
Int. Cl. G11b *7/24*
U.S. Cl. 340—324 **8 Claims**



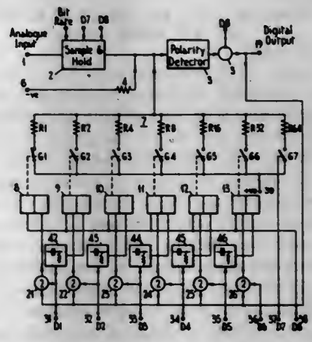
A thermochromic display board comprising principally a thin film of a material having a thermotropically reversible reflectivity change provided with a finite hysteresis, such material being a vanadium suboxide of the general formula VO_x in which x is comprised between 1.5 and 2.02, heating means maintaining the temperature of the thin film within its thermal hysteresis range and means for "switching" the reflectivity of the thin film by locally increasing its temperature above the higher transition temperature or by locally decreasing its temperature below the lower transition temperature. Information can thus be written on the board, altered, partially erased or completely erased.

3,438,023
SYNCHRONOUS SWITCHING CIRCUIT FOR CONTROLLING THE FLASHING OPERATION OF A SIGNAL LIGHT
Peter F. Apitz, Placentia, Calif., assignor to Tamar Electronics Industries, Inc., Anaheim, Calif., a corporation of Delaware
Filed May 3, 1965, Ser. No. 452,521
Int. Cl. G08b *5/00;* **H05b** *39/00, 41/00*
U.S. Cl. 340—331 **8 Claims**



A low frequency oscillator is synchronized with the start of a positive half cycle of the AC power line. The output of the low frequency oscillator is appropriately shaped and divided to the desired flasher frequency to provide a square wave output. The square wave signal is then used to gate a high frequency oscillator to produce modulated high frequency signals. These modulated high frequency signals are then connected to a switching circuit which provides AC power to a signal light at the desired flashing rate. The switching is synchronized at the cross-over point of the AC supply current by means of the high frequency pulses which are gated to the switching circuit by the synchronized low frequency gating signal.

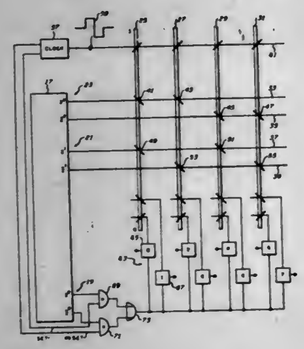
3,438,024
CONTROLLED BIAS FEEDBACK ANALOG TO DIGITAL CONVERTER
George Mitchell Smith, Coventry, England, assignor to The General Electric Company Limited, London, England
Filed June 24, 1965, Ser. No. 466,759
Claims priority, application Great Britain, June 26, 1964, 26,547/64
Int. Cl. G08c *9/04;* **H03f** *1/36;* **H04l** *3/00*
U.S. Cl. 340—347 **2 Claims**



An analog to digital converter wherein a polarity detector has applied to it the analog signal, a controlled bias

signal, and a signal variable in binary weighted steps, and comprising logic circuits responsive to polarity indications from the polarity detector to tend to reduce the signal sum to zero, the polarity indications constituting the digital output signal, the bias signal being automatically controlled to center the median of the analog signal within the range of voltages with which it is being compared.

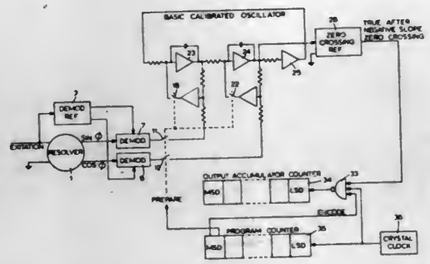
3,438,025
BINARY CODE CONVERTERS
Francis B. Black, Sandy, Utah, and Ellis D. Harris, Bradbury City, Calif., assignors to Sperry Rand Corporation, a corporation of Delaware
Filed Nov. 26, 1965, Ser. No. 509,997
Int. Cl. H04l 3/00
U.S. Cl. 340—347 **10 Claims**



1. A decoder for n-bit binary words comprising a plurality of 2^{n-1} magnetic memory cores; clock means for applying a magnetizing force to all cores alternately in a first and a second direction; means to permit flux reversal in only a single selected core representative of the binary values of all digits other than the least significant in the incoming word; individual coincidence means coupled to each core to detect the direction of any flux reversal in that core; means responsive to the binary value of the least significant digit in the incoming word to enable said coincidence means during a flux reversal; and means to indicate which coincidence means has passed a signal.

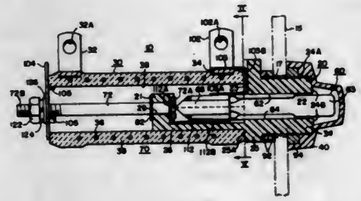
3,438,026
ANALOG TO DIGITAL CONVERTER
Robert S. Prill, Bloomfield, Marvin Masel, West Englewood, and Joseph V. McKenna, Clark, N.J., assignors to General Precision Inc., Little Falls, N.J., a corporation of Delaware
Filed Apr. 15, 1966, Ser. No. 542,941
Int. Cl. H03k 13/04
U.S. Cl. 340—347 **8 Claims**

1. An analog to digital converter for converting sinusoidal angle functions presented by a synchro or resolver to a digital angle value, comprising in combination: demodulation means to convert the presented outputs into D-C voltage values; oscillation means responsive to impressed D-C inputs including a circuit between said demodulation means and said oscillation means; switch means in said circuit which in one position will impress said demodulation means D-C voltage values on the oscillation means and which in the other position will start said oscillation cycle at said impressed voltage values; a zero crossing and phase detector connected to said oscillation means to detect a zero crossing in a particular phase of a selected one of said oscillation cycles; counter means responsive to said zero crossing detector including a pulse source for providing pulses and accumulation means for accumulating the amount of pulses, said pulse source being gated to said accumulation means by said zero crossing, the counter means including a preset



total, and the number of pulses provided between zero and said preset total depending upon the location of said zero crossing, said accumulated pulses corresponding to the desired angle value.

3,438,027
INDICATING LAMP HOUSING
Paul Silvius, Murrysville, Pa., assignor to Westinghouse Electric Corporation, Pittsburgh, Pa., a corporation of Pennsylvania
Filed Nov. 20, 1967, Ser. No. 684,242
Int. Cl. G09f 9/00
U.S. Cl. 340—381 **7 Claims**

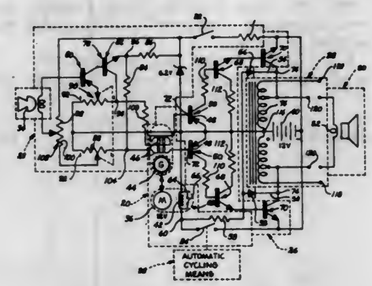


An indicating lamp housing is formed by the combination of a generally tubular resistor having a central opening into which projects axially a body of insulating material including a tubular portion which is adapted to receive the base of an indicating lamp. A pair of spaced contacts are disposed inside the opening of the resistor with one contact mounted on a portion of the insulating body which projects axially into the opening of the resistor and the other contact is mounted on the resistor adjacent to one end of the resistor to extend axially along the opening of the resistor.

3,438,028
AUDIO AMPLIFYING AND TRANSDUCING APPARATUS FOR PRODUCING AND EMITTING A HIGH-AMPLITUDE HIGH-ENERGY SOUND OUTPUT
Walter R. Stewart, 8264 E. Beverly Drive, San Gabriel, Calif. 91775
Filed Mar. 10, 1966, Ser. No. 533,342
Int. Cl. G08b 3/10
U.S. Cl. 340—384 **9 Claims**

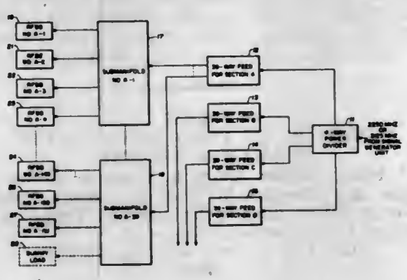
The specification discloses an audio amplifying and transducing apparatus for producing and emitting a high-amplitude, high-energy sound output which may comprise a siren type of signal and/or an oral or vocal type signal and wherein the means for producing the siren type signal

is completely self-contained and the means for producing an oral or vocal type signal is completely self-contained except for an audio input thereto so that it may be said that in this mode the apparatus comprises a public address signal producing and amplifying system. The dual purpose



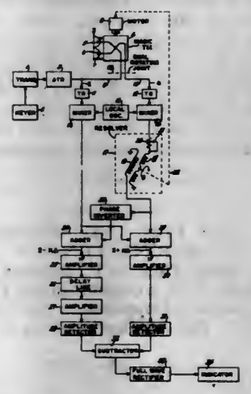
apparatus is embodied in an extremely small, compact, rugged unit adapted to be mounted on an emergency vehicle and to function efficiently during the rather severe environmental conditions to which it will be subjected while so mounted.

3,438,029
DISTRIBUTIVE MANIFOLD
Troy D. Fuchser and James C. Sadler, Dallas, Tex., assignors to Texas Instruments Incorporated, Dallas, Tex., a corporation of Delaware
Filed June 30, 1967, Ser. No. 650,495
Int. Cl. G01s 9/56
U.S. Cl. 343—5 **17 Claims**



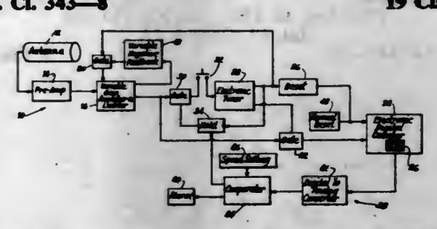
A distributive manifold for a modular microwave transmitter-receiver assembly made up of a large number of transmit-receive building block modules each having the facility to transmit a frequency signal during a first operation and receive a frequency signal during a second operation. Included in the distributive manifold is a submanifold for dividing a transmit frequency signal into four equal amplitude and in-phase signals transmitted to four RF building block modules during the transmit operation. One-quarter of the total number of said submanifolds is supplied the transmit frequency signal through a main manifold. Four main manifolds are included in a total system with each supplied an RF signal from a four-way divider. The signal received during the second operation by four building block modules is combined in one submanifold unit; one-quarter of the signals so combined is further combined in the main manifold wherein they are properly weighted depending upon their distribution over the total array. Thus, the total number of input signals received by the module elements is reduced to four substantially identical signals which are added and subtracted in pairs to generate a sum and difference intermediate frequency signal.

3,438,030
OBJECT DETECTION SYSTEM
Frank R. Dickey, Jr., De Witt, N.Y., assignor to General Electric Company, a corporation of New York
Filed Jan. 27, 1955, Ser. No. 484,547
Int. Cl. G01s 9/42, 9/02, 3/00
U.S. Cl. 343—7.7 **34 Claims**



12. A pair of directive antennas for comparing the phase or amplitude of received waves, means for combining the waves received by said antennas to provide a wave in a first channel corresponding to the sum of said received waves, and a wave in a second channel corresponding to the difference of said received waves, means for deriving a control signal corresponding to changes in position of said antenna system, means for adjusting the relative amplitudes of said sum and difference signals in accordance with said second control signal, and means for algebraically adding said relatively adjusted sum signal with said relatively adjusted difference signal to derive a composite signal, means for delaying said composite signal a predetermined time interval equal to the period between successively received signal, means for algebraically subtracting said delayed signal with an undelayed composite signal received at a different time, to derive a resultant signal, and means for utilizing said signal to display only those waves being received from a moving source of waves.

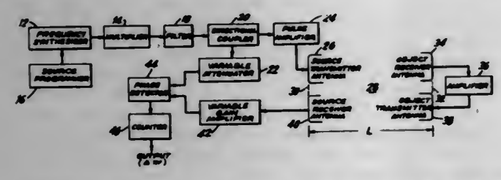
3,438,031
DOPPLER RADAR HAVING DIGITAL SPEED INDICATOR
George H. Fathauer, Decatur, Ill., assignor to Duncan Parking Meter Corporation, Elk Grove Village, Ill., a corporation of New York
Filed Nov. 13, 1967, Ser. No. 682,258
Int. Cl. G01s 9/44
U.S. Cl. 343—8 **19 Claims**



A Doppler radar antenna unit produces a difference frequency signal which is amplified by a pre-amplifier, a variable gain amplifier and a limiter. The amplified signal is then fed through a trigger gate and a manually operable switch to the triggering input of an electronic timer. When the difference frequency signal is sufficiently great, the timer produces a timing pulse which activates a counting gate whereby the difference frequency signal is fed to an

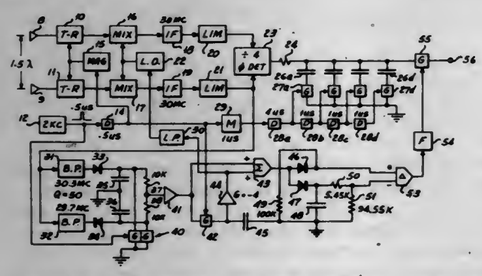
electronic digital counter having a digital display which shows the speed of the vehicle under surveillance. The timing pulse also deactivates a feedback gate in the negative feedback path of the variable gain amplifier so as to increase the gain of the amplifier for the duration of the timing pulse. Furthermore, the timing pulse activates a hold circuit which deactivates the trigger gate so as to prevent retriggering of the electronic timer for an interval after the end of the timing pulse. A converter converts the digital output of the counter to an analog output which operates an alarm circuit if the output exceeds a predetermined speed setting. The alarm circuit also continues the activation of the hold circuit so that the speed reading is held if the reading represents an excessive speed.

3,438,032
APPARATUS FOR AND METHOD OF MEASURING LENGTH
Melvin S. Cook, Kings Park, N.Y., assignor to Holobeam, Inc., Paramus, N.J., a corporation of Delaware
Continuation-in-part of application Ser. No. 621,952, Mar. 9, 1967. This application May 4, 1967, Ser. No. 636,198
Int. Cl. G01s *9/04*
U.S. Cl. 343—12 **16 Claims**



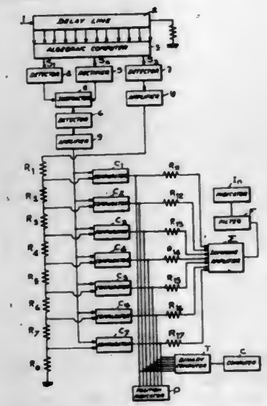
This invention is a distance determination apparatus and system for use over free space. Radiation is transmitted to an object from a source located at a predetermined location. The phase of the transmitted radiation or of a modulation signal imposed on transmitted radiation is compared with the phase of a signal coming from the object. The frequency of the transmitted radiation, or of the modulation signal if a carrier is utilized, is varied over some range and the number of cycles of phase difference thereby generated and detected is utilized as a measurement of distance. This system also allows the use of an active return in a system in which frequency dependent phase errors arise.

3,438,033
DOPPLER RESOLUTION OF INTERFEROMETER AMBIGUITIES
Frank S. Preston, Fairfield, Conn., assignor to United Aircraft Corporation, East Hartford, Conn., a corporation of Delaware
Filed Jan. 30, 1968, Ser. No. 701,688
Int. Cl. G01s *9/02*
U.S. Cl. 343—16 **8 Claims**



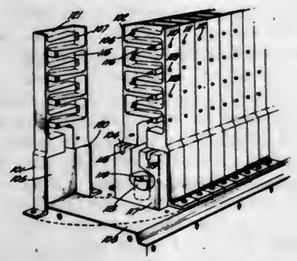
Multiple ambiguities in interferometer radar systems having a large horn spacing are resolved by employing the Doppler frequency shift in the radar return as a measure of elevation angle.

3,438,034
DEVICES FOR TREATING SIGNALS
Roland Carré and Jean Robert, Paris, France, assignors to CSF—Compagnie Generale de Telegraphie Sans Fil, a corporation of France
Filed May 9, 1968, Ser. No. 728,278
Claims priority, application France, May 10, 1967, 105,951
Int. Cl. G01s *7/28*
U.S. Cl. 343—17.1 **2 Claims**



An improvement to devices for treating pulse radar signals of the kind supplying a "purified" video signal and a threshold voltage resulting from a measurement of the average noise, consisting in the simultaneous formation of n purified quantized signals by comparing the purified video signal with n fractions of the threshold voltage.

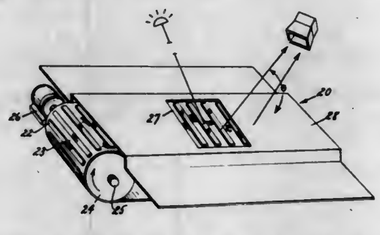
3,438,035
PENCIL BEAM FREQUENCY/PHASE SCANNING SYSTEM
John J. Fling, Malibu, Shirly L. Howard, Rolling Hills Estates, and Frederick M. Weil, La Canada, Calif., assignors to International Telephone and Telegraph Corporation, a corporation of Delaware
Filed Aug. 8, 1966, Ser. No. 570,991
Int. Cl. H04b *7/10*
U.S. Cl. 343—100 **8 Claims**



A two dimensional antenna array and scanning system particularly adapted to instrumentation in the micro-wave regions are illustrated and described.

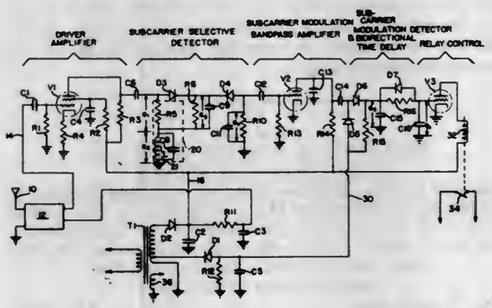
A number of radiating elements are arranged in columns and rows in a planar array to develop a directional beam relatively narrow in each of first and second angular space coordinates. The elements in each column are distributed along a separate transmission line feed, and these column transmission lines are driven from successive points along a waveguide acting as a phase distributor. The phase distributor waveguide has one movable wall which is mechanically moved to vary the a dimension of the guide. The resulting redistribution of energy phase relationships along the phase distributor waveguide modifies the relative phases at the said successive points from which the column transmission lines are energized. The result is scanning of the beam as a function of the aforementioned a dimension variations in the direction of the rows (first space coordinate). Variations in the frequency of energization of the system produce inertialess scanning in the columnar direction (second space coordinate). The columnar transmission lines are folded into a serpentine shape to lengthen the electrical feed path between radiators while keeping the spacings along the aperture to smaller values.

3,438,036
SYNTHETIC DOPPLER ANTENNA SYSTEM FOR DIRECTION FINDING
Floyd M. Bennett, New York, N.Y., assignor to Loral Corporation, Scarsdale, N.Y., a corporation of Delaware
Filed July 27, 1967, Ser. No. 656,454
Int. Cl. G01s *5/02*
U.S. Cl. 343—113 **3 Claims**



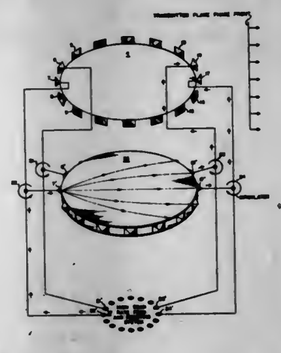
An antenna system for obtaining bearing information from an intercepted electromagnetic signal based upon creating a Doppler shift in the signal frequency by scattering the signal from a moving conductor or its equivalent in the vicinity of the receiver. The magnitude of the shift is a function of the radial velocity of the moving conductor, and hence a function of bearing angle.

3,438,037
MODULATED SUBCARRIER CONTROL CIRCUIT RESPONSIVE TO A VOLTAGE HAVING A PASS FREQUENCY AND EXCEEDING A PREDETERMINED LEVEL FOR A PREDETERMINED TIME
Robert D. Leland, Southfield, Mich., assignor to Multi-Elmac Company, Oak Park, Mich., a corporation of Michigan
Filed Feb. 17, 1966, Ser. No. 528,280
Int. Cl. H04b *7/00*
U.S. Cl. 343—225 **7 Claims**



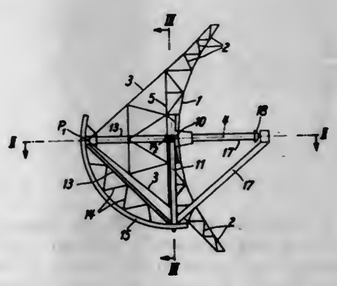
A remote control receiver circuit operative in response to the presence of a predetermined frequency and magnitude of modulation for a minimum duration on a subcarrier having a predetermined frequency. The desired subcarrier is selected by a circuit including a rectifier circuit which is biased by a reactive circuit resonant at the subcarrier frequency. The modulation signal having the predetermined frequency is amplified by a band pass amplifier and used to control a relay circuit.

3,438,038
NONRECIPROCAL OMNIDIRECTIONAL RAPID SCAN ANTENNA SYSTEM
Arthur E. Marston, Alexandria, Va., assignor to the United States of America as represented by the Secretary of the Navy
Continuation-in-part of application Ser. No. 521,220, Jan. 17, 1966. This application Aug. 17, 1966, Ser. No. 573,040
Int. Cl. H01q *19/06*
U.S. Cl. 343—754 **8 Claims**



A rapid scan antenna system for sequentially transmitting and receiving signals on a time sharing basis in any direction. The system may include a Luneburg lens having the same number of ports as there are wave-guide horns. The horns, ports, and an antenna feed and receiving system are interconnected by three-port circulators to permit sequential transmission and reception on a time sharing basis.

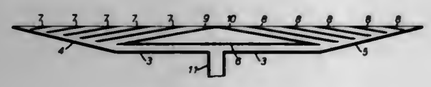
3,438,039
SUPPORTING DEVICE FOR RADIO TELESCOPES
Helmut Altmann, Rumeln-Kaldenhausen, Germany, assignor to Beteiligungs- und Patentverwaltungsgesellschaft mit beschrankter Haftung, Essen, Germany
Filed July 18, 1966, Ser. No. 565,819
Claims priority, application Germany, Aug. 19, 1965, B 83,347
Int. Cl. H01q *3/02, 19/12, 15/14*
U.S. Cl. 343—765 **4 Claims**



A radio telescope comprising a framework rotatable about a vertical axis and pivotally supporting a support-

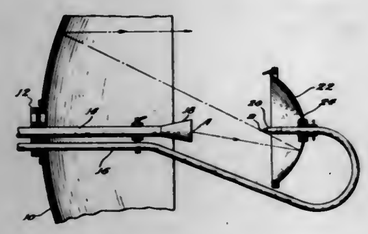
ing basket with a main traverse and spaced pivots defining the axis of elevation of said basket, said supporting basket having a first supporting point on said traverse and also having a second supporting point arranged in spaced relationship to said first supporting point, and a reflector body supported by said first and second supporting points in such a way that the reflector axis extends through said two supporting points, said reflector body being prevented from turning about said reflector axis relative to said supporting basket.

3,438,040
HORN ANTENNA HAVING PLURAL CONVERGENT WAVEGUIDE PATHS
Mathew Frederick Radford, Danbury, Essex, England, assignor to The Marconi Company Limited, London, England, a British company
Filed Sept. 26, 1966, Ser. No. 581,954
Claims priority, application Great Britain, Oct. 15, 1965, 43,919/65
Int. Cl. H01q *13/00, 13/02, 13/04*
U.S. Cl. 343—778 12 Claims



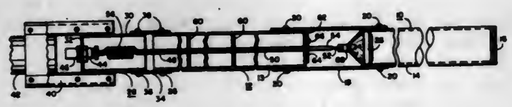
1. A directional aerial comprising means providing a plurality of pairs of convergent wave guide paths opening into a common aerial aperture surface, the ends of said paths remote from said surface opening into a further wave guide path having a central feed, the paths of each said convergent pair being at opposite acute angles to said further path and the overall path lengths from said central feed to the ends of said convergent paths in said aperture surface being substantially the same throughout.

3,438,041
PARABOLIC REFLECTOR WITH DUAL CROSS-POLARIZED FEEDS OF DIFFERENT FREQUENCIES
Alfred G. Holtum, Jr., Chicago, Ill., assignor to Andrew Corporation, Orland Park, Ill., a corporation of Illinois
Filed Sept. 15, 1965, Ser. No. 487,410
Int. Cl. H01q *19/14*
U.S. Cl. 343—779 7 Claims



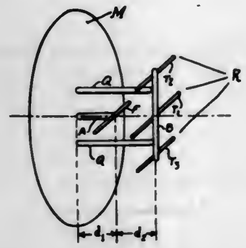
Dual cross-polarized feeds of different frequencies are employed with a single parabolic reflector. The feed of higher frequency is adjacent to the focus and illuminates the reflector directly. The feed of lower frequency is a Gregorian feed employing an ellipsoidal reflector having the same focus. A four-port antenna for operation at 6 gc. and 11 gc. is described.

3,438,042
CENTER FED VERTICAL DIPOLE ANTENNA
John A. Kuecken, Pittsford, N.Y., assignor to General Dynamics Corporation, a corporation of Delaware
Filed Mar. 3, 1966, Ser. No. 531,409
Int. Cl. H01q *9/18*
U.S. Cl. 343—792 10 Claims



A vertical dipole antenna suitable for installation on a vehicle is disclosed. The antenna is center fed by means of a coaxial cable which extends along the axis of the cylindrical parts thereof. The antenna is ground independent by virtue of a cylindrically shaped control section containing a helically wound coil of the same coaxial cable as feeds the radiating sections of the antenna.

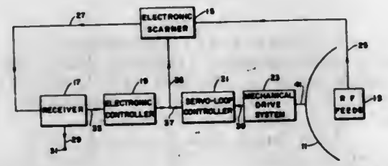
3,438,043
SHORT BACKFIRE ANTENNA
Hermann W. Ehrenspeck, 94 Farnham St., Belmont, Mass. 02178
Continuation-in-part of application Ser. No. 446,128, Apr. 6, 1965. This application July 2, 1968, Ser. No. 745,078
Int. Cl. H01q *19/16, 19/18, 21/10*
U.S. Cl. 343—819 10 Claims



A short backfire antenna comprising a pair of reflectors with a feed interposed therebetween. One of the reflectors is a full, planar reflector or a 90° corner reflector while the other reflector is a smaller partial reflector having planar characteristics. The spacing between the reflectors is electrically approximately one-half wavelength or multiples thereof in order to provide the resultant antenna with the properties associated with resonant cavity antennas. An additional feed may be provided in order to enable the covering of an extended bandwidth or of two discrete frequency ranges.

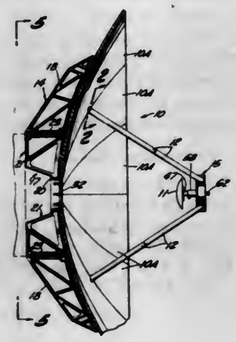
3,438,044
MONOPULSE SYSTEM WITH AN ELECTRONIC SCANNER
Armondo D. Elia, Hillcrest Heights, Md., and Richard F. Schmidt, Washington, D.C., assignors to the United States of America as represented by the Administrator of the National Aeronautics and Space Administration
Filed June 13, 1967, Ser. No. 646,424
Int. Cl. H01q *3/00, 1/00*
U.S. Cl. 343—854 10 Claims

This invention is an electronic sum-and-difference pattern scanning network for use in the control system for a monopulse tracking antenna. The control system provides a means for both mechanically and electronically scanning a target with the mechanical means providing a rough determination of the location of a target and the electronic means providing an exact determination of the location of the target. The electronic pattern scanning



network utilizes a plurality of square and ring hybrids and a plurality of phase shifters to scan the sum-and-difference patterns of a monopulse tracking system in a predetermined manner to provide a vernier control system for a monopulse tracking antenna.

3,438,045
DISH REFLECTOR WITH ADJUSTABLE SUBREFLECTOR
Alfonso A. Braccini, Los Altos, Calif., assignor to Whittaker Corporation, a corporation of California
Filed Feb. 23, 1966, Ser. No. 529,421
Int. Cl. H01q *1/10*
U.S. Cl. 343—883 5 Claims



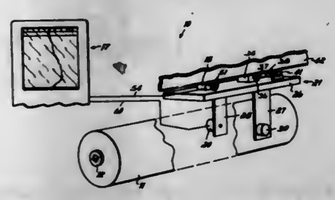
A large parabolic antenna has a subreflector centrally mounted. The subreflector is adjustably positioned using elongated adjustment slots extending in mutually perpendicular directions corresponding respectively to a horizontal and vertical adjustment of the subreflector relative to the parabolic antenna. A third adjustment involving a lead screw allows the subreflector to be adjustably positioned either closer to or farther from the parabolic antenna along its axis. The parabolic antenna is constructed using a central ring with two spaced flanges thereon forming an annular pocket into which one end of each of a first series of spaced and radially extending rib structures is snugly fitted and releasably secured. The other end of each of such rib structures is constructed such that their outer ends are interconnected by a series of intercostal plates which extend generally along a circle and also for releasably securing thereto a second series of spaced and radially extending rib structures with each being aligned with and serving in general as a prolongation of a corresponding one of the first series of rib structures. A series of intercostal members interconnect adjacent ones of the second series of rib structures which are also interconnected by a torsion member.

3,438,046
QUICK TUNE HELICAL ANTENNA
Gerald H. Menhennett, Red Bank, N.J., assignor to International Telephone and Telegraph Corporation, Nutley, N.J., a corporation of Maryland
Filed June 17, 1966, Ser. No. 558,384
Int. Cl. H01q *1/36*
U.S. Cl. 343—895 6 Claims



A tunable helical antenna characterized by helical sections arranged one upon the other and having a plurality of shorting brush assemblies, one assembly for each helical section, for shorting out selected turns of each of the antenna sections. A conductor connected to an end of each section and to a sliding contact on each of said assemblies provides the short. A common shaft drives all the assemblies simultaneously. Wheels forming part of each of the assemblies and restrained to ride along the inside of the helix cause the said assemblies which are mounted on the shaft, to slide along its axis when the shaft is rotated.

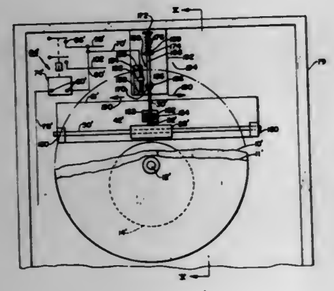
3,438,047
METHOD OF MEASURING THICKNESS OF A FILM MATERIAL
Snowden Rowe, Cincinnati, Ohio, assignor to The Ohmart Corporation, Cincinnati, Ohio, a corporation of Ohio
Filed Nov. 23, 1965, Ser. No. 509,352
Int. Cl. G01d *9/12*
U.S. Cl. 346—1 3 Claims



A method for measuring the thickness of film material used in producing rolled products. The film thickness is measured while film is rolled on a mandrel. The measuring apparatus includes a gamma radiation source and a detector suspended from a carriage on opposite sides of the roll. The carriage is shifted parallel to the axis of the mandrel from one end of the roll to the other. The detector generates a density signal correlated with thickness of

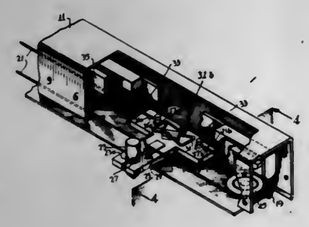
an individual convolution of film. A second signal indicates position along the roll. Signals are used to operate an X–Y recorder to form a profile chart.

3,438,048
DECELERATION RECORDER AND/OR SIGNALER
Burke A. Tracey, Wheaton, Ill., and John H. Royston, 107 Hillcrest Road, Pittsburgh, Pa. 15238; said Tracey assignor to said Royston
Original application Aug. 11, 1965, Ser. No. 478,896, now Patent No. 3,341,851, dated Sept. 12, 1967. Divided and this application Mar. 29, 1967, Ser. No. 655,252
Int. Cl. G01d 9/14
U.S. Cl. 346—7 7 Claims



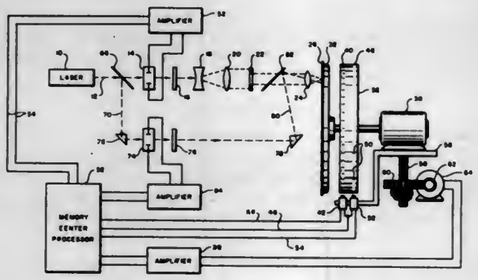
A recording decelerometer is provided including in combination a slideway parallel to the pathway of decelerating movement, an inertial member slidable from a central neutral position on said slideway in either direction and a recording member actuated by movement of said inertial member.

3,438,049
MULTIPLE USE RECORDER
Norman E. Polster, Southampton, Pa., assignor to Leeds & Northrup Company, Philadelphia, Pa., a corporation of Pennsylvania
Filed May 24, 1967, Ser. No. 641,035
Int. Cl. G01d 9/32
U.S. Cl. 346—29 28 Claims



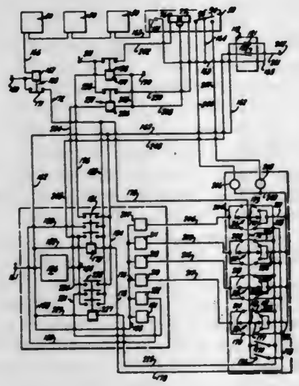
A visual indicator assembly including a planar carriage supporting an indicating and/or recording element which is carried by a supporting member having a V-shaped portion extending along its length, the planar carriage including a pair of spaced apart glide elements biased toward the V-shaped portion such that each glide element of the pair contacts opposite walls of the V thereby establishing four points of gliding contact therewith. Means are also included to provide a third glide element laterally spaced from the pair of glide elements, the third glide element being biased against a plane surface to provide a fifth point of gliding contact so that motion of said planar carriage is limited to back and forth motion lengthwise of said V-shaped portion in accordance with changes in the value of a measured quantity; but the planar carriage is prevented from rotational movement about the axis of the V-shaped portion.

3,438,050
LASER DATA RECORDER
Claus M. Aschenbrenner, Lexington, Mass., and Hsueh Y. Hsieh, Ossining, and Richard L. Libby, Yorktown Heights, N.Y., assignors to Itek Corporation, Lexington, Mass., a corporation of Delaware
Filed Jan. 6, 1965, Ser. No. 423,801
Int. Cl. G01d 9/28; H01s 3/12; G02f 1/26
U.S. Cl. 346—49 10 Claims



A system is disclosed herein which includes a laser for recording by the means of light images upon the face of a photosensitive medium which is rotated by a drive motor. The beam of light projected upon the medium is modulated by an electrical pulse train and the latent image is thereafter developed to produce an irreversible record of the data represented by the pulse train.

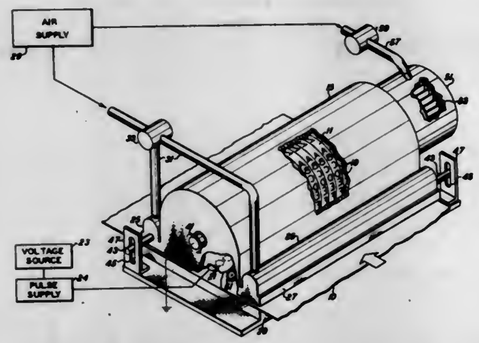
3,438,051
KEY RECORDING SYSTEM
Hollis L. De Vines, San Francisco, Calif., assignor to Schlage Lock Company, a corporation
Filed Jan. 6, 1967, Ser. No. 607,824
Int. Cl. G01d 9/36
U.S. Cl. 346—53 5 Claims



A plurality of rotatable key receivers are associated with one door, each receiver being receptive of a different one of a number of keys. A bolt on the door is electrically

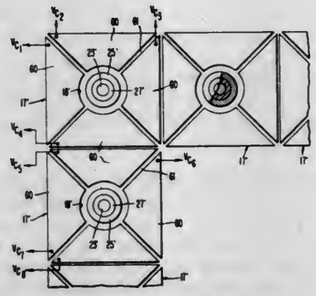
thrown between locked and unlocked positions as any of the key receivers is turned to an extreme "locked" position or to another extreme "unlocked" position, and simultaneously a recorder is actuated to print the designation of the particular key receiver rotated and which extreme position it is turned into. Also, the recorder is disabled when the door is ajar.

3,438,052
AIR-SUPPORTED HOUSING CONTAINING TESI PRINTING DRUM
James E. Young, Pittsford, N.Y., assignor to Xerox Corporation, Rochester, N.Y., a corporation of New York
Filed Nov. 17, 1965, Ser. No. 508,272
Int. Cl. G01d 15/06
U.S. Cl. 346—74 6 Claims



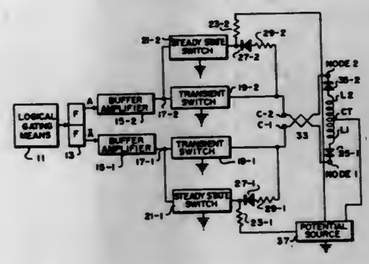
An electrostatic printing apparatus in which the critical spacing between the recording web and the rotary printing drum is decreased by floating the drum within its housing on a thin pressurized film of air. An ion generating apparatus is also provided to replenish ions in the printing gap and to improve the reliability of the image on the recording web.

3,438,053
ELECTROGRAPHIC PRINT-HEAD HAVING AN IMAGE-DEFINING MULTISEGMENTED CONTROL ELECTRODE
Richard S. Howell, King of Prussia, Pa., assignor to Burroughs Corporation, Detroit, Mich., a corporation of Michigan
Filed July 20, 1964, Ser. No. 383,786
Int. Cl. G01d 15/06, 15/08, 15/12
U.S. Cl. 346—74 2 Claims



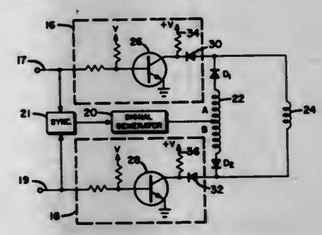
An electrographic apparatus for depositing upon a charge retentive medium a latent image of controllable size and shape produced by ions discharged from coaxially arranged electrodes; the shape and size of said image is dependent upon an electrical bias on a control electrode in the ion path and the physical shape and size of an aperture opening in the control electrode and the thickness of the control electrode.

3,438,054
WRITE DRIVER CIRCUIT FOR A DIGITAL MAGNETIC RECORDING HEAD
Daniel A. Wisner, Detroit, Mich., assignor to Burroughs Corporation, Detroit, Mich., a corporation of Michigan
Filed Oct. 21, 1965, Ser. No. 499,705
Int. Cl. G01d 15/12
U.S. Cl. 346—74 12 Claims



A circuit for driving a substantially square current waveform through an inductive load, such as a magnetic write head, which employs the complementary signals from a bistable device for alternately controlling the energization of a pair of symmetrical circuits to thereby present currents of opposite polarity to the load. Means are included in the drive circuit for limiting the magnitude of the steady state current level of the waveform and for providing a substantially resistance-free path for replacing the current limiting provision during the transient portions of the waveform. As disclosed herein, each symmetrical circuit provides a resistive steady state current path and a parallel resistance-free path which operate in sequence and in time relation to the transient and steady state current portions of the waveform. Means for discharging the transmission line connecting the output of the driver circuit with the inductive load is included for preventing the circuit from becoming pulse-repetition-frequency sensitive. The circuit is capable of operating in the nanosecond range free of oscillatory responses.

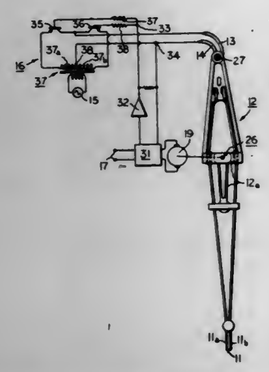
3,438,055
GATED MAGNETIC RECORDING HEAD AMPLIFIER
Wesley R. Johnson, Minneapolis, Minn., assignor to Sperry Rand Corporation, New York, N.Y., a corporation of Delaware
Filed Feb. 15, 1966, Ser. No. 527,541
Int. Cl. G01d 15/12
U.S. Cl. 346—74 7 Claims



A gated magnetic recording amplifier which provides substantially equal rise-times and fall-times for recording

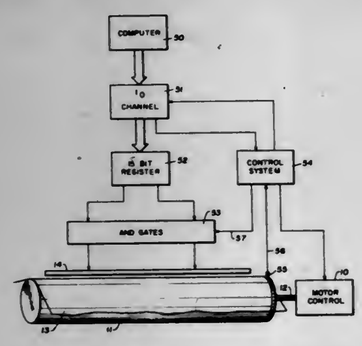
binary signals is described. The amplifier has an autotransformer connected across the write-head winding and gate circuit at each end thereof. A center-tap is shown coupled to a signal generator for deriving the drive pulses to the write-head winding in the appropriate leg of the autotransformer dependent upon which of the gate circuits is activated.

3,438,056
TEMPERATURE REGULATION OF THERMAL RECORDING
Albion P. Bjork, Bedford, Mass., assignor to BLH Electronics, Inc., Waltham, Mass., a corporation of Delaware
Filed Apr. 14, 1967, Ser. No. 630,985
Int. Cl. G01d *15/10*
U.S. Cl. 346—76 **13 Claims**



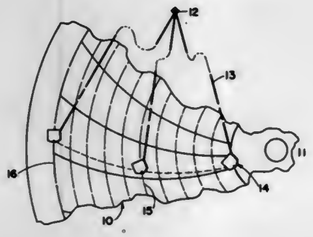
A compensated supply of heating-mode D-C electrical power to a Peltier-junction thermal recorder stylus is derived from an A-C source by way of controlled semiconductors which are automatically biased to establish heating currents related to frequency and amplitude of stylus motions and thereby compensate for varying heat losses from the stylus while input signals of different frequency and amplitude are being recorded.

3,438,057
PHOTOGRAPHIC RECORDER USING AN ARRAY OF SOLID STATE LIGHT EMITTERS
Edwin B. Neitzel, Dallas, Tex., assignor to Texas Instruments Incorporated, Dallas, Tex., a corporation of Delaware
Filed Dec. 30, 1966, Ser. No. 606,424
Int. Cl. G01d *9/42*
U.S. Cl. 346—107 **4 Claims**



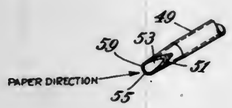
A seismic record section type recording system includes an elongated solid state light emitting array having control logic actuated by a plurality of seismic traces for parallel excitation at selected points along the array. The excitation is maintained primarily under the control of a clock pulse generator synchronized with movement of film past the linear array of light emitters. To produce a conventional record section which consists of from 200 to 1,000 oscillographic-type traces in any one of a plurality of modes including wiggle trace, variable intensity, variable area and combinations of the same, light emitters in number of the order of 16,000 are employed in the linear array.

3,438,058
BOX PEN INKING SYSTEM
Lincoln K. Davis, South Easton, Mass., assignor to The Foxboro Company, Foxboro, Mass., a corporation of Massachusetts
Filed Aug. 18, 1967, Ser. No. 661,604
Int. Cl. G01d *15/16*
U.S. Cl 346—140 **1 Claim**



An inking system for a recording device wherein a box pen is provided with capillary partition means to reduce the fluid head pressure of the ink.

3,438,059
NON-CLOGGING PENPOINT FOR RECORDING SYSTEMS
Thomas T. Highley, Jr., Glenside, Pa., assignor to Leeds & Northrup Company, Philadelphia, Pa., a corporation of Pennsylvania
Filed Oct. 18, 1967, Ser. No. 676,144
Int. Cl. G01d *15/16, 15/18*
U.S. Cl. 346—140 **2 Claims**

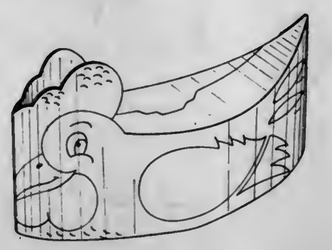


A non-clogging penpoint for an ink recording system is provided by reason of the end of a capillary tube having a large part of its area removed from the end through which ink is supplied. The single or double ended taper of the capillary tube provides a discharge path through its side for foreign material including paper fiber loosened during movement of the penpoint in one direction across the paper as soon as the direction of movement is reversed. Width control of the line is afforded by the selected orientation of the wedge-shaped end relative to the recording paper.

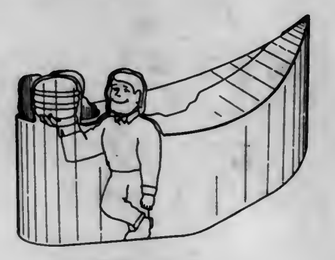
DESIGNS

APRIL 8, 1969

213,756
PAPER HAT
Richard R. Bothwell, London, Ontario, Canada, assignor to Somerville Industries Limited, London, Ontario, Canada
Filed May 24, 1968, Ser. No. 12,074
Term of patent 14 years
Int. Cl. D2—*03*
U.S. Cl. D2—250



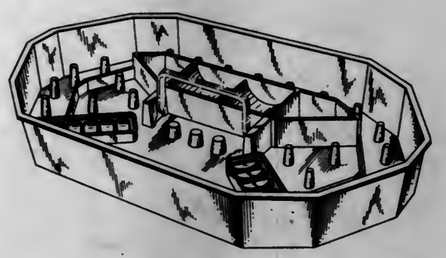
213,757
PAPER HAT
Richard R. Bothwell, London, Ontario, Canada, assignor to Somerville Industries Limited, London, Ontario, Canada
Filed May 24, 1968, Ser. No. 12,075
Term of patent 14 years
Int. Cl. D2—*03*
U.S. Cl. D2—250



213,758
TIE PIN OR THE LIKE
John Fontana, 317 Mannheim Road, Bellwood, Ill. 60104
Filed July 26, 1968, Ser. No. 12,920
Term of patent 14 years
Int. Cl. D2—*08*
U.S. Cl. D2—431

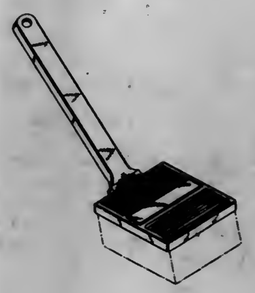


213,759
SEWING TRAY
Robert Z. Lerner, Brookville, N.Y., assignor to Lerner Manufacturing Co., Inc., Melville, N.Y., a corporation of New York
Filed May 2, 1968, Ser. No. 11,747
Term of patent 7 years
Int. Cl. D7—*01*
U.S. Cl. D3—19

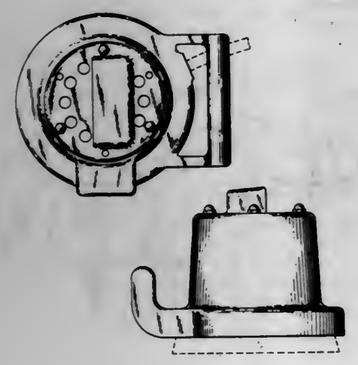




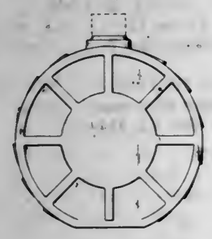
213,760
PAINT BRUSH
Ronald M. Kaplan, Cedar Grove, N.J., assignor to H & G Industries, Inc., Belleville, N.J., a corporation of New Jersey
Filed July 23, 1968, Ser. No. 12,864
Term of patent 7 years
Int. Cl. D4—*02*
U.S. Cl. D4—38



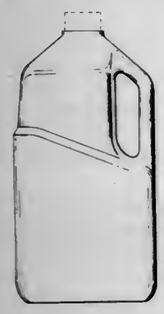
213,761
PORTABLE POWER TOOL FOR POLISHING OR SANDING OR THE LIKE
Donald Lee, 3633 Strandhill Road, Shaker Heights, Ohio 44122
Filed Jan. 29, 1968, Ser. No. 10,342
Term of patent 14 years
Int. Cl. D8—*02*
U.S. Cl. D8—62



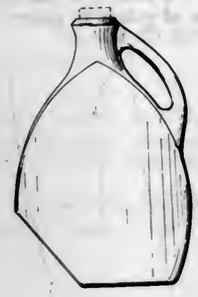
213,762
BOTTLE
Richard L. Weckman, Perrysburg, Ohio, assignor to Owens-Illinois, Inc., Toledo, Ohio, a corporation of Ohio
Filed May 17, 1968, Ser. No. 11,990
Term of patent 14 years
Int. Cl. D9—*01*
U.S. Cl. D9—23



213,763
JUG
James E. Plummer, Toledo, Ohio, assignor to Owens-Illinois, Inc., a corporation of Ohio
Filed June 13, 1968, Ser. No. 12,342
Term of patent 14 years
Int. Cl. D9—*01*
U.S. Cl. D9—40



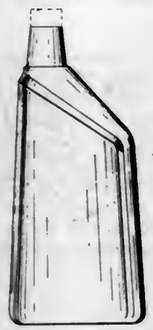
213,764
JUG
James E. Plummer, Toledo, Ohio, assignor to Owens-Illinois, Inc., a corporation of Ohio
Filed June 13, 1968, Ser. No. 12,343
Term of patent 14 years
Int. Cl. D9—*01*
U.S. Cl. D9—48



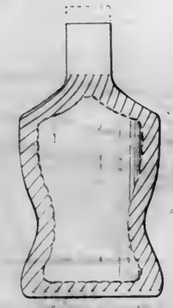
213,765
JAR
André Herlin, Eauze, France, assignor to Union des Cooperatives Viticoles de l'Armagnac (U.C.V.A.), a corporation of France
Filed Mar. 29, 1968, Ser. No. 11,196
Claims priority, application France Oct. 2, 1967
Term of patent 14 years
Int. Cl. D9—*01*
U.S. Cl. D9—58



213,766
BOTTLE
Richard L. Weckman, Perrysburg, Ohio, assignor to Owens-Illinois, Inc., Toledo, Ohio, a corporation of Ohio
Filed June 25, 1968, Ser. No. 12,496
Term of patent 14 years
Int. Cl. D9—*01*
U.S. Cl. D9—66



213,767
BOTTLE
Brooks D. Fuerst, Toledo, Ohio, assignor to Owens-Illinois, Inc., Toledo, Ohio, a corporation of Ohio
Filed Mar. 4, 1968, Ser. No. 10,840
Term of patent 14 years
Int. Cl. D9—*01*
U.S. Cl. D9—105



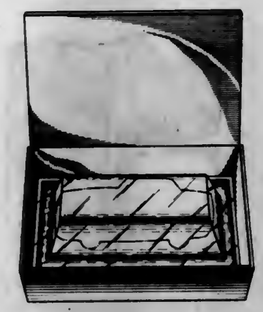
213,768
BOTTLE
John J. Bielicki, Newark, and William F. Lodding, Wilmington, Del., assignor to American Can Company, New York, N.Y., a corporation of New Jersey
Filed Dec. 20, 1967, Ser. No. 9,855
Term of patent 14 years
Int. Cl. D9—*01*
U.S. Cl. D9—129



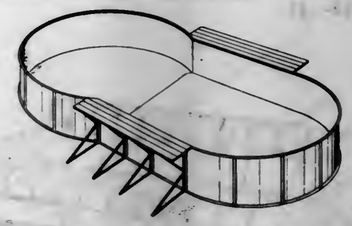
213,769
COMBINED ARTIFICIAL EYELASHES AND DISPLAY BOX
David H. Aylott, 58–60 Bridge Road E., Welwyn Garden City, England
Filed Jan. 26, 1968, Ser. No. 10,331
Claims priority, application Great Britain Dec. 12, 1967
Term of patent 7 years
Int. Cl. D9—*04*; D28—*02*
U.S. Cl. D9—187



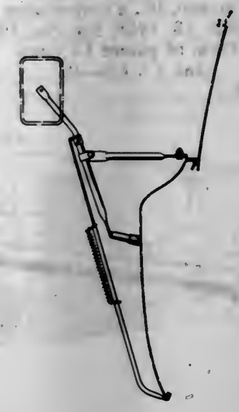
213,770
PACKAGE FOR A TOY VEHICLE
Anson Isaacson, Great Neck, N.Y., assignor to Aurora Plastics Corporation, West Hempstead, N.Y., a corporation
Filed Apr. 1, 1968, Ser. No. 11,253
Term of patent 14 years
Int. Cl. D9—*04*
U.S. Cl. D9—193



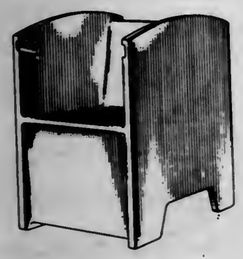
213,771
SWIMMING POOL
William J. McBride, 267 Wellsworth Drive, Etobicoke, Ontario, Canada
Filed Jan. 2, 1968, Ser. No. 10,004
Term of patent 14 years
Int. Cl. D25—*04*; D21—*99*
U.S. Cl. D13—1



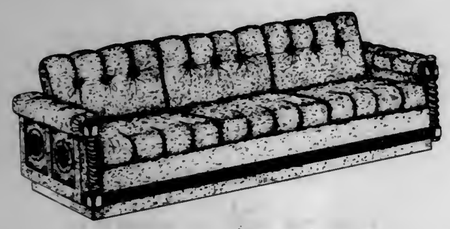
213,772
VEHICLE MIRROR SUPPORT
Floyd E. Wallace and Percy E. Elwell, El Segundo, Calif., assignors to Detroit Automotive Products Company, doing business as Detroit Products Company, El Segundo, Calif., a corporation of California
Filed Sept. 12, 1967, Ser. No. 8,566
Term of patent 14 years
Int. Cl. D12—*14*
U.S. Cl. D14—6



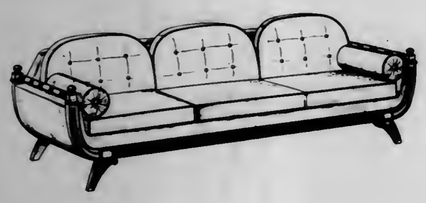
213,773
CONVERTIBLE CHAIR
John E. Beardmore, Chicago, Ill., assignor to Karoll's Inc., Chicago, Ill., a corporation of Illinois
Filed Feb. 16, 1968, Ser. No. 10,601
Term of patent 14 years
Int. Cl. D6—*01*
U.S. Cl. D15—1



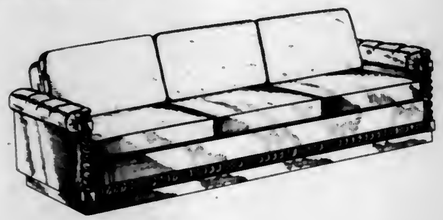
213,774
SOFA
Robert A. Gera, Glencoe, Ill., assignor to Schnadig Corporation, Chicago, Ill., a corporation of Delaware
Filed Mar. 14, 1968, Ser. No. 10,982
Term of patent 14 years
Int. Cl. D6—*01*
U.S. Cl. D15—11



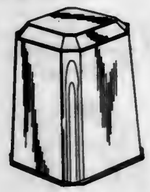
213,775
SOFA
Robert A. Gera, Glencoe, Ill., assignor to Schnadig Corporation, Chicago, Ill., a corporation of Delaware
Filed Mar. 18, 1968, Ser. No. 10,999
Term of patent 14 years
Int. Cl. D6—*01*
U.S. Cl. D15—11



213,776
SOFA
Robert A. Gera, Glencoe, Ill., assignor to Schnadig Corporation, Chicago, Ill., a corporation of Delaware
Filed Mar. 18, 1968, Ser. No. 11,026
Term of patent 14 years
Int. Cl. D6—*01*
U.S. Cl. D15—11



213,777
CREMATION URN
Wesley M. Chandler, St. Paul, and Bernard T. Juba, White Bear Lake, Minn., assignors to Wilbert, Inc., Broadview, Ill., a corporation of Illinois
Filed Mar. 20, 1968, Ser. No. 11,042
Term of patent 14 years
Int. Cl. D31; D23—*99*; D9—*99*
U.S. Cl. D19—1



213,778
COMBINED FISHING ROD HOLDER AND SIGNALLING DEVICE
Jospeh F. Hall, 6630 Byrd Ave., Bakersfield, Calif. 93308
Filed Nov. 29, 1967, Ser. No. 9,581
Term of patent 14 years
Int. Cl. D22—*99*
U.S. Cl. D22—22



213,779
COMBINED WATER CONTROL HANDLE AND ESCUTCHEON FOR A BATHTUB OR THE LIKE
Ralph La Rue Du Bois, 4242 E. 111th St., Tulsa, Okla. 74135
Filed Mar. 15, 1968, Ser. No. 10,988
Term of patent 14 years
Int. Cl. D23—*02*
U.S. Cl. D23—31

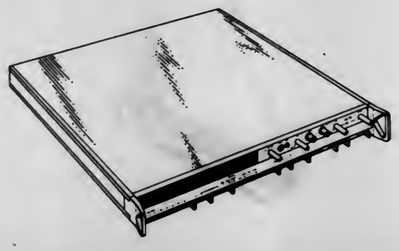




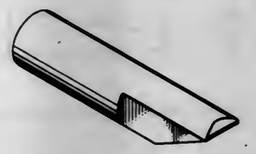
213,780
DENTAL WEDGE
William E. Horn, 4901 Marconi Ave., Carmichael, Calif. 95608
Filed May 21, 1968, Ser. No. 12,033
Term of patent 14 years
Int. Cl. D24—*03, 04*
U.S. Cl. D24—1



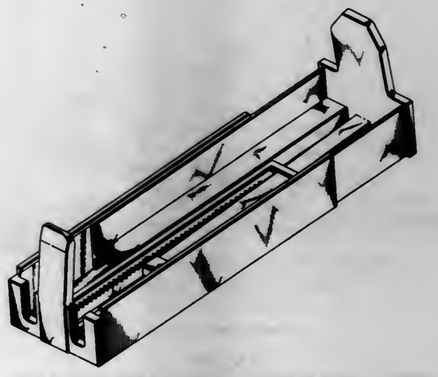
213,781
ELECTRONIC INSTRUMENT
Richard C. Dunlop, Orinda, and Leonard N. Albrecht, Mill Valley, Calif., assignors to Systron-Donner Corporation, Concord, Calif., a corporation of California
Filed Mar. 1, 1968, Ser. No. 10,805
Term of patent 7 years
Int. Cl. D14—*99*
U.S. Cl. D26—1



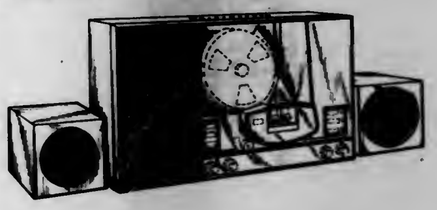
213,782
HEATING ELEMENT TIP FOR SKI REPAIR
Alvis R. Knowles, Torrance, Calif., assignor to Eldon Industries, Inc., Hawthorne, Calif., a corporation of California
Filed Nov. 15, 1967, Ser. No. 9,425
Term of patent 14 years
Int. Cl. D8—*02*
U.S. Cl. D26—1



213,783
ADJUSTABLE LENGTH CARTRIDGE FOR RECORD CARDS AND THE LIKE
Robert J. Laybourn and Lawrence A. Wilson, San Jose, Calif., assignors to International Business Machines Corporation, Armonk, N.Y., a corporation of New York
Filed Aug. 18, 1967, Ser. No. 8,321
Term of patent 14 years
Int. Cl. D15—*99*; D14—*02*
U.S. Cl. D26—5



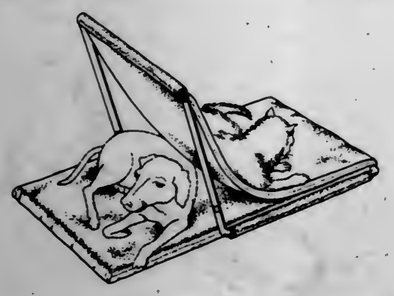
213,784
COMBINED PORTABLE TAPE RECORDER AND SPEAKERS
Orville W. Larson, Skokie, Ill., assignor to Ampex Corporation, Redwood City, Calif., a corporation of California
Filed July 30, 1968, Ser. No. 12,965
Term of patent 14 years
Int. Cl. D14—*01*
U.S. Cl. D26—14



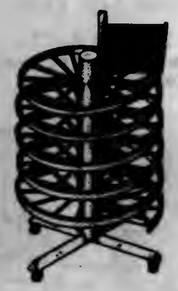
213,785
CROSS
Donald J. Mock, 720 N. Bell, Fremont, Nebr. 68025
Filed Jan. 15, 1968, Ser. No. 10,154
Term of patent 14 years
Int. Cl. D11—*03*
U.S. Cl. D29—23



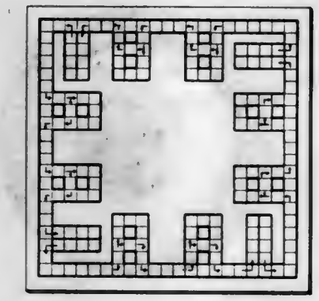
213,786
PET PAD
Harold J. Pohl, 612 W. 2nd St., Washington, Mo. 63090
Filed Mar. 29, 1968, Ser. No. 11,190
Term of patent 14 years
Int. Cl. D30—*99*
U.S. Cl. D30—41



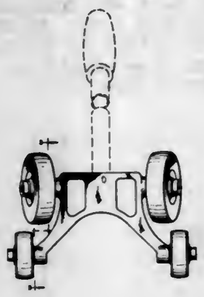
213,787
SPIRALED CONVEYOR CART FOR USE PRIMARILY IN SUPERMARKETS
Malcolm E. Musser, Jackson Center, Ohio 45334
Filed June 7, 1967, Ser. No. 7,391
Term of patent 14 years
Int. Cl. D12—*02*
U.S. Cl. D33—14



213,788
GAME BOARD
James P. Flaherty, 280 O'Farrell St., San Francisco, Calif. 94102
Filed May 9, 1968, Ser. No. 11,870
Term of patent 14 years
Int. Cl. D21—*01*
U.S. Cl. D34—5



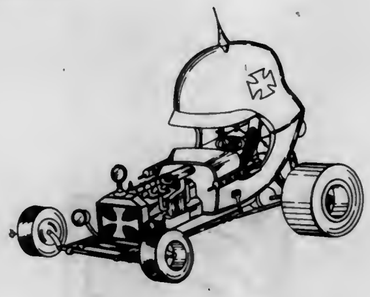
213,789
BOWLING BALL PUSHER DEVICE
Alvin C. Ingebo, 155500 SW. Royalty Parkway, Tigard, Oreg. 97207
Filed July 5, 1968, Ser. No. 12,631
Term of patent 14 years
Int. Cl. D21—*03*; D8—*02*
U.S. Cl. D34—5



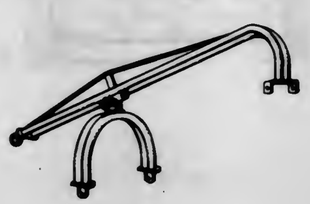
213,790
SLIDING VEHICLE
Allen W. Berglund, 865 N. Howell St., St. Paul, Minn. 55104
Filed Mar. 6, 1968, Ser. No. 10,871
Term of patent 7 years
Int. Cl. D12—*13*; D21—*03*
U.S. Cl. D34—15



213,791
TOY CAR, OR SIMILAR ARTICLE
Eugene T. Daniel, Walnut, Calif., assignor to Monogram Models, Inc., Morton Grove, Ill., a corporation of Illinois
Filed July 18, 1968, Ser. No. 12,827
Term of patent 14 years
Int. Cl. D21—*02*
U.S. Cl. D34—15



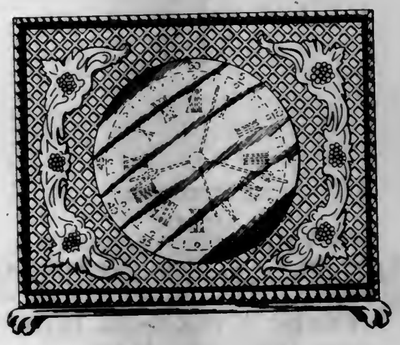
213,792
POST HOLE DIGGER BOOM
Rawlen T. Smith, 4170 Dover St., Wheatridge, Colo. 80033
Filed Nov. 29, 1967, Ser. No. 9,574
Term of patent 14 years
Int. Cl. D15—*04*
U.S. Cl. D39—1



213,793
CLOCK CASING
Donald E. Protzmann, Litchfield, Conn., assignor to General Time Corporation, Stamford, Conn., a corporation of Delaware
Filed May 14, 1968, Ser. No. 11,931
Term of patent 14 years
Int. Cl. D10—*01*
U.S. Cl. D42—7



213,794
CLOCK CASING
Siro R. Toffolon, Meriden, Conn., assignor to General Time Corporation, Stamford, Conn., a corporation of Delaware
Filed May 2, 1968, Ser. No. 11,751
Term of patent 14 years
Int. Cl. D10—*01*
U.S. Cl. D42—7



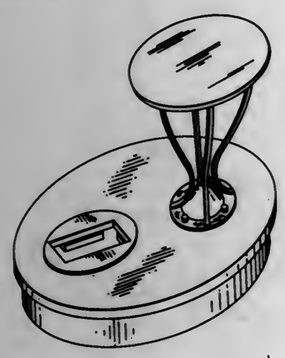
213,795
CLOCK CASING
David W. Miley, Peru, Ill., assignor to General Time Corporation, Stamford, Conn., a corporation of Delaware
Filed Feb. 14, 1968, Ser. No. 10,568
Term of patent 14 years
Int. Cl. D10—*06*
U.S. Cl. D42—7



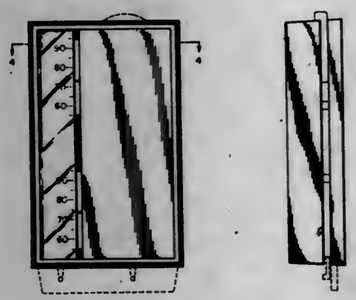
213,796
PITCHER
Edward Marue, 11135 Blix St., North Hollywood, Calif. 91602
Filed Sept. 9, 1968, Ser. No. 13,464
Term of patent 14 years
Int. Cl. D7—*01*
U.S. Cl. D44—21



213,797
FOOT MEASURING APPARATUS
Michel H. Saad, % Dana Electronic Computer Co., Spokane Industrial Park Building 105, Spokane, Wash. 99216
Filed Jan. 26, 1968, Ser. No. 10,318
Term of patent 14 years
Int. Cl. D10—*08*
U.S. Cl. D52—6



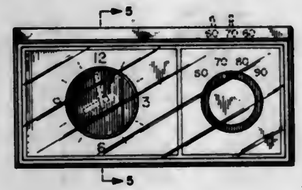
213,798
CONDITION RESPONSIVE DEVICE
Wallace A. Monson, Golden Valley, Minn., assignor to Honeywell Inc., Minneapolis, Minn., a corporation of Delaware
Filed Feb. 2, 1968, Ser. No. 10,419
Term of patent 14 years
Int. Cl. D10—*07, 09*
U.S. Cl. D52—7



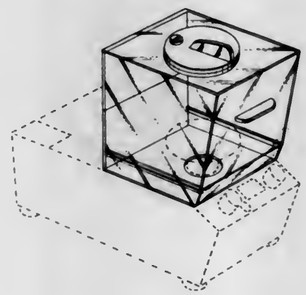
213,799
WEATHER INSTRUMENT CASING
Giacinto C. D'Ercoli, Park Forest, Ill., assignor to General Time Corporation, Stamford, Conn., a corporation of Delaware
Filed Apr. 18, 1968, Ser. No. 11,512
Term of patent 14 years
Int. Cl. D10—*07*
U.S. Cl. D52—7



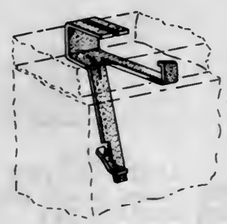
213,800
SPACE CONDITION RESPONSIVE INSTRUMENT
Walter I. Bieger, St. Anthony Village, Minn., assignor to Honeywell Inc., Minneapolis, Minn., a corporation of Delaware
Filed June 10, 1968, Ser. No. 12,286
Term of patent 14 years
Int. Cl. D10—*09, 04, 99*
U.S. Cl. D52—7



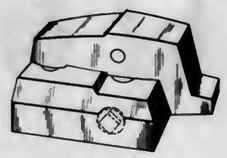
213,801
SHIELD FOR A PRECISION BALANCE
Kenneth Le Roy Beller, 1613 W. Flora St., Santa Ana, Calif. 92704
Filed Oct. 9, 1967, Ser. No. 8,931
Term of patent 14 years
The portion of the term of the patent subsequent to Jan. 10, 1981, has been disclaimed
Int. Cl. D10—*08*
U.S. Cl. D52—10



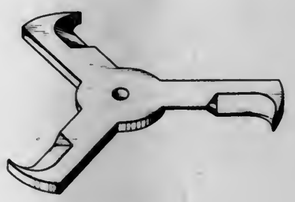
213,802
SILL CLAMP
George D. Manville, Rte. 1, Box 526–B, 35520 Oak Glen Road, Yucaipa, Calif. 92399
Filed Oct. 11, 1967, Ser. No. 8,963
Term of patent 14 years
Int. Cl. D8—*03*
U.S. Cl. D54—1



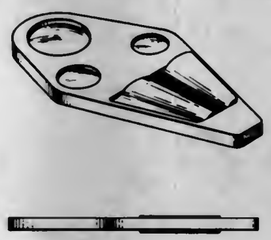
213,803
INDUSTRIAL CLAMP
Vitas T. Thomas, Robert A. Lovdahl, Edward J. Lazzeroni, Salvatore F. Aiello, and Bruce L. Renquist, Racine, Wis., assignors to Tomco, Inc., Racine, Wis., a corporation of Wisconsin
Filed Apr. 8, 1968, Ser. No. 11,350
Term of patent 14 years
Int. Cl. D8—*03*
U.S. Cl. D54—1



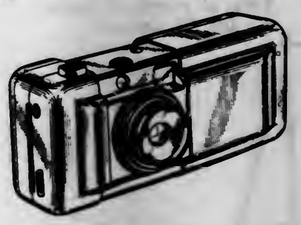
213,804
MIXING ROTOR FOR VISCOUS LIQUIDS
Roy Hunnicutt, Box 9108, Amarillo, Tex. 79105
Filed June 13, 1968, Ser. No. 12,332
Term of patent 14 years
Int. Cl. D15—*05, 12*
U.S. Cl. D55—1



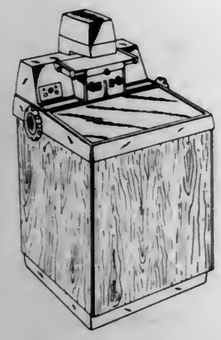
213,805
HAND MAGNIFIER
Martin Annis, Gilbert Davidson, Armand G. La Selva, and Raymond St. Martin, Cambridge, Mass., assignors to American Science and Engineering, Inc., Cambridge, Mass., a corporation of Massachusetts
Filed Feb. 16, 1968, Ser. No. 10,607
Term of patent 14 years
Int. Cl. D16—*08*
U.S. Cl. D57—1



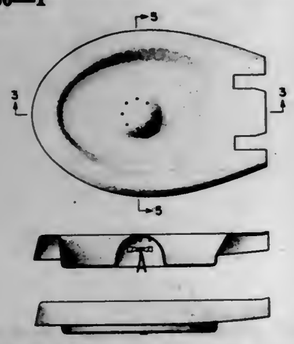
213,806
CAMERA
Kichizo Ikegami, Harumi Tanaka, and Susumu Fukuda, Nishinomiya-shi, Japan, assignors to Fuji Shashin Film Kabushiki Kaisha, Kanagawa-ken, Japan, a corporation of Japan
Filed Apr. 3, 1968, Ser. No. 11,271
Claims priority, application Japan Oct. 17, 1967
Term of patent 14 years
Int. Cl. D16—*01*
U.S. Cl. D61—1



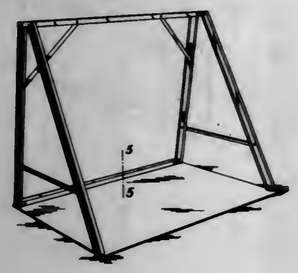
213,807
FILM READER
Willis L. Wells, Clayton, Mo., assignor to Photronix, Inc., St. Louis, Mo., a corporation of Missouri
Filed May 7, 1968, Ser. No. 11,823
Term of patent 14 years
Int. Cl. D16—*04*
U.S. Cl. D61—1



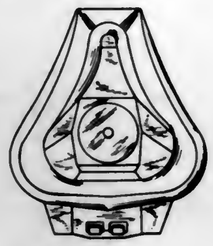
213,808
TOILET BOWL EXHAUST INDICATING DISPLAY COVER
Peter Hutten, Englewood, N.J., assignor to American Standard Inc., New York, N.Y., a corporation of Delaware
Filed Apr. 14, 1967, Ser. No. 6,708
Term of patent 14 years
Int. Cl. D20—*02*; D23—*02*
U.S. Cl. D80—1

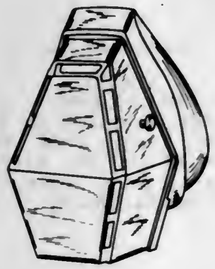


213,809
LADDER DISPLAY STAND
James C. Redman, Hadley, Pa., assignor to R. D. Werner Co., Inc., Greenville, Pa., a corporation of Pennsylvania
Filed Nov. 1, 1967, Ser. No. 9,242
Term of patent 14 years
Int. Cl. D6—*01*
U.S. Cl. D80—9

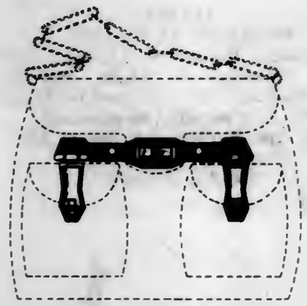


213,810
RESPIRATOR
Ted Allen Bell, Pittsburgh, and Glenn W. Monigle, Bradfordwoods, Pa., assignors, by mesne assignments, to Mine Safety Appliances Company
Filed Dec. 11, 1967, Ser. No. 9,716
Term of patent 14 years
Int. Cl. D24—*02*
U.S. Cl. D83—1





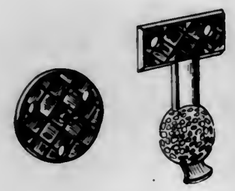
213,811
HANDBAG LOCK
David Damast, 22—15 40th Ave., Long Island City, N.Y. 11101
Filed Apr. 8, 1968, Ser. No. 11,341
Term of patent 3½ years
Int. Cl. D8—*03*
U.S. Cl. D87—2



213,812
HANDBAG LOCK
David Damast, 22—14 40th Ave., Long Island City, N.Y. 11101
Filed Apr. 8, 1968, Ser. No. 11,342
Term of patent 3½ years
Int. Cl. D8—*03*
U.S. Cl. D87—2



213,813
HANDBAG CLOSURE CLASP
David Damast, 522 Shore Road, Long Beach, N.Y. 11561
Filed May 7, 1968, Ser. No. 11,817
Term of patent 3½ years
Int. Cl. D8—*03*
U.S. Cl. D87—2



213,814
HANDBAG CLOSURE CLASP
David Damast, 522 Shore Road, Long Beach, N.Y. 11561
Filed May 7, 1968, Ser. No. 11,826
Term of patent 3½ years
Int. Cl. D8—*03*
U.S. Cl. D87—2



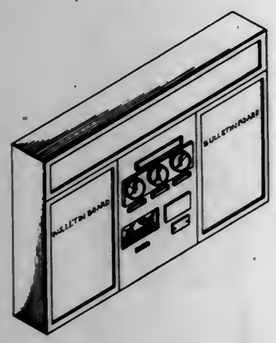
213,815
INVALID WALKER
Alfred A. Smith, 8277 Lankershire Blvd., Hollywood, Calif. 90028
Filed July 15, 1968, Ser. No. 12,769
Term of patent 14 years
Int. Cl. D24—*04*
U.S. Cl. D88—5



213,816
INVALID WALKER
Alfred A. Smith, 8277 Lankershim Blvd., Hollywood, Calif. 90028
Filed July 15, 1968, Ser. No. 12,768
Term of patent 14 years
Int. Cl. D24—*04*
U.S. Cl. D88—5



213,817
COMBINED BULLETIN BOARD AND WEATHER STATION
Edward J. Delaney, 666 Temple St., Whitman, Mass. 02382
Filed May 8, 1968, Ser. No. 11,843
Term of patent 14 years
Int. Cl. D19—*08;* D20—*03*
U.S. Cl. D96—12



213,818
TABLECLOTH
Richard A. Fees, Ardsley, Pa., assignor to Quaker Lace Company, Philadelphia, Pa.
Filed Aug. 5, 1968, Ser. No. 13,027
Term of patent 3½ years
Int. Cl. D6—*09*
U.S. Cl. D92—26



LIST OF DEFENSIVE PUBLICATIONS

APPLICANTS TO WHOM

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"Published at the request of the applicant or owner in accordance with the Notice of April 11, 1968, 849 O.G. 1221. Identification is by serial number of the application."

Agett, Albert H., and P. Gallagher, to Eastman Kodak Co. Filter cigarette assembly having its paper overwrap mechanically locked in place. 660,847, 4–8–69, Cl. 131—10.
Bloom, Melvin S., J. A. Hill, and W. H. Moore. Polymer compositions containing fluorescent brightening agents. 778,781, 4–8–69, Cl. 252—301.2.
Brannock, Kent C., H. E. Davis, and E. U. Elam. Process for preparing substituted hexenal acetals and substituted 1,4- and 1,5-hexadienyl ethers. 768,948, 4–8–69, Cl. 260—614.
Davis, Herman E.: *See*—
Brannock, Kent C., Davis, and Elam. 768,948.
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Reinhardt, Heinz F. 646,764.
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Newland, Gordon C. 766,370.
Gaither, Paul H., IV, and C. A. Mellinger, Jr., to E. I. du Pont de Nemours and Co. Temperature deviation indicator for plural capacitive temperature sensors. 573,227, 4–8–69, Cl. 340—227.
Gallagher, Paul: *See*—
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Hall, John N., to Hercules Inc. Laminate of oriented films of olefin polymers containing azido bridging agents. 714,056, 4–8–69, Cl. 161—252.
Hargis, Charles W. Synthesis of ether-substituted aromatic nitriles. 764,970, 4–8–69, Cl. 260—465.
Hercules Inc.: *See*—
Hall, John N. 714,056.
Hill, James A.: *See*—
Bloom, Melvin S., Hill, and Moore. 778,781.
Jaskowsky, Jorg. Photocatalytographic process of producing image structures and image reliefs. 758,698, 4–8–69, Cl. 96—48.
Kempen, Simone J.: *See*—
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Kuhn, Stephen J. Aziridinium salts of 2-nitro-1,3-indandiones. 617,846, 4–8–69, Cl. 260—239.
Mellinger, Chester A., Jr.: *See*—
Gaither, Paul H., IV, and Mellinger. 573,227.
Newland, Gordon C., to Eastman Kodak Co. Photosensitive materials and methods. 766,370, 4–8–69, Cl. 96—48.
Philpot, Georges A., and S. J. Kempen. Photosensitive composition containing heat-hardenable polymers. 763,397, 4–8–69, Cl. 96—28.
Poller, Dennis. Vinylidene chloride copolymer coated on a propylene based polymer sheet. 555,667, 4–8–69, Cl. 161—254.
Reinhardt, Heinz F., to E. I. du Pont de Nemours and Co. Adamantane derivatives. 646,764, 4–8–69, Cl. 260—514.

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Aiello, Salvatore F.: *See*—
Thomas, Vitas T., Lovdahl, Lazzeroni, Aiello, and Renquist. 213,803.
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Bielicki, John J., and Lodding. 213,768.
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Aurora Plastics Corp.: *See*—
Isaacson, Anson. 213,770.
Aylott, David H. Combined artificial eyelashes and display box. 213,769, 4–8–69, Cl. D9—187.
Beardmore, John E., to Karoll's Inc. Convertible chair. 213,773, 4–8–69, Cl. D15—1.
Bell, Ted A., and G. W. Monigle, to Mine Safety Appliances Co. Respirator. 213,810, 4–8–69, Cl. D83—1.
Beller, Kenneth L. Shield for a precision balance. 213,801, 4–8–69, Cl. D52—10.
Berglund, Allen W. Sliding vehicle. 213,790, 4–8–69, Cl. D34—15.
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Bielicki, John J., and W. F. Lodding, to American Can Co. Bottle. 213,768, 4–8–69, Cl. D9—129.
Bothwell, Richard R., to Somerville Industries Ltd. Paper hat. 213,756, 4–8–69, Cl. D2—250.
Bothwell, Richard R., to Somerville Industries Ltd. Paper hat. 213,757, 4–8–69, Cl. D2—250.
Chandler, Wesley M., and B. T. Juba, to Wilbert, Inc. Cremation urn. 213,777, 4–8–69, Cl. D19—1.
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Damast, David. Handbag lock. 213,812, 4–8–69, Cl. D87—2.
Damast, David. Handbag closure clasp. 213,813, 4–8–69, Cl. D87—2.
Damast, David. Handbag closure clasp. 213,814, 4–8–69, Cl. D87—2.
Daniel, Eugene T., to Monogram Models, Inc. Toy car, or similar article. 213,791, 4–8–69, Cl. D34—15.
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Delaney, Edward J. Combined bulletin board and weather station. 213,817, 4–8–69, Cl. D96—12.
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Fontana, John. Tie pin or the like. 213,758, 4–8–69, Cl. D2—431.
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Fukuda, Susumu: *See*—
Ikegami, Kichizo, Tanaka, and Fukuda. 213,806.
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D'Ercoli, Giacinto C. 213,799.
Miley, David W. 213,795.
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Toffolon, Siro R. 213,794.
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Gera, Robert A., to Schnadig Corp. Sofa. 213,775, 4–8–69, Cl. D15—11.
Gera, Robert A., to Schnadig Corp. Sofa. 213,776, 4–8–69, Cl. D15—11.
Horn, William E. Dental wedge. 213,780, 4–8–69, Cl. D24—1.
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Kaplan, Ronald M. 213,760.
Hall, Joseph F. Combined fishing rod holder and signalling device. 213,778, 4–8–69, Cl. D22—22.
Herlin, Andre, to Union des Cooperatives Viticoles de l'Aamagnac (U.C.V.A.). Jar. 213,765, 4–8–69, Cl. D9—58.
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Bieger, Walter I. 213,800.
Monson, Wallace A. 213,798.
Hunnicutt, Roy. Mixing rotor for viscous liquids. 213,804, 4–8–69, Cl. D55—1.
Hutten, Peter, to American Standard, Inc. Toilet bowl exhaust indicating display cover. 213,808, 4–8–69, Cl. D80—1.
Ikegami, Kichizo, H. Tanaka, and S. Fukuda, to Fuji Shashin Film Kabushiki Kaisha. Camera. 213,806, 4–8–69, Cl. D61—1.
Ingebo, Alvin C. Bowling ball pusher device. 213,789, 4–8–69, Cl. D34—5.

International Business Machines Corp.: *See*—
Laybourn, Robert J., and Wilson. 213,783.
Isaacson, Anson, to Aurora Plastics Corp. Package for a toy vehicle. 213,770, 4–8–69, Cl. D9—193.
Juba, Bernard T.: *See*—
Chandler, Wesley M., and Juba. 213,777.
Kaplan, Ronald M., to H & G Industries, Inc. Paint brush. 213,760, 4–8–69, Cl. D4—38.
Karoll's Inc.: *See*—
Beardmore, John E. 213,773.
Knowles, Alvis R., to Eldon Industries, Inc. Heating element tip for ski repair. 213,782, 4–8–69, Cl. D26—1.
Larson, Orville W., to Ampex Corp. Combined portable tape recorder and speakers. 213,784, 4–8–69, Cl. D26—14.
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Lee, Donald. Portable power tool for polishing or sanding or the like. 213,761, 4–8–69. Cl. D37—1.
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Lovdahl, Robert A.: *See*—
Thomas, Vitas T., Lovdahl, Lazzeroni, Aiello, and Renquist. 213,803.
Manville, George D. Sill clamp. 213,802, 4–8–69, Cl. D54—1.
Marue, Edward. Pitcher. 213,796, 4–8–69, Cl. D44—21.
McBride, William J. Swimming pool. 213,771, 4–8–69, Cl. D13—1.
Miley, David W., to General Time Corp. Clock casing. 213,795, 4–8–69, Cl. D42—7.
Mine Safety Appliances Co.: *See*—
Bell, Ted A., and Monigle. 213,810.
Mock, Donald J. Cross. 213,785, 4–8–69, Cl. D29—23.
Monigle, Glenn W.: *See*—
Bell, Ted A., and Monigle. 213,810.
Monogram Models, Inc.: *See*—
Daniel, Eugene T. 213,791.
Monson, Wallace A., to Honeywell, Inc. Condition responsive device. 213,798, 4–8–69, Cl. 52—7.
Musser, Malcolm E. Spiraled conveyer cart for use primarily in supermarkets. 213,787, 4–8–69, Cl. D33—14.
Owens-Illinois, Inc.: *See*—
Fuerst, Brooks D. 213,767.
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Plummer, James E. 213,764.
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Weckman, Richard L. 213,766.
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Plummer, James E., to Owens-Illinois, Inc. Jug. 213,764, 4–8–69, Cl. D9—48.
Pohl, Harold J. Pet pad. 213,786, 4–8–69, Cl. D30—41.
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Fees, Richard A. 213,818.
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Saad, Michel H. Foot measuring apparatus. 213,797, 4–8–69, Cl. D52—6.
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Gera, Robert A. 213,774.
Gera, Robert A. 213,775.
Gera, Robert A. 213,776.
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Smith, Alfred A. Invalid walker. 213,816, 4–8–69, Cl. D88—5.
Smith, Rawlen T. Post hole digger boom. 213,792, 4–8–69, Cl. D39—1.
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Bothwell, Richard R. 213,757.
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Laybourn, Robert J., and Wilson. 213,783.

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TO WHOM

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3,437,482.
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Quackenbush, Edward C., 3,437,978.

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Thorn, Ewald Reinhard, Weber, Wilhelm, Lemberg, Ernst Siegfried, and Blanche, Josef 3,437,212.

Blank, Stewart M.Deformed shock absorbing devices. 3,437,367, 04-08-69, Cl. 293-070.

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Imperato, Louis George, 3,437,474.

Blount, Charles, Jr.Self-supporting luggage unit. 3,437,181, 04-08-69, Cl. 190-043.

Bochman, Harry L., Jr., to Hi-Shear Corporation. Catapult release mechanism. 3,437,291, 04-08-69, Cl. 244-063.

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Bodine, Albert G.Vehicle mounted sonic shearing device having propulsion aiding means. 3,437,381, 04-08-69, Cl. 299-037.

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Bogle, Lewis F., to Monsanto Company. Fog resistant coating compositions. 3,437,617, 04-08-69, Cl. 260-022.

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Harrington, Robert C., Jr., and Bond, James H. 3,437,497.

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Bott, George S., to American Cyanamid Company. Compact ampule sealer. 3,437,471, 04-08-69, Cl. 065-270.

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Bowen, Griffith, to Du Pont de Nemours, E. I., and Company. Glass laminate and interlayer. 3,437,552, 04-08-69, Cl. 161-165.

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Bozich, Michael J.Conveying system and valve constructions therefor. 3,437,384, 04-08-69, Cl. 302-053.

BP Chemicals (U.K.) Limited:*See—*
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Braccini, Alfonso A., to Whittaker Corporation. Dish reflector with adjustable subreflector. 3,438,045, 04-08-69, Cl. 343-883.

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Brandner, Carl F., Dunlap, Peggy M., Foster, William R., and Hurd, Billy G., to Mobil Oil Corporation. Multistep method of waterflooding. 3,437,141, 04-08-69, Cl. 166-009.

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Bristol Siddeley Engines, Limited:*See—*
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Brooks, William. D-C chopper. 3,437,906, 04-08-69, Cl. 321-043.

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Brouwer, Harvard, to Allied Chemical Corporation. Fail safe bridge output switch. 3,437,842, 04-08-69, Cl. 307-254.

Broverman, Irwin, to Olin Mathieson Chemical Corporation. Process for forming composite aluminum alloy. 3,436,804, 04-08-69, Cl. 029-471.3

Brown, Harmon W., to Varian Associates. Matched electric and magnetic field homogeneity for optimum resolution cycloidal mass spectrometers. 3,437,805, 04-08-69, Cl. 250-041.9

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Bryan, Harry A., and Reynolds, Joseph C., to Girdles Corporation. Falling film heat exchanger. 3,437,124, 04-08-69, Cl. 159-013.

Bryan, Roland F., to Bunker-Ramo Corporation, The. Data compression system. 3,438,003, 04-08-69, Cl. 340-172.5

Bryant, George M.:*See—*
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Bua, William J., 25% to Lobato, Emmanuel J.Composite containers. 3,437,257, 04-08-69, Cl. 229-051.

Buchman, William W., to Korad Corporation. Gaint pulse laser control system. 3,437,953, 04-08-69, Cl. 331-094.5

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Buckbee-Mears Company, :*See—*
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Bue, Richard C., to Sico Incorporated. Folding room service table. 3,437,058, 04-08-69, Cl. 108-112.

Buist, Daniel T., to Purex Corporation, Ltd.Radioactive decontamination. 3,437,521, 04-08-69, Cl. 134-026.

Bullard, Russell H.Heat exchanger with baffle securing means. 3,437,133, 04-08-69, Cl. 165-149.

Bunger, David A., to Baldwin, D. H., Company. Composite tuning fork filters. 3,437,850, 04-08-69, Cl. 310-009.6

Bungs, Janis A., to Diamond Shamrock Corporation. Liquid polyether polyol composition and preparation. 3,437,591, 04-08-69, Cl. 252-008.1

Bunker-Ramo Corporation, The:*See—*
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Burg, Kenneth E., to Texas Instruments, Incorporated. Underwater navigation method and system. 3,437,987, 04-08-69, Cl. 340-003.

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Burlant, William J., to Ford Motor Company. Radiation crosslinking of alpha-beta unsaturated paint binder resin. 3,437,514, 04-08-69, Cl. 117-093.31

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Burst, Francis J., to Hill-Rom Company, Inc.Hospital bed with friction drive. 3,436,769, 04-08-69, Cl. 005-067.

Bush, Earnest E., and Williams, Earl J., to Precision Welder & Flexopress Corp.Monorail carriage. 3,437,053, 04-08-69, Cl. 104-119.

Buss, Bejamin A., to Ametek, Inc.Angularly displaced guider for suction box spreader. 3,436,853, 04-08-69, Cl. 038-143.

Butaev, Filipp Ivanovich, Klimov, Nikolai Semenovich, Pertsev, Alexei Alexandrovich, Stepanov, Nikolai Pavlovich, Shemaev,

Alexandr Mikhailovich, and Shkolin, Ilya Dmitrievich. High-voltage mercurylarc rectifier. 3,437,863, 04-08-69, Cl. 313-167.

Button, Robert Leslie. Tomato harvester. 3,437,151, 04-08-69, Cl. 171-017.

Cady, Walter G., to North American Rockwell Corporation. Piezoelectric transducer. 3,437,851, 04-08-69, Cl. 310-009.6

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Campbell, Lloyd B.Temperature indicator. 3,437,070, 04-08-69, Cl. 116-114.

Campbell, Ramsey G., Oldenburg, Charles C., and Simone, Raymond A., to Colonial Sugar Refining Company Limited, The. Process for preparing phosphate esters of carbohydrates. 3,437,652, 04-08-69, Cl. 260-234.

Canadian Breweries Limited:*See*—
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Cann, Gordon L., and Harder, Robert L., to Xerox Corporation. Plasma containment apparatus with ion cyclotron resonance heating. 3,437,871, 04-08-69, Cl. 315-111.

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Cape, Arthur T., to Coast Metals, Inc.Nickel-base alloys containing copper. 3,437,480, 04-08-69, Cl. 075-170.

Carlin, Francis X.:*See*—
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Carlisle, Fredrick Madden:*See*—
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Carlson, Donald W., and Egerer, Herbert. Air pressure regulator. 3,437,109, 04-08-69, Cl. 137-505.25

Carlson, Wayland A.:*See*—
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Carpenter, Herbert L., Jr., to Greif Bros. Cooperage Corporation, The. Precision threaded insert for plastic containers. 3,437,231, 04-08-69, Cl. 220-063.

Carre, Roland, and Robert, Jean, to CSF-Compagnie Generale de Telegraphie Sans Fil. Devices for treating signals. 3,438,034, 04-08-69, Cl. 343-017.1

Carroll, Robert L., to Monsanto Company. Preparation of orthophosphorous acid. 3,437,439, 04-08-69, Cl. 023-165.

Carroll, Robert L., to Monsanto Company. Preparation of oxo-acids of phosphorus. 3,437,440, 04-08-69, Cl. 023-165.

Carroll, Robert L., and Irani, Riyad R., to Monsanto Company. Production of phosphorous acid. 3,437,438, 04-08-69, Cl. 023-165.

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C. A. V. Limited:*See*—
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Cayzer, John Anthony, to Texas Instruments, Incorporated. Circuit board structure with interconnecting means. 3,437,882, 04-08-69, Cl. 317-101.

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Hrdina, Jiri, 3,437,050.

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Charbonnier, Roger, and Royer, Jean. Thermally stabilized electronic assembly. 3,437,789, 04-08-69, Cl. 219-209.

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Chemetron Corporation:*See*—
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Chevron Research Company:*See*—
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Chua, Hua-Thye, to Fairchild Camera and Instrument Corporation. Flip-flop circuit including, coupling transistors and storage capacitors to reduce capacitor recovery time. 3,437,844, 04-08-69, Cl. 307-292.

Church, Herman S., to Monarch Rubber Company, The. Rubber moldings for automobile windows and manufacture thereof. 3,436,891, 04-08-69, Cl. 052-716.

Church, James W., to Wallaceburg Brass, Limited. Single handle mixing faucet. 3,437,112, 04-08-69, Cl. 137-636.2

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Cleveland, Thomas H.Body protective device composed of polycarbonate resins admixed with polyolefins and pigments. 3,437,631, 04-08-69, Cl. 260-037.

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Coast Metals, Inc.:*See*—
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Coates, Willis W.Apparatus for spreading tubular fabric. 3,436,796, 04-08-69, Cl. 026-055.

Cobb, Richard O., and Skov, Raymond A., to International Business Machines Corporaion. Display apparatus. 3,437,869, 04-08-69, Cl. 315-018.

Cobb, William R., to Westinghouse Electric Corporation. Roller structure for supporting appliances and the like. 3,437,346, 04-08-69, Cl. 280-043.2

Coblentz, Wesley S., Paddock, Paul F., and Smith, Ronald T.Mobile platform construction. 3,437,174, 04-08-69, Cl. 182-016.

Coburn Manufacturing Company, Inc.:*See*—
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Coburn Manufacturing Company:*See*—
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Cohen, Philip, to Magnetics, Inc.Powder metallurgy. 3,436,802, 04-08-69, Cl. 029-420.5

Cohen, Sidney, and Shay, Edward Griffin, to Millmaster Onyx Corporation. Cellulosics sanitized through reaction with triazone substituted with biologically active quaternary ammonium salt. 3,437,419, 04-08-69, Cl. 008-116.3

Coisne, Hubert Jean Marie, to Lantor Limited. Process for coagulation of emulsions with steam containing, as a vapor, a material which reduces emulsion stability. 3,437,509, 04-08-69, Cl. 117-062.

Coker, Cecil H., to Bell Telephone Laboratories, Incorporated. Speech analysis system. 3,437,757, 04-08-69, Cl. 179-001.

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Downey, Rogers B., and Silverman, Allyn M., to Polaroid Corporation. Camera apparatus. 3,437,024, 04-08-69, Cl. 095-013.
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Rosenberg, Robert, to Bell Telephone Laboratories, Incorporated. Electro optic light deflection apparatus. 3,437,400, 04-08-69, Cl. 350-150.

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Roylyn Incorporated:*See—*
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(U.S. States, Territories and Armed Forces, the Commonwealth of Puerto Rico, and the Canal Zone)

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(First number in listing denotes location according to above key. Refer to patent number in body of the Official Gazette to obtain details as to inventor name, location, etc.)

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Design Patents

5	213,803	6	213,801	17	213,775	27	213,798	36	213,811	39	213,767
6	213,772		213,802		213,776		213,800		213,812		213,787
	213,778		213,815		213,784	29	213,786		213,813	40	213,779
	213,780		213,816		213,795		213,807		213,814	41	213,789
	213,781	9	213,793		213,799	31	213,785	39	213,761	42	213,809
	213,782		213,794	25	213,805	34	213,760		213,762		213,810
	213,783	10	213,768		213,817		213,808		213,763		213,818
	213,788	17	213,758	27	213,777	36	213,759		213,764	48	213,804
	213,791		213,773		213,790		213,770		213,766	53	213,797
	213,796		213,774								

U.S. DEPARTMENT OF COMMERCE

OFFICIAL GAZETTE of the UNITED STATES PATENT OFFICE

April 8, 1969 Volume 861 Number 2

TRADEMARKS

NOTICES

Service by Publication

A petition to cancel each of the registrations identified below having been filed, and the notice of such proceedings sent by registered mail to each registrant at the last known address having been returned by the Post Office as undeliverable, notice is hereby given that unless the registrants listed herein, their assigns or legal representatives, shall enter an appearance within thirty days from the date of this publication, the cancelation will be proceeded with as in the case of default.

Stuart F. Lauchhein Company, assignee, by mesne assignment, of Motor Parts Company, Philadelphia, Pa., Reg. No. 434,654, Canc. No. 9267.

Rimer, Incorporated, Clinton, S.C., Reg. No. 792,853, Canc. No. 9272.

Peter Pan Restaurants, Inc., Boston, Mass., Reg. No. 612,777, Canc. No. 9274.

Warren Axe and Tool Company, Warren, Pa., Reg. No. 540,285, Canc. No. 9275.

John E. Weaver, Monmouth, Ill., Reg. No. 818,202, Canc. No. 9284.

EDWIN L. REYNOLDS,
First Assistant Commissioner of Patents.

Trademark Suits

Notices under 15 U.S.C. 1116; Trademark Act of July 5, 1946

Reg. No. 22,406 (COCA-COLA), The Coca Cola Company, Tonic syrup or beverage; **Reg. No. 47,189**, same, Non-alcoholic maltless beverages and the syrups for making such beverages; **Reg. No. 238,145**, same, Beverages and syrups for the manufacture of such beverages; **Reg. No. 238,146**, same; **Reg. No. 415,755** (COKE), same, Nonalcoholic maltless beverages and the syrups for making such beverages, filed Dec. 10, 1968, D.C., Mont. (Great Falls), Doc. 2821–C, *The Coca-Cola Company* v. *Park Hotel, Inc., doing business as Park Hotel (Crystal Lounge), and Park Hotel Terrace Room.* Final judgment in favor of plaintiff and enjoining defendant, Jan. 16, 1969.

Reg. No. 47,189. (See Reg. No. 22,406.)

Reg. No. 238,145. (See Reg. No. 22,406.)

Reg. No. 238,146. (See Reg. No. 22,406.)

Reg. No. 327,086 (EARLY TIMES), Brown-Forman Distillers Corporation, Whisky and/or other potable distilled spirits; **Reg. No. 609,695** (EARLY TIMES OLD STYLE WHISKY AND DESIGN), Brown-Forman Distillers Corporation, doing business as Early Times Distillery Company, Whisky; **Reg. No. 626,674** (EARLY TIMES AND DESIGN), same; **Reg. No. 806,062**, same, Bourbon whiskey; **Reg. No. 806,063**, same, filed Jan. 10, 1969, D.C., C.D. Calif. (Los Angeles), Doc. 69–76–HP, *Brown-Forman Distillers Corp.* v. *Thriftimart, Inc.*

Reg. No. 378,389 (WHO'S WHO IN AMERICA), Marquis-Who's Who, Inc., Publications in the nature of a directory published approximately once every two years; **Reg. No. 506,802** (WHO'S WHO IN COMMERCE AND INDUSTRY), The A. N. Marquis Company, Publication in the nature of a

CONDITION OF TRADEMARK APPLICATIONS AS OF FEBRUARY 28, 1969

Total number of applications awaiting action [excluding renewals and Sec. 12(c)]	16,090
Date of oldest new application	January 23, 1968
Date of oldest amended application (filing date)	June 4, 1963

C. M. WENDT, Director, Trademark Examining Operation

TRADEMARK EXAMINING DIVISIONS, EXAMINERS AND TRADEMARK CLASSES UNDER EXAMINATION	Oldest Application: New	Oldest Application: Amended
(I) L. J. BETTENDORF, Classes 2, 3, 4, 5, 7, 9, 10, 11, 27, 28, 30, 32, 33, 37, 38, 39, 40, 41, 42, 43, 50; Certification Marks, Classes A and B	6-24-68	6-4 -63
(II) F. H. WETHERBEE, Classes 1, 6, 15, 18, 45, 46, 47, 48, 49, 51, 52; Collective Membership Mark, Class 200	5-13-68	3-4 -66
(III) P. S. BALL, Classes 19, 21, 23, 26, 31, 34, 35, 36	6-19-68	1-21-66
(IV) M. E. ABRAMSON, Classes 8, 12, 13, 14, 16, 17, 20, 22, 24, 25, 29, 44; Service Marks, Classes 100, 101, 102, 103, 104, 105, 106, and 107	1-23-68	3-18-66
Renewals (All Classes)	1-3 -69	----------
Sec. 12(c) Publications (All Classes)	1-16-69	----------

Applications filed during the month of February 1969—2,344

Registrations Issued ---------- 348—No. 867,732 to No. 868,079
Renewals Issued ---------- 100

The TRADEMARK SECTION of the OFFICIAL GAZETTE, issued weekly, is mailed under the direction of the Superintendent of Documents, Government Printing Office, Washington, D.C. 20402 to whom all subscriptions should be made payable and all communications addressed; subscription price $20.50 per annum, foreign mailing $5.75 additional; single copies, 40 cents each.

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directory published from time to time; **Reg. No. 696,101** (WHO'S WHO IN THE EAST), Marquis-Who's Who, Inc., same; **Reg. No. 696,099** (WHO'S WHO IN THE MID-WEST), same; **Reg. No. 696,100** (WHO'S WHO IN THE WEST), same; **Reg. No. 696,098** (WHO'S WHO IN THE SOUTH AND SOUTHWEST), same; **Reg. No. 729,754** (WHO'S WHO OF AMERICAN WOMEN), same, **filed** Jan. 22, 1969, D.C. Md. (Baltimore), Doc. C–20375, *Marquis-Who's Who, Inc., and International Who's Who, Inc.* v. *The International Registry of Who's Who, Inc.*

Reg. No. 415,755. (See Reg. No. 22,406.)

Reg. No. 566,902. (See Reg. No. 378,389.)

Reg. No. 669,695. (See Reg. No. 327,066.)

Reg. No. 612,699 (EMBA), Mutation Mink Breeders Association, Mink fur pelts; **Reg. No. 670,652** (AUTUMN HAZE), same, **filed** Jan. 8, 1969, D.C., N.D. Ill. (Chicago), Doc. 69c39, *Embo Mink Breeders Association* v. *Irving D. Singer and Lester J. Dernberg, doing business as Dernberg-Singer Fur Co.*

Reg. No. 626,674. (See Reg. No. 327,066.)

Reg. No. 650,052 (OLEG CASSINI), Oleg Cassini, Women's dresses, coats, and suits; children's dresses and snowsuits; men's ties and shirts; **Reg. No. 657,489**, same, **filed** Jan. 6, 1969, D.C., S.D.N.Y., Doc. 69–C–26, *Oleg Cassini, Inc.* v. *Couture Coordinates, Inc.*

Reg. No. 657,489. (See Reg. No. 650,052.)

Reg. No. 670,652. (See Reg. No. 613,699.)

Reg. No. 696,098. (See Reg. No. 378,389.)

Reg. No. 696,099. (See Reg. No. 378,389.)

Reg. No. 696,100. (See Reg. No. 378,389.)

Reg. No. 696,101. (See Reg. No. 378,389.)

Reg. No. 728,531. (See Reg. No. 728,894.)

Reg. No. 728,894 (DAIRY QUEEN), McCullough's Dairy Queen, Ice cream and frozen confections in cone, cup, and bar form; **Reg. No. 728,531**, same, Machine for freezing and dispensing a semi-frozen dairy product, **filed** July 27, 1967, D.C., N.D. Ill. (Chicago), Doc. 67c1295, *American Dairy Queen Corporation and S. D. Noble* v. *Edward J. Augustyn and Helen E. Augustyn and Robert L. Detwiler and Peggy Detwiler.* Complaint dismissed with prejudice, Oct. 31, 1967.

Reg. No. 729,754. (See Reg. No. 378,389.)

Reg. No. 806,662. (See Reg. No. 327,066.)

Reg. No. 806,663. (See Reg. No. 327,066.)

MARKS PUBLISHED FOR OPPOSITION

SECTION 1

The following marks are published in compliance with section 12(a) of the Trademark Act of 1946. Application for the registration of these marks in more than one class has been filed as provided in section 30 of said act as amended by Public Law 772, 87th Congress, approved Oct. 9, 1962, 76 Stat. 769. Opposition under section 13 may be filed within thirty days of this publication. See Rules 2.101 to 2.105.

A separate fee of twenty-five dollars for each class opposed must accompany the opposition.

[NOTE: For publication of marks presented in applications for registration in one class, see section 2.]

SN 266,824. CF & I Steel Corporation, Denver, Colo. Filed Mar. 16, 1967.

CF&I STEEL

Applicant disclaims the term "Steel" apart from the mark as shown. Owner of Reg. Nos. 578,600, 740,461, and others.

Class 1—Raw or Partly Prepared Materials

For Coal Tar Pitch (Int. Cl. 19).

Class 6—Chemicals and Chemical Compositions

For Chemicals—Namely, Benzol, Creosote, Crude Solvent Naphtha, Naphthalene, Toluol and Xylene (Int. Cls. 1 and 4).

Class 7—Cordage

For Bulldozer and Scraper Rope, Fittings for Wire Rope, Lifting Slings, Logging Arch and Choker Rope, Tension Stringing Rope, Trawling Rope, Wire Rope and Cables, Wire Rope Having a Plastic Core Forming a Part Thereof, Wire Rope Slings and Eye Attachments for Wire Rope Slings, Wire Rope Strand for Suspension Systems for Tramways, Ropeways, Ski Lifts and Chair Lifts (Int. Cls. 6 and 22).

Class 12—Construction Materials

For Concrete Reinforcement Fabric for Airports, Buildings, Driveways, Pipes, Sewers, Swimming Pools and the Like; Prestressing Wire and Strand for Prestressed Concrete Building Construction (Int. Cls. 6 and 19).

Class 13—Hardware and Plumbing and Steam-Fitting Supplies

For Bale Ties, Barbed Wire, Chain Link Fabric and Welded Wire Fabric, Fence Posts Including End and Corner Posts and Tie Posts; Metal Fittings for Suspension Systems for Tramways, Ropeways, Ski Lifts and Chair Lifts; Hardware Cloth, Insect Wire Screening, Merchant Wire and Hardware Products Including General Purpose Wire Fabric and Strand and the Like; Metal Fittings for Suspension Systems, Metal Gates and Fittings Therefor, Metal Strap Ties for Bales and the Like, Metal Tubing, Nails, Spikes, Staples and Bolts; Poultry Netting, Stucco Netting and Other Types of Woven Metal Fencing; Hardware—Namely, Door Handles, Sliding Door Tracks, Sliding Door Hardware, Folding Partition Hardware and Fire Door Hardware; Space Screens, Spiral Tension Wire and Wire Fabric (Int. Cl. 6).

Class 14—Metals and Metal Castings and Forgings

For Semi-Finished and Hot Rolled Carbon Steel Products—Namely, Billets, Blooms, Cold Rolled Steel in the Form of Flat Rolled and Shaped Wires, Cold Rolled, Oil Tempered, Galvanized, Annealed and Other Forms; Galvanized Wire Strand, Ingots, Bars, Shapes, Joint and Tie Plates for Railway Tracks, Metal Rails, Railway Rails and Accessories—Namely, Standard Rails, Track Sections, Rail Joints, Railway Fence, Tie Posts; Spring Wire, Wire Including Standard Type of Wire and Specialty Wires—Namely, Oil Tempered Wires, Hard Drawn Wires, Spheroidize Annealed Wires and Other Specialty Wires (Int. Cl. 6).

Class 23—Cutlery, Machinery, and Tools, and Parts Thereof

For Fence Tools—Namely, Post Drivers, Stretchers, Hoists and Cutters; Grader Blades and Cutting Edges; Mining Industry Products—Namely, Grinding Balls and Rods; Woven Wire Process Belts; Vibrating Screens and Parts Thereof, and Metal Conveyor Belts (Int. Cl. 7).

First use in or about April 1962.

SN 275,434. Delta Electronics, Inc., Winston-Salem, N.C. Filed July 6, 1967.

DELTRONIX

Class 21—Electrical Apparatus, Machines, and Supplies

For Distribution Amplifiers and Power Supplies (Int. Cl. 9).

Class 26—Measuring and Scientific Appliances

For Impedance Bridge, Audio Test Set, and Transistor Curve Tracer (Int. Cl. 9).

First use Jan. 31, 1960.

SN 276,978. Canada Packers Limited, Toronto, Ontario, Canada. Filed July 28, 1967.

Priority claimed under Sec. 44(d) on Canadian application filed Feb. 28, 1967; Reg. No. 156,255, dated Apr. 5, 1968. Owner of U.S. Reg. No. 650,206.

Class 46—Foods and Ingredients of Foods

For Fresh, Frozen, Cured, Smoked, Cooked, or Canned Meat and Poultry; Dairy Products—Namely, Cheese, Butter, and Fresh and Frozen Eggs; Edible Oils and Products Thereof, of Animal and Vegetable Origin—Namely, Shortenings, Cooking Oils and Margarine; Fresh Vegetables; Food Spreads—Namely, Margarines, Peanut Butters, Meat, and Meat and Poultry, and Butter Spreads; Animal Foods—Namely, Livestock, Poultry, Dog and Cat Food; and Edible Nuts (Int. Cls. 29 and 31).

Class 52—Detergents and Soaps

For Soaps and Detergents for Household and Industrial Use (Int. Cls. 1 and 3).

SN 277,959. Eli Lilly and Company, Indianapolis, Ind. Filed Aug. 10, 1967.

ELANCO

Owner of Reg. Nos. 708,270, 737,388, and others.

Class 2—Receptacles

For Empty Gelatin Capsules (Int. Cl. 5).
First use May 25, 1960.

Class 6—Chemicals and Chemical Compositions

For Chip Color Tester for Determining Glucose Sugar as Corrosion Inhibitors, Intermediates, Oxidizing Agents, Solvents, and Buffers in Chemical Reactions—Namely, Anisole, Dimethyl Chloroacetal, B-Chloro-Propionic Acid, Cyclopentanol, Diphenylacetonitrile and Homoveratrylamine; Herbicides for Lawn and Agricultural Uses, Fungicides for Horticultural Use (Int. Cls. 1 and 5).
First use Feb. 29, 1960.

Class 10—Fertilizers

For Plant Growth Regulators for Agricultural Crops (Int. Cl. 1).
First use Nov. 18, 1960.

Class 18—Medicines and Pharmaceutical Preparations

For Medicinal and Pharmaceutical Preparations for Human and Veterinary Use—Namely, Amobarbital, Thimerosal, Procaine Penicillin G, Tylosin Tartrate, Newcastle Disease Vaccine, Erysipelas Vaccine; Soap Liniments and Soap Preparations With Disinfecting Properties—Namely, Green Soap Tincture and Saponated Cresol Solution, N.F.; and Animal Feed Additives—Namely, Diethylstibestrol Useful in the Promotion of Growth in Animals (Int. Cl. 5).
First use May 25, 1960.

Class 46—Foods and Ingredients of Foods

For Food Flavoring Extracts (Int. Cl. 30).
First use Apr. 14, 1960.

SN 284,783. Gibson Greeting Cards, Inc., Cincinnati, Ohio. Filed Nov. 14, 1967.

COLOR MAGIC

Class 7—Cordage

For Plain and Decorated Ribbon for Gift Wrapping Packages, Bows for Gift Wrapping Packages, and String and Cord for Gift Wrapping Packages (Int. Cls. 22 and 26).

Class 37—Paper and Stationery

For Gift Wrapping Materials—Namely, Plain and Decorated Gift Wrapping Papers and Tissues, Plain and Embossed Foil Laminated Wrapping Paper and Cellophane Wrapping Material in Sheet and Roll Form (Int. Cl. 16).

First use Aug. 1, 1967.

SN 285,480. B.D. Data Processing Corp., Hackensack, N.J. Filed Nov. 24, 1967.

TOTAL TIPTOP

Owner of Reg. Nos. 815,620 and 816,337.

Class 101—Advertising and Business

For Service to Drugstore Operators—Namely, Processing of Records of Purchases by Individual Customers To Compile Information as to Accounts Receivable and the Age Thereof, and as to Categories of Merchandise Purchased, To Aid Said Operators in Billing and Supplying Said Customers With Proof of Drug, Medical and Surgical Supply Purchases Qualifying for Tax Deductions and Medical Insurance Payments (Int. Cl. 35).

Class 102—Insurance and Financial

For Service to Drugstore Operators—Namely, Financing of Accounts Receivable (Int. Cl. 36).

First use March 1967.

SN 286,817. HMH Publishing Co. Inc., Chicago, Ill. Filed Dec. 13, 1967.

PLAYBOY

Owner of Reg. Nos. 600,018, 772,131, and others.

Class 3—Baggage, Animal Equipments, Portfolios, and Pocketbooks

For Billfolds, Pocket Secretaries and Card Cases (Int. Cl. 18).
First use on or about Mar. 2, 1962.

Class 8—Smokers' Articles, Not Including Tobacco Products

For Cases for Cigarettes and Cigarette Lighters (Int. Cl. 34).
First use in or about August 1964.

SN 286,818. HMH Publishing Co. Inc., Chicago, Ill. Filed Dec. 13, 1967.

Owner of Reg. Nos. 643,926, 772,132, and others.

Class 3—Baggage, Animal Equipments, Portfolios, and Pocketbooks

For Billfolds, Pocket Secretaries and Card Cases (Int. Cl. 18).
First use on or about Mar. 2, 1962.

Class 8—Smokers' Articles, Not Including Tobacco Products

For Cases for Cigarettes and Cigarette Lighters (Int. Cl. 34).
First use in or about August 1964.

SN 287,199. Victor Comptometer Corporation, Chicago, Ill. Filed Dec. 18, 1967.

VICTOR BETTER BUSINESS SERVICES

No claim is made to the words "Better Business Service" apart from the mark as shown.

Class 101—Advertising and Business

For Providing Office Help and Performing Calculating Services for Others (Int. Cl. 35).

Class 107—Education and Entertainment

For Providing Classroom Instruction in the Operation of Business Machines (Int. Cl. 41).

First use Jan. 4, 1966.

SN 287,535. Exline, Inc., d.b.a. Exline Engine Works, Salina, Kans. Filed Dec. 26, 1967.

Class 23—Cutlery, Machinery, and Tools, and Parts Thereof

For Repair and Replacement Parts for Engines and Compressors—Namely, Crankshafts, Pistons, Power Rods, Bearings, Cylinder Sleeves, Valves and Valve Cages, and Hydraulic Load Adjusters (Int. Cl. 7).

Class 26—Measuring and Scientific Appliances

For Temperature Sensors and Wear Indicators Having Fusible Metal Responsive to Predetermined Temperatures for Engines and Compressors (Int. Cl. 9).

First use Dec. 1, 1955.

SN 293,195. Veriflo Corporation, Richmond, Calif. Filed Mar. 14, 1968.

VERIFLO

Class 13—Hardware and Plumbing and Steam-Fitting Supplies

For Valves for Regulating and Controlling the Flow and Pressures of Fluids (Int. Cl. 6).

Class 23—Cutlery, Machinery, and Tools, and Parts Thereof

For Tools for the Maintenance and Repair of Gas Pressure Regulators and Gas Welding and Cutting Torches—Namely, Tip Pullers, Head and Tip Reseating Tools, Dies, Taps, Adapter Removing Tools, Spring Compressing Tools, Double Ended Vise Wrenches, Holding Jigs, Tip Cleaners and Wrenches All for Gas Nozzles, Gas Torches, Gas Regulators, and Gas Valves and Parts for the Foregoing (Int. Cls. 7 and 8).

Class 34—Heating, Lighting, and Ventilating Apparatus

For Gas Welding and Cutting Outfits; Gas Welding Torches; Gas Cutting Torches; Gas Blast Heating Torches; Gas Welding Nozzles; Gas Cutting Tips, Nozzles, and Attachments; Water Cooled Nozzles for Welding Purposes; Gas Blowpipes; Gas Blowpipe Tips; Gas Blowtorches; Circle Gas-Cutting Attachments for Cutting Along a Circular Path; Roller Gas-Cutting Attachments; Scarfing Tips; Gas Crossfire Burners for Glassblowing; Ribbon Gas Burners; Cylinder Gas, Pipe Line, Station Outlet and Cylinder Manifold Regulators for All Cylinder Gases; Cylinder Manifolds; and Parts Therefor (Int. Cl. 11).

Class 44—Dental, Medical, and Surgical Appliances

For Equipment and Apparatus Used in the Handling and Administering of Medicinal Gases—Namely, Humidifiers for Oxygen and Other Gases, Cylinder Gas Regulators, Inspiratory Valves, Breathing Hoods, Inspiratory Units (Comprising a Self-Contained Assembly Including the Gas Tank, Regulator, Gauges, Conduits, and Breathing Hoods); Alcohol Blowpipes and Torches for Dental Plate Work; and Orthodontic Blowpipes; Cylinder Manifolds, and Parts Therefor (Int. Cl. 10).

First use Dec. 11, 1967.

SN 293,656. Nordiska Fjaderfabriken Aktiebolag, Malmo, Sweden. Filed Mar. 20, 1968.

DREAM-FILL

Owner of Swedish Reg. No. 116,223, dated May 6, 1966.

Class 22—Games, Toys, and Sporting Goods

For Sleeping Bags for Outdoor Use and for Recreational Use (Int. Cl. 20).

Class 32—Furniture and Upholstery

For Pillows (Int. Cl. 20).

Class 42—Knitted, Netted, and Textile Fabrics, and Substitutes Therefor

For Blankets, Comforters and Quilts (Int. Cl. 24).

SN 294,876. Westinghouse Electric Corporation, Pittsburgh, Pa. Filed Apr. 3, 1968.

IXL

Class 13—Hardware and Plumbing and Steam-Fitting Supplies

For Sink Bases (Int. Cl. 6).
First use at least as early as 1954.

Class 32—Furniture and Upholstery

For Kitchen Cabinets and Vanity Units (Int. Cl. 20).
First use at least as early as 1907.

SN 296,413. Farbwerke Hoechst Aktiengesellschaft vormals Meister Lucius & Bruning, Frankfurt am Main, Germany. Filed Apr. 24, 1968.

THE TREVIRA ERA

Owner of U.S. Reg. Nos. 692,873, 797,397, and others.

Class 39—Clothing

For Coats and Dresses (Int. Cl. 25).

Class 42—Knitted, Netted, and Textile Fabrics, and Substitutes Therefor

For Textile Fabrics of Polyester Fibers (Int. Cl. 24).

First use Sept. 26, 1967; in commerce Sept. 26, 1967.

SN 296,618. Purex Corporation, Ltd., d.b.a. Turco Products, Inc., Lakewood, Calif. Filed Apr. 26, 1968.

Owner of Reg. Nos. 270,966, 648,745, 657,594, and others.

Class 21—Electrical Apparatus, Machines, and Supplies

For Ultrasonic Parts and Surface Cleaning Units Comprising Tank-Type Washers, Transducers for Converting Electrical Impulses Into Sound Waves, Sprayheads and Nozzles (Int. Cl. 9).

Class 23—Cutlery, Machinery, and Tools, and Parts Thereof

For Industrial and Commercial Parts and Surface Cleaning and Washing Equipment—Namely, Pail-Mounted and Barrel-mounted Pumping and Dispensing Units; Mechanical Decontamination Units; High Pressure Steam Cleaning Units; Case and Carton Washers; Tank-Type Immersion Washing and Cleaning Units; and Parts and Attachments for Such Equipment (Int. Cl. 7).

First use in 1947.

SN 297,236. W. Ø. Larsen & Lichtingers Fabriker A/S, Copenhagen, Denmark. Filed May 3, 1968.

LARSEN

Priority claimed under Sec. 44(d) on Danish application filed Nov. 29, 1967; Reg. No. 2138/68, dated Aug. 16, 1968.

Class 8—Smokers' Articles, Not Including Tobacco Products

For Pipes (Int. Cl. 34).
First use Jan. 1, 1962; in commerce Mar. 15, 1962.

Class 17—Tobacco Products

For Pipe Tobacco and Cigars (Int. Cl. 34).
First use Dec. 18, 1959; in commerce Jan. 25, 1961.

SN 297,237. The Badger Company, Inc., Cambridge, Mass. Filed May 3, 1968.

BADGER

Class 100—Miscellaneous

For Evaluation, Design, and Engineering of Industrial Processes and Plants, Particularly for Manufacturing and/or Processing of Chemicals, and Initial Operation of Said Processes and Plants; and Analysis, Planning and Supervision of Maintenance Operations for Process Industries (Int. Cl. 42).

Class 103—Construction and Repair

For Construction of Industrial Plants, Such as Chemical Manufacturing and/or Process Plants, Including the Procurement of Construction Materials and Construction of Buildings, Roads, etc., Ancillary to Said Plants (Int. Cl. 37).

First use in or about September 1956.

SN 298,012. Kirsch Company, Sturgis, Mich. Filed May 13, 1968.

RIPPLEFOLD

Class 13—Hardware and Plumbing and Steam-Fitting Supplies

For Drapery System and Drapery Hardware Therefor—Namely, Traverse Curtain Rods, Tracks, Parts, Accessories and Fittings (Int. Cl. 20).

Class 40—Fancy Goods, Furnishings, and Notions

For Drapery Tape Having Snaps Thereon; Drapery Carriers Spaced Apart by an Attached Cord (Int. Cl. 26).

First use Sept. 5, 1967.

SN 301,567. Avon Products, Inc., New York, N.Y. Filed June 28, 1968.

VALHALLA

Class 51—Cosmetics and Toilet Preparations

For After Shave Lotion and Talcum Powder (Int. Cl. 3).

Class 52—Detergents and Soaps

For Toilet Soap (Int. Cl. 3).

First use June 10, 1968.

SN 301,668. California Almond Orchards, Inc., d.b.a. The House of Almonds, Paso Robles, Calif. Filed July 1, 1968.



While reserving its common law rights, applicant disclaims the words "House of Almonds" apart from the mark as shown. Owner of Reg. No. 847,501.

Class 46—Foods and Ingredients of Foods

For Almonds—Namely, Roasted Salted Almonds, Flavored Almonds, Blanched Almonds, and Natural Whole Almonds, and Candy (Int. Cls. 29, 30, and 31).

Class 101—Advertising and Business

For Retail Store Services Specializing in the Sale of Almonds and Almond Products on the Premises and by Mail (Int. Cl. 35).

First use as early as Oct. 1, 1967; Oct. 31, 1966, as to the words "House of Almonds."

SN 303,957. Griffin Wellpoint Corporation, New York, N.Y. Filed July 31, 1968.



Class 100—Miscellaneous

For Leasing of Wellpoint Equipment (Int. 42).

Class 103—Construction and Repair

For Wellpoint Construction Services in the Field of Soil Drainage—Namely, Soil Dewatering and Soil Water Control (Int. Cl. 37).

First use on or before Jan. 2, 1947.

SECTION 2

The following marks are published in compliance with section 12(a) of the Trademark Act of 1946. Opposition under section 13 may be filed within thirty days of publication. See Rules 2.101 to 2.105.

A fee of twenty-five dollars must accompany the opposition.

[NOTE: For publication of marks presented in a combined application for registration in more than one class, see section 1.]

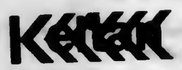
Class 1—Raw or Partly Prepared Materials

SN 287,156. Economic Union "Jaiza 1 Ptizi" (Jaizeimpex), Sofia, Bulgaria. Filed Dec. 18, 1967.



Applicant disclaims the term "Bulgaria." Owner of Bulgarian Reg. No. 5,444, dated Aug. 3, 1967.
For Downs and Feathers (Int. Cl. 22).

SN 289,112. NV Nederlandse Staatsmijnen, Heerlen, Netherlands. Filed Jan. 18, 1968.



The lining shown on the drawing is a design feature of the mark and does not represent color. Owner of Dutch Reg. No. 161,206, dated Oct. 7, 1966.
For Polymeric Basic Materials and Semi-Manufactured Products—Namely, Synthetic Rubbers (Int. Cl. 17).

SN 294,099. Uniroyal, Inc., New York, N.Y. Filed Mar. 25, 1968.



Owner of Reg. No. 248,035.
For Sheet Material Made of Fibre and Rubber for Manufacture Directly or With Further Treatment Into a Variety of Articles (Int. Cl. 17).
First use at least as early as September 1967; Mar. 30, 1928, as to "Lexide."

SN 295,431. Great Lakes Carbon Corporation, New York, N.Y. Filed Apr. 11, 1968.



Great Lakes

The drawing is lined for the color red. Owner of Reg. No. 740,158.
For Charcoal Briquets (Int. Cl. 4).
First use Apr. 4, 1968.

SN 303,119. Ulano Products Company, Inc., Brooklyn, N.Y. Filed July 19, 1968.

ULANO DIRECT

Applicant disclaims the term "Direct" apart from the mark as shown.
For Water-Soluble Plastic Film for Use in Making Stencils for Screen Printing (Int. Cl. 16).
First use in or about March 1968.

SN 306,073. P. W. Plumly Lumber Corporation, Winchester, Va. Filed Aug. 27, 1968.

Plum Line

For Bark, Bark Fiber, Sawdust, Wood Shavings, Wood Flour and Wood Fiber (Int. Cls. 1 and 22).
First use on or about June 3, 1965.

SN 310,047. American Tar Company, Seattle, Wash. Filed Oct. 21, 1968.

ATCO

Owner of Reg. Nos. 396,999, 430,879, and others.
For Refined Coal Tar, Pine Tar, Marine Pitch, and Coal Tar Pitch (Int. Cl. 19).
First use on or about Mar. 1, 1922.

SN 311,776. Diamond Shamrock Corporation, Cleveland, Ohio. Filed Nov. 12, 1968.

DIAMOND FILM

The term "Film" is disclaimed apart from the mark as shown. Owner of Reg. Nos. 762,908 and 762,909.
For Synthetic Polymeric Material in the Form of Film, Sheets and Other Shapes for General Use (Int. Cl. 17).
First use October 1967.

SN 312,379. Beaunit Corporation, New York, N.Y. Filed Nov. 18, 1968.

SUPER STUFF

Owner of Reg. Nos. 834,185, 852,100, and others.
For Man-Made Fiber (Int. Cl. 22).
First use on or about Sept. 30, 1968.

SN 313,060. The Dow Chemical Company, Midland, Mich. Filed Nov. 26, 1968.

STYRON

Owner of Reg. Nos. 362,877 and 662,595.
For Synthetic Resins (Int. Cl. 1).
First use Dec. 1, 1937.

Class 2—Receptacles

SN 230,711. Hansa Plastics Company, Middle Village, N.Y. Filed Oct. 20, 1965.



Applicant disclaims "A Quality Product."
For Plastic Shipping Cartons and Boxes (Int. Cl. 20).
First use October 1960.

SN 292,276. K & M Rubber Company, Elk Grove Village, Ill. Filed Mar. 1, 1968.



For Plastic Brine Tanks, Wheeled Plastic Containers for Trash, Garbage, Food and Hospital Use, Plastic Storage Drums and Tanks for Liquid and Solid Chemicals, Refuse, Foodstuffs, and the Like (Int. Cl. 20).
First use in or about March 1961.

SN 300,469. Med-A-Safe Incorporated, Beverly Hills, Calif. Filed June 14, 1968.



The drawing is lined for the color red.
For Childproof Dispensers for Pharmaceuticals and the Like (Int. Cl. 20).
First use Feb. 1, 1968.

Class 3—Baggage, Animal Equipments, Portfolios, and Pocketbooks

SN 295,103. Brumley-Donaldson Company, Huntington Park, Calif. Filed Apr. 8, 1968.



The term "Horse Shoes" and the representation of a horse shoe are disclaimed apart from the mark as shown. Owner of Reg. No. 836,514.
For Horse Shoes (Int. Cl. 6).
First use Jan. 29, 1963.

SN 295,104. Brumley-Donaldson Company, Huntington Park, Calif. Filed Apr. 8, 1968.



The term "Horse Shoes" and the representation of a horse shoe are disclaimed apart from the mark as shown. Owner of Reg. No. 836,514.
For Horse Shoes (Int. Cl. 6).
First use July 7, 1964.

SN 295,105. Brumley-Donaldson Company, Huntington Park, Calif. Filed Apr. 8, 1968.



The term "Horse Shoes" and the representation of a horse shoe are disclaimed apart from the mark as shown. Owner of Reg. No. 836,514.
For Horse Shoes (Int. Cl. 6).
First use Mar. 19, 1964.

SN 295,106. Brumley-Donaldson Company, Huntington Park, Calif. Filed Apr. 8, 1968.



The term "Horse Shoes" and the representation of a horse shoe are disclaimed apart from the mark as shown. Owner of Reg. No. 836,514.
For Horse Shoes (Int. Cl. 6).
First use Feb. 27, 1968.

SN 296,864. O'Hagan Limited, Bray, Wicklow, Ireland. Filed Apr. 29, 1968.



No exclusive claim is made to the word "Bag" apart from the mark as shown in the drawing.
For Handbags (Int. Cl. 18).
First use in 1946; in commerce in 1955.

SN 308,042. Standard Saddle Tree, Inc., Vernal, Utah. Filed Sept. 23, 1968.

PERMA-DEE

For Saddle Cinches (Int. Cl. 18).
First use Jan. 1, 1968.

SN 308,159. Swank, Inc., Attleboro, Mass. Filed Sept. 24, 1968.

KEY-JECTOR

For Key Cases (Int. Cl. 18).
First use Sept. 13, 1968.

Class 4—Abrasives and Polishing Materials

SN 304,802. The Lexol Corporation, West Caldwell, N.J. Filed Aug. 9, 1968.

VINYLEX

"Vinyl" is disclaimed apart from the mark as shown.
For Cleaning, Polishing, Conditioning and Protecting Preparation for Use on Domestic Vinyl, Leather, and Patent Leather Goods: Luggage, Handbags, Furniture, Shoes, Boots, Belts, Car Interiors, Car Hardtops, Boat Interiors, Upholstery, Bowling Bags, Camera Cases, Golf Bags, and Counter Tops (Int. Cl. 3).
First use June 1, 1968.

Class 5—Adhesives

SN 270,002. Professional Tape Co., Inc., Riverside, Ill. Filed Apr. 25, 1967.

TIME INSTROMARK

For Blank Self-Sticking Tape Used Mainly for Identifying Surgical and Medical Instruments and the Like (Int. Cl. 5).
First use in or about May 1966.

SN 271,107. Adchem Corp., Westbury, N.Y. Filed May 10, 1967.



For Adhesives in the Form of Chemicals, Compounds, Solvents, and Films Having an Adhesive Quality and Used in the Lamination or Bonding of Fabrics, Foam, Plastics, Rubberized Goods, Nameplates, Films, Metals, and for the General Lamination of Facing Material to a Substrate by Use of Adhesive-Type Materials (Int. Cl. 1).
First use approximately Dec. 15, 1966.

SN 282,015. United Oil Manufacturing Company, Erie, Pa. Filed Oct. 6, 1967.

DEEP-SET

The drawing is lined for the color brown.
For Sand Binder for Foundry Purposes (Int. Cl. 1).
First use on or about Sept. 19, 1967.

SN 294,197. Imperial Chemical Industries Limited, London, England. Filed Mar. 26, 1968.

DUFIX

Owner of British Reg. No. 911,924, dated July 13, 1967.
For Adhesives Used in Binding Together Porous Materials (Int. Cl. 1).

SN 309,431. American Finish & Chemical Company, Chelsea, Mass. Filed Oct. 11, 1968.



For Adhesives, Especially for Bonding Textiles (Int. Cl. 1).
First use Aug. 15, 1968.

SN 310,044. American Tar Company, Seattle, Wash. Filed Oct. 21, 1968.

ATCO

Owner of Reg. Nos. 396,999, 430,879, and others.
For Linoleum Paste, Waterproof Linoleum Cement, and Asphalt Emulsion Adhesive (Int. Cl. 1).
First use on or about June 15, 1962.

Class 6—Chemicals and Chemical Compositions

SN 276,580. Pillsbury Chemicals, Inc., Detroit, Mich. Filed July 21, 1967.

HONE-RITE

For Chemical Composition Consisting of Water-Based Coolant for Metal Working (Int. Cl. 1).
First use Oct. 13, 1966.

SN 289,763. Ashland Oil & Refining Company, Ashland, Ky. Filed Jan. 29, 1968.

UNITED

Owner of Reg. Nos. 728,720 and 731,009.
For Carbon Black Having a General Use in the Industrial Arts (Int. Cl. 1).
First use at least as early as Aug. 15, 1963.

SN 296,676. Emhart Corporation, Hartford, Conn. Filed Apr. 26, 1968.



Owner of Reg. Nos. 279,641, 838,194, and others.
For Pesticides—Namely, Insecticides, Fungicides, and Nematocides (Int. Cl. 5).
First use not later than Jan. 1, 1967.

SN 302,922. Monsanto Company, St. Louis, Mo. Filed July 17, 1968.

HONCHO

For Insecticide (Int. Cl. 5).
First use July 10, 1968.

SN 302,988. Thompson-Hayward Chemical Company, Kansas City, Kans. Filed July 17, 1968.

THYNON

For Fungicide (Int. Cl. 5).
First use June 14, 1968.

SN 303,306. W. R. Grace & Co., New York, N.Y. Filed July 22, 1968.



For Photopolymer for Making Printing Plates (Int. Cl. 1).
First use July 2, 1968.

SN 303,656. Baxter Laboratories, Inc., Morton Grove, Ill. Filed July 26, 1968.

PHOSPHA-TEST

For Diagnostic Reagent Used for the Colorimetric Determination of Alkaline Phosphatase and Acid Phosphatase in Serum for Laboratory Use (Int. Cl. 1).
First use Mar. 22, 1968.

SN 303,695. Monsanto Company, St. Louis, Mo. Filed July 26, 1968.

A-100

For Chemical Compositions Used in the Curing of Rubber (Int. Cl. 1).
First use at least as early as Jan. 1, 1936.

SN 304,862. International Minerals & Chemical Corporation, Skokie, Ill. Filed Aug. 12, 1968.

HAYSAVER

For Agricultural Insecticides (Int. Cl. 5).
First use Apr. 26, 1968.

SN 306,032. Kenmore Supply Co., Inc., Chicago, Ill. Filed Aug. 27, 1968.

whiffy

For Absorbent Figures Impregnated With and Used as Perfumed Air Fresheners (Int. Cl. 5).
First use Mar. 15, 1968.

SN 309,427. Minnesota Mining and Manufacturing Company, St. Paul, Minn. Filed Oct. 11, 1968.

FLUORINERT

For Highly Fluorinated Organic Compositions Useful in the Electronic Industry as Dielectric Coolants and in Testing Electronic Equipment (Int. Cl. 1).
First use Sept. 30, 1968.

SN 310,045. American Tar Company, Seattle, Wash. Filed Oct. 21, 1968.

ATCO

Owner of Reg. Nos. 396,999, 430,879, and others.
For Coal Tar Solvent, Commercial Creosote Oil, Specification Creosote, Creosote Base Wood Preservative, Copper Content Wood Preservative, Penta Wood Preservatives, and Penta Ten-to-One Concentrate (Int. Cls. 1, 2, and 4).
First use on or about Mar. 1, 1922.

SN 313,240. PPG Industries, Inc., Pittsburgh, Pa. Filed Nov. 29, 1968.

PELS

For Caustic Soda (Int. Cl. 1).
First use at least as early as Nov. 5, 1968.

Class 8 — Smokers' Articles, Not Including Tobacco Products

SN 313,483. Sta-Rite Ginnie Lou, Inc., Shelbyville, Ill. Filed Dec. 3, 1968.

Quick Snuff

For Ash Trays (Int. Cl. 34).
First use Nov. 12, 1968.

Class 9 — Explosives, Firearms, Equipments, and Projectiles

SN 309,605. Monsanto Company, St. Louis, Mo. Filed Oct. 14, 1968.

COILAN

For Blasting Agents (Int. Cl. 13).
First use Oct. 1, 1968.

Class 11 — Inks and Inking Materials

SN 300,658. Magic Marker Corporation, Glendale, N.Y. Filed June 18, 1968.

SPEEDRY

Owner of Reg. Nos. 392,196, 420,243, and 672,503.
For Inks for Marking, Stenciling, and Stamping Devices (Int. Cl. 16).
First use on or about Apr. 1, 1945.

Class 12 — Construction Materials

SN 266,674. Mister Mechanic, Inc., Chicago, Ill. Filed Mar. 14, 1967.

KANT SKID!

For Flooring Compounds To Be Used as Fillers on Plastics, Metals, Woods, or Cement, for Construction Purposes (Int. Cl. 19).
First use June 30, 1965.

SN 271,329. Allied Compositions Co., Inc., Maspeth, N.Y. Filed May 12, 1967.

BONDALL

For Material for Bonding New Layers of Plaster or Concrete to Existing Concrete (Int. Cl. 19).
First use Jan. 18, 1957.

SN 273,279. William Horner Mill Work Corp., d.b.a. William Horner Corp., Somerset, Mass. Filed June 7, 1967.



NEV-A-STIK

For Adjustable Door Frames (Int. Cl. 19).
First use in or about December 1961.

SN 275,956. Owens-Corning Fiberglas Corporation, Toledo, Ohio. Filed July 13, 1967.



For Acoustical Systems—Namely, Acoustical Tile, Suspension Members, and Associated Fixtures for Construction Purposes (Int. Cl. 19).
First use Oct. 17, 1966.

SN 278,973. Kent Laboratories, Inc., Cleveland, Ohio. Filed Aug. 24, 1967.

KENTITE PR

For Thermoplastic Emulsion Asphalt Pavement Sealer (Int. Cl. 19).
First use Jan. 1, 1962.

SN 279,828. Hitco, Gardena, Calif. Filed Sept. 7, 1967.

HITCORE

For Three Dimensional, Hollow Core Fabrics Used in the Manufacture of Structural Panels (Int. Cl. 6).
First use Nov. 21, 1957.

SN 28,377. Loevestein N.V., Vuren, Netherlands. Filed Oct. 12, 1967.

CALSILOX

Owner of Dutch Reg. No. 161,607, dated Aug. 19, 1966.
For Building Materials, Road Construction Materials, Hydraulic Materials, High-Compressive Strength Materials, Sewerage Systems and Tubes—Namely, Sand-Lime Bricks and Blocks, Gas Concrete, Thin Plaster, Filler Paste, Mortar Agents, Mortar, Construction Blocks and Construction Wall Panels With and Without Decorative Surfaces, and Roof Slabs (Int. Cl. 19).

SN 293,389. K-S-H, Inc., St. Louis, Mo. Filed Mar. 15, 1968.

LIDO

For Decorative Plastic Panels (Int. Cl. 19).
First use Jan. 18, 1968.

SN 294,804. Birma Products Corporation, Sayreville, N.J. Filed Apr. 3, 1968.

BIRFELT

For Insulating Material of a Glass Textile Fiber, Mechanically Bonded for High Strength (Int. Cl. 17).
First use March 1968.

SN 295,160. Panels Plus, Inc., Kansas City, Mo. Filed Apr. 8, 1968.



Applicant disclaims the term "Panels" apart from the mark as shown.
For Insulated Spandrel Panels and Formed Facia Panels and Aggregate Panels (Int. Cl. 19).
First use during October 1967.

SN 295,465. Slideway Enclosures, Newark, N.J. Filed Apr. 11, 1968.

SLIDEAWAY

For Movable Enclosures Fabricated From Aluminum Extrusions for Enclosing Swimming Pools and the Like (Int. Cl. 6).
First use November 1967.

SN 296,857. Morton Manufacturing Company, Chicago, Ill. Filed Apr. 29, 1968.

OPEN-GRIP

For Floor and Walk Metal Grating (Int. Cl. 6).
First use at least as early as 1948.

SN 299,120. Globe Linings, Inc., Long Beach, Calif. Filed May 27, 1968.

ROOFLOAT

For Protective Structures and Components Thereof To Cover or Enclose Reservoirs for Protection of the Reservoir Contents From Evaporation and Contamination (Int. Cl. 19).
First use on or about July 21, 1964.

SN 303,194. Polyplastex United, Inc., Union, N.J. Filed July 19, 1968.

PANMETAL

For Rigid Sheet Material Comprised of Vinyl Laminated on Aluminum Substrate for Covering Parts of Furniture, Sides of Cabinets, Bulkheads on Aircraft, and Other Uses in Industrial Arts (Int. Cl. 19).
First use July 31, 1961.

SN 313,068. U.S. Plywood-Champion Papers Inc., New York, N.Y. Filed Nov. 26, 1968.

PALAWAN

Owner of Reg. Nos. 721,774, 827,373, and 846,550.
For Wood and Lumber Products, i.e., Plywood for Use in the Construction and Building Fields, for Wall Paneling, Furniture and Cabinets (Int. Cl. 19).
First use in or about April 1966.

Class 13 — Hardware and Plumbing and Steam-Fitting Supplies

SN 274,164. Aktiebolaget Mekanprodukter, Hans Holm, Stockholm-Hagersten, Sweden. Filed June 19, 1967.



The drawing is lined for the color red, but no claim is made to color. Owner of Swedish Reg. No. 104,625, dated Dec. 14, 1962.
For Pressurized Fluid Control Systems and Their Components—Namely, Fluid Throttling Valves, Non-Return Throttle Valves, Throttle Check Valves, Flow Control Valves, Foot-Actuated Valves, Control Valves, Poppet Valves, Roller-Lever Actuated Valves, Exhaust Valves, High Pressure Valves, Pilot-Operated Valves, Power-Actuated Valves, Low Pressure Valves, Nozzles, Fluidic Circuit Control Members, Pressure Transmitters, and Fluid Couplings (Int. Cls. 6 and 7).

SN 285,000. Deziel Fasteners, Inc., St. Paul, Minn. Filed Nov. 16, 1967.

DeZiel

For Pipe Fittings, Hose Couplings and Fittings, and Other Fittings Constructed of Metal and Plastic Materials; Plastic Hoses; Fasteners (Metal and Plastic), Comprising Bolts, Nuts, Screws, Turn-Buckles, Cotter Pins, Wire Terminals, Tubing Clamps, Roll Pins, Taper Pivots, Rivets, Battery Bolts and Nuts, and Battery Lugs (Int. Cls. 6 and 17).
First use Nov. 13, 1959.

SN 287,813. Herman O. Fiedler, d.b.a. Fiedler Equipment Co., San Francisco, Calif. Filed Dec. 29, 1967.

TAPER-JET

For Fluid Induction Suction Tubes Used in Placer Gold Mining (Int. Cl. 6).
First use March 1965.

SN 296,161. Huck Manufacturing Company, Detroit, Mich. Filed Apr. 22, 1968.

BOM

For Fastening Devices—Namely, Blind Fasteners (Int. Cl. 6).
First use Jan. 23, 1968.

SN 296,782. American Tube & Controls Incorporated, West Warwick, R.I. Filed Apr. 29, 1968.

ZONE-MASTER

For Valves for Hot Water Heating Systems (Int. Cl. 11).
First use on or about Jan. 3, 1966.

SN 300,078. John Fortuno, d.b.a. Empire Laminated Plastic Co., South Elmonte, Calif. Filed June 10, 1968.

UNIBOL

For One Piece Lavatory and Counter Tops (Int. Cl. 11).
First use Sept. 1, 1967.

SN 301,207. Danfoss, Inc., Lodi, N.J. Filed June 24, 1968.

BRAVO

For Heating Control Valves (Int. Cl. 11).
First use May 29, 1968.

SN 304,102. Marine Engine Specialties Corp., New York, N.Y. Filed Aug. 1, 1968.

MESCO

For Maritime and Industrial Equipment and Machinery—Namely, Cast and Fabricated Valves of the Globe, Angle and Cross Types, Also Modular and Manifold Valves (Int. Cl. 6).
First use in 1965.

SN 304,491. Nippon Kokan Kabushiki Kaisha, Chiyoda-ku, Tokyo, Japan. Filed Aug. 6, 1968.

NKK

Owner of Japanese Reg. No. 571,484, dated May 1, 1961; and U.S. Reg. No. 853,042.
For Line of Metal Pipes and Tubing (Int. Cl. 6).

SN 305,065. Reed & Prince Manufacturing Co., Worcester, Mass. Filed Aug. 13, 1968.

r&p

Owner of Reg. No. 130,561.
For Screws, Nuts, Bolts, and Wing Nuts (Int. Cl. 6).
First use May 25, 1968.

SN 308,858. Yarway Corporation, Blue Bell, Pa. Filed Oct. 4, 1968.

HY-DROP

For Throttling Valves for High Pressure Fluid Systems (Int. Cl. 6).
First use Aug. 13, 1968.

SN 310,244. L. R. Nelson Mfg. Co., Inc., Peoria, Ill. Filed Oct. 22, 1968.



Owner of Reg. No. 711,095.
For Lawn and Garden Sprinklers (Int. Cl. 11).
First use Feb. 1, 1960.

SN 313,241. Postmark Corporation, Minneapolis, Minn. Filed Nov. 29, 1968.

TRI-H-ANGLE

For Mounting Device for Display Cards (Int. Cl. 20).
First use Nov. 18, 1967.

SN 313,872. Charles R. Nalle, d.b.a. Adjustable Caster Company, Philadelphia, Pa. Filed Dec. 9, 1968.

scrujak

For Furniture Glides (Int. Cl. 6).
First use Nov. 17, 1939.

Class 14—Metals and Metal Castings and Forgings

SN 272,940. National Steel Corporation, Pittsburgh, Pa. Filed June 2, 1967.

JETCOAT

For Galvanized Steel Sheet and Strip (Int. Cl. 14).
First use Sept. 14, 1966.

SN 311,555. Phoenix Steel Corporation, Claymont, Del. Filed Nov. 7, 1968.

PX-ECONO-CLAD

Owner of Reg. Nos. 740,486, 800,585, and 803,741.
For As-Rolled Steel Plate, Comprising a Stainless Steel Alloy Bonded to a Carbon or Low Alloy Steel Base, for Use in Material Handling Equipment and the Like (Int. Cl. 6).
First use Jan. 14, 1966.

Class 15—Oils and Greases

SN 286,364. Nationwide Industries, Inc., Philadelphia, Pa., assignee of Nuresearch and Development Company, Philadelphia, Pa. Filed Dec. 6, 1967.

SNAP

Owner of Reg. No. 805,005.
For Automatic Transmission Sealer, Power Steering System Sealer, Crankcase Additive Motor Sealer, Carburetor Cleaning Gasoline Additive, Motor Fuel Additive for Conditioning the Fuel System of Internal Combustion Engines, and Crankcase Motor Oil Viscosity Additive (Int. Cls. 1 and 17).
First use February 1966.

SN 296,885. Lubrication Sciences, Inc., Mountain View, Calif. Filed Apr. 24, 1968.

DICRONITE

Owner of Reg. No. 839,865.
For Solid Film Coatings for Use on Various Surfaces, Including Metallic Surfaces, Primarily for Lubrication (Int. Cl. 4).
First use Oct. 26, 1965.

SN 296,681. Fischer-Davila Industries, Inc., d.b.a. Heinrich Fischer & Co., Cincinnati, Ohio. Filed Apr. 26, 1968.

CHAIN-LIFE

For Soap Base Lubricating Compound for Conveyor Chains (Int. Cl. 4).
First use Dec. 11, 1959.

SN 305,278. Farmers Regional Cooperative, Fort Dodge, Iowa. Filed Aug. 16, 1968.

Felco

For Lubricating Oils, Greases, Gasoline, Kerosene, Fuel Oil, and Diesel Oil (Int. Cl. 4).
First use at least as early as Apr. 1, 1968; April 1930 as to "Felco."

SN 313,379. Montrose Oil and Belting Co. Inc., d.b.a. Montrose Supply and Equipment Company, Brooklyn, N.Y. Filed Dec. 2, 1968.

PRIORITY OIL

No claim is made to the word "Oil" apart from the mark as shown.
For Lubricating Oil for Knitting Machines (Int. Cl. 4).
First use Sept. 15, 1958.

Class 16—Protective and Decorative Coatings

SN 288,616. Jasper L. Guin, d.b.a. J. L. Guin & Son, Charlotte, N.C. Filed Jan. 11, 1968.

ICAN

For Polyurethane Floor Coatings (Int. Cl. 2).
First use Dec. 21, 1967.

SN 290,190. Porafor, Inc., Woodside, N.Y. Filed Feb. 2, 1968.

AQUACLAD

For Resinous Waterproof Coating Compositions for Use on Concrete Swimming Pools, Shower Stalls, and Similar Surfaces (Int. Cl. 2).
First use May 1967.

SN 305,276. Farmers Regional Cooperative, Fort Dodge, Iowa. Filed Aug. 16, 1968.

Felco

For Interior and Exterior Paint (Int. Cl. 2).
First use at least as early as Feb. 1, 1968.

SN 307,891. PPG Industries, Inc., Pittsburgh, Pa. Filed Sept. 16, 1968.

WATERSPAR

Owner of Reg. No. 253,224.
For Paint, Enamel, Varnish, and Similar Types of Protective and Decorative Coatings for Interior and Exterior Use on Composition Board, Metal, Plaster, Plastics, Wood, and the Like (Int. Cl. 2).
First use at least as early as Nov. 29, 1913.

Class 17—Tobacco Products

SN 258,316. Theodorus Niemeijer N.V., d.b.a. Theodorus Niemeyer N.V., Groningen, Netherlands. Filed Nov. 9, 1966.

SAMSON

Priority claimed under Sec. 44(d) on Netherlands application filed Sept. 19, 1966; Reg. No. 160,984, dated Oct. 21, 1966.
For Cigarette Tobacco (Int. Cl. 34).

SN 284,247. Tabacalera Nacional S.A., Coral Gables, Fla. Filed Nov. 6, 1967.



Applicant disclaims the wording "Hand Made Cigars," "Hecho en Honduras," and "Long Filler," apart from the mark as shown. The mark is Spanish for the word "conqueror."
For Cigars (Int. Cl. 34).
First use July 28, 1967.
Subj. to Intf. with SN 296,509.

SN 294,200. Lane Limited, New York, N.Y. Filed Mar. 26, 1968.

CHOCLETTA PIPE MIXTURE NO. 88

The words "Pipe Mixture" are disclaimed apart from the mark as shown.
For Smoking Tobacco (Int. Cl. 34).
First use Mar. 2, 1968.

SN 296,509. Bayuk Cigars Incorporated, Philadelphia, Pa. Filed Apr. 25, 1968.

CONQUISTADORES

"Conquistadores" were leaders in the Spanish conquest of America, particularly of Mexico and Peru, in the 16th century.
For Cigars (Int. Cl. 34).
First use Apr. 12, 1967.
Subj. to Intf. with SN 284,247.

SN 308,794. Lorillard Corporation, New York, N.Y. Filed Oct. 3, 1968.

HURLEY-BURLEY

The word "Burley" is disclaimed apart from the mark as shown.
For Chewing Tobacco (Int. Cl. 34).
First use about 1896.

Class 18—Medicines and Pharmaceutical Preparations

SN 279,385. Fleming and Company, Pharmaceuticals, d.b.a. Fleming & Co., St. Louis, Mo. Filed Aug. 30, 1967.

SECO-8

For Time Disintegrating Capsule for Nocturnal and Pre- and Post-Operative Sedation (Int. Cl. 5).
First use Aug. 15, 1967.

SN 281,494. Seperic, Societe Anonyme, Morat, Switzerland. Filed Sept. 29, 1967.

PHYTO PHA

Owner of Swiss Reg. No. 224,502, dated Apr. 7, 1967.
For Pharmaceutical and Veterinary Preparations Containing Substances To Stimulate Normal Cell Activity (Int. Cl. 5).

SN 282,609. Oak Ridge Pharmaceuticals, Inc., Columbia, S.C. Filed Oct. 16, 1967.

A-N RECTORETTES

For Medicinal Preparation for Use Against Nausea (Int. Cl. 5).
First use Oct. 8, 1965.

SN 282,617. Oak Ridge Pharmaceuticals, Inc., Columbia, S.C. Filed Oct. 16, 1967.

VITORMAINS

For Dietary Supplement Containing Vitamins and Minerals (Int. Cl. 5).
First use Oct. 5, 1965.

SN 282,819. Brunswig Drug Company, El Segundo, Calif. Filed Oct. 18, 1967.

VIBRANCY

For Vitamin C (Int. Cl. 5).
First use Apr. 5, 1965.

SN 293,736. The O. A. Cooper Co., Humboldt, Nebr. Filed Mar. 20, 1968.

LIQUA-BASE

For Cattle Feed Supplement, Primarily of a Vitamin-Mineral Nature (Int. Cl. 31).
First use Oct. 2, 1967.

SN 296,549. Merck & Co., Inc., Rahway, N.J. Filed Apr. 25, 1968.

EQUIZOLE A

Owner of Reg. Nos. 752,392 and 843,108.
For Anthelmintic Preparation for Veterinary Use (Int. Cl. 5).
First use Apr. 1, 1968.

SN 296,642. Bristol-Myers Company, New York, N.Y. Filed Apr. 26, 1968.

MEDITREND

For Analgesic Tablet (Int. Cl. 5).
First use Apr. 1, 1968.

SN 296,700. Loring Research Inc., Greenwich, Conn. Filed Apr. 26, 1968.

TRANS 4

For Acne Cream (Int. Cl. 5).
First use in 1964.

SN 296,835. Kip Pharmaceutical Inc., Richmond Hill, N.Y. Filed Apr. 29, 1968.

ATROSPAN

For Antispasmodic Preparation (Int. Cl. 5).
First use July 2, 1957.

SN 297,094. Sandoz, Inc., Hanover, N.J. Filed May 1, 1968.

TAVIST

For Antihistamine Preparation (Int. Cl. 5).
First use Apr. 25, 1968.

SN 297,229. Vaughn, Incorporated, Memphis, Tenn. Filed May 2, 1968.

UNI-VERSOL

For Anticoagulants (Int. Cl. 5).
First use Mar. 12, 1958.

SN 299,364. Mallard, Inc., Detroit, Mich. Filed May 29, 1968.

ALLERSONE

For Medicinal Preparation Which Aids in Reducing Inflammation and Pain (Int. Cl. 5).
First use Apr. 14, 1965.

SN 300,948. Merck & Co., Inc., Rahway, N.J. Filed June 20, 1968.

DECADRONAL

Owner of Reg. Nos. 673,426 and 718,844.
For Hormonal Compound for Medicinal and Pharmaceutical Use (Int. Cl. 5).
First use May 25, 1968.

SN 300,951. Merck & Co., Inc., Rahway, N.J. Filed June 20, 1968.

PHEDROS

For Cough Medicine (Int. Cl. 5).
First use Sept. 20, 1927.

SN 301,277. Tilden-Yates Laboratories, Inc., Worcester, Mass. Filed June 24, 1968.

DIADOL

For Diallylbarbituric Acid, Used as a Medicinal Sedative (Int. Cl. 5).
First use May 1939.

SN 301,279. Tilden-Yates Laboratories, Inc., Worcester, Mass. Filed June 24, 1968.

SYNTHALOIDS

For Medicinal Throat Lozenge (Int. Cl. 5).
First use January 1938.

SN 306,110. E. R. Squibb & Sons, Inc., New York, N.Y. Filed Aug. 28, 1968.

FILMLOK

For Veneer Coating for Medicinal and Pharmaceutical Tablets (Int. Cl. 5).
First use Mar. 27, 1968.

Class 19—Vehicles

SN 294,862. Bangor Punta Operations, Inc., New York, N.Y., assignee of Seagoing Boats, Inc., Florence, Ala. Filed Apr. 3, 1968.

Seagoing

The word "Seagoing" is disclaimed apart from the mark as shown.
For Boats of All Kinds (Int. Cl. 12).
First use Apr. 20, 1965.

SN 299,609. Wind Dynamics, Inc., Arlington, Mass. Filed June 3, 1968.

icefish

For Ice Boat (Int. Cl. 12).
First use Jan. 15, 1968.

SN 308,261. Airglas Engineering Co., Inc., Anchorage, Alaska. Filed Sept. 26, 1968.

AIRGLAS

For Aircraft Skis (Int. Cl. 12).
First use in or about November 1954.

SN 308,691. Galaxy Boat Manufacturing Company, Inc., West Columbia, S.C. Filed Oct. 2, 1968.

GALAXY

For Motor Boats (Int. Cl. 12).
First use Oct. 29, 1966.

SN 313,352. Sports Distributors, Inc., South St. Paul, Minn. Filed Nov. 29, 1968.

Snow Flake

For Snowmobiles (Int. Cl. 12).
First use Oct. 18, 1968.

Class 20—Linoleum and Oiled Cloth

SN 299,472. Monsanto Company, St. Louis, Mo. Filed May 31, 1968.

TYTRON

For Rigid Surfacing Material Composed of a Plastic Composite for Use as a Floor or Wall Covering or Similar Applications Such as a Counter Covering (Int. Cl. 27).
First use May 24, 1968.

Class 21—Electrical Apparatus, Machines, and Supplies

SN 279,165. Bell Industries, Inc., Cincinnati, Ohio. Filed Aug. 28, 1967.



For Electronically Actuated Sound Reproducing Unit, Comprised of a Tape Player, Amplifiers, Pickups, Speakers, Tuners, and Parts Therefor, Primarily Used for Reproducing and Playing Carillon Music (Int. Cl. 9).
First use Apr. 18, 1967.

SN 280,499. Whitehall Electronics Corporation, Richardson, Tex. Filed Sept. 15, 1967.



For Quartz Crystals, Crystal Holders, Alignment Generators, Oscillators, and Crystal Filters (Int. Cl. 9).
First use on or about June 9, 1967.

SN 287,955. Robroy Industries, Inc., Verona, Pa. Filed Jan. 2, 1968.

ROBROY

For Metallic Conduits and Fittings, Plastic Coated Metallic Conduits and Fittings, and Plastic Conduits and Fittings for Electrical Conductors (Int. Cl. 9).
First use about June 1963.

SN 288,005. Coral Audio Corporation, Kawaguchi-shi, Saitama-ken, Japan. Filed Jan. 3, 1968.

CORAL

Owner of Japanese Reg. Nos. 481,919, dated May 26, 1956 and 588,792, dated June 6, 1962.
For Stereo Receivers, Tuners and Amplifiers, Speakers, Headphones, Microphones; and Automobile Radios (Int. Cl. 9).

SN 290,167. Gould-National Batteries, Inc., St. Paul, Minn. Filed Feb. 2, 1968.

DIP STICK

For Storage Battery Vent Plugs Having a Window for Determining Electrolyte Level (Int. Cl. 9).
First use Nov. 3, 1966.

SN 290,958. Information Displays, Inc., Mount Kisco, N.Y. Filed Feb. 13, 1968.

IDI

The mark comprises the letters "IDI."
For Electronic Display and Information Input-Output Machines With a Programmable Memory, and Parts Thereof (Int. Cl. 9).
First use Apr. 29, 1965.

SN 291,422. Pluskota Electric Co., Worth, Ill. Filed Feb. 19, 1968.

PLUSKOTA

For Industrial Electrical Equipment—Namely, Battery Chargers, Rectifiers, Battery Cell Testers, and Load Banks (Int. Cl. 9).
First use no later than August 1963.

SN 293,368. L. W. Erath Company, Houston, Tex. Filed Mar. 15, 1968.

LWE

For Loudspeakers and Loudspeaker Circuits (Int. Cl. 9).
First use at least as early as Oct. 7, 1965.

SN 293,528. Kearney-National, Inc., d.b.a. Kearney Co., St. Louis, Mo. Filed Mar. 18, 1968.

AUTO-*Quensur*

For Automatic High Voltage Transfer and Interrupter Switching Apparatus (Int. Cl. 9).
First use Feb. 10, 1968.

SN 295,428. Electro-Systems Corp., Fort Lauderdale, Fla. Filed Apr. 11, 1968.

SECURETRON

For Electronic Burglar Alarm (Int. Cl. 9).
First use Jan. 2, 1966.

SN 296,595. Tandy Corporation, d.b.a. Radio Shack, Boston, Mass. Filed Apr. 25, 1968.

POWERHORN

For Speakers (Int. Cl. 9).
First use at least as early as June 30, 1966.

SN 296,599. Tandy Corporation, d.b.a. Radio Shack, Boston, Mass. Filed Apr. 25, 1968.

PLUG 'N TALK

For Solid State Wireless Intercommunication Units (Int. Cl. 9).
First use at least as early as June 30, 1961.

SN 299,118. Fieldcrest Mills, Inc., Eden, N.C. Filed May 27, 1968.

FEMINIQUE

For Automatic Electric Blankets (Int. Cl. 10).
First use Mar. 4, 1968.

SN 299,230. Gulton Industries, Inc., Metuchen, N.J. Filed May 28, 1968.

TAGT

For Electrical Wire (Int. Cl. 9).
First use Apr. 1, 1968.

SN 300,367. The Ohio Brass Company, Mansfield, Ohio. Filed June 13, 1968.

THORTEC

Owner of Reg. No. 547,277.
For Resistors for Electric Power Transmission Lines and for Pole-Top Assemblies Incorporating Such Resistors for Electric Power Transmission and Distribution Lines (Int. Cl. 9).
First use Apr. 25, 1968.

SN 300,409. Multitech Engineering Corporation, Oakland, Calif. Filed June 14, 1968.

FLITEWAY

For Transistor Radios (Int. Cl. 9).
First use Dec. 15, 1967.

SN 302,735. Fisher Radio Corporation, Long Island City, N.Y. Filed July 15, 1968.

125

For Radio-Phonographs (Int. Cl. 9).
First use June 3, 1968.

SN 302,758. Pittway Corporation, Northfield, Ill. Filed July 15, 1968.

MODULARM

For Burglar and Fire Alarms (Int. Cl. 9).
First use on or about Sept. 20, 1962.

SN 303,051. International Battery, Inc., Schiller Park, Ill. Filed July 18, 1968.

IBI

Owner of Reg. No. 837,839.
For Automotive Lead-Acid Storage Batteries (Int. Cl. 9).
First use at least as early as September 1965.

SN 303,520. Frezzolini Electronics Inc., Hawthorne, N.J., assignee of James Frezzolini, Bronx, N.Y. Filed July 24, 1968.

FREZZOLINI

For Electrical Apparatus Including Inverters, Power Supplies, and Pressure Responsive Connecting Switches (Int. Cl. 9).
First use 1948.

SN 303,715. TRW Inc., Cleveland, Ohio. Filed July 26, 1968.

FILE-O-PAK

For Filing Case Containing Electrical Resistors (Int. Cl. 9).
First use July 1, 1968.

SN 304,397. Rotron Manufacturing Company, Inc., Woodstock, N.Y. Filed Aug. 5, 1968.

DOLPHIN

For Fans and Blowers for Moving Air in Electronic and Electrical Equipment (Int. Cl. 9).
First use on or about July 17, 1968.

SN 304,445. Clairol Incorporated, New York, N.Y. Filed Aug. 6, 1968.

TRUE-TO-LIGHT

For Electric Make-Up Mirror (Int. Cl. 9).
First use July 17, 1968.

SN 304,626. Simplex Wire and Cable Company, Cambridge, Mass. Filed Aug. 7, 1968.

ANOROC XPR

For Ethylene Propylene Rubber Insulated Wire and Cable (Int. Cl. 9).
First use May 21, 1968.

SN 306,996. Sola Basic Industries, Inc., Milwaukee, Wis. Filed Sept. 10, 1968.

SOCKET TO ME

For Electric Meter Sockets (Int. Cl. 9).
First use June 28, 1968.

SN 312,888. Laher Spring & Electric Car Corp., Oakland, Calif. Filed Nov. 18, 1968.

TIGER

For Wet Charged and Dry Charged Electric Storage Batteries (Int. Cl. 9).
First use June 1948.

SN 312,718. Phalo Corporation, Shrewsbury, Mass. Filed Nov. 21, 1968.

MINI-CABLE

For Insulated Electrical Cables (Int. Cl. 9).
First use at least as early as Oct. 15, 1968.

SN 312,855. Electrix, Inc., Port Chester, N.Y. Filed Nov. 22, 1968.

SIGHT-GUARD

For Table, Desk, Wall, and Shelf Lamps (Int. Cl. 11).
First use on or about Sept. 1, 1968.

Class 22—Games, Toys, and Sporting Goods

SN 264,515. Child Guidance Toys, Inc., Bronx, N.Y. Filed Feb. 13, 1967.

A CHILD GUIDANCE TOY

Applicant disclaims the word "Toy" apart from the mark as shown. Owner of Reg. No. 657,565.
For Children's Educational Toys (Int. Cl. 28).
First use on or about Mar. 15, 1953.

SN 267,727. Chrondek Electronics, Inc., Costa Mesa, Calif. Filed Mar. 28, 1967.

POLICE ORDNANCE

For Practice Targets, Target Systems, and Components and Instrumentation Thereof (Int. Cl. 28).
First use Oct. 5, 1966.

SN 267,730. Chrondek Electronics, Inc., Costa Mesa, Calif. Filed Mar. 28, 1967.

POLICE ORDNANCE

For Practice Targets, Target Systems, and Components and Instrumentation Thereof (Int. Cl. 28).
First use Oct. 5, 1966.

SN 270,889. Campaign Game Company, Inc., Garden City, N.Y. Filed May 8, 1967.

WATCH

For Equipment Sold as a Unit for Playing a Board-Type Parlor Game (Int. Cl. 28).
First use Mar. 23, 1967.

SN 271,947. Loral Corporation, New York, N.Y. Filed May 19, 1967.

RUBB'R NIK

The word feature "Rubb'r" is disclaimed apart from the mark as used.
For Dolls (Int. Cl. 28).
First use Mar. 17, 1967.

SN 281,502. A. D. Sutton and Sons, Inc., New York, N.Y. Filed Sept. 29, 1967.

BOUDOIR PETS

For Stuffed Animal and Other Toys, Stuffed and Unstuffed Dolls, and Dolls and Animals in the Form of Pajama Bags (Int. Cl. 28).
First use March 1961.

SN 287,508. American Sankyo Corporation, New York, N.Y. Filed Dec. 26, 1967.

MUSIC MATE

No claim of exclusive right is made to "Music" for the goods recited.
For Toy Music Boxes (Int. Cl. 28).
First use Nov. 1, 1967.

SN 289,360. Victor Comptometer Corporation, Chicago, Ill. Filed Jan. 22, 1968.

QUICK SKILL

For Shooting Kits Comprising Non-Powder Gun, Pellets, Target, Safety Glasses, and Related Accessories (Int. Cl. 28).
First use Jan. 8, 1968.

SN 292,243. A.M.S. Distributing Co., d.b.a. American Sport Company, Oakland, Calif. Filed Mar. 1, 1968.

TURF KING

For Golf Items—Namely, Practice Putting Cups, Practice Golf Ball Sets, and Practice Golf Balls (Int. Cl. 28).
First use Jan. 9, 1968.

S N293,385. Roland W. Hinners, Atlanta, Ga. Filed Mar. 15, 1968.

POPPING FRESH DOUGH BOY

No claim of exclusive right is made to "Boy" for a doll.
For Doll (Int. Cl. 28).
First use Feb. 27, 1968.
Subj. to Intf. with SN 307,131.

SN 298,848. Northwestern Golf Company, Chicago, Ill. Filed May 22, 1968.

AUTOGRAPH MODEL

Applicant disclaims rights to the word "Model" except in the mark as shown.
For Golf Clubs (Int. Cl. 28).
First use Jan. 1, 1957.

SN 299,406. Eldon Industries, Inc., Hawthorne, Calif. Filed May 31, 1968.

DESIGN-A-MATIC

For Wood Burning and Etching Hobby Kit for Making Designs on Wood, Leather, or Similar Materials (Int. Cl. 28).
First use May 15, 1964.

SN 300,731. Nova Learning Corporation, Miami, Fla. Filed June 18, 1968.

A NOVA LEARNPAC

For Equipment for Use in Playing Educational Games (Int. Cl. 28).
First use at least as early as May 24, 1968.

SN 300,826. Heinz W. Kirchner, d.b.a. Universe Co., Altadena, Calif. Filed June 19, 1968.

SWIM-WINGS

For Inflatable, Buoyant Bags for Attachment to the Body of a Swimmer (Int. Cl. 9).
First use Jan. 19, 1968.

SN 302,565. Mattel, Inc., Hawthorne, Calif. Filed July 12, 1968.

ZOOLERY KIDDLES

Owner of Reg. No. 842,798 and others.
For Toy Jewelry, Including Charms for Bracelets and Necklaces, the Charms Including Circus Wagon Cages Containing Miniature Animal Dolls and Which Wagons Can Be Hooked Together To Form a Circus Train (Int. Cl. 28).
First use May 17, 1968.

SN 304,155. Samsonite Corporation, Denver, Colo. Filed Aug. 1, 1968.

SAMSONITE

For Equipment for Playing Football and Similar Board-Type Parlor Games (Int. Cl. 28).
First use on or about July 24, 1968.

SN 304,867. Port-O-Play, Inc., Chicago, Ill. Filed Aug. 12, 1968.

UGH-BUG

For Combination Pull-Toy, Coaster Sled and Skate Board (Int. Cl. 28).
First use July 15, 1968.

SN 305,375. National Basketball Players Association, New York, N.Y. Filed Aug. 19, 1968.

NBPA

The drawing is lined for the color brown, but color is disclaimed as a feature of the mark. Owner of Reg. No. 848,805.
For Apparatus Sold as a Unit for Playing Board Games (Int. Cl. 28).
First use May 20, 1968.

SN 305,900. Rainbow Crafts, Inc., Cincinnati, Ohio. Filed Aug. 26, 1968.

ABC MODELING FUN!

The words "Modeling Fun" are disclaimed apart from the mark as shown.
For Children's Toys—Namely, Modeling Compound and Molds (Int. Cl. 28).
First use on or prior to Nov. 15, 1967.

SN 307,131. The Pillsbury Company, Minneapolis, Minn. Filed Sept. 11, 1968.

POPPIN' FRESH

For Dolls (Int. Cl. 28).
First use at least as early as June 1966.
Subj. to Intf. with SN 293,385.

SN 307,156. Span Products Inc., Paterson, N.J. Filed Oct. 3, 1968.

SOMA

For Equipment Sold as a Unit for Playing a Puzzle Game (Int. Cl. 28).
First use March 1959.

SN 311,779. Gabriel Industries, Inc., New York, N.Y. Filed Nov. 12, 1968.

ROBERTS

For Basketball Equipment, Boxing Equipment, Exercise Equipment, Horseshoes, and Weight Lifting Equipment (Int. Cl. 28).
First use 1962.

SN 311,780. Gabriel Industries, Inc., New York, N.Y. Filed Nov. 12, 1968.

ROBERTS

For Basketball Equipment, Boxing Equipment, Exercise Equipment, Horseshoes, and Weight Lifting Equipment (Int. Cl. 28).
First use 1966.

SN 312,261. Mattel, Inc., Hawthorne, Calif. Filed Nov. 15, 1968.

ADD-ONS

For Make and Play Toys Comprising Construction Sets and Accessories (Int. Cl. 28).
First use Oct. 11, 1968.

SN 312,262. Mattel, Inc., Hawthorne, Calif. Filed Nov. 15, 1968.

TESSIE

For Dolls, Doll Clothing, and Doll Accessories (Int. Cl. 28).
First use Oct. 11, 1968.

SN 312,263. Mattel, Inc., Hawthorne, Calif. Filed Nov. 15, 1968.

HEATHER

For Dolls, Doll Clothing, and Doll Accessories (Int. Cl. 28).
First use Oct. 11, 1968.

SN 312,264. Mattel, Inc., Hawthorne, Calif. Filed Nov. 15, 1968.

JEANIE JOGGLES

For Dolls, Doll Clothing, and Doll Accessories (Int. Cl. 28).
First use Oct. 7, 1968.

SN 312,266. Mattel, Inc., Hawthorne, Calif. Filed Nov. 15, 1968.

CYNTHIA

For Dolls, Doll Clothing, and Doll Accessories (Int. Cl. 28).
First use Oct. 7, 1968.

SN 312,267. Mattel, Inc., Hawthorne, Calif. Filed Nov. 15, 1968.

CANDIGATOR

For Mechanical Toys Comprising Molding Devices for Make and Play Toys (Int. Cl. 28).
First use Oct. 7, 1968.

Class 23—Cutlery, Machinery, and Tools, and Parts Thereof

SN 248,425. CF & I Steel Corporation, Denver, Colo., by change of name from The Colorado Fuel and Iron Corporation, Denver, Colo. Filed June 20, 1966.

ULTRALOY

For Metal Alloy Wire, Sold as a Component of Metal Conveyor Belts (Int. Cl. 7).
First use on or about Apr. 7, 1966.

SN 259,189. Union Carbide Corporation, New York, N.Y. Filed Nov. 21, 1966.

UCAR

Owner of Reg. No. 802,115.
For Wear-Resistant Finish Parts for Use in Textile Machinery (Int. Cl. 7).
First use on or about July 29, 1966.

SN 280,278. West Chemical Products, Inc., Long Island City, N.Y. Filed Sept. 13, 1967.

WEST

Owner of Reg. No. 571,926.
For Coin-Operated Paper Towel Dispensing Machines (Int. Cl. 9).
First use Feb. 13, 1967.

SN 283,009. Monashee Manufacturing Corporation Ltd., Kelowna, British Columbia, Canada, by change of name from Kelowna Machine Works Ltd., Kelowna, British Columbia, Canada. Filed Oct. 20, 1967.

MONASHEE

Priority claimed under Sec. 44(d) on Canadian application filed Sept. 14, 1967; Reg. No. 158,426, dated Sept. 27, 1968.
For Swinging Crane Trucks and Fork Lift Trucks (Int. Cls. 7 and 12).

SN 283,113. Drilling Well Control, Inc., Houston, Tex. Filed Oct. 23, 1967.

DRILLING WELL CONTROL, INC. DWC HOUSTON LAFAYETTE

Applicant disclaims exclusive rights to the words "Houston" and "Lafayette" and of the representation of an oil well appearing in the mark separate and apart from the mark as shown.
For Oil Well Unit for Controlling and Regulating Back Pressure in a Well Being Drilled (Int. Cl. 7).
First use at least as early as Jan. 1, 1964.

SN 285,299. Admiral Equipment Corp., Akron, Ohio. Filed Nov. 21, 1967.

A

For Polyurethane Machines—Namely, Machines for Processing Plastic and Plastic Foam and Machines for Manufacturing Products Therefrom (Int. Cl. 7).
First use on or about Jan. 1, 1966.

SN 286,827. Kabushiki Kaisha Kito Seisakusho, Kawasaki-shi, Japan. Filed Dec. 13, 1967.

KITO

Owner of Japanese Reg. No. 554,588, dated Aug. 22, 1960.
For Chain Hoists, Winches, Wire Hoists, Cranes, and Parts for These Goods (Int. Cl. 7).

SN 287,161. Fine-Blanking Limited, Shoreham-by-Sea, Sussex, England. Filed Dec. 18, 1967.

FINE-O-MATIC

For Metal Forming and Metal Cutting Presses, Particularly Fine-Blanking Presses (Int. Cl. 7).
First use August 1966; in commerce Apr. 1, 1967.

SN 287,828. Parker-Hannifin Corporation, Cleveland, Ohio. Filed Dec. 29, 1967.

AUTO-FILL

For Air Line Lubricators (Int. Cl. 7).
First use Jan. 14, 1965.

SN 288,235. Roof Manufacturing Company, Pontiac, Ill. Filed Jan. 5, 1968.

ROOF

For Riding Lawn Mowers (Int. Cl. 7).
First use during or before July 1945.

SN 290,109. Schramm, Inc., West Chester, Pa. Filed Feb. 1, 1968.

SCHRAMM



PneumaGopher

The representation of an air-powered boring tool is disclaimed apart from the mark as shown. Owner of Reg. Nos. 541,387, 768,698, and others.
For Air-Powered Boring Tools (Int. Cl. 7).
First use Nov. 8, 1967.

SN 291,153. Grapha Maschinenfabrik Hans Mueller A.G., Zofingen, Switzerland. Filed Feb. 15, 1968.



The mark consists of two oppositely directed letters "M."
For Bookbinding and Printing Plant Machines—Namely, Stitching Machines, Gathering Machines, Rotor Binders, Cutting Machines, Trimming Machines, Unsewn Binding Machines, Insetting Machines, Printing Machines, Packaging Machines, Book-Drying Machines (Int. Cl. 7).
First use Aug. 20, 1958; in commerce Aug. 20, 1958.

SN 295,153. Metaframe Corporation, Maywood, N.J. Filed Apr. 8, 1968.

Husk I

For Aquarium Air Pump (Int. Cl. 7).
First use Apr. 2, 1968.

SN 296,089. Alto Corporation, York, Pa. Filed Apr. 22, 1968.

PILLO-PAK

For Bun Assembly Unit for Conveying, Handling and Packaging Buns in a Flexible Plastic Enclosure (Int. Cl. 7).
First use Oct. 1, 1967.

SN 296,955. The Galigher Company, Salt Lake City, Utah. Filed Apr. 30, 1968.

GALIGHER

For Valves and Pumps (Int. Cl. 7).
First use May 15, 1959.

SN 298,909. Accurate Bushing Company, Garwood, N.J. Filed May 23, 1968.

PRESS-GRIP

Owner of Reg. No. 708,992.
For Bushings for Use in Plastic Tooling, Other Castable and Ductile Material Tooling, and Wood Tooling (Int. Cl. 7).
First use June 22, 1959.

SN 299,431. The Cincinnati Shaper Company, Cincinnati, Ohio. Filed May 31, 1968.

AUTOSHAPE

For Hydraulic Press Brake Equipped With Numerical Control (Int. Cl. 7).
First use Aug. 25, 1967.

SN 299,465. Litton Business Systems, Inc., New York, N.Y. Filed May 31, 1968.

SPRITE

For Typewriters (Int. Cl. 16).
First use Mar. 26, 1968.

SN 302,727. Eastman Machine Company, Buffalo, N.Y. Filed July 15, 1968.

ULTRONIC

For Cloth Cutting Machines (Int. Cl. 7).
First use May 15, 1968.

SN 302,831. A. Feist & Co. Lunawerk, Inc., New York, N.Y. Filed July 16, 1968.

LUNA

Owner of Reg. No. 67,491.
For Cutlery and Edge Tools—Namely, Table Knives, Pocket Knives, Table Forks, Scissors, Shears, Razors, Hand Hair-Cutters, Ice Picks, and Hand Cigar-Cutters (Int. Cls. 8 and 34).
First use Nov. 27, 1903.

SN 303,008. Western Sewing Machine Distributors, Inc., St. Louis, Mo. Filed July 17, 1968.

WESTERN

Owner of Reg. No. 662,193.
For Typewriters and Parts Thereof (Int. Cl. 16).
First use Apr. 29, 1968.

SN 303,492. Atlas Supply Company, Springfield, N.J. Filed July 24, 1968.

ATLAS

Owner of Reg. Nos. 627,759, 819,833, and 837,520.
For Tire Bead Seater (Int. Cl. 7).
First use June 17, 1968.

SN 305,117. Edelbrock Equipment Company, El Segundo, Calif. Filed Aug. 14, 1968.

TUNNEL RAM

The word "Ram" is disclaimed apart from the mark as shown.
For Intake Manifolds for Internal Combustion Engines (Int. Cl. 7).
First use March 1968.

SN 308,740. Fairchild Hiller Corporation, Germantown, Md. Filed Oct. 3, 1968.

FAIRCHILD HILLER

Owner of Reg. Nos. 559,860, 704,574, and others.
For Power Driven Transmission for Use With Machinery (Int. Cl. 7).
First use March 1965.

SN 312,378. "Automatic" Sprinkler Corporation of America, d.b.a. American La France, Cleveland, Ohio. Filed Nov. 18, 1968.

MASCOT

For Portable Fire Extinguishers (Int. Cl. 9).
First use Oct. 23, 1968.

Class 24—Laundry Appliances and Machines

SN 275,559. Southern Mills, Inc., Atlanta, Ga. Filed July 7, 1967.

WONDERSTRIP

For Drycleaners' Form Finishing Bags Used on Steam-Air Finishing Machines (Int. Cl. 20).
First use on or about June 29, 1967.

Class 25—Locks and Safes

SN 291,363. Curtis Noll Corporation, Cleveland, Ohio. Filed Feb. 19, 1968.

GEM-TONE

For Key Blanks (Int. Cl. 6).
First use Oct. 15, 1967.

Class 26—Measuring and Scientific Appliances

SN 280,492. Vapor Corporation, Chicago, Ill. Filed Sept. 15, 1967.

VAPOR Pace Setter SPEED CONTROL

Applicant disclaims the term "Speed Control" which appears as part of its mark.
For Automatic Speed Regulators for Use in Connection With Railroad and Rapid Transit Cars (Int. Cl. 9).
First use Aug. 17, 1967.

SN 281,855. Albert Schacht KG, Ulm (Danube), Germany. Filed Oct. 5, 1967.

S-TRAVELON

Owner of German Reg. No. 668,322, dated Dec. 16, 1954.
For Photo, Projection and Enlarging Lenses, Sun Shields and Filters (Int. Cl. 9).
First use July 21, 1960; in commerce July 31, 1961.

SN 281,902. Leeds & Northrup Company, Philadelphia, Pa. Filed Oct. 5, 1967.

AUTOMELT

For Computer Control System for Oxygen Blown Steel Refining (Int. Cl. 9).
First use July 14, 1967.

SN 290,417. Swan Optical Corp., Long Island City, N.Y. Filed Feb. 6, 1968.

Swan

For Optical Products—Namely, Eye Glass Frames, Temples, Hinges, and Lenses (Int. Cl. 9).
First use Nov. 15, 1968.

SN 291,931. Owens-Illinois, Inc., Toledo, Ohio. Filed Feb. 27, 1968.



For Glass Laser Rods (Int. Cl. 9).
First use Jan. 10, 1968.

SN 292,093. GAF Corporation, New York, N.Y., by change of name from General Aniline & Film Corporation, New York, N.Y. Filed Feb. 28, 1968.

SLIDE SEEKER

No registration rights are claimed for the word "Slide" apart from the mark as shown on the drawing, but the applicant waives none of its common law rights in the mark or any feature thereof.
For Slide Projectors and Motorized Accessories for Use With Slide Projectors (Int. Cl. 9).
First use Feb. 19, 1968.

SN 292,453. Stephen J. Mehler, Inc., Philadelphia, Pa. Filed Mar. 5, 1968.

NOVA LENS

For Lenses Used in Eyeglasses (Int. Cl. 9).
First use Feb. 2, 1967.

SN 295,498. Bach Auricon, Inc., Los Angeles, Calif. Filed Apr. 12, 1968.

SYNCHRO-THREAD

For Film Threaders for Photographic and Sound-Recording Equipment (Int. Cl. 9).
First use October 1966.

SN 296,731. Timeclerk Corporation, Manchester, Conn. Filed Apr. 26, 1968.

Timeclerk

The hourglass is disclaimed apart from the mark as shown.
For Computer for Automatically Computing and Indicating Elapsed Time and "In" and "Out" Time (Int. Cl. 9).
First use January 1968.

SN 297,645. Art-Craft Optical Company, Inc., Rochester, N.Y. Filed May 8, 1968.

ART·RIM

Owner of Reg. Nos. 271,706, 754,109, and 757,729.
For Ophthalmic Mountings and Parts Thereof (Int. Cl. 9).
First use July 13, 1953.

SN 298,940. Johnson Service Company, Milwaukee, Wis. Filed May 23, 1968.

CYBERMATIC

For Fluidic Devices Employing Fluid Input Signals for Establishing Fluid Control and/or Output Signals (Int. Cl. 9).
First use June 13, 1966.
Subj. to Intf. with SN 294,407.

SN 300,727. National Instrument Laboratories, Inc., Rockville, Md. Filed June 18, 1968.

IMMUNOCELL

For Laboratory Equipment for Carrying Out Immunodiffusion (Int. Cl. 9).
First use Apr. 1, 1965.

SN 300,728. National Instrument Laboratories, Inc., Rockville, Md. Filed June 18, 1968.

CELLOFOR

For Laboratory Equipment for Carying Out Immunoelectrophoresis (Int. Cl. 9).
First use Apr. 18, 1967.

SN 304,327. ESB Incorporated, Philadelphia, Pa. Filed Aug. 5, 1968.

FEATHER-WRAP

For Spectacles (Int. Cl. 9).
First use May 21, 1968.

SN 304,679. The J. E. Doyle Company, Cleveland, Ohio. Filed Aug. 8, 1968.

SET-RITE

For Tension-Type Adjustment Gauge for Rollers or Cylinders in Printing Presses and the Like (Int. Cl. 9).
First use June 13, 1968.

SN 308,124. Constantine M. Mushkin, d.b.a. Kenlab Associates, Seattle, Wash. Filed Sept. 24, 1968.

KEN SPEED

For Marine Speedometers (Int. Cl. 9).
First use on or about Mar. 27, 1968.

SN 313,471. Data General Corporation, Hudson, Mass. Filed Dec. 3, 1968.

NOVA

For Computers and Parts Therefor (Int. Cl. 9).
First use Nov. 15, 1968.

SN 314,147. Essex International, Berkeley Heights, N.J. Filed Dec. 11, 1968.

THE WEATHER-MAKER

For Educational Kit Designed To Teach Meterology (Int. Cl. 9).
First use Oct. 14, 1968.

Class 28 — Jewelry and Precious-Metal Ware

SN 304,210. Danfrere Co., New York, N.Y. Filed Aug. 2, 1968.

df

For Pins, Earrings, and Men's Jewelry (Int. Cl. 14).
First use July 1, 1968.

Class 29 — Brooms, Brushes, and Dusters

SN 310,528. Yardley of London, Inc., New York, N.Y. Filed Oct. 25, 1968.

LUV PUFF

The word "Puff" is disclaimed apart from its use in the mark as shown.
For Powder Puffs (Int. Cl. 21).
First use Apr. 30, 1968.

Class 30 — Crockery, Earthenware, and Porcelain

SN 285,813. Azuma Trading Co., Inc., New York, N.Y. Filed Nov. 29, 1967.

AZUMA

For China and Earthen Ware—Namely, Breakfast, Lunch, Dinner and Tea Sets, Individual and Memorial Plates, Cups and Saucers, Vases, Mugs, Tea Pots, Tea Tiles, Pitchers, and Basins (Int. Cl. 21).
First use Dec. 10, 1956.

Class 31 — Filters and Refrigerators

SN 289,915. Rangaire Corporation, Cleburne, Tex. Filed Jan. 30, 1968.

Chambers

For Refrigerators, Freezers, and Ice Makers (Int. Cl. 11).
First use May 1, 1965.

Class 32 — Furniture and Upholstery

SN 286,349. Kasparians, Inc., Los Angeles, Calif. Filed Dec. 6, 1967.

KASPARIANS

For Chairs, Sofas, Multiple Seating Units, Stools, Tables and Benches, for Both Office and Home Use (Int. Cl. 20).
First use on or about Mar. 31, 1960.

SN 301,616. Faces West, Incorporated, Santa Monica, Calif. Filed June 28, 1968.

Faces West

For Illuminated Portable Mirrors (Int. Cl. 20).
First use May 21, 1968.

SN 303,407. Flash Filing, Inc., Fresno, Calif. Filed July 23, 1968.

FLASH FILING

No claim is made to the word "Filing" apart from the mark as shown.
For Office Equipment and Accessories—Namely, Files, File Cases, Desk Trays, Costumers, and Stands (Int. Cl. 20).
First use February 1959.

SN 308,381. S. S. Kresge Company, Detroit, Mich. Filed Sept. 27, 1968.

SK

For Picture Frames (Int. Cl. 20).
First use in or before May 1968.

Class 34 — Heating, Lighting, and Ventilating Apparatus

SN 198,869. McCrory Corporation, New York, N.Y., assignee of Oklahoma Tire & Supply Corporation, Tulsa, Okla. Filed July 30, 1964.

TEMP MASTER

Owner of Reg. No. 707,554.
For Portable Unitary Domestic Space Heaters, Sold Over the Counter Only (Int. Cl. 11).
First use July 14, 1964.

SN 288,775. The Cardinal Corporation, Wilmington, Del. Filed Jan. 15, 1968.



For Automatic, Distillation-Type, Solvent Recovery Unit (Int. Cl. 11).
First use Nov. 30, 1967.

SN 289,917. Rangaire Corporation, Cleburne, Tex. Filed Jan. 30, 1968.

Chambers

For Gas Cook Stove Units Including Ranges, Surface Ranges and Ovens, and Kitchen Range Hoods (Int. Cl. 11).
First use May 1, 1965.

SN 294,981. Fostoria-Fannon, Incorporated, Fostoria, Ohio. Filed Apr. 4, 1968.

MITEY GIANT

For Industrial and Commercial Infrared Electric Lamp Heaters, Ovens, Furnaces, and Parts Therefor (Int. Cl. 11).
First use Feb. 28, 1968.

SN 295,661. Welding and Steel Fabrication Co., Inc., Tonawanda, N.Y. Filed Apr. 15, 1968.

RAPID CAPPER

Owner of Reg. No. 773,066.
For Pressure Vessels—Namely, Steam Autoclaves, and Parts Thereof (Int. Cl. 11).
First use on or about Mar. 1, 1968.

SN 304,671. Coen Controls Co., Burlingame, Calif. Filed Aug. 8, 1968.



For Electro-Mechanical Control Systems for Oil and Gas Industrial Burners (Int. Cl. 11).
First use on or about Sept. 1, 1959.

SN 304,804. Mor-Flo Industries, Inc., Cleveland, Ohio. Filed Aug. 9, 1968.

HOTSTREAM

Owner of Reg. Nos. 127,445, 249,045, and 333,901.
For Gas, Oil, and Electric Water Heaters (Int. Cl. 11).
First use in 1960; 1915 in a different form.

SN 304,905. Electric Soldering Iron Company, Inc., Deep River, Conn. Filed Aug. 12, 1968.

"VITACOTE"

For Iron Plated Soldering Tips (Int. Cl. 9).
First use January 1962.

SN 305,540. Flair Manufacturing Corp., Hauppauge, N.Y. Filed Aug. 20, 1968.

FLAIRWEATHER

Owner of Reg. No. 763,125.
For Self-Contained Heating and Air Conditioning Units (Int. Cl. 11).
First use June 10, 1968.

Class 35 — Belting, Hose, Machinery Packing, and Nonmetallic Tires

SN 298,030. Nippon Oil Seal Industry Co., Ltd., Minato-ku, Tokyo-to, Japan. Filed May 13, 1968.

NOK

For Oil Seals, O-Rings, Mechanical Seals and Packings (Int. Cl. 17).
First use Apr. 21, 1952; in commerce Feb. 28, 1968.

SN 298,031. Nippon Oil Seal Industry Co., Ltd., Minato-ku, Tokyo-to, Japan. Filed May 13, 1968.

NOK

For Oil Seals, O-Rings, Mechanical Seals and Packings (Int. Cl. 17).
First use Apr. 21, 1952; in commerce Feb. 28, 1968.

Class 36 — Musical Instruments and Supplies

SN 278,970. Kaman Corporation, Bloomfield, Conn. Filed Aug. 24, 1967.

LYRACHORD

For Material Comprising Silica Fibers and Resin and Sold Only as a Component of Guitars (Int. Cl. 15).
First use on or about Mar. 1, 1967.

SN 313,646. Cidi Record Imports, Inc., New York, N.Y. Filed Dec. 5, 1968.

RIFI

For Phonograph Records (Int. Cl. 9).
First use at least as early as February 1968.

SN 313,647. Cidi Record Imports, Inc., New York, N.Y. Filed Dec. 5, 1968.

CIDI CELENTANO

For Phonograph Records (Int. Cl. 9).
First use at least as early as February 1968.

SN 314,188. Columbia Broadcasting System, Inc., New York, N.Y. Filed Dec. 11, 1968.

PALOMINO

For Guitars (Int. Cl. 15).
First use 1964.

SN 314,190. Columbia Broadcasting System, Inc., New York, N.Y. Filed Dec. 11, 1968.

VILLAGER

For Guitars (Int. Cl. 15).
First use in or about January 1965.

SN 314,193. Columbia Broadcasting System, Inc., New York, N.Y. Filed Dec. 11, 1968.

SHENANDOAH

For Guitars (Int. Cl. 15).
First use in or about January 1965.

SN 314,194. Columbia Broadcasting System, Inc., New York, N.Y. Filed Dec. 11, 1968.

MALIBU

For Guitars (Int. Cl. 15).
First use 1964.

SN 314,195. Columbia Broadcasting System, Inc., New York, N.Y. Filed Dec. 11, 1968.

BRONCO

For Guitars (Int. Cl. 15).
First use in or about November 1967.

SN 314,196. Columbia Broadcasting System, Inc., New York, N.Y. Filed Dec. 11, 1968.

CORONADO

For Guitars (Int. Cl. 15).
First use in or about November 1965.

SN 314,199. Columbia Broadcasting System, Inc., New York, N.Y. Filed Dec. 11, 1968.

TELECASTER

For Guitars (Int. Cl. 15).
First use in or about 1949.

Class 37—Paper and Stationery

SN 213,902. Snap-On Tools Corporation, Kenosha, Wis. Filed Mar. 11, 1965.

SNAP-ON

For Pencils and Ball Point Pens (Int. Cl. 16).
First use during 1929.

SN 244,969. Check Savers, Inc., Park Ridge, Ill. Filed May 5, 1966.

CHECK SAVERS

For Folders for Enclosing Checks, and for Correction Labels (Int. Cl. 16).
First use at least as early as July 1, 1960.

SN 289,922. The Rose of Sharon Evangelistic Association Inc., La Puente, Calif. Filed Jan. 30, 1968.

TITHE-O-MATIC

For Record Keeping Cards for Tithe Offering (Int. Cl. 16).
First use Jan. 1, 1968.

SN 300,339. De Soto, Inc., Des Plaines, Ill. Filed June 18, 1968.

BRAVO

For Strippable Wallpaper (Int. Cl. 27).
First use on or about May 17, 1968.

Class 38—Prints and Publications

SN 287,482. The Franklin Mint, Inc., Yeadon, Pa., by change of name from General Numismatics Corporation, Yeadon, Pa. Filed Dec. 26, 1967.

THE FRANKLIN MINT

The term "Mint" is disclaimed apart from the mark as shown.
For Greeting Cards Having a Non-Monetary Coin as an Integral Part Thereof (Int. Cl. 16).
First use Nov. 10, 1966.

SN 288,934. Blue Cross Association, Chicago, Ill. Filed Jan. 16, 1968.

INQUIRY

For Magazine Published on a Quarterly Basis Directed to Review of Research in Hospital and Medical Economics (Int. Cl. 16).
First use August 1963.

SN 290,407. J. C. Penney Company, New York, N.Y. Filed Feb. 6, 1968.

THE PENNEY STORY BY ROBERTA NASH

The name "Roberta Nash" is fictitious.
For Newspaper Column (Int. Cl. 16).
First use on or about July 31, 1966.

SN 292,494. Gordon F. MacPherson, Bowie, Md. Filed Mar. 5, 1968.

LE GROUPE DU VIN

"Le Groupe Du Vin" is translated as "the wine group."
For Bi-Monthly Newsletter (Int. Cl. 16).
First use Feb. 12, 1968.

SN 301,789. Uni-Serv Corporation, Great Neck, N.Y. Filed July 1, 1968.

UNI-verse

For House Organ (Int. Cl. 16).
First use February 1965.

SN 307,144. Clay Stroud, Ayden, N.C. Filed Sept. 11, 1968.

HAPPINOTES

For Home-Type Letters Produced Semi-Monthly for Senior Citizens (Int. Cl. 16).
First use June 24, 1968.

SN 310,889. Graphic Controls Corporation, Buffalo, N.Y. Filed Oct. 30, 1968.

EDIT

For Instruction Manual for Use of Data Processing Equipment, Published From Time to Time (Int. Cl. 16).
First use prior to Sept. 1, 1967.

Class 39—Clothing

SN 275,483. Francesca Torresy, Miami, Fla. Filed July 6, 1967.

MARQUESA FRANCISCA MARIA

The name "Marquesa Francisca Maria" is fictitious.
For Ladies' Garments—Namely, Suits, Coats, Skirts, Jackets, and Dresses (Int. Cl. 25).
First use May 1, 1967.

SN 275,539. Lujan, Inc., New York, N.Y. Filed July 7, 1967.

GinMia

"Gina Mia" is Italian for "my Gina," a girl's name.
For Shoes (Int. Cl. 25).
First use June 1, 1966.

SN 280,237. Mann Manufacturing, Inc., El Paso, Tex. Filed Sept. 18, 1967.

DURA-KNEE

For Slacks and Jeans (Int. Cl. 25).
First use Aug. 18, 1967.

SN 282,900. Head Ski Company, Inc., Timonium, Md. Filed Oct. 19, 1967.

HEAD

Owner of Reg. Nos. 675,190 and 822,756.
For Ski Clothing—Namely, Ski Pants, Ski Parkas, Ski Sweaters, Ski Gloves, and Hard Helmets (Int. Cls. 9 and 25).
First use at least as early as Mar. 20, 1967.

SN 284,946. Stockton Manufacturing Co., Inc., Dallas, Tex. Filed Nov. 15, 1967.

SHANNON SQUARE

For Dresses, Blouses, Skirts, Shorts, and Pants (Int. Cl. 25).
First use Sept. 22, 1967.

SN 285,353. Sportline Associates, Inc., New York, N.Y. Filed Nov. 21, 1967.

BUTT'N-UP

For Ladies' Outerwear—Namely, Coats, Car Coats, and Jackets; and Ladies' Sportswear—Namely, Slacks, Pants, Blouses, Skirts, and Combinations Thereof (Int. Cl. 25).
First use Nov. 14, 1967.

SN 285,514. Angelica Corporation, St. Louis, Mo. Filed Nov. 24, 1967.

CONVENIENCE WEAR

Applicant disclaims the word "Wear" apart from the mark as shown.
For Smocks, Dresses, and Men's Jackets (Int. Cl. 25).
First use Aug. 25, 1967.
Subj. to Intf. with SN 289,609 and SN 289,610.

SN 286,214. Uniroyal, Inc., New York, N.Y. Filed Dec. 4, 1967.

STOKERS

For Casual Shoes (Int. Cl. 25).
First use Nov. 6, 1967.

SN 286,715. Paraphernalia, Inc., New York, N.Y. Filed Dec. 11, 1967.

PARENTHETICS

For Men's Clothing—Namely, Suits, Coats, Pants, Shirts, and Ties (Int. Cl. 25).
First use Nov. 10, 1967.

SN 287,442. The Mayer Company, Inc., New York, N.Y. Filed Dec. 22, 1967.

brite legs

For Hosiery (Int. Cl. 25).
First use on or about Nov. 30, 1967.

SN 288,486. Amway Corporation, Ada, Mich. Filed Jan. 10, 1968.

ON THE GO

For Hosiery (Int. Cl. 25).
First use on or about May 3, 1967.

SN 289,087. Endicott Johnson Corporation, Endicott, N.Y. Filed Jan. 18, 1968.

SPORTSET

For Footwear for Men, Women, and Children (Int. Cl. 25).
First use Dec. 5, 1967.

SN 289,925. Shaffer Knitwear, Inc., Chicago, Ill. Filed Jan. 30, 1968.

it's a Joy

For Ladies' Wear—Namely, Sweaters, Blouses, Jackets, Dresses, Skirts, Slacks, Bathing Suits, and Pajamas (Int. Cl. 25).
First use Jan. 22, 1968.

SN 290,243. Barco of California, Gardena, Calif. Filed Feb. 5, 1968.

MR. BARCO

Owner of Reg. No. 573,805.
For Shirt Coats, Lab Coats and Jackets for Professional Men Such as Medical Doctors, Interns, Research Workers, Medical Assistants, Pharmacists, and Non-Professionals Such as Barbers (Int. Cl. 25).
First use on or about June 14, 1960.

SN 290,447. Jomar Realty, Inc., Hialeah, Fla. Filed Feb. 7, 1968.

JUNIOR MOOD

Applicant disclaims the word "Junior" apart from the mark as shown.
For Women's Wearing Apparel—Namely, Slacks and Blouses (Int. Cl. 25).
First use Dec. 18, 1967.

SN 291,920. Pete Uram Sales, Inc., Wyandotte, Mich. Filed Feb. 26, 1968.

FIRST
Tee

For Sweaters, Gloves, Shoes, Slacks, and Blazers (Int. Cl. 25).
First use Sept. 19, 1967.

SN 293,463. Barlin Knitting Mills, Inc., Brooklyn, N.Y. Filed Mar. 18, 1968.

VIVIRÉ KNITS

The word "Knits" is disclaimed apart from the mark as shown. The word "Vivire" is believed to signify "to live" in Italian.
For Women's and Misses' Knitted Dresses, Sweaters, Suits, Blouses, Shirts, Vests, Slacks, and Trousers (Int. Cl. 25).
First use on or about Dec. 10, 1967.

SN 294,560. Blue Bell, Inc., Greensboro, N.C. Filed Apr. 1, 1968.

FASHIONBACK

For Ladies' Jeans (Int. Cl. 25).
First use Mar. 20, 1968.

SN 295,904. Apparel Industries of California, Inc., Los Angeles, Calif. Filed Apr. 18, 1968.

team ups

For Men's Slacks, Cabana Sets, Robes, Jackets, Shorts, and Shirts (Int. Cl. 25).
First use Dec. 12, 1967.

SN 296,219. U.S. Industries, Inc., New York, N.Y. Filed Apr. 22, 1968.

REFILLS

For Hosiery and Underwear (Int. Cl. 25).
First use Nov. 18, 1967.

SN 296,324. Frank Hurt, Jr., Chamblee, Ga. Filed Apr. 23, 1968.



The expression "A Pair and a Spare" and the pictorial representation of the hosiery are disclaimed apart from the mark as shown. The photograph of the young lady is merely fanciful.
For Hosiery (Int. Cl. 25).
First use on or about Apr. 8, 1968.

SN 296,874. G. Santini Imports, Ltd., New York, N.Y. Filed Apr. 29, 1968.

ELEGANTISSIMO

For Men's and Young Men's Suits, Coats, Slacks, Trousers, Ties, Shirts, Jackets, Shoes, Raincoats, and Topcoats (Int. Cl. 25).
First use Sept. 15, 1966.

SN 297,289. The Hadley Corporation, Weaverville, N.C. Filed May 3, 1968.

HADLEY

Owner of Reg. No. 502,901.
For Sweaters of Cashmere, Camel Hair, Lambswool, Alpaca, Shetland, Vicuna, and Blends of Lambswool, Angora, and Nylon; Skirts, Pants, Shorts, Culottes, Dresses, Shirts, and Blouses (Int. Cl. 25).
First use July 1941.

SN 299,704. Stylecraft Frocks, Inc., Philadelphia, Pa. Filed June 4, 1968.

VOGUES UNLIMITED

Applicant disclaims the word "Vogues" apart from the mark as shown. Owner of Reg. Nos. 675,106 and 675,107.
For Ladies' and Misses' Dresses (Int. Cl. 25).
First use May 31, 1968.

SN 302,394. Corona Corset Corporation, Corona, N.Y. Filed July 10, 1968.

YOUNGER IMAGE

Owner of Reg. No. 556,038.
For Ladies' and Misses' Brassieres, Girdles, Corselettes, and Garter Belts (Int. Cl. 25).
First use Feb. 1, 1968.

SN 305,463. La Piuma, Inc., New York, N.Y. Filed Aug. 19, 1968.

EUROPA LA PIUMA

The English translation of the Italian phrase "Europa la Piuma" is "the European feather." Owner of Reg. No. 820,794.
For Women's Shoes (Int. Cl. 25).
First use July 25, 1968.

SN 305,471. Melville Shoe Corporation, New York, N.Y. Filed Aug. 19, 1968.

Bootmaster

Owner of Reg. No. 753,012 and others.
For Hosiery (Int. Cl. 25).
First use June 19, 1964.

SN 305,548. Johnson & Johnson, New Brunswick, N.J. Filed Aug. 20, 1968.

Johnson's

Owner of Reg. Nos. 88,088, 813,344, and others.
For Diaper Liners (Int. Cl. 25).
First use Apr. 23, 1968.

SN 306,323. American Optical Corporation, Southbridge, Mass. Filed Aug. 30, 1968.

THERMOGARB

For Protective Safety Clothing (Int. Cl. 9).
First use February 1960.

SN 311,646. S. L. Gilbert Company, Inc., New York, N.Y. Filed Nov. 8, 1968.

ff

For Hosiery (Int. Cl. 25).
First use June 15, 1965.

SN 311,647. S. L. Gilbert Company, Inc., New York, N.Y. Filed Nov. 8, 1968.

G

For Hosiery (Int. Cl. 25).
First use Mar. 31, 1959.

SN 312,155. Haymaker Sports, Inc., New York, N.Y. Filed Nov. 14, 1968.

RAINDRESS

Owner of Reg. No. 741,088.
For Ladies' Waterproof Coat (Int. Cl. 25).
First use July 10, 1959.

Class 40—Fancy Goods, Furnishings, and Notions

SN 294,320. Sema Wig Creations, Inc., Hewlett, N.Y. Filed Mar. 27, 1968.

SEMA

For Wigs, Wiglets, Chignons, Falls, and Hair Pieces (Int. Cl. 26).
First use at least as early as March 1966.

SN 302,897. Minnesota Mining and Manufacturing Company, St. Paul, Minn. Filed July 17, 1968.



The mark comprises a Scotch plaid design. The drawing is lined to indicate the colors pink and black and a combination thereof. The squares drawn in black are black, the squares lined for pink are pink, and the squares intermediate thereto are lined to indicate a screen printing of black dots over a pink background. Owner of Reg. Nos. 741,466 and 741,467.
For Hair Set Tape (Int. Cl. 26).
First use Aug. 29, 1967.

Class 42—Knitted, Netted, and Textile Fabrics, and Substitutes Therefor

SN 285,473. Stevens Linen Associates, Inc., Dudley, Mass. Filed Nov. 22, 1967.

STONELEA MILLS

No claim is made to the word "Mills" apart from the mark as shown.
For Linen Towels, Place Mats, Napkins, and Decorative Fabrics (Int. Cl. 24).
First use on or about Jan. 30, 1967.

SN 285,515. Angelica Corporation, St. Louis, Mo. Filed Nov. 24, 1967.

CONVENIENCE WARE

The word "Ware" is disclaimed apart from the mark as shown.
For Non-Woven Fabrics for Making Into Disposable Uniforms, Smocks, Dresses, Men's Jackets, and the Like (Int. Cl. 24).
First use Oct. 13, 1967.
Subj. to Intf. with SN 289,609 and SN 289,610.

SN 289,609. Renoir Fabrics, Inc., New York, N.Y. Filed Jan. 25, 1968.

CONVENIENCE FABRIC

The word "Fabric" is disclaimed apart from the mark as shown.
For Textile Fabrics Used in the Making of Dresses and Blouses (Int. Cl. 24).
First use Nov. 9, 1962.
Subj. to Intf. with SN 285,514 and SN 285,515.

SN 289,610. Renoir Fabrics, Inc., New York, N.Y. Filed Jan. 25, 1968.

CONVENIENCE FIBERS

The word "Fibers" is disclaimed apart from the mark as shown.
For Fibers Sold in the Form of Fabrics (Int. Cl. 24).
First use Nov. 9, 1962.
Subj. to Intf. with SN 285,514 and SN 285,515.

SN 295,210. Ames Textile Corporation, Lowell, Mass. Filed Apr. 9, 1968.

BOND-A-BACK

For Laminated Fabrics, Including Fabrics Made of Cotton Which Are Laminated to Fabrics Made of Wool and Worsteds and/or Blends Thereof, Which Laminated Fabrics Are Used for Women's and Children's Wearing Apparel, Including Coats, Skirts, Slacks, and Sportswear (Int. Cl. 24).
First use Mar. 3, 1968.

SN 303,424. Lowndes Products, Inc. (Delaware corporation), Philadelphia, Pa., assignee of Lowndes Products, Inc. (South Carolina corporation), Philadelphia, Pa. Filed July 23, 1968.

LOWNDENE

Owner of Reg. No. 729,791.
For Non-Woven Fabrics (Int. Cl. 24).
First use Jan. 10, 1968.

SN 311,649. Kimberly-Clark Corporation, Neenah, Wis. Filed Nov. 8, 1968.

BACLIN

Owner of Reg. No. 758,126.
For Book Cover Fabric (Int. Cl. 24).
First use Oct. 22, 1968.

SN 311,737. E. T. Barwick Industries, Inc., Chamblee, Ga. Filed Nov. 12, 1968.

ARVADA

For Carpets (Int. Cl. 27).
First use June 11, 1968.

SN 311,742. E. T. Barwick Industries, Inc., Chamblee, Ga. Filed Nov. 12, 1968.

FRONTIER

For Carpets (Int. Cl. 27).
First use Nov. 14, 1966.

SN 311,743. E. T. Barwick Industries, Inc., Chamblee, Ga. Filed Nov. 12, 1968.

DOUBLOON

For Carpets (Int. Cl. 27).
First use May 3, 1966.

SN 311,745. E. T. Barwick Industries, Inc., Chamblee, Ga. Filed Nov. 12, 1968.

TIROS

For Carpets (Int. Cl. 27).
First use Apr. 28, 1966.

SN 311,749. E. T. Barwick Industries, Inc., Chamblee, Ga. Filed Nov. 12, 1968.

CAREY HALL

For Carpets (Int. Cl. 27).
First use July 8, 1968.

SN 311,750. E. T. Barwick Industries, Inc., Chamblee, Ga. Filed Nov. 12, 1968.

BAMBOO INN

For Carpets (Int. Cl. 27).
First use Dec. 4, 1967.

SN 311,751. E. T. Barwick Industries, Inc., Chamblee, Ga. Filed Nov. 12, 1968.

CASUAL CARE

For Carpets (Int. Cl. 27).
First use May 29, 1968.

Class 44—Dental, Medical, and Surgical Appliances

SN 280,561. Clairol Incorporated, New York, N.Y. Filed Sept. 18, 1967.

KINDNESS SWINGING SET

Applicant disclaims the word "Set" apart from the mark as shown. Owner of Reg. No. 857,577.
For Electrical Apparatus for Heating Hair Curlers Used for Curling, Drying and Setting Hair, and Hair Curlers for Use With Such Apparatus (Int. Cl. 11).
First use Aug. 25, 1967.

SN 281,033. Cenco Medical/Health Supply Corporation, Chicago, Ill., assignee of Cenco Instruments Corporation, Chicago, Ill. Filed Sept. 25, 1967.

PRACTI-PAK

For Surgical Appliances—Namely, Surgical Drapes, Absorbent Towels, Leggings, Mayo Stand Cover, Table Cover, Crib Sheet, Sterile Wrapper, and Plastic Clips (Int. Cls. 5 and 10).
First use Feb. 24, 1966.

SN 282,061. Dawe's Laboratories, Inc., Chicago, Ill. Filed Oct. 9, 1967.

DAWE'S GAIN GUN

Applicant disclaims the word "Gun" separate and apart from the mark as shown. Owner of Reg. Nos. 707,085, 789,128, and others.
For Mechanical Apparatus for Injecting Diethylstilbesterol Pellets for Animals (Int. Cl. 10).
First use Sept. 29, 1967.

SN 292,682. Dynapower Systems Corporation of California, Santa Monica, Calif. Filed Mar. 7, 1968.

MEDI-PULSE

For Electro-Therapeutic Equipment—Namely, Diathermy Apparatus and Components Thereof (Int. Cl. 10).
First use Nov. 29, 1967.

SN 304,768. The Dentists' Supply Company of New York, York, Pa. Filed Aug. 9, 1968.

VITALHUE

Owner of Reg. No. 435,218.
For Artificial Teeth (Int. Cl. 10).
First use June 6, 1946.

SN 306,269. Ormont Drug & Chemical Co., Inc., Englewood, N.J. Filed Aug. 29, 1968.

Panjet

The representation of the goods is disclaimed apart from the mark as shown.
For Needleless Injector for Use in Medicine and Dentistry (Int. Cl. 10).
First use July 9, 1965.

SN 306,894. The Dentists' Supply Company of New York, York, Pa. Filed Sept. 9, 1968.

CAULK
ZOE
200

Applicant disclaims the abbreviation "ZOE" apart from the mark as shown. Owner of Reg. Nos. 515,974 and 520,815.
For Dental Cement and Filling Material (Int. Cl. 5).
First use Feb. 25, 1966.

SN 307,515. Thiokol Chemical Corporation, Bristol, Pa. Filed Sept. 16, 1968.

PHONOCARDIOSELECTOR

Owner of Reg. Nos. 832,246 and 857,101.
For Medical Appliance Suitable for Screening or Differentiating Between Normal and Abnormal Sounds of a Heart (Int. Cl. 10).
First use June 1968.

SN 310,429. A.D.A. Dental Corporation, Bayville, N.Y. Filed Oct. 24, 1968.

ORTHO-GARD

For Finger Sucking Prevention Device (Int. Cl. 10).
First use Aug. 9, 1968.

SN 310,972. Med-Ram, Inc., Osakis, Minn. Filed Oct. 31, 1968.

SANI-SAFE

For Clinical Thermometer (Int. Cl. 9).
First use Apr. 14, 1966.

Class 45—Soft Drinks and Carbonated Waters

SN 300,701. General Foods Corporation, White Plains, N.Y. Filed June 18, 1968.

BRISK

Owner of Reg. No. 434,146.
For Instant Soft Drink Mix (Int. Cl. 32).
First use Nov. 16, 1962.

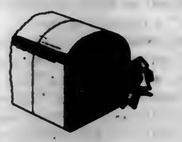
SN 308,745. Passion Fruit Products Company, Long Beach, Calif. Filed Oct. 3, 1968.



For Fruit Drink Containing Carbonated Water (Int. Cl. 32).
First use Sept. 12, 1968.

Class 46—Foods and Ingredients of Foods

SN 240,649. Purity Baking Company, d.b.a. Purity Maid, Charleston, W. Va. Filed Mar. 10, 1966.



The drawing is lined for the color orange. The partial showing of a loaf of bread in the official drawing is to indicate only the manner in which the mark is used in association with the goods and is not claimed as a feature of the mark. The mark consists of the colored design of the end panel of a bread wrapper having irregular alternating stripes of orange and black color.
For Bread (Int. Cl. 30).
First use Dec. 18, 1965.

SN 250,718. Reese Finer Foods, Inc., Chicago, Ill. Filed July 21, 1966.



For Salad Dressings, Table Syrups for Food Purposes, Meatless Sauces for Food Purposes, and Marinades (Int. Cls. 29 and 30).
First use at least as early as the first half of 1951.

SN 257,595. Di Giorgio Corporation, San Francisco, Calif. Filed Oct. 31, 1966.

HI-FLAVOR

For Fresh Fruits (Int. Cl. 31).
First use 1956.
Subj. to Intf. with SN 256,692.

SN 287,609. Primo Biscuit Company, Weston, Ontario, Canada. Filed Dec. 26, 1967.

PRIMO

The word "Primo" means "first" in Italian. The right to the exclusive use of the word "Biscuits" is disclaimed apart from the mark.
For Biscuits (Int. Cl. 30).
First use Sept. 7, 1967; in commerce Sept. 7, 1967.

SN 288,437. Kabushiki Kaisha Kibun, d.b.a. Kibun Co., Ltd., Chuo-ku, Tokyo-to, Japan. Filed Jan. 9, 1968.

紀文

The mark is comprised of Chinese characters which are the equivalent of "Kibun," a coined feature.
For Preserved Fish, Shell-Fish, Sea Weeds, Other Marine Products (e.g. Sea Urchin, Jelly-Fish, Caviar); Egg, Vegetable, Grains, Fruits, and Mixtures Thereof, in a Form of Canned, Bottled, Vacuum Packed, Salted, Dried, Boiled, Frozen or Smoked; and Condensed Soup Essence (Int. Cl. 29).
First use Dec. 31, 1948; in commerce Aug. 23, 1960.

SN 294,582. Bristol-Myers Company, New York, N.Y. Filed Apr. 1, 1968.

CHOP BONES

For Dietary Supplement in the Form of a Cookie (Int. Cl. 5).
First use Mar. 6, 1968.

SN 295,922. The Dietene Company, Minneapolis, Minn. Filed Apr. 18, 1968.

DYNAPOWER PACK

For Vitamins and High-Protein Vitamin Food Supplements in Powdered Form, Adapted To Be Mixed With a Liquid To Constitute a High Food-Value Drink (Int. Cl. 5).
First use Mar. 25, 1968.

SN 296,827. Harry Peck South Africa (Proprietary) Limited, Cape Town, Cape Province, Republic of South Africa. Filed Apr. 29, 1968.

ANCHOVETTE

Owner of South African Reg. No. 696/26, dated June 25, 1926.
For Fish Paste (Int. Cl. 29).

SN 298,204. Continental Baking Company, Rye, N.Y. Filed May 15, 1968.

CORN CAPERS

The word "Corn" is disclaimed apart from the mark as shown.
For Snack Items—Namely, a Corn Chip (Int. Cl. 30).
First use Apr. 25, 1968.

SN 299,345. General Foods Corporation, White Plains, N.Y. Filed May 29, 1968.

CRISPY BAKE

The word "Crispy" is disclaimed apart from the mark as a whole.
For Seasoned Coating Mix for Chicken (Int. Cl. 30).
First use May 7, 1968.
Subj. to Intf. with SN 298,616.

SN 299,505. Usen Products Company, Woburn, Mass. Filed May 31, 1968.

VIVA LA CAT

Applicant disclaims the word "Cat" apart from the mark as shown.
For Cat Food (Int. Cl. 31).
First use May 16, 1968.

SN 299,931. American Home Products Corporation, New York, N.Y. Filed June 7, 1968.

MEAT BALLY-A

Applicant makes no exclusive claim to the word "Meat" apart from the mark as shown.
For Canned Combination of Meatballs, Vegetables, and Gravy (Int. Cl. 29).
First use May 24, 1968.

SN 301,699. Burger Family, Inc., Santa Monica, Calif. Filed July 1, 1968.



The drawing is lined for the color orange.
For Sandwiches (Int. Cl. 29).
First use on or before Mar. 21, 1968.

SN 301,700. Burger Family, Inc., Santa Monica, Calif. Filed July 1, 1968.



The drawing is lined for the color orange.
For Sandwiches (Int. Cl. 29).
First use on or before Mar. 21, 1968.

SN 301,701. Burger Family, Inc., Santa Monica, Calif. Filed July 1, 1968.



The drawing is lined for the color orange.
For Sandwiches (Int. Cl. 29).
First use on or before Mar. 21, 1968.

SN 301,703. Burger Family, Inc., Santa Monica, Calif. Filed July 1, 1968.



The drawing is lined for the color orange.
For Sandwiches (Int. Cl. 29).
First use on or before Mar. 21, 1968.

SN 302,315. Halo Sales Corporation, San Francisco, Calif. Filed July 9, 1968.

"the party people"

For Edible Cake Decorations (Int. Cl. 30).
First use Dec. 14, 1966.

SN 305,828. Hershey Foods Corporation, Hershey, Pa. Filed Aug. 16, 1968.



Owner of Reg. No. 54,041.
For Semi-Sweet Chocolate, Cocoa, Sweet Chocolate, Milk Chocolate, Both With and Without Nuts or Cereals, Chocolate Coatings, Chocolate Liquors, Milk Chocolate Fudge Topping, Butterscotch Coating, Instant Cocoa Mixes, Cocoa Butter, Chocolate Flavored Syrups, Candy, Milk Chocolate Covered Almond Marshmallow Cups and Milk Chocolate Covered Nutrolls, Milk Chocolate Coated Peanut Butter Cups, Butterscotch Coated Peanut Butter Cups, Alimentary Pastes, Grated Cheese, and Spaghetti Sauces (Int. Cls. 29 and 30).
First use on or about Feb. 19, 1968.

SN 305,497. John Sexton & Co., Chicago, Ill. Filed Aug. 19, 1968.

101

For All Purpose Sauce (Int. Cl. 30).
First use Aug. 5, 1968.

SN 305,554. Kellogg Company, Battle Creek, Mich. Filed Aug. 20, 1968.

POP-A-SNACKS

For Pastry Bakery Product That May Be Filled With Fruit, Fruit Preserves, Spices, and Other Flavoring Agents, and Which May Be Covered With a Coating of Sugar or Other Flavoring Material (Int. Cl. 30).
First use at least as early as Mar. 14, 1968.

SN 307,060. American Home Products Corporation, New York, N.Y. Filed Sept. 11, 1968.

FRANKOGETTI

Owner of Reg. Nos. 771,565, 836,389, and 859,036.
For Canned Prepared Combination of Spaghetti and Frankfurters in Sauce (Int. Cl. 30).
First use Aug. 22, 1968.

SN 311,215. Tabor City Foods, Inc., Tabor City, N.C. Filed Nov. 4, 1968.

ROYAL FARMS

For Canned Fruits and Vegetables (Int. Cl. 29).
First use at least as early as Sept. 11, 1968.

Class 47—Wines

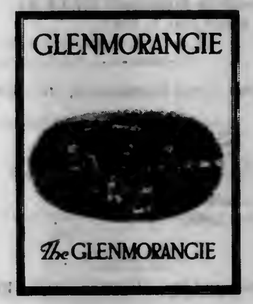
SN 300,792. United Vintners, Inc., d.b.a. Italian Swiss Colony, San Francisco, Calif. Filed June 19, 1968.

LORD BENTON

The name "Lord Benton" is fanciful and is not the name of any known living individual.
For Wines (Int. Cl. 33).
First use May 23, 1968.

Class 49—Distilled Alcoholic Liquors

SN 264,074. MacDonald & Muir Limited, Leith, Scotland. Filed Feb. 6, 1967.



Owner of U.S. Reg. No. 806,736.
For Scotch Whisky (Int. Cl. 33).
First use 1898; in commerce Dec. 31, 1963.

SN 287,587. Sazerac Company, Inc., d.b.a. The Sir Malcolm Company, New Orleans, La. Filed Dec. 26, 1967.

Sir Malcolm

Owner of Reg. No. 816,239.
For Scotch Whisky (Int. Cl. 33).
First use Aug. 4, 1967.

Class 50—Merchandise Not Otherwise Classified

SN 280,860. Cork Manufacturing Company Limited, South Chingford, London, England. Filed Sept. 21, 1967.

NEOLANGITE

Owner of U.S. Reg. Nos. 242,332, 243,628, and 859,304.
For Sheet Material of Bonded Synthetic Rubber and Cork Used for Printers' Blankets and Cylinder Dressings (Int. Cl. 16).
First use at least as early as 1952; in commerce at least as early as 1952.

SN 291,016. Allplas AG, Zug, Switzerland. Filed Feb. 14, 1968.

ALLPLAS

For Floats To Heat-Insulate Liquids and To Prevent Evaporation, by Floating on the Surface of the Liquids (Int. Cl. 20).
First use Nov. 23, 1961; in commerce March 1963.

SN 291,703. Azoplate Corporation, Murray Hill, N.J. Filed Feb. 23, 1968.

ENCODUR

For Presensitized Printing Plates Having Metallic Bases (Int. Cl. 7).
First use Oct. 6, 1967.

SN 307,656. Mantex, Inc., Manchester, Mass. Filed Sept. 18, 1968.

Mantex

For Friction Producing Coverings for Rollers Used in Textile and Paper Handling Machines (Int. Cl. 22).
First use on or about Jan. 1, 1967.

SN 307,693. Union Camp Corporation, New York, N.Y. Filed Sept. 18, 1968.

SHIPMATE

For Expendable Pallets (Int. Cl. 20).
First use Aug. 28, 1968.

SN 307,878. Transign, Inc., Pontiac, Mich. Filed Sept. 20, 1968.

DESTINATOR

For Bus and Railroad Car Destination Signs (Int. Cl. 20).
First use April 1967.

Class 51 — Cosmetics and Toilet Preparations

SN 281,540. Bebe Distributing International, Inc., Shreveport, La. Filed Oct. 2, 1967.

Enjoué

The mark "Enjoue" may be translated into English as "playful, vivacious, lively, bright and sprightly."
For Perfume, Toilet Water, Bath Oil, and Perfume Oil (Int. Cl. 3).
First use at least as early as June 29, 1967.

SN 281,541. Bebe Distributing International, Inc., Shreveport, La. Filed Oct. 2, 1967.

Bebé

The mark "Bebe" may be translated into English as "to behave childishly, like a baby."
For Perfume, Toilet Water, Bath Oil, and Perfume Oil (Int. Cl. 3).
First use at least as early as June 29, 1967.

SN 284,347. Chemical Associates, Inc., d.b.a. Homcare, Inc., Houston, Tex. Filed Nov. 8, 1967.

BELLINA

For Cologne (Int. Cl. 3).
First use Oct. 13, 1967.

SN 287,515. Bebe Distributing International, Inc., Shreveport, La. Filed Dec. 26, 1967.

MISI

For Perfume, Toilet Water, Cologne, Bath Oil, and Perfume Oil (Int. Cl. 3).
First use at least as early as Nov. 2, 1967.

SN 291,763. Northern Laboratories, Manitowoc, Wis. Filed Feb. 23, 1968.

Lady Charm

For Foaming Bath Oil, Milk Bath, Hair Rinse, and Hand and Body Lotion (Int. Cl. 3).
First use May 2, 1966; at least 1953 as to "Charm."
Subj. to Intf. with SN 295,343 and SN 295,344.

SN 293,825. Hawaiian Perfumers, Inc., d.b.a. Liana of Waikiki, Honolulu, Hawaii. Filed Mar. 21, 1968.

Hawaiian Tan

Applicant disclaims the word "Tan" apart from the mark as shown.
For Suntan Coconut Oil (Int. Cl. 3).
First use May 19, 1967.

SN 295,343. Laura Charme Corporation of America, d.b.a. Lord Charme Men's Toiletries, Chicago, Ill. Filed Apr. 10, 1968.

Lord Charme

For Men's Toiletries—Namely, Cologne, After-Shave Lotion, Hair Cream, Deodorant, and Suntan Lotion (Int. Cls. 3 and 5).
First use on or about Nov. 15, 1967.
Subj. to Intf. with SN 291,763.

SN 295,344. Laura Charme Corporation of America, d.b.a. Laura Charme Cosmetics, Chicago, Ill. Filed Apr. 10, 1968.

Laura Charme

For Lotions, Oils and Cream for Moisturizing and Cleansing the Body and Face; Deodorant, Suntan Lotion, Foot Lotion, Bath Oil, Hair Cream, Perfume, Face Powder, Eye Make-up, and Cologne (Int. Cls. 3 and 5).
First use on or about Nov. 15, 1967.
Subj. to Intf. with SN 291,763.

SN 299,845. The Gillette Company, d.b.a. The Toni Company, Boston, Mass. Filed June 6, 1968.



The drawing is lined for the colors red and pink. Owner of Reg. No. 796,120.
For Facial Washing Cream (Int. Cl. 3).
First use Jan. 10, 1968.

SN 304,551. Lorenzo de Mexico, Inc., Chicago, Ill. Filed Aug. 7, 1968.

COCOA-GLO!

For After Tanning Lotion (Int. Cl. 3).
First use June 24, 1968.

SN 306,447. Treas ur le Creations, Inc., Houston, Tex. Filed Sept. 3, 1968.

TREAS UR LE

For Perfume, Face Powder, Hand and Body Lotions, Fresheners, Moisturizers, Liquid Facial or Make-Up Base, Bath Oil, Cosmetic Skin Cleanser, Cosmetic Cleansing Lotion, and Eye and Throat Oil (Int. Cl. 3).
First use Feb. 10, 1968.

SN 307,268. Foremost-McKesson, Inc., d.b.a. McKesson Laboratories, New York, N.Y. Filed Sept. 13, 1968.

MAYA

Owner of Reg. No. 246,577.
For Hand and Face Lotion (Int. Cl. 3).
First use at least as early as Sept. 10, 1968.

SN 308,438. Summit Laboratories, Inc., Indianapolis, Ind. Filed Sept. 30, 1968.

BODIFIER

For Hair Conditioner (Int. Cl. 3).
First use Sept. 20, 1968.

SN 310,313. Carol Edwards, Inc., Skokie, Ill. Filed Oct. 23, 1968.

TEN-SET

For Hair Spray (Int. Cl. 3).
First use on or before July 25, 1968.

SN 310,391. Colgate-Palmolive Company, New York, N.Y. Filed Oct. 24, 1968.

LANCE

Owner of Reg. No. 786,540.
For Hair Dressing Preparation (Int. Cl. 3).
First use June 26, 1968.

SN 314,154. The Gillette Company, Boston, Mass. Filed Dec. 11, 1968.

BLONDERAMA

For Sun Tan Preparations (Int. Cl. 3).
First use Oct. 28, 1968.

SN 314,155. The Gillette Company, Boston, Mass. Filed Dec. 11, 1968.

NOR'EASTER

For Hand Lotion (Int. Cl. 3).
First use Oct. 22, 1968.

SN 314,157. The Gillette Company, Boston, Mass. Filed Dec. 11, 1968.

GULFSTREAM

For Moisturizing Cream (Int. Cl. 3).
First use Oct. 22, 1968.

SN 314,386. Colgate-Palmolive Company, New York, N.Y. Filed Dec. 13, 1968.

CREAMY CLEAN

For Facial Washing Cream (Int. Cl. 3).
First use Nov. 12, 1968.

Class 52 — Detergents and Soaps

SN 284,195. Henkel & Cie G.m.b.H., Dusseldorf, Germany. Filed Nov. 6, 1967.

DATO

Owner of German Reg. No. 715,944, dated Apr. 11, 1957.
For Laundry Detergents (Int. Cl. 3).

SN 306,380. Illinois Bronze Powder & Paint Co., Lake Zurich, Ill. Filed Aug. 30, 1968.



The mark is a design resembling the combination of a fanciful "I" and "B." Owner of Reg. Nos. 821,818, 828,444, and others.
For Degreasers, Electric Contact Cleaners, and Motor Cleaners (Int. Cl. 3).
First use on or about Oct. 1, 1966.

SN 308,176. Tussy Cosmetics, Inc., New York, N.Y. Filed Sept. 25, 1968.

LITTLE GUY

For Bath and Toilet Soap for Children (Int. Cl. 3).
First use Aug. 13, 1968.

SERVICE MARKS

Class 100 — Miscellaneous

SN 270,814. San Francisco Convention & Visitors Bureau, San Francisco, Calif. Filed May 5, 1967.

SAN FRANCISCO · EVERYBODY'S FAVORITE CITY ·

Applicant disclaims any exclusive rights in the words "San Francisco-Everybody's Favorite City" except as shown.
For Association Services—Namely, Promoting Tourism and the Holding of Conventions in the City of San Francisco, and Promoting Commercial and Industrial Business in the City (Int. Cl. 42).
First use October 1964.

SN 275,444. Donald T. Jackson & Co., Inc., Washington, D.C. Filed July 6, 1967.

TREEMASTERS

Owner of Reg. No. 816,326.
For Tree Surgery Services—Namely, Planting, Feeding, Pruning, Trimming and Topping, Cabling and Bracing, Spraying, and Removal (Int. Cl. 42).
First use at least as early as July 5, 1965.

SN 283,209. American Boating & Hunting Association, Dallas, Tex. Filed Oct. 24, 1967.

"Take Boat, Gun, Hook and Line"
ABAHA
AMERICAN BOATING & HUNTING ASSOCIATION

Without prejudice to any common-law rights, the design feature of the mark consisting of a gun, fishing rod and boat are disclaimed apart from the mark as shown. The drawing is lined for the colors red, blue, and silver.
For Association Services for the Promotion of Outdoor Sports Activities—Namely, Hunting, Boating, and Fishing (Int. Cl. 42).
First use Sept. 11, 1967.

SN 291,371. Eddys' Loaf 'n Stein, Inc., Kansas City, Mo. Filed Feb. 19, 1968.

Eddys' Loaf 'n Stein

For Restaurant Services (Int. Cl. 42).
First use Dec. 16, 1965.

SN 294,473. Church's Food Service Industries, Inc., San Antonio, Tex. Filed Mar. 29, 1968.

I'VE BEEN COOKIN' FOR YA

For Restaurant, Catering and Carry-Out Services (Int. Cl. 42).
First use during 1956.

SN 296,008. Chefare Inc., Pittsburgh, Pa. Filed Apr. 19, 1968.

CHEFARE

Owner of Reg. No. 849,158.
For Supplying Pre-Prepared Meals to Institutions, Factories, and Restaurants (Int. Cl. 42).
First use Nov. 15, 1965.

SN 297,201. Marriott Corporation, Washington, D.C. Filed May 2, 1968.

JR. HOT SHOPPES

Owner of Reg. Nos. 520,917, 538,108, and others.
For Restaurant Services (Int. Cl. 42).
First use at least as early as Feb. 15, 1968.

SN 299,392. World Research Corporation, Chicago, Ill. Filed May 29, 1968.

MEET-A-MATCH

For Introduction of Prospective Mates Whose Compatibility Has Been Computer Determined (Int. Cl. 42).
First use Oct. 10, 1966.

SN 303,228. MCL Cafeteria, Inc., Indianapolis, Ind. Filed July 22, 1968.

MCL

For Cafeteria Services (Int. Cl. 42).
First use September 1957.

SN 304,406. Steel Service Center Institute, Cleveland, Ohio. Filed Aug. 5, 1968.

STEEL SERVICE CENTER INSTITUTE

No claim is made to the words of the mark apart from the mark as shown. Owner of Reg. No. 685,328.
For Association Services—Namely, Promoting the Study of Methods of Distribution and Reduction of Costs in the Finished Metal Products Industry (Int. Cl. 42).
First use July 1, 1968.

SN 306,460. Chick-n-Run, Inc., d.b.a. Whelan's Chick-n-Run, Pawtucket, R.I. Filed Sept. 3, 1968.

Chick-n-Run

For Serving and Dispensing Food and Beverages in Carry-Out Restaurants (Int. Cl. 42).
First use on or about Jan. 31, 1968.

SN 312,851. Black Angus Franchise System, Inc., Miami, Fla. Filed Nov. 22, 1968.

BLACK ANGUS

For Restaurant Services (Int. Cl. 42).
First use December 1959.

SN 313,225. Bea's Sandwich Shop, Inc., Methuen, Mass. Filed Nov. 29, 1968.

BEA'S

For Restaurant Services (Int. Cl. 42).
First use Nov. 5, 1943.

SN 313,226. Bea's Sandwich Shop, Inc., Methuen, Mass. Filed Nov. 29, 1968.

Bea's

For Restaurant Services (Int. Cl. 42).
First use July 1964.

Class 101 — Advertising and Business

SN 254,628. Quik Print, Incorporated, Wichita, Kans. Filed Sept. 16, 1966.

Quik PRINT FOR FAST DUPLICATE PRINTING

All the wording is disclaimed apart from the mark as shown.
For Reproducing Papers and Forms (Int. Cl. 35).
First use June 1963.

SN 260,478. Supermarket Affiliates Corporation, New York, N.Y. Filed Dec. 9, 1966.

SACsert

For Promoting the Sale of Products Sold by Supermarkets by Inserting Advertisements in Bags at the Bag Manufacturing Plant Before Shipment to the Supermarkets, and the Like, and Dispersal by Them to Customers (Int. Cl. 35).
First use Jan. 1, 1961.

SN 270,480. Listfax Corporation, New York, N.Y., by change of name from Coronet Marketing, Inc., New York, N.Y. Filed May 2, 1967.

LISTFAX

For National Marketing Service Which Includes the Listing and Compiling of Sources of Goods and Services Available Throughout the Country and Furnishing the Information to Interested Persons (Int. Cl. 35).
First use Apr. 14, 1967.

SN 284,486. Laytron, Inc., Blacksburg, Va. Filed Nov. 9, 1967.

LAYTRON

For Business Management and Management Consultant Services (Int. Cl. 35).
First use Feb. 21, 1966.

SN 288,701. Kalker Company Inc., Hackensack, N.J. Filed Jan. 12, 1968.

WE TURN IDEAS INTO REALTY

For Mortgage Placements and Real Estate Brokerage Services (Int. Cl. 35).
First use Dec. 9, 1967.

SN 288,888. Temporary Talent, Inc., Atlanta, Ga. Filed Jan. 15, 1968.

GENIE GIRL

Without waiving any common law rights, the term "Girl" is disclaimed separate and apart from the mark as used.
For Providing Temporary Office Help (Int. Cl. 35).
First use on or about Jan. 7, 1968.

SN 300,053. Availability, Inc., Rockford, Ill. Filed June 10, 1968.

availABILITY

Owner of Reg. No. 765,239.
For Employment and Personnel Agency Services—Namely, Temporary and Permanent Placement, Aptitude Evaluation, Résumé Preparation, Personnel Evaluation, and Career Guidance Services (Int. Cl. 35).
First use August 1967; Jan. 14, 1961, in a different form.

SN 303,575. Hi-Score Enterprises, Woodland Hills, Calif. Filed July 25, 1968.

HI-SCORE

For Promotion of the Sale of the Goods and Services of Others Through Newspaper Sports Contests (Int. Cl. 35).
First use Sept. 10, 1967.

SN 304,237. Melville Shoe Corporation, New York, N.Y. Filed Aug. 2, 1968.

chess king

Owner of Reg. Nos. 852,816 and 852,817.
For Retail Apparel, Footwear, and Accessory Store Services (Int. Cl. 35).
First use Dec. 11, 1967.

SN 307,027. Holiday Inns of America, Inc., Memphis, Tenn. Filed Sept. 10, 1968.

INN KEEPERS

Owner of Reg. Nos. 592,539, 742,490, and others.
For Distributorship Services in the Field of Institutional Supplies, Including Both Software and Hardware Goods (Int. Cl. 35).
First use as early as Mar. 1, 1968.

SN 310,615. Fotomat Corporation, La Jolla, Calif. Filed Oct. 28, 1968.

THE CUTE LITTLE HUT WITH THE BIG YELLOW ROOF

For Retail Drive-In Photographic Supply Store Services (Int. Cl. 35).
First use Apr. 1, 1968.

Class 102 — Insurance and Financial

SN 308,667. United Commodity Traders of Iowa, Inc., Sioux City, Iowa. Filed Oct. 2, 1968.

UNITED COMMODITY TRADERS

The words "Commodity Traders" and the representation of the map of the United States are disclaimed apart from the mark as shown.
For Brokerage of Commodity Futures (Int. Cl. 36).
First use Mar. 1, 1968.

Class 103 — Construction and Repair

SN 294,214. Sound Classics, Inc., Indianapolis, Ind. Filed Mar. 26, 1968.

tape centre

The words "Tape Centre" are disclaimed apart from the mark as shown.
For Installation, Repairing and Servicing of Hi Fi and Stereo Sound Record Players, Tape Recorders, and Playback Units, Automobile Stereo Systems, Cassette Tape Decks, Reel to Reel Tape Decks, Stereo and Cassette Tape Cartridges Both Prerecorded and Blank, Video Tape Cameras, Lenses, and Tapes, Paging Systems, Switchboards, Video Phones and Closed Circuit Television Systems, Video and Sound Burglary and Fire Alarm Systems, and Antenna Distribution Systems, Amplifiers and Boosters and Components of the Above Devices (Int. Cl. 37).
First use Aug. 25, 1966.

SN 300,142. The United States Time Corporation, Waterbury, Conn. Filed June 10, 1968.

TIMEX

Owner of Reg. No. 417,113.
For Watch Repair, Adjustment, and Cleaning Services (Int. Cl. 37).
First use Apr. 26, 1949.

Class 105 — Transportation and Storage

SN 252,999. A-P-A Transport Corp., North Bergen, N.J. Filed Aug. 24, 1966.

WONDERFUL A-P-A Transport Corp.

The drawing is lined for red and pink.
For Transportation of Property (Int. Cl. 39).
First use Aug. 17, 1959.

SN 297,695. Open Road International, Inc., St. Louis, Mo. Filed May 8, 1968.

For Arranging, Planning and Organizing of Travel Tours, Including Transportation, Accommodations and the Like (Int. Cl. 39).
First use September 1967.

Class 106 — Material Treatment

SN 289,897. The House of Vision, Inc., Chicago, Ill. Filed Jan. 30, 1968.

Craftsmen in Optics



For Grinding and Fitting Eye Corrective Lenses to the Individual Prescriptions Furnished by Eye Physicians (Int. Cl. 40).
First use at least as early as 1958.

Class 107 — Education and Entertainment

SN 280,064. Institute of Modern Languages, Inc., Washington, D.C. Filed Sept. 11, 1967.

SITUATIONAL REINFORCEMENT

For Educational Services—Namely, the Conducting of Intensive Technical Language Training Programs by Means of Classroom and/or Correspondence Courses (Int. Cl. 41).
First use not later than May 15, 1966.

SN 282,177. Columbia Broadcasting System, Inc., New York, N.Y. Filed Oct. 10, 1967.

crp

The mark comprises a fanciful representation of the letters "CRP."
For Recording and Transcription Services—Namely, the Preparation of Master Tapes and Matrices and the Manufacture of Pre-Recorded Tapes and Phonograph Records Therefrom for the Account of Others (Int. Cl. 41).
First use Apr. 1, 1967.

SN 285,222. Flight Center, Inc., Madison, Wis. Filed Nov. 20, 1967.

FC

For Pilot Training Services (Int. Cl. 41).
First use July 26, 1967.

SN 290,111. Richard W. Sorgel, Mequon, Wis. Filed Feb. 1, 1968.

THE DESTINATIONS

For Entertainment Services—Namely, Providing Rock and Roll Music (Int. Cl. 41).
First use May 1964.

SN 299,630. Madison Square Garden Corporation, New York, N.Y. Filed June 4, 1968.

NEW YORK KNICKS

Applicant disclaims exclusive rights to use the words "New York" and to the representation of a basketball, apart from the mark as shown. Owner of Reg. No. 835,284.
For Entertainment Services—Namely, Professional Basketball Exhibitions (Int. Cl. 41).
First use not later than 1967; 1946 as to "Knicks."

SN 306,058. Hero International Corp., d.b.a. Generation Gap Productions, New York, N.Y. Filed Aug. 27, 1968.

GENERATION GAP

For Singing Group Entertainment Services (Int. Cl. 41).
First use at least as early as January 1968.

COLLECTIVE MEMBERSHIP MARKS

Class 200

SN 273,485. CUNA International, Inc., Madison, Wis. Filed June 9, 1967.



Without waiver of common law rights, applicant disclaims the words "Credit Union" apart from the mark as shown. Owner of Reg. Nos. 623,499 and 720,474.
For Indicating Membership in Applicant.
First use in or about April 1966.

SN 307,283. Tau Kappa Epsilon Fraternity, Indianapolis, Ind. Filed Sept. 13, 1968.



The lining shown on the drawing is for shading purposes only.
For Indicating Membership in Applicant.
First use at least as early as November 1928.

SN 307,285. Tau Kappa Epsilon Fraternity, Indianapolis, Ind. Filed Sept. 13, 1968.



The lining shown on the drawing is for shading purposes only.
For Indicating Membership in Applicant.
First use prior to 1916.

SN 307,286. Tau Kappa Epsilon Fraternity, Indianapolis, Ind. Filed Sept. 13, 1968.



The lining shown on the drawing is for shading purposes only.
For Indicating Membership in Applicant.
First use prior to 1914.

SN 307,288. Tau Kappa Epsilon Fraternity, Indianapolis, Ind. Filed Sept. 13, 1968.

TAU KAPPA EPSILON

For Indicating Membership in Applicant.
First use at least as early as Jan. 10, 1902.

TRADEMARK REGISTRATIONS ISSUED

PRINCIPAL REGISTER

Class 1—Raw or Partly Prepared Materials

867,732. TRI INC. AND DESIGN. Trap Rock Industries, Inc. MULTIPLE CLASS (Classes 1 and 12). SN 271,549. Pub. 1–21–69. Filed 5–15–67.

867,733. DEKALB AND DESIGN. De Kalb AG Research, Inc., by change of name from De Kalb Agricultural Association, Inc. SN 272,542. Pub. 1–21–69. Filed 5–29–67.

867,734. AROTHANE. Ashland Oil and Refining Company. SN 275,986. Pub. 1–21–69. Filed 7–14–67.

867,735. MAGNA-WOOD AND DESIGN. Magnolia Plastics, Inc. SN 283,255. Pub. 11–19–68. Filed 10–24–67.

867,736. PLYPEL. Plymouth Rubber Company, Inc. SN 293,739. Pub. 1–21–69. Filed 3–20–68.

867,737. SPARTAN. American Key Products, Inc. SN 293,786. Pub. 1–21–69. Filed 3–21–68.

867,738. ELVON. E. I. du Pont de Nemours and Company. SN 308,951. Pub. 1–21–69. Filed 10–7–68.

Class 2—Receptacles

867,739. CHIEFTAIN. American Hospital Supply Corporation. MULTIPLE CLASS (Classes 2, 37, and 50). SN 258,659. Pub. 1–21–69. Filed 11–15–66.

867,740. MISCELLANEOUS DESIGN. Mosal Aluminum A/S. MULTIPLE CLASS (Classes 2, 12, 13, 14, and 21). SN 267,291. Pub. 1–21–69. Filed 3–22–67.

867,741. INTRINSICS. Freeman & Gossage, Inc. SN 273,884. Pub. 1–21–69. Filed 6–14–67.

867,742. WEST AND W DESIGN. West Chemical Products, Inc. SN 280,282. Pub. 1–21–69. Filed 9–13–67.

867,743. FINN-S. The Finn Industries, Inc. SN 300,645. Pub. 1–21–69. Filed 6–18–68.

Class 3—Baggage, Animal Equipments, Portfolios, and Pocketbooks

867,744. MONKEYSHINERS. College Hall, Inc. MULTIPLE CLASS (Classes 3 and 39). SN 257,121. Pub. 1–21–69. Filed 10–25–66.

Class 4—Abrasives and Polishing Materials

867,745. S AND DESIGN. L. M. Scofield Company. MULTIPLE CLASS (Classes 4 and 16). SN 256,012. Pub. 1–21–69. Filed 10–7–66.

867,746. JAMESTOWNE. Baltimore-Jamestowne Wax Co., Inc. SN 278,269. Pub. 1–21–69. Filed 8–15–67.

867,747. RAPLON. Norton Company. SN 294,966. Pub. 1–21–69. Filed 4–4–68.

867,748. AERO-CARE. Appearance Improvement Research, Inc. SN 297,159. Pub. 12–10–68. Filed 5–2–68.

867,749. WELDWOOD. U.S. Plywood-Champion Papers Inc. SN 309,210. Pub. 1–21–69. Filed 10–9–68.

Class 6—Chemicals and Chemical Compositions

867,750. ZIP AEROSOL AND DESIGN. Albert B. Selleck, d.b.a. Selleck Enterprises. SN 236,332. Pub. 5–16–67. Filed 1–11–66.

867,751. TUFFEX. Raymond Whalen and Charles E. Weber (joint owners), d.b.a. Metal Corrosion Control. SN 274,553. Pub. 1–21–69. Filed 6–22–67.

867,752. DA-CAR-COTE. Dacar Chemical Products Company. SN 276,417. Pub. 1–21–69. Filed 7–20–67.

867,753. EASTMAN. Eastman Kodak Company. SN 277,545. Pub. 1–21–69. Filed 8–4–67.

867,754. ISOTROL. Jeffrey L. Fried, d.b.a. Walton-March. SN 279,727. Pub. 1–21–69. Filed 9–6–67.

867,755. TIPAQUE. Ishihara Sangyo Kaisha Ltd. SN 280,067. Pub. 1–21–69. Filed 9–11–67.

867,756. CRYOSORB. Multiform Desiccant Products, Inc. SN 284,223. Pub. 1–21–69. Filed 11–6–67.

867,757. VOLASIL. Pierce Chemical Company. SN 287,092. Pub. 1–21–69. Filed 12–18–67.

867,758. TMS AMAC. Pierce Chemical Company. SN 287,093. Pub. 1–21–69. Filed 12–18–67.

867,759. SUGAR SIL. Pierce Chemical Company. SN 287,094. Pub. 1–21–69. Filed 12–18–67.

867,760. ALKOBANE. Halby Chemical Co., Inc. SN 289,020. Pub. 1–21–69. Filed 1–17–68.

867,761. CUR TO SPEC. Process Solvent Company, Inc. SN 293,298. Pub. 1–21–69. Filed 3–14–68.

867,762. MISCELLANEOUS DESIGN. Ishihara Sangyo Kaisha Ltd. SN 293,341. Pub. 1–21–69. Filed 3–15–68.

867,763. THRIP-TOX. Lemingwell Chemical Company. SN 293,728. Pub. 1–21–69. Filed 3–20–68.

867,764. GAZEBO. Frank J. Curran Co. SN 293,915. Pub. 1–21–69. Filed 3–22–68.

867,765. CI AND DESIGN. Chemical Industries, Inc. SN 296,941. Pub. 1–21–69. Filed 4–30–68.

867,766. RISTEX. Robert I. Schattner, d.b.a. The R. Schattner Company. SN 298,514. Pub. 1–21–69. Filed 5–20–68.

867,767. BIOX. Max D. Howcroft, d.b.a. Gemini Distributing Co. SN 306,200. Pub. 1–21–69. Filed 8–29–68.

Class 7—Cordage

867,768. NOEL AND DESIGN. Topco Associates, Inc. SN 285,360. Pub. 1–21–69. Filed 11–21–67.

Class 10—Fertilizers

867,769. REETERN. Ray W. Kimmey. SN 303,173. Pub. 1–21–69. Filed 7–19–68.

Class 12—Construction Materials

867,732. (See Class 1 for this trademark.)

867,741. (See Class 2 for this trademark.)

867,770. SPEEDCRETE. The Upco Company (Maine corporation), assignee of The Upco Company (Ohio corporation). SN 212,468. Pub. 11–30–65. Filed 2–19–65.

867,771. FIREGARD AND DESIGN. The Celotex Corporation. SN 252,542. Pub. 5–7–68. Filed 8–17–66.

867,772. PENNPAC. Pennsylvania Pacific Corporation. SN 273,097. Pub. 1–21–69. Filed 6–5–67.

867,773. VETO-FIRE. Joslyn Mfg. and Supply Co. SN 274,750. Pub. 1–21–69. Filed 6–26–67.

867,774. AF. Owens-Corning Fiberglas Corporation. SN 274,763. Pub. 1–21–69. Filed 6–26–67.

867,775. MISCELLANEOUS DESIGN. Zeston, Inc. SN 275,191. Pub. 1–21–69. Filed 6–30–67.

867,776. IRON CLAD. The Flintkote Company. SN 281,880. Pub. 1–21–69. Filed 10–5–67.

867,777. GLASBAR. Frederick W. Rhines. SN 285,677. Pub. 1–21–69. Filed 11–27–67.

867,778. GLASCOTE. Frederick W. Rhines. SN 285,678. Pub. 1–21–69. Filed 11–27–67.

867,779. GLASCRETE. Frederick W. Rhines. SN 285,679. Pub. 1–21–69. Filed 11–27–67.

867,780. ETERNIT. GAF Corporation, by change of name from General Aniline & Film Corporation. SN 288,608. Pub. 4–23–68. Filed 1–11–68.

867,781. MILLION-AIR. U.S. Fiber & Plastics Corp. SN 290,987. Pub. 1–21–69. Filed 2–13–68.

867,782. T-L AND DESIGN. H. B. Fuller Company. SN 291,730. Pub. 1–21–69. Filed 2–23–68.

867,783. SUPRA-CRYLIC. Supradur Manufacturing Corporation. SN 294,093. Pub. 1–21–69. Filed 3–25–68.

867,784. BET-R-LUBE. Hornsby & Thorndyke, Inc. SN 302,079. Pub. 1–21–69. Filed 7–5–68.

867,785. POR VENE AND DESIGN. Por-Vene Mfg., Inc. SN 305,283. Pub. 1–21–69. Filed 8–16–68.

Class 13—Hardware and Plumbing and Steam-Fitting Supplies

867,740. (See Class 2 for this trademark.)

867,786. HOSEMASTER. Robert A. Gilmour, d.b.a. Gilmour Manufacturing Co. SN 238,869. Pub. 7–19–66. Filed 2–15–66.

867,787. MISCELLANEOUS DESIGN. J. A. Henckels Zwillingswerk AG. SN 283,801. Pub. 1–21–69. Filed 10–31–67.

867,788. MCI AND DESIGN. Mirra-Cote Industries, Inc., assignee of Mirra-Cote Company, Inc. SN 287,228. Pub. 12–31–68. Filed 12–19–67.

867,789. A SINKRONIZED PRODUCT. Elkay Manufacturing Company. SN 291,976. Pub. 1–21–69. Filed 2–27–68.

867,790. JET WHIRL. Dynamic Classics, Ltd. SN 294,883. Pub. 1–21–69. Filed 4–4–68.

867,791. MARDI GRAS. Regal Ware, Inc. SN 295,558. Pub. 1–21–69. Filed 4–12–68.

867,792. C (DESIGN). Continental Machines, Inc. MULTIPLE CLASS (Classes 13 and 23). SN 299,060. Pub. 11–5–68. Filed 5–27–68.

867,793. C-LOCK. The National Screw & Manufacturing Company. SN 299,474. Pub. 1–21–69. Filed 5–31–68.

867,794. SERV-ALL. Price-Pfister Brass Mfg. Co. SN 304,812. Pub. 1–21–69. Filed 8–9–68.

867,795. GOLD SEAL. Kirsch Company. SN 304,935. Pub. 1–21–69. Filed 8–12–68.

867,796. HYDRASPEC. Bundy Corporation. SN 305,033. Pub. 1–21–69. Filed 8–13–68.

867,797. MARK SIXTY. Standard Screw Company. SN 305,164. Pub. 1–21–69. Filed 8–15–68.

867,798. SCEPTRE. Cole Valve Corporation. SN 305,314. Pub. 1–21–69. Filed 8–16–68.

867,799. TEX-FLOW. Hastings Irrigation Pipe Co. SN 305,446. Pub. 1–21–69. Filed 8–19–68.

867,800. SPOPPET. Systems Design Company, Inc. SN 306,189. Pub. 1–21–69. Filed 8–28–68.

867,801. ACME. Acme Associates Incorporated. SN 306,319. Pub. 1–21–69. Filed 8–30–68.

867,802. HYVAC. Cenco Instruments Corporation. SN 306,549. Pub. 1–21–69. Filed 9–4–68.

867,803. COLORMODE. Mirro Aluminum Company. MULTIPLE CLASS (Classes 13 and 21). SN 306,574. Pub. 1–21–69. Filed 9–4–68.

867,804. MIRRO MANHATTAN. Mirro Aluminum Company. SN 307,038. Pub. 1–21–69. Filed 9–10–68.

867,805. FUNNEL-CEPTOR. Jay R. Smith Manufacturing Co. SN 307,138. Pub. 1–21–69. Filed 9–11–68.

867,806. SANI-CEPTOR. Jay R. Smith Manufacturing Co. SN 307,139. Pub. 1–21–69. Filed 9–11–68.

867,807. AEROGLASS. John W. Stang Mfg. Co., Inc. SN 307,246. Pub. 1–21–69. Filed 9–12–68.

867,808. REDI-THRED. A. O. Smith Corporation. SN 308,323. Pub. 1–21–69. Filed 9–26–68.

867,809. MISCELLANEOUS DESIGN. Control Components, Inc. SN 308,680. Pub. 1–21–69. Filed 10–2–68.

867,810. "WE'LL FASTEN THE WORLD" AND DESIGN. Gerald Ovila Laliberte. SN 308,792. Pub. 1–21–69. Filed 10–3–68.

867,811. MV (DESIGN). Milwaukee Valve Company, Inc. SN 309,066. Pub. 1–21–69. Filed 10–7–68.

867,812. PRO-FLO. Modecraft Company, Inc. SN 309,280. Pub. 1–21–69. Filed 10–9–68.

Class 14—Metals and Metal Castings and Forgings

867,740. (See Class 2 for this trademark.)

Class 15—Oils and Greases

867,813. ZIP AEROSOL AND DESIGN. Albert B. Selleck, d.b.a. Selleck Enterprises. SN 236,333. Pub. 5–9–67. Filed 1–11–66.

Class 16—Protective and Decorative Coatings

867,745. (See Class 4 for this trademark.)

867,814. FERROCOTE. Quaker Chemical Corporation. SN 198,493. Pub. 2–2–65. Filed 7–24–64.

Class 17—Tobacco Products

867,815. A AND DESIGN. The American Tobacco Company. SN 308,949. Pub. 1–21–69. Filed 10–7–68.

Class 18—Medicines and Pharmaceutical Preparations

867,816. ATROMYOVIN. Burns Pharmaceuticals, Inc., d.b.a. Burns Pharmaceuticals. SN 277,513. Pub. 12–3–68. Filed 8–4–67.

867,817. MISCELLANEOUS DESIGN. Barnes-Hind Ophthalmic Product, Inc., d.b.a. Barnes-Hind Ophthalmic Products. SN 290,941. Pub. 1–21–69. Filed 2–13–68.

867,818. VICKS. Richardson-Merrell Inc. SN 292,134. Pub. 1–21–69. Filed 2–28–68.

867,819. HAPPY VALLEY. Bristol-Myers Company. SN 294,581. Pub. 1–21–69. Filed 4–1–68.

867,820. COLD NOSE. Bristol-Myers Company. SN 294,587. Pub. 1-21-69. Filed 4-1-68.

867,821. BRISK. Colgate-Palmolive Company. SN 294,724. Pub. 1-21-69. Filed 4-2-68.

867,822. KOLT KRUNCH. Allied Mills, Inc. SN 295,413. Pub. 1-21-69. Filed 4-11-68.

867,823. APTIN. Astra Pharmaceutical Products, Inc. SN 299,396. Pub. 1-21-69. Filed 5-31-68.

867,824. RUFF-ADE. W. R. Grace & Co. SN 301,745. Pub. 1-21-69. Filed 7-1-68.

867,825. GERIPLEX-FS. Parke, Davis & Company. SN 302,568. Pub. 1-21-69. Filed 7-12-68.

867,826. PURA-STATIN. Ralston Purina Company. SN 307,069. Pub. 1-21-69. Filed 9-11-68.

867,827. V GUARD. Carter-Wallace, Inc. SN 307,915. Pub. 1-21-69. Filed 9-23-68.

867,828. RUCK-SED. Rucker Pharmacal Co., Inc. SN 307,942. Pub. 1-21-69. Filed 9-23-68.

867,829. SINUBID. Warner-Lambert Pharmaceutical Company. SN 307,953. Pub. 1-21-69. Filed 9-23-68.

867,830. FOAMEDIC. American Home Products Corporation. SN 308,735. Pub. 1-21-69. Filed 10-3-68.

Class 19—Vehicles

867,831. ANDES. Albert E. Anderson, d.b.a. A. E. Anderson Industries. SN 293,460. Pub. 1-21-69. Filed 3-18-68.

867,832. COBRA AND DESIGN. Railroad Friction Products Corporation. MULTIPLE CLASS (Classes 19 and 23). SN 294,345. Pub. 1-21-69. Filed 3-28-68.

867,833. RAM-ROD. The Murray Ohio Manufacturing Co. SN 294,643. Pub. 1-21-69. Filed 4-1-68.

867,834. MARQUIS. Ford Motor Company. SN 298,932. Pub. 1-21-69. Filed 5-23-68.

867,835. DARTER COMMANDER. North American Rockwell Corporation. SN 298,953. Pub. 1-21-69. Filed 5-23-68.

867,836. LARK COMMANDER. North American Rockwell Corporation. SN 298,954. Pub. 1-21-69. Filed 5-23-68.

867,837. COURSER COMMANDER. North American Rockwell Corporation. SN 298,955. Pub. 1-21-69. Filed 5-23-68.

867,838. QUAIL COMMANDER. North American Rockwell Corporation. SN 298,956. Pub. 1-21-69. Filed 5-23-68.

867,839. SNIPE COMMANDER. North American Rockwell Corporation. SN 298,957. Pub. 1-21-69. Filed 5-23-68.

867,840. SHRIKE COMMANDER. North American Rockwell Corporation. SN 298,958. Pub. 1-21-69. Filed 5-23-68.

867,841. SPARROW COMMANDER. North American Rockwell Corporation. SN 298,959. Pub. 1-21-69. Filed 5-23-68.

867,842. THRUSH COMMANDER. North American Rockwell Corporation. SN 301,442. Pub. 1-21-69. Filed 6-26-68.

Class 20—Linoleum and Oiled Cloth

867,843. KID-CUSHIONED AND DESIGN. Congoleum Industries, Inc., assignee of Congoleum-Nairn Inc. SN 298,704. Pub. 1-21-69. Filed 5-21-68.

867,844. COLORDEPTH AND DESIGN. Carthage Mills Incorporated. SN 301,512. Pub. 1-21-69. Filed 6-27-68.

867,845. LORENZO. American Biltrite Rubber Co., Inc. SN 302,376. Pub. 1-21-69. Filed 7-10-68.

867,846. SHALIMAR. American Biltrite Rubber Co., Inc. SN 302,377. Pub. 1-21-69. Filed 7-10-68.

867,847. UNI-TURF. American Biltrite Rubber Co., Inc. SN 305,192. Pub. 1-21-69. Filed 8-15-68.

867,848. MANDALAY. American Biltrite Rubber Co., Inc. SN 308,450. Pub. 1-21-69. Filed 9-30-68.

Class 21—Electrical Apparatus, Machines, and Supplies

867,740. (See Class 2 for this trademark.)

867,803. (See Class 13 for this trademark.)

867,849. CORNWALL II. Klipsch and Associates, Inc. SN 291,163. Pub. 1-21-69. Filed 2-15-68.

867,850. VISI-GUARD. Joslyn Mfg. and Supply Co. SN 294,508. Pub. 1-21-69. Filed 3-29-68.

867,851. PONY. Kanda Tsushin Kogyo Co., Ltd. SN 295,890. Pub. 11-5-68. Filed 4-18-68.

867,852. NORMOD. United Aircraft Corporation. SN 298,165. Pub. 1-21-69. Filed 5-14-68.

867,853. QUARTZFOLLOW. Capitol Stage Lighting Co., Inc. SN 298,417. Pub. 1-21-69. Filed 5-17-68.

867,854. QUARTZSCOOP. Capitol Stage Lighting Co., Inc. SN 298,419. Pub. 1-21-69. Filed 5-17-68.

867,855. REGISTRAX. Xexex Industries Inc. SN 298,654. Pub. 1-21-69. Filed 5-20-68.

867,856. CLASPCON. Molex Products Company. SN 298,949. Pub. 1-21-69. Filed 5-23-68.

867,857. ATTRAIT. Wagner Shokai Inc. MULTIPLE CLASS (Classes 21 and 36). SN 301,146. Pub. 1-21-69. Filed 6-24-68.

867,858. OMNICABLE. Wells Television, Inc. SN 303,384. Pub. 1-21-69. Filed 7-23-68.

Class 22—Games, Toys, and Sporting Goods

867,859. FLANOTEX. Milton Bradley Company. SN 293,547. Pub. 1-21-69. Filed 3-18-68.

867,860. SOCK IT TO ME! Continental Promotions, Inc. SN 299,908. Pub. 11-5-68. Filed 6-7-68.

867,861. HENRIETTA. Mattel, Inc. SN 308,979. Pub. 1-21-69. Filed 10-7-68.

Class 23—Cutlery, Machinery, and Tools, and Parts Thereof

867,792. (See Class 13 for this trademark.)

867,832. (See Class 19 for this trademark.)

867,862. ROTO RAIL. Edw. Livingston & Sons, Inc. SN 258,559. Pub. 5-7-68. Filed 11-14-66.

867,863. CENTRIFIC. Goulds Pumps, Inc. SN 285,129. Pub. 10-1-68. Filed 11-17-67.

867,864. K MART AND DESIGN. S. S. Kresge Company. SN 288,330. Pub. 1-21-69. Filed 1-8-68.

867,865. SSK AND DESIGN. S. S. Kresge Company. SN 288,331. Pub. 1-21-69. Filed 1-8-68.

867,866. ECHO. Baldwin-Lima-Hamilton Corporation. SN 290,068. Pub. 1-21-69. Filed 2-1-68.

867,867. CHAPPARAL. GCL Mercantile Corporation, by change of name from General Consolidated, Ltd. SN 292,780. Pub. 1-21-69. Filed 3-8-68.

867,868. FINN-S. The Finn Industries, Inc. SN 300,644. Pub. 1-21-69. Filed 6-18-68.

867,869. BIG BOY. "Automatic" Sprinkler Corporation of America, d.b.a. Essick Manufacturing Company. SN 306,423. Pub. 1-21-69. Filed 8-30-68.

867,870. D DYNACAST. Dynacast Limited. SN 308,421. Pub. 1-21-69. Filed 9-30-68.

867,871. DYNACAST. Dynacast Limited. SN 308,422. Pub. 1-21-69. Filed 9-30-68.

Class 25—Locks and Safes

867,872. PARK-SAFE. Harlan Knox Perrill. SN 286,819. Pub. 1-21-69. Filed 12-13-67.

Class 26—Measuring and Scientific Appliances

867,873. PANAGARD. The Scam Instrument Corporation. SN 243,717. Pub. 1-21-69. Filed 4-18-66.

867,874. DATA CORPORATION AND DESIGN. Data Corporation, assignee, by mesne assignment, of Data Corporation. SN 262,134. Pub. 1-21-69. Filed 1-9-67.

867,875. T-NOCK. Klöckner Handelmaatschappij N.V. SN 271,487. Pub. 1-21-69. Filed 5-15-67.

867,876. NKF AND DESIGN. N.V. Nederlandsche Kabelfabrieken. SN 278,725. Pub. 1-21-69. Filed 8-21-67.

867,877. ROTO TANK AND DESIGN. Glenn H. Dutton, d.b.a. Dutton Mfg. Co. SN 280,152, Pub. 10-8-68. Filed 9-12-67.

867,878. PEACOCK. Kabushiki Kaisha Ozaki Seisakusho, d.b.a. Ozaki Manufacturing Company Limited. SN 280,423. Pub. 1-21-69. Filed 9-15-67.

867,879. DELTARON. Henry's Camera Corporation. SN 282,083. Pub. 1-21-69. Filed 10-9-67.

867,880. VARIPUMP. Phoenix Precision Instrument Company. SN 283,150. Pub. 11-5-68. Filed 10-23-67.

867,881. BLEND-EDGE. N. P. Benson Optical Company, d.b.a. Benson Optical Company. SN 284,343. Pub. 1-21-69. Filed 11-8-67.

867,882. W AND DESIGN. Charles F. Warrick Company. SN 286,220. Pub. 1-21-69. Filed 12-4-67.

867,883. BENCINI. Bencini S.p.A. SN 288,933. Pub. 1-21-69. Filed 1-16-68.

867,884. CALI-BLOCKS. Ringler-Dorin, Inc. SN 289,422. Pub. 1-21-69. Filed 1-23-68.

867,885. JOEMATIC. W. H. Joens & Co., G.m.b.H. SN 290,616. Pub. 1-21-69. Filed 2-8-68.

867,886. I.Q. COMPUTER. Nutting Industries Ltd. SN 291,629. Pub. 1-21-69. Filed 2-21-68.

867,887. PANA-PROBE. Panametrics, Inc., assignee of Panametrics, Inc. SN 297,084. Pub. 1-21-69. Filed 5-1-68.

867,888. SIMEX. Svend T. Simonsen, d.b.a. Coast Navigation School. SN 297,098. Pub. 1-21-69. Filed 5-1-68.

867,889. SUPER PREP AND DESIGN. J. Ulano & Company, Inc. SN 303,112. Pub. 1-21-69. Filed 7-19-68.

Class 27—Horological Instruments

867,890. NORMAN DE LUXE. Norman Watch Company. SN 292,284. Pub. 1-21-69. Filed 3-1-68.

Class 29—Brooms, Brushes, and Dusters

867,891. JORDAN INTERBRUSH AND DESIGN. A/S W. Jordan Børste & Penselfabrik. SN 296,493. Pub. 1-21-69. Filed 4-25-68.

Class 31—Filters and Refrigerators

867,892. RAYLINE AND DESIGN. Builders Plumbing Supply Company. SN 272,018. Pub. 1-21-69. Filed 5-22-67.

867,893. WATCHMAN AND DESIGN. Builders Plumbing Supply Company. SN 272,019. Pub. 1-21-69. Filed 5-22-67.

867,894. DYNACELL. Farr Company. SN 298,218. Pub. 1-21-69. Filed 5-15-68.

867,895. BR. Bill Rivers Trailers, Inc. SN 298,863. Pub. 1-21-69. Filed 5-22-68.

867,896. AFCO. GAF Corporation, by merger from American Felt Company. SN 299,062. Pub. 1-21-69. Filed 5-27-68.

Class 32—Furniture and Upholstery

867,897. SANITAIRE. Dayco Corporation. SN 294,380. Pub. 10-15-68. Filed 3-28-68.

867,898. "MY ROOM." Barbara Byk Schulman and Fernando Olea (joint owners). SN 298,357. Pub. 1-21-69. Filed 5-16-68.

867,899. RCA. Radio Corporation of America. SN 309,649. Pub. 1-21-69. Filed 10-15-68.

867,900. RCA. Radio Corporation of America. SN 309,650. Pub. 1-21-69. Filed 10-15-68.

Class 33—Glassware

867,901. VALART AND DESIGN. Cristalleries du Val Saint Lambert. SN 291,312. Pub. 1-21-69. Filed 2-19-68.

Class 34—Heating, Lighting, and Ventilating Apparatus

867,902. SUNHOUSE. H. Frost & Company Limited. SN 269,411. Pub. 12-10-68. Filed 4-18-67.

867,903. US AND EAGLE DESIGN. United States Register Company, d.b.a. United States Register Co. SN 281,331. Pub. 1-21-69. Filed 9-27-67.

867,904. CORRAPAN. Nooter Corporation. SN 293,638. Pub. 1-21-69. Filed 3-19-68.

867,905. BOW AND DESIGN. Bow Solder Products Co., Inc. SN 297,269. Pub. 1-21-69. Filed 5-3-68.

Class 35—Belting, Hose, Machinery Packing, and Nonmetallic Tires

867,906. LYNX. O.K. Tire and Rubber Co., Inc. SN 288,026. Pub. 1-21-69. Filed 1-3-68.

867,907. CAB. The General Tire & Rubber Company. SN 288,507. Pub. 1-21-69. Filed 1-10-68.

867,908. CONTESTAR. Harmo Tire & Rubber Corporation. SN 295,331. Pub. 1-21-69. Filed 4-10-68.

867,909. RIB TRAC. The Kelly-Springfield Tire Company. SN 298,728. Pub. 1-21-69. Filed 5-21-68.

Class 36—Musical Instruments and Supplies

867,857. (See Class 21 for this trademark.)

867,910. JOSE RAMIREZ. Jose Ramirez Martinez. SN 260,161. Pub. 1-21-69. Filed 12-6-66.

867,911. BEWITCH AND DESIGN. New International Entertainment Establishment. SN 274,232. Pub. 1-21-69. Filed 6-19-67.

867,912. LEVEL MATIC. Hitachi, Ltd. SN 276,665. Pub. 1-21-69. Filed 7-24-67.

867,913. HORSEMAN WITH PENNANT (DESIGN). Vanguard Recording Society, Inc. SN 278,924. Pub. 1-21-69. Filed 8-23-67.

867,914. HORSEMAN WITH PENNANT (DESIGN). Vanguard Recording Society, Inc. SN 278,926. Pub. 1-21-69. Filed 8-23-67.

867,915. TRANSPOS-A-CHORD. Spencer David Saxon. SN 281,492. Pub. 1-21-69. Filed 9-29-67.

867,916. KADENT AND DESIGN. Musical Specialties Inc. SN 283,269. Pub. 1-21-69. Filed 10-24-67.

867,917. FAI AND DESIGN. Family Achievement Institute. SN 290,835. Pub. 1-21-69. Filed 2-12-68.

867,918. SGC AND DESIGN. S.G.C. Records, Inc. SN 306,109. Pub. 1-21-69. Filed 8-28-68.

Class 37—Paper and Stationery

867,739. (See Class 2 for this trademark.)

867,919. OLD FORGE VELVETPRINT. P. H. Glatfelter Company. SN 271,616. Pub. 11-12-68. Filed 5-16-67.

867,920. OLD FORGE VELVETLITH. P. H. Glatfelter Company. SN 271,617. Pub. 11-12-68. Filed 5-16-67.

867,921. TRAV SEC. Trav-Sec, Inc. SN 276,051. Pub. 1-21-69. Filed 7-14-67.

867,922. CARES. The National Cash Register Company. SN 280,619. Pub. 1-21-69. Filed 9-18-67.

867,923. NOEL AND DESIGN. Topco Associates, Inc. SN 285,362. Pub. 1-21-69. Filed 11-21-67.

Class 38—Prints and Publications

867,924. THE COUNTRYPOLITAN. Lou Stringer. SN 270,429. Pub. 1-21-69. Filed 5-1-67.

867,925. CAUCUS. Better Business Bureau of Metropolitan Detroit. SN 282,534. Pub. 1-21-69. Filed 10-16-67.

867,926. FOODS OF TOMORROW. Putman Publishing Company. SN 297,091. Pub. 1-21-69. Filed 5-1-68.

867,927. SOUND OFF! The McNaught Syndicate, Inc. SN 297,426. Pub. 1-21-69. Filed 5-6-68.

867,928. SOLDIER (DESIGN). The Leatherneck Association, Incorporated. SN 297,684. Pub. 1-21-69. Filed 5-8-68.

867,929. GRAFFITI. The McNaught Syndicate, Inc. SN 299,145. Pub. 1-21-69. Filed 5-27-68.

867,930. ANTHRO. National Periodical Publications, Inc. SN 309,719. Pub. 1-21-69. Filed 10-16-68.

867,931. BNA. The Bureau of National Affairs, Inc. SN 309,928. Pub. 1-21-69. Filed 10-18-68.

Class 39—Clothing

867,744. (See Class 3 for this trademark.)

867,932. RAM'S HEAD (DESIGN). Robert Hall Clothes, Inc., d.b.a. Robert Hall Clothes. SN 256,215. Pub. 1-21-69. Filed 10-11-66.

867,933. OBERMEYER. Sport-Obermeyer, Ltd. SN 277,308. Pub. 1-21-69. Filed 8-1-67.

867,934. CREAZIONI PINOCCHIO. Eurolink Corporation. SN 278,886. Pub. 1-21-69. Filed 8-23-67.

867,935. RUFFITS. Anne Fogarty, Inc. SN 279,635. Pub. 1-21-69. Filed 9-5-67.

867,936. VIP-LON. V.I.P. Imports, Ltd. SN 280,827. Pub. 1-21-69. Filed 9-20-67.

867,937. SALOMSET. Salom Trading Company, Inc. SN 286,368. Pub. 1-21-69. Filed 12-6-67.

867,938. SALOMFIL. Salom Trading Company, Inc. SN 286,369. Pub. 1-21-69. Filed 12-6-67.

867,939. JOBMASTER. Academy Sporting Goods Inc. SN 287,125. Pub. 1-21-69. Filed 12-18-67.

867,940. RIC. RIC Sales Corporation. SN 288,858. Pub. 1-21-69. Filed 1-15-68.

867,941. AG DESIGNS. American Golfer, Inc. SN 288,927. Pub. 1-21-69. Filed 1-16-68.

867,942. THE SHE BOOT. Endicott Johnson Corporation. SN 289,086. Pub. 1-21-69. Filed 1-18-68.

867,943. SNO-GUARD AND DESIGN. Davidsville Sportswear Co. SN 292,086. Pub. 1-21-69. Filed 2-28-68.

867,944. THE CROWNING TOUCH OF FASHION. Glensder Corporation. SN 293,511. Pub. 1-21-69. Filed 3-18-68.

867,945. ADRI. The Design Establishment, Inc. SN 293,626. Pub. 1-21-69. Filed 3-19-68.

867,946. FASHION SEAL DISPOSABLES. Superior Surgical Mfg. Co., Inc. SN 294,092. Pub. 1-21-69. Filed 3-25-68.

867,947. SCARTLE. Cisco, Inc. SN 294,262. Pub. 1-21-69. Filed 3-27-68.

867,948. THE SHLIFT. Dunloggin Classics, Inc. SN 294,603. Pub. 1-21-69. Filed 4-1-68.

867,949. JOSEF BARI ETC. AND DESIGN. Josef Bari Company. SN 295,148. Pub. 1-21-69. Filed 4-8-68.

867,950. KENTFIELD. Allied Stores Corporation. SN 295,491. Pub. 1-21-69. Filed 4-12-68.

867,951. TRULY SOCIAL. Mandarin Textiles Limited. SN 295,748. Pub. 1-21-69. Filed 4-16-68.

867,952. GAYLON. Chadbourn Gotham, Inc. MULTIPLE CLASS (Classes 39 and 43). SN 299,899. Pub. 1-21-69. Filed 6-7-68.

867,953. ALLIGATOR (DESIGN). The Alligator Company, Inc. SN 301,669. Pub. 1-21-69. Filed 7-1-68.

867,954. CANDIDRESS AND DESIGN. Mary Wear, Inc. SN 301,945. Pub. 1-21-69. Filed 7-3-68.

867,955. CAP-A-PIE. Nina Footwear Co., Inc. SN 302,108. Pub. 1-21-69. Filed 7-5-68.

867,956. MISCELLANEOUS DESIGN. Uniroyal, Inc. SN SN 302,462. Pub. 1-21-69. Filed 7-10-68.

867,957. SHORT CUT. Camp and McInnes, Inc. SN 307,265. Pub. 1-21-69. Filed 9-13-68.

867,958. RIGHT DRESS. Wolverine World Wide, Inc. SN 307,369. Pub. 1-21-69. Filed 9-13-68.

Class 40—Fancy Goods, Furnishings, and Notions

867,959. FABULOUS FAKES. Bishop Industries Inc. SN 290,945. Pub. 11-19-68. Filed 2-13-68.

Class 42—Knitted, Netted, and Textile Fabrics, and Substitutes Therefor

867,960. MISCELLANEOUS DESIGN. Jaymar-Ruby, Inc. SN 281,374. Pub. 1-21-69. Filed 9-28-67.

867,961. R (DESIGN). Radiant Color Company. SN 283,568. Pub. 1-21-69. Filed 10-27-67.

867,962. TIARA. Decorator Industries, Inc. SN 290,079. Pub. 1-21-69. Filed 2-1-68.

867,963. M AND DESIGN. Decorator Industries, Inc. SN 290,081. Pub. 1-21-69. Filed 2-1-68.

867,964. MEDALLION. Decorator Industries, Inc. SN 290,083. Pub. 1-21-69. Filed 2-1-68.

867,965. X-IT. Graniteville Company. SN 293,032. Pub. 1-21-69. Filed 3-12-68.

867,966. MISCELLANEOUS DESIGN. Dan River Mills, Incorporated. SN 296,313. Pub. 1-21-69. Filed 4-23-68.

867,967. MONTICELLO. Cannon Mills Company. SN 300,061. Pub. 1-21-69. Filed 6-10-68.

867,968. CITADEL. Mohasco Industries, Inc. SN 300,608. Pub. 1-21-69. Filed 6-17-68.

867,969. TERRI-CORD. Advance Glove Manufacturing Company. SN 300,666. Pub. 1-21-69. Filed 6-18-68.

867,970. STA-STYLE AND DESIGN. Foy Streetman, d.b.a. Sta-Style Mfg. Company. SN 301,099. Pub. 1-21-69. Filed 6-21-68.

867,971. PLUSH-DEK. Glenoit Mills, Inc. SN 301,416. Pub. 1-21-69. Filed 6-26-68.

867,972. ASTROTHOR. J. P. Stevens & Co., Inc. SN 301,459. Pub. 1-21-69. Filed 6-26-68.

867,973. ASTRONEL. J. P. Stevens & Co., Inc. SN 301,461. Pub. 1-21-69. Filed 6-26-68.

867,974. MERVILLE. Mercantile Stores Company, Inc. SN 304,866. Pub. 1-21-69. Filed 8-12-68.

867,975. ZOLANA. Deering Milliken, Inc. SN 307,924. Pub. 1-21-69. Filed 9-23-68.

Class 43—Thread and Yarn

867,952. (See Class 39 for this trademark.)

867,976. CANDLEWICK. Dixie Yarns, Inc. SN 293,485. Pub. 1-21-69. Filed 3-18-68.

867,977. WINDRUSH AND DESIGN. Brunswick Worsted Mills, Inc. SN 301,190. Pub. 1-21-69. Filed 6-24-68.

867,978. WINDSPUN AND DESIGN. Brunswick Worsted Mills, Inc. SN 301,191. Pub. 1-21-69. Filed 6-24-68.

867,979. DEERAMILLE. Deering Milliken, Inc. SN 307,922. Pub. 1-21-69. Filed 9-23-68.

867,980. WYNMILL. Deering Milliken, Inc. SN 307,923. Pub. 1-21-69. Filed 9-23-68.

Class 44—Dental, Medical, and Surgical Appliances

867,981. JET SET. Sunbeam Corporation. SN 239,335. Pub. 4-4-67. Filed 2-21-66.

867,982. HEMO-CLIP AND DESIGN. Edward Weck & Company, Inc. SN 242,523. Pub. 2-7-67. Filed 4-1-66.

867,983. MEDCOTHERM. Medco Products Company, Inc. SN 277,192. Pub. 1-21-69. Filed 7-31-67.

867,984. YOUTH-A-CISOR. Clairol Incorporated. SN 280,557. Pub. 1-21-69. Filed 9-18-67.

867,985. REGALMATIC. Royalmetal Corporation. SN 283,575. Pub. 1-21-69. Filed 10-27-67.

867,986. FINESSE. R-L Laboratories, Inc. SN 304,960. Pub. 1-21-69. Filed 8-12-68.

867,987. SPONTAMS. Sponcel Limited. SN 307,140. Pub. 1-21-69. Filed 9-11-68.

867,988. DISCREET. Kimberly-Clark Corporation. SN 308,658. Pub. 1-21-69. Filed 10-2-68.

Class 46—Foods and Ingredients of Foods

867,989. KEWPIE AND DESIGN. Mammoth Spring Canning Corp. SN 255,536. Pub. 4-30-68. Filed 9-30-66.

867,990. PARADISE. Paradise Fruit Company, Inc. SN 263,601. Pub. 7-9-68. Filed 1-30-67.

867,991. FAIRMAID. Fairmont Foods Company. SN 275,250. Pub. 10-22-68. Filed 7-3-67.

867,992. GAYMONT'S MELKA AND DESIGN. Gaymont Laboratories, Inc. SN 284,902. Pub. 11-12-68. Filed 11-15-67.

867,993. MELLO-VEL. National Dairy Products Corporation. SN 296,036. Pub. 10-1-68. Filed 4-19-68.

867,994. CHEROKEE'S. Cherokee Products Company. SN 299,218. Pub. 1-21-69. Filed 5-28-68.

867,995. DONCO. Donovan Coffee Company. SN 299,330. Pub. 1-21-69. Filed 5-29-68.

867,996. MODERN AGE. Borden, Inc. SN 299,644. Pub. 1-21-69. Filed 6-4-68.

867,997. KEL-PRO. Kellogg Company. SN 300,086. Pub. 1-21-69. Filed 6-10-68.

867,998. HETUCK. Gloria J. Hoover. SN 300,499. Pub. 1-21-69. Filed 6-14-68.

867,999. LEXINGTON. W. F. Schrafft & Sons Corporation. SN 301,968. Pub. 1-21-69. Filed 7-3-68.

868,000. SAFEWAY. Safeway Stores, Incorporated. SN 304,743. Pub. 1-21-69. Filed 8-9-68.

868,001. CLARK'S AND DESIGN. Philip Morris Incorporated. SN 309,338. Pub. 1-21-69. Filed 10-10-68.

Class 48—Malt Beverages and Liquors

868,002. BAVARIAN'S SELECT BEER AND DESIGN. International Breweries, Inc., assignee of Bavarian Brewing Company. SN 31,074. Pub. 5-27-58. Filed 5-31-57.

868,003. MAGI-CAP. Lone Star Brewing Co. SN 275,768. Pub. 1-21-69. Filed 7-11-67.

Class 50—Merchandise Not Otherwise Classified

867,739. (See Class 2 for this trademark.)

868,004. BUZZ-OUT. William d'Ulisse, d.b.a. House of William Beauty Salon. SN 298,212. Pub. 1-21-69. Filed 5-15-68.

868,005. COUNTESS NATALIE. Countess Natalie, Inc. assignee of Countess Natalie. SN 301,609. Pub. 1-21-69. Filed 6-28-68.

868,006. MINI-PUFF. Countess Natalie, Inc., assignee of Countess Natalie. SN 301,610. Pub. 1-21-69. Filed 6-28-68.

868,007. DOVE (DESIGN). Countess Natalie, Inc., assignee of Countess Natalie. SN 301,611. Pub. 1-21-69. Filed 6-28-68.

Class 51—Cosmetics and Toilet Preparations

868,008. DANISH DRAB. Whisperwill, Inc. SN 270,991. Pub. 1-21-69. Filed 5-8-67.

868,009. PETDENT. Burns Pharmaceuticals, Inc., d.b.a. Burns Pharmaceuticals. SN 277,581. Pub. 1-21-69. Filed 8-4-67.

868,010. FOLTENE. Neotis S.a.s. SN 280,246. Pub. 1-21-69. Filed 9-13-67.

868,011. PERBORAGA. Marcel Jean-Marie Bleriot. SN 280,959. Pub. 1-21-69. Filed 9-22-67.

868,012. DOLLY MASK. Yardley of London, Inc. SN 282,853. Pub. 1-21-69. Filed 10-18-67.

868,013. FRESH 'N FAIR. Merle Norman Cosmetics, Inc. SN 284,716. Pub. 1-21-69. Filed 11-13-67.

868,014. MOUSTACHE. Parfums Marcel Rochas, Inc. SN 284,723. Pub. 1-21-69. Filed 11-13-67.

868,015. SILVER SIREN. Elizabeth Arden Sales Corporation. SN 286,419. Pub. 1-21-69. Filed 12-7-67.

868,016. WILD STREAKS! Clairol Incorporated. SN 288,784. Pub. 1-21-69. Filed 1-15-68.

868,017. FROST TAN. Clairol Incorporated. SN 288,786. Pub. 1-21-69. Filed 1-15-68.

868,018. TENDER GLOW. John H. Breck, Inc. SN 292,074. Pub. 11-19-68. Filed 2-28-68.

868,019. THE WHITER SHADES OF PALE. Yardley of London, Inc. SN 293,611. Pub. 1-21-69. Filed 3-18-68.

868,020. ALL SAFE. American Home Products Corporation. SN 294,001. Pub. 1-21-69. Filed 3-25-68.

868,021. LATIN MOOD. Hilton Hotels Corporation. SN 294,048. Pub. 1-21-69. Filed 3-25-68.

868,022. WINNING STREAK. Alberto-Culver Company. SN 294,116. Pub. 1-21-69. Filed 3-26-68.

868,023. SHINE ON. Alberto-Culver Company. SN 294,121. Pub. 1-21-69. Filed 3-26-68.

868,024. ELOQUENCE. Rexall Drug and Chemical Company, assignee of Beauty Counselors, Inc. SN 295,504. Pub. 1-21-69. Filed 4-12-68.

868,025. GATSBY. Chas. Pfizer & Co., Inc. SN 301,133. Pub. 1-21-69. Filed 6-24-68.

868,026. FLAGRANTE. Chas. Pfizer & Co., Inc. SN 301,135. Pub. 1-21-69. Filed 6-24-68.

868,027. FLAGRANT. Chas. Pfizer & Co., Inc. SN 301,136. Pub. 1-21-69. Filed 6-24-68.

868,028. SMUGGLER'S GOLD. Pan-Am Cosmetic Company, Inc., d.b.a. Pan-Am. SN 301,593. Pub. 1-21-69. Filed 6-28-68.

868,029. SHUN. The Gillette Company. MULTIPLE CLASS (Classes 51 and 52). SN 304,642. Pub. 1-21-69. Filed 8-8-68.

868,030. THE WILD STREAK. Clairol Incorporated. SN 305,923. Pub. 1-21-69. Filed 8-26-68.

Class 52 — Detergents and Soaps

868,029. (See Class 51 for this trademark.)

868,031. ZIP AEROSOL AND DESIGN. Albert B. Selleck, d.b.a. Selleck Enterprises. SN 236,334. Pub. 5-9-67. Filed 1-11-66.

868,032. KLEENOFF. Bale & Church, Limited. SN 253,415. Pub. 1-21-69. Filed 8-30-66.

868,033. INK-LINGS. The Kendall Company. SN 272,071. Pub. 6-25-68. Filed 5-22-67.

868,034. AMMOSENE. Wyandotte Chemicals Corporation. SN 279,700. Pub. 1-21-69. Filed 9-5-67.

868,035. SOFT 'N PURE. Nalco Chemical Company. SN 284,711. Pub. 1-21-69. Filed 11-13-67.

868,036. HAPPY VALLEY. Bristol-Myers Company. SN 294,586. Pub. 1-21-69. Filed 4-1-68.

868,037. GLACIER. Colgate-Palmolive Company. SN 309,138. Pub. 1-21-69. Filed 10-4-68.

Service Marks

Class 100 — Miscellaneous

868,038. POSS' 'Q' AND STEW AND DESIGN. Poss' Famous Foods, Inc. SN 281,619. Pub. 1-21-69. Filed 10-2-67.

868,039. HARRY'S ORIGINALS. Harry M. Stevens, Inc. SN 305,353. Pub. 1-21-69. Filed 8-16-68.

868,040. SPAN-AMERICA MOTELS AND DESIGN. Span-America Motels, Inc. SN 306,619. Pub. 1-21-69. Filed 9-5-68.

Class 101 — Advertising and Business

868,041. ACCRO SYSTEMS AND DESIGN. Accro Systems, Inc. SN 274,845. Pub. 1-21-69. Filed 6-27-67.

868,042. SKI FREE AND DESIGN. James F. Reiter, Jr. SN 278,031. Pub. 1-21-69. Filed 8-10-67.

868,043. ROAD RUNNER CAMPGROUNDS. Road Runner Campgrounds, Incorporated. SN 278,822. Pub. 1-21-69. Filed 8-22-67.

868,044. COLOR MONITOR CORPORATION AND DESIGN. Color Monitor Corporation. SN 279,630. Pub. 1-21-69. Filed 9-5-67.

868,045. ROSLYN STATIONERS AND DESIGN. Roslyn Stationers. SN 294,973. Pub. 1-21-69. Filed 4-4-68.

868,046. WHITE FRONT. White Front Stores, Inc. SN 301,566. Pub. 1-21-69. Filed 6-27-68.

868,047. THREE SISTERS. The Miller-Wohl Company, Inc. SN 305,616. Pub. 1-21-69. Filed 8-21-68.

Class 102 — Insurance and Financial

868,048. MILLION DOLLAR ROUND TABLE. Million Dollar Round Table of the National Association of Life Underwriters. SN 290,506. Pub. 1-21-69. Filed 2-7-68.

868,049. MILLION DOLLAR ROUND TABLE AND DESIGN. Million Dollar Round Table of the National Association of Life Underwriters. SN 291,273. Pub. 1-21-69. Filed 2-16-68.

Class 103 — Construction and Repair

868,050. REPRESENTATION OF A BIRD ETC. AND DESIGN. William H. Hauer. SN 302,192. Pub. 1-21-69. Filed 7-8-68.

Class 106 — Material Treatment

868,051. MONOGRAM OF THE LETTERS M AND A. Mosal Aluminum A/S. SN 267,343. Pub. 1-21-69. Filed 3-22-67.

Class 107 — Education and Entertainment

868,052. KWIK-RITE. Roberts, Walsh Stenotype School. SN 285,857. Pub. 1-21-69. Filed 11-29-67.

SUPPLEMENTAL REGISTER

These registrations are not subject to opposition.

SECTION 1

(Combined Certificates)

868,053. Sheller-Globe Corporation, Toledo, Ohio. SN 283,463. Filed P.R. 10-26-67; Am. S.R. 12-26-68.

STURDIMADE

Class 2—Receptacles

For Wastebaskets (Int. Cl. 21).

Class 32—Furniture and Upholstery

For Desk Trays (Int. Cl. 20).

First use on or about Sept. 29, 1967.

SECTION 2

Class 2 — Receptacles

868,053. See Section 1 (Combined Certificate).

868,054. Maryland Paper Box Co., Baltimore, Md. SN 291,412. Filed P.R. 2-19-68; Am. S.R. 10-21-68.

PREWRAP

For Empty Decorated Unwrapped Boxes for Holding Gift Articles (Int. Cl. 16).
First use in or about June 1967.

868,055. Bogene Incorporated, Lebanon, Pa. SN 297,375. Filed P.R. 5-6-68; Am. S.R. 1-15-69.

PAK-AWAY CHEST

For Jumbo Storage Chests, Underbed Chests, Compartmented Shoe Chests, Multi-Shelf Linen Chests, Blanket and Accessory Chests and Utility Chests All Being Collapsible and Covered With Flexible Material (Int. Cl. 21).
First use August 1966.

Class 3 — Baggage, Animal Equipments, Portfolios, and Pocketbooks

868,056. Quikey Manufacturing Co., Inc., Akron, Ohio. SN 270,153. Filed P.R. 4-27-67; Am. S.R. 1-13-69.

QUIK-VU

For Wallet (Int. Cl. 18).
First use Mar. 23, 1967.

Class 6 — Chemicals and Chemical Compositions

868,057. Baxter Laboratories, Inc., Morton Grove, Ill. SN 284,441. Filed P.R. 11-9-67; Am. S.R. 1-10-69.

GALACTO-SCREEN

For Diagnostic Reagent Screening Test for Galactosemia for Use in the Laboratory (Int. Cl. 1).
First use on or about Mar. 27, 1967.

Class 12 — Construction Materials

868,058. Rylock Company, Ltd., Union City, Calif. SN 301,770. Filed P.R. 7-1-68; Am. S.R. 1-16-69.

TWINGLASS

For Window and Door Glass Ensembles (Int. Cl. 19).
First use on or about Jan. 15, 1967.

Class 23 — Cutlery, Machinery, and Tools, and Parts Thereof

868,059. Reese Products, Inc., Elkhart, Ind. SN 280,462. Filed P.R. 9-15-67; Am. S.R. 12-19-68.

PEDALIFT

For Hydraulic Powered Trailer Tongue Jack (Int. Cl. 7).
First use Aug. 15, 1967.

Class 32 — Furniture and Upholstery

868,053. See Section 1 (Combined Certificate).

868,060. Homewood Industries, Inc., Homewood, Ill., by change of name from Homewood Cabinet Top Company, Homewood, Ill. SN 264,544. Filed P.R. 2-13-67; Am. S.R. 1-13-69.

EASY CARE

For Plastic Laminated Countertops (Int. Cl. 20).
First use Mar. 1, 1962.

868,061. Workplace Systems, Inc., Manchester, N.H. SN 275,338. Filed P.R. 7-3-67; Am. S.R. 1-15-69.

workplace

For Modular Industrial Furniture—Namely, Benches, Cabinets, Shelving, and Tables (Int. Cl. 20).
First use May 1, 1967.

868,062. Restonic Corporation, Chicago, Ill. SN 296,200. Filed 4-22-68.

SIT 'N SLEEP

For Couches (Int. Cl. 20).
First use Dec. 6, 1965.

Class 37 — Paper and Stationery

868,063. Micropoint, Inc., Sunnyvale, Calif. SN 270,591. Filed P.R. 5-3-67; Am. S.R. 1-10-69.

'RASER-PEN

For Ball Point Pens (Int. Cl. 16).
First use Mar. 20, 1967.

868,064. Beaux-Wraps, Ltd., Maspeth, N.Y. SN 287,415. Filed P.R. 12-22-67; Am. S.R. 11-29-68.

BEAUX-WRAPS

For Wrapping Paper (Int. Cl. 16).
First use on or about Sept. 17, 1967.

Class 38 — Prints and Publications

868,065. The Penton Publishing Company, Cleveland, Ohio. SN 265,097. Filed P.R. 2–20–67; Am. S.R. 1–23–69.

THE NATIONAL PRINTING TRADES TEST

For Department in a Trade Magazine and Published From Time to Time, and Also Distributed as a Separate Pamphlet (Int. Cl. 16).
First use in or about January 1967.

868,066. Western Art, Inc., Colorado Springs, Colo. SN 284,259. Filed P.R. 11–6–67; Am. S.R. 1–9–69.

SPORTS INTERNATIONAL

For Advertising Posters (Int. Cl. 16).
First use Oct. 18, 1967.

868,067. Haire Publishing Corporation, New York, N.Y., assignee of Haire Publishing Company, Inc., New York, N.Y. SN 288,694. Filed P.R. 1–11–68; Am. S.R. 1–14–69.

MEDICAL LAB

For Monthly Magazine (Int. Cl. 16).
First use Jan. 2, 1968.

868,068. Boone, Inc., Suffolk, Va. SN 290,157. Filed P.R. 2–2–68; Am. S.R. 12–16–68.

ANTIQUE QUARTERLY

For Newspaper (Int. Cl. 16).
First use October 1967.

868,069. Billboard Publications, Inc., Cincinnati, Ohio. SN 292,253. Filed P.R. 3–1–68; Am. S.R. 1–9–69.

ARTISTS' GUIDE

For Periodical Publication—Namely, a Magazine (Int. Cl. 16).
First use on or about Oct. 9, 1967.

868,070. Mergers & Acquisitions, Inc., Washington, D.C. SN 303,693. Filed P.R. 7–26–68; Am. S.R. 12–16–68.

THE JOURNAL OF CORPORATE VENTURE

For Magazine Published Bi-Monthly Relating to Matters of Interest to the Business and Financial Community (Int. Cl. 16).
First use Jan. 15, 1965.

Class 39 — Clothing

868,071. Teenform, Inc., New York, N.Y. SN 283,733. Filed 10–30–67.

PRETTIEST POSSIBLE SHAPE TO BE IN

For Brassieres, Foundation Garments, Lingerie, and Sleepwear (Int. Cl. 25).
First use Mar. 1, 1965.

Class 46 — Foods and Ingredients of Foods

868,072. South West Africa Frozen Rock Lobster Packers (Pty) Ltd., Luderitz, South West Africa. SN 270,165. Filed P.R. 4–27–67; Am. S.R. 4–23–68.

South African ROCK LOBSTER Petites THE TASTIEST TAIL OF THEM ALL

For Frozen Rock Lobster Tails (Int. Cl. 29).
First use June 1, 1964; in commerce June 1, 1964.

868,073. Gwaltney Incorporated, Smithfield, Va. SN 277,166. Filed P.R. 7–31–67; Am. S.R. 12–30–68.

Williamsburg

For Bacon (Int. Cl. 29).
First use June 12, 1967.

Class 50 — Merchandise Not Otherwise Classified

868,074. General Crafts Corporation, Baltimore, Md. SN 281,572. Filed P.R. 10–2–67; Am. S.R. 11–27–68.

APPLI-CAY CRAFT

For Kits for Making Wall Plaques and Including a Backing Board, Braid, Pieces of Resilient Sponge, Cut Pieces of Fabric, and Other Decorations (Int. Cl. 20).
First use Sept. 1, 1967.

868,075. Wingmaster Company, Inc., Brooklyn, N.Y. SN 284,414. Filed P.R. 11–8–67; Am. S.R. 12–6–68.

SNAP'ER OPEN-SNAP'ER SHUT

For Display Units Consisting of Panels and a Rack (Int. Cl. 20).
First use at least as early as Jan. 1, 1963.

868,076. Jen Products, Inc., Bethel, Vt. SN 302,844. Filed P.R. 7–16–68; Am. S.R. 12–2–68.

BAG-TY

For Wire Coils for Tying Bags (Int. Cl. 20).
First use July 3, 1967.

Class 51 — Cosmetics and Toilet Preparations

868,077. Revlon, Inc., New York, N.Y. SN 278,034. Filed P.R. 8–10–67; Am. S.R. 12–6–68.

TWILIGHT BLONDE

For Hair Coloring Preparation (Int. Cl. 3).
First use July 3, 1967.

868,078. Bristol-Myers Company, New York, N.Y. SN 284,586. Filed P.R. 11–13–67; Am. S.R. 12–5–68.

WHITEN UP

For Dentifrice (Int. Cl. 3).
First use Oct. 4, 1967.

868,079. Houbigant, Inc., New York, N.Y. SN 285,232. Filed P.R. 11–20–67; Am. S.R. 1–7–69.



The mark is the package for the goods consisting of a houndstooth design with a belt and buckle.
For Men's Toiletries—Namely, Cologne (Int. Cl. 3).
First use Aug. 15, 1967.

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72,383. NUNNALLY'S. Cl. 46 (Int. Cl. 30). 1–19–09.
73,058. ERIOCHROM. Cl. 6 (Int. Cl. 2). 3–16–09.
73,623. CEROSE. Cl. 18 (Int. Cl. 5). 5–4–09.
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248,189. TEXTURA. Cl. 46 (Int. Cl. 29). 10–16–28.
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250,756. CALROD. Cl. 21. 12–18–28. Edison Electric Appliance Company. General Electric Company, Louisville, Ky. Amended to appear:

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310,932. KENTUCKY COLONEL. Cl. 49. 3–13–34. The American Medicinal Spirits Company. National Distillers and Chemical Corporation, New York, N.Y. Amended to appear:

KENTUCKY COLONEL

761,645. HYGROGARD. Cl. 37. 12–17–63. Crown Zellerbach Corporation, San Francisco, Calif. Amended to appear:

HYGROGARD

761,872. JANSEN AND DESIGN. Cl. 21. 12–24–63. Jansen Electronics Manufacturing, Inc., St. Paul, Minn. Corrected: In the statement, column 1, line 1, "Electronic" should be deleted and *Electronics* should be inserted.

862,905. EXEC-O-VAN. Cl. 105. 12–31–68. Kenneth Narrod Moving Company, Waukegan, Ill. Corrected: In the statement, column 1, line 2 should be deleted and *1120 Glen Rock Ave.* should be inserted.

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Bow Solder Products Co., Inc., Newark, N.J. 867,905, pub. 1–21–69. Cl. 34.
Boye Needle Co., The, Chicago, Ill. 745,532, canc. Cl. 40.
Boyle-Midway Inc., Jersey City, N.J., to American Home Products Corp., New York, N.Y. 509,028, ren. 4–8–69. Cl. 12.
Bradley, Milton, Co., East Longmeadow, Mass. 867,859, pub. 1–21–69. Cl. 22.
Breck, John H., Inc., Wayne, N.J. 868,018, pub. 11–19–68. Cl. 51.
Bristol-Myers Co., New York, N.Y. 867,819–20, pub. 1–21–69. Cl. 18.
Bristol-Myers Co., New York, N.Y. 868,036, pub. 1–21–69. Cl. 52.
Bristol-Myers Co., New York, N.Y. 868,078. Cl. 51.
Britex Corp. : *See*—
Fanallsburg, Ernest E.
Britt, Mary, Franklin, to Nashville Drug Mfg. Co., Nashville, Tenn. 502,340, ren. 4–8–69. Cl. 18.
Brown Shoe Co., Inc., St. Louis, Mo. 745,601, canc. Cl. 39.
Brunswick Worsted Mills, Inc., Pickens, S.C. 867,977–8, pub. 1–21–69. Cl. 43.
Builders Plumbing Supply Co., Chicago, Ill. 867,892–3, pub. 1–21–69. Cl. 31.
Bulova Watch Co., Inc., Flushing, N.Y. 258,603, ren. 4–8–69. Cl. 27.
Bundock, John P., Jr., d.b.a. Glee Industries, Deerfield, Ill. 745,568, canc. Cl. 51.
Bundy Corp., Detroit, Mich. 867,796, pub. 1–21–69. Cl. 13.
Bureau of National Affairs, Inc., The, Washington, D.C. 867,931, pub. 1–21–69. Cl. 38.
Burns Pharmaceuticals : *See*—
Burns Pharmaceuticals, Inc.
Burns Pharmaceuticals, Inc., d.b.a. Burns Pharmaceuticals, Oakland, Calif. 867,816, pub. 12–3–68. Cl. 18.
Burns Pharmaceuticals, Inc., d.b.a. Burns Pharmaceuticals, Oakland, Calif. 868,009, pub. 1–21–69. Cl. 51.

Calabrian Co., Inc., The, New York, N.Y. 745,550, canc. Cl. 46.
Cameo Curtains Inc., New York, N.Y. 509,239, ren. 4–8–69. Cl. 42.
Camp & McInnes, Inc., Reading, Pa. 867,957, pub. 1–21–69. Cl. 39.
Cannon Mills Co., Kannapolis, N.C. 867,967, pub. 1–21–69. Cl. 42.
Canuet Freres, to A. Lecocq & Roger Riou S.E.L.E.R., Paris, France. 441,793, ren. 4–8–69. Cl. 40.
Capitol Stage Lighting Co., Inc., New York, N.Y. 867,853–4, pub. 1–21–69. Cl. 21.
Carter-Wallace, Inc., New York, N.Y. 867,827, pub. 1–21–69. Cl. 18.
Carthage Mills Inc., Cincinnati, Ohio. 867,844, pub. 1–21–69. Cl. 20.
Casco Products Corp., Bridgeport, Conn. 745,402, canc. Cl. 23.
Celia Vineyards, d.b.a. Master Vintners Wine Co., Reedley, to United Vintners, Inc., d.b.a. Master Vintners Wine Co., San Francisco, Calif. 511,406, ren. 4–8–69. Cl. 47.
Celotex Corp., The, Tampa, Fla. 867,771, pub. 5–7–68. Cl. 12.
Cenco Instruments Corp., Chicago, Ill. 867,802, pub. 1–21–69. Cl. 13.
Chadbourn Gotham, Inc., Charlotte, N.C. 867,952, pub. 1–21–69. Multiple Class (Classes 39 and 43).
Chemetron Corp.: *See*—
Alloy Rods Co.
Chemical Industries, Inc., Borger, Tex. 867,765, pub. 1–21–69. Cl. 6.
Cherberg Co., Inc., Philadelphia, Pa. 745,515, canc. Cl. 39.
Cherokee Products Co., Haddock, Ga. 867,994, pub. 1–21–69. Cl. 46.
Chesterton, A. W., Co., Everett, Mass. 505,822, ren. 4–8–69. Cl. 35.
Cisco, Inc., New York, N.Y. 867,947, pub. 1–21–69. Cl. 39.
Clairol Inc., New York, N.Y. 747,408, canc. Cl. 51.
Clairol Inc., New York, N.Y. 867,984, pub. 1–21–69. Cl. 44.
Clairol Inc., New York, N.Y. 868,016–17, pub. 1–21–69. Cl. 51.
Clairol Inc., New York, N.Y. 868,030, pub. 1–21–69. Cl. 51.
Clorox Chemical Co., to The Clorox Co., Oakland, Calif. 505,907, ren. 4–8–69. Cl. 6.
Clorox Co., The: *See*—
Clorox Chemical Co.
Coast Navigation School: *See*—
Simonsen, Svend T.
Colbert, George, d.b.a. Fascination Jewelry Mfg. Co., Beverly Hills, Calif. 745,436, canc. Cl. 28.
Cole Valve Corp., Menomonee Falls, Wis. 867,798, pub. 1–21–69. Cl. 13.
Colgate-Palmolive Co., New York, N.Y. 867,821, pub. 1–21–69. Cl. 18.
Colgate-Palmolive Co., New York, N.Y. 868,037, pub. 1–21–69. Cl. 52.
College Hall, Inc., Middletown, N.J. 867,744, pub. 1–21–69. Multiple Class (Classes 3 and 39).
Color Monitor Corp., Rye, N.Y. 868,044, pub. 1–21–69. Cl. 101.
Columbia Pictures Corp., New York, N.Y. 745,477, canc. Cl. 36.
Columbia Wax Co.: *See*—
U.S. Borax & Chemical Corp.
Concord Textile Co., Inc., New York, N.Y. 745,533, canc. Cl. 42.
Congoleum Industries, Inc., from Congoleum-Nairn Inc., Kearny, N.J. 867,843, pub. 1–21–69. Cl. 20.
Congoleum-Nairn Inc.: *See*—
Congoleum Industries, Inc.
Continental Drill Corp., Inc., Chicago, Ill. 745,403, canc. Cl. 23.
Continental Machines, Inc., Savage, Minn. 867,792, pub. 11–5–68. Multiple Class (Classes 13 and 23).
Continental Oil Co., Ponca City, Okla. 745,313, canc. Cl. 16.
Continental Promotions, Inc., Minneapolis, Minn. 867,860, pub. 11–5–68. Cl. 22.
Control Components, Inc., Los Alamitos, Calif. 867,809, pub. 1–21–69. Cl. 13.
Cook, Dave, Sporting Goods Co., Denver, Colo. 442,564, ren. 4–8–69. Cl. 22.
Correct Garment Co., Inc., New York, N.Y. 745,527, canc. Cl. 39.
Countess Natalie: *See*—
Countess Natalie, Inc.
Countess Natalie, Inc., from Countess Natalie, Chicago, Ill. 868,005–7, pub. 1–21–69. Cl. 50.
Crest, Inc., Asheville, N.C. 745,454, canc. Cl. 32.
Crest Jewelry Co.: *See*—
Weiss, Haroid.
Cristalleries Du Val Saint Lambert, Val-Saint-Lambret, Liege Belgium. 867,901, pub. 1–21–69. Cl. 33.
Crouch & Fitzgerald Corp., New York, N.Y. 506,296, ren. 4–8–69. Cl. 3.
Crouch & Fitzgerald Corp., New York, N.Y. 507,408, ren. 4–8–69. Cl. 3.
Crown Zellerbach Corp., San Francisco, Calif. 761,645. Am. 7(d). Cl. 37.
Curran, Frank J., Co., Downers Grove, Ill. 867,764, pub. 1–21–69. Cl. 6.
Dacar Chemical Products Co., Pittsburgh, Pa. 867,752, pub. 1–21–69. Cl. 6.
Dan River Mills, Inc., Danville, Va. 867,966, pub. 1–21–69. Cl. 42.
Data Corp., from Data Corp., Dayton, Ohio. 867,874, pub. 1–21–69. Cl. 26.
Daval Ring Mfg., Inc., Philadelphia, Pa. 745,425, canc. Cl. 28.
Davidsville Sportswear Co., Davidsville, Pa. 867,943, pub. 1–21–69. Cl. 39.
Dayco Corp., Dayton, Ohio. 867,897, pub. 10–15–68. Cl. 32.
Decorator Industries, Inc., Pittsburgh, Pa. 867,962–4, pub. 1–21–69. Cl. 42.
Deering Milliken, Inc., New York, N.Y. 867,975, pub. 1–21–69. Cl. 42.
Deering Milliken, Inc., New York, N.Y. 867,979–80, pub. 1–21–69. Cl. 43.
De Kalb AG Research, Inc., from De Kalb Agricultrual Association, Inc., De Kalb, Ill. 867,733, pub. 1–21–69. Cl. 1.
De Kalb Agricultural Association, Inc.: *See*—
De Kalb AG Research, Inc.
Dell Publishing Co., Inc., New York, N.Y. 745,501, canc. Cl. 38.
Design Establishment, Inc., The, New York, N.Y. 867,945, pub. 1–21–69. Cl. 39.
Dewco Corp., Syracuse, N.Y. 745,453, canc. Cl. 31.
Dif Corp., Garwood, N.J., to Harrell International, Inc., Westport, Conn. 506,859, ren. 4–8–69. Cl. 52.
Diffraction Ltd., Inc., Natick, Mass. 745,597, canc. Cl. 26.
Di Giorgio Fruit Corp., San Francisco, Calif. 745,549, canc. Cl. 46.
Dixie Yarns, Inc., Chattanooga, Tenn. 867,976, pub. 1–21–69. Cl. 43.
Donoho, Velma I., d.b.a. Peel-A-Meal, Santee, Calif. 745,553, canc. Cl. 46.
Donovan Coffee Co., Birmingham, Ala. 867,995, pub. 1–21–69. Cl. 46.
Doxakis, Anest, to Annie Doxakis, d.b.a. Doxakis Co., Houston, Tex. 249,128, ren. 4–8–69. Cl. 18.
Doxakis, Annie: *See*—
Doxakis, Anest.
Doxakis Co.: *See*—
Doxakis, Anest.
Draper Bros. Co., Canton, Mass. 745,537, canc. Cl. 42.
Dresser Industries, Inc.: *See*—
Magnet Cove Barium Corp.
Drug Houses of Australia Ltd.: *See*—
Hudson's Eumenthol Chemical Co. Pty. Ltd.
D'Ulisse, William, d.b.a. House of William Beauty Salon, Drexel Hill, Pa. 868,004, pub. 1–21–69. Cl. 50.
Dunloggin Classics, Inc., New York, N.Y. 867,948, pub. 1–21–69. Cl. 39.
Du Pont de Nemours, E. I., & Co., Wilmington, Del. 867,738, pub. 1–21–69. Cl. 1.
Dutton, Glenn H., d.b.a. Dutton Mfg. Co., El Cajon, Calif. 867,877, pub. 10–8–68. Cl. 26.
Dutton Mfg. Co.: *See*—
Dutton, Glenn H.
Dynacast Ltd., Lachine, Quebec, Canada. 867,870–1, pub. 1–21–69. Cl. 23.
Dynamic Classics, Ltd., New York, N.Y. 867,790, pub. 1–21–69. Cl. 13.
Eastman Kodak Co., Rochester, N.Y. 745,415, canc. Cl. 26.
Eastman Kodak Co., Rochester, N.Y. 867,753, pub. 1–21–69. Cl. 6.
Edison Electric Appliance Co., to General Electric Co., Louisville, Ky. 250,756. Am. 7(d). Cl. 21.
Electric Steel Foundry, to Esco Corp., Portland, Oreg. 508,915, ren. 4–8–69. Cl. 13.
Elkay Mfg. Co., Broadview, Ill. 867,789, pub. 1–21–69. Cl. 13.
Elliott, B., (Canada), Ltd., Port Hope, Ontario, Canada. 745,595, canc. Cl. 23.
Endicott Johnson Corp., Endicott, N.Y. 867,942, pub. 1–21–69. Cl. 39.
Engelhard Industries, Inc., Newark, N.J. 745,602, canc. Cl. 44.
Erban, C. K., Co., Inc., Fitchburg, Mass. 745,588, canc. Cl. 103.
Esco Corp.: *See*—
Electric Steel Foundry.
Essick Mfg. Co.: *See*—
"Automatic" Sprinkler Corp. of America.
Eurolink Corp., New York, N.Y. 867,934, pub. 1–21–69. Cl. 39.
Evans, E. B., Inc.: *See*—
Fowler, John E.
Evyan Perfumes, Inc.: *See*—
Westall, Evelyn.
F.E.I. Corp., The, Pittsburgh, Pa., and Dover, Del., to Ar. Winarick, Inc., New York, N.Y. 510,679, ren. 4–8–69. Cl. 51.
FMC Corp.: *See*—
Niagara Sprayer Co.
Fairmont Foods Co., Omaha, Nebr. 867,991, pub. 10–22–68. Cl. 46.
Family Achievement Institute, Salt Lake City, Utah. 867,917, pub. 1–21–69. Cl. 36.
Fanalisburg, Ernest E., d.b.a. Van Chemical Co., Detroit, Mich., to Britex Corp., Holbrook, Mass. 442,068, ren. 4–8–69. Cl. 52.
Farafone, Inc., from Miniature Electronics Devices, Inc., Orlando, Fla. 745,359, canc. Cl. 21.
Farr Co., El Segundo, Calif. 867,894, pub. 1–21–69. Cl. 31.
Fascination Jewelry Mfg. Co.: *See*—
Colbert, George.
Ferrell, Donald B., d.b.a. Ferrell Mfg. Co., Groton, N.Y. 745,277, canc. Cl. 9.
Ferrell Mfg. Co.: *See*—
Ferrell, Donald B.
Finn Industries, Inc., The, Chicago, Ill. 867,743, pub. 1–21–69. Cl. 2.
Finn Industries, Inc., The, Chicago, Ill. 867,868, pub. 1–21–69. Cl. 23.
Flair Fold-Down Awnings, Inc., Miami, Fla. 745,287, canc. Cl. 12.
Flintkote Co., The, New York, N.Y. 867,776, pub. 1–21–69. Cl. 12.
Florasynth, Inc.: *See*—
Florasynth Laboratories, Inc.
Florasynth Laboratories, Inc., New York, to Florasynth, Inc., Bronx, N.Y. 441,906, ren. 4–8–69. Cl. 46.

Fogarty, Anne, Inc., New York, N.Y. 867,935, pub. 1–21–69. Cl. 39.
Ford Motor Co., Dearborn, Mich. 867,834, pub. 1–21–69. Cl. 19.
Forney's Inc., New Castle, Pa. 745,598, canc. Cl. 26.
Fowler, John E., Rosslyn, Va., to E. B. Evans, Inc., Philadelphia, Pa. 507,082–3, ren. 4–8–69. Cl. 45.
Frank Bros. Footwear, Inc.: *See*—
Frank Bros.
Frank Bros., New York, N.Y., to Frank Bros. Footwear, Inc., Nashville, Tenn. 71,578, ren. 4–8–69. Cl. 39.
Freeman & Gossage, Inc., San Francisco, Calif. 867,741, pub. 1–21–69. Cl. 2.
Fried, Jeffrey L., d.b.a. Walton-March, Highland Park, Ill. 867,754, pub. 1–21–69. Cl. 6.
Frost, H., & Co. Ltd., Walsall, England. 867,902, pub. 12–10–68. Cl. 34.
Fuji Knitwear Co.: *See*—
Kurokawa, Edward M.
Fuller, H. B., Co., St. Paul, Minn. 867,782, pub. 1–21–69. Cl. 12.
GAF Corp., from General Aniline & Film Corp., New York, N.Y. 867,780, pub. 4–23–68. Cl. 12.
GAF Corp., New York, N.Y., from American Felt Co., Glenville, Conn. 867,896, pub. 1–21–69. Cl. 31.
GCL Mercantile Corp., from General Consolidated, Ltd., Lodi, N.J. 867,867, pub. 1–21–69. Cl. 23.
Gallenkamp Stores Co., Los Angeles, Calif., to Shoe Corp. of America, Columbus, Ohio. 503,616, ren. 4–8–69. Cl. 39.
Garret Distributing Co., Harrisburg, Pa. 745,574, canc. Cl. 52.
Gass, Robert H., Pleasant Ridge, Mich. 745,499, canc. Cl. 36.
Gaymont Laboratories, Inc., Chicago, Ill. 867,992, pub. 11–12–68. Cl. 46.
Geigy Chemical Corp.: *See*—
Aniline Color & Extract Works.
Gelardi Co.: *See*—
Gelardi, Joseph.
Gelardi, Joseph, d.b.a. Gelardi Co., New York, N.Y. 745,432, canc. Cl. 28.
Gemini Distributing Co.: *See*—
Howcroft, Max D.
General Aniline & Film Corp.: *See*—
GAF Corp.
General Consolidated, Ltd.: *See*—
GCL Mercantile Corp.
General Crafts Corp., Baltimore, Md. 868,074. Cl. 50.
General Tire & Rubber Co., The, Akron, Ohio. 867,907, pub. 1–21–69. Cl. 35.
George, K. A., & Son Mellomint Corp., Washington, Pa. 745,321, canc. Cl. 17.
Gillette Co., The, Boston, Mass. 868,029, pub. 1–21–69. Multiple Class (Classes 51 and 52).
Gilmour Mfg. Co.: *See*—
Gilmour, Robert A.
Gilmour, Robert A., d.b.a. Gilmour Mfg. Co., Somerset, Pa. 867,786, pub. 7–19–66. Cl. 13.
Glatfelter, P. H., Co., Spring Grove, Pa. 867,919–20, pub. 11–12–68. Cl. 37.
Glee Industries: *See*—
Bundock, John P., Jr.
Glenoit Mills, Inc., New York, N.Y. 867,971, pub. 1–21–69. Cl. 42.
Glensder Corp., New York, N.Y. 867,944, pub. 1–21–69. Cl. 39.
Goetze, Albert F., Inc., Baltimore, Md. 745,561, canc. Cl. 46.
Gould-National Batteries, Inc.: *See*—
Hobbs Battery Co.
Goulds Pumps, Inc., Seneca Falls, N.Y. 867,863, pub. 10–1–68. Cl. 23.
Grace, W. R., & Co., Cambridge, Mass. 867,824, pub. 1–21–69. Cl. 18.
Graef, Jean R., Inc., New York, N.Y. 505,730, ren. 4–8–69. Cl. 27.
Granax S.A., Geneva, Switzerland. 745,552, canc. Cl. 46.
Graniteville Co., Graniteville, S.C. 867,965, pub. 1–21–69. Cl. 42.
Greene, Tweed & Co., New York, N.Y., to Greene, Tweed & Co., Inc., North Wales, Pa. 253,531, ren. 4–8–69. Cl. 35.
Greene, Tweed & Co., Inc.: *See*—
Greene, Tweed & Co.
Gwaltney Inc., Smithfield, Va. 868,073. Cl. 46.
Haire Publishing Co., Inc.: *See*—
Haire Publishing Corp.
Haire Publishing Corp., from Haire Publishing Co., Inc., New York, N.Y. 868,067. Cl. 38.
Halby Chemical Co., Inc., Wilmington, Del. 867,760, pub. 1–21–69. Cl. 6.
Hall, Robert, Clothes: *See*—
Hall, Robert, Clothes, Inc.
Hall, Robert, Clothes, Inc., d.b.a. Robert Hall Clothes, New York, N.Y. 867,932, pub. 1–21–69. Cl. 39.
Hansley Mills, Inc., Paris, Ky. 745,522, canc. Cl. 39.
Harmo Tire & Rubber Corp., Detroit, Mich. 867,908, pub. 1–21–69. Cl. 35.
Harrell International, Inc.: *See*—
Dif Corp.
Hastings Irrigation Pipe Co., Hastings, Nebr. 867,799, pub. 1–21–69. Cl. 13.
Hauer, William H., Poland, Ohio. 868,050, pub. 1–21–69. Cl. 103.
Heidenberg Textile Fabrics Co., Inc., New York, N.Y., from Heidenberg Textile Fabrics Co., Closter, N.J. 858,651, canc. Cl. 42.
Heller & Usdan, Inc., New York, N.Y. 745,495, canc. Cl. 37.
Henckels, J. A., Zwillingswerk AG, Solingen, Germany. 867,787, pub. 1–21–69. Cl. 13.
Henry's Camera Corp., Los Angeles, Calif. 867,879, pub. 1–21–69. Cl. 26.
Herman, I. C., & Co., Inc., New York, N.Y. 745,520–1, canc. Cl. 39.
Herman, Norman J., d.b.a. Beverley Products, Toronto, Ontario, Canada. 745,379, canc. Cl. 22.
Hess, Paul, d.b.a. Paul Hess Products, Chicago, Ill. 745,467, canc. Cl. 34.
Hess, Paul, Products: *See*—
Hess, Paul.
Hilton Hotels Corp., Chicago, Ill. 868,021, pub. 1–21–69. Cl. 51.
Hitachi, Ltd., Tokyo, Japan. 867,912, pub. 1–21–69. Cl. 36.
Hobbs Battery Co., San Francisco, Calif., to Gould-National Batteries, Inc., St. Paul, Minn. 506,698, ren. 4–8–69. Cl. 21.
Homewood Cabinet Top Co.: *See*—
Homewood Industries, Inc.
Homewood Industries, Inc., from Homewood Cabinet Top Co., Homewood, Ill. 868,060. Cl. 32.
Hoover, Gloria J., Granville, Ohio. 867,998, pub. 1–21–69. Cl. 46.
Hornsby & Thorndyke, Inc., Canton, Mass. 867,784, pub. 1–21–69. Cl. 12.
Horwitz, Vincent, Co., Inc., New York, N.Y., to Vincent Horwitz Co., Inc., Altoona, Pa. 253,630, ren. 4–8–69. Cl. 39.
Houbigant, Inc., New York, N.Y. 868,079. Cl. 51.
House of William Beauty Salon: *See*—
D'Ulisse, William.
Howcroft, Max D., d.b.a. Gemini Distributing Co., Modesto, Calif. 867,767, pub. 1–21–69. Cl. 6.
Hudson's Eumenthol Chemical Co. Pty. Ltd., Glebe, Sydney, New South Wales, to Drug Houses of Australia Ltd., Melbourne, Victoria, Australia. 505,817, ren. 4–8–69. Cl. 18.
Huff Tool & Mfg. Co., Inc.: *See*—
Welt, Louis A.
Hummel Technical Products, Inc., New York, N.Y. 745,576, canc. Cl. 100.
Huron Tackle Co.: *See*—
Tarnowski, Donald G.
International Allied Printing Trades Association, Colorado Springs, Colo. 507,088, ren. 4–8–69. Cl. 38.
International Breweries, Inc., Detroit, Mich., from Bavarian Brewing Co., Covington, Ky. 868,002, pub. 5–27–58. Cl. 48.
International Paint Co., Inc., New York, N.Y. 508,524, ren. 4–8–69. Cl. 16.
International Typographical Union, Colorado Springs, Colo. 507,089, ren. 4–8–69. Cl. 38.
Ishihara Sangyo Kaisha Ltd., Osaka-shi, Japan. 867,755, pub. 1–21–69. Cl. 6.
Ishihara Sangyo Kaisha Ltd., Osaka-shi, Japan. 867,762, pub. 1–21–69. Cl. 6.
Ives Laboratories Inc.: *See*—
Wyeth, John, & Bro., Inc.
Jansen Electronic Mfg. Inc., St. Paul, Minn. 761,872, cor.
Jaymar-Ruby, Inc., Michigan City, Ind. 867,960, pub. 1–21–69. Cl. 42.
Jen Products, Inc., Bethel, Vt. 868,076. Cl. 50.
Joens, W. H., & Co., G.m.b.H., Martinstrasse, Germany. 867,885, pub. 1–21–69. Cl. 26.
John's Bargain Stores Corp., New York, N.Y. 745,505, canc. Cl. 39.
Joslyn Mfg. & Supply Co., Chicago, Ill. 867,773, pub. 1–21–69. Cl. 12.
Joslyn Mfg. & Supply Co., Chicago, Ill. 867,850, pub. 1–21–69. Cl. 21.
Judson Jewelry Corp., New York, N.Y. 745,431, canc. Cl. 28.
Kabushiki Kaisha Ozaki Seisakusho, d.b.a. Ozaki Mfg. Co. Ltd., Tokyo, Japan. 867,878, pub. 1–21–69. Cl. 26.
Kanda Tsushin Kogyo Co., Ltd., Tokyo, Japan. 867,851, pub. 11–5–68. Cl. 21.
Kaplan, A. & I, Co. Inc., New York, N.Y. 745,427, canc. Cl. 28.
Kasparian, Sinbad, d.b.a. Rose Stamp Co., Granite City, Ill. 745,584, canc. Cl. 101.
Kellogg Co., Battle Creek, Mich. 867,997, pub. 1–21–69. Cl. 46.
Kelly-Springfield Tire Co., The, Cumberland, Md. 867,909, pub. 1–21–69. Cl. 35.
Kendall Co., The, Boston, Mass. 868,033, pub. 6–25–68. Cl. 52.
Kimberly-Clark Corp.: *See*—
Neenah Paper Co.
Kimberly-Clark Corp., Neenah, Wis. 867,988, pub. 1–21–69. Cl. 44.
Kimmey, Ray W., Dayton, Ohio. 867,769, pub. 1–21–69. Cl. 10.
Kirsch Co., Sturgis, Mich. 867,795, pub. 1–21–69. Cl. 13.
Klipsch & Associates, Inc., Hope, Ark. 867,849, pub. 1–21–69. Cl. 21.
Klockner Handelmaatschappij N.V., The Hague, Netherlands. 867,875, pub. 1–21–69. Cl. 26.
Knomark, Inc.: *See*—
Knomark Mfg. Co., Inc.
Knomark Mfg. Co., Inc., Brooklyn, to Knomark, Inc., Jamaica, N.Y. 502,685, ren. 4–8–69. Cl. 4.
Knott, Wm. T., Co., Inc., New York, N.Y., to Mercantile Stores Co., Inc., Wilmington, Del. 251,257, ren. 4–8–69. Cl. 42.
Kresge, S. S., Co., Detroit, Mich. 867,864–5, pub. 1–21–69. Cl. 23.
Kurokawa, Edward M., d.b.a. Fuji Knitwear Co., New York, N.Y. 745,509–10, canc. Cl. 39.
Lakeside Laboratories, Inc., Milwaukee, Wis. 745,325, canc. Cl. 18.

Laliberte, Gerald O., Windsor, Ontario, Canada. 867,810, pub. 1–21–69. Cl. 13.
Leatherneck Association, Inc., The, Washington, D.C. 867,928, pub. 1–21–69. Cl. 38.
Lecocq, A., & Roger Riou S.E.L.E.R.: *See*—
Canuet Freres.
Lemingwell Chemical Co., Brea, Calif. 867,763, pub. 1–21–69. Cl. 6.
Lelong, Lucien, Inc., Chicago, Ill., to Parfums Lucien Lelong Corp., New York, N.Y. 505,392, ren. 4–8–69. Cl. 51.
Livingston, Edw., & Sons, Inc., Kansas City, Mo. 867,862, pub. 5–7–68. Cl. 23.
Lockheed Aircraft Corp., Burbank, Calif. 441,301, ren. 4–8–69. Cl. 19.
Lone Star Brewing Co., San Antonio, Tex. 868,003, pub. 1–21–69. Cl. 48.
Lunkenheimer Co., The, to The Lunkenheimer Co., Cincinnati, Ohio. 442,901, ren. 4–8–69. Cl. 13.
MacMillan Ring-Free Oil Co., Inc., Los Angeles, Calif. 745,311, canc. Cl. 16.
Maco Corp., The, Huntington, Ind. 745,298, canc. Cl. 12.
Macy, R. H., & Co., Inc., New York, N.Y. 252,368, ren. 4–8–69. Cl. 23.
Magnet Cove Barium Corp., Houston, to Dresser Industries, Inc., Dallas, Tex. 510,848, ren. 4–8–69. Cl. 6.
Magnolia Plastics, Inc., Chamblee, Ga. 867,735, pub. 11–19–68. Cl. 1.
Maid-O'-Mist, Inc., Chicago, Ill., to Sunroc Corp., Glen Riddle, Pa. 510,231, ren. 4–8–69. Cl. 34.
Mammoth Spring Canning Corp., Sussex, Wis. 867,989, pub. 4–30—68. Cl. 46.
Mandarin Textiles Ltd., Kowloon, Hong Kong. 867,951, pub. 1–21–69. Cl. 39.
Martin, J. B., Co., Norwich, Conn. 441,261, ren. 4–8–69. Cl. 42.
Martinez, Jose R., Madrid, Spain. 867,910, pub. 1–21–69. Cl. 36.
Maryland Paper Box Co., Baltimore, Md. 868,054. Cl. 2.
Master Vintners Wine Co.: *See*—
Celia Vineyards.
Mastic Corp., South Bend, Ind. 745,281, canc. Cl. 12.
Mastic Corp., South Bend, Ind. 745,286, canc. Cl. 12.
Maternally Yours, Inc.: *See*—
Sealfon, Gilbert, and Dorothy Loeb.
Mattel, Inc., Hawthorne, Calif. 867,861, pub. 1–21–69, Cl. 22.
McDermott, Julian A., Corp., Brooklyn, N.Y. 745,353, canc. Cl. 21.
McNaught Syndicate, Inc., The, New York, N.Y. 867,927, pub. 1–21–69. Cl. 38.
McNaught Syndicate, Inc., The, New York, N.Y. 867,929, pub. 1–21–69. Cl. 38.
Medco Products Co., Inc., Tulsa, Okla. 867,983, pub. 1–21–69. Cl. 44.
Mercantile Stores Co., Inc.: *See*—
Knott, Wm. T., Co., Inc.
Mercantile Stores Co., Inc., New York, N.Y. 867,974, pub. 1–21–69. Cl. 42.
Mergers & Acquisitions, Inc., Washington, D.C. 868,070. Cl. 38.
Merit Jewelry Casting Co., New York, N.Y. 745,433, canc. Cl. 28.
Metal Corrosion Control: *See*—
Whalen, Raymond, and Charles E. Weber.
Micropoint, Inc., Sunnyvale, Calif. 868,063. Cl. 37.
Miffin Chemical Corp., Philadelphia, Pa., to The Miffin, McCambridge Co., Riverdale, Md. 257,784, ren. 4–8–69. Cl. 18.
Miffin, McCambridge Co., The: *See*—
Miffin Chemical Corp.
Miller-Wohl Co., Inc., The, New York, N.Y. 868,047, pub. 1–21–69. Cl. 101.
Million Dollar Round Table of The National Association of Life Underwriters, Chicago, Ill. 868,048–9, pub. 1–21–69. Cl. 102.
Milwaukee Valve Co., Inc., Milwaukee, Wis. 867,811, pub. 1–21–69. Cl. 13.
Miniature Electronics Devices, Inc.: *See*—
Farafone, Inc.
Minneapolis-Honeywell Regulator Co., Philadelphia, Pa. 745,409, canc. Cl. 26.
Mintz, Jack, New York, N.Y. 252,362, ren. 4–8–69. Cl. 46.
Miracle Lubricating Corp., Detroit, Mich., to Miracle Power Products Corp., Cleveland, Ohio. 503,298, ren. 4–8–69. Cl. 15.
Miracle Power Products Corp.: *See*—
Miracle Lubricating Corp.
Mirra-Cote Co., Inc.: *See*—
Mirra-Cote Industries, Inc.
Mirra-Cote Industries, Inc., from Mirra-Cote Co., Inc., El Segundo, Calif. 867,788, pub. 12–31–68. Cl. 13.
Mirro Aluminum Co., Manitowoc, Wis. 867,803–4, pub. 1–21–69. Multiple Class (Classes 13 and 21).
Modecraft Co., Inc., Brooklyn, N.Y. 867,812, pub. 1–21–69. Cl. 13.
Mohasco Industries, Inc., Amsterdam, N.Y. 867,968, pub. 1–21–69. Cl. 42.
Molex Products Co., Downers Grove, Ill. 867,856, pub. 1–21–69. Cl. 21.
Molinard: *See*—
Benard & Honnorat.
Morris, Philip, Inc., New York, N.Y. 868,001, pub. 1–21–69. Cl. 46.
Mosal Aluminum A/S, Oslo, Norway. 867,740, pub. 1–21–69. Multiple Class (Classes 2, 12, 13, 14, and 21).
Mosal Aluminum A/S, Oslo, Norway. 868,051, pub. 1–21–69. Cl. 106.
Multiform Desiccant Products, Inc., Buffalo, N.Y. 867,756, pub. 1–21–69. Cl. 6.
Murray Ohio Mfg. Co., The, Nashville, Tenn. 867,833, pub. 1–21–69. Cl. 19.
Musical Specialties, Inc., New Brunswick, N.J. 867,916, pub. 1–21–69. Cl. 36.
N.V. Nederlandsche Kabelfabrieken, Delt, Netherlands. 867,876, pub. 1–21–69. Cl. 26.
Nalco Chemical Co., Chicago, Ill. 868,035, pub. 1–21–69. Cl. 52.
Narrod, Kenneth, Moving Co., Waukegan, Ill. 862,905, cor. Cl. 105.
Nashville Drug Mfg. Co.: *See*—
Britt, Mary.
National Cash Register Co., The, Dayton, Ohio. 867,922, pub. 1–21–69. Cl. 37.
National Dairy Products Corp., New York, N.Y. 867,993, pub. 10–1–68. Cl. 46.
National Periodical Publications, Inc., New York, N.Y. 867,930, pub. 1–21–69. Cl. 38.
National Products Corp., Tampa, Fla. 745,563, canc. Cl. 46.
National Screw & Mfg. Co., The, Cleveland, Ohio. 867,793, pub. 1–21–69. Cl. 13.
National Telephone Supply Co., The, Cleveland, Ohio. 505,917, ren. 4–8–69. Cl. 21.
National Union Electric Corp.: *See*—
National Union Radio Corp.
National Union Radio Corp., Newark, N.J., to National Union Electric Corp., Bloomington, Ill. 442,854, ren. 4–8–69. Cl. 21.
Neenah Paper Co., to Kimberly-Clark Corp., Neenah, Wis. 508,779–80, ren. 4–8–69. Cl. 37.
Nelson Electric Mfg. Co., Tulsa, Okla. 745,362, canc. Cl. 21.
Neotis S.A.S., Villaguardia, Como, Italy. 868,010, pub. 1–21–69. Cl. 51.
New International Entertainment Establishment, Vaduz, Liechtenstein. 867,911, pub. 1–21–69. Cl. 36.
New Mechanisms Corp., Baltimore, Md. 745,393, canc. Cl. 23.
Newberry, J. J., Co., New York, N.Y. 745,405, canc. Cl. 24.
Niagara Sprayer Co., Middleport, to FMC Corp., New York, N.Y. 255,486, ren. 4–8–69. Cl. 6.
Nina Footwear Co., Inc., Long Island City, N.Y. 867,955, pub. 1–21–69. Cl. 39.
Noble, F. H., & Co., Chicago, Ill. 506,644, ren. 4–8–69. Cl. 28.
Noma Electric Corp., New York, N.Y., to Noma Lites Corp., St. Joseph, Mo. 248,544, ren. 4–8–69. Cl. 21.
Noma Lites Corp.: *See*—
Noma Electric Corp.
Nooter Corp., St. Louis, Mo. 867,904, pub. 1–21–69. Cl. 34.
Norman, Merle, Cosmetics, Inc., Los Angeles, Calif. 868,013, pub. 1–21–69. Cl. 51.
Norman Watch Co., New York, N.Y. 867,890, pub. 1–21–69. Cl. 27.
North American Rockwell Corp., Pittsburgh, Pa. 867,835–42, pub. 1–21–69. Cl. 19.
North Carolina National Bank: *See*—
Nunnally Co., The.
Norton Co., Watervliet, N.Y. 867,747, pub. 1–21–69. Cl. 4.
Norwich Knitting Co., to Norwich Mills, Inc., Norwich, N.Y. 507,277, ren. 4–8–69. Cl. 39.
Norwich Mills, Inc.: *See*—
Norwich Knitting Co.
Nunnally Co., The, Atlanta Ga., and Birmingham, Ala., to North Carolina National Bank. Trustee of Fine Products Co., Inc., Greensboro, N.C. 72,383, ren. 4–8–69. Cl. 46.
Nutrena Mills, Inc., Minneapolis, Minn. 745,323, canc. Cl. 18.
Nutting Industries Ltd., Milwaukee, Wis. 867,886, pub. 1–21–69. Cl. 26.
O. K. Tire & Rubber Co., Inc., Littleton, Colo. 867,906, pub. 1–21–69. Cl. 35.
Oshkosh B'Gosh, Inc., Oshkosh, Wis. 511,479–80, ren. 4–8–69. Cl. 39.
Owens-Corning Fiberglass Corp., Toledo, Ohio. 867,774, pub. 1–21–69. Cl. 12.
Owens-Illinois Glass Co., to Owens-Illinois, Inc., Toledo, Ohio. 502,994, ren. 4–8–69. Cl. 33.
Owens-Illinois, Inc.: *See*—
Owens-Illinois Glass Co.
Ozaki Mfg. Co. Ltd.: *See*—
Kabushiki Kaisha Ozaki Seisakusho.
PD–No. 5–CO: *See*—
Arisman, Fred J.
PPG Industries, Inc.: *See*—
Pittsburgh Plate Glass Co.
Paillard, E., & Cie, S.A., now by change of name Paillard S.A. (Paillard A.G., Paillard Ltd.), Sainte-Croix, Switzerland, to Paillard Inc., Linden, N.J. 442,763, ren. 4–8–69. Cl. 26.
Paillard Inc.: *See*—
Paillard, E., & Cie, S.A.
Paillard S.A. (Paillard A.G., Paillard Ltd.): *See*—
Paillard, E., & Cie, S.A.
Pan-Am: *See*—
Pan-Am Cosmetic Co., Inc.
Pan-Am Cosmetic Co., Inc., d.b.a. Pan-Am, Brooklyn, N.Y. 868,028, pub. 1–21–69. Cl. 51.
Panametrics, Inc., New York, N.Y., from Panametrics, Inc., Waltham, Mass. 867,887, pub. 1–21–69. Cl. 26.
Paradise Fruit Co., Inc., Plant City, Fla. 867,990, pub. 7–9–68. Cl. 46.
Paragon Oil Burner Corp., Long Island City, N.Y. 745,468, canc. Cl. 34.
Parfums Evyan Co.: *See*—
Westall, Evelyn.
Parfums Lucien Lelong Corp.: *See*—
Lelong, Lucien, Inc.

Parfums, Marcel Rochas, Inc., New York, N.Y. 868,014, pub. 1–21–69. Cl. 51.
Parke, Davis & Co., Detroit, Mich. 867,825, pub. 1–21–69. Cl. 18.
Pechter Baking Co. Inc., Brooklyn, N.Y. 507,184, ren. 4–8–69. Cl. 46.
Peel-A-Meal: *See*—
Donoho, Velma I.
Pennsylvania Pacific Corp., Warminster, Pa. 867,772, pub. 1–21–69. Cl. 12.
Penton Publishing Co., The, Cleveland, Ohio. 868,065. Cl. 38.
Perrill, Harlan K., Los Angeles, Calif. 867,872, pub. 1–21–69. Cl. 25.
Peters, Leo, Grand Rapids, Mich. 509,396, ren. 4–8–69. Cl. 45.
Peterson Bros., Inc., Jacksonville, Fla. 745,285, canc. Cl. 12.
Pfizer, Chas., & Co., Inc., New York, N.Y. 745,556, canc. Cl. 46.
Pfizer, Chas., & Co., Inc., New York, N.Y. 868,025–7, pub. 1–21–69. Cl. 51.
Phoenix Precision Instrument Co., Philadelphia, Pa. 867,880, pub. 11–5–68. Cl. 26.
Pierce Chemical Co., Rockford, Ill. 867,757–9, pub. 1–21–69. Cl. 6.
Pittsburgh Plate Glass Co., to PPG Industries, Inc., Pittsburgh, Pa. 253,224, ren. 4–8–69. Cl. 16.
Piezo Preparations, Inc., Lewistown, Pa. 507,617, ren. 4–8–69. Cl. 51.
Plymouth Rubber Co., Inc., Canton, Mass. 867,736, pub. 1–21–69. Cl. 1.
Pollak, Henry, Inc., New York, N.Y. 745,250, canc. Cl. 3.
Pop's Textiles Corp., New York, N.Y. 745,542, canc. Cl. 43.
Por-Vene Mfg., Inc., La Mirada, Calif. 867,785, pub. 1–21–69. Cl. 12.
Poss' Famous Foods, Inc., Athens, Ga. 868,038, pub. 1–21–69. Cl. 100.
Potlatch Forests, Inc., Pomona, Calif. 745,491–2, canc. Cl. 37.
Practical Mfg. Co.: *See*—
Practical Products Co.
Practical Products Co., Minneapolis, to Practical Mfg. Co., Hopkins, Minn. 442,848, ren. 4–8–69. Cl. 52.
Premier Knitting Co. Inc., New York, N.Y. 745,536, canc. Cl. 42.
Price-Pfister Brass Mfg. Co., Pacoima, Calif. 867,794, pub. 1–21–69. Cl. 13.
Process Solvent Co., Inc., Kansas City, Kans. 867,761, pub. 1–21–69. Cl. 6.
Procter & Gamble Co., The, Cincinnati, Ohio. 248,425, ren. 4–8–69. Cl. 52.
Priestley, B., & Co., Inc., New York, N.Y. 511,896, ren. 4–8–69. Cl. 42.
Putman Publishing Co., Chicago, Ill. 867,926, pub. 1–21–69. Cl. 38.
Quaker Chemical Corp., Conshohocken, Pa. 867,814, pub. 2–2–65. Cl. 16.
Quaker City Laundry, Inc., Philadelphia, Pa. 745,592, canc. Cl. 106.
Quikey Mfg. Co., Inc., Akron, Ohio. 868,056. Cl. 3.
R-L Laboratories, Inc., New York, N.Y. 867,986, pub. 1–21–69. Cl. 44.
Radiant Color Co., Richmond, Calif. 867,961, pub. 1–21–69. Cl. 42.
Radio Corp. of America, to Radio Corp. of America, New York, N.Y. 253,286, ren. 4–8–69. Cl. 21.
Radio Corp. of America, New York, N.Y. 867,899–900, pub. 1–21–69. Cl. 32.
Railroad Friction Products Corp., Wilmerding, Pa. 867,832, pub. 1–21–69. Multiple Class (Classes 19 and 23).
Ralston Purina Co., St. Louis, Mo. 867,826, pub. 1–21–69. Cl. 18.
Rank Organisation Ltd.: *See*—
Taylor, Raylor & Hobson, Ltd.
Red Star Dairy Supply Co.: *See*—
Wiedenfeld, George, and Adeline Wiedenfeld.
Reese Products, Inc., Elkhart, Ind. 868,059. Cl. 23.
Regal Ware, Inc., Kewaskum, Wis. 867,791, pub. 1–21–69. Cl. 13.
Reiter, James F., Jr., Glenview, Ill. 868,042, pub. 1–21–69. Cl. 101.
Rembrandt Charms, Inc., New York, N.Y. 745,430, canc. Cl. 28.
Restonic Corp., Chicago, Ill. 868,062. Cl. 32.
Revlon, Inc., New York, N.Y. 868,077. Cl. 51.
Rexall Drug & Chemical Co., Los Angeles, Calif., from Beauty Counselors, Inc., Grosse Pointe, Mich. 868,024, pub. 1–21–69. Cl. 51.
Rhines, Frederick W., Los Altos, Calif. 867,777–9, pub. 1–21–69. Cl. 12.
Riblet Products, Inc., Elkhart, Ind. 745,343, canc. Cl. 19.
Ric Sales Corp., Rockville Centre, N.Y. 867,940, pub. 1–21–69. Cl. 39.
Richardson-Merrell Inc., New York, N.Y. 867,818, pub. 1–21–69. Cl. 18.
Rig Products Co.: *See*—
Wiles, Russell, Jr.
Ringler-Dorin, Inc., New York, N.Y. 867,884, pub. 1–21–69. Cl. 26.
Rivers, Bill, Trailers, Inc., Jacksonville, Fla. 867,895, pub. 1–21–69. Cl. 31.
Road Runner Campgrounds, Inc., Hamburg, Ark. 868,043, pub. 1–21–69. Cl. 101.
Roberts, Walsh, Stenotype School, Newark, N.J. 868,052, pub. 1–21–69. Cl. 107.
Rockford Drilling Machine Co., Rockford, to Borg-Warner Corp., Chicago, Ill. 254,566, ren. 4–8–69. Cl. 23.
Rockwell-Standard Co.: *See*—
Timken-Detroit Axle Co., The.
Rose Stamp Co.: *See*—
Kasparian, Sinbad.
Roslyn Stationers, Philadelphia, Pa. 868,045, pub. 1–21–69. Cl. 101.
Royalmetal Corp., New York, N.Y. 867,985, pub. 1–21–69. Cl. 44.
Rucker Pharmacal Co., Inc., Shreveport, La. 867,828, pub. 1–21–69. Cl. 18.
Rylock Co., Ltd., Union City, Calif. 868,058. Cl. 12.
S.G.C. Records, Inc., New York, N.Y. 867,918, pub. 1–21–69. Cl. 36.
Safeway Stores, Inc., Oakland, Calif. 868,000, pub. 1–21–69. Cl. 46.
Salom Trading Co., Inc., New York, N.Y. 867,937–8, pub. 1–21–69. Cl. 39.
Santen Pharmaceutical Mfg. Co., Ltd., Higashi-Yodogawa-ku, Osaka, Japan. 745,567, canc. Cl. 51.
Saxon, Spencer D., Van Nuys, Calif. 867,915, pub. 1–21–69. Cl. 36.
Scam Instrument Corp., The, Skokie, Ill. 867,873, pub. 1–21–69. Cl. 26.
Schattner, R., Co., The: *See*—
Schattner, Robert I.
Schattner, Robert I., d.b.a. The R. Schattner Co., Washington, D.C. 867,766, pub. 1–21–69. Cl. 6.
Schering Corp., Bloomfield, N.J. 745,338, canc. Cl. 18.
Schneider Bros. Millinery Co., to Schneider Bros. Millinery Co., St. Louis, Mo. 250,784, ren. 4–8–69. Cl. 39.
Schrafft, W. F., & Sons Corp., Boston, Mass. 867,999, pub. 1–21–69. Cl. 46.
Schulman, Barbara Byk and Fernando Olea, Los Angeles, Calif. 867,898, pub. 1–21–69. Cl. 32.
Scofield, L. M., Co., Los Angeles, Calif. 867,745, pub. 1–21–69. Multiple Class (Classes 4 and 16).
Sealfon, Gilbert, and Dorothy Loeb, assor. to Maternally Yours, Inc., to Maternally Yours, Inc., New York, N.Y. 442,723, ren. 4–8–69. Cl. 39.
Sears, Roebuck & Co., Chicago, Ill. 745,378, canc. Cl. 22.
Selleck, Albert B., d.b.a. Selleck Enterprises, North Hollywood, Calif. 867,750, pub. 5–16–67. Cl. 6.
Selleck, Albert B., d.b.a. Selleck Enterprises, North Hollywood, Calif. 867,813, pub. 5–9–67. Cl. 15.
Selleck, Albert B., d.b.a. Selleck Enterprises, North Hollywood, Calif. 868,031, pub. 5–9–67. Cl. 52.
Selleck Enterprises: *See*—
Selleck, Albert B.
Sheller-Globe Corp., Toledo, Ohio. 868,053. Multiple Class (Classes 2 and 32).
Shoe Corp. of America: *See*—
Gallenkamp Stores Co.
Shokai, Wagner, Inc., Tokyo, Japan. 867,857, pub. 1–21–69. Multiple Class (Classes 21 and 36).
Simon-Carter Co., Minneapolis, Minn. 745,596, canc. Cl. 23.
Simonsen, Svend T., d.b.a. Coast Navigation School, Santa Barbara, Calif. 867,888, pub. 1–21–69. Cl. 26.
Sinclair, H. M., Jr., Trustee for the Partnership, The Sinclair Mfg. Co., Toledo, Ohio, to Babbitt Products, Inc., d.b.a. B. T. Babbitt, Inc., Lakeville, Conn. 510,513, ren. 4–8–69. Cl. 6.
Smith, A. O., Corp., Milwaukee, Wis. 867,808, pub. 1–21–69. Cl. 13.
Smith, Elwin G., & Co. Inc., Pittsburgh, Pa. 745,289, canc. Cl. 12.
Smith, Jay R., Mfg. Co., Piscataway, N.J. 867,805–6, pub. 1–21–69. Cl. 13.
Snider, Walter J., d.b.a. Wirthmoor Adv. Co., Huntington, Ind. 745,583, canc. Cl. 101.
Societe Anonyme Benard et Honnorat: *See*—
Benard & Honnorat.
Solot, J., & Taber Co., Inc., New York, N.Y. 745,503, canc. Cl. 39.
South West Africa Frozen Rock Lobster Packers (Pty.) Ltd., Luderitz, South West Africa. 868,072. Cl. 46.
Span-America Motels, Inc., Dayton, Ohio. 868,040, pub. 1–21–69. Cl. 100.
Spera S.A., Tramelan-Dessus, Berne, Switzerland. 745,418, canc. Cl. 27.
Sponcel Ltd., Croydon, Surrey, England. 867,987, pub. 1–21–69. Cl. 44.
Sport-Obermeyer, Ltd., Aspen, Colo. 867,933, pub. 1–21–69. Cl. 39.
Standard Screw Co., Hartford, Conn. 867,797, pub. 1–21–69. Cl. 13.
Stang, John W., Mfg. Co., Inc., Orange, Calif. 867,807, pub. 1–21–69. Cl. 13.
Sta-Style Mfg. Co.: *See*—
Foy Streetman.
Stearns & Foster Co., The, Cincinnati, Ohio. 257,934–6, ren. 4–8–69. Cl. 32.
Stevens, Harry M., Inc., New York, N.Y. 868,039, pub. 1–21–69. Cl. 100.
Stevens, J. P., & Co., Inc., New York, N.Y. 867,972–3, pub. 1–21–69. Cl. 42.
Streetman, Foy, d.b.a. Sta-Style Mfg. Co., Plains, Tex. 867,970, pub. 1–21–69. Cl. 42.
Stringer, Lou, Nashville, Tenn. 867,924, pub. 1–21–69. Cl. 38.
Sunbeam Corp., Chicago, Ill. 867,981, pub. 4–4–67. Cl. 44.
Sunroc Corp.: *See*—
Maid-O'-Mist, Inc.
Superior Surgical Mfg. Co., Inc., Huntington, N.Y. 867,946, pub. 1–21–69. Cl. 39.
Supradur Mfg. Corp., Wind Gap, Pa. 867,783, pub. 1–21–69. Cl. 12.
Suttle Equipment Corp., Chicago, Ill. 745,455, canc. Cl. 32.
Swank, Inc., Attleboro, Mass. 511,654, ren. 4–8–69. Cl. 28.
Swift & Co., to Swift & Co., Chicago, Ill. 248,185–6, ren. 4–8–69. Cl. 46.
Swift & Co., to Swift & Co., Chicago, Ill. 248,189–90, ren. 4–8–69. Cl. 46.
Swift & Co., to Swift & Co., Chicago, Ill. 248,193, ren. 4–8–69. Cl. 46.

Swift & Co., to Swift & Co., Chicago, Ill. 248,316, ren. 4–8–69. Cl. 46.
Swiss Valet National Corp., Salt Lake City, Utah. 745,407, canc. Cl. 24.
Systems Design Co., Inc., Milwaukee, Wis. 867,800, pub. 1–21–69. Cl. 13.
Tarnowski, Donald G., d.b.a. Huron Tackle Co., Detroit, Mich. 745,381, canc. Cl. 22.
Taylor, Taylor & Hobson, Ltd., Leicester, to The Rank Organisation Ltd., London, England. 506,039, ren. 4–8–69. Cl. 21.
Teenform, Inc., New York, N.Y. 868,071. Cl. 39.
Timken-Detroit Axle Co., The, Detroit, Mich., to Rockwell-Standard Co., Pittsburgh, Pa. 506,200, ren. 4–8–69. Cl. 19.
Topco Associates, Inc., Skokie, Ill. 867,768, pub. 1–21–69. Cl. 7.
Topco Associates, Inc., Skokie, Ill. 867,923, pub. 1–21–69. Cl. 37.
Trap Rock Industries, Inc., Kingston, N.J. 867,732, pub. 1–21–69. Multiple Class (Classes 1 and 12).
Travelworld, Inc., Los Angeles, Calif. 745,589, canc. Cl. 105.
Trav-Sec, Inc., Louisville, Ky. 867,921, pub. 1–21–69. Cl. 37.
Ulano, J., & Co., Inc., Brooklyn, N.Y. 867,889, pub. 1–21–69. Cl. 26.
Uniroyal, Inc., New York, N.Y. 867,956, pub. 1–21–69. Cl. 39.
United Aircraft Corp., East Hartford, Conn. 867,852, pub. 1–21–69. Cl. 21.
United Lace & Braid Co., Cranston, to United Lace & Braid, Inc., Providence, R.I. 511,120, ren. 4–8–69. Cl. 40.
United Lace & Braid, Inc.: *See*—
United Lace & Braid Co.
United Vintners, Inc.: *See*—
Cella Vineyards.
U.S. Borax & Chemical Corp., Los Angeles, from Columbia Wax Co., Glendale, Calif. 745,259, canc. Cl. 6.
U.S. Borax & Chemical Corp., Los Angeles, from Columbia Wax Co., Glendale, Calif. 745,571, canc. Cl. 52.
U.S. Fiber & Plastics Corp., Stirling, N.J. 867,781, pub. 1–21–69. Cl. 12.
U.S. Plywood-Champion Papers Inc., New York, N.Y. 867,749, pub. 1–21–69. Cl. 4.
United States Register Co., d.b.a. United States Register Co., Battle Creek, Mich. 867,903, pub. 1–21–69. Cl. 34.
U.S. Rubber Co., New York, N.Y. 745,474, canc. Cl. 35.
Upco Co., The, Portland, Maine, from The Upco Co., Cleveland, Ohio. 867,770, pub. 11–30–65. Cl. 12.
V.I.P. Imports, Ltd., New York, N.Y. 867,936, pub. 1–21–69. Cl. 39.
Valley Paper Co., Holyoke, Mass. 510,845, ren. 4–8–69. Cl. 37.
Valley Paper Co., Holyoke, Mass. 511,157, ren. 4–8–69. Cl. 37.
Van Chemical Co.: *See*—
Fanallsburg, Ernest E.
Vanderbilt, R. T., Co., Inc., New York, N.Y. 745,260, canc. Cl. 6.
Vanguard Recording Society, Inc., New York, N.Y. 867,913–14, pub. 1–21–69. Cl. 36.
Vorhof-Duenke Co., St. Louis, Mo. 745,496, canc. Cl. 38.
Walker Mfg. Co., Racine, Wis. 745,401, canc. Cl. 23.
Walton-March: *See*—
Fried, Jeffrey L.
Warner-Lambert Pharmaceutical Co., Morris Plains, N.J. 867,829, pub. 1–21–69. Cl. 18.
Warrick, Charles F., Co., Berkley, Mich. 867,882, pub. 1–21–69. Cl. 26.
Water-Boy Systems, Inc., Dallas, Tex. 745,302, canc. Cl. 13.
Wear, Mary, Inc., Portland, Oreg. 867,954, pub. 1–21–69. Cl. 39.
Weaver, Marietta, Mullinville, Kans. 745,382, canc. Cl. 22.
Webcor, Inc., Chicago, Ill. 745,484, canc. Cl. 36.
Weck, Edward, & Co., Inc., Long Island City, N.Y. 867,982, pub. 2–7–67. Cl. 44.
Weiner & Gossage, Inc., San Francisco, Calif. 745,517–19, canc. Cl. 39.
Weiss, Harold, d.b.a. Crest Jewelry Co., New York, N.Y. 745,434, canc. Cl. 28.
Wells Television, Inc., New York, N.Y. 867,858, pub. 1–21–69. Cl. 21.
Welt, Louis A., d.b.a. Welt Mfg. Co., Detroit, Mich., from Huff Tool & Mfg. Co., Inc., Chicago, Ill. 745,456, canc. Cl. 32.
Welt Mfg. Co.: *See*—
Welt, Louis A.
West Chemical Products, Inc., Long Island City, N.Y. 867,742, pub. 1–21–69. Cl. 2.
Westall, Evelyn, d.b.a. Parfums Evyan Co., to Evyan Perfumes, Inc., New York, N.Y. 508,346, ren. 4–8–69. Cl. 51.
Western Art, Inc., Colorado Springs, Colo. 868,066. Cl. 38.
Whalen, Raymond, and Charles E. Weber, d.b.a. Metal Corrosion Control, Plainfield, N.J. 867,751, pub. 1–21–69. Cl. 6.
Whisperwill, Inc., New Rochelle, N.Y. 868,008, pub. 1–21–69. Cl. 51.
White Front Stores, Inc., Los Angeles, Calif. 868,046, pub. 1–21–69. Cl. 101.
Wiedenfeld, George, and Adeline Wiedenfeld, d.b.a. Red Star Dairy Supply Co., Sauk City, Wis. 745,392, canc. Cl. 23.
Wiles, Russell, Jr., d.b.a. Rig Products Co., Oregon, Ill. 509,235, ren. 4–8–69. Cl. 15.
Winarick, Ar., Inc.: *See*—
F.E.I. Corp., The.
Wingmaster Co., Inc., Brooklyn, N.Y. 868,075. Cl. 50.
Wirthmoor Adv. Co.: *See*—
Snider, Walter J.
Wolverine World Wide, Inc., Rockford, Mich. 867,958, pub. 1–21–69. Cl. 39.
Woolson Spice Co., The, Toledo, Ohio. 745,562, canc. Cl. 46.
Workplace Systems, Inc., Manchester, N.H. 868,061. Cl. 32.
Wyandotte Chemicals Corp., Wyandotte, Mich. 504,986–7, ren. 4–8–69. Cl. 6.
Wyandotte Chemicals Corp., Wyandotte, Mich. 868,034, pub. 1–21–69. Cl. 52.
Wyeth Inc., Philadelphia, Pa., to American Home Products Corp., New York, N.Y. 506,068, ren. 4–8–69. Cl. 46.
Wyeth Inc., Philadelphia, Pa., to American Home Products Corp., New York, N.Y. 507,974, ren. 4–8–69. Cl. 44.
Wyeth, John, & Bro., Inc., Philadelphia, Pa., to Ives Laboratories Inc., New York, N.Y. 73,623, ren. 4–8–69. Cl. 18.
Xerex Industries Inc., Fleetwood, Mount Vernon, N.Y. 867,855, pub. 1–21–69. Cl. 21.
X-Ray Products Corp., Pico Rivera, Calif. 441,836, ren. 4–8–69. Cl. 44.
Yardley of London, Inc., Totowa, N.J. 868,012, pub. 1–21–69. Cl. 51.
Yardley of London, Inc., Totowa, N.J. 868,019, pub. 1–21–69. Cl. 51.
Yardley of London, Inc., Totowa, N.J. 868,019, pub. 1–21–69. Cl. 51.
Zeston, Inc., Fords, N.J. 867,775, pub. 1–21–69. Cl. 12.

U.S. GOVERNMENT PRINTING OFFICE: 0—1969

U.S. DEPARTMENT OF COMMERCE

OFFICIAL GAZETTE of the UNITED STATES PATENT OFFICE

April 15, 1969 Volume 861 Number 3

PATENTS

NOTICES

Board of Appeals Decisions Rendered in the Month of February 1969

Examiner affirmed	108
Examiner affirmed in part	22
Examiner reversed	33
Total	163

VACANCY ANNOUNCEMENT

Position: Solicitor, GS–17

Duties:

Under the very general administrative direction of the First Assistant Commissioner of Patents, the Solicitor is primarily responsible for directing the conduct in the Federal Courts of all patent and trademark litigation to which the Commissioner of Patents is a party. More specifically, the Solicitor's duties include, but are not limited to, the following: (1) directing and supervising the legal administration of provisions of patent statutes, rules and regulations, etc.; (2) directing technical legal projects which cover the review and revision of procedures established by Rules of Practice; (3) supervising the formulation of drafts of proposed legislation affecting the function of the Commissioner of Patents and proposed Executive Orders and similar directives affecting patent and trademark administration; (4) supervising a staff of patent attorneys in connection with such matters as interferences, various petitions, and enrollment and disbarment matters; and (5) renders legal advisory opinions to the Commissioner of Patents on a variety of matters including the award of contracts and their fulfillment.

Qualifications:

(1) A minimum of one year of experience as a patent professional at grade GS–16 or its equivalent; (2) admission to practice before the United States District Court for the District of Columbia and the United States Court of Customs and Patent Appeals; (3) firm knowledge of patent law and Patent Office practice; (4) demonstrated supervisory ability; (5) ability to obtain a quick and accurate understanding of cases and problems and to present facts and arguments; and (6) initiative, originality, and judgment of an exceedingly high order.

NOTE.—In addition to those candidates who have served a minimum of one year in grade GS–16, candidates who are in grade GS–15 and who meet all other requirements will be considered for this position with the understanding that it will be necessary to request that the Civil Service Commission adjust the grade to GS–16. After the incumbent acquires one year of operating experience and demonstrates the ability to perform the full range of duties in a satisfactory manner, a request will be made to restore the grade level of the position to GS–17.

Evaluation of Candidates:

Candidates will be evaluated on the total range of their education, training, and experience, as well as supervisory appraisals. An interview may be required.

General Information:

Full consideration will be given to all qualified applicants without regard for their race, sex, creed, color, national origin, or lawful political affiliations. Candidates who are interested in being considered for this position must submit a completed SF–171, Personal Qualifications Statement, to the U.S. Patent Office, Personnel Division, Washington, D.C. 20231, not later than May 9, 1969. Copies of SF–171 may be obtained from any Civil Service Commission Regional Office or first class Post Office.

Questions concerning this announcement should be referred to Mr. Bradford R. Huther, Area Code 703, 557–3635, Building No. 2, Room 9–C05, Crystal Plaza, Arlington, Va.

Effect of Closing on March 31, 1969

In view of the fact that Federal Offices including the Patent Office were closed on March 31, 1969, the day proclaimed by President Nixon as a National Day of Mourning, the Patent Office will consider Monday, March 31, 1969, a "holiday within the District of Columbia" under 35 U.S.C. 121. Any action due on that day is to be considered timely if taken on April 1, 1969.

EDWARD J. BRENNER,
Commissioner of Patents.

Apr. 1, 1969.

Certificates of Correction for the Week of Apr. 15, 1969

D. 209,780	3,353,004	3,364,773
3,283,170	3,355,273	3,365,024
3,300,233	3,355,535	3,365,333
3,302,168	3,355,542	3,367,085
3,302,580	3,357,191	3,367,127
3,321,144	3,357,486	3,367,243
3,323,736	3,357,973	3,367,266
3,328,436	3,357,975	3,367,408
3,334,031	3,358,007	3,367,721
3,337,577	3,359,579	3,367,841
3,338,667	3,361,286	3,367,863
3,341,466	3,361,690	3,368,046
3,343,129	3,361,813	3,368,207
3,343,482	3,362,114	3,368,262
3,346,490	3,362,404	3,368,275
3,346,840	3,363,016	3,368,462
3,348,621	3,363,156	3,368,854
3,349,116	3,363,229	3,368,859
3,350,654	3,363,310	3,368,890
3,352,743	3,363,741	3,368,984
3,352,919		3,369,219

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Patents	7383
Designs	419
Plant Patents	15
Reissues	26
Total	7843

Issue—April 15, 1969

Patents	1300	No. 3,438,060 to No. 3,439,359, incl.
Designs	37	No. 213,819 to No. 213,855, incl.
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Total	1342	

Disclaimer

3,383,190.—*Harry R. Weber,* Haddon Township, Camden County, and *Herman F. Hoffmann,* Wenonah, N.J. FUEL BLENDING SYSTEM. Patent dated May 14, 1968. Disclaimer filed Nov. 20, 1968, by the assignee, *Mobil Oil Corporation.*

Hereby disclaims the terminal portion of the term of the patent subsequent to Mar. 8, 1983.

Incorporation by Reference—Filing Date

In clarification of the Notice of December 30, 1968, appearin the OFFICIAL GAZETTE of February 11, 1969, the following amplification is made.

The filing date of any application wherein essential material is incorporated by reference to a foreign patent or to a publication will not be affected because of the presence of such reference. In such a case, as well as any other case which improperly incorporates essential material by reference, the applicant will be required to amend the disclosure to include the material incorporated by reference. The amendment must be accompanied by an affidavit executed by the applicant or his attorney or agent of record stating that the amendatory material consists of the *same* material incorporated by reference in the referencing application.

ERRATUM

Attention is directed to the error in the above-mentioned notice appearing at 859 O.G. 346. Please delete the phrase, "a U.S. patent or", which was erroneously printed in the second line of the last paragraph.

RICHARD A. WAHL,
Assistant Commissioner.

Mar. 7, 1969.

[A Notice covering this same subject, in slightly different form, has been published in 34 F.R. 5555, Mar. 22, 1969.]

Notice of Daylight Saving Time

The Patent Office will operate on Daylight Saving Time from April 27, 1969 through October 26, 1969.

TITLE 37—PATENTS, TRADEMARKS, AND COPYRIGHTS

Chapter I—Patent Office, Department of Commerce

PART 1.—RULES OF PRACTICE IN PATENT CASES

Issuance of Certificates of Correction

On October 11, 1968, notice of proposed rulemaking regarding the amendment of §§ 1.322 and 1.323 of Title 37, Code of Federal Regulations, dealing with the issuance of certificates of correction, was published in the Federal Register (33 F.R. 15218). Interested persons were given 40 days in which to submit written comments, suggestions, or objections regarding the proposed amendments.

Full consideration having been given to all comments that were received in response to the public notice, the amendments originally proposed are hereby adopted without change and are set forth below.

As a result of these rule changes it will no longer be necessary for the patentee to forward his patent to the Patent Office when requesting the issuance of a certificate of correction. Upon receipt of an appropriate request, a certificate of correction will be issued and forwarded to the patentee, with an authorization permitting the patentee to physically attach same to the patent.

In connection with this change of procedure, arrangements have been made with Shepard's Citations to indicate under its listing of patents in its set entitled "Shepard's United States Citations, Patents and Trademarks" those patents for which certificates of correction have been issued. Beginning in April of this year the information will be published in that set's quarterly cumulative supplement and will appear in the bound volume thereof, when it is released.

Effective date. These amendments shall become effective upon publication in the Federal Register.

Dated: Mar. 18, 1969.

EDWARD J. BRENNER,
Commissioner of Patents.

Approved:

ALLEN V. ASTIN,
Assistant Secretary for Science and Technology.

Notice is hereby given that under the authority contained in section 6 of the Act of July 19, 1952 (66 Stat. 792; 35 U.S.C. 6), the Patent Office amends Part 1 of Title 37 of the Code of Federal Regulations as follows:

(1) By amending paragraph (a) of § 1.322 to delete from the first sentence the words "and endorsed on the patent itself". As thus amended, paragraph (a) reads as follows:

§ 1.322 *Certificate of correction of Office mistake.*

(a) A certificate of correction under 35 U.S.C. 254 may be issued at the request of the patentee or his assignee. Such certificate will not be issued at the request or suggestion of anyone not owning an interest in the patent, nor on motion of the Office, without first notifying the patentee (including any assignee of record) and affording him an opportunity to be heard.

* * * * *

(2) By amending § 1.323 to delete therefrom the words "which shall be endorsed on the patent itself,". As thus amended, § 1.323 reads as follows:

§1.323 *Certificate of correction of applicant's mistake.*

Whenever a mistake of a clerical or typographical nature or of minor character which was not the fault of the Office, appears in a patent and a showing is made that such mistake occurred in good faith, the Commissioner may, upon payment of the required fee, issue a certificate of correction, if the correction does not involve such changes in the patent as would constitute new matter or would require re-examination.

[F.R. Doc. 69-3404; Filed, Mar. 21, 1969; 8:45 a.m.]

Published in 34 F.R. 5550, Mar. 22, 1969

PATENT EXAMINING CORPS

R. A. WAHL, Assistant Commissioner

CONDITION OF PATENT APPLICATIONS AS OF MARCH 24, 1969

PATENT EXAMINING GROUPS	Actual Filing Date of Oldest New Case Awaiting Action
*Denotes oldest new application.	
CHEMICAL EXAMINING GROUPS	
GENERAL CHEMISTRY AND PETROLEUM CHEMISTRY, GROUP 110—M. STERMAN, Director. Inorganic Compounds; Inorganic Compositions; Organo-Metal and Organo-Metalloid Chemistry; Metallurgy; Metal Stock; Electro Chemistry; Batteries; Hydrocarbons; Mineral Oil Technology; Lubricating Compositions; Gaseous Compositions; Fuel and Igniting Devices.	1-03-67
GENERAL ORGANIC CHEMISTRY, GROUP 120—I. MARCUS, Director. Heterocyclic; Amides; Alkaloids; Azo; Sulfur; Misc. Esters; Carbohydrates; Herbicides; Poisons; Medicines; Cosmetics; Steroids; Ozo and Oxy; Quinones; Acids; Carboxylic Acid Esters; Acid Anhydrides; Acid Halides.	6-20-66
HIGH POLYMER CHEMISTRY, PLASTICS AND MOLDING; GROUP 140—L. J. BERCOVITZ, Director. Synthetic Resins; Rubber; Proteins; Macromolecular Carbohydrates; Mixed Synthetic Resin Compositions; Synthetic Resins With Natural Polymers and Resins; Natural Resins; Reclaiming; Pore-Forming; Compositions (Part) e.g.: Coating; Molding; Ink; Adhesive and Abrading Compositions; Molding, Shaping, and Treating Processes.	1-05-67
COATING AND LAMINATING, BLEACHING, DYEING AND PHOTOGRAPHY, GROUP 160—M. STERMAN, Acting Director. Coating; Processes and Misc. Products; Laminating Methods and Apparatus; Stock Materials; Adhesive Bonding; Special Chemical Manufactures; Special Utility Compositions; Bleaching; Dyeing and Photography.	*5-13-66
SPECIALIZED CHEMICAL INDUSTRIES AND CHEMICAL ENGINEERING, GROUP 170—W. B. KNIGHT, Director. Fertilizers; Foods; Fermentation; Analytical Chemistry; Reactors; Sugar and Starch; Paper Making; Glass Manufacture; Gas; Heating and Illuminating; Cleaning Processes; Liquid Purification; Distillation; Preserving; Liquid and Solid Separation; Gas and Liquid Contact Apparatus; Refrigeration; Concentrative Evaporators; Mineral Oils Apparatus; Misc. Physical Processes.	12-14-66
ELECTRICAL EXAMINING GROUPS	
INDUSTRIAL ELECTRONICS AND RELATED ELEMENTS, GROUP 210—W. S. COLE, Director. Generation and Utilization; General Applications; Conversion and Distribution; Heating and Related Art Conductors; Switches; Miscellaneous.	5-02-67
SECURITY, GROUP 220—S. BOYD, Director. Ordnance, Firearms and Ammunition; Radar, Underwater Signalling, Directional Radio, Torpedoes, Seismic Exploring, Radio-Active Batteries; Nuclear Reactors, Powder Metallurgy, Rocket Fuels; Radio-Active Material.	2-16-67
INFORMATION TRANSMISSION, STORAGE AND RETRIEVAL, GROUP 230—S. BOYD, Acting Director. Communications; Multiplexing Techniques; Facsimile; Data Processing, Computation and Conversion; Storage Devices and Related Arts.	*2-21-66
ELECTRONIC COMPONENT SYSTEMS AND DEVICES, GROUP 250—W. L. CARLSON, Director. Semi-Conductor and Space Discharge Systems and Devices; Electronic Component Circuits; Wave Transmission Lines and Networks; Optics; Radiant Energy; Measuring.	11-10-66
PHYSICS, GROUP 280—R. L. EVANS, Director. Photography; Sound and Lighting; Indicators and Optics; Measuring and Testing; Geometrical Instruments.	4-14-67
DESIGNS, GROUP 290—S. BOYD, Director. Industrial Arts; Household, Personal and Fine Arts.	5-23-68
MECHANICAL EXAMINING GROUPS	
HANDLING AND TRANSPORTING MEDIA, GROUP 310—A. BERLIN, Director. Conveyors; Hoists; Elevators; Article Handling Implements; Store Service; Sheet and Web Feeding; Dispensing; Fluid Sprinkling; Fire Extinguishers; Coin Handling; Check Controlled Apparatus; Classifying and Assorting Solids; Boats; Ships; Aeronautics; Motor and Land Vehicles and Appurtenances; Railways and Railway Equipment; Brakes; Rigid Flexible and Special Receptacles and Packages.	10-02-67
MATERIAL SHAPING, ARTICLE MANUFACTURING, TOOLS, GROUP 320—N. BERGER, Director. Manufacturing Processes, Assembling, Combined Machines, Special Article Making; Metal Deforming; Sheet Metal and Wire Working; Metal Fusion—Bonding, Metal Founding; Metallurgical Apparatus; Plastics Working Apparatus; Plastic Block and Earthenware Apparatus; Machine Tools for Shaping or Dividing; Work and Tool Holders Woodworking; Tools; Cutlery; Jacks.	*4-03-67
AMUSEMENT, HUSBANDRY, PERSONAL TREATMENT, INFORMATION, GROUP 330—A. RUEGG, Director. Amusement and Exercising Devices; Projectors; Animal and Plant Husbandry; Butchering; Earth Working and Excavating; Fishing, etc.; Tobacco; Artificial Body Members; Dentistry; Jewelry; Surgery; Toiletry; Printing; Typewriters; Stationery; Information Dissemination.	4-21-67
HEAT AND POWER ENGINEERING, GROUP 340—C. F. GAREAU, Director. Power Plants; Combustion Engines; Fluid Motors; Pumps; Turbines; Heat Generation and Exchange; Refrigeration; Ventilation; Drying; Vaporizing; Temperature and Humidity Regulation; Machine Elements; Power Transmission.	2-01-68
FIXED CONSTRUCTIONS, SUPPORTS, AND HARDWARE, GROUP 350—T. J. HICKEY, Director. Joints; Fasteners; Rod, Pipe and Electrical Connectors; Miscellaneous Hardware; Locks; Building Structures; Closure Operators; Bridges; Closures; Earth Engineering; Drilling; Mining; Furniture; Receptacles; Supports; Cabinet Structures.	10-23-67
TEXTILES, CLEANING AND FLUID HANDLING, GROUP 360—F. H. BRONAUGH, Director. Fluid Handling, including Valves; Conduits; Filling Receptacles; Lubrication; Joint Packing; Bathroom Fixtures; Centrifugal Separators; Cleaning; Coating; Pressing; Agitating; Foods; Textiles; Apparel and Shoes and their Manufacture; Sewing Machines; Winding and Reeling.	7-14-67

Total number of pending applications (excluding Designs)	161,222
Total number of Design applications pending	3,298

Expiration of patents: The patents within the range of numbers indicated below expire during April 1969, except those which may have expired earlier due to shortened terms under the provisions of Public Law 690, 79th Congress, approved August 8, 1946 (60 Stat. 940) and Public Law 619, 83rd Congress, approved August 23, 1954 (68 Stat. 764), or which may have had their terms curtailed by disclaimer under the provisions of 35 U.S.C. 253. Other patents, issued after the dates of the range of numbers indicated below, may have expired before the full term of 17 years for the same reasons, or have lapsed under the provisions of 35 U.S.C. 151.

Patents	Numbers 2,590,833 to 2,595,213, inclusive
Plant Patents	Numbers 1,061 to 1,090, inclusive

DECISIONS IN PATENT AND TRADEMARK CASES

U.S. Court of Customs and Patent Appeals

IN RE SYDNEY M. SPATZ AND MARVIN KORAL

No. 7666. Decided Dec. 14, 1967

[55 CCPA 749; 387 F.2d 663; 156 USPQ 39]

1. APPEAL TO U.S. COURT OF CUSTOMS AND PATENT APPEALS—JUDICIAL NOTICE—MATTER BEFORE COURT.

"Appellants ask us to take judicial notice of an article published in Chemical and Engineering News about 4 years after appellants' filing date. Appellants made a similar request to the Board, but the Board refused to consider the article because it was not presented to the Examiner during prosecution. Under the circumstances, the article is not properly before us and will not be considered. *In re Cofer*, 53 CCPA 830, 354 F.2d 664, 148 USPQ 168."

2. PATENTABILITY—EVIDENCE—EXISTENCE OF PROBLEM NOT CLEAR FROM RECORD—35 U.S.C. 103.

"We find no reversible error in the manner in which the Examiner and Board employed the primary and background references as evidence of the obviousness of the claimed subject matter. While such secondary considerations as "long felt but unsolved needs, [and] failure of others" are to be given effect in determining obviousness or non-obviousness under §103, it is not clear from the evidence in the record here that the industrial problem of which appellants speak in fact existed, or that skilled workers knowledgeable in the art had failed to find any solution to the problem. See *In re Allen*, 51 CCPA 809, 813–14, 324 F.2d 993, 997, 139 USPQ 492, 495. Indeed, the one tangible, extraneous piece of evidence appellants cite in their specification in an effort to show that a problem did exist is in marked contrast with the later disclosures of Phillips and Wismer, who speak matter-of-factly of the use of TBPAA in forming polyesters as if no problem existed at all."

3. APPLICATION—DISCLOSURE—CONSTRUCTION—WORDS AND PHRASES—"DID NOT CONSISTENTLY" OBTAIN PRODUCT.

"* * * the specification also states that 'technical' grade TBPAA, said in Example III to be prepared by 'the *conventional* method wherein phthalic acid anhydride is brominated in the presence of oleum' and to contain 8 p.p.m. ferric impurity, '*did not consistently* produce polyesters' when used in the esterification process. [Emphasis supplied.] The record contains no data to further elucidate what the expression 'did not consistently' means in the present context. It seems apparent that the phrase is broad enough to allow production of polyesters from 'technical' grade TBPAA containing 8 p.p.m. ferric impurity as infrequently as 1 out of 100 times, or, for that matter, as frequently as 99 out of 100 times. We do not think the equivocal, relative language employed by appellants establishes that a problem necessarily existed with respect to the use of the 'technical' grade TBPAA of the prior art or the criticality of the claimed ferric iron content they allege here."

4. PATENTABILITY—EVIDENCE—COMPARATIVE TESTS.

"Insofar as the efficacy of Example II of the application to show nonobviousness of the claimed polyester composition is concerned, it should be noted that appellants have only shown that resins produced from TBPAA containing less than 5 p.p.m. ferric impurity have superior fire-retardant properties vis-a-vis resins produced from *other* phthalic acids, subject matter not relied on by the Patent Office in the rejection. There is no comparison of the fire-retardant properties of the claimed resin with like properties of a resin produced from TBPAA containing slightly more than 5 p.p.m. ferric impurity."

5. SAME—PARTICULAR SUBJECT MATTER—"FIRE-RETARDANT COMPOSITION DERIVED FROM TETRABROMOPHTHALIC ACID ANHYDRIDE."

The refusal of certain claims in an application entitled "Fire-Retardant Composition Derived From Tetrabromophthalic Acid Anhydride," as unpatentable over the prior art, is affirmed.

APPEAL from the Patent Office. S.N. 6635.

AFFIRMED.

Kenneth D. Tremain, *Frederick N. Weinfeldt*, *George B. Campbell* and *Michael S. Jarosz* for appellants.

Joseph Schimmel (*Jack E. Armore*, of counsel) for the Commissioner of Patents.

Before WORLEY, *Chief Judge*, RICH, SMITH, ALMOND, *Associate Judges*, and WILLIAM H. KIRKPATRICK [1]

WORLEY, *Chief Judge*, delivered the opinion of the court.

This appeal is from a decision of the Board of Appeals affirming the rejection of claims 1–12 in appellants' application [2] for "Fire-Retardant Composition Derived From Tetrabromophthalic Acid Anhydride," as "unpatentable" in view of certain prior art.

The subject matter is reflected in claims 1 and 6:

1. A method of preparing polyester resins that have fire-retardant characteristics when cured, which comprises: preparing a mixture of glycol and a component of the group consisting of saturated dicarboxylic acids and anhydrides thereof, said component containing at least 10 mol percent of tetrabromophthalic acid anhydride that has not above about 5 p.p.m. of ferric iron impurity associated therewith, and heating said mixture to form a polyester therefrom.

6. A polyester resin that has fire-retardant characteristics when cured, which comprises the reaction product of glycol and a component of the group consisting of saturated dicarboxylic acids and anhydrides thereof that contain at least 10 mol percent of tetrabromophthalic acid anhydride that has not above about 5 p.p.m. of ferric iron impurity associated therewith.

The feature of the claims asserted to be nonobvious is the use of at least 10 mol percent of tetrabromophthalic acid anhydride (TBPAA) that has not more than 5 parts/million (p.p.m.) ferric iron impurity as the acid component of a fire-retardant polyester resin.

The references are:

Lundberg, 2,819,247, Jan. 7, 1958.
Phillips et al., 2,921,925, Jan. 19, 1960.
O'Neill, 2,899,466, Aug. 11, 1959.
Tate, 3,047,621, July 31, 1962.
Hoffman, 3,007,943, Nov. 7, 1961.
Wismer et al., 3,060,146, Oct. 23, 1962.
Bjorksten, Polyesters and Their Application, pub. 1956, Reinhold Publishing Corp., New York, N.Y., page 160.[3]

A detailed discussion of the Lundberg, Phillips and Wismer references is unnecessary, since appellants admit that the art, as represented by those references, knew that TBPAA "could be used in the preparation of polyesters with fire-retardant properties."

Mindful of a similar concession below, the Board sustained the Examiner's rejection of the claims as "unpatentable over" Lundberg alone or considered with Phillips. With respect to the limitation in the

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[1] Senior District Judge, Eastern District of Pennsylvania, sitting by designation.

[2] Serial No. 6,635, filed February 4, 1960. The appeal was originally argued Oct. 6, 1966; reargument was heard Oct. 4, 1967.

[3] The Examiner cited Bjorksten to show that diallyl phenyl phosphonate and hexachloroendomethylene tetrahydrophthalic acid anhydride, materials recited in some of the claims, are conventional components of flame resistant polyester resins. Appellants do not argue otherwise.

[1] Appellants ask us to take judicial notice of article published in Chemical and Engineering News about 4 years after appellants' filing date. Appellants made a similar request to the Board but the Board refused to consider the article because it was not presented to the Examiner during prosecution. Under the circumstances, the article is not properly before us and will not be considered. *In re Cofer*, 53 CCPA 830, 354 F.2d 664, 148 USPQ 268.

claims calling for not more than about 5 p.p.m. of ferric impurity, the Board stated:

> • • • One skilled in this art would not be expected to employ an impure reactant, but would follow normal chemical practice and use a pure phthalic anhydride in the esterification. Since the references are silent as to any content of ferric ion it cannot be presumed that such ion is necessarily present in the starting material. • • • We therefore agree with the Examiner that a pure or iron-free reactant would normally be employed, thus rendering obvious appellants' contribution.
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> We also note there to be no evidence in this record that all commercially available tetrabromophthalic anhydride would necessarily contain ferric ion in a proportion above the 5 p.p.m. which appellants consider to be the operative limit of their contribution. The use of commercially available tetrabromophthalic anhydride having a low iron content is equally obvious in the polyesterifications of the prior art as the high iron content urged by appellants.

The Board found it to be apparent from the background references cited by the Examiner that purified phthalic acids *would* normally be employed by one of ordinary skill in the art in various esterification reactions. O'Neill, for example, discloses the desirability of removing colored impurities in terephthalic acid prior to using it in the manufacture of polyester fibers and films in order to obtain a product having good color. Tate removes certain impurities from various phthalic acids prior to preparing polyesters therefrom in order to improve the speed of the esterification reaction as well as the color, crystallinity and melting point of the ultimate polyester. Hoffman discloses that crystalline tetrachlorophthalic acid anhydride [4] "must be thoroughly purified" before it may be used for industrial purposes, and details a process for the *removal* of *ferric iron* and other impurities therefrom to obtain a product with the degree of purity required for use in the plastics and dye industries.

While appellants concede that those in the art were aware that TBPAA could be used in the preparation of polyesters with fire-retardant properties, they contend that there was a practical industrial problem which made it difficult to prepare polyesters from commercially available TBPAA. Appellants urge that their contribution resides in the "triple-faceted discovery" that: (1) the cause of the difficulty in processes for preparing polyesters with TBPAA resides in the presence of ferric iron in impure TBPAA; (2) the remedy resides in the use of TBPAA containing not more than 5 p.p.m. ferric impurity in the esterification process; and (3) when TBPAA of such purity is used, fire-retardant properties far in excess of expectation are achieved in the products of the process.

[2] We find no reversible error in the manner in which the Examiner and Board employed the primary and background references as evidence of the obviousness of the claimed subject matter. While such secondary considerations as "long felt but unsolved needs, [and] failure of others" are to be given effect in determining obviousness or nonobviousness under §103,[5] it is not clear from the evidence in the record here that the industrial problem of which appellants speak in fact existed, or that skilled workers knowledgeable in the art had failed to find any solution to the problem. See *In re Allen*, 51 CCPA 809, 813–14, 324 F.2d 993, 997, 139 USPQ 492, 495. Indeed, the one tangible, extraneous piece of evidence appellants cite in their specification in an effort to show that a problem did exist [6] is in marked contrast with the later disclosures of Phillips and Wismer, who speak matter-of-factly of the use of TBPAA in forming polyesters as if no problem existed at all.

[4] The record shows that tetrachlorophthalic acid anhydride, like TBPAA, is a material known to be useful in formation of fire-retardant polyesters.

[5] See *Graham* v. *John Deere*, 383 U.S. 1 at 17, 18, 35 and 36.

In further support of their arguments, appellants point to Example II (particularly Table 1) and Example V of their application. We do not think those examples support appellants' assertions of nonobviousness of the process and composition claims. With respect to the professed criticality of the use of TBPAA containing the claimed ferric ion content to facilitate an allegedly difficult esterification reaction, it is true that Example V of the specification states that "No polyester could be produced" when a sample of "commercial" grade TBPAA, containing 34 p.p.m. ferric impurity, was employed in the esterification process, while the use of "purified" TBPAA containing 1.2 to 5 p.p.m. of ferric iron "consistently produced polyesters." **[3]** However, the specification also states that "technical" grade TBPAA, said in Example III to be prepared by "the *conventional* method wherein phthalic acid anhydride is brominated in the presence of oleum" and to contain 8 p.p.m. ferric impurity, "*did not consistently* produce polyesters" when used in the estification process. [Emphasis supplied.] The record contains no data to further elucidate what the expression "did not consistently" means in the present context. It seems apparent that the phrase is broad enough to allow production of polyesters from "technical" grade TBPAA containing 8 p.p.m. ferric impurity as infrequently as 1 out of 100 times, or, for that matter, as frequently as 99 out of 100 times. We do not think the equivocal, relative language employed by appellants establishes that a problem necessarily existed with respect to the use of the "technical" grade TBPAA of the prior art or the criticality of the claimed ferric iron content they allege here.

[4] Insofar as the efficacy of Example II of the application to show nonobviousness of the claimed polyester composition is concerned, it should be noted that appellants have only shown that resins produced from TBPAA containing less than 5 p.p.m. ferric impurity have superior fire-retardant properties vis-a-vis resins produced from *other* phthalic acids, subject matter not relied on by the Patent Office in the rejection. There is no comparison of the fire-retardant properties of the claimed resin with like properties of a resin produced from TBPAA containing slightly more than 5 p.p.m. ferric impurity.

While we appreciate appellants' arguments, we are satisfied the Board committed no reversible error in sustaining the rejection.

[5] The decision is affirmed.

AFFIRMED.

ALMOND, *J.*, concurring.

The question before us is whether, at the time the invention was made, it was or was not obvious to use TBPAA having less than 5 p.p.m. ferric iron in a polyesterification reaction. It seems clear that if TBPAA having the required degree of purity was in fact readily commercially available at the time the invention was made, it would have been quite obvious to use it in such reactions, particularly in view of the suggestion of Hoffman that ferric iron is desirably removed

[6] The specification says: • • • it has been stated that attempts to incorporate desirable flame-retardant properties into high polymer polyesters by use of chloro- and bromo-derivatives of phthalic anhydride for use in surface coatings have been either unsuccessful or economically unattractive (Kirk-Othmer, Encyclopedia of Chemical Technology, volume 10, page 959, Interscience Encyclopedia, Inc., 1953).

from the very similar compound tetrachlorophthalic acid anhydride before its use in plastics production.

On the other hand if, all TBPAA which was commercially available at the time the invention was made had a high iron content and hence was unusuable in polyesterification reactions, it would appear that appellants have made an advance in the art by recognizing a solution to an existing problem. Such a solution can be given effect in determining the obviousness or nonobviousness under section 103.

Our problem, therefore, seems to revolve about the availability or nonavailability of TBPAA of low ferric iron content at the time the invention was made. The evidence on both sides of the question is meager.

First of all, appellants concede that TBPAA had previously been used to form polyesters. This is in agreement with the teachings of the references. Now, since appellants tell us that no reaction at all will occur at high ferric iron contents, it stands to reason that the prior art had available TBPAA having relatively low ferric iron content. Whether the ferric iron content was within the 5 p.p.m. level where consistently good results are obtained, or slightly above that level where results are inconsistent, is something we do not know. We are told by appellants' Example III that they prepared "technical" grade TBPAA by the "conventional" method and achieved an 8 p.p.m. ferric iron content material, presumably without any post-reaction purification steps whatever. We receive no guidance whatever on whether this 8 p.p.m. content is a normal, low, or high level of ferric iron for commercially available "technical" grade material. However, we can infer from this example that "technical" grade TBPAA having ferric iron content on the order of 8 p.p.m. was available to the art.

The only other evidence before us is that the commercially available TBPAA used in appellants' experimental work contained 34 p.p.m. But this does not tell us how many other commercial suppliers there may have been, or how many different grades of material were available.

It is argued that the mere fact that appellants went to the expense of filing a patent application is some evidence that they had found a solution to an existing problem. This argument is entitled to little, if any, weight. At best, the filing of a patent application shows that appellants *thought* they had solved a problem. This could mean merely that appellants had not investigated sources of TBPAA, and that the only problem which existed was in their own laboratory.

It seems to us that an applicant who urges patentability based upon solution of a recognized but previously unsolved problem must carry the burden of showing that a problem in truth existed and was recognized in the art. *In re Allen*, 51 CCPA 809, 324 F.2d 993, 139 USPQ 492. The burden is even heavier where, as here, the art mentions the very reaction involved in the application, but makes no mention whatever of the existence of a problem.

A review of the evidence before us shows that the appellants have not met that burden. The evidence before us tells us only that one commercial source of TBPAA had a high iron content, and it raises an inference that TBPAA having an iron content very close to the claimed level was available to the art. This is a far cry from showing the existence or recognition of a problem in the art. In view of the failure of appellants to show either that TBPAA within their claimed purity range was unavailable, or that if available its use in this application was unobvious, the Board of Appeals was correct in holding that the use of a pure material in a reaction would be expected of one skilled in the art. I therefore concur in affirming the Board's decision.

KIRKPATRICK, *J.*, concurring.

I agree with the reasoning and conclusions of the majority but I think that I should state briefly the considerations which have influenced my decision.

Unless I have missed the point of the dissenting opinions as well as the appellants' argument, the principal ground upon which my dissenting colleagues would reverse the Board's decision is a two-pronged discovery by the appellants that a problem existed in the art and the cause of the problem. It is of course well recognized that the existence of a problem in an industry and its solution by the applicant for a patent may afford evidence on which patentability may be grounded. In *Graham* v. *John Deere Co.*, 383 U.S. 1, the Supreme Court spoke of the circumstances under which those facts may be taken as evidence of nonobviousness. The Court referred to them as "secondary considerations" and specified "long felt but unsolved needs, [and] failure of others."

The difficulty with the appellants' case now before us is the lack of adequate evidence to bring their application within the rule. There is nothing to show that the "problem" which the appellants claim to have solved is anything other than the perennial problem present in every industry, namely, how to improve the quality of the product or to make the process of manufacture more efficient. Certainly the mere fact that an applicant for a patent has succeeded in making an improvement in product or process is never of itself evidence of nonobviousness. It must appear that what he has done is not within the skill of the ordinary practitioner of the art. Here nothing has been offered to show that any problem other than the problem of how to improve the product and process existed.

It seem to me that if the appellants in this case wished to predicate patentability on the discovery of the existence of the problem in the art, it was incumbent upon them to furnish more evidence than is present in the record here to show that the industry ever had the slightest concern about any alleged problem or that anyone ever tried to solve it. It would seem that if a worker skilled in the art set about improving the fire-retardant composition and method of manufacture which is the subject of the application, it would be an obvious step to ascertain if and to what extent impurities existed in the materials used in the process and then to purify. I do not think that the few vague statements in the appellants' specification and the rather uninformative reference to a chemical encyclopedia constitute evidence upon which a finding of patentability can be made.

RICH, *J.*, dissenting.

In this twice-argued case,[7] my colleagues have already said so much that I would remain silent if I did not feel strongly that there is more to be said and that it is important to the correct decision of this case to say it.

[7] The second argument was due to the fact that the judges remaining on the court when this case first came to a vote, after the death of Judge Martin, were equally divided and appellants elected to reargue it before a full court, which was created by adding Judge Kirkpatrick to the four, by designation. A full reargument was held, both parties appearing.

Perhaps one of the difficulties in this case is the way the invention (which is really two-pronged *discovery*) is claimed in accordance with the common practice of defining the end *product* in which the invention is embodied or the *process* of making it by claims reciting everything that is old as though it were part of the invention and including, by way of distinction, *the one novel feature*, without in any way pointing out in the claims either that it is the sole novelty or that it alone is what was invented or discovered. This claim practice has been going on for so long that appellants should not be penalized for using it, as it seems to me they have been. The fact remains that such claiming technique is far from compliance with the requirement of 35 U.S.C. 112, second paragraph, to include claims

> * * * particularly pointing out and distinctly claiming the subject matter which the applicant regards as *his* invention. [My emphasis.]

The Patent Office did nothing to bring about better compliance.

This manner of claiming has opened up the invention sought to be protected to a false and misleading analysis in both the Patent Office and this court. For example, both the majority and concurring opinions speak of *admissions* and *concessions* of the appellants that the use of TBPAA in polyester compositions to make them fire-retardant is old in the art as though appellants had asserted that to be their invention and had then been forced to back away from the assertion by citation of references unknown to them. Nothing could be further from the truth. As the Examiner said in his answer, the applicants stated on page 1 of their original specification that they were not the first to use TBPAA as a component of a polyester resin. Why, then, characterize this fact, on the basis of which the disclosure of the invention proceeded, as an "admission" or "concession"? These are words of denigration applied to people who are forced to recede from a position they have taken. Appellants never did this. It creates a false atmosphere for intelligent and fair decision.

Claims, ineffective though they may be in their traditional forms to point out distinctly what was invented—having been forced into such forms by court interpretations and Patent Office practice through the years—must nevertheless be construed in the light of the specification. What, then, did appellants describe in their specification as their invention? Their very first statement is that the art knew about making fire-retardant polyesters containing halogenated phthalic acids including tetrachloro- and tetrabromophthalic acids and anhydrides (which includes TBPAA) as the fire-retardant components. Against this background, appellants then state that *their* discoveries in this art fall into two categories: (1) discovery of "the astonishing superiority of the tetrabromophthalic acid anhydride [TBPAA] over the other halogenated anhydrides in the production of flame-retardant compositions *when prepared in accordance with the present invention*" (emphasis mine); (2) a second discovery, implied in the italicized portion of the just quoted statement, namely, that *successful* use of the TBPAA for this purpose has been discovered by them to depend on reducing ferric iron impurity in the TBPAA to *below 5 parts per million* (p.p.m.).

Now, clearly patentability could not be predicated on (1) above, the mere discovery of the *superiority* of compositions using TBPAA, in view of the acknowledged suggestions in the art that it be used for this very purpose, even though the art, having proposed its use, along with many other related compounds, had not recognized the superiority. Discovery (1), therefore, is of no legal significance, at least with respect to product claims.

As to discovery (2), which is a stated limitation in every claim, appellants clearly appear to have advanced the art, delivered a *quid pro quo, by discovering something the art did not know and disclosing that discovery;* and, further, so far as the record shows, there was nothing obvious to those skilled in the art about that discovery. With respect to it the art appears to have been in total darkness. It knew nothing about the practical necessity of reducing the ferric iron in the TBPAA to less than 5 p.p.m. This, obviously, is a matter of "purity," a subject I will discuss presently, but first I wish to state what I think is wrong with the approaches to the problem taken by my brothers.

The majority and concurring opinions both refer to *In re Allen*, 51 CCPA 809, 324 F.2d 993, 139 USPQ 492, misconstruing it, as I read those opinions, as standing for the proposition that solving a problem is of no moment in determining obviousness unless the problem was not only *existing* but *known to those skilled in the art to exist*. A problem is no less a problem when it has not yet been recognized. A large part of many important inventions resides in discovering that there *is* a problem. Two entirely different situations are here being confused:

(*a*) My understanding of *Allen*, representing one situation, is that *if* solution of a long-standing problem in the art is relied on as *evidence* of unobviousness, it is necessary to show knowledge of the problem by those in the art and efforts to solve it. That is not, of course, the situation here.

(*b*) The second situation is one in which unobviousness is predicated on the discovery of an *unobvious problem* and its solution. That is the case we have here. We have often said that patentability may be predicated on finding the cause of a difficulty even when its cure is obvious, once it is revealed. I would add that discovering the *existence of the difficulty* may be fully as significant.

Judge Almond's opinion states, and I agree, that "it would appear that appellants have made an advance in the art by recognizing a solution to an *existing* problem" (my emphasis), but confuses *existence* with *art recognition* in conditioning that statement on finding it to be a fact that "all TBPAA which was *commercially available* at the time the invention was made had a high iron content and hence was unusable in polyesterification reactions." Of course the record shows no such fact. It does not really show that TBPAA was a "commercially available" product from more than a single source mentioned by appellants. *All* we know about iron (ferric iron) content of TBPAA, commercial or otherwise, is what appellants tell us in their specification, as the opinion goes on to detail, referring to appellants' Examples III and V(*a*) (quoted infra). The significant fact here, however, is that the *prior art references* tell us nothing. I am aware of what Hoffman tells us about *removing* ferric chloride from a related compound, tetrachlorophthalic acid, but I am also aware that he speaks of attaining "the *degree* of purity required for industrial purposes" (my emphasis), without saying what it is and, further, that all his claims refer to a "purified" compound "*substantially* free of impurities" (my emphasis). There is no recognition anywhere of the significance of such small amounts as 5 p.p.m. The one example (V), in which Hoffman indicates the *amount* of $FeCl_3$ he considers to be an "impurity" to be got rid of, says it is "about 3%."

That is, I believe, 30,000 p.p.m. Query: does his "purification" process assure there is not so much as 8 p.p.m. iron left, which appellants teach the art is enough to make esterification results inconsistent? This brings me to consideration of the term "pure" and its practical relation to such an amount as the "not above 5 p.p.m." in the claims.

Hackh's Chemical Dictionary, 3d ed., states under "chemicals":

The *grade* or the purity of chemicals on the market are [sic]:

C.P.	chemically pure, the highest grade.
U.S.P. or B.P.	tested to conform with the requirements of the U.S. or British Pharmacopoeia, respectively.
A.R.	analytical reagent.
pure	of sufficient purity for general work.
tech.	a purity sufficient for technical work.
crude	an impure grade.

The Board predicated its decision largely on the notion, for which there is no support in the record other than its opinion, that

> One skilled in this art would not be expected to employ an impure reactant, but would follow normal chemical practice and use a *pure* phthalic anhydride in the esterification. Since the references are silent as to *any* content of ferric ion it cannot be presumed that such ion is necessarily present in the starting material. [Emphasis mine.]

It is very significant that "the references are silent" on the key fact in this case and I shall not labor the point except to reverse the Board's observation to say that in view of the silence it cannot be presumed ferric ion is necessarily absent in "pure" starting material.

The Board's statement about "normal chemical practice" is absolutely meaningless to me in the context of this case by reason of the vagueness of the term "pure." As the above quotation from Hackh amply demonstrates, "pure" does not normally mean chemically pure for when the latter is intended it is specified. "Pure" in the usual sense is a relative term meaning, according to Hackh, "sufficient purity for general work" and is quite broad enough to encompass as much as 8 p.p.m. of some impurity. I find further support for this, even with respect to C.P. chemicals, in Chemicals of Commerce, Snell and Snell (Van Nostrand, 1939), p. 1:

> The term C.P. stands for chemically pure. Materials bearing this label may be supposed to contain a minimum of impurities, but the term is somewhat general and does not mean specifically 100 percent pure. Strictly speaking, no chemical is absolutely pure although the known impurities may be expressed as present to the extent of 0.0001 percent. * * *
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> * * * * * * *
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> The term technical or technical grade is applied to products as they are commonly produced on a large scale. The degree of purity of technical products varies with the individual substances and depends on the ease with which contaminants are removed during the manufacturing process. Such relative terms as crude and refined are also used.

Appellants, presumably skilled in this art and using chemical terminology knowledgeably, made the following statement in their specification, apparently so far overlooked by everyone:

> The brominated product [TBPAA] is obtained contaminated with an impurity, either physically absorbed or molecularly complexed, such that *by the usual methods of purification the contaminant is not entirely removed.* [Emphasis mine.]

It seems to me we are justified in assuming that the "pure" chemical the Board expected to be used in the art would be such a one as has been subjected to the "usual methods of purification" and we are then

left with the very problem, unrecognized in the art but nevertheless existing, which was discovered and solved by appellants. It is my opinion from study of the prior art references that it was a very *unobvious* problem or source of difficulty.

I am not able to accept Judge Almond's attempted close reasoning in support of the majority for the further reason that it is predicated, at least in part, on a non-existent supposed "concession" by appellants that TBPAA had previously been *used* to form polyesters, presumably with success. The implication is that it was conceded by appellants to have been *successfully* used, yet we find appellants quoting from Kirk-Othmer's Encyclopedia to the effect that "bromo-derivatives of phthalic anhydride [for fire retarding] * * * have been either unsuccessful or economically unattractive." But aside from that reference to Kirk-Othmer, what the specification actually says is not that TBPAA has been *used* but that it has been "disclosed * * * for use" or "proposed," which is a very different thing. Such disclosures and proposals put TBPAA legally in the prior art but this is not a real use from which, as Judge Almond attempts to do, one can deduce "that the prior art had [commercially] available TBPAA having relatively low ferric iron content." When this deduction loses its foundation, the argument predicated on it collapses.

Equally unconvincing is the majority opinion's attempt to reason, from the disclosures in Phillips and Wismer that TBPAA *can* be used, that the Kirk-Othmer statement is unpersuasive, at least to anyone familiar with the way disclosures in patent specifications like those relied on come into being. It is quite true those two patents ignore the existence of any problem, just as though none existed. And why not, if it was not appreciated that there was one? It is easy to propose use of a chemical without knowing how it will behave. Both Phillips and Wismer merely list TBPAA among numerous *possible* polycarboxylic acid anhydrides which might be used. Neither indicates it was ever tried. Anyone skilled in this art could make up such a list. Such haystack disclosures are without *evidentiary* value. One cannot deduce anything from them, as from a commercial reality, and that is what the majority opinion is attempting.

On the other hand we have the *experimental* data of appellants' Example V showing the actual effects of the ferric iron content. Its essence is as follows:

> In a method of polyester preparation similar to that employed in the previous examples, wherein 1:1:2.2 molar relationships of TBPAA, maleic anhydride and diethylene glycol were utilized, the following six samples of TBPAA were employed:

	Ferric iron determination—p.p.m.
(*a*) TBPAA, obtained commercially from Michigan Chemical Company	34
(*b*) Technical TBPAA, prepared as described in Example III	8
(*c*) TBPAA that had been methanol-conditioned by the method of Example I(*a*)	5
(*d*) TBPAA that had been methanol-conditioned by the method of Example I(*a*)	2
(*e*) TBPAA conditioned by the sodation method of Example IV(*a*)	1.2
(*f*) TBPAA conditioned by the xylene crystallization method of Example III(*a*)	4

> No polyester could be produced with the use of the Sample (*a*) above TBPAA component. The use of Sample (*b*) did not consistently produce polyesters. However, Samples (*c*) through (*f*) consistently produced polyesters as previously demonstrated in Examples I–IV, above.

The references to conditioning of the TBPAA are to special methods of purification to remove residual ferric iron disclosed in the application at bar and in other applications.

The majority's attempt to shrug off this evidence, particularly the results obtained with Example V(*b*), 8 p.p.m. impurity, as being "equivocal" and so not showing the existence of a problem impresses me as tour de force. Anyone running a chemical plant sees nothing "equivocal" in inability to get consistent results with a given raw material or reactant. It is such a problem as can practically lead to a plant shut-down and abandonment of a process altogether. Besides, that is exactly what the Kirk-Othmer publication suggested, notwithstanding the bland assumption to the contrary of patentees who never tried it.

In summary, the only question we have to decide is the obviousness of appellants' claimed discovery of the importance of keeping the ferric impurity in TBPAA, used to impart fire-retardant properties to polyesters, below 5 p.p.m. That question must be decided on the basis of what the prior art of record teaches. It cannot be disputed, it is not in fact disputed by the majority, nor was it disputed by the Board, that the prior art references teach nothing on that subject. The majority view rests only on a complicated rationalization based on hindsight which attempts to show that the skill of the art would make it obvious but, for the reasons above discussed, the underpinnings of that rationalization are inadequate logically to sustain it.

I would reverse.

SMITH, *J.*, dissenting.

The invention with which we are here concerned is a detailed, limited improvement in the highly technical art of polymerizing certain designated materials for producing fire-retardant compositions. As stated in the specification:

> * * * More particularly, it relates to polymerizable compositions comprising polyesters of polyhydric alcohols and polycarboxylic acid anhydrides, at least a portion of which is tetrabromophthalic acid anhydride [TBPAA] that gives the products produced therefrom said fire-retardant characteristics; and to processes for the preparation of such polymerizable compositions.

The specification also provides the further background information that:

> The production of flame-retardant polyester resins is of great commercial importance. The expanded use of polyester resins in the coating composition field, which includes increasing application to wall members, structural panels, pipes, electrical contacts and the like, requires that the coatings be resistant to fire and heat deterioration.

Specifically, appellants do not assert nor claim anything but a very specific improvement relating to the critical limits of 5 p.p.m. of the ferric iron impurity in the TBPAA which they assert permits the incorporation of TBPAA in a polyester. The specification characterizes the resultant polyester resins as having "remarkable flame-retardancy when cured." Appellants' position is supported in the specification by detailed and comparative examples of the reactions involved and by test data set forth therein as resulting from controlled experiments which in turn are fully described.

The record herein seems to me to support appellants fully in the following statement in their brief:

> Appellants admit that the art (as represented by the Lundberg, Phillips et al., and Wismer et al. references) not only knew that tetrabromophthalic acid anhydride (TBPAA) could be used to prepare polyesters, but was aware that TBPAA could be used in the preparation of polyesters with fire-retardant properties.
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> A practical industrial problem existed, however, in the fact that there was difficulty in preparing polyesters from commercially available TBPAA.
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> Appellants, thereupon, directed their efforts to solving this industrial problem and made a triple-faceted discovery:
>
> 1. The cause of the difficulty in preparing polyesters with TBPAA resides in the presence of ferric iron. The following statement made by this court in *In re Antonson*, 47 CCPA 741, 124 USPQ 132, 133, is apropos: "* * * the inventive act which entitles an applicant to a patent resides as well in the discovery of the source of trouble as in the application of the remedy," citing *Eibel Process Co.* v. *Minnesota & Ontario Paper Co.*, 261 U.S. 45, 67.
>
> 2. The remedy resides in utilizing TBPAA with no more than 5 p.p.m. (parts per million) of ferric iron associated therewith. The criticality of 5 parts per million is illustrated in Example V of the specification * * *.
>
> 3. An unexpected advantage of using TBPAA associated with no more than 5 parts per million of ferric ion is that fire-retardant properties far in excess of expectation are achieved. Table I * * * clearly shows the unexpected advantage with respect to fire-retardant properties achieved by the use of TBPAA associated with a limited amount of ferric iron in relation to the use of TClPAA (tetrachlorophthalic acid anhydride), PAA (phthalic acid anhydride), and HClNAA referred to by the Examiner as "chlorendic acid." Note particularly the column "% Consumed." * * *

With the foregoing as a background, the issue which the majority resolves against appellants is that of obviousness of the claimed invention under 35 U.S.C. 103.

The Examiner's analysis of appellants' invention and the prior art was adopted by the Board in affirming the rejection and this in turn underlies the majority's affirmance of the Board's decision. It seems to me, however, that the Examiner's analysis substitutes *his* view, by a process of hindsight reconstruction, for what Congress has provided in 35 U.S.C. 103 as the standard by which to determine what would have been obvious to one of ordinary skill in this art at the time of appellants' invention.

Appellants readily admit that of the art cited by the Examiner, the Lundberg, Phillips, and Wismer patents are representative of the prior art on which appellants' improvement is based. Appellants point out, however, that in addition to not recognizing the esterification problem faced by industry or its solution, not one of these references recognizes the special significance of limiting the iron impurity of TBPAA. Lundberg does not mention TBPAA and Phillips and Wismer merely disclose TBPAA as "one among many" of the materials which may be used.

The Examiner in his answer ignored the *precise* limitations in appellants' disclosure and claims and incompletely described appellants' invention as follows:

> The invention relates to a process of preparing fire-retardant polyester resins from a glycol, a dicarboxylic acid which may be α,β-ethylenically unsaturated, and at least 10 mol percent of tetrabromophthalic anhydride of a specific ferric iron content. The polyesters, when unsaturated, may be combined with unsaturated monomers and cured.

It should be noted that the Examiner at this point apparently did not consider what appellants have asserted to be the *critical* limitation in their discovery, i.e., that producing the product depends on the incorporation in the product of the minimal stated amount of TBPAA having the ferric iron impurity in the TBPAA not above 5 p.p.m.

Thus, appellants' "invention as a whole," which section 103 requires us to consider in arriving at a determination of the issue of obvious-

ness, has a two-fold aspect: (1) an *appreciation* of a problem which, on the record, was unknown to the prior art, and (2) its solution. Both aspects of the invention are discussed in commendable detail in appellants' specification. The error of the Examiner, the Board, and the majority, traces back to what now seems to have been an incomplete statement in the Examiner's answer as to what appellants have claimed as their invention "as a whole."

The Supreme Court has cautioned against such an analysis of a patent specification and claims. Thus, in *United States* v. *Adams*, 383 U.S. 39, 48–49, 148 USPQ 479 (1966) the Court stated:

> * * * While the claims of a patent limit the invention, and specifications cannot be utilized to expand the patent monopoly * * * it is fundamental that claims are to be construed in the light of the specifications and both are to be read with a view to ascertaining the invention * * *. [Citations omitted.]

Thus, under *Adams*, the emphasis is to be placed on ascertaining the *invention*. "Invention" under the *Adams* decision is first a mental act on the part of the inventor, i.e., an understanding of the problem and the conception of a solution for it. The embodiment of the invention as set forth in the specification is evidence pertinent to a consideration of the patentability of that which is disclosed. A specification cannot be *ignored* in determining what the invention is. The failure of the Examiner and the Board to consider the appellants' specification in *ascertaining* the invention seems to me to warrant reversal. I have set forth in some detail what I consider to be the salient points of appellants' specification which bear on this consideration. This study makes it clear that appellants' invention lies in the claimed relatively narrow advance over the prior art. These "critical" limitations on appellants' invention with respect to the permissible iron content were ignored by the Examiner, the Board, and the majority.

To the extent the Examiner evaluated the limitation in the claims restricting the amount of the ferric iron impurity in the TBPAA used in the reaction, he related it to the purity of one of the reactants and stated:

> * * * Applicants rely on the specified ferric iron impurity content of the tetrabromophthalic anhydride as a distinction over the method and product of Lundberg. However, it is not seen that any impurity need be presumed in the reactants, specifically the bromophthalic reactant of the reference. It is considered that the choice or use of a reactant in either a purified or a crude state is within the scope of the patent as well as a matter of choice within the skill of the art. Further, it is presumed that purified reactants would be those of choice unless for some reason a crude reactant was in some respect more desirable. It would appear that a purified reactant would be the more desirable and thus the one of choice and thus the one used in Lundberg. * * *

The issue of obviousness thus seems to have been resolved against appellants in the first instance on the basis of an unsupported presumption thus indulged by the Examiner. The Board stated:

> * * * We therefore agree with the Examiner that a pure or iron-free reactant would normally be employed, thus rendering obvious appellants' contribution.
>
> We also note there to be no evidence in this record that all commercially available tetrabromophthalic anhydride would necessarily contain ferric iron in a proportion above the 5 p.p.m. which appellants consider to be the operative limit of their contribution. The use of commercially available tetrabromophthalic anhydride having a low iron content is equally obvious in the polyesterifications of the prior art as the high iron content urged by appellants.

Here, as in *Eibel Process Co.* v. *Minnesota & Ontario Paper Co.*, 261 U.S. 45 (1923), it was *the discovery of the source of a problem*, not before known, *and* the discovery of a remedy for which appellants are entitled to the grant of a patent. When so considered, the invention here was not the mere use of a "pure" reactant to remedy an asserted source of difficulty. It lies rather in the perception of control of the amounts of the material which inhibited the esterification reaction.

Whether the reactants are "pure," or "impure," does not meet the issue. "Purity," at best, is a relative term lacking exact meaning except from the context in which it is used. As such, the general use of the term by the majority creates semantic difficulties. What, for example, is meant? "How pure is pure?" On this record, the use of "pure" reactants in the art would not alone make the claimed invention obvious under the conditions of section 103, for even a "pure" TBPAA might contain ferric iron in an amount in excess of 5 p.p.m.

Thus, in the second instance, the rejection is necessarily bottomed on what amounts to a lack of factual evidence as to criticality of the claimed limits. The position that such limits are indeed critical as asserted by appellants remains unchallenged except for the Examiner's unsupported "presumption" to the contrary.

Moreover, it is noted neither the Examiner nor the Board challenged applicants' assertions that a "practical industrial problem existed." Neither the Examiner nor the Board proffered anything controverting applicants' statement that "there was difficulty in preparing polyesters from commercially available TBPAA."

"Invention," as the term appears in the statute, means "invention or *discovery*." (35 U.S.C. 100.) Thus, if, in fact, a problem existed in this art, appellants' *discovery* of the causes of the problem coupled with their *discovery* of a solution to that problem constitutes an "invention," which is patentable unless barred by specific provisions of the statute.

The record here consists of *uncontroverted factual* allegations made by appellants. Taking an unduly broad view of the tests of section 103, the Examiner substituted for factual proofs his unsupported speculation that pure reactants would be used in the method and product of Lundberg. Thus, he reasoned, and the Board agreed, that since a pure or iron-free reactant was available, applicants' invention was obvious. But if applicants' "invention" uncontrovertibly resides in both the *discovery* of a cause of a problem and a *discovery* of the solution to that problem, the reasoning to support the rejection begs the question.

The majority refers to Examples II and V of appellants' specification as not supporting appellants' position. The entire specification, however, contains Examples I, III and IV which also require consideration. These examples, when considered along with Examples II and V, produce a quite different picture than that reflected in the majority opinion and which, it seems to me, clearly offsets the Examiner's "presumption." Thus, in Example I, we find a disclosure of a method of purifying the TBPAA to make it "suitable for conversion into polyester resins which are characterized by a remarkable flame retardancy." The purified TBPAA is disclosed as having but 2 p.p.m. of ferric iron impurity. The examples then continue:

> A mixture of 2.2 mol parts of diethylene glycol, 1.0 mol part of maleic acid anhydride and 1.0 mol part of tetrabromophthalic acid anhydride conditioned by treatment with methanol as described above, [which was conditioned by reduction of the ferric iron content] was heated rapidly to 170° in a slow stream of carbon dioxide. The mixture was agitated and heated at 170° until the evolution of water practically ceased and the acid number was 40. Thereafter, the

mixture was cooled to 100° and 0.4 to 0.7 millimole part of hydroquinone and 3.2 mol parts of styrene were added. The mixture was agitated until homogeneous, after which it was cooled as rapidly as possible in an ice water bath.

In Example I, a further experiment was run and is described as follows:

Repetition of this experiment, in which an unconditioned tetrabromophthalic acid anhydride was used in place of the conditioned tetrabromophthalic acid anhydride, failed to give any polyester material. * * *

Example III describes the purification of TBPAA to reduce its ferric iron component from 8 p.p.m. to 4 p.p.m. This purified material was used in the polymerization reaction described as follows:

A mixture of 49.9 parts of maleic acid anhydride, 232 parts of xylene-purified TBPAA and 117 parts of diethylene glycol was heated in an atmosphere of nitrogen to 175° C. The mixture was maintained at 175° C. to 180° C. for about 10 hours, at which time the acid number of the mass was 77.1. The mass was cooled to about 120° and 166.9 parts of styrene and a small quantity of hydroquinone were added. The mixture was cooled rapidly to ambient temperature.

The mixture was copolymerized in the manner described in Example I(*b*) to yield solid resin of excellent fire-retardant properties.

Example IV describes another method of purifying the TBPAA to reduce its ferric iron content to 1.2 p.p.m. The TBPAA so purified was then used as follows:

A mixture of 49.9 parts of maleic acid anhydride, 232 parts of TBPAA purified by the sodation method described above, and 117 parts of diethylene glycol was heated in an atmosphere of nitrogen at 170° to 180° C. for 12 hours, at which time the acid number of the polyester was 70.6. The mass was cooled to 120°, and 166.9 parts of styrene and a small quantity of hydroquinone were added. The mixture was cooled rapidly to room temperature.

The resulting polyester mass was copolymerized as described in Example II(*b*) to give a resin of excellent fire-retardant characteristics.

Appealed claims 1–5, 10, 11 are directed to appellants' method while appealed claims 6, 7 are directed to "a polyester resin," claim 8 to "a product resulting from the curing of the polyester resin claimed in claim 7," and claim 1 to "a polyester composition."

With respect to the method claims, I am of the view that appellants' contentions have merit and should be sustained. The Board found, and appellants admit, that the art was aware that TBPAA could be used to prepare polyesters having fire-retardant properties. However, appellants allege that commercially available TBPAA is not suitable for the production of polyesters and that this difficulty is caused by the presence of ferric impurities in excess of 5 p.p.m. in the TBPAA. Support for this allegation is seen in the specification, particularly in Example V of the application where it is shown that commercially obtained TBPAA, containing 34 p.p.m. ferric iron, could not be used to produce a polyester. Even 8 p.p.m. of ferric impurity hinders the esterification reaction to the extent that polyesters cannot be consistently produced therefrom. On the other hand, TBPAA containing 5 p.p.m. of ferric impurity or less consistently produced polyesters which have excellent flame-retardant characteristics as shown in other examples in the application. From the foregoing I conclude that appellants have demonstrated the criticality in the esterification process of the claimed limits on the amounts of ferric impurities in the TBPAA. Therefore, the rejection of claims 1–5 and 9–11 should be reversed.

The Board's decision with respect to the method claims is that one skilled in the art would not be expected to employ an impure reactant and that there is no evidence in this record that all commercially

available TBPAA would necessarily contain more than 5 p.p.m. of ferric impurities. I find these contentions untenable. In the first place, I believe that one skilled in the art would not normally employ chemically pure reactants to produce resins for use in such relatively low cost consumer products as wall members, structural panels, pipe, electrical compacts and the like. It is to these items disclosed in appellants' specification to which we are directed for the usefulness of the fire-retardant compositions with which appellants are concerned. The question simply stated is whether it would be obvious for one of ordinary skill in producing resins for such uses to employ chemically pure TBPAA in the polymerization reaction. Except for Example V of the application, the record discloses little as to the amount of ferric iron impurities present in commercially available TBPAA. The sample there described contained 34 p.p.m. of ferric impurities.[8]

The thrust of the Board's decision apparently would require appellants to show that *all* commercially available TBPAA contains more than 5 p.p.m. of ferric iron. There is no basis for such a requirement in the statute or in reason.

The Board also relies on the O'Neill, Tate and Hoffman references to support the proposition that the art is aware of the need for purifying various phthalic acids prior to their use in esterification. I find nothing in any of these references which makes the presently claimed invention obvious. There simply is no teaching of any relationship between the ferric impurities in TBPAA and its successful use in an esterification process to produce fire-retardant resins. The simple fact is none of the references suggests the appellants' claimed critical ferric iron content of 5 p.p.m. The Hoffman reference is relied on by the Board as showing the removal of ferric impurities present in tetrachlorophthalic anhydride. However, it is clear that all Hoffman in fact teaches is that iron chloride may be in the solution during the recrystallization of tetrachlorophthalic acid. This statement of a permissible procedure in the recrystallization of tetrachlorophthalic acid falls far short of establishing the obviousness under section 103 of appellants' discovery that a ferric iron impurity in excess of 5 p.p.m. in TBPAA would seriously hinder or completely stop esterification reactions in which TBPAA was involved.

Study of the O'Neill, Tate and Hoffman references verifies the accuracy of the observations in appellants' brief concerning these references that:

The O'Neill reference discloses a method for the purification of terephthalic acid. No mention is made of TBPAA or ferric iron and it is not understood how one of ordinary skill in the art would be taught the problem, the solution, or the special significance of TBPAA.

The Tate reference also discloses a method for the purification of terephthalic acid. Again, no mention is made of TBPAA or ferric iron. Tate speculates at column 2, lines 7 to 12, that "acidic or acid-forming impurities" are responsible for the production of undesirable esters, but he does not define "acidic or acid-forming impurities," which cover a broad class of materials. Be that as it may, Tate obviously does not disclose or suggest the problem of esterifying TBPAA, the solution, and the special significance of TBPAA.

The sixth and last reference relied on by the Board is the Hoffman patent. This patent discloses a method for the purification of tetrachlorophthalic acid and its anhydride. No mention is made of TBPAA. The ferric iron mentioned

[8] It is interesting to observe at this point that appellants' specification states: "* * * Further, it has been stated that attempts to incorporate desirable flame-retardant properties into high polymer polyesters by use of chloro- and bromo- derivatives of phthalic anhydride for use in surface coatings have been either unsuccessful or economically unattractive (Kirk-Othmer, Encyclopedia of Chemical Technology, volume 10, page 595, Interscience Encyclopedia, Inc., 1953)."

is obviously present because of the use of ferric chloride as a chlorination catalyst in the preparation of tetrachlorophthalic acid. TBPAA is generally not prepared in the same manner * * *. However, Hoffman does not state that ferric iron is responsible for the difficulty in the formation of polyester, and, even if the suggestion is assumed, there is no teaching that a limited amount of ferric iron can be present. Furthermore, Hoffman does not, in any way, suggest the special significance of TBPAA.

It is therefore apparent that none of the references, alone or in combination, suggest that polyester resins of remarkable flame retardancy can be prepared by utilizing TBPAA that has not above 5 parts per million of ferric iron associated therewith. The references relied on are not concerned with the problem of esterifying TBPAA, do not offer a solution, and are not aware of the special significance of TBPAA in the fire retardant field.

Claims 6, 7, 8 and 12 while generally in the form of "product" claims contain references to the "reaction product" (cl. 6–8) of "glycol and a component of the group consisting of saturated dicarboxylic acids and anhydrides" or to "a mixture of cross linking agents * * * resulting from condensation of about one mol of glycol with about one mol of dicarboxylic acid * * * *." All of these claims contain the essential and critical limitation as to the ferric iron impurity in TBPAA not being above about 5 p.p.m. They thus embrace the essential elements of appellants' invention and appear to be little more than a permissible alternative way to claim their invention which resulted from a "surprising discovery" of the effect of the ferric iron impurity in the reaction for producing the desired fire-retardant resin. I therefore find them to be properly allowable claims.

It but further begs the question to find TBPAA as a known material in the prior art. It is the control of the ferric iron impurity therein which appellants related to the problem of utilizing TBPAA in polymeriization reactions to produce fire-retardant resins. There is no question but that the art totally fails to teach this concept. The process and the product produced are clearly novel in this art. Thus, the only issue is whether under the tests of section 103 they are obvious.

In referring to the requirements of section 103, the Supreme Court in *Graham* v. *John Deere*, 383 U.S. 1, 148 USPQ 459 (1966) stated:

* * * The emphasis on nonobviousness is one of inquiry, not quality and, as such, comports with the constitutional strictures.

While the ultimate question of patent validity is one of law, *A. & P. Tea Co.* v. *Supermarket Corp.*, supra, at 155, 87 USPQ at 307, the §103 condition, which is but one of three conditions, each of which must be satisfied, lends itself to several basic factual inquiries. Under §103, the scope and content of the prior art are to be determined, differences between the prior art and the claims at issue are to be ascertained, and the level of ordinary skill in the pertinent art resolved. Against this background, the obviousness or nonobviousness of the subject matter is determined. * * *

The present ex parte record is not as fully developed here as it should be to permit a more accurate determination of the present issue. The only evidence directly bearing on the existence of the problem and its solution by appellants is found in their specification. The Examiner has cited no art bearing directly on the issue, except as we ignore the "invention as a whole" requirement of section 103 and reconstruct the invention on a piecemeal hindsight basis. Even when this is done, the art totally fails to make obvious the critical limits of the ferric iron impurity claimed by appellants. To bridge this gap, the Examiner "presumes" that one of ordinary skill in the art of manufacturing fire-retardant resins by the use of TBPAA would use chemically pure rather than commercially available TBPAA. Even here, he furnishes no "evidence" as to what would be obvious to one of ordinary skill in this art.

It seems clear to me that the intent of Congress expressed in the Patent Act of 1952 was to grant patents on an invention unless one of the statutory grounds for refusal was established. I do not consider the unsupported "presumption" of an examiner sufficient to establish obviousness under section 103 as interpreted by the Supreme Court in the *Graham* and *Adams* cases.

Judge Kirkpatrick's concurring opinion states:

The difficulty with the appellants' case now before us is the lack of adequate evidence to bring his application within the rule. There is nothing to show that the "problem" which the appellants claim to have solved is anything other than the perennial problem present in every industry, namely, how to improve the quality of the product or to make the process of manufacture more efficient. Certainly the mere fact that an applicant for a patent has succeeded in making an improvement in product or process is never of itself evidence of nonobviousness. It must appear that what he has done is not within the skill of the ordinary practitioner of the art. Here nothing has been offered to show that any problem other than the problem of how to improve the product and process existed.

As above pointed out, my disagreement is that I find in the specification "evidence," which in my opinion is far more persuasive than the "presumption" on which the Examiner based the rejection. Briefly, it seems to me that an applicant should not be required to produce more "evidence" than was here presented until the Examiner has overcome the prima facie case of patentability which I find in the present specification. Only after a properly supported rejection has been made is the burden of further proof properly placed on an applicant. It is a fact of which judicial notice is properly taken that this court, as well as other courts, as in *Adams* and in *Eibel*, have found patents valid when directed to nothing more than improving the quality of a product or making the process of manufacture more efficient. The fallacy is that *how* one improves quality of a product or efficiency of a process frequently involves unobvious patentable improvements, and this is as it should be within the terms of 35 U.S.C. 101 which specifically includes "any new and useful improvement" on processes, machines, manufactures or composition of matter.

I would, therefore, reverse the decision of the Board.

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DEFENSIVE PUBLICATIONS

PUBLISHED APRIL 15, 1969

Published at the request of the applicant or owner in accordance with Notice of Apr. 11, 1968, 849 O.G. 1221. The abstracts are identified by serial number of the applications and arranged in chronological order. The heading of each abstract of application published herein indicates the number of pages of specification, including claims and sheets of drawing contained in the application as originally filed. The files of these applications are available to the public for inspection and reproduction may be purchased for 30 cents a sheet.

Applications published under the Defensive Publication Program have not been examined as to the merits of alleged invention. The Patent Office makes no assertion as to the novelty of the disclosed subject matter.

665,767

PROCESS FOR MEASURING POLYMER CONTENT

Okan Ekiner, 1401 Maryland Ave., Wilmington, Del. 19805, and Edward Peter Goffinet, Jr., 2403 Annwood Drive, Wilmington, Del. 19803

Filed Sept. 6, 1967. Published Apr. 15, 1969
Class 260—80.78
1 Sheet Drawing. 11 Pages Specification

Polymer content of a solution containing a plurality of volatile constituents, such as solvent, monomers, etc., is monitored by (1) vaporizing a portion of the volatile constituents from the solution, as by stripping the solution with organic solvent vapor; (2) condensing a small portion (e.g., less than about five mole percent, preferably less than two mole percent) of the vaporized portion to a condensate composition substantially the same as the composition of volatile constituents in the polymer solution; and (3) comparing the refractive index of the condensate with that of the solution, as with a differential refractometer such as is described in United States Patent No. 2,612,814. Polymer content is then determined, e.g., by inspecting a plot of instrument output versus polymer content. Temperature and pressure of vaporization and condensation may be taken into account in calibrating the said plot. The invention is described in connection with polymerization of ethylene, propylene, and a non-conjugated hydrocarbon diene but is broadly applicable to determining the content of any non-volatile component in a solution of a plurality of volatile constituents so long as an appreciable difference exists between refractive indices of the various constituents.

697,792

METHOD OF MAKING WHITE LIGHT HOLOGRAMS

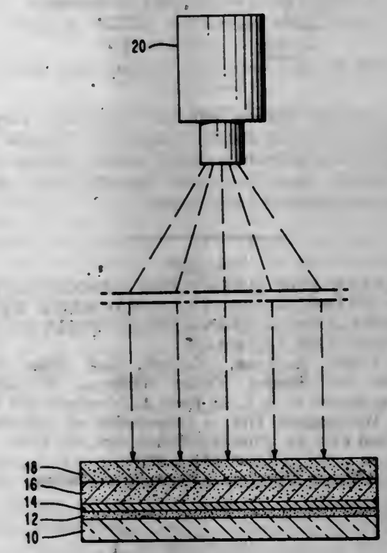
John S. Harper, Carmel, Harold H. Herd, Ossining, and Robert V. Pole, Yorktown Heights, N.Y., assignors to International Business Machines Corporation, Armonk, N.Y., a corporation of New York

Filed Jan. 15, 1968. Published Apr. 15, 1969
Class 96—27
1 Sheet Drawing. 13 Pages Specification

The manufacture of a hologram which is viewable in white light by a photographic printing method is disclosed. In the first step of the method, a master hologram of a conventional type is placed in close contact with an unexposed photographic emulsion, which is the top layer of a multilayer structure. Alternatively, instead of a hologram, an article referred to as a holocoder may be placed in contact with the emulsion. The emulsion is the top layer of a structure including a rigid base having a smooth upper surface which is coated with a thin layer of gelatin and a thin layer of metallic silver. The multilayer structure is exposed through the hologram by monochromatic light or by light emitted from a laser.

The light is spatially modulated by the hologram and then reflected by the silver layer which functions as a mirror, thereby forming spatially modulated standing waves in the unexposed emulsion.

In the next step, the hologram is removed and the remaining layers of the article are developed and fixed. The multilayer structure is then bleached so that the metallic silver in both the emulsion and the silver layer is converted into silver bromide, which is then re-exposed to the laser light or the monochromatic light and re-developed.



As a result, there is opaque granular silver both in the exposed area of the emulsions and in the silver layer which previously functioned as a mirror. The article thus produced is a hologram which can be viewed in white light.

700,489

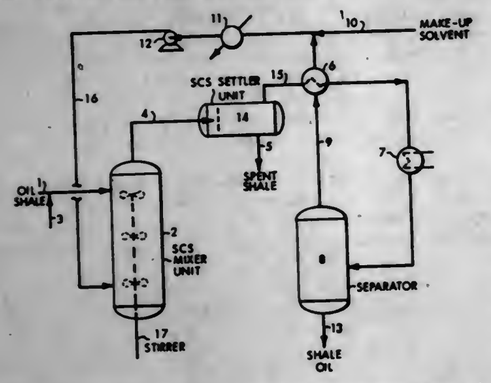
CONTACTING OIL SHALE OR SHALE OIL WITH A SOLVENT TO PRODUCE MATERIAL SUITABLE FOR HYDROFINING

Robert B. Long, 249 E. Highland Ave., Atlantic Highlands, N.J. 07716, Herman J. Solomon, 40 Watson Ave., Apt. 24, Elizabeth, N.J. 07202, and Homer J. Hall, 310 Prospect Ave., Cranford, N.J. 07016

Filed Jan. 25, 1968. Published Apr. 15, 1969
Class 208—11
2 Sheets Drawing. 12 Pages Specification

This disclosure relates to a process for refining oil shale or shale oil. In one embodiment, ground oil shale is extracted with a mixture of a polar and a non-polar solvent at supercritical conditions including a temperature in the range of 90–500° F. and a pressure in the range of 750–5000 p.s.i.a. to provide a shale oil extract phase. In another embodiment a fraction of shale oil from shale retorting is extracted with a non-polar solvent at supercritical conditions including a temperature in the range of 210–420° F. and a pressure in the range of 800–3500 p.s.i.a to provide a shale oil extract phase having a reduced con-

tent of heteroatomic compounds suitable for subsequent hydrofining. Optimum conditions for the supercritical separation step will depend upon the critical temperature of the solvent(s) and the molecular type distribution of the feed. Suitable non-polar solvents include ethane, propane,



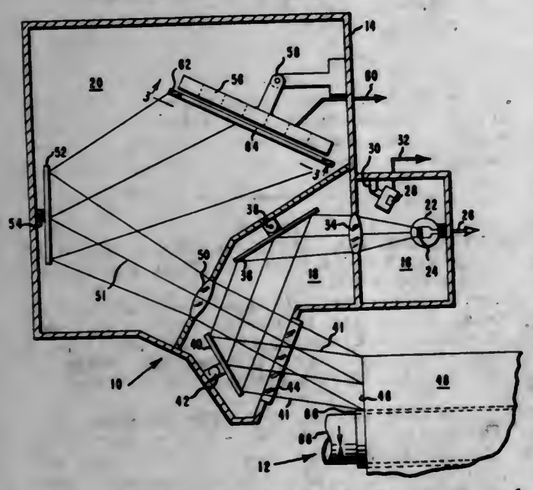
butane, pentane, hexane, ethylene, propylene, butylene, cyclohexane, benzene, decalin, tetralin, etc. Suitable polar solvents include ammonia, methyl amines, nitrous oxide, sulfur dioxide, methyl chloride, dimethyl ether, methyl alcohol, formaldehyde and acetone.

706,017

APPARATUS FOR DETECTING DISCOLORATION IN A CYLINDRICAL YARN PACKAGE BY OBSERVING CHANGES IN REFLECTIVITY ON THE ENDS OF THE PACKAGE

Gerald Irving Buckson, Newark, and John Albert Masino and Stanley Victor Williams, Wilmington, Del., assignors to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware

Filed Feb. 16, 1968. Published Apr. 15, 1969
Class 356—196
2 Sheets Drawing. 9 Pages Specification



An apparatus for detecting discoloration on the end surface of a rotating cylindrical yarn package 48 wherein a ribbon of light 41 is projected onto the end surface 46. The illuminated portion of the end surface is viewed by a plurality of photoresponsive means 56 through an aperture 64. The electrical output signals from the photoresponsive means are electronically processed and compared to determine if the signals fall within selected limits to indicate off-standard discoloration of the package end surface. A duplicate apparatus arrangement is provided for simultaneously inspecting both end surfaces of the package.

707,405

PREPARATION OF PHTHALIC ACIDS BY SLOW OXIDATION

Frederic B. Kirby, 13 Council Trail, Indian Field, Del. 19703

Filed Feb. 23, 1968. Published Apr. 15, 1969
Class 260—524
No Drawing. 13 Pages Specification

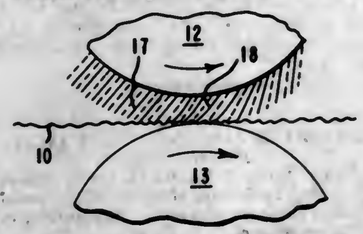
High purity phthalic acids such as terephthalic acid are prepared from methyl-substituted benzenes such as p-xylene in solution in aliphatic monocarboxylic acid (e.g., acetic acid) in the presence of cobalt-containing catalyst (e.g., cobalt acetate tetrahydrate) and without the aid of a promoter, by contacting the reaction mixture, under essentially atmospheric pressure, with substantially pure molecular oxygen for a period of at least 5 days and preferably at least about 6.5 days, while agitating the reaction mixture and maintaining its temperature at about from 80 to 105° C., and preferably at least 90° C. The resulting phthalic acid is collected, e.g., by filtration, washed with aliphatic acid solvent (e.g., acetic acid), and then dried to give (based on the weight of initial methyl-substituted benzene) at least a 94% yield of phthalic acid (calculated as 100% acid) which acid has a purity of at least about 97% by weight.

718,440

APPARATUS FOR DEREGISTERING CRIMPS IN A LONGITUDINALLY MOVING TOW

Paul Morrison Cole, Carcroft, Del., assignor to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware

Filed Apr. 3, 1968. Published Apr. 15, 1969
Int. Cl. D01b *3/10, 3/04*
U.S. Class 19—65
1 Sheet Drawing. 14 Pages Specification



The improvement in an apparatus for deregistering crimps in a longitudinally moving filamentary tow band of the type having tow delivery means, tow-take-up means with said delivery and take-up means defining a tow path therebetween, and a cylindrical roller rotatably mounted on one side of the tow path, said roller having a peripheral surface of a width at least equal to said tow path width and having a plurality of resilient needles extending outwardly from said surface with the roller being arranged to extend the needles through said tow path thickness, said needles being inclined from a radial line extending from the axis of said roller through the base of said needles in a direction away from said take-up means when said needles are in the tow path region; the improvement of a needle-receiving surface arranged on a side of said tow path opposite to said needled roller and spaced from said roller a sufficient distance to form a nip interference zone to cause said needles to bear against said surface and deflect said resilient needles backwardly in a direction away from said take-up means, the needles in adjacent longitudinal rows being staggered to cause a sequential deflection of adjacent needles and the consequent alternate longitudinal displacement of adjacent filaments.

743,029

ETHYLENICALLY UNSATURATED HYDROCARBON POLYMERS TREATED WITH BORON COMPOUNDS

Anestis Leonidas Logothetis, Wilmington, Del., assignor to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware

Filed July 8, 1968. Published Apr. 15, 1969
Class 260—80.78
No Drawing. 16 Pages Specification

Ethylenically unsaturated, elastomeric, sulfur curable hydrocarbon polymers, particularly copolymers of at least one alpha-monoolefin and at least one non-conjugated diene, are reacted in bulk (optionally containing 150 parts per 100 parts of petroleum oil) or solution at room temperature to 250° C., preferably 50–225° C., with boranes BH_3, B_2H_6, or RBH_2 (R is C_1–C_{18} alkyl, aryl, or substituted aryl, to reduce the cold flow of the elastomer while maintaining sulfur-curability and not effecting significant gelation. The borane supplies about 0.002 to 0.1 gram-atoms of B per kilogram of polymer. The borane can be derived from complexes with ethers, ammonia, amines (R'_nNH_m), phosphines (R'_3P), and arsines (R'_3As) where R' is H, C_1–C_{18} alkyl, cycloalkyl, aryl, alkaryl, pyridyl, furyl, and thienyl, $n=0$–3, $m=d-n$. Trioctylamine borane is representative. Optionally, the borane can be supplied as a solution in petrolatum, decalin, or high boiling oil (preferably less than 10% by weight of the polymer). If the polymer is treated in an extruder, the extrudate should be cooled in a protective atmosphere.

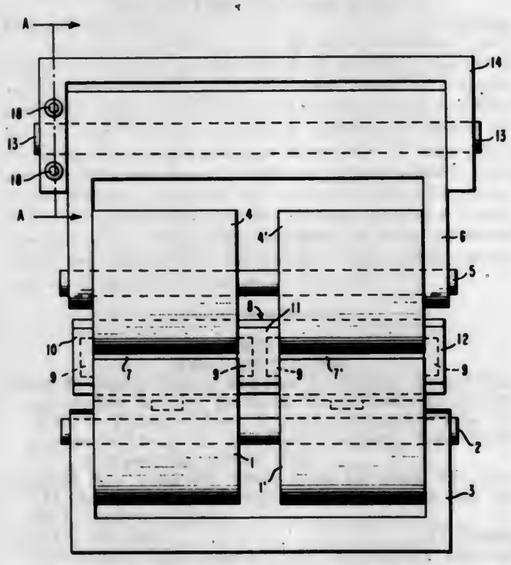
The treated polymers can be returned partly or wholly to their original state by mixing them with 1–5 moles of a carboxylic acid, e.g., stearic acid, per gram-atom of B. ZnO or CdO will prevent this change if added ahead of the acid.

753,132

APPARATUS AND PROCESS FOR SIMULTANEOUS CRIMPING OF TWO TOWS

Robert J. Peters, Waynesboro, Va., assignor to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware

Filed Aug. 16, 1968. Published Apr. 15, 1969
Int. Cl. D02g *1/00*
U.S. Class 28—1
2 Sheets Drawing. 7 Pages Specification



An improved crimping apparatus and process is disclosed which allows for the simultaneous crimping of two tows of filamentary material. The tows are passed (preferably in a side-by-side relationship while they are spaced apart by a distance less than their width) to an adjacent crimper chamber through pairs of feed nip rolls formed by two front rolls mounted on a common shaft and two back rolls on a common shaft. At least one of the common shafts is connected to driving means to drive the feed nip rolls. Means are disclosed for adjusting the parallelism between the shafts. These feed nip roll pairs are adjusted, based upon the observed type (e.g., "mash" or "herringbone") of the crimp imparted to the tow, to apply an essentially constant pressure upon each of the tows as they are advanced to separate crimping chambers; the desired type crimp is thereby simultaneously and uniformly imparted to each tow.

755,382

COLOUR PROOFING PROCESS

John H. Bolelle, 83 Dundale Road, Tring, Hertfordshire, England

Filed Aug. 26, 1968. Published Apr. 15, 1969
Class 96—29
No Drawing. 9 Pages Specification

A colour proofing process which comprises (1) developing an exposed, light-sensitive silver halide emulsion layer with a silver halide developing agent, (2) dissolving the undeveloped silver halide with a silver halide solvent, (3) diffusing the solubilized silver halide to a nucleated gelatin pigmented receiving layer on a support to form a silver image in the nucleated layer, and (4) etch-bleaching the silver image in the nucleated layer with an etch bleach solution to form a pigmented relief image. The support may be transparent so that overlays can be used to provide proofs or the image may be transferred to another support in register with similar images to provide a coloured proof.

765,985

CONTROL OF PROCESSING PROBLEMS RELATED TO ADDITIVES BY COMPOSITE EXTRUSION

Louis F. Erb, Nixon, N.J., assignor to Hercules Incorporated, Wilmington, Del., a corporation of Delaware

Filed Oct. 8, 1968. Published Apr. 15, 1969
Class 264—171
No Drawing. 4 Pages Specification

A novel technique for preparing films of synthetic polymers containing additives comprises extruding the film as a three-layer composite having substantially all of the additives in the center or core layer. The method is particularly useful in cases where the additives has a tendency to escape from the polymer as, for example, by volatilization during extrusion or due to incompatibility with the polymer so that it is deposited on processing equipment during film production. The technique is particularly useful in the addition of such additives as plasticizers, slip agents, and antistatic compounds to polyolefin films.

775,574

PLASTICIZED TOBACCO SMOKE FILTER

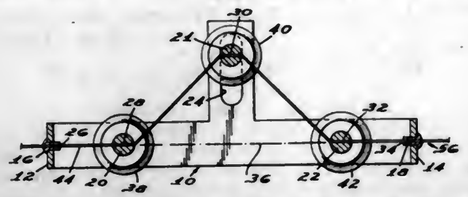
George P. Toney and Cephas H. Sloan, both of P.O. Box 511, Kingsport, Tenn. 37662

Continuation of abandoned application Ser. No. 659,024, Aug. 8, 1967. This application Oct. 14, 1968. Published Apr. 15, 1969
Class 131—267
No Drawing. 15 Pages Specification

A tobacco smoke filter containing a rapid bonding plasticizer blend of glyceryl triacetate and a glycol ether wherein the glyceryl triacetate content ranges from 99% to 80% and the glycol ether is selected from the group consisting of di-, tri-, and tetraethylene glycol.

781,088
YARN TENSIONING DEVICE
James W. Patterson and William D. Craig, Mount Clemens, Mich., assignors to Ford Motor Company, Dearborn, Mich., a corporation of Delaware
Filed Dec. 4, 1968. Published Apr. 15, 1969
Class 242—153
1 Sheet Drawing. 7 Pages Specification

Yarn passes through holes in three upstanding posts, the second of which is displaced rigidly from the axis formed by the holes in the first and third posts. The weight of discs mounted on the posts bears on the yarn traversing each post to produce a tension therein. A maximum amount of tension per unit weight is obtained by concentrating all of the weight on the first post, but tension variations are minimized by placing increasing amounts of weight on succeeding posts. The second post is movable relative to a line connecting the other posts to vary the amount of tension. By rigidly fastening all posts in place, tension variations are minimized and harmonic



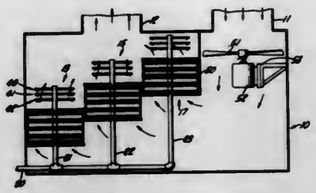
vibrations are prevented. The axes of the holes in the posts preferably are parallel to each other and to the direction of movement of the yarn.

REISSUES

APRIL 15, 1969

Matter enclosed in heavy brackets [ ] appears in the original patent but forms no part of this reissue specification; matter printed in italics indicates additions made by reissue.

26,560
MASS TRANSFER UNIT USING SPACED FLEXIBLE MATERIALS, AND METHOD OF CONSTRUCTION
Diven Meredith, 87–135 Ave. 56, Thermal, Calif. 92274
Original No. 3,318,586, dated May 9, 1967, Ser. No. 424,520, Jan. 11, 1965. Application for reissue Dec. 11, 1967, Ser. No. 693,033
Int. Cl. F28c *3/06;* **B01d** *3/00*
U.S. Cl. 261—30 **25 Claims**



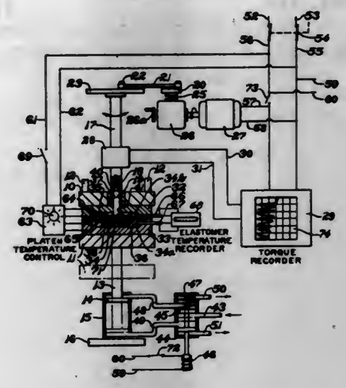
A mass transfer device for contacting a liquid with a gas employs flexible strand material in horizontally spaced layers or groups. The strand material may comprise groups of tensioned filaments in spaced vertical planes. Also disclosed is a method of making such device.

26,561
METHOD OF MAKING MEAT CURING SALT COMPOSITIONS
Arthur E. Poarch, Mill Valley, Calif., and Michael W. Kossoy, Decatur, Ill., assignors to Western Dairy Products, Inc., San Francisco, Calif., a corporation of California
No Drawing. Original No. 3,275,459, dated Sept. 27, 1966, Ser. No. 344,234, Feb. 12, 1964, which is a continuation-in-part of application Ser. No. 29,585, May 17, 1960. Application for reissue Sept. 27, 1967, Ser. No. 675,257
Int. Cl. A23b *1/01;* **A23l** *3/34*
U.S. Cl. 99—222 **7 Claims**

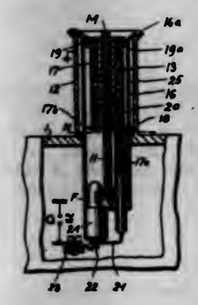
A method for making a curing salt composition, suitable for the curing of meat and meat products, characterized by homogeneity of mixture, and formed of a major portion of sodium chloride and a minor portion of a curing salt, said method comprising forming a solution by dissolving the minor portion in an amount of water sufficient to fully wet but not sufficient to fully dissolve said major portion, admixing the solution with said major portion of sodium chloride and thereby forming a homogeneous paste, and heating said paste to drive off water therefrom and form a substantially dry, homogeneous mixture of sodium chloride and curing salt.

26,562
VISCUROMETER
James R. Beatty, Akron, and Paul W. Karper, Stow, Ohio, and Arthur E. Juve, deceased, late of Summit County, Ohio, by Ernestine Juve, executrix, Ravenna, Ohio, assignors to The B. F. Goodrich Company, New York, N.Y., a corporation of New York
Original No. 3,182,494, dated May 11, 1965, Ser. No. 231,191, Oct. 17, 1962. Application for reissue Jan. 26, 1967, Ser. No. 651,056
U.S. Cl. 73—101 **17 Claims**

The method and apparatus for determining physical properties of solid vulcanizable elastomeric materials wherein a material is confined and enclosed by die means to provide a pressure on the material so confined, in cooperation with a rotor supported in the material surrounded by such material whereby an input means having a predetermined constant rate and amplitude of oscillation provides oscillation to the rotor so that torque pick-up means on the connection between the input means and the rotor provide an output signal which indicates variations in torque and a cure rate curve.



26,563
DEVICE TO PRODUCE STEAM FOR MOBILE AND STATIONARY TOYS
Eberhard Seuthe, Uhingen, Wurttemberg, Germany
Original No. 3,160,980, dated Dec. 15, 1964, Ser. No. 852,707, Nov. 13, 1959. Application for reissue Dec. 14, 1966, Ser. No. 604,525
Int. Cl. A63h *33/28, 17/00, 19/00*
U.S. Cl. 46—9 **9 Claims**

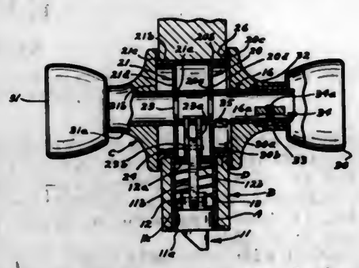


A device for artificially producing smoke or visible vapor in a toy which comprises means for storing a smoke or vapor producing liquid which has a capillary tube mounted therein and which extends to the ambient atmosphere. The capillary tube is adapted to draw smoke producing liquid from the storing means into the capillary tube. A heating wire extending along at least a portion of the storing means and or the capillary tube and being

connected to an electric power source. The heating wire is adapted to heat the smoke producing liquid in the storing means and thereby cause the liquid to exit from the capillary tube in the form of visible smoke or vapor.

26,564
SIMPLIFIED CONSTRUCTION FOR DOOR LATCH OPERATING MECHANISM
Francis J. Moore, Minneapolis, Minn., assignor to Schlage Lock Company
Original No. 3,203,719, dated Aug. 31, 1965, Ser. No. 232,110, Oct. 22, 1962. Application for reissue Mar. 16, 1966, Ser. No. 541,889
Int. Cl. E65c *1/12*
U.S. Cl. 292—167 **11 Claims**

A spring projected door latch is actuated through a link member by an arm projecting from a cylindrical member mounted within a hollow spindle rotatable in clamping elements on the sides of the door. Inner and outer handle



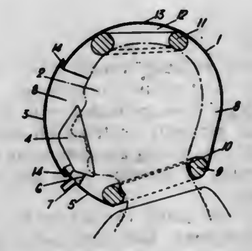
elements and shroud members are fixed to the spindle with the shroud members covering the clamping elements.

PATENTS

GRANTED APRIL 15, 1969

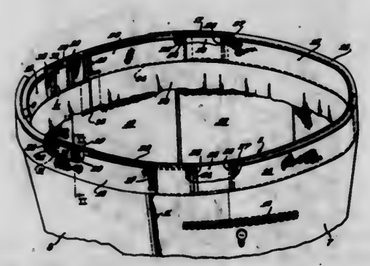
GENERAL AND MECHANICAL

3,438,060
AIRMEN'S HELMETS
Marcel J. O. Lobelle and John Gregory, Slough, England, assignors to M. L. Aviation Company Limited, Slough, England, a British company
Filed Sept. 6, 1966, Ser. No. 577,226
Claims priority, application Great Britain, Sept. 9, 1965, 38,553/65
Int. Cl. A42b *3/00*; A62b *18/04*
U.S. Cl. 2—6 **8 Claims**



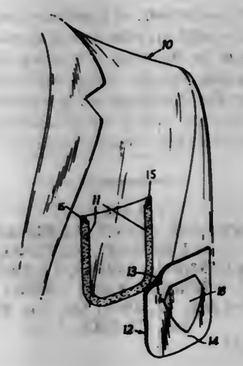
A pressurized aviator's helmet is disclosed in which the forces of pressurization tending to urge the helmet upwardly with respect to the wearer's head are neutralized by an unpressurized area at the top of the helmet substantially equal in area to the area of the neck of the wearer. The unpressurized area is created solely by an annular resilient member attached to the interior of the upper portion of the helmet and which in use contacts the head and/or hair of the wearer directly and the construction thus avoids the use of the inner bladders of the prior art which surround the entire head except for the facial area of the wearer.

3,438,061
EXPANSIBLE WAISTBAND FOR TROUSERS
Paul Goldberg, 2854 W. Fargo Ave., Chicago, Ill. 60645
Filed Dec. 7, 1966, Ser. No. 599,781
Int. Cl. A41d *1/06, 13/02*; A41c *1/00*
U.S. Cl. 2—237 **4 Claims**



A waistband has aligned split waistband sections providing elongated tunnels opening toward one another. Each of the sections has a tongue extension slidably received in the tunnel of the other section and with the longitudinal edges of the tongues in close sliding fit with the upper and lower width boundaries of the tunnels to hold the expansible sections in coaxial alignment. A downward curtain extension has an elastic bridging piece across a slit aligned with the separation between the sections.

3,438,062
POCKETS FOR GARMENTS
Curzon Dobell, New Providence Island, Bahamas (P.O. Box 643, Nassau, Bahamas)
Filed Mar. 8, 1967, Ser. No. 621,557
Claims priority, application Great Britain, Mar. 14, 1966, 11,174/66
Int. Cl. A41d *27/00*
U.S. Cl. 2—247 **4 Claims**



Garments, particularly jackets or blazers, are provided with interchangeable patch-pockets, particularly in the position of the breast pocket. The garment and the portion of fabric constituting the patch-pocket have interengaging means, for example the strips of fabric sold under the registered trademark "Velcro" for releasably securing the two together.

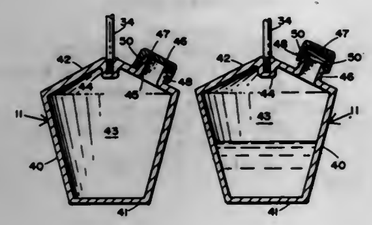
3,438,063
BELT EMPLOYING CUFF LINKS OR SIMILAR FASTENING MEANS
Zallo Loston, 113 S. Arnaz Drive, Beverly Hills, Calif. 90211
Filed Mar. 8, 1966, Ser. No. 532,619
Int. Cl. A41f *9/00*; A44b *11/25, 13/00*
U.S. Cl. 2—322 **5 Claims**



A belt for apparel which utilizes at least one cuff link with a pivotable member, or similar fastening means, for securing the overlapping ends of the belt. The belt ends

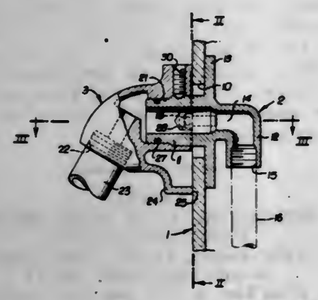
include padded portions which provide a thickness that is approximately the same as the length of the shank of the cuff link, to insure a proper closure.

3,438,064
ADJUSTABLE FLUSH TANK VALVE FOR WATER CLOSETS
Morris Talen, 9455 SW. 36th St., Miami, Fla. 33165
Filed June 8, 1967, Ser. No. 644,642
Int. Cl. E03d *1/34, 5/02, 5/01*
U.S. Cl. 4—56 2 Claims



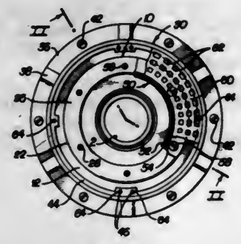
The invention consists of a hollow tank valve for water closets whose weight may be varied by placing water therein so that upon the flushing of a toilet and upon releasing the operating handle, the valve will return to its seated position upon the discharge of a predetermined amount of water in the tank and prior to its complete evacuation whereby water will be conserved and the toilet is properly flushed.

3,438,065
VANDALPROOF, CONCEALED ANCHOR FOR PLUMBING FIXTURE
Earl L. Morris, 1501 N. Cloister Road, Whittier, Calif. 90603
Filed July 22, 1966, Ser. No. 567,151
Int. Cl. E03c *1/00*
U.S. Cl. 4—191 4 Claims



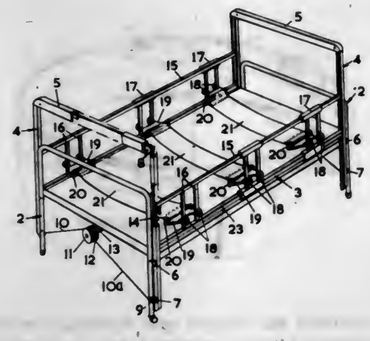
In a vandalproof, concealed anchor, plumbing fixture for use with a structural partition having a port therethrough, the fixture having a rearward face and a fluid passage therethrough, the passage having an enlarged bore with its axis perpendicular to the rearward face, a unitary anchor element including a tubular forward body portion received in the enlarged bore of the fixture when the body extends through the partition port and having oppositely extending anchor flange portions between the forward body and a rear supply portion, means for locking the fixture against rotation with respect to the partition, and concealed but externally accessible locking means carried by the fixture cooperating with the tubular body portion to hold the fixture against axial movement with respect to the anchor element.

3,438,066
SUPPORT AND DRAIN CONSTRUCTION
Earl L. Morris, 1501 N. Cloister Road, Whittier, Calif. 90603
Filed Aug. 9, 1966, Ser. No. 571,229
Int. Cl. E03c *1/26*
U.S. Cl. 4—288 10 Claims



1. An effective, virtually vandal proof standard support and drain construction comprising:
a disk-like drain base provided with an upstanding support hub generally centered on said drain base, said support hub having an upstanding wall provided with a plurality of drainage ports and a top flat support surface;
an upstanding rim collar carried by the edge portion of the drain base, said rim collar being spaced from the support hub to form an annular water chamber therearound;
a drain outlet connected to the drain base and in communication with the interior of said support hub; and
a hollow standard provided with an outwardly extending flange at its lower end, said flange resting upon the top support surface of said hub, and means removably connecting the flange to said hub.

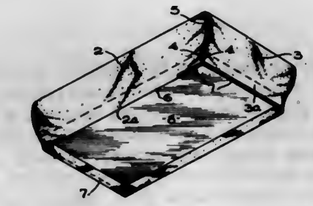
3,438,067
HOSPITAL BEDS
Barbara Joan Saunders, Mill House, Cricket Hill, Yateley, near Camberley, Surrey, England
Filed Apr. 27, 1967, Ser. No. 634,258
Claims priority, application Great Britain, May 3, 1966, 19,388/66; July 8, 1966, 30,723/66
Int. Cl. A61g *7/10;* A47c *31/00*
U.S. Cl. 5—68 12 Claims



A hospital bed having power operated means, under the control of a patient or an attendant, for raising and lowering the patient between a raised, a lowered and an intermediate position, by means of webs attached to vertically movable bed side frames.

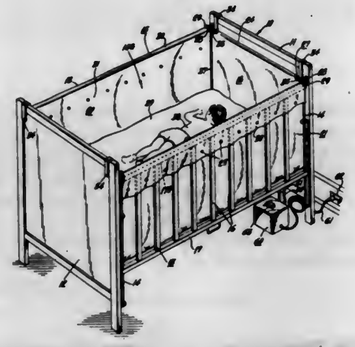
Conveniently and preferably the side frames are raised and lowered by wire cables which are controlled by winches driven by an electric motor which is automatically stopped when said positions are attained.

3,438,068
SELF-TUCKING FITTED SHEET
Martin Anderson and Hattie T. Anderson, both of 1-H Gardenway, Greenbelt, Md. 20770
Continuation-in-part of application Ser. No. 343,296, Feb. 7, 1964. This application June 23, 1966, Ser. No. 559,784
Int. Cl. A47g *9/04*
U.S. Cl. 5—334 14 Claims



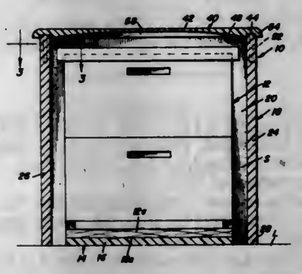
This invention is directed to a fitted sheet with evenly tensioned linear elastic means attached to the corners and ends of the sheet's free edge. Where fullness is mitered out in the construction of the sheet, a maximum of edge fullness is retained through the provision of curvilinear corner seams including a portion of concave curvature.

3,438,069
CRIB WARMER
Harold W. Long, 4008 Mountainview Road, Columbus, Ohio 43221
Filed Oct. 30, 1967, Ser. No. 679,071
Int. Cl. A47c *27/08, 57/00;* A47d *7/00*
U.S. Cl. 5—348 5 Claims



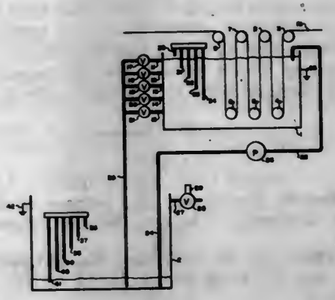
A baby crib having upstanding sides is provided with a flexible liner which forms an enclosure therein, and a series of passageways within the sides of the liner contain a heated fluid which is circulated therein to warm the enclosure. The fluid is heated by an electrical control unit, located near the crib, which also thermostatically regulates the fluid temperature. A circulating pump, contained within the control unit, is connected to the passageways for circulating the heated fluid.

3,438,070
BEEHIVE ENCLOSURE AND METHOD OF ENCLOSING A BEEHIVE
Douglas A. Florance, Vestal, N.Y. (Box 123 Southview Station, Binghamton, N.Y. 13903)
Filed Sept. 9, 1966, Ser. No. 578,389
Int. Cl. A01k *47/02, 51/00*
U.S. Cl. 6—1 9 Claims



A method and article for enclosing a beehive in a casing to protect the hive from temperature drops. The case completely surrounding the hive and leaving an air gap therebetween will move the dewpoint of the hive outside of the hive and within the casing so that condensation therein will form on the walls of the casing and not on the interior walls of the hive.

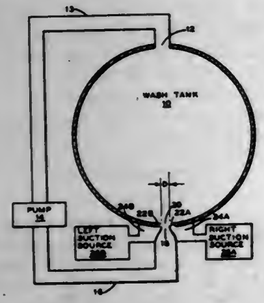
3,438,071
DYEING OF CELLULOSE CASING
Sidney B. Clark, Danville, Ill., assignor to Tee-Pak, Inc., a corporation of Illinois
Filed July 27, 1967, Ser. No. 656,495
Int. Cl. D06f *37/00, 39/00;* F16k *21/18*
U.S. Cl. 8—158 9 Claims



In the dyeing of cellulose casings or other continuous lengths of material wherein the amount of dye added to the material is a function of the residence time of the material in the dye bath, the casing or other continuous length of material being treated is passed through a dye tank having a plurality of outlets which establish predetermined dye levels in the tank. A storage dye tank is provided at a lower level to receive the dye solution withdrawn from the main dye tank. A continuously operating pump circulates dye from the lower storage tank continuously to the dye tank where excess dye is continuously removed through one of said outlets. Means are provided responsive to the level of dye solution in the main dye tank and in the storage tank to actuate a valve for admission of make-up water to maintain the total volume of the dye system constant (which greatly simplifies the regulation

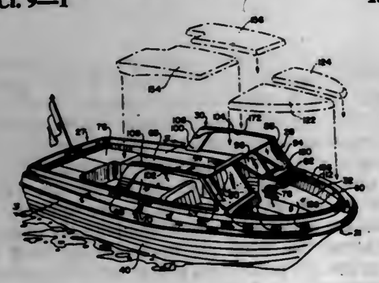
of dye content of the solution). The means for maintaining the dye system at a constant volume include means responsive to the presence of an excessive amount of solution in either of the tanks to register an alarm whenever a high level of dye solution occurs and to shut off the flow of make-up water through the supply valve occurrence of such a high level. The control means includes a plurality of electric probes responsive to predetermined dye levels in each of the dye tanks, said probes being connected in a plurality of control circuits controlling an electrically operated make-up supply valve and also controlling a high level alarm signal for each of the tanks.

3,438,072
JET AGITATION OF A SOLUTION
Gunnar Heskestad, Piscataway, N.J., assignor to American Standard Inc., New York, N.Y., a corporation of Delaware
Continuation-in-part of applications Ser. No. 529,985, and Ser. No. 530,181, Feb. 25, 1966. This application Sept. 5, 1967, Ser. No. 665,611
Int. Cl. D06c *29/00*; B01f *5/12*
U.S. Cl. 8—158 **15 Claims**



This invention provides a method for feeding one or more jets of a fluid to a tank. Each jet of fluid is supplied through an individual orifice. Suction is applied to each jet in the region of its orifice and the amount of suction is continuously varied between predetermined limits to deflect the corresponding jet through corresponding angles.

3,438,073
BOAT CONSTRUCTION
Paul R. Brown, Barrington, Ill., assignor to Seal Basin Marine Company, Chicago, Ill., a corporation of Illinois
Filed July 20, 1967, Ser. No. 654,808
Int. Cl. B63b *19/14, 35/72, 43/00*
U.S. Cl. 9—1 **15 Claims**



A boat construction which is especially adapted for use in the construction of small craft. The subject boat has a removable forward deck portion which prevents the boat from being swamped over its bow portion in rough water, but the forward deck portion may be selectively removed to provide a cockpit which extends the full length of the boat when the boat is anchored or is in use in smooth water.

3,438,074
PORTABLE WATERCRAFT
Garrett E. Goyen, 1443 Hewlitt, Houston, Tex. 77018
Filed Feb. 7, 1968, Ser. No. 703,780
Int. Cl. B63b *5/24*
U.S. Cl. 9—6 **6 Claims**



A fiberglass deck and hull meeting to form a closed watertight outer shell with a buoyant reinforcing layer of expanded polystyrene underlying the shell, a recessed flat bottom passenger cockpit molded into the fiberglass deck, a narrowing curved bow turning upwardly from a flat slightly convex hull bottom to meet a gabled deck having an upwardly sloped central deck ridge and a fixed rudder extending vertically above, behind, and below the stern.

3,438,075
BOOK PRESSING MACHINE WITH REMOVABLE CREASER IRONS AND TOOL FOR REMOVING SAME
James H. Thorp, West Hartford, Conn., assignor to The Smyth Manufacturing Company, Bloomfield, Conn., a corporation of Connecticut
Filed Dec. 7, 1967, Ser. No. 688,831
Int. Cl. B42c *19/00, 13/00*
U.S. Cl. 11—1 **18 Claims**



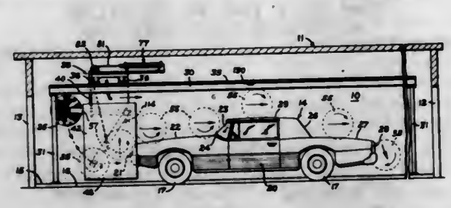
A book pressing machine with opposing pairs of presser plates and subadjacent removable creaser irons with plates and irons relatively movable horizontally to expose locking devices on upper portions of the irons which are accessible downwardly through the book channel. Creaser irons have spaced vertical openings for gripping and transport and a locking device with a slotted head. A creaser iron removal and replacement tool has split pins with enlarged heads engageable with the opening in the creaser irons and a screwdriver-like element for engaging the slotted head to effect lock and release operation.

3,438,076
STRUCTURAL ELEMENTS FOR DISMOUNTABLE BRIDGES OR THE LIKE
Hugo Sedlacek, Rheinhausen, Germany, assignor to Beteiligungs- und Patentverwaltungsgesellschaft mit beschrankter Haftung, Essen, Germany
Filed Mar. 21, 1967, Ser. No. 624,854
Claims priority, application Germany, Apr. 2, 1966, B 86,504; May 11, 1966, B 87,068; July 14, 1966, B 87,992
Int. Cl. E01d *15/12, 19/00*
U.S. Cl. 14—1.4 **23 Claims**



A dismountable bridge is fabricated from a combination of detachably connected structural elements which can be easily transported and quickly assembled to form a variety of different bridges. In its assembled form, the bridge contains at least two main girders, each of which has upper and lower chord members, with ledges projecting from the lower chord members of both main girders. A plurality of roadway supporting elements extend between the lower chord members of the main girders and rest on the ledges projecting therefrom. The roadway supporting elements are detachably connected to the lower chord members.

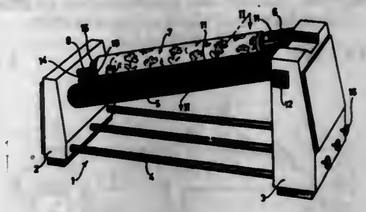
3,438,077
CARWASHING APPARATUS
James C. Eubanks, Urbana, Ohio, assignor to Century Supreme Inc., Springfield, Ohio, a corporation of Ohio
Filed Aug. 18, 1967, Ser. No. 661,585
Int. Cl. B60s *3/06*; A47l *1/02*
U.S. Cl. 15—21 **8 Claims**



An automobile washing system of the coin-operated type wherein the car is driven into a washing bay and the carwashing apparatus actuated to move along the sides and top of the car to effect the washing operation. The washing operation is performed by rotating brushes which engage the surfaces of the car, including an upper brush with an improved mounting structure which can be reversed to wash effectively all of the automobile surfaces that it contacts.

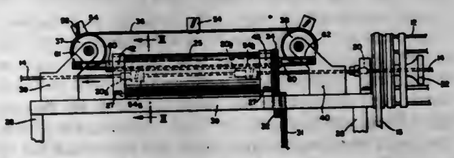
3,438,078
DEVICE FOR INTERNALLY AND EXTERNALLY CLEANING A TUBULAR ARTICLE
Cornelis Johannes Maria Museleers, Boxmeer, Netherlands, assignor to Gebr. Stork & Co's Apparatenfabriek N.V., Amsterdam, Netherlands
Filed Nov. 28, 1967, Ser. No. 686,125
Claims priority, application Netherlands, Dec. 9, 1966, 6617293
Int. Cl. A47l *15/38, 25/00*; B08b *1/04*
U.S. Cl. 15—88 **3 Claims**

A device for internally and externally cleaning a tubular article, comprising cylindrical parallel brushes for supporting said article, said brushes being driven in the same direction, but at a different rate, means being provided for reciprocating the article in axial direction, the device



further comprising spraying members, located inside and outside the article for spraying a cleaning liquid against said article.

3,438,079
TUBULAR SCREW DRIVE FOR A RODDING MACHINE
Charles B. Caperton, Montgomery Court Apartments, Narberth, Pa. 19072
Filed Nov. 30, 1967, Ser. No. 686,910
Int. Cl. B08b *1/02*; B65h *17/20*
U.S. Cl. 15—104.3 **4 Claims**



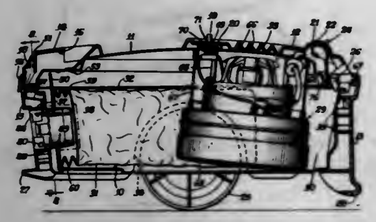
A tubular screw drive for a rodding machine for coupled rod is disclosed in which pusher dogs for the couplers are carried on an endless belt and are provided with lateral ears which engage and are moved along by the helical screw thread of the internally-threaded rotationally-driven elongated tube through which the coupled rod passes.

3,438,080
COMBINED SOFT CLOTH AND HARD COARSE CORD BUFF
David B. Atkins, Chicago, Ill., assignor, by mesne assignments, to Jackson Buff Corporation, Conover, N.C., a corporation of North Carolina
Filed Apr. 27, 1967, Ser. No. 634,193
Int. Cl. A47l *21/00, 25/08*
U.S. Cl. 15—230.13 **5 Claims**



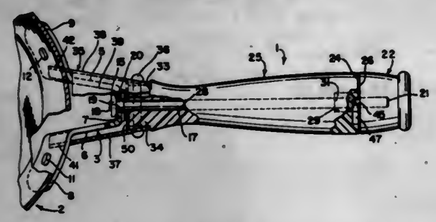
A cord and cloth buff wherein an initially flat laminar strip is formed into a pair of spiral laminar sheets about a central hub, each sheet comprising undulatory convolutions which are separate and discrete from one another In one form, two layers of bias cut cloth (such as fine fibered cotton) are separated by a layer of substantially parallel transverse coarse cords (such as two ply laid sisal) and one or more initially applied lineal rows of stitching hold the cloth and cords together in flat strips. When central portions of the sheets are secured to the hub, peripheral portions extend radially from the hub with a circular row of stitching formed by the initially applied lineal row of stitching.

3,438,081
VACUUM CLEANER
John A. Ruzzier, Berwyn, Ill., assignor to Sunbeam Corporation, Chicago, Ill., a corporation of Illinois
Filed July 7, 1967, Ser. No. 651,789
Int. Cl. A47l 5/36
U.S. Cl. 15—327 5 Claims



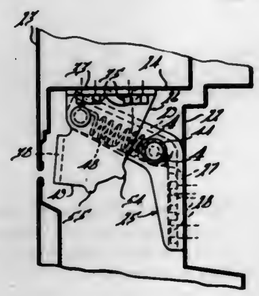
The canister vacuum cleaner has a molded plastic hinge member overlying the cover. A motor-blower unit is mounted on the underside of the cover beneath the hinge member and is exhausted through openings in the cover and hinge member. A switch is also mounted on the underside of the cover and its foot operated button for controlling the motor-blower unit is accessible through aligned openings in the cover and hinge member. The hinge member also houses selector means for varying the vacuum available at the air hose and also a vacuum bag fill indicator. The selector means and bag fill indicator are constructed from flexible polypropylene to provide integral hinge connections for their moving parts. Flexible polypropylene hinge connections are also used for the air hose latches at the air inlet and the latch release button for the cover.

3,438,082
DETACHABLE HANDLE
William M. Jones, Big Flats, and William A. Morris, Elmira, N.Y., assignors to The Youngstown Steel Door Company, Cleveland, Ohio, a corporation of Ohio
Filed June 23, 1966, Ser. No. 559,816
Int. Cl. A47j 45/07, 45/10
U.S. Cl. 16—114 4 Claims



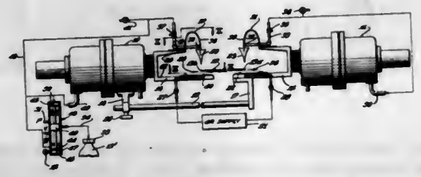
A detachable handle for cooking vessels having a handle receiving projection which includes a metal shaft having a noncylindrical lug on the end thereof to extend through and behind a noncylindrical opening in the end of the projection to lock the handle in close projection-encircling relation with the cooking vessel. The handle includes a knob on the end of the shaft opposite the lug, an elongated nonmetal hand grip portion surrounding the shaft, and a housing rigidly mounted on the hand grip portion which acts as the encircling portion in engagement with the projection. Rotation of the knob after the housing has been placed in encircling relation with the projection acts to cam the handle into tight engagement with the vessel. A spring is provided to bias the shaft, lug, and knob assembly in a direction away from the cooking vessel against the inside wall of the projection when it is in the locked position.

3,438,083
DOORCHECK AND HINGE FOR AUTOMATIC VEHICLES
Joseph R. Kirk, Jackson, Mich., assignor to Hancock Industries, Inc., Jackson, Mich., a corporation of Michigan
Filed Aug. 22, 1966, Ser. No. 574,058
Int. Cl. E05d 1/10; E05f 1/12
U.S. Cl. 16—139 9 Claims



A door hinge comprising two stamped members with overlapping flanges connected by a hinge pin. One member carries a scalloped detent roller spring-pressed toward protrusions on the flange of the other member. The protrusions engage the roller during opening and closing to create an over-center action which checks the door in the desired positions.

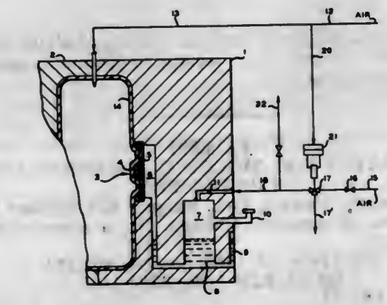
3,438,084
FILM WIDTH SENSING DEVICE
Carl M. Westbrook, Beloit, Wis., assignor to Beloit Corporation, Beloit, Wis., a corporation of Wisconsin
Filed Mar. 8, 1967, Ser. No. 621,560
Int. Cl. G05b 21/00; B29d 7/00
U.S. Cl. 18—2 12 Claims



1. An apparatus for sensing and controlling the width of a continuously moving web including:
first and second actuators;
first and second web edge sensing devices movably connected to said first and second actuators respectively, said sensing devices positioned in opposite sides of the web;
connecting means for connecting said first actuator to said second sensing device to cause said first actuator to move in response to movement of said second sensing device;
first control means connected between said first sensing device and said first actuator for controlling said first actuator in response to deviations of position of the edge of the web which is in proximity therewith to move said first sensing device in the direction of deviation of the edge of the web;

second control means connected between said second sensing device and said second actuator for controlling said second actuator in response to deviation of position of the edge of the web which is in proximity therewith to move said second sensing device and said first actuator in the direction of the deviation of the edge of the web; and
means controlled by one of said control means to change the width of the web prior to passing between said first and second sensors.

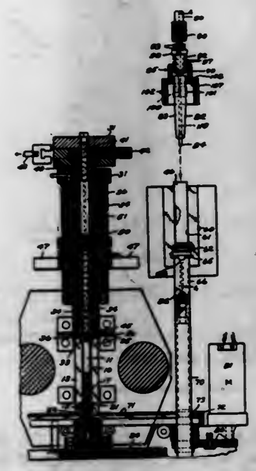
3,438,085
APPARATUS FOR DECORATING AND MOLDING ARTICLES
Mark E. Larkin, Bartlesville, Okla., assignor to Phillips Petroleum Company, a corporation of Delaware
Filed July 11, 1966, Ser. No. 564,400
Int. Cl. B29c 1/00; B44d 5/06
U.S. Cl. 18—5 5 Claims



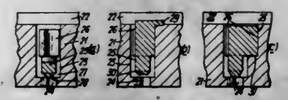
1. In apparatus for pressure molding a formable, dyeable material wherein the material is pressure molded against a mold means, said mold means having at least one aperture in the side thereof carrying at least one apertured embossing plate, said at least one aperture being openly connected to a reservoir means, the improvement comprising a porous support plate for supporting said embossing plate against the molding pressure and carried in between said plate and said reservoir, said reservoir being located relative to said porous plate so that a dye in said reservoir must be pressurized to move said dye into contact with said porous plate, and means for pressuring the interior of said reservoir to force dye from same into contact with said porous plate.

3,438,086
APPARATUS FOR MAKING PLASTIC TUBES
Emery I. Valyi, Bronx, N.Y., assignor, by mesne assignments, to Mollins Machine Company, Inc., Richmond, Va., a corporation of New York
Original application July 24, 1964, Ser. No. 384,942, now Patent No. 3,310,621, dated Mar. 21, 1967. Divided and this application Dec. 9, 1966, Ser. No. 610,705
Int. Cl. B29d 23/03
U.S. Cl. 18—5 18 Claims

1. Apparatus for forming a hollow object of organic plastic material comprising a parison die including an outer die member and a blow core having a free end extending into said outer die member to form a parison cavity, and a blow mold spaced from said parison die and having a cavity in which said hollow object is to be blown, characterized by a confining member adapted to form a shaped end of said parison which projects beyond the end of said blow core, said confining member being carried by and detachable from said outer die member, means molding said parison on said blow core in said parison die with a shaped end portion extending beyond said blow core and confined in said confining member, means releasing said confining member from said outer die member and retracting said blow core with the formed parison thereon and with the confining member supported by the plastic of said shaped end portion while the parison is supported by said blow core, from said parison die into said blow mold, means securing said confining member in said blow mold and blowing said parison to form said hollow object, means releasing said confining member from said blow mold and removing said confining member from said shaped end of said object.



3,438,087
SPINNERETS
Donald J. Attfield, Chepstow, and William W. Wilkes, Cwmbran, England, assignors to Imperial Chemical Industries Limited, London, England, a corporation of Great Britain
Filed June 15, 1965, Ser. No. 464,247
Int. Cl. D01d 3/00
U.S. Cl. 18—8 8 Claims

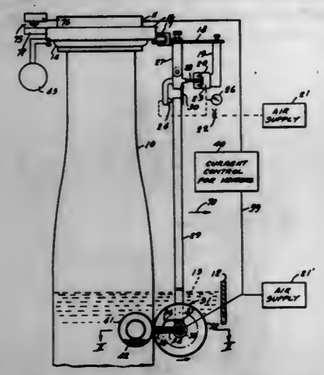


This invention relates to a spinneret for the manufacture of synthetic filaments having a non-circular cross-section by the melt spinning of a polymer, comprising a spinneret plate having an upper and lower face provided with a counterbore in the upper face thereof in the bottom of which is located an extrusion orifice, consisting of a body portion and at least two extended tip portions, and an insert having a tip portion which extends into the counterbore for a predetermined distance to control the flow of polymer across the extrusion orifice.

3,438,088
CONTROL FOR MAINTAINING UNIFORM GAUGE ON BLOWN FILM
Carl M. Westbrook, Beloit, Wis., assignor to Beloit Corporation, Beloit, Wis., a corporation of Wisconsin
Filed Jan. 19, 1967, Ser. No. 610,364
Int. Cl. B29d 23/04, 7/22
U.S. Cl. 18—14 17 Claims

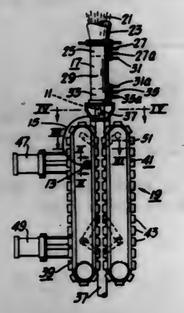
The thickness of a moving tubular plastic film is detected and controlled by a magnet and a magnetic sensor

which are disposed on opposite sides of the film and below the surface of a cooling liquid. The distance between



these two attractable bodies is translated into control signals for the extruding apparatus.

3,438,089
PULLER SLIP ALARM AND SAFETY DEVICE
Le Roy R. Boggs, Bristol, Tenn., assignor to Koppers Company, Inc., a corporation of Delaware
Filed Mar. 10, 1967, Ser. No. 622,257
Int. Cl. B29g 2/00; F16p 7/02
U.S. Cl. 18—4 9 Claims



First and second spaced apart counter rotating hubs are actuated respectively by a wheel engaging the article and another wheel engaging the article extracting mechanism of a filament winding machine. A sprocket wheel disposed between the counter rotating hubs supports a plurality of balls, restrained by opposed grooves in the hubs, whereby the sprocket wheel is stationary as long as the hubs counter rotate at the same speed. When one hub rotates faster than the other because of slippage between the extracting mechanism and the article, the sprocket wheel then rotates. A microswitch engaging the sprocket wheel is then actuated, whereupon an alarm signal is activated.

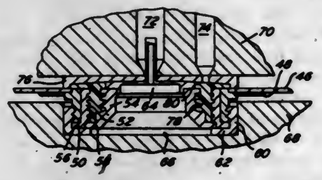
3,438,090
STAND FOR TIRE MATRICES
Clement O. Dennis, Macon, Ga., assignor to Super Mold Corporation of California, Lodi, Calif., a corporation of California
Filed Jan. 19, 1966, Ser. No. 521,732
Int. Cl. B29h 5/04, 17/37
U.S. Cl. 18—18 6 Claims

A stand for a tire recapping matrix of the type having a removable top flange, wherein the stand has a pivotally mounted dome to overlie a matrix on the stand to retain curing heat, which dome carries the matrix top flange and is raised and lowered with the flange by power means. The



matrix has a peripheral heat coil housing of plastic in two parts, with one part being secured to the matrix and the second part to the first.

3,438,091
APPARATUS FOR MOLDING THERMOPLASTIC CONTAINERS
Reese Savage, Newark, Del., assignor to Container Corporation of America, Chicago, Ill., a corporation of Delaware
Filed Nov. 17, 1965, Ser. No. 508,251
Int. Cl. B29f 1/06; B29c 1/06
U.S. Cl. 18—42 7 Claims

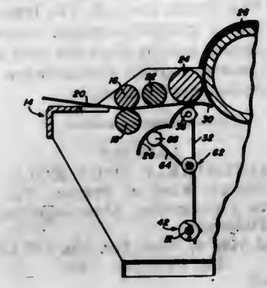


Apparatus is disclosed for preforming a component such as the threaded boss on the container. The component is preformed by molding the same on the cover for the mold in which the container is formed. Thereafter, the cover, with the preformed component thereon, is attached to the container mold. The container is molded in a manner so that the preformed component becomes an integral part thereof.

3,438,092
SAFETY SHIELD FOR COTTON CARDING MACHINES
William A. Powell, 304 Meadow Park Drive, Anderson, S.C. 29621
Filed Jan. 9, 1967, Ser. No. 608,079
Int. Cl. D01g 15/46; D01b 3/04, 3/00
U.S. Cl. 19—106 5 Claims

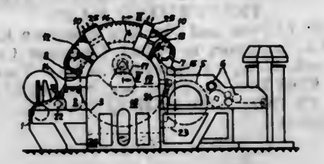
A safety shield for use with a textile carding machine equipped with crush rolls to protect the hands of an operator from being accidentally passed between a pair of coacting crush rollers which are employed for crushing seeds or other impurities in the web or roving as it leaves the carding machine. The shield includes a pair of arcuate

members adjustably supported in position for optimum orientation in relation to the existing components of a



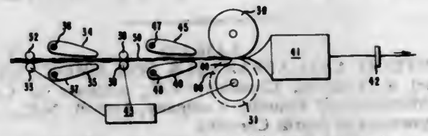
conventional cotton carding machine having crushing rollers such as a "Varga Crosrol."

3,438,093
CARD FLAT CLEANING SYSTEM
Hans Rutz, Winterthur, Switzerland, assignor to Rieter Machine Works, Ltd., Winterthur, Switzerland, a corporation of Switzerland
Continuation-in-part of application Ser. No. 372,346, June 3, 1964. This application Dec. 26, 1967, Ser. No. 701,027
Claims priority, application Switzerland, June 19, 1963, 7,587/63
Int. Cl. D01g 15/76
U.S. Cl. 19—107 9 Claims



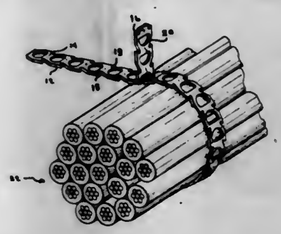
Air at a relatively high pressure is blown longitudinally through the chamber formed by the flats to clean the flats. The air is drawn out of the chamber under a low pressure force and directed into a filter box where the card waste from the flats is either deposited or carried onto a conventional waste removing system.

3,438,094
HIGH SPEED DRAFTING PROCESS
Frederick C. Field, Jr., Wilmington, Del., assignor to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware
Filed Sept. 2, 1966, Ser. No. 576,973
Int. Cl. D01h 5/72
U.S. Cl. 19—288 4 Claims



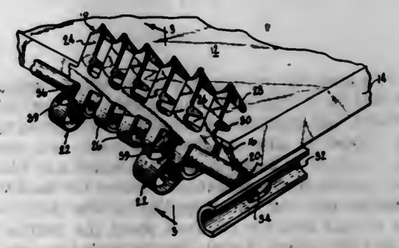
An improved apparatus for preparing yarn by twist transference where the yarn is drafted at high speeds, sucked up in an aspirator and twisted in a jet twister the improvement being accomplished by providing at least one of the exit draft rolls with surface apertures and an internal passageway whereby air is passed cocurrently with the yarn through the nip by the pressure drop created from the aspirator.

3,438,095
BUNDLE TIE
William Robert Evans, Hershey, Pa., assignor to AMP Incorporated, Harrisburg, Pa.
Filed Aug. 25, 1967, Ser. No. 663,319
Int. Cl. B65d 63/02
U.S. Cl. 24—16 3 Claims



A device for securing together a plurality of rod-like objects comprising an elongated strip of material having recurrent unit shapes, each unit comprising a male locking portion and a female receiving portion.

3,438,096
METHOD AND APPARATUS FOR SECURING A LACING STRIP TO THE END OF A BELT
Frank E. McComb, River Forest, Ill., assignor to Flexible Steel Lacing Company, Chicago, Ill., a corporation of Illinois
Filed July 20, 1967, Ser. No. 654,931
Int. Cl. F16g 3/02
U.S. Cl. 24—33 10 Claims



Method and apparatus for securing a lacing strip to the end of a belt in which a gauge pin is attached to the lacing strip, as by means of resilient clips, while the lacing strip is being secured to the belt end to ensure a predetermined relationship between the belt end and the lacing strip.

3,438,097
BRAKING ARRANGEMENT
Hans Nix, Ebernburgweg 27, Cologne-Nippes, Germany
Filed Jan. 10, 1966, Ser. No. 519,546
Claims priority, application Germany, Jan. 15, 1965, A 48,123
Int. Cl. F16b 2/22, 12/42, 7/04
U.S. Cl. 24—123 4 Claims

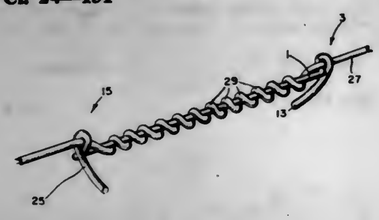
A motion braking device includes an expansible and contractile sleeve composed of a plurality of strands arranged about a common axis. The sleeve is received within a tubular member and has one of its ends secured to the internal surface of the tubular member. A rod-shaped member extends through the sleeve and the other end of the latter engages the external surface of the rod-shaped member. Movement of one of the members axially with reference to the other effects axial compression and radial expansion of the sleeve if the movement occurs in one direction and axial extension and radial constriction of

the sleeve if the movement occurs in the other direction direction in which latter case the sleeve will grip the



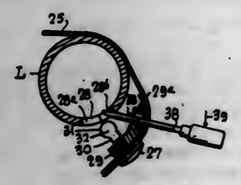
tubular member and frictionally brake continued movement.

3,438,098
SLACK TAKEUP DEVICE
Floyd V. Grabner, 517 W. 24th St., Pueblo, Colo. 81003
Filed Mar. 27, 1967, Ser. No. 626,119
Int. Cl. F16g *11/12*; A44b *21/00*
U.S. Cl. 24—131 1 Claim



This invention relates to a slack takeup device which is adapted to be applied to a rope, cable, or the like, flexible element, and comprises generally an elongated spine having oppositely directed hooks at each end thereof, the spine and hooks being formed of bendable or pliant material, and the hooks adapted to receive the flexible element therethrough and when applied to the flexible element one of said hooks is clamped about the flexible element, so that the takeup device may be swung around to cause the flexible element to coil about the spine to take up the desired amount of slack therein.

3,438,099
FASTENER CONNECTIONS
Harold Green, Phoenix, Ariz. (358 S. Camden Drive, Beverly Hills, Calif. 90212)
Continuation-in-part of application Ser. No. 444,775, Apr. 1, 1965. This application Oct. 13, 1967, Ser. No. 675,136
Int. Cl. A44b *17/00*
U.S. Cl. 24—222 4 Claims



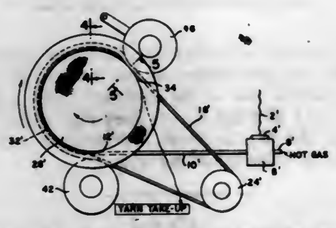
A releasable snap fastener connection composed of an axially slotted stud element having an enlarged head portion and a restricted neck portion, which portions are insertable to fastened positions, first axially and then transversely, into the larger and smaller areas respectively of a keyhole slot in a female element. The fastener elements are provided with a pair of alignable apertures for receiving an elongated tool to align the stud and slot and to produce transverse tension therebetween preparatory to connecting the fastener elements.

3,438,100
ADJUSTABLE SHOT ROLL
Lawrence A. Moore, King of Prussia, Pa., assignor to Beloit Eastern Corporation, Downingtown, Pa., a corporation of Delaware
Filed May 6, 1966, Ser. No. 548,137
Int. Cl. D06c *3/06*
U.S. Cl. 26—63 7 Claims



An adjustable roll assembly including a hollow axially-flexible shot-filled tube end-mounted on a pair of spaced fixed supports. The mounting members each include a first part secured to its support on its fixed axis and a second part pivotally connected to the first part and to the roll for articulation in a single plane.

3,438,101
PROCESS AND APPARATUS FOR TEXTURIZING YARN
Fred White Le Noir and Clarence Anderson King, Hopewell, Va., assignors to Allied Chemical Corporation, New York, N.Y., a corporation of New York
Filed Dec. 22, 1966, Ser. No. 603,912
Int. Cl. D02g *3/00*; D04h *17/00*; D05c *15/00*
U.S. Cl. 28—1 8 Claims

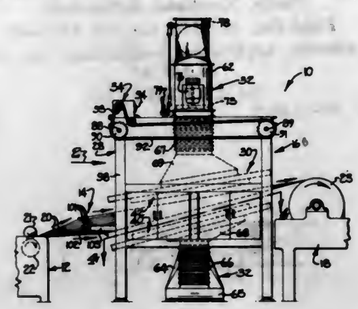


Uniform crimp is imparted to continuous synthetic filaments and yarn by subjecting them to a heated environment to elevate the temperature of said filaments above their second-order transition zone and thereafter passing the heated material through a curvilinear confined space comprised of a continuously moving surface on one side moving at a slower rate than the filament feed whereby crimping is achieved and means for facilitating the removal of hot gases and cooling of the crimped filaments.

3,438,102
METHOD AND APPARATUS FOR SIZING YARNS
Karl R. Lofgren, Gastonia, N.C., assignor to Cocker Machine and Foundry Company, Lowell, N.C., a corporation of North Carolina
Filed Sept. 25, 1967, Ser. No. 670,211
Int. Cl. D03j *1/02*; D02g *3/00*
U.S. Cl. 28—28 18 Claims

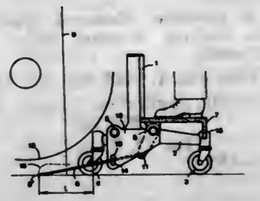
Method and apparatus for slashing, or sizing, textile yarns wherein a longitudinally moving sheet of warp yarns is impregnated with size, is then split into a plurality of yarn sheets, the size on the yarns is partially dried while the yarns are in split sheet condition to prevent adherence

of the yarns to each other during and after final drying, and the sheets thereafter are combined and finally dried, and wherein the amount of heat applied to the yarns dur-



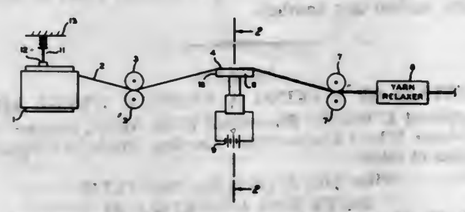
ing partial drying is regulated in response to changes in the rate of longitudinal movement of the yarns to prevent overheating of and possible damage to the yarns.

3,438,103
FRAME FOR A WARP-TYING MACHINE AND THE LIKE
Alois Altenweger, Uster, Switzerland, assignor to Zellweger Ltd., Uster, Switzerland, a corporation of Switzerland
Filed Dec. 5, 1967, Ser. No. 688,148
Claims priority, application Switzerland, Jan. 6, 1967, 388/67
Int. Cl. D03j *1/14, 1/18, 3/00*
U.S. Cl. 28—41 9 Claims



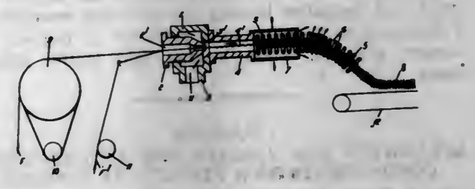
The supporting strut is articulated to the treadle board so that upon downward movement of the treadle board, the supporting strut is pushed out of the frame under a warp beam to support and prevent tilting of the frame toward the warp beam. Upon upward movement of the treadle board, the supporting strut is retracted within the frame.

3,438,104
FILAMENT CRIMPING METHOD
Frederick L. Stoller, Bartlesville, Okla., assignor to Phillips Petroleum Company, a corporation of Delaware
Filed Feb. 25, 1966, Ser. No. 530,098
Int. Cl. D02g *1/18*
U.S. Cl. 28—72 5 Claims



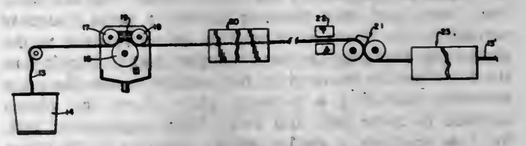
In a method of crimping a synthetic film or yarn by contact with a vibrating surface, the filament being fed to the vibratory crimper is withdrawn from the side of a supply bobbin to prevent twisting of the filament.

3,438,105
PROCESS FOR CRIMPING THERMOPLASTIC YARNS
Jean Joly, Brindas, and Jean Claude Chezaud, Lyon, France, assignors to Societe Rhodiaceta, Paris, France, a body corporate of France
Continuation-in-part of application Ser. No. 283,574, May 27, 1963. This application Sept. 23, 1966, Ser. No. 581,645
Int. Cl. D04h *1/06*
U.S. Cl. 28—72 3 Claims



The invention discloses a process for crimping thermoplastic yarns in which one or more yarns to be crimped are introduced, together with an auxiliary yarn, into an elongated space by means of a current of fluid which is under pressure and is at a temperature sufficient to set the yarn or yarns to be crimped, with the weight percentage and speed of introduction of the auxiliary yarn as compared with the yarn or yarns to be crimped being within specified limits, the fluid is controllably released laterally in a subsequent portion of the enclosed space, the yarns are allowed to pack in such space portion and then discharged freely therefrom, the together-packed yarns are subjected to a thermal treatment and the auxiliary yarn is then dissociated from the crimped yarn or yarns.

3,438,106
METHOD OF PRODUCING SHRINK-FREE KNITTED FABRIC HAVING CHARACTERISTICS OF ELASTIC RESTORABILITY
Joseph Cohn, deceased, late of New York, N.Y., by Florence Cohn, executrix, New York, and Eugene Cohn, Great Neck, N.Y., assignors, by mesne assignments, to Compax Corporation, Woodside, N.Y., a corporation of New York
Continuation-in-part of application Ser. No. 427,292, Jan. 22, 1965. This application Aug. 17, 1966, Ser. No. 573,039
Int. Cl. D06c *21/00*
U.S. Cl. 28—74 3 Claims



The invention relates to the production of shrink-free, elastic knitted fabrics. The invention provides a novel method for producing shrink-free elastic knitted fabrics which includes impregnating the fabric with a stabilizing resin and mechanically compressing the knitted fabric an amount more than necessary to provide shrinkage control but less than that amount which results in discernible pleats. The stabilizing resin is subsequently cured to provide the finished product.

3,438,107

PROCESS FOR FORMING TEXTILES ON HEAT DEGRADABLE BACKINGS

Eugene Gula, Rutherford, and Stanley E. Ross, Passaic, N.J., assignors to J. P. Stevens & Co., Inc., New York, N.Y., a corporation of Delaware

No Drawing. Filed Aug. 30, 1965, Ser. No. 483,831
Int. Cl. D02g 1/16; D04h 17/00
U.S. Cl. 28—76 11 Claims

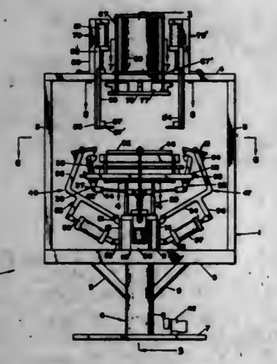
A method of preparing textile base materials comprising combining a heat-degradable thermoplastic support material with a non-support textile material having a degradation temperature above that of the support material, and thereafter heating the combined materials for a time and at a temperature sufficient to degrade said support material, while leaving said textile material intact.

3,438,108

APPARATUS FOR ASSEMBLING AND SECURING COMPONENTS OF A FURNITURE CUSHION

John J. Nash, Ferguson, Mo., assignor to Alsco, Inc., St. Louis, Mo., a corporation of Delaware

Filed July 25, 1966, Ser. No. 567,458
Int. Cl. B68g 7/05
U.S. Cl. 29—91.5 11 Claims



Apparatus for assembling and securing components of a furniture cushion, said cushion including a rigid base member, resilient means and a cavity-forming cover section sized and shaped to hold the resilient means and base member together in a unitary structure. The assembling device comprises a frame, a platen support carried by the frame for supporting the cover section with the resilient means and base member therein, a press assembly carried by the frame in outwardly spaced relation to the platen for engaging the base member and urging it into the cover section to compress the resilient means, the press assembly including a pressure plate above the platen adapted to move into and away from engagement with the base member, a shell sized for insertion in the cover section for holding it in relation to the resilient means and base member while the press assembly compresses the resilient means and urges the base member into the cover section, and securing means for securing the cover section to the base member after the press assembly compresses the resilient means within the cover section, said securing means including a plurality of wiper bars carried by the frame for engaging an outwardly projecting portion of the cover section and pressing it firmly against the base member so that the cover section and base member can be adhered together by an adhesive.

3,438,109

METHOD OF MAKING A BEARING

Raoul-Henri Erard, 82 Blvd. des Endroits, La Chaux-de-Fonds, Neuchatel, Switzerland

Filed Oct. 18, 1966, Ser. No. 587,440
Claims priority, application Switzerland, Oct. 18, 1965, 14,349/65
Int. Cl. B21d 53/10
U.S. Cl. 29—149.5 1 Claim



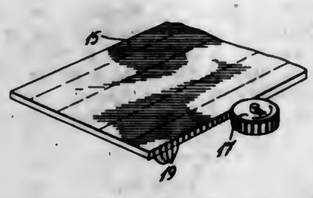
A method of manufacturing a bearing for a time piece comprising a bearing element rigid with a bearing body and an axial thrust member mounted in a recess within the bearing body comprising the steps, profiling an element on the periphery thereof with a recess and a projection corresponding to the general shape of the bearing body, working the profiled element by removing matter with a tool rotating concentrically to the axes of the profiled element with the projection serving to position and to resiliently hold the axial thrust member in situ.

3,438,110

METHOD OF MAKING A TUBE HAVING PERFORATIONS THROUGH THE WALL THEREOF

Nelson J. B. Lavallée, Montreal, Quebec, Canada, assignor to Federal Weather Strips Inc., Montreal, Quebec, Canada

Filed Feb. 1, 1966, Ser. No. 524,146
Claims priority, application Canada, Feb. 27, 1965, 924,345
Int. Cl. B23p 15/16
U.S. Cl. 29—155 5 Claims



A method of making a tube having a plurality of aligned perforations through the wall thereof, consisting in knurling two parallel edges of a flat sheet of metal to form indentations across the edges and rolling the metal sheet into a tube with the indented edges in abutment against one another.

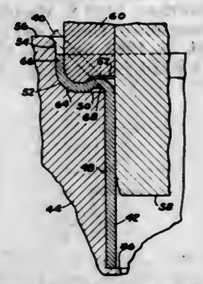
3,438,111

METHOD OF MAKING A VEHICLE WHEEL RIM

Raymond J. Wilcox, Bloomfield Hills, Mich., assignor to Motor Wheel Corporation, Lansing, Mich., a corporation of Ohio

Filed May 3, 1966, Ser. No. 547,270
Int. Cl. B21h 1/10; B21k 1/38
U.S. Cl. 29—159.1 3 Claims

A method of making a truck wheel rim in which a hoop-like blank of uniform thickness strip stock in expanded at one end to form a tire-retaining flange at one end of the rim. Then a reduced thickness bead-receiving portion of the rim is formed by ironing in a draw die set the portion



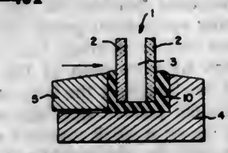
of the blank between the flange and the opposite end of the rim.

3,438,112

PROCESS OF TIGHTENING GLASS PANES

Robert Maximilien Labruyere, Brussels, Belgium, assignor to UCB (Union Chimique-Chemische Bedrijven) S.A., Brussels, Belgium

Filed Oct. 19, 1966, Ser. No. 587,897
Claims priority, application Belgium, Oct. 20, 1965, 671,131; Sept. 15, 1966, 686,910
Int. Cl. B23p 7/00
U.S. Cl. 29—401 6 Claims



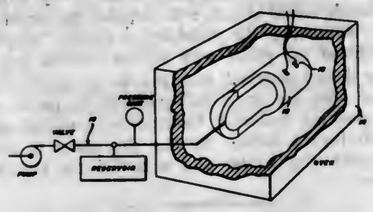
1. Method of tightening window glass panes in a frame, which comprises flowing in the places between said panes and frame to be tightened a fluid composition hardening to an elastic material that does not flow under constraint at room temperature and that does not adhere, either to the frame nor to glass, leaving said composition to harden, and then compressing said hardened elastic material and maintaining said elastic material compressed.

3,438,113

SHORT TIME ELEVATED TEMPERATURE AUTOFRETTAGE

Irwin Berman, Bronx, N.Y., and David H. Pai, Metuchen, N.J., assignors to Foster Wheeler Corporation, Livingston, N.J., a corporation of New York

Filed Nov. 25, 1966, Ser. No. 596,866
Int. Cl. B23p 11/02; B21d 3/00
U.S. Cl. 29—404 7 Claims



5. A method for fabricating a metallic vessel comprising the steps of
subjecting the metallic vessel to an inside autofrettage pressure p_1 which is greater than vessel design stress intensity S_d in accordance with the equation

$$p_1 = S_d \log_e 1/R_1$$

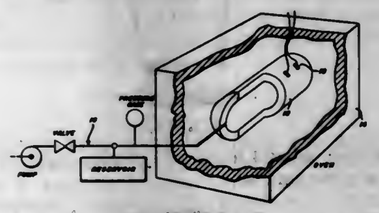
wherein R_1 equals the ratio of the vessel inside radius to the vessel outside radius;
simultaneously heating the vessel approximately to that temperature at which the yield strength of the vessel metal is reduced to at least the vessel design stress intensity.

3,438,114

CREEP AUTOFRETTAGE

Irwin Berman, Bronx, N.Y., and David H. Pai, Metuchen, N.J., assignors to Foster Wheeler Corporation, Livingston, N.J., a corporation of New York

Filed Nov. 25, 1966, Ser. No. 596,864
Int. Cl. B23p 11/02; B21d 3/00
U.S. Cl. 29—404 5 Claims



1. A method for fabricating a metallic vessel comprising the steps of
subjecting the vessel to an inside pressure p_1 which is greater than design pressure p_2 in the proportion

$$p_1 = \frac{n}{n-1} p_2$$

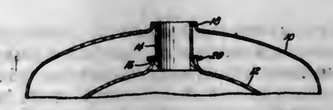
n being the creep exponent for the vessel material;
simultaneously heating the vessel to the temperature at which creep occurs;
holding said pressure and temperature until the vessel outside surface shows a constant creep rate; and
releasing the pressure and temperature.

3,438,115

METHOD OF MAKING VACUUM CONTAINERS

Joseph G. Humphress, Youngstown, N.Y., and Robert L. Zeunik, Indianapolis, Ind., assignors to Union Carbide Corporation, a corporation of New York

Continuation-in-part of application Ser. No. 410,088, Nov. 10, 1964. This application Nov. 30, 1967, Ser. No. 690,046
Int. Cl. B65d 25/14; B23p 11/00; B21d 39/04
U.S. Cl. 29—421 5 Claims



A method of making a double-walled container having a neck tube joining inner and outer shells, defining an evacuable space between the shells, wherein the joints between the neck tube ends and the shells are made by magnetically deforming flanges on the shells into annular grooves formed into the neck tube.

3,438,116

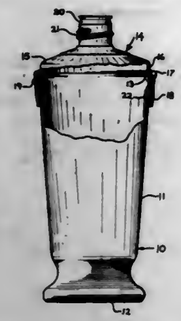
METHOD OF ASSEMBLING A COMPOSITE CONTAINER

Edward J. Stengle, Jr., Toledo, Ohio, assignor to Owens-Illinois, Inc., a corporation of Ohio

Continuation-in-part of application Ser. No. 231,327, Oct. 15, 1962, which, in turn, is a continuation-in-part of application Ser. No. 199,804, June 4, 1962. This application Dec. 1, 1966, Ser. No. 598,446
Int. Cl. B65b 7/28; B65d 23/00, 53/00
U.S. Cl. 29—447 4 Claims

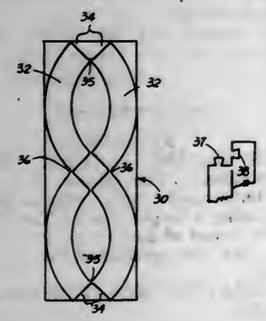
The method of assembling a composite container from a glass tumbler and a fitment of thermoplastic material

in which the fitment is heated to cause it to expand and is then, while still hot, placed over the open end of the



tumbler and allowed to cool to thereby contract and securely grip the tumbler.

3,438,117
METHOD OF MAKING A SEALING GASKET
Donald E. Engleman, Louisville, Ky., assignor to American Air Filter Company, Inc., Louisville, Ky., a corporation of Delaware
Filed Oct. 25, 1966, Ser. No. 589,427
Int. Cl. B23p *11/02*; B29c *17/08*; B29h *3/06*
U.S. Cl. 29—450 5 Claims

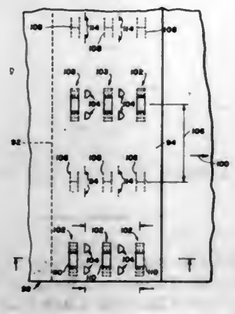


An improved gasket and method of forming the same wherein longitudinal sections of preselected gasket shape are formed in compact, adjacent relationship from gasket material in such a manner that the sections are integrally joined at preselected points, the sections then being pivotally expanded to form the endless gasket of preselected contour.

3,438,118
METHOD OF FORMING CERAMIC-TO-METAL SEAL
Alfred Milch, Teaneck, N.J., Joseph J. Lalak, Briarcliff Manor, and Richard H. Ahlert, Spring Valley, N.Y., assignors to North American Philips Company, Inc.
No Drawing. Original application June 10, 1965, Ser. No. 463,041, now Patent No. 3,366,409, dated Jan. 30, 1968. Divided and this application Jan. 16, 1968, Ser. No. 698,160
Int. Cl. B23k *31/02*; C04b *35/00, 37/00*
U.S. Cl. 29—472.9 7 Claims

A method of manufacturing a hermetic ceramic-to-metal seal in which a spongy refractory metal bond is first formed between a ceramic body and a metal body which bond is then filled with an alumina-containing material which hermetically seals the spongy metal bond.

3,438,119
METHOD FOR JOINING THE ENDS OF STRIP STOCK
Floyd J. Moltchan, 2108 S. Meridian Road, Youngstown, Ohio 44511
Filed Oct. 31, 1963, Ser. No. 320,341
Int. Cl. B21d *39/00*; B23p *11/00*
U.S. Cl. 29—509 5 Claims



Described is a method for joining the trailing and leading ends of strip stock taken from coils wherein the trailing and leading ends of the strip stock are initially overlapped to form superposed portions, an opening is pierced in the superposed portions to form a pair of spaced-apart, generally rectangular partly curled tongues, and these tongues are further reversely bent and flattened in opposite directions whereby both of the tongues extend transversely of the length of the strip stock. Preferably, a plurality of such pierced openings are provided across the width of the strip stock together with sheared depressions which engage the overlapped ends of the strip stock.

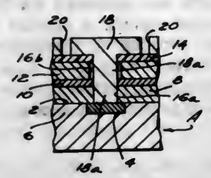
3,438,120
METHOD OF MAKING SOLAR CELL
Michael F. Amsterdam, Stirling, N.J., Mohammed S. Shaikh, Garland, Tex., and Krishan S. Tarneja, Pittsburgh, Pa., assignors, by mesne assignments, to the United States of America as represented by the Secretary of the Air Force
Original application Sept. 9, 1964, Ser. No. 395,343. Divided and this application May 27, 1968, Ser. No. 732,339
Int. Cl. H01l *15/02*
U.S. Cl. 29—572 2 Claims

A photovoltaic solar cell panel is made from non-uniform width dendrite N-type semiconductive webbing by cutting the dendrite webbing into panels of predetermined lengths; cleaning the panel; doping a surface layer of the panel with boron to provide a P-N junction; masking the panel; sand blasting the bottom of the panel with an aluminum oxide abrasive to remove the boron doped material; removing the masking material; lapping the other edge of the panel with silicon carbide grit to remove the doped material; masking the panel; evaporating aluminum onto the unmasked areas of the panel; removing the masking material; electroplating nickel onto the aluminum layers, solder dipping the panel to coat the nickel layers with solder and adjusting the thickness of the solder.

3,438,121
METHOD OF MAKING A PHOSPHOROUS-PROTECTED SEMICONDUCTOR DEVICE
Frank M. Wanlass, Huntington, and Robert M. Shultz, Plainview, N.Y., assignors to General Instruments Corporation, Newark, N.J., a corporation of New Jersey
Filed July 21, 1966, Ser. No. 566,858
Int. Cl. B01j *17/00*; H01l *5/00*
U.S. Cl. 29—578 4 Claims

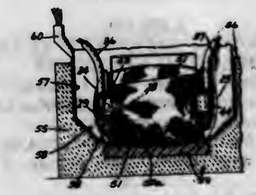
A semiconductor having a thin oxide layer thereon,

suitable for forming a field effect device, has a layer of phosphorous oxide formed thereon, atop which a con-



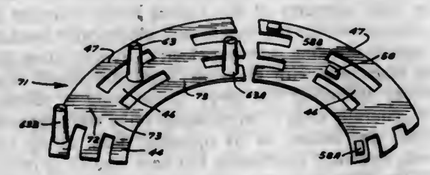
ductive metal layer is provided, the bond between the metal and the phosphorous oxide being such as to permit the metal layer to function as an accurate mask.

3,438,122
METHOD OF MANUFACTURING AN ELECTRICAL COIL ASSEMBLY
Stanley L. Lindt and Clarence W. Woods, Jr., Fort Wayne, Ind., assignors to General Electric Company, a corporation of New York
Original application Nov. 1, 1962, Ser. No. 234,713, now Patent No. 3,200,273, dated Aug. 10, 1965. Divided and this application Mar. 30, 1965, Ser. No. 443,883
Int. Cl. H02k *15/14, 15/16*; B29f *1/10*
U.S. Cl. 29—596 2 Claims



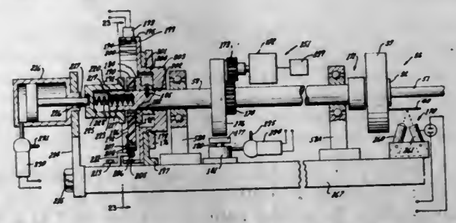
A method of manufacturing an electrical coil assembly to produce an enclosed stator for an A-C motor. A stator coil is wound on a core section and is connected in series between an enclosed fusible link and first and second lead conductors. A sheet of heat-resistant material is wrapped around the coil to totally enclose it and secure the fusible link thereto. An imperforate coating is then formed over the link and coil with the conductor leads projecting therefrom in order to provide an enclosed stator winding.

3,438,123
METHOD OF MAKING A SLIP RING UNIT
Floyd E. Buschbom, Long Lake, Minn., assignor to Van Dale Corporation, Wayzata, Minn., a corporation of Minnesota
Filed Oct. 22, 1965, Ser. No. 501,159
Int. Cl. H01r *43/00*; B23p *17/00*
U.S. Cl. 29—597 8 Claims



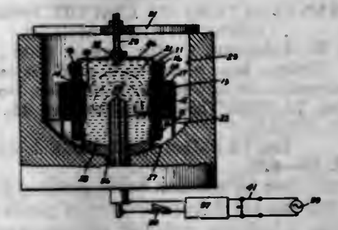
1. A method of making a slip ring unit comprising the steps of: casting electrically conductive metal into three concentrically spaced rings in a single unit with the rings connected with a plurality of circumferentially spaced runners, each ring having a continuous substantially flat face, the side of the ring opposite the flat face having circumferentially spaced lugs and a boss, flattening the ring unit into a single plane, machining the flat face of each ring into a smooth continuous surface, providing threaded bores in the lugs and bosses of each ring, separating the rings from each other by removing the runners, forming from non-conductive material a support having three concentric circular channels for accommodating said three rings, said support having bores open to each channel and a groove in the base of each channel, locating the rings in the channels with the lugs in the grooves and the bosses in the bores, and securing the rings to the support with bolts extended through the support and threaded into the threaded bores in the lugs.

3,438,124
APPARATUS FOR AND METHOD OF WINDING MATERIAL MEANS TO FORM COIL MEANS
Robert B. Lightner, Henrico County, and Benton A. Whiteman, Richmond, Va., assignors to Reynolds Metals Company, Richmond, Va., a corporation of Delaware
Filed June 8, 1967, Ser. No. 644,511
Int. Cl. H01f *41/08*; B21c *47/04*
U.S. Cl. 29—605 40 Claims



This disclosure relates to an apparatus for and method of making coil means from an elongated strip of material means such as a strip of electrically conductive material, for example. Each exemplary electrical coil means of this disclosure has an inner electrical lead which is effectively used as a reference to enable an associated outer electrical lead to be attached thereto in a precise position relative to such inner electrical lead.

3,438,125
METHOD FOR ATTAINING THE DESIRED CONFIGURATIONS OF ELECTRICAL COILS
John E. Larsen, Fort Wayne, Ind., and Harold R. Van Derzee, New Baltimore, N.Y., assignors to General Electric Company, a corporation of New York
Filed Jan. 13, 1967, Ser. No. 609,192
Int. Cl. H01f *7/06*; B23p *17/00*; B21d *26/14*
U.S. Cl. 29—606 7 Claims



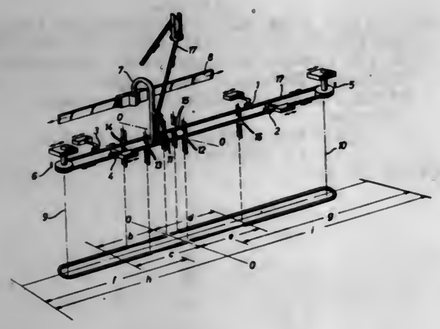
Method for press back of selected portions of electrical conductor means, such as electrical coils, from one configuration to another. An electrical discharge pressure wave is imparted to a pressure transmitting medium retained in the vicinity of the selected portions as they are carried in suitable accommodating structure, for example, slots of a

magnetic core for use in an inductive device. The medium is directed into pressure engagement with the preselected portions such that the portions are forced into the desired configuration. By using unhardened adhesive material in solution for the medium, it is possible to concurrently impregnate the coils with the material which can thereafter be hardened to hold the selected portions in the desired configuration.

3,438,126
METHOD OF MANUFACTURING CABLES OF PREDETERMINED LENGTHS

Hans Simon, Bruchhausener Strasse, 5463 Unkel (Rhine), Germany

Filed Apr. 26, 1966, Ser. No. 545,361
Int. Cl. H01b 13/00
U.S. Cl. 29—624 10 Claims



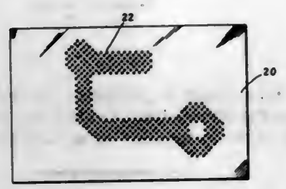
A method of manufacturing cables of predetermined lengths. The cable is continuously laid out in a given direction along the closed path, and while held at a first part of the path the cable is cut through at a second part of the path which precedes the first part thereof. Then while the cable is held at a third part of the path subsequent to the first part thereof, the cable is again cut through at a fourth part of the path which precedes the third part thereof and is adjacent thereto, this fourth part of the path also being subsequent to the first part thereof. In this way the second cutting through of the cable at the fourth part of the path will form one cable length while when the continuously laid out cable again reaches the first part of the path and is again cut through at the second part thereof, a second cable length will be provided, and in this way during the continuous laying out of the cable along the closed path a pair of cable lengths are provided with the total length of these cable lengths being equal to the length of the closed path.

3,438,127
MANUFACTURE OF CIRCUIT MODULES USING ETCHED MOLDS

Edwin W. Lehtonen, Castro Valley, Calif., assignor to Friden, Inc., a corporation of Delaware

Continuation-in-part of application Ser. No. 481,601, Aug. 23, 1965. This application Oct. 21, 1965, Ser. No. 499,412
Int. Cl. B41m 3/08; H05k 3/20
U.S. Cl. 29—625 7 Claims

A mold plate for a circuit board is etched by techniques of the printing art through a layer of photo-resist developed from a half-tone image of the conductor pattern to form raised projections on conductor areas of the mold. Controlled etching relieves the nonconductor areas. An insulating board, cast in such mold, has cavities corresponding to the conductor areas and closely spaced recesses in the bottoms of those cavities, corresponding to the projections. The board is plated all over with metal and then ground off to leave metal in the conductor cavities with integral anchors extending into closely spaced recesses. Cores in the mold for producing holes through the molded board are produced by initial etching, and then the conductor pattern is applied in photo-resist by contact printing through a photo-transparency having holes to fit the cores. Photo-resist areas for forming core pads are photographically superimposed on half-tone patterns by second exposures. An anchored contact near the

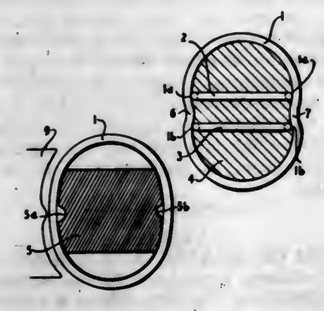


edge of the board is formed in a deep hole with overhanging sides for providing extra thickness and for keying the contact to the board. A thin conductor layer applied to the conductor cavity and closely spaced recess therein, lines but does not fill the recesses, so that if the planar part of the conductor is severed, as by expansion of the insulating board, the metal lining the recesses will be only partially torn and so will maintain conductive continuity.

3,438,128
METHOD OF MAKING ELECTRIC HEATING ELEMENTS

William John Sims, Buxted, near Uckfield, England, assignor to Associated Electrical Industries Limited, London, England, a British company

Filed Feb. 1, 1966, Ser. No. 524,064
Claims priority, application Great Britain, Feb. 4, 1965, 4,999/65
Int. Cl. H01c 15/04, 17/00
U.S. Cl. 29—615 3 Claims

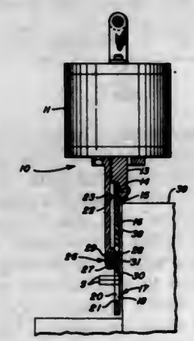


1. The method of manufacturing a tubular sheathed electric heating element comprising a tubular sheath of generally oval cross sectional form, at least two electrical resistance wire elements of flat zig-zag form arranged in spaced relation within the sheath and electrically insulating but heat conducting material electrically insulating the electrical resistance wire elements from the sheath and one another including the steps of forming a tubular sheath of generally oval cross sectional form with opposed longitudinal depressions in its opposite sides, filling the sheath with electrical conducting but heat insulating material with the wire elements held in spaced substantially parallel relationship by the depressions, subjecting the sheath to an initial stage of compaction with pressure applied to the depressions so that they retain the wire elements in position and to a subsequent stage of compaction without pressure applied to the depressions whereby the depressions are forced out of the sheath and the insulating material flows between side edges of the wire elements and the sheath.

3,438,129
CUTTING TOOL

Paul J. Spangler, University Heights, Ohio, assignor to ETC Incorporated, Cleveland, Ohio, a corporation of Ohio

Filed Dec. 27, 1966, Ser. No. 604,864
Int. Cl. B26b 17/00; B26d 5/08, 5/12
U.S. Cl. 30—180 4 Claims

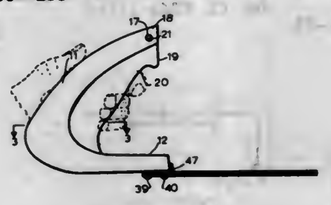


A cutting tool having a power cylinder and a piston rod driven by the cylinder. A yoke member is fixed to one end of the piston rod and has an elongated longitudinal slot therein. A housing member is fixed to the power cylinder and guidingly supports the piston rod and its yoke member. An anvil is provided on either the yoke member or on the housing member. A cutting edge is provided on the other member so that when the piston rod is in an extended position, the cutting edge is spaced from the anvil and while the piston rod is being retracted, the cutting edge and anvil are moved toward each other.

3,438,130
VERTICAL GRIP GRASS SHEARS

Robert L. Ballard, Pittsburgh, James E. Edgell, Wexford, Patrick M. Handke, Pittsburgh, and John T. Loechner, Allison Park, Pa., assignors to H. K. Porter Company, Inc., Pittsburgh, Pa., a corporation of Delaware

Filed May 11, 1967, Ser. No. 637,706
Int. Cl. B26b 13/16, 13/18
U.S. Cl. 30—235 12 Claims

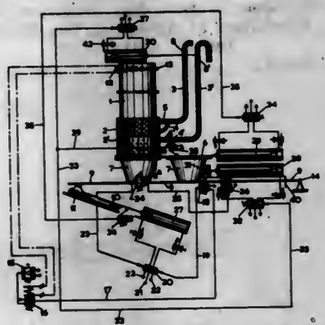


Grass shears are provided with a pair of cooperating cutting blades disposed in a horizontal plane and a trigger and trigger housing positioned perpendicularly on top of and to the rear of the blades. The trigger and trigger housing have their upper extremities pivotally connected and their lower extremities associated with the cutting blades whereby upon the squeezing of the trigger and trigger housing, the cutting blades close in a shearing relationship.

3,438,131
APPARATUS FOR SEPARATING WHEY FROM CURD AND DISCHARGING IT INTO MOLDS

Jacob Ubbels and Hermannes Jan Staal, Ede, Netherlands, assignors to Bedrijven Van Het Nederlands Instituut voor Zuivelonderzoek, Ede, Netherlands

Filed Apr. 10, 1967, Ser. No. 629,647
Claims priority, application Netherlands, Apr. 12, 1966, 6604863
Int. Cl. A01j 25/11, 27/00
U.S. Cl. 31—46 8 Claims



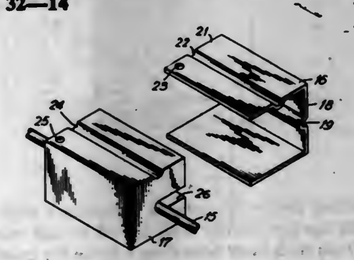
In continuous cheese making the clogging of the perforations by curd in a column for separating whey from the curd, through which perforations the whey leaves the column, is prevented by closing the discharge, through which whey flowing through the perforations is allowed to be discharged, so that this whey discharge is fully closed at the moment, at which the curd mass in the column, moving downwards from the column into a cheese mold, reaches the bottom of the mold. At this moment the curd mass imparts upon the bottom of the mold and gives an impact or kind of pressure wave upwardly through the curd and whey mass in the column. By having said whey discharge closed at said moment no curd is entrained by the whey notwithstanding this pressure wave and thus the perforations are not clogged by curd particles.

The invention relates both to a process and to a device for realizing this closing of the whey discharge at the correct moment by coupling the whey discharge closing means to the means for opening and closing the lower end of the said column towards a cheese mold below it.

3,438,132
ORTHODONTIC METHOD AND APPARATUS

James M. Rubin, 141 W. 17th St., New York, N.Y. 10011

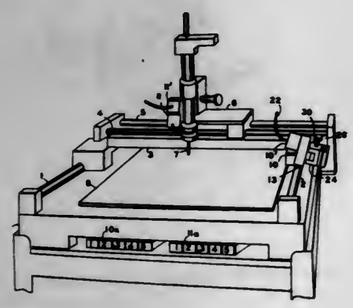
Filed May 2, 1966, Ser. No. 546,690
Int. Cl. A61c 7/00
U.S. Cl. 32—14 7 Claims



An orthodontic apparatus for use with an arch-wire which includes a clip for attachment to a tooth band and

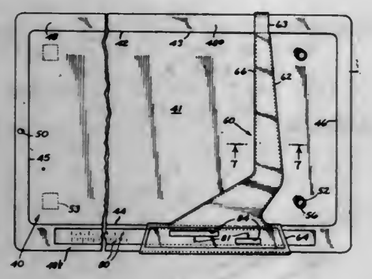
a plurality of blocks which may be selectively mounted in the clip with each block having a surface differently located with respect to the surface of each other block so that the proper block may be selected for cooperation with the arch-wire when received in the clip to apply the desired force to a tooth.

3,438,133
LAYOUT MACHINE WITH ENCODER MEANS
Andre R. Brault, North Merrick, N.Y., assignor to OPTOmechanisms, Inc., Plainview, N.Y.
Filed June 15, 1966, Ser. No. 557,706
Int. Cl. G01d 21/00
U.S. Cl. 33—1 1 Claim



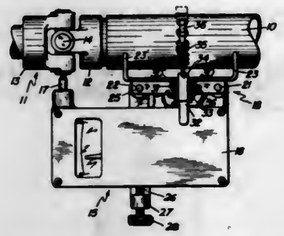
The invention comprises a work layout machine having a pair of carriages adapted to move a work means accurately with respect to coordinate axes, and means on each carriage for encoding and transmitting X and Y coordinate information to visual display counters or other utility apparatus.

3,438,134
MEASURING DEVICE
George J. Schunk, 3265 Azalea Drive, Salem, Oreg. 97302
Continuation-in-part of application Ser. No. 494,023, Oct. 8, 1965. This application Jan. 29, 1968, Ser. No. 706,215
Int. Cl. G01b 5/02
U.S. Cl. 33—143 8 Claims



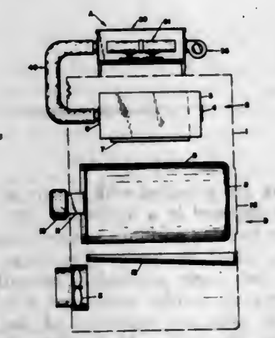
A measuring device for infants including a tray with a floor and an upright border wall joined to and extending upwardly from such floor bounding a space for cradling an infant, there being an adjustable foot support received within the tray which is slidable along the length of the floor and which is brought up against the feet of an infant to produce measurements.

3,438,135
UNIVERSAL JOINT GAUGE
William M. Bense, Barrington, R.I., assignor, by mesne assignments, to Precision Universal Joint Corporation, Chicago, Ill., a corporation of Illinois
Filed Feb. 14, 1964, Ser. No. 345,049
Int. Cl. G01b 5/25, 3/22
U.S. Cl. 33—172 5 Claims



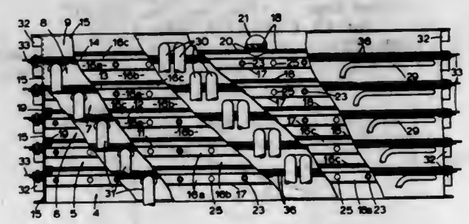
1. In a universal joint tester, a housing, detector means movable in the housing, a contact point at one end of the detector means and projecting from said housing, a gauge needle pivoted in said housing, a gauge dial against which said needle may be read, mechanism within said housing operably connecting said detector means to said gauge needle, means for adjustably securing said housing in fixed position relative to a drive shaft with said contact point in contact with a universal joint trunnion at one end of said drive shaft comprising, first and second V-seats, connector means between said V-seats for releasably securing said V-seats in contact with said drive shaft, which connector means include an elongated flexible member having a free end for encircling said drive shaft, said connector means including means for releasable engagement with said free end, adjustable bracket means mounting said housing from said V-seats with said contact point in said spaced relation with the V-seats and with one of the V-seats being disposed between the other V-seat and said contact point, said bracket means including manual adjustment means and cooperating spring means for moving said housing relative to said V-seats thereby to position said contact point in contact with said trunnion, the spring means acting to hold the housing in the postions established by manipulation of said adjustment means thereby to permit rapid adjustment of the position of said contact point.

3,438,136
OZONE PRODUCING LAUNDRY FRESHENING UNITS
Jack E. Raymond, 8121 Madison St., St. Louis County, Mo.
Filed Nov. 1, 1965, Ser. No. 505,915
Int. Cl. F26b 21/14
U.S. Cl. 34—72 5 Claims



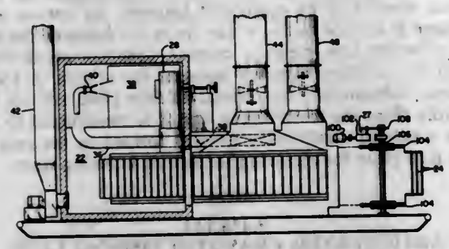
A laundry freshening unit for attachment to a laundry dryer includes a pair of tubular electrodes mounted in a housing with a tubular dielectric member coaxial and interposed between them. A transformer impresses a high voltage across terminals connected to the electrodes. Ozone produced by the unit is fed into the heated air stream of the dryer and the heated and ozone-containing air dries and freshens laundry within the dryer.

3,438,137
LEATHER DRYING MACHINES
Richard John Archer, Luton, England, assignor to E. W. Hudson, Limited, Luton, England, a British company
Filed Oct. 12, 1966, Ser. No. 586,093
Claims priority, application Great Britain, Oct. 21, 1965, 44,649/65
Int. Cl. F26b 25/06, 3/20
U.S. Cl. 34—92 5 Claims



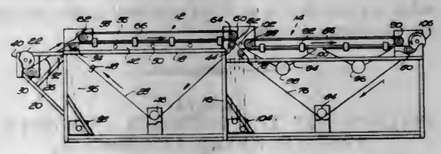
The invention is concerned with providing a platen structure for drying machines. The platen structure is particularly useful in drying machines for drying leather and the like under vacuum and includes a rigid box structure having a metal sheet which forms a platen surface positioned on an open side of the box structure. A heating chamber is provided within the box and a side of the box is developed as a vacuum hood which may be placed over another platen surface. A plurality of the box structures may be held in stacked relationship thereby providing a plurality of platen surfaces, heating chambers and vacuum hoods whereby a plurality of drying stations are provided.

3,438,138
APPARATUS FOR DRYING A WET COATING ON A SURFACE
Erwin Bachrach, Denver, and Dan A. Gabrielson, Lakewood, Colo., assignors to Alpine-Western, Inc., Golden, Colo., a corporation of Colorado
Filed Sept. 13, 1967, Ser. No. 667,605
Int. Cl. F26b 3/04, 25/06
U.S. Cl. 34—105 32 Claims



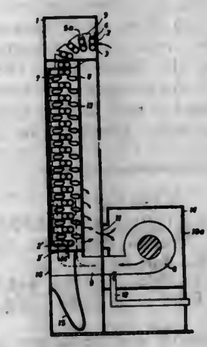
This invention relates to an apparatus having a chamber, a plurality of racks for conveying can bodies through the chamber, each rack being constructed to receive and support therein a plurality of can bodies, and each of said racks having oppositely disposed side portions with an opening formed therein, each side portion being positioned adjacent a corresponding end of a can body, means for feeding can bodies into each rack and for controlling the number of can bodies fed to each rack. The apparatus includes means for supplying a gas stream of elevated temperature having a velocity of approximately 5,500 f.p.m. in a direction substantially parallel to the surfaces of the can bodies and means to create a turbulent gas flow adjacent the can bodies.

3,438,139
APPARATUS FOR SETTING FABRIC
William J. Holm, Springfield, Vt., assignor to Parks & Woolson Machine Co., Springfield, Vt., a corporation of Vermont
Filed June 1, 1967, Ser. No. 642,798
Int. Cl. D06c 1/08
U.S. Cl. 34—158 6 Claims



Open width fabric is fed continuously onto a conveyor which carries it fully supported and tensionless at the proper speed through a steam zone where steam is applied in the proper amount while the selvedges are held down against displacement. From the steam zone the fabric is delivered in a relaxed state to a drying zone where it is carried supported and completely tensionless and where the fabric is cooled and dried by air pulled through fabric. A controlled amount of moisture is removed from the fabric at this stage and the fabric is set in both the warpwise and weftwise directions on a continuous basis and at a predetermined controlled rate.

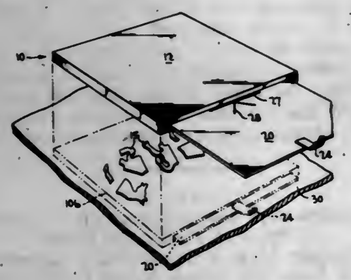
3,438,140
DRIER FOR PHOTOGRAPHIC LAYER SUPPORTS IN SHEET FORM
Roland Koehler, Munich, Rudolf Birk, Unterhaching, near Munich, Hans Dieter Frick, Harald Fengler, and Erwin Geyken, Munich, Germany, assignors to Gevaert-Agfa N.V., Mortsel, Belgium, a company of Belgium
Filed July 20, 1966, Ser. No. 566,691
Claims priority, application Great Britain, Sept. 17, 1965, 39,816/65
Int. Cl. F26b 13/08, 3/04
U.S. Cl. 34—160 5 Claims



A drying apparatus for photographic sheet material, especially film, of the general type in which the sheet material is transported along a given path by co-operating pairs of guide rollers arranged in spaced parallel rela-

tion along such path, the sheet material being guided by the roller pairs being contacted by air streams issuing from blower tubes arranged on either side thereof between adjacent pairs of rollers, each of the blower tubes when viewed in cross-section having flattened side walls extending generally normally to the support path, an inside end wall adjacent said support path which is inclined relative to said path, and an outside end wall remote from said path extending between the remote ends of said flattened side walls to complete the tube, said inclined inside wall having a slit-like air passage extending lengthwise therein, whereby a current of air emerging from said passage flows parallel to said inclined wall and upon passing the limit of said wall generally parallel to the support path. Preferably the remote end wall of each tube is of semicylindrical configuration and the inclined end wall faces in the direction of movement of the sheet material through the apparatus. The air passage in each tube is preferably located at a point in the inclined end wall closer the shorter of the two flattened side walls.

3,438,141
PSYCHOLOGY TEST METHOD AND DEVICE
Charles D. Kirksey, 1316 Davis St., Clovis, N. Mex. 88101
Filed Sept. 22, 1967, Ser. No. 669,744
Int. Cl. G09b *19/00;* A63f *9/10, 9/12*
U.S. Cl. 35—22 9 Claims



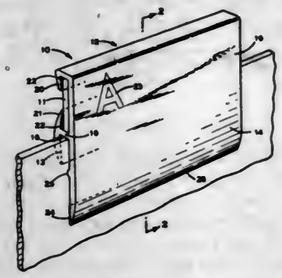
An arrangement for conducting a test utilizing a puzzle-wherein the pieces are positioned on a smooth working surface in a predetermined random position and then fitted together by moving the same from the random position into the final assembled position. To insure that the pieces are released onto the working surface in the predetermined position each time the test is given, the pieces are retained face down in corresponding cut-outs on a board and then released in juxtaposition to the surface after flipping the board over. The function of retaining the pieces in the cut-outs is performed by a sliding cover and the board is held in firm engagement with the working surface when releasing the pieces.

3,438,142
SEA MINING METHOD AND APPARATUS
Manfred G. Krutein, Palo Alto, Calif. (2550 Willow St., San Diego, Calif. 92106)
Filed June 7, 1965, Ser. No. 461,785
Int. Cl. E02f *1/00, 3/88, 7/00*
U.S. Cl. 37—195 7 Claims

A sea mining method and apparatus are disclosed wherein material at the bottom of the sea is conveyed to a submersed portion of an elongate vehicle floating substantially vertical in the sea and wherein the materials are dewatered and conveyed to the surface. Also method and apparatus are disclosed for underwater stockpiling and blending of mined material wherein mined material is dumped in prescribed areas and recovery of the minerals for refining by cutting across the pattern in which the materials have been deposited.



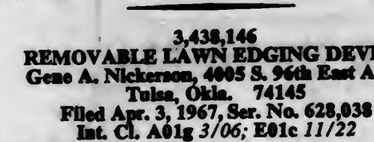
3,438,143
INDEX STRIP HOLDER
Charles R. Wolfersberger, Jr., 70 Mills Ave., Norwood, N.J. 07648
Filed Sept. 1, 1966, Ser. No. 576,677
Int. Cl. G09f *3/20;* B22f *21/06*
U.S. Cl. 40—23 5 Claims



This disclosure is directed to an index strip holder which formed of a plastic material has an integrally formed member which includes a pair of parallel disposed aprons which are integrally connected by a shelf extending along the top longitudinal edges thereof to define a groove adapted for receiving a partition therebetween. The aprons are of different widths with the wider apron extending in facial abutment with respect to the front surface of the partition adapted to be received therebetween. The wider of the aprons is provided with a protruding bead extending longitudinally and at a point below the bottom edge of the more narrow apron and a line of pressure-sensitive adhesive is disposed along the lower edge of the wider apron on the rear surface thereof whereby the index holder can be adhesively secured to the marginal portion of the partition. The arrangement is such that the bead normally spaces the line of adhesive away from the partition adapted to be positioned between the aprons until a force is applied to the wider apron for bringing the line of adhesive into pressure contact adhering relationship with the partition disposed between the aprons. A transparent, substantially flat, elongated face plate extends upwardly from the wider apron and it is constructed to define a pair of confronting grooves formed to the rear of the face plate for receiving therein an indexing strip.

3,438,144
ARTICULATED CRAWFISH FISHING LURE
Donald A. Lincoln, 6740 Hillglen Way, Fair Oaks, Calif. 95628
Filed Mar. 31, 1967, Ser. No. 627,417
Int. Cl. A01k *85/00*
U.S. Cl. 43—42.15 6 Claims

A crawfish-shaped articulated fishing lure having a head member, a longitudinally upwardly convex and downwardly concave tail member, a pivotal connection therebetween, a slot in the tail member for permitting passage of a fishing line therethrough, and a pair of hooks extending from the head member so arranged as to permit the tail member to oscillate vertically relative to the head member when the fishing lure is pulled through the water. The fishing line is fixedly connected to the tail member intermediate of the pivotal connection and the distal end of the tail member but closer to the pivotal connection.

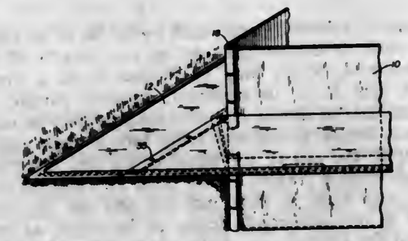


3,438,145
TOY RAILROAD TRACK ASSEMBLY
Robert I. Genin, Scarsdale, N.Y., assignor to Child Guidance Toys Inc., New York, N.Y., a corporation of New York
Filed Jan. 10, 1967, Ser. No. 608,313
Int. Cl. A63h *19/00;* A63g *7/00, 21/00*
U.S. Cl. 46—216 6 Claims



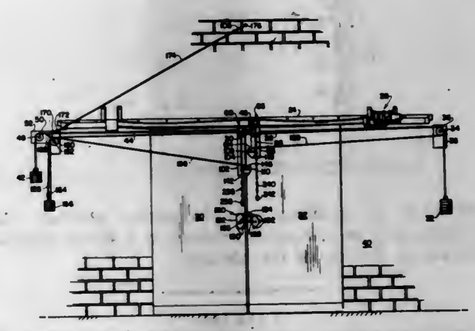
A toy railroad track assembly including a figure-of-eight section formed by a pair of symmetrically-arranged annular guide channels which communicate with each other through an isthmus, one bank of which is formed by a cusp-shaped, removable sub-section whose converging guide walls are common to said annular guide channels, such that when said sub-section is withdrawn, the annular guide channels are converted into a single, flow-through channel acting to interconnect associated track sections coupled to the end ports in the figure-of-eight section.

3,438,146
REMOVABLE LAWN EDGING DEVICE
Gene A. Nickerson, 4005 S. 96th East Ave., Tulsa, Okla. 74145
Filed Apr. 3, 1967, Ser. No. 628,038
Int. Cl. A01g *3/06;* E01c *11/22*
U.S. Cl. 47—33 8 Claims



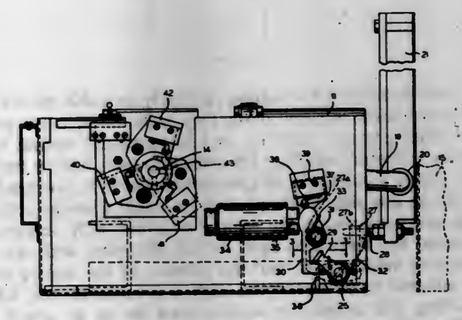
A lawn edging device including identical interlockable vertical portions and removable and interlocking horizontal ground cover portions.

3,438,147
DISCONNECT FOR DOORS
Stanley C. Lander, Aurora, Ill., assignor to White Consolidated Industries, Inc., a corporation of Delaware
Filed Oct. 20, 1966, Ser. No. 588,141
Int. Cl. E05f *15/20, 17/00*
U.S. Cl. 49—7 18 Claims



An automatic disconnect assembly for gravity closing, motor operated fire doors in the form of an integrated sub-assembly which can be assembled and adjusted prior to installation upon the door.

3,438,148
DOOR OPERATOR
Robert J. Lynn, Morton Grove, and Kristupas Daugirdas, Wilmette, Ill., assignors to Vapor Corporation, Chicago, Ill., a corporation of Delaware
Filed Nov. 6, 1967, Ser. No. 680,879
Int. Cl. E05f *15/00, 11/12*
U.S. Cl. 49—13 15 Claims

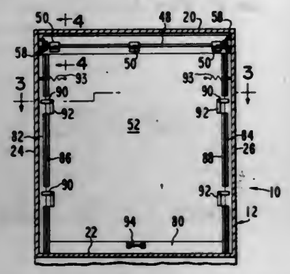


A door operator having a locking device for locking a door in closed position and switching means controlling the locking device and door operator opening and closing cycles.

3,438,149
REFRIGERATED HOUSING
Ambrose John Ilg, Whittier, Calif., assignor to David P. Roush, Palo Alto, Calif.
Filed Mar. 6, 1967, Ser. No. 620,834
Int. Cl. F25d *23/02;* B60p *3/20*
U.S. Cl. 49—176 6 Claims

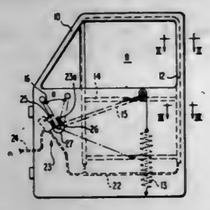
A housing having a swingable partition movable into a vertical position separating one part of the housing from another part. The partition has fixed top and bottom

seals engageable with the top and floor of the housing. It also has a hinged seal at each of its sides which can swing into and out of engagement with an adjacent side



wall when the partition is in the vertical position. The partition may be releasably retained in a stored position adjacent to the top of the housing.

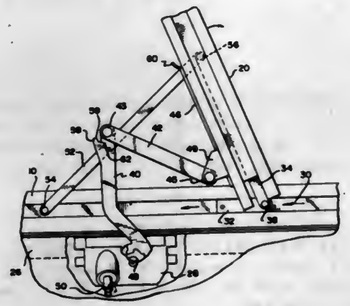
3,438,150
INSTALLATION FOR THE SEALING OF RELATIVELY MOVABLE PARTS, ESPECIALLY OF SLIDING WINDOWS IN MOTOR VEHICLES
Gerhard Heim, Sindelfingen, Germany, assignor to Daimler-Benz Aktiengesellschaft, Stuttgart-Unterturkheim, Germany
Filed May 12, 1967, Ser. No. 638,137
Claims priority, application Germany, May 13, 1966, D 50,109
Int. Cl. E05d *15/16*
U.S. Cl. 49—319 **3 Claims**



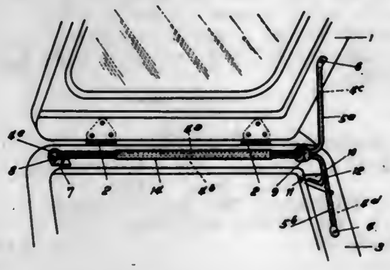
An installation for sealing relatively movable parts such as door parts, window parts, flap parts, lid or cover parts or other parts in vehicles, and in particular sliding windows in motor vehicles with respect to their sealing frame, in which a tubularly shaped sealing strip is arranged at least on one side of the part to be sealed whereby springs are arranged within the sealing strip normally seeking to expand the same into tight sealing abutment with the respective vehicle part, and the interior of the sealing strip is adapted to be connected with a vacuum source, when moving the respective vehicle part so as to annul, in effect, the spring force of the springs and cause a certain lifting off of the sealing strip to facilitate the relative movement.

3,438,151
OPERATING LINKAGE FOR WINDOWS AND THE LIKE
Robert S. Evers, Pella, and Mearl J. Minter, Oskaloosa, Iowa, assignors to Rolscreen Company, a corporation of Iowa
Filed Mar. 17, 1967, Ser. No. 623,944
Int. Cl. E05f *11/28, 11/00*
U.S. Cl. 49—345 **2 Claims**

The improvement in a linkage assembly pivots open and closed a window sash. In the embodiment for casement windows, the top and bottom ends of one side of the sash slidably mounted in horizontal channels situated in the sill and head jamb of the frame. The linkage assembly comprises a pair of interconnected lever arms which are driven by a crank and worm gear assembly in the sill. The linkage assembly drives the sash open by causing the unmounted side of the sash to swing outwardly from the frame as the pivotally mounted side slides in the channels. The improvement is a first catch means mounted on the lever arms and synchronized to engage a second catch means mounted on the sash when the sash is in a nearly closed position. The engaging catches cause the sash to close more tightly and evenly than prior window assemblies of a similar type.

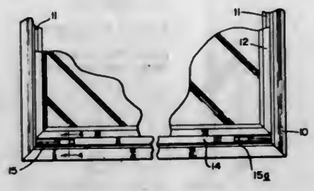


3,438,152
COUNTERBALANCING APPARATUS FOR A PIVOTAL PANEL
Jean Cadiou, Paris, France, assignor to Societe Anonyme Andre Citroen, Paris, France, a company of France
Filed Dec. 6, 1966, Ser. No. 599,425
Claims priority, application France, Dec. 8, 1965, 3,245
Int. Cl. E05f *1/10, 1/08*
U.S. Cl. 49—386 **3 Claims**
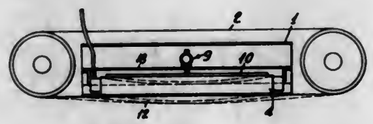


A pivotally mounted panel, such as the lid of an automobile trunk, is counterbalanced by two lengths of resilient material, which may be formed from a single steel rod bent about its midpoint, disposed parallel to the pivotal axis of the lid and in close proximity to each other, each length at one end being bent at right angles and secured, the one to the panel or lid and the other to the automobile frame. At the other or common end the two rods meet at their junction and are pivotally mounted to the automobile frame or lid about an axis parallel to the pivotal axis of the panel. When the lid is opened, each rod twists at an angle equal to half that of the pivotal angle of the panel or lid and thus provides a counterbalancing force to the weight of the lid.

3,438,153
WINDOW LOCK
Philip Di Lemme, 1853 Central Park Ave., Yonkers, N.Y. 10710
Filed Nov. 24, 1967, Ser. No. 685,467
Int. Cl. E05d *13/08;* **E05c** *5/02, 5/00*
U.S. Cl. 49—451 **10 Claims**



The application discloses a one-piece stamped sheet metal window latch for sliding windows and the like. The latch is carried in a channel within the window sash, the latch being adjacent to an edge of the sash. The major portion of the latch, which includes a finger hole, rests normally substantially vertically within the channel and is spring biased toward the adjacent sash frame. A portion of the latch adjacent the edge of the sash is notched and bent along the longitudinal axis of the latch through an acute angle with respect to the major latch portion. This bend end of the latch carries a curved or tapered edge which frictionally engages a portion of the sash frame to effectively lock and hold the window sash in an open position to which it may be slidably moved. To close the window sash, the latch is easily retracted from its locking position by finger pressure applied in opposition to the spring bias. During such motion of the sash, the latch cocks within its channel, thus enabling the friction locking edge to slide freely within the sash frame without requiring manual retraction.

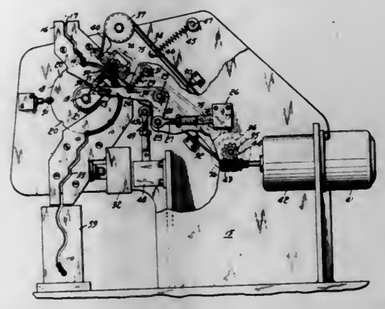
3,438,154
INTERCHANGEABLE ELASTIC PAD FOR ABRADING, GRINDING AND SANDING MACHINE
Ettore Vichi, via Montefeltro 11, Pesaro, Italy
Filed May 25, 1966, Ser. No. 552,884
Claims priority, application Italy, Dec. 6, 1965, 26,994/65
Int. Cl. B24b *21/00*
U.S. Cl. 51—135 **2 Claims**



An abrasive belt pressurizing backing pad consisting of flexible tubes engaged on the side thereof opposite the belt by an elastic plate adapted to be bent or curved in the central area thereof to thereby provide a greater pressure at the central area of the abrasive belt than at the edges.

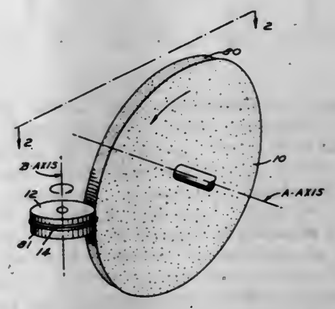
3,438,155
APPARATUS FOR ABRADING-TO-VALUE ELECTRICAL COMPONENTS
Francis L. Bouvier, Haverhill, Roy C. Carlson, Jr., Boxford, Charles W. Higgins, Methuen, John J. Kelley, Lawrence, and Norman F. Smith, Methuen, Mass., assignors to Western Electric Company, Incorporated, New York, N.Y., a corporation of New York
Filed July 9, 1965, Ser. No. 470,754
Int. Cl. B24b *49/02, 21/00, 47/00*
U.S. Cl. 51—165 **15 Claims**

The disclosure concerns automatic control means for altering the resistance value of a resistor by removal of a surface layer of its resistive material by means of an endless abrasive belt. The belt engages the resistor in tangential contact as it rubs the surface of the resistor unit. A control circuit is programmed to measure the resistor unit prior to and during abrading operation. If



the measurement indicates a need for a resistance increase, the circuit initiates the abrasive opeartion and continues same until the measured resistance value equals the preset value, whereupon the circuit disengages the abrasive belt from the resistor and indexes the next resistor into position for measurement and abrading.

3,438,156
METHOD FOR FORM DRESSING A WHEEL AND FOR GRINDING SPHERICAL SURFACES THEREWITH
Hugo A. Lakso, Springfield, Vt., assignor to Bryant Grinder Corporation
Filed Nov. 28, 1966, Ser. No. 597,395
Int. Cl. B28d *3/04, 1/30, 3/00*
U.S. Cl. 51—289 **7 Claims**

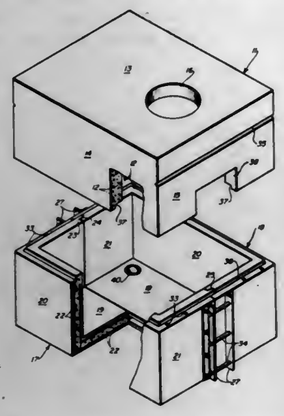


A method of wheel dressing and of grinding the spherical surface of rollers for bearings. The rollers are plunge ground to a desired radius by the concave outer diameter of the wheel which has been transversely dressed by a diamond coated dressing cutter of the same radius as that desired on the rollers.

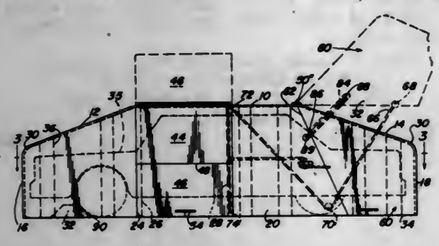
3,438,157
UTILITY MANHOLE
Frank La Monica, Avon, Conn., assignor to A. Rotondo & Sons, Inc., Avon, Conn., a corporation of Connecticut
Filed June 23, 1967, Ser. No. 648,259
Int. Cl. E02d *29/14;* **E04h** *9/06;* **E04b** *5/48*
U.S. Cl. 52—20 **4 Claims**

A utility manhole in the form of an assembly of three precast concrete sections comprising an upper section adapted to be lowered onto and supported by left and right

lower sections adapted to be joined together after each is lowered into a prepared excavation to either side of an existing conduit extending through the excavation and containing electrical lines.



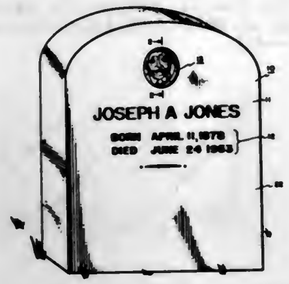
3,438,158
CAR POD
Daniel F. Kane, 1053 Liberty St., Aurora, Ill. 60505
Filed Aug. 21, 1967, Ser. No. 661,893
Int. Cl. E04b *1/346, 7/16;* E04h *6/42*
U.S. Cl. 52—64 7 Claims



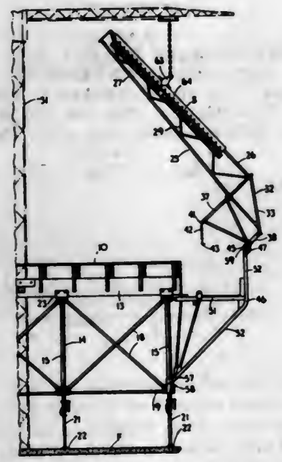
The disclosure describes an automobile shelter providing a lightweight plastic open-bottomed enclosure having side walls closely spaced from the automobile and an end opening door which when raised automatically raises a side door contiguous to the driver's door for ingress to and egress from the car. In one embodiment the roof is downwardly tapered at the rear end and the contoured spring-balanced end door is formed as part of the end, sides and sloping roof of the enclosure. Means are provided for double hinging the side door and extending same as a contour into the roof so that it is locked out of the way when open and conforms with the enclosure outlines when closed. Other embodiments are disclosed including the formation of the entire enclosure as a unit and cutting the side door sections and end door therefrom for use in the complete assembly.

3,438,159
CEMETERY MARKER AND IMPROVEMENTS THEREIN
Robert H. Bergener, Salt Lake City, and Newell J. Stewart, Venice, Utah, assignors to Memorial Photo Service, Inc., Richfield, Utah
Filed Mar. 6, 1967, Ser. No. 621,010
Int. Cl. E04h *13/00;* B44c *5/04, 5/12*
U.S. Cl. 52—104 4 Claims

The present invention comprises an improved cemetery marker including portrait indicia means having a suitably protected portrait backed by colored background means, this for presenting a pleasing background to the portrait in addition to concealing any possible adhesive or other means disposed rearwardly of the portrait for securing the indicia means to the marker.



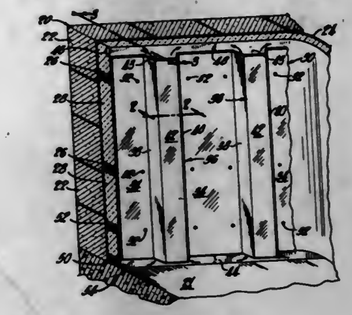
3,438,160
LIFTING DEVICE FOR A SUPPORTING FRAMEWORK
Peter Eric Gostling, Coleshill, England, assignor to Kwikform Limited, Birmingham, Warwick, England, a British company
Filed Aug. 26, 1966, Ser. No. 578,116
Claims priority, application Great Britain, Sept. 3, 1965, 37,719/65; July 16, 1966, 31,790/66; Feb. 9, 1966, 5,572/66
Int. Cl. E04g *21/00;* E04h *12/18*
U.S. Cl. 52—122 5 Claims



This disclosure is concerned with means for transporting into and out of different floor levels of multistorey buildings a framework for supporting a concrete floor forming shuttering in multistorey building construction. The transporting means comprises an upper lifting arm with means adjustable therealong for detachably engaging with a crane hook. The lifting arm being provided at one end with a load-transmitting portion which portion is secured to an end of a shuttering supporting framework. The lifting arm is detachably connected to the load-transmitting portion at fulcrum pins and chains spaced therefrom.

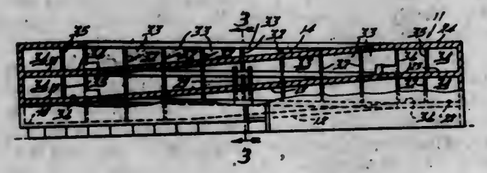
3,438,161
WALL CONSTRUCTION
Robert Carl Koch, 1408 Pelican Ave., Naples, Fla. 33940
Filed July 15, 1965, Ser. No. 472,195
Int. Cl. E04b *1/00;* E02d *35/00;* E04h *14/00*
U.S. Cl. 52—127 10 Claims





The wall construction involves placing between spaced parallel forms to confine poured concrete, a core of a material of the class of expanded polystyrene in flat slab form, which core may be constituted of one or more such slabs in face contact with the other; said core being spaced from the form members by means of a plurality of inexpensive core positioners which, either wholly or partly, may remain in the finished poured wall. The core positioners are of several simple types designed according to the function to be performed thereby, either in spacing the core from the upright walls of the forms, or in spacing the cores endwise from one another, or in spacing the lower edges of the cores from a base support upon which concrete is to be poured. If the core includes two slabs, the positioners perform the added function of securing the slabs against planar displacement relative to one another.

3,438,162
BUILDING HAVING INCLINED FLOOR LEVELS
Gray Graham, 4138 Rich Drive, Waterford, Mich. 48095
Filed Aug. 27, 1965, Ser. No. 483,153
Int. Cl. E04h *6/42, 1/00;* E01f *9/00*
U.S. Cl. 52—175 11 Claims

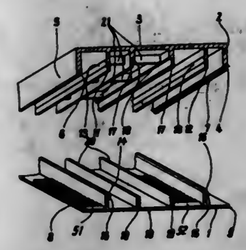


A building assembly made up of spaced inclined ramps extending at an acute angle to the horizontal and interconnected at their opposite ends by pairs of horizontally extending ramps.

3,438,163
WALL CONSTRUCTION
Robert F. Vevoda, Creskill, N.J., assignor to Owens-Corning Fiberglas Corporation, a corporation of Delaware
Filed July 21, 1966, Ser. No. 567,017
Int. Cl. E04b *1/66, 2/04;* E04h *5/10*
U.S. Cl. 52—198 10 Claims

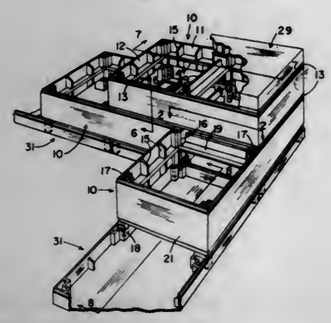
A cold storage wall having built in means for removal of transmitted moisture from the insulation, including a structural wall having a vapor barrier on the inside surface, with studs over the vapor barrier and holding insulation, and over the insulation and studs are positioned sanitary panels which provide channels for moisture removal along a convection path extending from floor to ceiling.

3,438,164
UNIT CONSTRUCTION COMPONENT
Hans Werner Duepree, Avenwedde, Germany, assignor to Elco-Kunststoffe A. Elges & Co., Avenwedde, Germany, a company of Germany
Filed Jan. 5, 1967, Ser. No. 607,532
Claims priority, application Germany, Jan. 10, 1966, E 30,809
Int. Cl. A47b *47/04;* E04c *3/28, 2/38*
U.S. Cl. 52—282 28 Claims



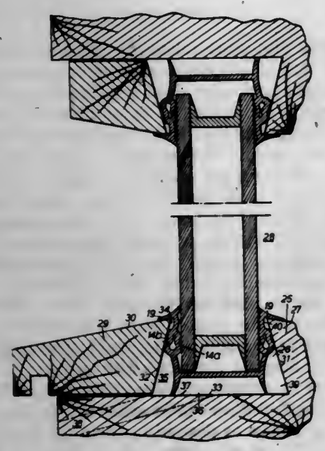
The present disclosure relates to unit construction components for use in assembly of structures such as boxes, drawers, shelves and other parts for furniture and the like. The components comprise a board member which consists of a U-shaped compartment portion and a cover portion. The two portions are designed to interlock by means of barbed strut members located on the inner surface of the compartment and cover portions, thus forming an open-ended board. The components also comprise connecting members having an upright member on which is formed at least one laterally extending pin member which has on it saw-toothed barbs which interlock with corresponding saw-toothed barbs on the inner surface of the cover portion of the board when the connecting member is inserted in the end of the board. The outer surface of the board may be provided with grooves to serve as drawer glides and shelf guides and supports. The boards and connecting members can be assembled in various combinations and stacks as desired to form the type of structure desired. The components can be made of injection-moulded plastic materials such as polyvinyl chloride. The connecting members are in the form of end caps, angle joints or T-joints.

3,438,165
PLASTIC MOULDED BUILDING MEMBER
Janusz Morawski, 155 Rusholme Road, Toronto, Ontario, Canada
Filed Dec. 15, 1967, Ser. No. 690,967
Int. Cl. E04c *1/10, 1/06*
U.S. Cl. 52—309 **8 Claims**



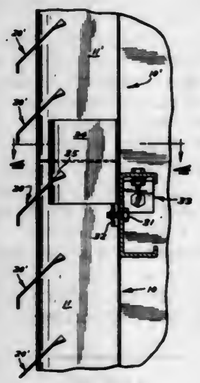
This specification discloses an integral building member of thermoplastic material which is hollow at its top and bottom so as to permit filling with flowable filling material when erected to form a wall or like and which is provided with interlocking socket and pins, the sockets and the pins being formed integrally with the side and end walls of the member, and further incorporating as an additional feature, a sandwich layer adapted to be interleaved with said building members to simulate a layer of mortar.

3,438,166
SEALING MEANS AND WINDOW CONSTRUCTIONS INCORPORATING SUCH SEALING MEANS
Bjorn Bakke, Bergen, Norway, assignor to A. Knag A/S, Bergen, Norway
Filed June 26, 1967, Ser. No. 648,621
Claims priority, application Norway, July 1, 1966, 163,740
Int. Cl. E06b *3/64, 3/62*
U.S. Cl. 52—400 **8 Claims**



Window construction in which a sheet glass is bounded by a window frame and sealing means composed of a resilient yielding material having substantially a U shape the legs of which terminate at its upper end in lip portions engaging the window glass and the upper side of the frame portion, respectively, said sealing means being received in a recess in the window frame having sloping walls converging towards the opening of the recess, the legs of the sealing means carrying an abutment means which by the wedge action created by the engagement thereof towards the sloping wall will pull the lip portions downwards.

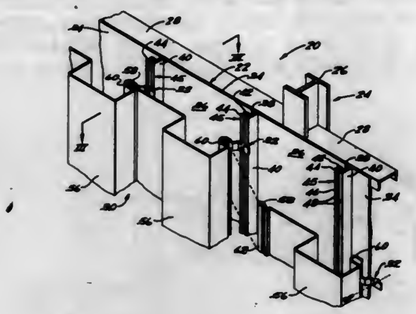
3,438,167
SOLAR SHADE APPARATUS WITH SPLICING MEANS
Charlie A. Royston, Jr., Smyrna, Ga., assignor to Airotec, Inc., Atlanta, Ga., a corporation of Georgia
Filed Mar. 9, 1967, Ser. No. 621,812
Int. Cl. E04f *10/08;* **E04b** *1/48;* **E04c** *2/42*
U.S. Cl. 52—473 **5 Claims**



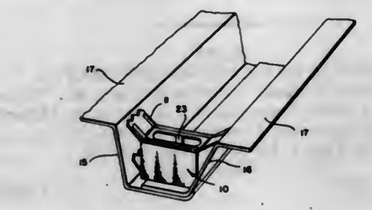
A solar shade section has at least one vertical support member with a hollow interior and multiple slots in which a plurality of shade members are retained. An offset portion of the shade member, within the hollow interior of the vertical member, interlocks each shade member with the vertical support. Multiple shade sections are independently suspended from horizontal stringer members so that expansion and contraction of the vertical supports is provided for by a sliding connection between adjacent sections which maintains the vertical alignment of the vertical support members. The method of making a sun shade includes providing at least one hollow slotted vertical member, inserting a shade member into each slot, and locking a portion of the shade member within the hollow interior to form a rigid interlock between the support member and the shade member.

3,438,168
BUILDING OUTER WALL STRUCTURE
Walter Tischuk, Richmond, Ind., assignor to H. H. Robertson Company, Pittsburgh, Pa., a corporation of Pennsylvania
Filed June 8, 1966, Ser. No. 556,072
Int. Cl. E04b *2/78*
U.S. Cl. 52—478 **7 Claims**

Double-sheathed sheet metal wall constructions including fastening clips which secure outer facing sheets directly to liner sheets. Subgirts are eliminated. The clips are hidden from view and arranged such that one end is secured to the liner sheets and the opposite end is connected to the outer facing sheets. The outer facing sheets can be erected vertically or horizontally regardless of the orientation of the liner sheets.



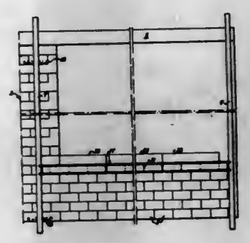
3,438,169
MID-SPAN DECK WEDGE LOCK
George A. Tinnerman, 17864 Beach Road, Lakewood, Ohio 44107
Filed May 22, 1967, Ser. No. 640,216
Int. Cl. E04b *1/40;* **E04c** *5/12;* **E04d** *1/34*
U.S. Cl. 52—712 **4 Claims**



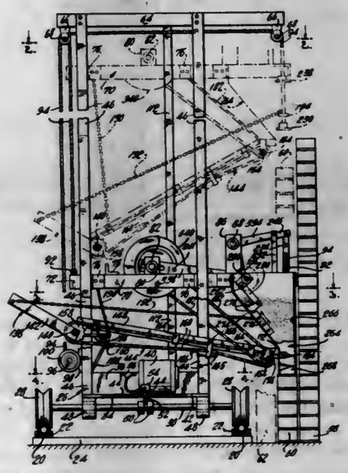
The deck wedge lock is formed of two parallel plate-like members of hardened, resilient material having toothed elements on their opposite ends to engage the walls of the channel in channel deck panels. These plate-like members are connected by a longitudinal member to form a unitary member, the end of the plate-like members having the toothed elements being flared or inclined to increase the engaging effect of the teeth when the members are driven into the channel. A tool with a broad shoulder near its end can be passed through an opening in one plate-like member to engage the other, with a shoulder also engaging the first member. The plate members are then driven into place in the channel simultaneously. Converging fingers on opposite sides of the opening engage the tool frictionally to retain the wedge lock before insertion in the channel.

3,438,170
ROOFING DEVICE AND METHOD
Boyce Robert White, Rte. 2, Box 277, Apopka, Fla. 32703
Filed Dec. 5, 1966, Ser. No. 599,168
Int. Cl. E04g *21/00, 23/00*
U.S. Cl. 52—748 **9 Claims**

Roofing materials are applied by a device that has a notched bar extending from the ridge of a roof down towards the eaves. An elongated guide extending parallel to the line of shingles to be laid, receives a row of shingles or the like in upright position. The guide has pins which cooperate with the notches of the bar when the guide is rotated to lay a row of shingles and to receive the next row of shingles. As the guide is rotated up the slope of a roof, suceeding rows of shingles are laid and held under the guide for fastening.



3,438,171
BRICKLAYING MACHINE
Douglas M. Demarest, Port Washington, N.Y., assignor to Demarest Machine, Inc., Port Washington, N.Y., a corporation of New York
Filed Oct. 24, 1966, Ser. No. 589,028
Int. Cl. E04g *21/14;* **E04f** *21/00*
U.S. Cl. 52—749 **18 Claims**

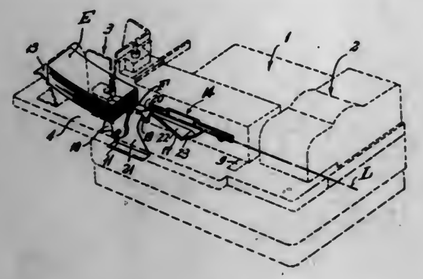


A bricklaying machine which is capable of directly transporting bricks one after the other from a receiving station of the machine along a straight-line path to a brick-depositing station where each brick is received to be deposited in a given course of a brick wall which is under construction.

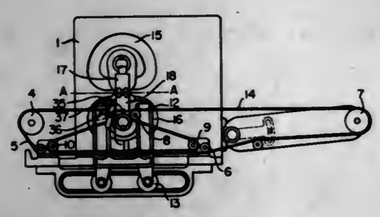
3,438,172
FLAP TURNING DEVICE
Victor E. Johnson, Westport, Conn., assignor to Pitney-Bowes, Inc., Stamford, Conn., a corporation of Delaware
Filed Nov. 1, 1966, Ser. No. 591,253
Int. Cl. B65b *11/48, 7/26*
U.S. Cl. 53—38 **9 Claims**

A flap turning device for use on an envelope closing and sealing machine in which envelopes are stacked with their flaps open and through which the envelopes are fed

seriatim for closing and sealing of the flaps. The device provides surface means which initially forms a reverse bow in the flap and then gradually flattens the flap as the envelope moves through the machine, the device thereafter delaying closing of the flap until proper presentation of the flap to the envelope is assured.



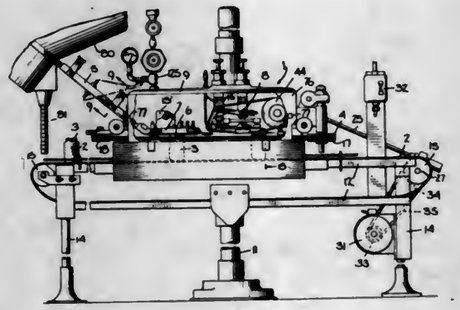
3,438,173
METHOD FOR AUTOMATICALLY PACKAGING SOLID ARTICLES AND APPARATUS THEREFOR
Shozo Omori, No. 44 Shimo Negishi-cho, Taito-ku, Tokyo, Japan
Filed Mar. 11, 1966, Ser. No. 533,583
Claims priority, application Japan, Mar. 17, 1965, 40/15,275, 40/15,276, 40/15,277, 40/15,278; Apr. 2, 1965, 40/18,928
Int. Cl. B65b *7/00, 51/10*
U.S. Cl. 53—39 2 Claims



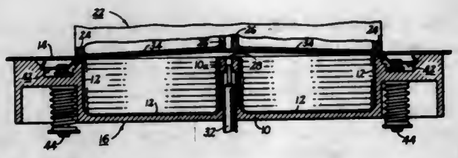
A method and appartus for sealing continuous cylindrical film between articles which are spaced at intervals along the film. Heat sealing members are moved against the portions of the film between the spaced articles and are moved along the path of the film at the speed of the film until the completion of the heat sealing operation. They are then moved in opposite directions away from the film and along semi-circular paths back to the point from which they started.

3,438,174
CONTAINER SEALING MACHINE
George J. Foos and Joseph C. Runco, Lancaster, and Cecil P. Roberts, Carroll, Ohio, assignors to Anchor Hocking Glass Corporation, Lancaster, Ohio, a corporation of Delaware
Filed Feb. 11, 1965, Ser. No. 431,953
Int. Cl. B65b *31/02*
U.S. Cl. 53—110 12 Claims

A sealing machine for sealing containers with closure caps and including a conveyor belt which carries the filled containers successively beneath a cap feeding and applying means and then a sealing head which fastens the closure cap onto the container top. The cap feeding and applying means as well as the sealing head are all mounted on a unitary support which also mounts side belts for engaging and carrying the containers past the cap feeding and applying means and sealing head. The support also includes a hollow steam chamber which extends around the cap feeding and applying means and the sealing head and which also telescopes downwardly around the conveyor for the purpose of containing a steam atmosphere during the sealing operation for forming a vacuum in the sealed container. All of the above elements of the machine are incorporated in a unitary structure so that their height is simultaneously adjusted with respect to the container supporting conveyor and means is provided for retaining the necessary synchronism between the driven portions including the sealing head, the side belts, and the conveyor belt during this adjustment. In addition an adjustable cap feed chute and improved back-up rollers are provided in the above described combination.

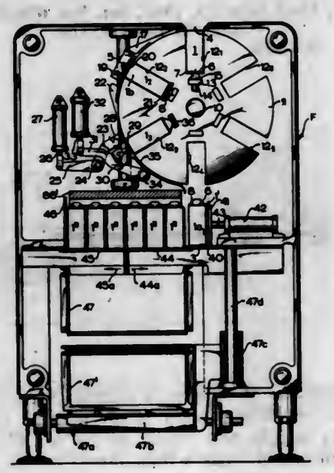


3,438,175
AUTOMATIC PACKAGING APPARATUS
Joel A. Hamilton, Clifton, Anthony E. Faro, Jr., Wayne, and Joseph Leitner, Paterson, N.J., assignors to Mahaffy & Harder Engineering Company, Totowa, N.J.
Filed Feb. 1, 1965, Ser. No. 429,458
Int. Cl. B65b *67/00*
U.S. Cl. 53—112 11 Claims



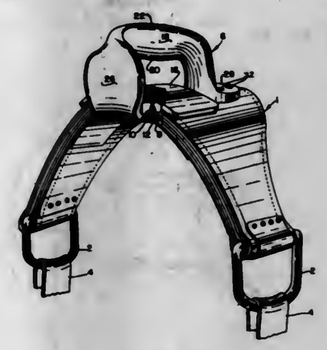
An automatic packaging machine of the type including a plurality of separate trays individually mounted on conveyor chains for movement around a closed loop past a number of packaging stations, the trays being arranged to receive plastic film stretched into the tray cavities to form package cups, rigid paperboard tops being sealed over such cups to make complete containers which are evacuated through an opening in a flange of the cup; and wherein means are provided to pre-heat the tops in the region thereof adjacent the evacuation opening so that the board can quickly be sealed to the flange at that region after evacuation; and wherein the trays also are provided with clamps operable to grip the packaging material below the surface of the tray, thereby to permit the rigid tops to lay flat across the trays; these clamps further being pivotally mounted to produce a lateral outward displacement when actuated, thereby to simplify insertion of the packaging material.

3,438,176
APPARATUS FOR MANIPULATING PARALLELEPIPED CONTAINERS
Wilhelm Reil, Elmshausen uber Bensheim, Bergstrasse, and Werner Schwarzwälder, Wuppertal-Elberfeld, Germany, assignors to Habra-Werk Wilh. F. Ott, Darmstadt, Germany
Filed Mar. 23, 1964, Ser. No. 353,672
Claims priority, application Germany, June 26, 1963, H 49,553
Int. Cl. B65b *7/20*
U.S. Cl. 53—379 15 Claims



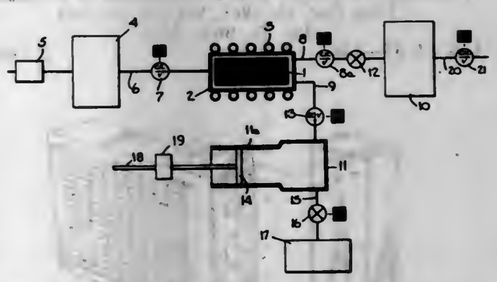
11. In an apparatus for manipulating filled heat-sealable parallelepiped containers of the type having an end wall, two triangular gussets extending laterally beyond the opposite ends of said end wall, and a flap extending transversely across and outwardly beyond said end wall and said gussets, in combination, a conveyor including a rotary drum having a plurality of equidistant recesses each extending radially inwardly from the periphery and all the way from the one to the other axial end thereof, each of said recesses being arranged to accommodate a container in such a way that the flap extends beyond the periphery and that the gussets extend beyond the axial ends of said drum; drive means for intermittently rotating said drum through distances which equal the angular distance between said recesses; first folding means adjacent to the periphery of said drum and arranged to fold the flaps of consecutive containers against the respective end walls during intermittent rotations of said drum; second folding means adjacent to said drum and arranged to fold the gussets against the thus folded flaps and against the end walls of consecutive containers during intermittent rotations of said drum; heat-sealing means for bonding the thus folded gussets of consecutive containers to the respective flaps and end wall between intermittent rotations of said drum; and stacking means arranged to receive consecutive containers from said conveyor by gravity feed at a point past said heat-sealing means and in such a way that the end wall of each container is located at the lower end thereof, said stacking means comprising a table including a pair of panels movable toward and away from each other, transfer means for moving consecutive containers onto said table so that the table may support a row of containers, and means for conveying empty receptacles to a position beneath said table whereby, upon movement of said panels away from each other, a row of containers may descend into an empty receptable therebelow.

3,438,177
HANDGRIP ATTACHMENT FOR A SURCINGLE
James D. Houston, Omaha, Nebr. (% Championship Rodeo Equipment, P.O. Box 23, Burkburnett, Tex. 76354)
Filed Apr. 11, 1967, Ser. No. 630,021
Int. Cl. B68c *1/00;* A01k *15/00, 29/00*
U.S. Cl. 54—23 8 Claims



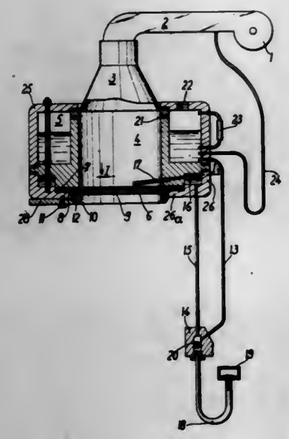
A gripping handle for a surcingle, the hand gripping portion of which is so angulated in shape as to fit the hand of the bareback rider, and which handle is angulated with respect to the surcingle so as to give a natural gripping position to insure the bareback rider the firmest possible grip. The handle is formed of rigid molded material, which may be metal, plastic or other formaceous material, which will not yield under extreme conditions, such as bucking, which yielding would result in the bareback rider losing his grip and subsequently his seat.

3,438,178
SEPARATION OF HYDROGEN FROM OTHER GASES
Walter Betteridge, Beckenham, and James Hope, Ickenham, England, assignors to The International Nickel Company, Inc., New York, N.Y., a corporation of Delaware
Continuation-in-part of application Ser. No. 577,328, Sept. 6, 1966. This application Apr. 22, 1968, Ser. No. 723,017
Claims priority, application Great Britain, Sept. 6, 1965, 37,950/65; Nov. 26, 1965, 50,388/65; Mar. 6, 1968, 10,929/68
The portion of the term of the patent subsequent to Oct. 22, 1985, has been disclaimed
Int. Cl. C01b *1/32;* B01d *53/00*
U.S. Cl. 55—58 19 Claims



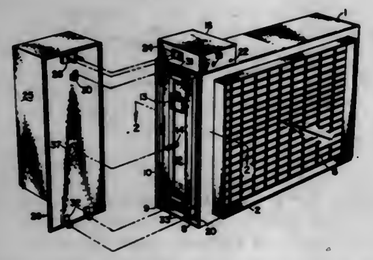
Hydrogen is separated from gaseous mixture by process comprising selective absorption of hydrogen into particulate palladium at elevated temperature and pressure, removing gases other than hydrogen from around the palladium, thereafter decreasing the pressure around the palladium to desorb hydrogen from the palladium and collecting the desorbed hydrogen.

3,438,179
METHOD OF SAMPLING AEROSOLS BY SUCTION AND DEVICE FOR THE APPLICATION OF SAID METHOD
Pierre Jouault, Paris, France, assignor to Commissariat à l'Energie Atomique, Paris, France
Filed Nov. 15, 1965, Ser. No. 507,741
Claims priority, application France, Nov. 30, 1964, 996,816
Int. Cl. B01d *25/02*
U.S. Cl. 55—97 5 Claims



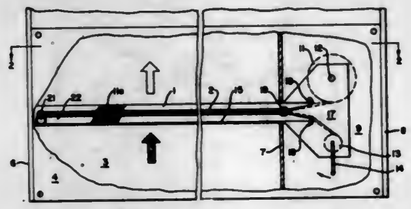
A collecting filter extends across the mouth of a conduit through which a stream of air is drawn by a suction pump. A porous, sintered bronze member also extends across the mouth of the conduit immediately downstream of the filter and is impregnated by a viscous fluid, such as oil contained in a reservoir and distributed by radially disposed tubes to the center portion of the porous member through a valve which is responsive to a predetermined degree of pressure in the conduit downstream of the porous member. The rate of flow of the stream of air through the collecting filter is maintained substantially constant by controlling the degree of impregnation of the porous member so that the sum of the head losses across both the filter and the impregnated porous member is maintained at a substantially constant predetermined value.

3,438,180
AIR-CLEANING APPARATUS
John F. Klouda, La Crosse, Wis., assignor to The Trane Company, La Crosse, Wis., a corporation of Wisconsin
Filed Dec. 28, 1965, Ser. No. 516,918
Int. Cl. B03c *3/34*
U.S. Cl. 55—126 2 Claims



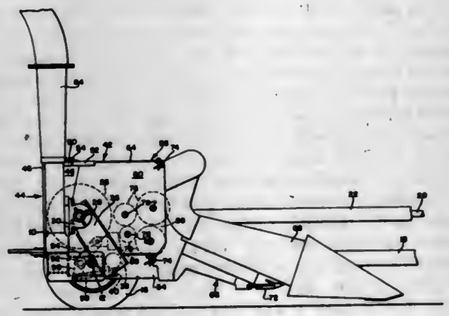
An electrostatic air filter having a protective screen, a filter cell and a charcoal pack slidably mounted within a housing and adapted for repositioning for flow of air in either direction. For a change in direction of flow the protective screen and the charcoal pack are interchanged in position and the filter cell is inverted. The electrical conductor for the filter cell is in the center of one end of the cell so that it engages the contact on the power source in either of its above mentioned positions.

3,438,181
FILTER MEDIA SUPPORT ARRANGEMENT
Dale L. Selhost, Rock Island, Ill., assignor to American Air Filter Company, Inc., Louisville, Ky., a corporation of Delaware
Filed Sept. 25, 1967, Ser. No. 670,179
Int. Cl. B01d *45/18*
U.S. Cl. 55—354 9 Claims



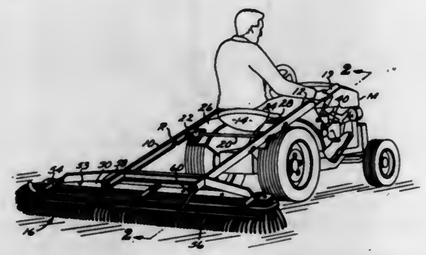
An apparatus to support a curtain of air filter media within an air flow conduit in air filtering relation and selectively supply new media to the air filtering zone. The apparatus includes a filter media supply means and an exhausted media take-up means both disposed on one side of the air flow conduit, means to supply new media to the filtering zone, and means to withdraw spent filter media from the air filter zone.

3,438,182
FORAGE HARVESTER
Kenneth Q. Kessler, Ottumwa, Iowa, assignor to Deere & Company, Moline, Ill., a corporation of Delaware
Filed June 3, 1965, Ser. No. 460,900
Int. Cl. A01d *41/04*
U.S. Cl. 56—16 5 Claims



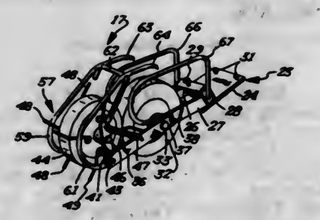
A pull-type forage harvester having a mobile main frame, an axially transverse rotary reel-type cutterhead journaled on the right side of the main frame, a forwardly extending secondary frame swingably mounted for vertical adjustment about the cutterhead shaft, a row-type harvesting unit mounted on and extending forwardly from the secondary frame, and a drive train for connecting the driven harvester components to the tractor power take-off shaft and including a fore-and-aft drive shaft above the main frame draft member and a transverse drive shaft coaxially connected to the cutterhead shaft.

3,438,183
RAKE ATTACHMENT FOR A GARDEN TRACTOR
Mario J. Puretic, 259 6th Ave. N., Monte Cristo Isle, Tierra Verde, Fla. 33715
Filed Nov. 25, 1966, Ser. No. 596,913
Int. Cl. A01d *51/00, 77/00*
U.S. Cl. 56—27 10 Claims



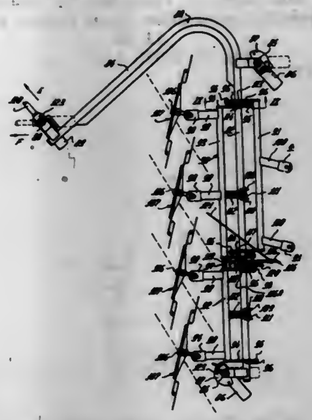
1. A rake attachment for a garden tractor having a body upon which is mounted an operator's seat, said attachment comprising:
- a pair of aligned side bars that straddle said tractor seat;
- a pair of brackets securable to said tractor body adjacent said tractor seat;
- a rake head attached to the rear ends of said side bars,
- and pivot means interconnecting said brackets and the intermediate portion of said side bars forwardly of the center of gravity of said side bars and attached rake head whereby said rake head normally engages the ground.

3,438,184
PICK-UP APPARATUS
James C. Jellis, Jr., Watertown, S. Dak., assignor to Modern-Way, Inc., Watertown, S. Dak., a corporation of South Dakota
Filed June 21, 1966, Ser. No. 559,303
Int. Cl. A01d *45/02, 45/10, 65/02*
U.S. Cl. 56—119 10 Claims



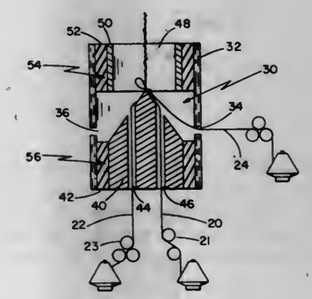
A crop pick-up attachment releasably secured to the nose structure of a row crop harvester. The pick-up attachment has a ground engaging wheel which drives a pick-up wheel having outwardly directed fingers. Guide members located adjacent the pick-up wheel function to strip the crop from the fingers and direct the crop onto the nose structure of the harvester.

3,438,185
ROTARY WHEEL RAKING DEVICE
Cornelis van der Lely, 7 Bruschenrain, Zug, Switzerland
Filed Feb. 2, 1966, Ser. No. 524,387
Claims priority, application Netherlands, Feb. 22, 1965, 6502169; Apr. 29, 1965, 6505457; Nov. 29, 1965, 6515446; Dec. 13, 1965, 6516161
Int. Cl. A01d *77/06, 81/00*
U.S. Cl. 56—377 21 Claims



An implement for displacing crop including a frame supported on wheels. One or more frame beams carrying rake wheels can be displaced with a lifting mechanism relative to another frame beam. The rake wheels are located in front of their supporting frame beam during operation.

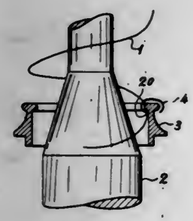
3,438,186
METHOD AND APPARATUS FOR PRODUCING A NOVELTY LOOP YARN
Preston F. Marshall, Walpole, Mass., assignor to The Kendall Company, Boston, Mass., a corporation of Massachusetts
Filed July 13, 1967, Ser. No. 653,237
Int. Cl. D01h *7/92*; D02g *1/04, 3/26*
U.S. Cl. 57—6 4 Claims



A whirling body of fluid such as air is created by admitting air under pressure into a generally cylindrical vortex tube. At least three strands of yarn are drawn into the tube by the air-stream at different speeds, each strand having a linear velocity at least twice the velocity of the next fastest strand. The two or more faster strands are thereby falsely-wrapped around the slowest strand in a

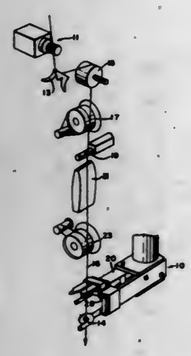
variety of novel configurations. Since there is no true twisting of one strand around another, loop and boucle yarns are made in an inexpensive and expeditious manner.

3,438,187
METHOD OF AUTOMATICALLY THREADING YARN FROM A BOBBIN INTO THE RING TRAVELLER OF A CONTINUOUS RING SPINNING MACHINE AND THE LIKE
Roberto Escursell-Prat, Ronda General Mitre 105, Barcelona 6, Spain
Filed Dec. 27, 1966, Ser. No. 604,807
Claims priority, application Great Britain, Jan. 3, 1966, 63/66
Int. Cl. D01h *1/02, 1/40*
U.S. Cl. 57—34 **6 Claims**



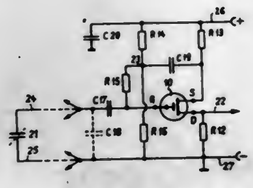
This invention relates to the threading of yarn in the ring traveller of continuous spinning machines and the like when a yarn has broken and must be repaired rapidly by increasing the size of a rotating yarn balloon to cause it to enter the traveller. Yarn breakages reduce output, and repairing the breakage makes it necessary to use unproductive manpower.

3,438,188
YARN DEFECT DETECTING DEVICE
Beryl A. Boggs, Chester, Va., assignor to Allied Chemical Corporation, New York, N.Y., a corporation of New York
Filed Oct. 11, 1966, Ser. No. 585,912
Int. Cl. D01h *13/16*
U.S. Cl. 57—81 **10 Claims**



A sensing device for detecting breaks and irregularities in a running strand comprising a feeler arm which senses variation in tension on the running strand whereupon the sensing of a significant change causes movement of the feeler arm to activate a microswitch which actuates a cutter to sever the strand. The feeler arm may be locked in a swing-away position removed from the normal path of the strand.

3,438,189
MONITORING DEVICE FOR TEXTILE MACHINES FOR DETERMINING INTERRUPTIONS AT MOVING FIBER STRANDS OR THE LIKE
Hermann Gasser, Zurich, and Stephan Wuest, Weinfelden, Switzerland, assignors to Luwa AG, Zurich, Switzerland, a corporation of Switzerland
Filed May 29, 1967, Ser. No. 642,084
Claims priority, application Switzerland, June 2, 1966, 8,068/66
Int. Cl. D01h *13/20;* **B65h** *43/00*
U.S. Cl. 57—81 **9 Claims**



A monitoring device in textile machines for determining interruptions of moving fiber strands. Capacitive measuring feelers are disposed at the textile machine and exhibit changes in capacitance dependent on the condition of the fiber strand. These changes in capacitance are fed to the control electrode of a field effect transistor through a series capacitor, the resulting output signal from the field effect transistor then being evaluated.

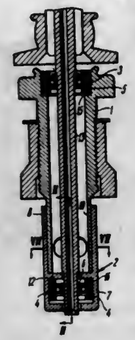
3,438,190
NONTORQUE BULK YARN AND PROCESS OF FORMING SAME
George H. Collingwood, Hopewell, Va., assignor to Allied Chemical Corporation, New York, N.Y., a corporation of New York
No Drawing. Filed Aug. 29, 1967, Ser. No. 663,994
Int. Cl. D02g *3/04, 3/26*
U.S. Cl. 57—140 **12 Claims**

This invention relates to a process and the products obtained thereby for preparing synthetic bulk yarn characterized as having a torque angle of 90°±5° before and after wetting, which comprises passing the yarn, e.g., polyamide yarn, through a false-twisting apparatus in two passes while heat-setting at each pass, the second pass including a twisting operation in the opposite direction of the first pass. The invention is particularly concerned with preparing bulk apparel yarn of uniform sine wave crimps, free of loops, and characterized as having a skein shrinkage of less than 30%.

3,438,191
SOCKETS FOR SPINDLES
Viktor Sergeevich Kuznetsov, Kolomna, ul. Gagarina 66, kv. 8; Evgeny Ivanovich Belyaev, Kolomna, ul. Moskvoretskaya 15; Tatiana Petrovna Tereschenko, Kolomna, Oksky prospekt 3, kv. 53; Nikolai Alexandrovich Pechnikov, Kolomna, ul. Krasnogvardeiskay 2–a, kv. 10; Vyacheslav Fedorovich Taschilin, Kolomna, ul. Pionerskaya 5, kv. 31, all of Moskovskaya obl., U.S.S.R.; and Yakov Ilich Koritysky, ul. Nagornaya 34, korp. 45, kv. 35; and Igor Vladimirovich Kornev, ul. Pogodina 14/16, kv. 28, both of Moscow, U.S.S.R.
Filed June 5, 1967, Ser. No. 643,532
Int. Cl. D01h *7/12*
U.S. Cl. 57—135 **5 Claims**

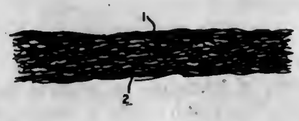
A socket for a spindle used in the textile industry comprising a tubular bushing body on which is coaxially

mounted an assembly of a pair of detachably connected split bushings such that the assembly is removable from the bushing body by disconnection of the split bushings.



A first spindle bearing is supported in the bushing body and a second spindle bearing is supported in the assembly of the split bushings.

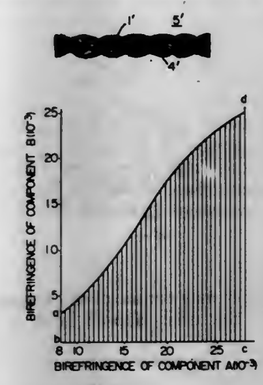
3,438,192
YARN AND FABRIC HAVING IMPROVED PILL RESISTANCE
James Francis Ryan, Jr., deceased, late of Westover Hills, Va., by First and Merchants National Bank of Richmond, Va., administrator, assignor to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware
Continuation-in-part of application Ser. No. 480,730, Aug. 18, 1965. This application Sept. 28, 1966, Ser. No. 582,482
Int. Cl. D02g *3/04, 3/24, 3/36*
U.S. Cl. 57—140 **11 Claims**



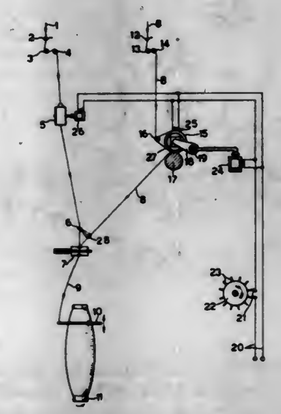
Low strength acrylic fiber having, upon boil-off, a substantially straight configuration and specific shrinkage characteristics. The fibers are prepared by washing and drawing freshly spun acrylic filaments, and plasticizing them under restraint to relax the filaments. This fiber, combined with high strength, high-shrinkage fiber, is used to provide pill-resistant, bulked, composite yarns and fabrics thereof, having excellent aesthetics.

3,438,193
COMPOSITE YARN AND ITS MANUFACTURING METHOD
Kenzo Kosaka and Toshihiko Kujime, Nagoya-shi, Japan, assignors to Mitsubishi Rayon Company Limited, Tokyo, Japan, a company of Japan
Filed Sept. 13, 1966, Ser. No. 579,057
Claims priority, application Japan, Sept. 14, 1965, 40/55,866
Int. Cl. D02g *3/36*
U.S. Cl. 57—144 **17 Claims**

Composite yarn of superior elasticity and bulkiness is produced by composite spinning polypropylene components having different viscosity and birefringence characteristics, draw-twisting the composite yarn, covering the drawn yarn with one or more yarns of other fibre having low thermal shrinkage and subjecting the covered yarn to relaxation heat treatment. Alternatively two composite polypropylene yarns are twisted together and then subjected to a relaxation heat treatment.



3,438,194
PROCESS FOR THE MANUFACTURE OF A COMPOSITE YARN WHICH IS PROVIDED WITH SPACED SLUBS
Giacomo Cerutti, Giorgio Faraci, and Fabio Tovaglieri, Gozzano, Italy, assignors to Bemberg S.p.A., Milan, Italy, an Italian company
Filed Nov. 2, 1967, Ser. No. 680,194
Claims priority, application Italy, Nov. 24, 1966, 30,338/66; May 31, 1967, 16,739/67
Int. Cl. D02g *3/02*
U.S. Cl. 57—157 **9 Claims**

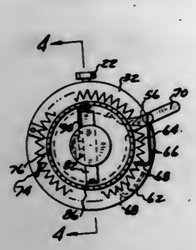


Process for the manufacture of a composite yarn comprising two or more component yarns, the composite yarn being provided along its length with spaced slubs, wherein said slubs are obtained by intermittently varying the feed rate of at least one of the component yarns.

3,438,195
BLIND MAN'S TIMEPIECE
Solomon Cochin, 2124 Michigan, Detroit, Mich. 48216
Filed June 16, 1966, Ser. No. 558,117
Int. Cl. G04b *25/02*
U.S. Cl. 58—1 **6 Claims**

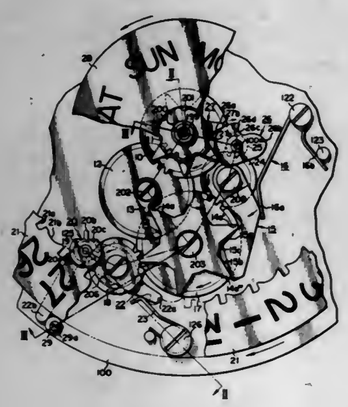
A watch is disclosed in which the conventional hour and minute hands have been replaced by means that en-

able a blind person to determine the time by touch. Said means including a series of regularly spaced abutments forming an annular array about a drive axis such that a



resilient member may consecutively engage the abutments to determine the time elapsed from a reference time setting.

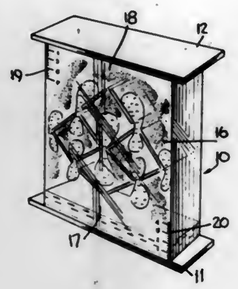
3,438,196
QUICK-ACTING FEED MECHANISM FOR DAY-AND-DATE INDICATOR MEANS OF TIMEPIECE
Kazuo Teramoto and Yasuaki Nakayama, Tokyo, Japan, assignors to Citizen Tokei Kabushiki Kaisha, Tokyo, Japan
Filed Apr. 19, 1967, Ser. No. 631,968
Claims priority, application Japan, Apr. 20, 1966, 41/36,785
Int. Cl. G04b *19/24*
U.S. Cl. 58—58 **4 Claims**



A quick-acting feed mechanism for day-and-date indicator for a timepiece fitted with a rotatable day dial as well as a rotatable date dial, wherein a double projection cam is provided for a day star wheel rigidly attached thereto, while said date dial is adapted to be fed by a separate star wheel through a gear train and a drive cam, the latter being rigidly united with a pinion which constitutes the last member of said gear train, the thus formed cam-and-pinion assembly being mounted on a bell crank lever.

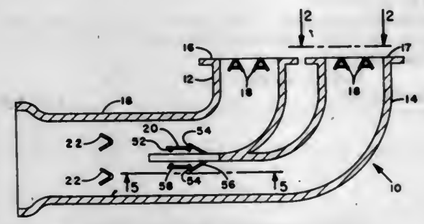
3,438,197
ORNAMENTAL TIMERS
Harvey Roer, 55 James St., Kingston, Pa. 18704
Filed Sept. 9, 1966, Ser. No. 578,272
Int. Cl. G01f *1/06*
U.S. Cl. 58—144 **5 Claims**

A gravity-flow liquid timer having a plurality of obstructing vanes mounted within a transparent housing and two differently colored liquids having different specific gravities filling the housing in a predetermined ratio. The



housing is capable of being turned upside-down so that the liquids are broken up by the vanes into globules which will settle in a predetermined period of time.

3,438,198
SMOG CONTROL SYSTEM
Max Bentele, Ridgewood, N.J., assignor to Curtiss-Wright Corporation, a corporation of Delaware
Filed May 22, 1967, Ser. No. 640,147
Int. Cl. F01n *1/14, 3/10*
U.S. Cl. 60—30 **12 Claims**

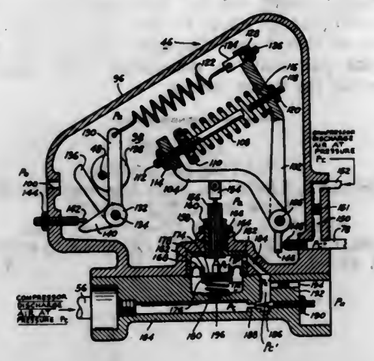


The quantity of deleterious materials in the waste gases of an internal combustion engine is reduced in an exhaust system wherein air is injected into the exhaust gas stream, and strategically located mixing devices promote the oxidation of unburned materials in the exhaust by thoroughly mixing the air with the exhaust gases and increasing the time available for the oxidation of such materials in the system.

3,438,199
FUEL CONTROL APPARATUS, INCLUDING A PNEUMATIC ALL-SPEED GOVERNOR FOR CONTROLLING THE OPERATION OF A COMBUSTION ENGINE
Robert W. McGinnis and Robert G. Moore, Jr., South Bend, Ind., assignors to The Bendix Corporation, a corporation of Delaware
Filed Mar. 8, 1967, Ser. No. 621,532
Int. Cl. F02k *11/00;* **F02c** *9/04, 7/22*
U.S. Cl. 60—39.28 **8 Claims**

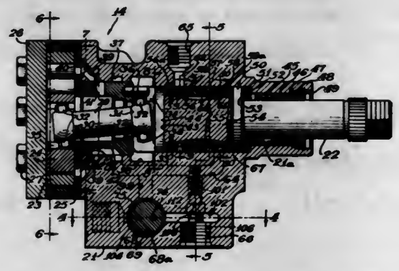
An all-speed engine governor having a fluid pressure responsive member which responds to an engine air compressor generated air pressure to generate a force varying as a function of engine speed in opposition to a reference force established by the position of a control lever. The

fluid pressure responsive member is connected to actuate a valve which modifies the pressure level of engine air



compressor generated air pressure to which a fuel metering valve responds.

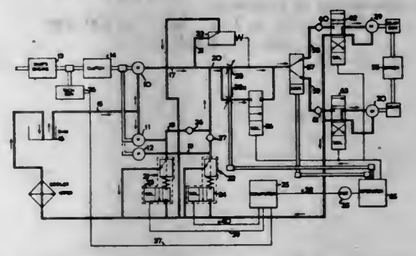
3,438,200
POWER STEERING WITH DIRECTIONAL ADMITTANCE AND POPPETS
Marvin D. Jennings, Naperville, and Richard J. Lech, Hickory Hills, Ill., assignors to International Harvester Company, Chicago, Ill., a corporation of Delaware
Filed Mar. 31, 1967, Ser. No. 627,353
Int. Cl. F15b *15/18;* **B62d** *5/06;* **F16h** *41/00*
U.S. Cl. 60—52 **11 Claims**



A vehicular hydrostatic power steering unit wherein the hand pump and fluid flow and direction of flow control components thereof are disposed in a close physical relationship one to another with the unit being adaptable for use with either an open-center or close-center hydraulic circuit.

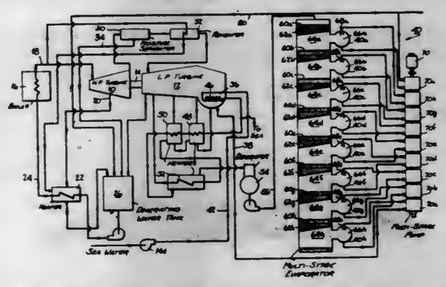
3,438,201
HYDRAULIC-MECHANICAL POWER TRANSMISSION SYSTEM
John E. Nash, Fredericton, New Brunswick, Canada, Henri J. Medenblik, Eindhoven, Netherlands, and Lyndon A. Thomas and Graham H. Wilstead, Fredericton, New Brunswick, Canada, assignors to The New Brunswick Research and Productivity Council, Fredericton, New Brunswick, Canada
Filed July 12, 1967, Ser. No. 652,849
Int. Cl. F16h *39/48*
U.S. Cl. 60—52 **23 Claims**

A system for transmitting power from a prime mover which runs at speeds subject to random variation to one or more motors each of which must have a predetermined output speed. The prime mover drives a plurality of positive displacement hydraulic pumps and the latter are connected via valving and conduit means to one or more positive displacement hydraulic motors such that the latter are driven at speeds dependent upon the flow rate of fluid therethrough. A control system sensitive to a signal representing the speed at which the prime mover drives the pumps and to a signal representing a desired hydraulic motor speed and responding to a difference therebetween, produces control signals which are fed to the valving means. The valving means are arranged to respond to such signals by effectively varying the number of pumps feeding fluid to the motor by diverting the total flow output of one or more pumps back to a source in a sense as to cause the actual motor speed to approach the desired speed. A further flow varying system is provided to cause the motor speed to assume the predetermined or set speed. In one embodiment this includes a bypass valve connected



in the conduit between the pumps and the hydraulic motor, the bypass valve arranged to respond to a signal representing the desired motor speed and a signal representing the actual motor speed by diverting a portion of the output of the pumps (after the number thereof actually feeding fluid to the motor means has been varied as described above) back to the source. In other systems the further flow varying system includes a variable displacement pump, the latter being arranged to respond to signals representing the desired and actual motor speeds by increasing or decreasing the total flow to the motors such that the output speed of the latter corresponds to the desired speed. A system for automatically maintaining a predetermined speed differential between two or more hydraulic motors regardless of variations in the loads carried thereby is also described.

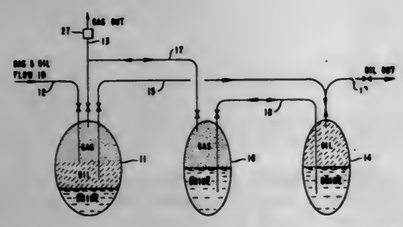
3,438,202
CONDENSING POWER PLANT SYSTEM
Ralph C. Roe, Tenafly, N.J., assignor to Saline Water Conversion Corporation, Oradell, N.J., a corporation of New York
Filed Oct. 27, 1967, Ser. No. 678,732
Int. Cl. F01k *7/34, 7/22;* **F22d** *11/00*
U.S. Cl. 60—64 **18 Claims**



A steam power plant consisting of a boiler, prime mover and main surface condenser with the necessary inter-connecting piping and accessory apparatus, which surface condenser condenses substantially all the steam passing through the prime mover into condensate in cooperation with an evaporative recovery system for

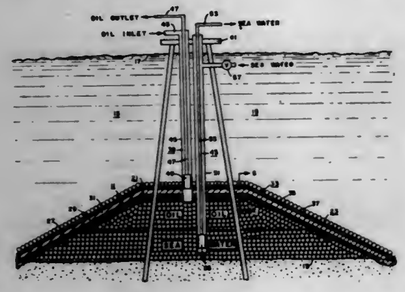
providing fresh water as well as makeup water for said power plant system. The evaporative recovery system includes a multi-stage evaporator type water recovery unit which carries out water vapor condensation by direct contact of water vapors produced from saline water with the condensate from said surface condenser being returned to the boiler. Said saline water being initially preheated through heat exchangers with bled steam from said prime mover.

3,438,203
METHOD OF REMOVING HYDROCARBONS FROM SALT CAVERNS
Marcus J. Lamb, New Orleans, and Harry William De Yarmett, Metairie, La., and Clifford L. Barr, Newgulf, Tex., assignors to Shell Oil Company, New York, N.Y., a corporation of Delaware
Filed Aug. 8, 1967, Ser. No. 659,187
Int. Cl. E21f *17/16*
U.S. Cl. 61—.5 **7 Claims**



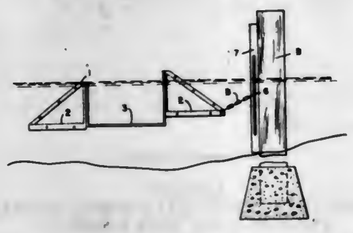
A method for removing oil and gas hydrocarbons from underground salt caverns by flowing oil and gas into a first cavern containing brine and storing the fluids until the oil, gas and brine separate. The gas phase is then removed through a main gas stream to shore and the oil is flowed into a second cavern containing brine by utilizing the pressure from the accumulation within the first cavern. Gas is then diverted from the main gas stream into a third cavern containing brine until the brine is displaced by the gas pressure. The displaced brine is flowed into the second cavern, thereby displacing the oil within second cavern and the oil is then flowed to a loading zone.

3,438,204
UNDERWATER STORAGE RESERVOIR
James M. Cleary, Dallas, Tex., assignor to Atlantic Richfield Company, Philadelphia, Pa., a corporation of Pennsylvania
Filed Oct. 9, 1967, Ser. No. 673,756
Int. Cl. B65g *5/00*; E21f *17/16*; E02d *29/06*
U.S. Cl. 61—.5 **39 Claims**



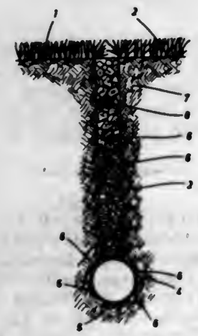
Offshore underwater storage is created by forming a pile of objects heavier than water on the bottom of a body of water and by forming a thick impermeable upper barrier, preferably moldable, covering and supported by the pile. Two or more conduits are placed in the pile. A water-immiscible liquid lighter than water is added to, stored in and removed from the pile. The objects for the pile are preferably transported over water to location and may be deposited on a previously formed impermeable lower barrier. Pumping liquid from the pile consolidates the upper barrier and pile. Heavy material may be spread over the upper barrier. The pressure inside the pile may be maintained lower than water pressure on the upper barrier.

3,438,205
WATER SKIMMER
Horace L. Lindstrom, State Highway Rte. 73, Maple Shade, N.J. 08052
Filed Mar. 15, 1967, Ser. No. 623,302
Int. Cl. E02b *1/00*; B01d *17/00*; C02b *9/00*
U.S. Cl. 61—1 **9 Claims**



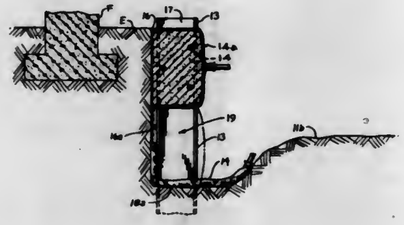
This invention pertains to a floating water skimmer comprising a trough having a bottom and two sides and adjustable water flow control means to regulate the water flow into the trough. Ballasts or floats are connected to the sides of the trough to regulate its floating depth in the water and may be used to regulate the water flow into the trough.

3,438,206
WALK-ON LAWN
Erwin Stärk, Fischerfeldstrasse 28, Linz-Ebelsberg, Austria
Filed Mar. 8, 1967, Ser. No. 621,696
Int. Cl. E02b *11/00*
U.S. Cl. 61—11 **3 Claims**



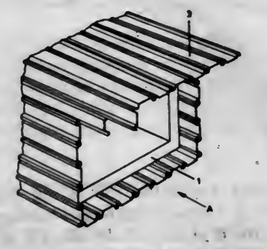
A walk-on lawn comprises a compact, walk-on soil layer covered with turf and a drainage zone under the soil layer. The compact soil layer is formed with openings which communicate with the surface and extend through the compact soil layer and into the drainage zone. The openings are filled with a filler material having a large void volume. Heating means are installed in the ground and operable to supply heat to said openings.

3,438,207
METHOD OF MAKING CONCRETE RETAINING WALL IN EARTH SITUS
Lee A. Turzillo, Bath, Ohio (2078 Glengary Road, Akron, Ohio 44313)
Filed Dec. 20, 1967, Ser. No. 692,072
Int. Cl. E02d *29/16, 29/00*
U.S. Cl. 61—35 **6 Claims**



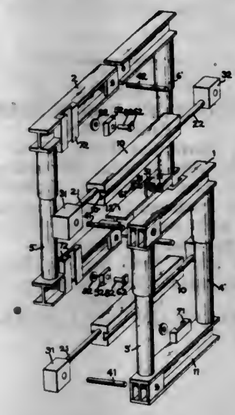
Retaining wall of cast-in-place concrete filled bag means to prevent building collapse, upon excavating earth situs closely adjacent building or structure. Excavation of earth progresses downwardly as layers of fabric bag means are inflated with hydraulic cement mortar and positioned to have bag walls expanded against transversely spaced backing uprights, affixed in earth situs, and against adjacent standing earth. As concrete in each layer of bag means sets in fixed position, excavated cavity is extended beneath same to receive succesisve layers of bag means for like inflation by injection of hydraulic cement mortar.

3,438,208
METHOD FOR THE STEPWISE DISPLACEMENT OF A HEAVY BODY OVER OR THROUGH THE GROUND
Albert Heeringa, Melvill van Carabeelaan 33, Driebergen, Netherlands
Filed June 28, 1966, Ser. No. 561,244
Claims priority, application Netherlands, July 1, 1965, 6508472
Int. Cl. E21d *9/00*; E01g *3/00*; B66f *3/24*
U.S. Cl. 61—42 **7 Claims**



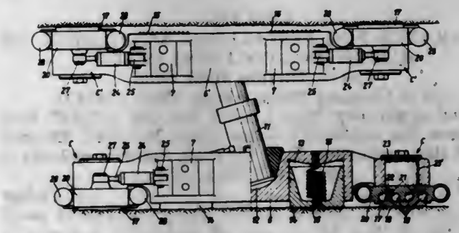
There is disclosed a method of advancing a heavy structural body relative to the ground, said method comprising, encasing the body within a longitudinal open ended container composed of longitudinally interlocked and independently and relatively-longitudinally slidable sections, each of a length greater than the length of said body, moving the container longitudinally in successive steps relative to the ground, each step effected by sliding of individual sections thereof longitudinally relatively to each other the ground and the body, and moving the body stepwise relative to the container and the ground after each such section-by-section movement of the container relative to the ground and the body, and there is also disclosed the article combination of the mentioned container of interlocked sections and the contained heavy structural body.

3,438,209
ROOF SUPPORT ASSEMBLY OF THE TYPE USED ON THE LONGWALL FACE OF A COAL SEAM
Konrad Grebe, Auf dem Nutzenberg 1, Wuppertal-Elberfeld, Germany
Filed May 27, 1965, Ser. No. 459,237
Int. Cl. E21d *11/00*
U.S. Cl. 61—45 **12 Claims**



A roof support assembly for longwall face mining consisting of two frames guided one on the other by means of a guiding element arranged between both frames, such guiding element being connected with both frames in such manner that the frames can move as such, universally in their plane, either in an upward or lengthwise direction within certain limits. This is achieved by interconnecting each of the frames with the guiding element by two organs, one of which enables pivoting to an upward movement and lengthwise displacement, and the other of which affords at least pivoting of the frame in its plane. The connecting organs which afford the pivotal movement of the frame can either be elements shiftable in an upward direction and along the guiding faces of the guiding element in a lengthwise direction, or pivots arranged on the respective ends of the guiding element or pivoting arms arranged on the respective ends. Preferably, double pivotal arms are connected with one another by a pivot of scissors form, one of the arms being provided with a pivot fixed on the guiding element and the other with a pivot fixed on the frame.

3,438,210
MOBILE MINING ROOF SUPPORT AND CONVEYOR
Hans-Joachim Von Hippel, 12 Muhlenkamp 4628, Lunen, Westphalia, Germany
Continuation-in-part of application Ser. No. 575,995, Aug. 30, 1966. This application Mar. 22, 1967, Ser. No. 625,911
Int. Cl. E21d *15/45*; E21c *29/00*
U.S. Cl. 61—45 **13 Claims**



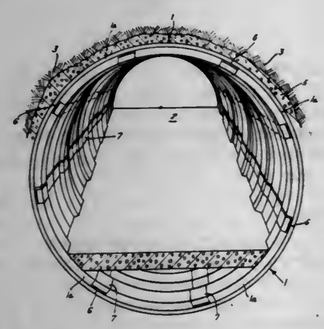
The evacuating conveyor of a mining apparatus is movable toward the mine face of an underground ex-

cavation by a so-called walking mine roof support which includes roof- and floor-engaging members connected to each other by one or more extendable pit props. Each member is provided with a pair of advancing units which can move it stepwise and with anchoring units which can immobilize the respective member by bearing against the mine roof or mine floor. The evacuating conveyor is coupled to or is permanently connected with the floor-engaging member.

3,438,211
LINING STRUCTURE FOR SUBTERRANEAN PASSAGES

Walter Zywietz, Dortmund-Horde, Franz Gantke, Dortmund-Wickede, Rudolf Seiz, Herrsching (Ammersee), Hans-Günther Lichtenbäumer, Ottweiler, Saar, and Joachim Neeff, Bochum, Germany, assignors to Hoesch Aktiengesellschaft and Bochumer Eisenhutte Heintzmann & Co., Bochum, Germany

Filed Apr. 3, 1967, Ser. No. 628,067
Claims priority, application Germany, Apr. 2, 1966, H 59,008
Int. Cl. E21d *11/14*; E04c *1/34*; E04d *1/36*
U.S. Cl. 61—45 **16 Claims**



Lining structure for water-tightly lining subterranean passages mainly comprising a plurality of substantially identical steel segments of channel-shaped cross section having each a pair of longitudinally extending flanges of different cross sections respectively shaped so that one of said flanges may be hooked into the other flange of a segment adjacent thereto; said segments being arranged in arcuate sections or rings following each other in longitudinal direction of the passage with end edges of the segments in each section abutting against each other and with one flange of each segment in one section sealingly hooked into the other flange of the segment in the section adjacent thereto, and means in the interior of the tubular structure and overlapping the end edges of the segments and sealingly connecting the segments at the abutting end edges to each other.

3,438,212
APPARATUS FOR INSTALLING ANCHORING OR SUPPORTING COLUMNS IN SITU

Lee A. Turzillo, Bath, Ohio
(2078 Glengary Road, Akron, Ohio 44313)

Original application May 3, 1965, Ser. No. 452,667, now Patent No. 3,354,657, dated Nov. 28, 1967. Divided and this application Nov. 15, 1967, Ser. No. 683,384
Int. Cl. E02d *5/34*
U.S. Cl. 61—53.52 **3 Claims**

Apparatus for making anchor piling columns in earth situs, has drilling bit on end of casing for screwing it into earth situs while pumping flushing fluid into hole drilled by casing, and has means for pumping self-hardenable cement grout to displace the flushing fluid and become hardened within the casing, spaces and voids around the bit, and upwardly between the casing and the surrounding earth. Screw means has earth-lifting device effecting enlargement of cavity to form a bulbous anchoring member on the resulting hardened concrete column.



3,438,213
PIPE-LAYING BARGE WITH ADJUSTABLE PIPE DISCHARGE RAMP

Douglas E. Broussard, Donald W. Barry, Robert B. Kinzbach, and Stuart G. Kershner, Houston, Tex., assignors to Shell Oil Company, New York, N.Y., a corporation of Delaware

Filed Dec. 8, 1966, Ser. No. 600,196
Int. Cl. B63b *5/04*; F16l *1/00*
U.S. Cl. 61—72.3 **17 Claims**

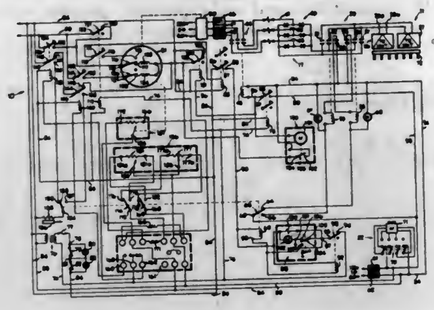
A pipe-laying apparatus for laying pipe on a water floor comprising a pipe-laying vessel having an articulated, adjustable, curved guide for directing a pipeline into the water and adjusting means for selectively varying the curvature of the guide to accommodate differing pipe sizes and water depths.

3,438,214
THERMOELECTRIC TEMPERATURE CONTROL SYSTEM

Karl V. Schmittle, York, Pa., assignor to Borg-Warner Corporation, Chicago, Ill., a corporation of Illinois

Filed June 16, 1967, Ser. No. 646,709
Int. Cl. F25b *21/02*
U.S. Cl. 62—3 **8 Claims**

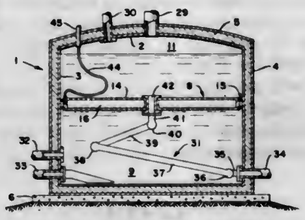
This disclosure involves an automatic control system for a thermoelectric temperature conditioning device for both cooling and heating of a substance flowing therethrough. The control system includes a means for automatically reversing from heating to cooling or vice versa and has a thermostat which senses the temperature of the conditioned substance at the output of the device and compares the temperature sensed wtih a predetermined reference temperature. The control device then automatically causes the thermoelectric system to increase or decrease its heating or cooling, to maintain the output temperature approximately equal to the reference temperature.



3,438,215
RESERVOIR FOR STORING TWO FLUIDS

Willem Frijlink, The Hague, Netherlands, assignor to Shell Oil Company, New York, N.Y., a corporation of Delaware

Filed Dec. 19, 1966, Ser. No. 602,864
Claims priority, application Great Britain, Jan. 12, 1966, 1,538/66
Int. Cl. F17c *13/06*
U.S. Cl. 62—45 **10 Claims**

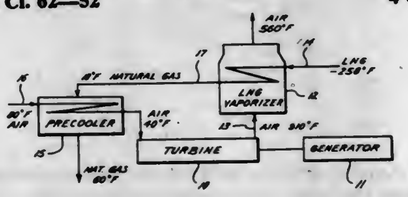


A container for the transport or storage of fluids is separated by means of movable wall means into a plurality of variable volume chambers to permit the withdrawal of a fluid from one of said chambers while simultaneously therewith introducing a fluid into the other of said chambers.

3,438,216
CRYOGENIC RECOVERY VAPORIZER

Ernest L. Smith, Shreveport, La., assignor to Texas Eastern Transmission Corporation, Shreveport, La., a corporation of Delaware

Filed May 9, 1967, Ser. No. 637,154
Int. Cl. F17c *9/02*
U.S. Cl. 62—52 **4 Claims**

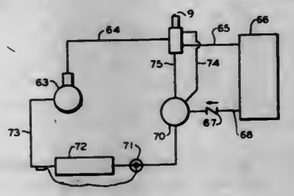


This patent discloses the combination of a natural gas vaporizer and a turbine in which the hot tail gas from the turbine is utilized to vaporize liquefied natural gas. The power from the turbine may be absorbed by a generator or like means.

3,438,217
LIQUID PRESSURE CONTROL FOR REFRIGERATION SYSTEM

John George Leimbach, Crestwood, Mo., assignor to Sporlan Valve Company, St. Louis, Mo., a corporation of Missouri

Filed May 22, 1967, Ser. No. 645,845
Int. Cl. F25b *41/04*
U.S. Cl. 62—196 **14 Claims**

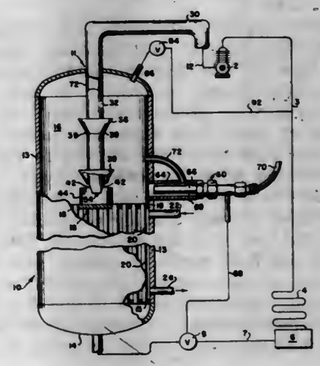


A control device for a refrigeration system in which a condenser valve is located between the compressor discharge and the condenser inlet for regulating flow therebetween in response to a predetermined high side pressure downstream of the condenser, and in which a by-pass valve is located in a by-pass line that interconnects the compressor discharge with the receiver, the by-pass valve communicating with the compressor discharge upstream of the condenser valve and opening at a predetermined pressure differential between the pressure upstream from the condenser valve and the pressure downstream of the by-pass valve.

3,438,218
REFRIGERATION SYSTEM WITH OIL RETURN MEANS

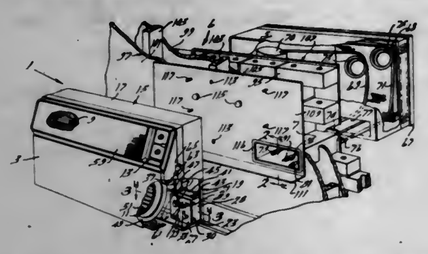
Eugene E. O'Neil, Marshalltown, Iowa, assignor to Dunham-Bush, Inc., West Hartford, Conn., a corporation of Delaware

Filed Sept. 13, 1967, Ser. No. 667,390
Int. Cl. F25b *41/04*, *43/02*
U.S. Cl. 62—218 **9 Claims**



A refrigeration system is disclosed having a special evaporator with vertical refrigerant tubes and with means to return the oil from the evaporator to the compressor by entraining it in the return gas. The entraining of the oil is by means of inverted V-notches in the end of a suction tube assembly which projects into a zone where the oil is accumulated. The tube assembly has associated baffle means which insure against "slugging."

3,438,219
ROOM AIR CONDITIONER
Richard L. Brugler, Trotwood, Ohio, assignor to Chrysler Corporation, Highland Park, Mich., a corporation of Delaware
Filed Aug. 14, 1967, Ser. No. 660,248
Int. Cl. F25d 19/02; F24f 1/02
U.S. Cl. 62—262 10 Claims



Air conditioning unit including an indoor-evaporator section and an outdoor condenser-compressor section, the sections being joined by a connector-duct through which refrigerant lines, fresh air, exhaust air, electrical power, and condensate drain lines are adapted to pass, the duct being adaptable for installation through walls of various thicknesses and through various types of windows and window openings. The indoor unit includes a transfer box in communication with the duct, the box housing refrigerant and electrical lines and connection fittings for joining refrigerant and electrical lines passing through the connector duct. Another transfer duct extends between a portion of the inside end of the connector duct and the housing of the blower in the indoor section. Movable doors on the transfer duct and the blower housing permit the ingress of fresh air from the outside or the egress of exhaust air from the indoor unit to the outside.

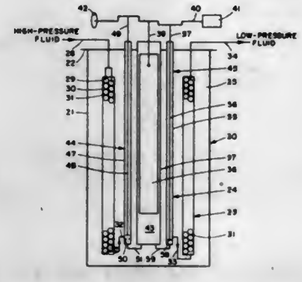
3,438,220
EXPANSION ENGINE FOR CRYOGENIC REFRIGERATORS AND LIQUEFIERS AND APPARATUS EMBODYING THE SAME
Samuel C. Collins, Belmont, Mass., assignor, by mesne assignments, to 500 Incorporated, Cambridge, Mass., a corporation of Delaware
Filed Nov. 14, 1966, Ser. No. 593,852
Int. Cl. F25d 9/00
U.S. Cl. 23—285 16 Claims

1. Cryogenic apparatus including heat exchange means adapted to effect indirect heat exchange between fluid streams of high and low pressure; fluid flow path means, including conduit means adapted to conduct high-pressure and low-pressure fluid through said heat exchange means; one or more fluid expansion means associated with said flow path means and adapted to expand high-pressure fluid and effect the cooling thereof; and an insulated hermetically sealed housing means equipped with a cover member thereby defining an insulated chamber containing said heat exchange means, said fluid flow path means, and said fluid expansion means, and having external conduit means extending through said cover member and in fluid communication with said fluid flow path means, said apparatus being characterized in that at least one of said fluid expansion means comprises, in combination

(a) a piston cylinder extending externally of said housing through said cover member;

(b) piston means movable within said piston cylinder, defining therein an expansion chamber of variable volume, and having piston sealing means maintained at essentially ambient temperature extending externally of said housing adapted to effect a fluid-tight seal between said piston and the internal wall of said piston cylinder;

(c) an inlet valve providing a controllable fluid conduit between a high-pressure portion of said fluid flow path means and said expansion chamber, and an exhaust valve providing a controllable fluid conduit between a low-pressure portion of said fluid flow path means and said expansion chamber, each of said valves comprising, in combination



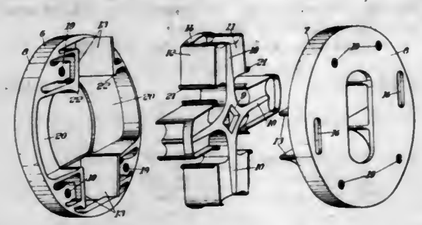
(1) a valve cylinder in fluid communication with said flow path means, extending externally of said housing through said cover member and being adapted to move vertically in expansion and contraction with changing temperature,

(2) a fluid conduit between said expansion chamber and said valve cylinder and terminating within said cylinder in a valve seat,

(3) a vertically movable valve rod assembly terminating at its lower end in a closing member adapted to engage said valve seat, said valve rod assembly having sealing means extending at least in part externally of said housing and being adapted to effect a fluid-tight seal between it and said valve cylinder, said sealing means being exposed to ambient conditions; and

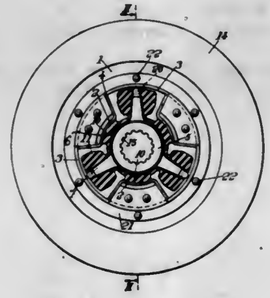
(d) controlling means external of said housing mechanically connected to said piston and said valve rod assembly adapted to control the movement of said piston and actuate said valve means in a predetermined sequence.

3,438,221
RESILIENT COUPLINGS
Jean-Felix Paulsen, Chateaudun, France, assignor to Societe Luxembourgeoise de Brevets et de Participations
Continuation-in-part of application Ser. No. 579,343, Sept. 14, 1966. This application Mar. 2, 1967, Ser. No. 619,973
Claims priority, application France, July 8, 1966, 68,803
Int. Cl. F16d 3/64, 3/04
U.S. Cl. 64—14 23 Claims



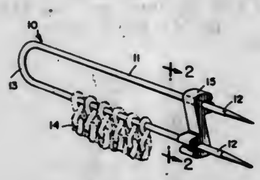
The coupling device to be interposed between two shafts comprises two rotary units adapted to be secured to said shafts, respectively, coaxially therewith, and an intermediate part for connecting said units together. Each rotary unit carries radial projections solid therewith, disposed at the ends of two diameters at right angles to each other. Resilient pads in the shape of annular sectors are interposed between said projections and radial arms rigid with the intermediate part.

3,438,222
RESILIENT COUPLINGS, IN PARTICULAR FOR USE IN AUTOMOBILE VEHICLES
Jean Felix Paulsen, Chateaudun, France, assignor to Luxembourgeoise de Brevets et de Participations, a society of the Duchy of Luxembourg
Filed Mar. 30, 1967, Ser. No. 627,075
Claims priority, application France, Apr. 6, 1966, 56,708
Int. Cl. F16d 3/14
U.S. Cl. 64—27 3 Claims



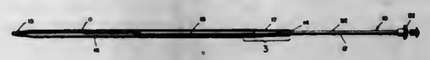
Two rotary elements, one of which carries a clutch disc, are coupled together by two sets of resilient blocks. The rotary element which does not carry the clutch disc, carries a plurality of rigid abutments which are permanently urged axially against one of the faces of the clutch disc—preferably by means of the blocks of one set, which are axially prestressed for this purpose—to keep the respective axes of these two elements constantly in line with each other.

3,438,223
STITCH HOLDER
Lorraine A. Linstead, Rockford, Ill., assignor to The Boye Needle Company, Chicago, Ill., a corporation of Illinois
Filed Aug. 22, 1967, Ser. No. 662,375
Int. Cl. D04b 35/02
U.S. Cl. 66—1 7 Claims



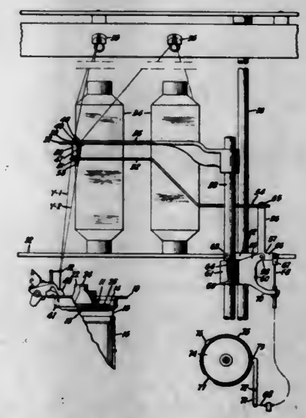
A two-way stitch holder which permits stitches to be knitted off both ends of the holder. The stitch holder includes a generally loop-shaped needle providing a pair of needle ends and means providing a releasable engagement between each of the needle ends. When the needle ends are released, the stitches may then be knitted off of either end as desired.

3,438,224
ADJUSTABLE KNITTING NEEDLE
George L. Ingersoll, Skokie, Ill., assignor to The Boye Needle Company, Chicago, Ill., a corporation of Illinois
Filed Jan. 13, 1967, Ser. No. 609,065
Int. Cl. D04b 3/02
U.S. Cl. 66—117 6 Claims



A telescopically adjustable knitting needle which may be releasably locked in a first, telescoped position and in a second, extended position, comprising an elongated hollow outer tube and an inner rod slidably received in the outer rod, said outer tube having a constricted end portion which passes a first portion of the inner rod but engages a second enlarged portion of the inner rod, said inner rod having a tapered end adapted to frictionally engage the pointed end of the outer tube.

3,438,225
YARN CONTROL MEANS FOR CIRCULAR KNITTING MACHINES
Walter H. Imboden, Reading, Pa., assignor to North American Rockwell Corporation, Pittsburgh, Pa., a corporation of Delaware
Filed Oct. 14, 1966, Ser. No. 586,723
Int. Cl. D04b 15/60
U.S. Cl. 66—125 2 Claims

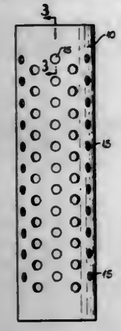


A member positioned between yarn guide means and a pair of yarn feed fingers of a knitting machine, the member being movable to form a bight in the yarn of each finger to provide an increased length of yarn between the guide means and feed finger when the feed finger is in feeding position and to release the bight to permit the extra yarn to be drawn into and held by suction means associated with yarn severing means of the machine when the yarn is severed and the feed finger is in inactive position.

3,438,226
PLATED PLASTIC DYE TUBES
Julius A. Dalpiaz, Gastonia, N.C., assignor to Kluttz Machine & Foundry, Inc., Gastonia, N.C., a corporation of North Carolina
Filed Oct. 22, 1965, Ser. No. 502,044
Int. Cl. D06f 17/00
U.S. Cl. 68—198 8 Claims

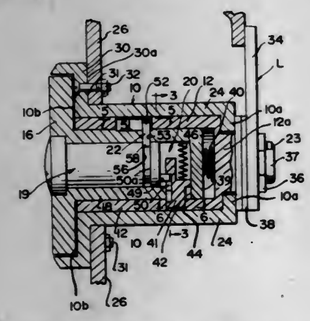
An impervious corrosion-resistant perforated tubular holder for supporting therearound a package of yarn to

be dyed. The holder consists of a tubular core shielded by an electrically conductive surface to which at least one electrolessly plated metallic coating is bonded. The core



may be composed of thermoplastic acrylonitrile butadiene styrene, phenol, polyacetyl or polystyrene, and the metallic coating of copper, nickel or chromium.

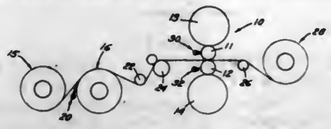
3,438,227
POP HANDLE LOCK
Stanley C. Wolniak, Chicago, Ill., assignor to Illinois Lock Company, a corporation of Illinois, a subsidiary of The Eastern Company
Filed July 13, 1966, Ser. No. 564,868
Int. Cl. E05b *5/00*
U.S. Cl. 70—208 **3 Claims**



A pop handle lock in which a handle, located on the outside of a door, is movable between a retracted position wherein the handle is in a position of register with and is wholly contained within a recess in a lock housing to an extended operative position wherein the handle is positioned forwardly of the front face of the housing. The lock has improved retaining means and driving means between a cylinder portion of the lock, a sleeve portion of the handle and a lock plug assembly located in the sleeve portion of the handle. A lost motion means is provided to permit the lock plug assembly to be rotated back to its locking position while the handle is extended to provide a self-locking mechanism on return of the handle to its retracted position.

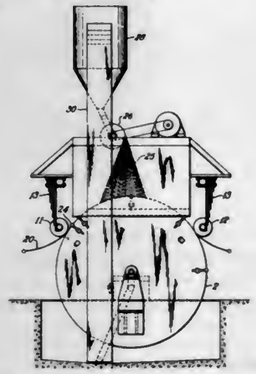
3,438,228
PROCESS FOR MAKING HIGH-STRENGTH, WETTABLE ALUMINUM FOIL
Richard H. Aberle, Decatur, Ala., and Robert H. Lucas, Riverside, Calif., assignors to American Metal Climax, Inc., New York, N.Y., a corporation of New York
Filed May 14, 1965, Ser. No. 455,851
Int. Cl. B21b *45/02, 1/00;* **B21d** *33/00*
U.S. Cl. 72—42 **6 Claims**

A process for producing high-strength, substantially fully work-hardened, 100% water-wettable aluminum foil, comprising the steps of cold-rolling aluminum down to foil gauge, using a rolling oil of narrow distillation range, more than 90% of which has a boiling point below 550° F., to which has been added minor amounts of bu-



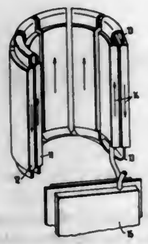
tyl stearate and lauric acid; rewinding the foil into coils of uniform density not more than about 96% of the density of solid aluminum; and thermally treating the coil at about 400° F. for from one-half hour to two and one-half hours per inch of coil width.

3,438,229
STRESS PEENING STEEL ARTICLES
Churchill W. Bartlett, Hamburg, N.Y., assignor to Eaton Yale & Towne Inc., Cleveland, Ohio, a corporation of Ohio
Filed Apr. 25, 1966, Ser. No. 544,863
Int. Cl. B21j *13/00;* **B21d** *31/06*
U.S. Cl. 72—53 **12 Claims**



Apparatus and process for stress peening steel articles such as automobile leaf springs wherein a spring is deflected from a free configuration to a contour corresponding to that condition of the spring when installed for use, and then peened to work the tensioned surface.

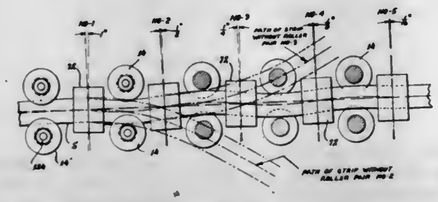
3,438,230
APPARATUS FOR ELECTRODYNAMICALLY FORMING SOLID BODIES
Helmut Dietz and Friedrich Kuhrt, Nuremberg, Hans-Joachim Lippmann, Boxdorf, and Horst Schenk, Erlangen, Germany, assignors to Siemens Aktiengesellschaft, a corporation of Germany
Filed July 29, 1966, Ser. No. 568,890
Int. Cl. B21d *26/04*
U.S. Cl. 72—56 **10 Claims**



Device for electrodynamically forming workpieces includes a first annulus formed by a plurality of strip-like segments of material having relatively good conductivity,

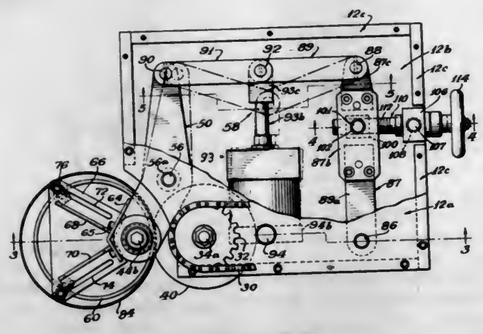
a second annulus of coupling material coaxial to and radially aligned with the first annulus and engageable with the workpiece to be formed, and flexible conductors electrically connecting the segments to one another so that a charge of high-intensity current supplied thereto traverses adjacent ones of the segments in mutually opposite directions for causing resulting mutually repulsive forces in the segments to act through the coupling material so as to form the workpiece.

3,438,231
METHOD AND APPARATUS FOR REMOVING EDGE CAMBER FROM STRIPS
Erich W. Petzschke, Norwalk, Conn., assignor to Manhattan Terrazzo Brass Strip Co., Inc., Norwalk, Conn., a corporation of Connecticut
Filed Feb. 28, 1967, Ser. No. 619,420
Int. Cl. B21d *1/02, 3/02;* **B21b** *1/00*
U.S. Cl. 72—160 **11 Claims**



A method for removing lateral curvature from a metal strip including running the strip longitudinally and passing the strip between alternately angularly disposed pairs of rollers.

3,438,232
ROLLING MACHINE
Howard S. Achler, Chicago, and Harold Kaufmann, Homewood, Ill., assignors to Kaufmann Tool and Engineering Corp., a corporation of Illinois
Continuation-in-part of application Ser. No. 512,710, Dec. 9, 1965. This application Mar. 21, 1967, Ser. No. 624,910
Int. Cl. B21d *5/14, 9/10, 7/06*
U.S. Cl. 72—166 **12 Claims**

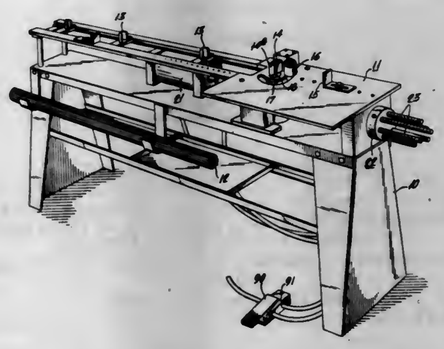


A two-roller rolling machine of the type for rolling sheet metal into arcuate shapes and with a cycling or sequence means for alternately forcing the rollers together and separating them is constructed with a swingable lever that carries the rigid-periphery roller with its axis in an upright attitude for movement between said sequential positions. A force-multiplying means with an adjustable control therefor is connected to the lever to provide a machine that permits obtaining both easily varied pressures between the two rollers, and to effect the cycling of the rigid-periphery roller between its said two cycling positions. In one form of device, using a cylindrical rigid-periphery roller, means are provided for retaining a slip-on tube in position between the rollers despite the effects of gravity.

In two other forms of the machine, means are provided for rolling right circular cones of sheet metal. A specific form of machine for rolling sheet metal cones uses frusto-conical rollers of complementary shape rotating about axes substantially perpendicular to each other.

In each form of machine, the force-multiplying means uses a plurality of simple links, one of which is articulated and is actuated by a force applying member so as to efficiently obtain a very large mechanical advantage. The adjustable control is a single, manually controlled, screw connection to one link of the force-multiplying means.

3,438,233
INDEXING MECHANISM
John Alfred Manning, Philadelphia, Pa., assignor to Penn Machinery Company, Philadelphia, Pa., a proprietorship of Pennsylvania
Filed Aug. 9, 1967, Ser. No. 659,428
Int. Cl. B21d *7/024;* **B21j** *7/46*
U.S. Cl. 72—219 **10 Claims**

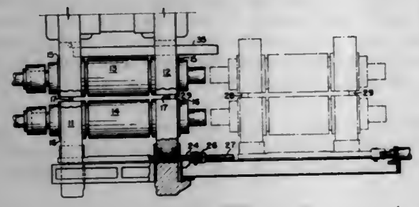


Apparatus for indexing sequentially operative mechanism on machine tools, such as a wire or rod bending machine having a turret head which is presettable and adjustable to a plurality of positions to vary the degree of bend in the wire. The indexing apparatus includes a cooperating rack and gear, the rack being connected to an air piston. A drum, disposed in spaced relation to the gear has radial and depending stud sets, the depending stud sets being operable through a pawl to connect the gear to the drum for unidirectional rotation thereof, while a stop, loosely carried by the rack is operable to engage the radial studs thereby limiting rotation of the drum relative to the gear by overriding the forward movement of the rack. The drum is connected to the sequentially operative mechanism or turret head on the wire bending machine causing it to index the required amount.

3,438,234
ROLL CHANGING DEVICE FOR ROLLING MILLS
James Richard Adair, Pittsburgh, Pa., assignor to United Engineering and Foundry Company, Pittsburgh, Pa., a corporation of Pennsylvania
Filed Jan. 26, 1967, Ser. No. 611,893
Claims priority, application Great Britain, Feb. 15, 1966, 6,676/66
Int. Cl. B21b *31/10*
U.S. Cl. 72—238 **5 Claims**

The present disclosure relates to a rolling mill and, more particularly, to an improved design for facilitating the changing of the rolls of the mill while the material

is still passing through the rolls. A mill having two rolls is equipped with a beam designed to extend between the housing posts and adapted to carry the drive side top roll chock. The top roll at its drive side is urged upwardly by a pair of balance cylinders, which cylinders also serve to support the drive side of the top roll during the initial

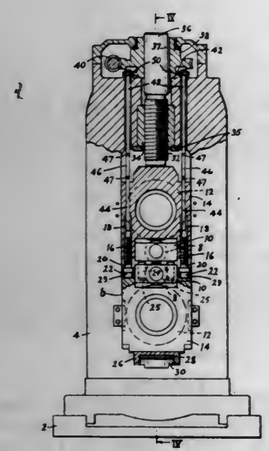


withdrawal of the roll from the mill. In the bottom of the mill there is provided a sled which carries both rolls as a unit into and out of the mill. After the initial withdrawal movement of the rolls, the drive side of the top roll is transferred from the balance cylinders to the beam, which carries the top roll during the remainder of the withdrawal.

ERRATUM

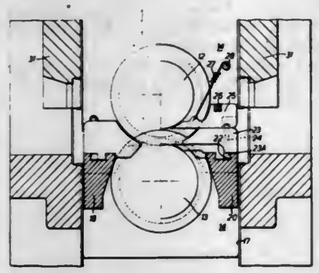
For Class 72—239 see:
Patent No. 3,438,996

3,438,235
PRE-STRESSED ROLLING MILL
Derek A. L. Elton, Poole, Dorset, England, assignor to Loewy Robertson Engineering Company Limited, Bournemouth, England, a corporation of Great Britain
Filed Sept. 15, 1966, Ser. No. 579,557
Claims priority, application Great Britain, Sept. 17, 1965, 39,866/65
Int. Cl. B21b *31/20, 31/24*
U.S. Cl. 72—240 **4 Claims**



A rolling mill having screwdown means arranged between the mill housings and the chocks of a roll for the adjustment of the pass-opening between said roll and another roll, spacing means projecting into the chocks and resting on the chocks of another roll, a drive for said screwdown means, and movement-reversing means operatively associated between said screwdown means and said spacing means whereby the chocks of the first roll and the spacing means are displaced by the same distance but in opposite directions.

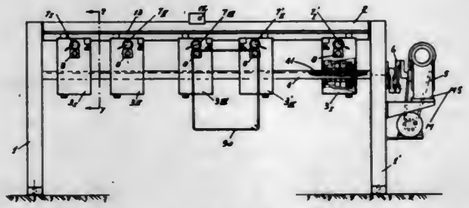
3,438,236
ROLLING MILLS
Joseph Eric Ogle and Dennis Martin, Sheffield, England, assignors to Davy and United Engineering Company Limited, Sheffield, England
Filed Oct. 24, 1966, Ser. No. 588,932
Int. Cl. B21b *39/20, 31/00*
U.S. Cl. 72—250 **5 Claims**



The present disclosure relates to a rolling mill wherein the guides of a rolling mill for rolling structural sections are mounted on the roll chocks. This enables the guides to be set up at the required positions in relation to the holes of the rolls, prior to entry of the rolls and guides to the mill. In this way, guide setting at the mill is eliminated, or at least substantially reduced, on a roll change occurring.

Preferably, stretcher beams are secured between the chocks of a section roll and the guides are adjustably attached to the stretcher beams.

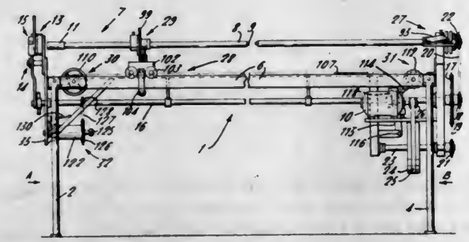
3,438,237
APPARATUS FOR SHAPING METAL RODS
Remo Sisler, Via Isonzo 2a, Verona, Verona, Italy
Filed Apr. 18, 1966, Ser. No. 543,260
Claims priority, application Italy, Apr. 24, 1965, 781,307/65; Apr. 8, 1966, 809,454/66
Int. Cl. B21d *7/024*
U.S. Cl. 72—310 **6 Claims**



Angularly displaceable and axially retractable mechanisms cooperate to form bends in wire rods.

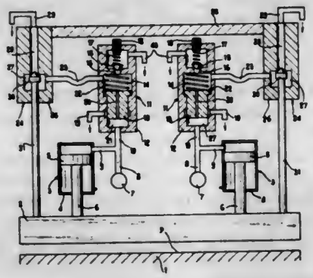
3,438,238
METHODS OF SHAPING METAL TUBING AND APPARATUS USED THEREFOR
Jack Crowe and Kenneth Arthur Wallis, both of 18 Rongotai Road, Wellington, North Island, New Zealand
Filed June 1, 1966, Ser. No. 554,587
Int. Cl. B21d *9/14*
U.S. Cl. 72—369 **24 Claims**

The bending of ductile metal tubing in which the tubing to be bent is supported adjacent to the location where the bend is to be formed and an externally protruding rib is formed around substantially at least half of the circumference of the tube. The tube is advanced forwardly from the support and a force is applied in front of the formed



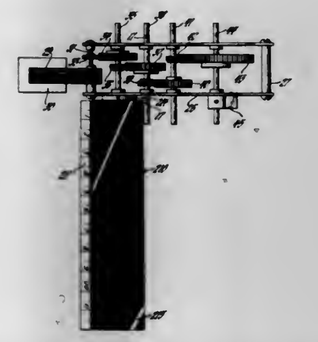
rib and on the side of the tube substantially diametrically opposite the maximum protuberance of the rib for bending the tube by at least partially collapsing the rib and a further rib is formed in the tube. The procedure is repeated until the desired bend is effected.

3,438,239
HYDRAULIC CONTROL DEVICES FOR BENDING PRESSES
Guido Salvagnini, 45 Via Cenisio, Milan, Italy
Filed May 4, 1966, Ser. No. 547,663
Claims priority, application Italy, Jan. 26, 1966, 13,832/66
Int. Cl. B21j *9/12*
U.S. Cl. 72—453 **3 Claims**



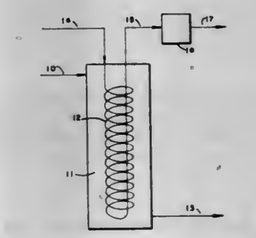
A device fitted on a hydraulic bending press to prevent the inclination of the movable bending plate or beater in respect of the press base, from suffering variations larger than a pre-set limit in the course of the working stroke and at the end thereof. Two laterally spaced hydraulic jacks control the beater with a pump for each of the jacks feeding approximately equal amounts of oil to the jacks. A first valve is connected in series with a second valve which opens when a condition of non-parallelism of the beater in respect of the base exists. A first duct connects each pump with the cylinder of the corresponding jack. The first valve has a piston slidingly fitted in a cylinder having an outlet with resilient means cooperating with the piston to prevent oil from flowing toward the outlet. A second duct extends through the piston and a pipe extends from the first valve to the second valve whereby oil delivered by the pump is fed to the second valve having an outlet so that the second valve is open to its outlet when the jack located at the corresponding side of the beater is advanced in respect of the other jack while said second valve at the opposite side of the beater remains closed.

3,438,240
METHOD AND APPARATUS FOR DETERMINING CAMERA SHUTTER SPEED
Clayton D. Grover, deceased, late of Orange, N.J., by Laury Farrand Grover, executrix, 392 Lawn Ridge Road, Orange, N.J. 07050
Original application Oct. 2, 1964, Ser. No. 401,180, now Patent No. 3,335,600, dated Aug. 15, 1967. Divided and this application Mar. 9, 1967, Ser. No. 633,328
Int. Cl. G03b *43/02*
U.S. Cl. 73—5 **3 Claims**



A method and apparatus for measuring the time that a camera shutter remains open. A cylinder having a black surface provided with a white indicator stripe arranged as a single convolution is rotated at a predetermined r.p.m. alongside a fixed ruler scale parallel to the cylinder axis. The associated scale and rotating cylinder are photographed to obtain a picture in which the white stripe appears as an axially extending blur, the extent of which is determined by reference to the scale indicia. By employing a prescribed equation involving the linear length of the cylinder, its r.p.m., the linear length of the stripe blur, and the width of the stripe, the shutter speed of the photographing camera is ascertained.

3,438,241
GAS DETECTION APPARATUS
James J. McKinley, Jr., Texas City, Tex., assignor to Monsanto Company, St. Louis, Mo., a corporation of Delaware
Filed Sept. 23, 1964, Ser. No. 398,548
Int. Cl. G01n *31/06*
U.S. Cl. 73—23 **6 Claims**



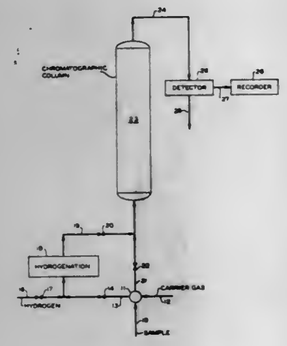
An apparatus and method for the detection and measurement of certain gases present in gaseous or liquid mix-

tures employing a selectively permeable membrance for separation of the desired component.

3,438,242
IDENTIFICATION OF CHROMATOGRAPHIC PEAKS

Buell O. Ayers and Richard A. Sanford, Bartlesville, Okla., assignors to Phillips Petroleum Company, a corporation of Delaware

Filed Sept. 20, 1965, Ser. No. 488,392
Int. Cl. G01n *31/08, 27/62, 29/02*
U.S. Cl. 73—23.1 3 Claims

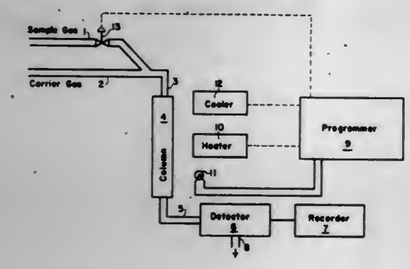


Organic constituents in a mixture are analyzed by passing a sample of the mixture to a conversion zone which converts constituents of the mixture into consecutive members of the same homologous series. At least a portion of the effluent from the conversion zone is passed through a chromatographic column, and a property of the effluent from the chromatographic column which indicates the concentration of the individual members of the homologous series is measured and is recorded on a recording chart as equally spaced chromatographic peaks representative of the consecutive members of the homologous series.

3,438,243
PROGRAMMED GAS CHROMATOGRAPHY SYSTEM

James C. Parks, Jr., Kemah, and Huel C. Tucker, Texas City, Tex., assignors to Monsanto Company, St. Louis, Mo., a corporation of Delaware

Filed May 2, 1966, Ser. No. 547,016
Int. Cl. G01n *31/08*
U.S. Cl. 73—23.1 5 Claims

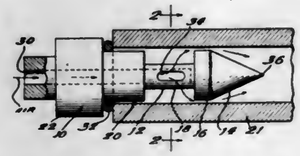


A process gas chromatographic system having an electronic controller for effectuating continual cyclic temperature programming, said system employing a vortex tube device for rapid cool-down of the chromatographic column between sample injections.

3,438,244
FLUID MEASURING GAUGE

William H. Plumpe, Jr., St. Louis, Mo., assignor to Brunswick Corporation, a corporation of Delaware

Filed Aug. 23, 1965, Ser. No. 481,846
Int. Cl. G01b *13/20, 13/10*
U.S. Cl. 73—37.9 5 Claims

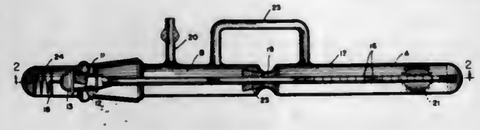


A gauge for measuring the dimension of parts through a fluid medium including a member having a fluid passage. The gauge has a gauging surface of substantially uniform predetermined cross section. An orifice establishes communication between the fluid passage and the exterior for permitting air under pressure to be directed past the predetermined cross sectional area. The orifice is of a size in relationship to the fluid passage so as to create no back pressure in fluid fed through the passage.

3,438,245
DEVICE FOR MEASUREMENT OF PORE SIZE AND PORE VOLUME

Nathaniel M. Winslow, Cleveland, Ohio, assignor to Prado Laboratories, Inc., Lakewood, Ohio, a corporation of Ohio

Filed Oct. 3, 1966, Ser. No. 583,838
Int. Cl. G01m *3/00*
U.S. Cl. 73—38 15 Claims



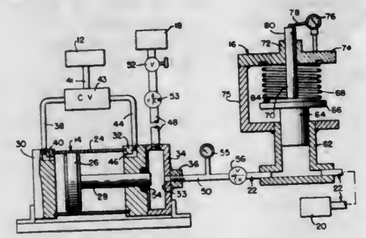
In a device for measurement of pore size and pore volume a large quantity of mercury is introduced into a reservoir through a constriction. A penetrometer containing a porous sample is inserted into a tubular member that is connected to the reservoir. A conduit is connected to the tubular member and air is withdrawn therefrom with a source of vacuum. The device is then rotated to bring the axis of the reservoir into a position for filling the penetrometer stem. After the penetrometer is filled the reservoir is rotated in reverse to its original position thus freeing the penetrometer from excess mercury. Desired increments of pressure are now added by introducing gas through the above mentioned conduit and through a flexible connection and valve means leading to a source of gas, the increments being measured and the movement of the mercury along the graduated portion of the stem being noted as in the usual practice of making determinations with the penetrometer.

3,438,246
HYDRAULIC LEAK TESTING SYSTEM AND APPARATUS

Louis B. Lotti, St. Clair Shores, Mich., assignor to Stellar Engineering, Inc., Warren, Mich., a corporation of Michigan

Filed June 19, 1967, Ser. No. 646,879
Int. Cl. G01m *3/04*
U.S. Cl. 73—40 16 Claims

The hydraulic leak testing system and appartus of this invention comprises a hydraulic force piston device applying pressure to a hydraulic fluid-filled line, system or device to be tested for leakage, in combination with an associatedly operated hydraulic fluid line testing device responsive to movement of fluid in such line, system or device to be tested upon the application of pressure thereto and the discharge of such fluid from the unit being tested. The associated testing device is arranged to maintain an initial set position after the force piston device has applied excess pressure to the testing device and to the hydraulic unit to be tested. Upon loss of hydraulic fluid under such

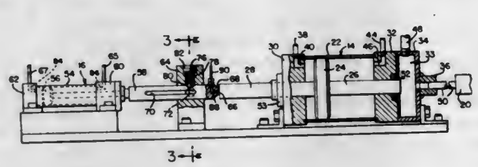


excess pressure from the hydraulic unit being tested, in one form of the apparatus, a separation of parts in the associated testing device is arranged to occur, producing a gap between them, through which gap a discharge of pressurized fluid will occur, effecting the actuation of an associated audible and/or visible signal. In an alternative form of apparatus, loss of hydraulic fluid in the hydraulic unit to be tested is sensed by a visual indicator forming a part of the associated testing device.

3,438,247
HYDRAULIC LEAK TESTING SYSTEM AND APPARATUS

Louis B. Lotti, St. Clair Shores, and Donald W. Bates, Warren, Mich., assignors to Stellar Engineering, Inc., Warren, Mich., a corporation of Michigan

Filed June 19, 1967, Ser. No. 646,880
Int. Cl. G01m *3/24*
U.S. Cl. 73—40 16 Claims

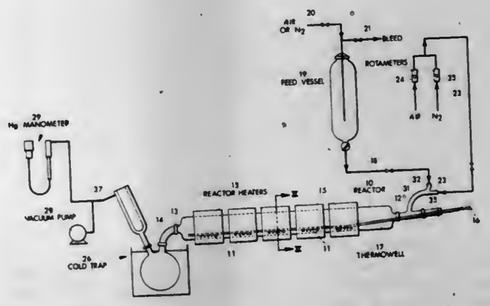


The hydraulic leak testing system and apparatus of this invention comprises a hydraulic force piston device, applying pressure to a hydraulic fluid-filled line or device to be tested for leakage, in combination with an associatedly operated contiguous contact-making device maintaining relative contact with the force applying device during an initial period of pressure application to the hydraulic line or device to be tested. The contiguous contacting device is then arranged to maintain the initial set position while the force applying device continues to apply further pressure to the hydraulic line or device to be tested. Upon displacement of fluid in such hydraulic line or device, separation of the force applying device from the contiguous contact device is arranged to occur, producing a gap between them, through which gap a discharge of fluid under pressure is permitted, actuating an associatedly audible and/or visible signal. The essence of the invention involves the establishment of a separation between the force applying device and the contiguous contacting device.

3,438,248
APPARATUS AND METHOD FOR TESTING LIQUID HYDROCARBONS

William F. Taylor, Scotch Plains, and Thomas J. Wallace, Whippany, N.J., assignors to Esso Research and Engineering Company, a corporation of Delaware

Filed June 1, 1967, Ser. No. 642,812
Int. Cl. G01n *11/00*
U.S. Cl. 73—61.2 7 Claims

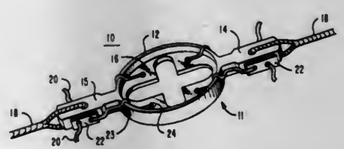


The high temperature degradation of liquid jet fuels is measured by flowing a measured quantity of the fuel over a series of metal strips positioned at the bottom of an elongated enclosed inclined chamber. Heating elements provide a temperature gradient along the length of the chamber and temperature sensing elements measure the temperature of each metal strip. The gain in weight of the metal strips is measured to determine deposit forming tendencies of the fuel.

3,438,249
FORCE TRANSDUCER STRUCTURES AND FABRICATING METHODS

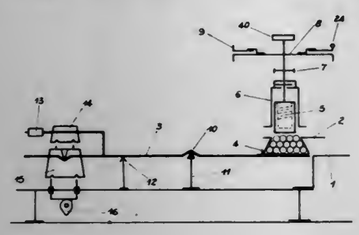
Akio Fukunaga, 2055 Colby Ave., Los Angeles, Calif. 90025

Filed Apr. 12, 1965, Ser. No. 447,489
Int. Cl. G01n *7/22*
U.S. Cl. 73—88.5 14 Claims



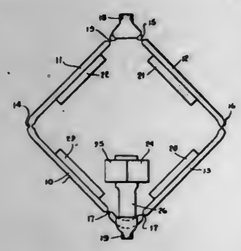
1. A force transducer device for measuring force comprising a load distributing member configured to provide an aperture and having the force applied at the outer periphery thereof, a piezoresistive element having a central aperture and configured to provide four distinct segments interspersed with four distinct resistive sections substantially symmetrically located about the central aperture of the element, means for mounting said element within the aperture of the load distributing member, and means for connecting said distinct segments in an electrical circuit.

3,438,250
PROCESS AND DEVICE FOR MEASURING THE COMPACTNESS OF COMPRESSIBLE BODIES AND ESPECIALLY OF CIGARETTES
Roger Boutron, Saran, France, assignor to Service d'Exploitation Industrielle des Tabacs et des Allumettes, Paris, France, a French public establishment
Filed Mar. 25, 1966, Ser. No. 537,512
Claims priority, application France, Mar. 26, 1965, 10,853
Int. Cl. G01n 3/08
U.S. Cl. 73—94 2 Claims



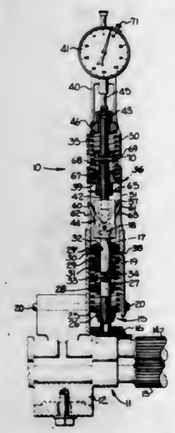
A device for measuring the resistance to compression of compressible bodies by determining the amount of compression under a certain load. A method for measuring the resistance to compression of a group of compressible bodies by successively applying a first light static pressure to the bodies for establishing an initial position as a "zero line" and then a second predetermined static pressure load which is higher than the first one, and by measuring the elastic deformation of the bodies under the second load.

3,438,251
OPTICAL TRANSDUCER
John W. Kloss, Erie, Pa., assignor to Lord Corporation, Erie, Pa., a corporation of Pennsylvania
Filed July 26, 1965, Ser. No. 474,845
Int. Cl. G01l 5/00
U.S. Cl. 73—141 16 Claims



A transducer which can be used either to measure displacement or to measure force, the former if the transducer resists motion with a negligible force, and the latter if the transducer produces a significant resisting force. Readout is by optics, for example by a beam of collimated light from an autocollimator entering the transducer, traversing a prescribed path within the transducer, and being returned to the autocollimator for sensing. As a force transducer, it may be made in combination with external or internal springs to provide greater resisting force than can be generated by full-scale deflection of the motion transducer alone. "Full-scale" is determined by the maximum angle the accessory autocollimator can accommodate, or alternately, by the maximum nonlinearity permitted between the true motion or force input and the displayed reading. In a preferred form, the transducer is in the form of a hollow square with rigid sides hinged at the corners and reflecting means on the sides are optically aligned to transmit an incident beam successively to adjacent reflecting means.

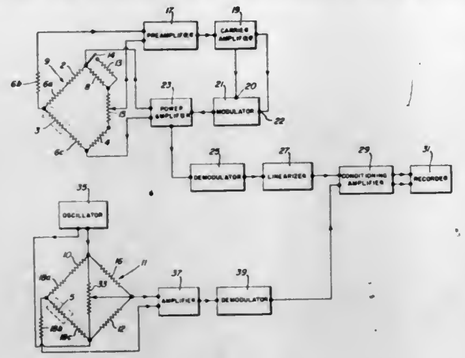
3,438,252
INSTRUMENT FOR MEASURING PRESSURE ON ROLLERS
Joe R. Whitehurst, Bessemer City, N.C., assignor, by mesne assignments, to The Warner & Swasey Company, Cleveland, Ohio, a corporation of Ohio
Filed July 5, 1966, Ser. No. 562,644
Int. Cl. G01l 5/12
U.S. Cl. 73—141 11 Claims



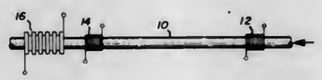
An instrument for obtaining an indication of the pressure applied to a live pressure member, such as a top drafting roll, by a deformable pressure element normally deformed by a latched releasable member, wherein a testing spring is carried by a frame adapted to engage the releasable member, with a movable means engaging one end of the spring and being detachably connectable to the pressure element in such a manner that, upon release of the releasable member, the full force of the deformable pressure element is transmitted to and deforms the testing spring. Gauge means senses and provides a visual indication of the extent of deformation of the testing spring by the deformable pressure element, and thus serves to indicate the pressure applied to the live pressure member when the releasable member was latched.

3,438,253
THERMAL DEVICE FOR MEASURING DIRECTION AND VELOCITY OF FLUID FLOW
Frederick W. Kuether, Minneapolis, and Albert M. Richards, St. Paul, Minn.; said Kuether assignor of one-half to Honeywell Inc., Minneapolis, Minn., a corporation of Delaware
Filed Nov. 15, 1966, Ser. No. 594,490
Int. Cl. G01f 1/00
U.S. Cl. 73—204 5 Claims

A measuring apparatus for sensing the velocity and direction of fluid flowing in a fluid conducting vessel is provided by first and second temperature sensitive elements disposed on a catheter tube. First electronic means are provided to heat and to maintain the first resistance element at a predetermined temperature above ambient fluid temperature, and second electronic means are provided to detect the relative temperature of the second resistance element. Recording means are provided to record the rate at which energy is supplied to the first element, as a measure of the flow velocity, and to record the relative temperature of the second element, as an indication of the flow direction.

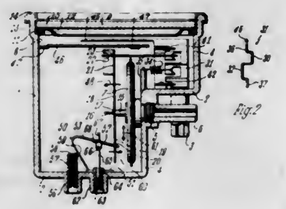


3,438,254
FLUID FLOW DETECTOR
Eugene B. Seeley, Bellevue, Wash., assignor, by mesne assignments, to United Control Corporation, Redmond, Wash., a corporation of Delaware
Filed Oct. 19, 1965, Ser. No. 497,863
Int. Cl. G01f 1/00
U.S. Cl. 73—204 8 Claims



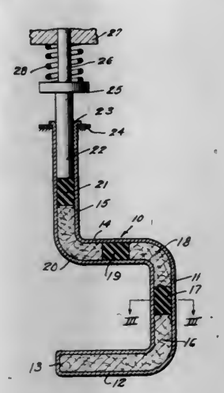
A fluid flow detector in the form of a flow tube having an upstream and a downstream distributed temperature sensitive element placed around the tube, and, further, having a distributed heating element placed around the tube downstream of the downstream temperature sensitive element.

3,438,255
LIQUID-LEVEL GAUGE
Karl Roll, Leinfelden, Germany, assignor to Walter Beck K.G., Kontroll- und Fernmessgerate, Stuttgart-Mohringen, Germany
Filed Apr. 17, 1967, Ser. No. 631,491
Claims priority, application Germany, Apr. 20, 1966, B 86,752
Int. Cl. G01f 23/14
U.S. Cl. 73—299 20 Claims



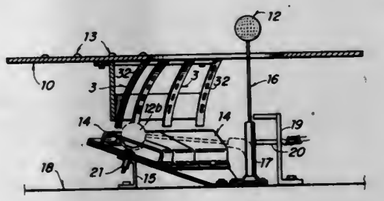
A liquid-level gauge containing a pressure cell, the movements of which are transmitted to the pointer by means of a lever which, in turn, acts upon a rocker of sheet metal and a crank-shaped cross section, one end of which may also form the pointer.

3,438,256
MULTIRANGE THERMAL DEVICE
Samuel H. Schwartz, Deerfield, Ill., assignor to The Dole Valve Company, Morton Grove, Ill., a corporation of Illinois
Filed Aug. 31, 1966, Ser. No. 576,481
Int. Cl. G01k 5/32
U.S. Cl. 73—368.3 7 Claims



A multiple stage thermally responsive force transmitter comprising a series of elastomeric elements in a body alternating in column like form with a series of thermally expansible masses responsive to different rates of expansion. Sections of said columns are formed to be disposable in different adjacent atmospheric areas.

3,438,257
GOLF PRACTICING APPARATUS
Edgar B. Nichols, 119 Colonial Ave., Moorestown, N.J. 08057, and Edgar B. Nichols, Jr., Creek Road, R.D. 2, Mount Holly, N.J. 08060
Filed June 17, 1965, Ser. No. 464,605
Int. Cl. G01l 5/02; A63b 53/04
U.S. Cl. 73—379 5 Claims

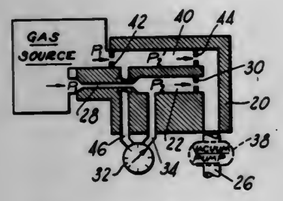


A golf practicing apparatus having a golf ball, mounted in normal playing position, tethered and limited in simulated flight to prescribed arcuate paths, means to analyse a particular path, flight velocity and means to advise the player thereof.

3,438,258
FLUIDIC TEMPERATURE SENSOR AND PRESSURE REGULATOR
James M. Eastman, South Bend, Ind., assignor to The Bendix Corporation, a corporation of Delaware
Filed June 9, 1967, Ser. No. 644,898
Int. Cl. G01l 7/00
U.S. Cl. 73—388 5 Claims

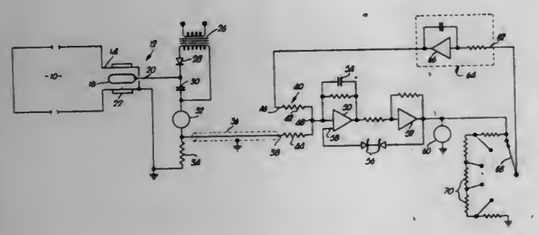
A temperature sensing and fluid pressure regulating apparatus having a gas transmitting conduit provided with a laminar flow restriction and a sonic flow restriction down-

stream from and in series with the laminar flow restriction. A gas pressure drop generated across the laminar flow restriction is an essentially linear function of the temperature of the gas flowing therethrough thereby providing a sensible pressure signal indicative of the gas temperature.



By varying the area of the sonic flow restriction as a function of the gas temperature, the gas pressure drop across the laminar flow restriction may be maintained substantially constant and regulated relative to the supply gas pressure for control purposes.

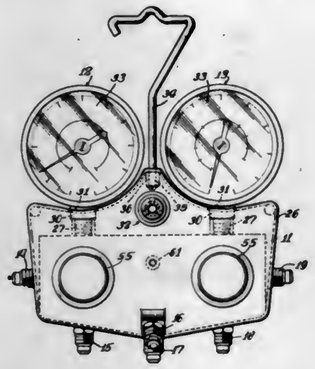
3,438,259
VACUUM SYSTEM PRESSURE CHANGE DETECTION
Alfred J. Bossert, Jr., Kansas City, Mo., assignor to Midwest Research Institute, Kansas City, Mo., a corporation of Missouri
Filed May 31, 1967, Ser. No. 642,553
Int. Cl. G01l 9/00; G01n 27/00
U.S. Cl. 73—398 **12 Claims**



A bucking voltage is combined with the pressure-dependent signal from an electronic vacuum gauge to eliminate the portion of such signal representing a previous pressure condition in order to determine whether the pressure is increasing or decreasing. The combined signal is metered so that its amplitude may be observed and is fed to an integrator having a predetermined lag time. The integrator output is the bucking voltage; therefore, the meter reading effectively represents the differential of the gauge signal to provide an indication of the rate of change of the pressure.

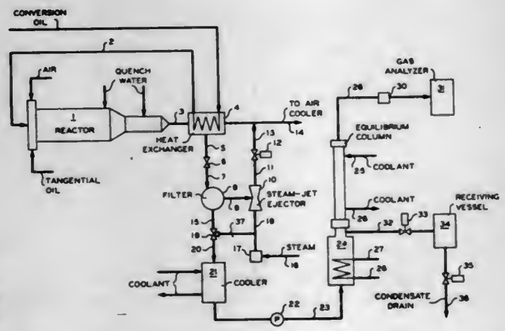
3,438,260
FLUID-TEST APPARATUS
Leonard J. Kowal, Prospect Heights, and Richard V. Strybel, Elk Grove Village, Ill., assignors to Imperial-Eastman Corporation, a corporation of Illinois
Filed Mar. 7, 1966, Ser. No. 532,246
Int. Cl. G01l 7/00
U.S. Cl. 73—420 **5 Claims**

A fluid-test apparatus including a manifold having a plurality of flexible hoses connected thereto and means on the manifold for releasably closing the distal ends of the hoses and releasably retaining the hoses in a looped configuration. The manifold further includes gauge means thereon for indicating a condition of the fluid in the passage in the manifold connected to the hoses. In one form of the invention a housing is provided for enclosing the



manifold and a lamp is provided on the housing for illuminating the gauges when desired. The housing includes shoulder structure for positioning the gauges suitably to be illuminated by the lamp means.

3,438,261
SAMPLING SYSTEM
Henry R. Collins, Jr., Channelview, Tex., assignor to Phillips Petroleum Company, a corporation of Delaware
Filed Jan. 20, 1967, Ser. No. 610,630
Int. Cl. G01n 1/22
U.S. Cl. 73—421.5 **9 Claims**

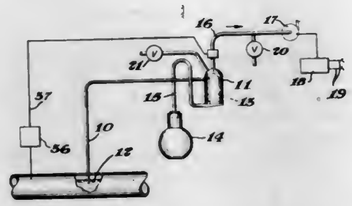


An apparatus for preparing a gas sample from a high-temperature process stream for analysis having a particulate filtering means, a cooler, and an equilibrium column wherein steam is separated from the sample by condensation. The column is provided with heaters to maintain collected condensate at its boiling point, thereby minimizing the condensation of water-soluble constituents in the sample.

3,438,262
VOLUMETRIC SAMPLING
Marcus E. Krienke, Midland, Mich., assignor to The Dow Chemical Company, Midland, Mich., a corporation of Delaware
Filed Dec. 22, 1966, Ser. No. 603,982
Int. Cl. G01n 1/10
U.S. Cl. 73—422 **9 Claims**

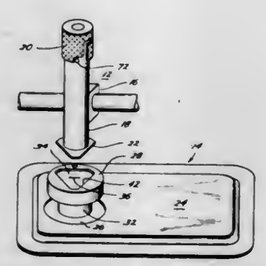
The present invention relates to a constant or proportional volume liquid sampler. It comprises in combination, a sample measuring chamber provided with a check

float for controlling the sample volume, said sample measuring chamber being also provided with a sample inlet means connected to a sample supply, a port in communication with a low pressure pump, a sample exit means



connected to a sample receiver and an air inlet means. The apparatus automatically backflushes the sample receiving line after each sample and is constructed so that no valves or restrictions come in contact with the sample liquid.

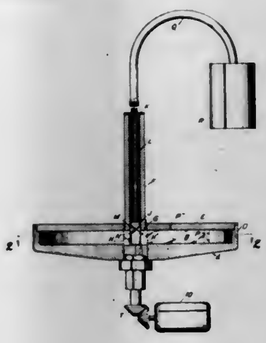
3,438,263
FLUID SAMPLE COLLECTOR
James E. Webb, Administrator of the National Aeronautics and Space Administration with respect to an invention of David Cohen, St. Joseph, and Samuel E. Stone, Berrien Springs, Mich.
Filed Mar. 28, 1968, Ser. No. 716,795
Int. Cl. G01n 1/10
U.S. Cl. 73—422 **4 Claims**



A fluid sample collector has a sampling section and a collection section. The collection section comprises a plastic sac having a collar with a rubber plug thereon for interconnection with the sampling section. The sampling section contains a flange plate which may be rapidly connected and disconnected from the collection section. Fluid from a feed line is coupled into a hollow member within the sampling section. The hollow member may be inserted through the rubber plug into the sac of the collection section. When the fluid sample has been taken, the hollow member of the sampling section is removed from the rubber plug of the collection section and the sampling section and collection section are then disconnected.

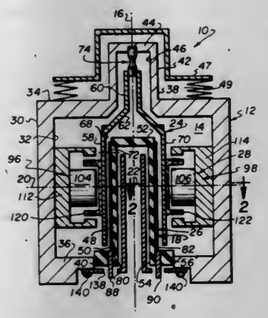
3,438,264
PARTICLE CLASSIFIER
Dearl Keith Davis, 2783 Fairlane Drive, Doraville, Ga. 30040; Warren P. Hendrix, Box 61, Atlanta Highway, Lawrenceville, Ga. 30245; and Clyde Orr, Jr., 3281 Lenox Place, Atlanta, Ga. 30324
Filed Aug. 2, 1967, Ser. No. 657,902
Int. Cl. B07b 13/00
U.S. Cl. 73—432 **11 Claims**

A rotatable particle classifier has a classification chamber with a hollow slotted rotor for projecting particles into the chamber. Strip means positioned against the inner surface of the chamber receive the particles in a continuous spectrum of sizes. The strip means is removable



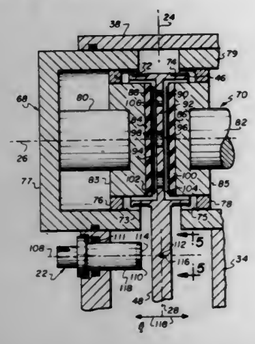
for analysis of the particles distribution. A constant speed means rotates the rotor and chamber.

3,438,265
TWO-AXIS ACCELEROMETER
James W. Davies, Wayne, and Walter M. Carow, West Caldwell, N.J., assignors to Singer-General Precision, Inc., a corporation of Delaware
Filed Mar. 29, 1965, Ser. No. 443,478
Int. Cl. G01p 15/00
U.S. Cl. 73—516 **4 Claims**



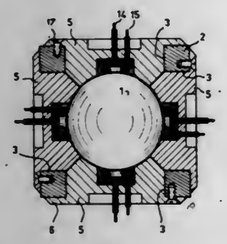
A pendulum-type, two-axes accelerometer with an outer housing and an inner body disposed in a cavity formed within the housing and having a bell-shaped proof mass disposed in the cavity of the housing, and interposed between the inner surface of the housing and the outer face of the inner body and having its upper portion attached with a flex member to the housing so that the proof mass may be free to move within the housing between the inner body and the housing and further having a pickoff means for sensing the acceleration forces acted upon said proof mass. The pickoff is a capacitive-type including a pair of diametrically opposite plates which are coaxial with the proof mass and the housing axes and a torquer means disposed between the radial outer face of the inner body and the radial inner surface of the proof mass, respectively. The accelerometer includes a pair of diametrically opposite torquer units which are also in a coaxial relation with said housing, said proof mass, and said inner body. The torquer units having respective magnets, are supported and co-operative to coils mounted on the proof mass which torquer restores the proof mass to its null position which is coaxial with the inner body and said housing. In addition, the torquer has a vernier-type torque adjusting flux-shunting metal sleeve which co-operates with the torquer units for trimming the torquer scale factor.

3,438,266
ACCELEROMETER
Walter M. Carow, West Caldwell, and Herbert Rogall, Maplewood, N.J., assignors to Singer-General Precision, Inc., a corporation of Delaware
Filed Oct. 22, 1965, Ser. No. 501,934
Int. Cl. G01p *15/00*
U.S. Cl. 73—516 **11 Claims**



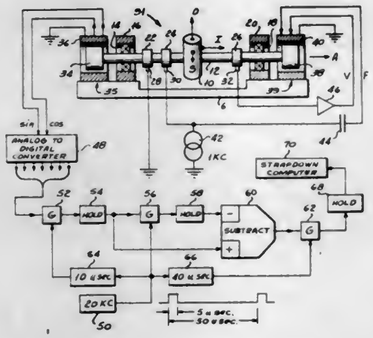
A housing filled with damping fluid has mounted therein a proof mass supported for pendulous movement about an axis normal to the accelerometer's sensitive axis. The proof mass has a pair of torquer coils wound thereon and by virtue of its pendulous mounting is displaceable between a corresponding pair of torquer magnet assemblies fixed to the housing. A capacitive pickoff unit is provided comprising a pair of capacitor end plates each of which is coaxially affixed to a corresponding magnet assembly along the sensitive axis. The proof mass design features a relatively thin, web-like member for movement between the capacitor end plates. A vernier torquer is also provided for positioning this web member at a null position between the capacitor end plates before start-up.

3,438,267
MICRO-ACCELEROMETER
Pierre L. Contensou, Paris, Michel M. Delattre, Vincennes, and Michel J. Gay, Villeneuve-Saint-Georges, France, assignors to Office National d'Etudes et de Recherches Aerospatiales, Chatillon-sous-Bagneux, France, a company of France
Filed Mar. 28, 1966, Ser. No. 538,065
Claims priority, application France, Mar. 30, 1965, 11,246; Mar. 17, 1966, 53,929
Int. Cl. G01p *15/08*
U.S. Cl. 73—517 **8 Claims**



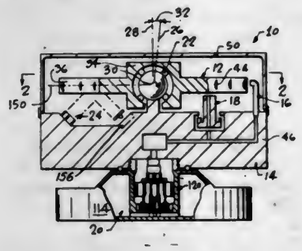
A microaccelerometer of the electrostatic type providing an integrated acceleration measurement along 3 orthogonal axes comprising a hollow casing, a spherical sensor floating in the casing in a gravity-free condition when not subjected to acceleration, a plurality of opposed polar electrodes isolated from the casing in orthogonal relation thereto corresponding to the orthogonal axes, the polar electrodes forming capacitors by virtue of the connection with the spherical mass of the casing, and means for applying AC current between the casing and electrodes with receiving means for the output signals from the capacitors, the detected and amplified output signals indicating the displacement of mass of the casing from the orthogonal axes lying between the circumpolar electrodes to the capacitors.

3,438,268
STRAPDOWN GYROSCOPE SYSTEM
Raymond Wendell Goodwin, Westport, Conn., and John F. Cuccia, White Plains, N.Y., assignors to United Aircraft Corporation, East Hartford, Conn., a corporation of Delaware
Filed Aug. 31, 1965, Ser. No. 484,022
Int. Cl. G01c *19/02*
U.S. Cl. 74—5 **13 Claims**



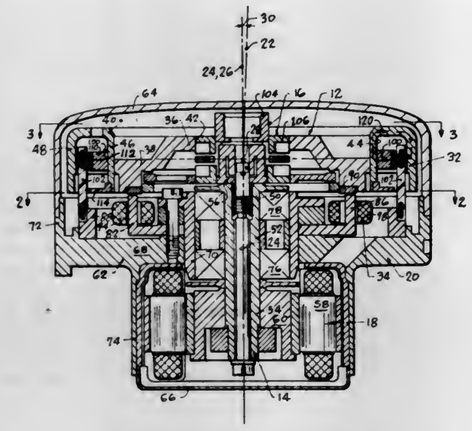
In general our invention contemplates the provision of three single-degree-of-freedom gyroscopes. Each gyroscope is mounted upon an associated shaft for rotation about its input axis. The three shafts are independent of one another. Each shaft is provided with an angular transducer which indicates the position of the shaft. Each shaft may also be provided with a torque motor for preventing any component of rotation about the input axis of a gyroscope. The outputs of the three angular position transducers are then periodically sample. The angular differences between successive samplings are employed in performing strapdown computations which define the orientation of the vehicle relative to a reference frame.

3,438,269
FREE-ROTOR GYRO
Constant J. De Cotiis, Cranford, Bernard Parker, Teaneck, and Hugh E. Riordan, Wyckoff, N.J., assignors to Singer-General Precision, Inc., a corporation of Delaware
Filed Oct. 5, 1965, Ser. No. 493,116
Int. Cl. G01c *19/24, 19/30*
U.S. Cl. 74—5.12 **12 Claims**



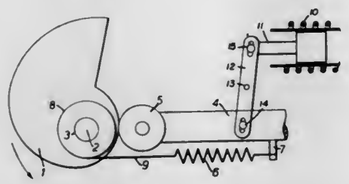
A two-axis free-rotor gas driven gyro wherein the drive means and caging means use a single gas supply source and optical pickoffs are used to calibrate the caging mechanism prior to caging and spin-up operation.

3,438,270
TWO-AXIS TORQUER
Herbert Binder, New Monmouth, and Walter J. Krupick, Succasunna, N.J., assignors to Singer-General Precision, Inc., a corporation of Delaware
Filed Sept. 3, 1965, Ser. No. 484,825
Int. Cl. G01c *19/30, 19/28*
U.S. Cl. 74—5.47 **14 Claims**



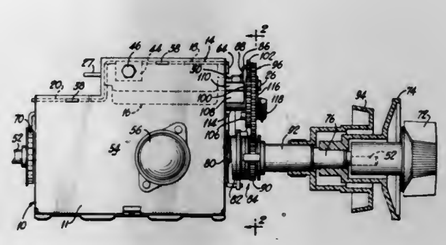
Two-axis gyro having a permanent-magnet two-axis torquer in which the torquer is used both as a torquer magnet portion and as a rotor momentum rim and in addition the use of an electromagnet type of pickoff with the return path member used both as the pickoff return-path portion and as a part of the rotor momentum rim.

3,438,271
ROTARY CAM AND SPRING LOADED FOLLOWER DEVICES AND ARRANGEMENTS INCORPORATING SAME
William Dennis Cain, St. Albans, England, assignor to Marconi Instruments Limited, London, England, a British company
Filed Jan. 13, 1967, Ser. No. 609,018
Claims priority, application Great Britain, Jan. 19, 1966, 2,571/66
Int. Cl. F16h *35/18*
U.S. Cl. 74—10.6 **7 Claims**



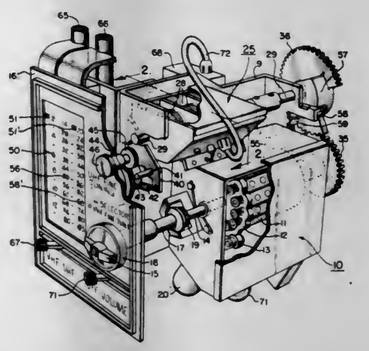
The follower of a rotary cam and follower mechanism is urged into contact with the cam by a spring which is connected to a spring anchorage which moves in response to rotation of the cam so that, as rotation of the cam increases the cam radius of the point of engagement with the follower, the spring force is prevented from increasing in proportion to movement of the follower by the cam. The mechanism is disclosed as for operating, e.g., a precision electronic tuning device.

3,438,272
TELEVISION TUNER
Joe G. Badger, Bloomington, Ind., assignor to Sarkes Tarzian, Inc., Bloomington, Ind., a corporation of Indiana
Filed Nov. 3, 1966, Ser. No. 591,750
Int. Cl. F16h *35/18*
U.S. Cl. 74—10.8 **4 Claims**



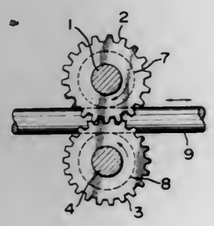
A unitary television tuner is provided for receiving both VHF and UHF television stations, the UHF tuner portion being mounted on a common side member which is adapted to function as a common shielding member for both the VHF and UHF tuner portions.

3,438,273
VHF/UHF TUNING MECHANISM FOR A TELEVISION RECEIVER
Otto H. Schwartz, Glenview, Ill., assignor to Zenith Radio Corporation, Chicago, Ill., a corporation of Delaware
Filed Oct. 12, 1967, Ser. No. 674,930
Int. Cl. F16h *35/18;* **H03j** *1/04, 5/04*
U.S. Cl. 74—10.45 **11 Claims**



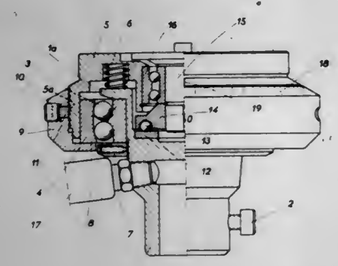
The tuning mechanism of a television receiver has a turret type VHF tuner as well as a continuously adjustable UHF tuner and the selector shaft of the turret is geared to the rotor shaft of the continuous tuner. Accordingly, the tuners are uni-controlled to tune over their respective bands simultaneously and in the same sense. There are many more UHF than VHF channels and, therefore, a given angular displacement of the shafts courses through a larger part of the UHF than the VHF spectrum. The nominal stator of the UHF tuner is also adjustable relative to its rotor so that for each preset position of the turret tuner, the additional UHF tuning adjustment permits a selection of any one of a series of six UHF channels.

3,438,274
APPARATUS FOR DRIVING AN AUTOMATIC DOOR
Kunimori Maruyama, Tsurumi-ku, Yokohama, Japan, assignor to Takeshi Yamamoto, Tokyo, Japan
Filed Sept. 27, 1967, Ser. No. 670,910
Claims priority, application Japan, Sept. 29, 1966, 41/63,739
Int. Cl. F16h *19/02*
U.S. Cl. 74—33 **1 Claim**



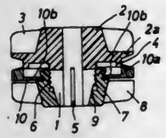
An apparatus for driving or operating an automatic door, comprising a pushing rod operatively connected to the door, and a pair of pulleys made of resin and arranged to pinch therebetween the pushing rod, one of which is driven by a driving motor through a gear integrally fixed to said one pulley, thereby admitting the frictional slipping between said pulleys and said pushing rod for eliminating any harm to a person and any overloading of said motor when a person is caught by the closing door.

3,438,275
NON-ROTATING TOOL HOLDER OR CARRIER FOR A VIBRATING TOOL
Jean Dunod, Paris, France, assignor to Qualitex Dunod & Cie, Paris, France, a company of France
Filed June 6, 1967, Ser. No. 643,955
Claims priority, application France, June 10, 1966, 65,084; May 16, 1967, 106,547
Int. Cl. F16h *37/12*
U.S. Cl. 74—86 **5 Claims**



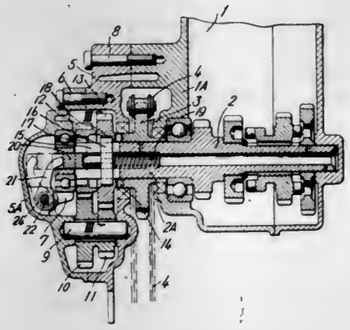
A non-rotating tool holder for a vibrating tool has a stationary body supporting a rotating drive shaft and a non-rotating head for securing the vibrating tool. The head is suspended on the stationary body by a universal joint centered on the axis of the drive shaft. The head has a circular surface engaged by at least one eccentric element disposed on the drive shaft. The distance between the point of engagement of the eccentric element on the circular path and the transverse plane passing through the center of the universal joint is adjustable to determine, by the inclination of the axis of the head around such center, the angle of a nodding movement of such axis around the drive shaft axis.

3,438,276
DIVIDED HUB
Artur Fischer, Tumlingen, Kreis Freudenstadt, Germany
Filed Feb. 1, 1966, Ser. No. 524,337
Claims priority, application Germany, Feb. 15, 1965, F 45,245; July 8, 1965, F 46,557
Int. Cl. F16h *55/38;* **F16d** *1/08;* **B60b** *27/06*
U.S. Cl. 74—230.4 **7 Claims**



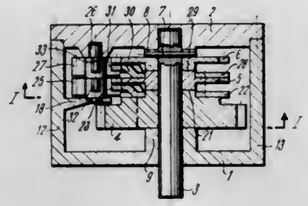
A divided hub for removably supporting wheels, gears, chains or the like comprises at least two coaxial hub parts which are formed with cooperating screw threads threadedly connected with each other. At least one of the hub parts carries a disc member which consists of resiliently deformable material and which is so positioned as to undergo resilient deformation in response to being subjected to axially directed stresses which develop when the screw threads are caused to matingly engage.

3,438,277
DRIVING APPARATUS FOR A MOTORIZED TWO-WHEEL VEHICLE
Yoshinori Okamoto, Tokyo, Japan, assignor to Kabushiki Kaisha Honda Gijutsu Kenkyusho, Saitama-ken, Japan
Filed July 19, 1967, Ser. No. 654,532
Claims priority, application Japan, July 28, 1966, 41/70,980
Int. Cl. F16h *3/08*
U.S. Cl. 74—371 **7 Claims**



A driving apparatus for a motorized two-wheel vehicle in which a driving sprocket for a drive wheel of the vehicle is loosely mounted on an end portion of an output shaft projecting from a side wall of a frame of an internal combustion engine, a hollow cover being mounted on the frame and enclosing the driving sprocket while accommodating the end portion of the output shaft, a subsidiary shaft being secured in the cover and extending parallel to the output shaft, a speed reducing gear assembly being provided between the end portion and the subsidiary shaft so that the output shaft and the driving sprocket may be connected to one another directly or through the speed reducing gear assembly.

3,438,278
GEAR UNITS FOR COUNTERS
Robert Lehle, Oberndorf, Germany, assignor to Messrs. Feinwerkbau Westinger & Altenburger KG, Oberndorf, Germany
Filed Mar. 20, 1967, Ser. No. 624,270
Int. Cl. F16h *55/22*
U.S. Cl. 74—435 **7 Claims**



A counter having a worm and worm gear input, the worm gear driving an offset mutilated spur gear which, in turn, drives a pinion having a part of every other tooth axially shortened to provide means to lock the pinion against rotation. The pinion drives a spur gear coupled to an output shaft. Several stages of mutilated gears and pinions may be utilized.

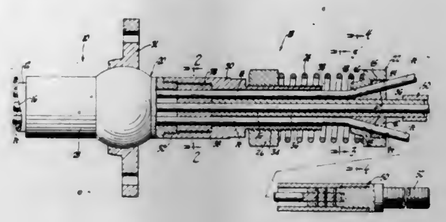
3,438,279
PITCH POINT ACTION GEARING
William S. Rouverol, 2120 Haste St., Berkeley, Calif. 94704
Filed June 7, 1967, Ser. No. 644,173
Int. Cl. F16h *55/08*
U.S. Cl. 74—462 **10 Claims**



A system of helical or spiral bevel gearing that by violating the "law of gearing" restricts the tooth action entirely to the pitch point. The greatly reduced sliding velocity between the teeth of mating gears permits them to be made of "dry bearing" or other moldable materials without exceeding rated PV values, and a multiplicity of contact points moving transversely along the pitch line insures continuity of action.

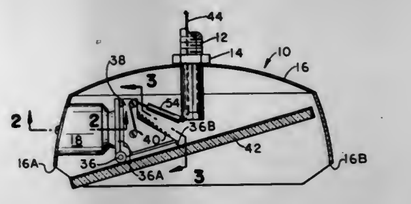
3,438,280
REMOTE CONTROL ASSEMBLY
Harold E. McCabe, Mahopac Falls, N.Y., assignor to Teleflex Incorporated, North Wales, Pa., a corporation of Delaware
Filed Oct. 21, 1966, Ser. No. 588,548
Int. Cl. F16c *1/10*
U.S. Cl. 74—501 **15 Claims**

A motion transmitting remote control assembly including a conduit for movably supporting a motion transmitting core element and tension bearing elements extending along the conduit with means attached to the conduit for allowing the tension bearing elements to move longitudinally relative to the conduit and relative to one another prior to and during the installation of the assembly



so as to maintain the conduit readily flexible. Means are provided that are operable to prevent relative longitudinal movement of and between the tension bearing elements when the assembly is in an installed disposition.

3,438,281
SIDE VIEW MIRROR
Carroll W. Chester, 1932 E. 76th Place, Los Angeles, Calif. 90001
Filed Dec. 18, 1967, Ser. No. 691,261
Int. Cl. F16c *1/22*
U.S. Cl. 74—501 **11 Claims**

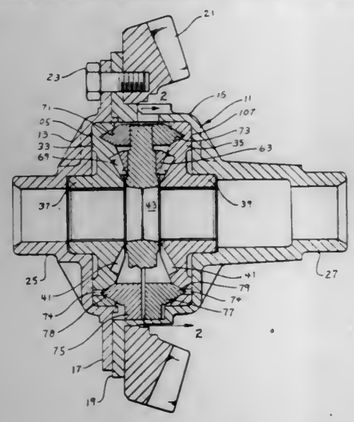


A right-and-left reversible mirror assembly in which the mirror is resiliently movable, having a support tube, a shell, a mirror hingedly mounted to the shell, and a cable passing through the support tube and adapted to hingedly move the mirror when pulled, the assembly including a spring adapted to return the mirror to its original position when the cable is released.

3,438,282
LOCKING DIFFERENTIAL
Ray F. Thornton, 8735 Jackson Road, Dexter, Mich. 48130
Continuation-in-part of application Ser. No. 19,358, Apr. 1, 1960. This application Feb. 26, 1962, Ser. No. 176,870
Int. Cl. F16h *1/44*
U.S. Cl. 74—711 **12 Claims**

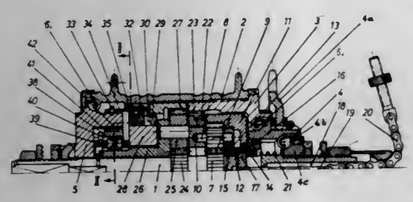
1. A differential power transmission for use with a power source, comprising a rotatable case; a floating spider disposed in said case, said spider being movable relative to the case about the axis of said case; pinions disposed on said spider; said gear members disposed on each side of said spider in mesh with said pinions and having locking grooves on the inside faces thereof; and spreadable pressure members rotatable with said case and having cam surfaces thereon in engagement with the spider; said pressure members spreading to engage the locking grooves in said side gear members in the locked condition of the device upon rotation of the case so that

said pressure members exert a force against said floating spider through said cam surfaces; any gear spread force



caused by rotation of said pinions and side gear members about their axes relieving the locking pressure between the pressure members and locking grooves.

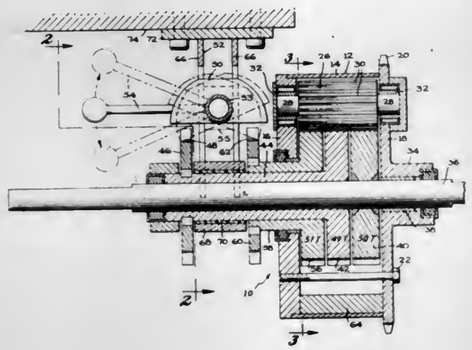
3,438,283
MULTIPLE SPEED HUB FOR A BICYCLE AND LIKE VEHICLE
Hans Joachim Schwerdhofer, Schweinfurt, Germany, assignor to General Dynamics Corporation (Pomona Division), Pomona, Calif., a corporation of Delaware
Filed Jan. 31, 1967, Ser. No. 612,916
Claims priority, application Germany, Feb. 2, 1966, F 48,325
Int. Cl. F16h *57/10, 5/04*
U.S. Cl. 74—750 **21 Claims**



A four-speed hub having two planetary gear transmissions arranged in tandem, the input member of the first transmission being rotated by a sprocket, and two unidirectional clutches being interposed between the hub shell and respectively the input or output member of the first transmission and the output member of the second transmission. The speed ratio of the input and output members of the first transmission may be changed by a manually operated mechanism including a control member axially movable in a bore of the hub shaft. Engagement of the clutch associated with the second transmission is controlled by a back-pedaling mechanism or by a centrifugal governor driven by the hub shell.

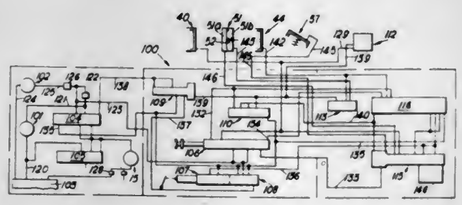
3,438,284
REDUCTION GEAR TRANSMISSION
Arthur P. Bentley, Capitan, N. Mex. (Box 139, Boerne, Tex. 78006)
Filed June 17, 1966, Ser. No. 558,300
Int. Cl. F16h *57/10*
U.S. Cl. 74—766 **1 Claim**

A gear reduction unit comprising an output shaft having a first gear fixed thereto, and second and third gears loosely mounted on the output shaft. There is a differential between the number of teeth on the first gear and on the second and third gears in accordance with which the second gear has fewer teeth than the first gear and the third gear has more teeth than the first gear. A satellite gear is mounted for rotation in meshed engagement with the first, second, and third gears. Means is



provided to selectively hold one or the other of the second and third gears stationary to thereby selectively cause forward or reverse rotation of the first gear and the output shaft in proportion to the differential between the number of teeth of the first gear and the number of teeth of the gear which is being held stationary.

3,438,285
TRANSMISSION CONTROLS
Carl Wesley Hanzi, Hitchin, and Gordon Francis Hayden, Letchworth, England, assignors to Borg-Warner Corp., Chicago, Ill., a corporation of Illinois
Filed Mar. 9, 1967, Ser. No. 621,866
Claims priority, application Great Britain, Mar. 17, 1966, 11,810/66
Int. Cl. G05d *13/62*
U.S. Cl. 74—869 **4 Claims**

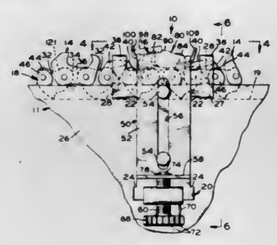


A hydraulic control system for an automatic transmission adapted to be used in an automotive vehicle wherein control valve means are incorporated in said control system to maintain the transmission in high speed ratio when at idle and immediately shift said transmission to low speed ratio when the vehicle throttle is depressed whereby vehicle creep at idle condition is prevented.

3,438,286
FILE GUIDE FOR A CHAIN SAW
Kay Silvon, Portland, Oreg., assignor to Omark Industries, Inc., Portland, Oreg., a corporation of Oregon
Filed Nov. 18, 1966, Ser. No. 595,488
Int. Cl. B23d *63/08;* **G01b** *5/20*
U.S. Cl. 76—36 **16 Claims**

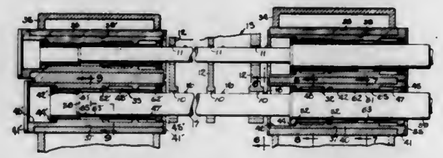
1. In a file guide for sharpening a saw chain:
a frame means provided with means for holding a portion of a saw chain having a cutter tooth and

for engaging the gullet of said cutter tooth to locate the frame means in a predetermined position longitudinally of and at a predetermined height relative to said tooth,



a guide member having a top, file guiding surface, and means mounting the guide member on the frame means in a position adjacent the tooth.

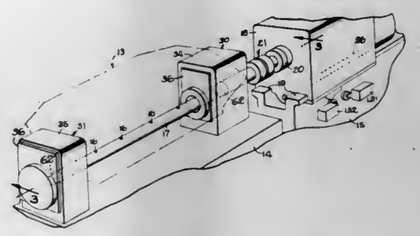
3,438,287
BEARING SUPPORT FOR TOOL SPINDLES
Frederick J. Kampmeier and Earnest Y. Seborg, Rockford, Ill., assignors to The Ingersoll Milling Machine Company, Rockford, Ill., a corporation of Illinois
Filed May 1, 1967, Ser. No. 634,957
Int. Cl. B23b *29/02, 47/00*
U.S. Cl. 77—56 **16 Claims**



For boring out alined holes in a workpiece, a rotary spindle carrying boring teeth is mounted cantilever fashion on a power reciprocated head which is advanced rapidly to slide the spindle freely through a bearing bushing and the work bores and into an outboard bearing bushing to position cutter teeth on the spindle adjacent the holes to be bored. In reaching this position, the spindle is coupled automatically to the bushings which rotate and shift axially with the spindle in the continued advance of the head to feed the tools to the work. The bushings are telescoped within stationary sleeves which contain hydrostatic bearing pads that allow for such rotation and shifting of the bushings while supporting the spindle precisely during the boring.

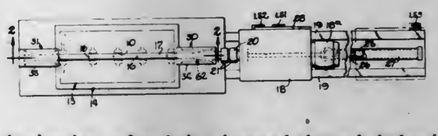
3,438,288
BEARING SUPPORT FOR TOOL SPINDLES
Karl B. Kaiser, Rockford, Ill., assignor to The Ingersoll Milling Machine Company, Rockford, Ill., a corporation of Illinois
Filed May 1, 1967, Ser. No. 635,149
Int. Cl. B23b *29/02, 39/00;* **B23c** *7/00*
U.S. Cl. 77—56 **11 Claims**

A rotary spindle carrying boring teeth projects cantilever fashion from a power reciprocated head which is advanced rapidly to move the spindle through an inboard bearing bushing and the work bores and into an outboard bearing bushing to position cutter teeth adjacent the holes to be bored in a workpiece. In reaching this position, conical tapers on the exterior of the spindle seat in complemental tapers on the interior of the bushings thus coupling the two rigidly and automatically for rotation and axial shifting in unison during the continued advance of the head to feed the tools through the work. The bushings are mounted on the work support within stationary



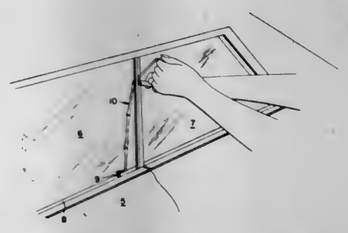
sleeves which contain the pads of hydrostatic bearings that allow for rotation and shifting of the bushings while supporting the spindle precisely after the coupling and during the boring.

3,438,289
BORING MACHINE WITH VIBRATIONLESS BORING BAR
Frederick J. Kampmeier, Rockford, Ill., assignor to The Ingersoll Milling Machine Company, Rockford, Ill., a corporation of Illinois
Filed June 8, 1967, Ser. No. 644,606
Int. Cl. B23b *47/00, 29/02;* **F16c** *7/04*
U.S. Cl. 77—56 **12 Claims**



A boring bar, after being inserted through holes in a workpiece and axially spaced bushings supported by hydrostatic bearings, is coupled rigidly to such bushings while the bar is being advanced to bore the holes. The bushings are forced apart during the boring to maintain the bar under longitudinal stress and thereby change the natural vibration frequency of the bar.

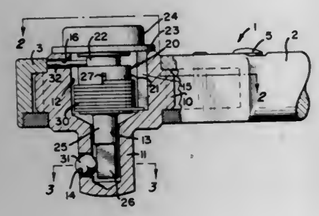
3,438,290
APPARATUS FOR RELEASING AUTO DOOR LATCHES
Julian J. Konopacki, Miami Beach, Fla. (524 92nd St., Surfside, Fla. 33161)
Filed June 13, 1967, Ser. No. 645,735
Int. Cl. B25b *27/14;* **E05b** *63/00*
U.S. Cl. 81—3 **3 Claims**



A tool for unlatching a liftable door latch of an automotive vehicle having a pair of front and back roll-up windows adjoining each other at vertical edges between which a blade may be inserted to pry the windows apart to provide a space through which the tool may be inserted from the outside of the vehicle. The tool comprises a plurality of elongated rod sections pivotally joined

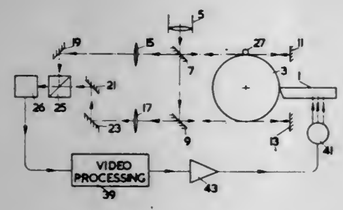
to each other in end-to-end relation to provide (1) an unlocking rod section at one end of the tool, (2) a handle rod section at the other end of the tool, and (3) at least one intermediate rod section between the handle and unlocking rod sections. The unlocking section has a hook at a free end thereof adapted to engage the latch, and the handle section may be grasped and held at an angle to the other rod sections, so that the handle section may be held and manipulated outside the windows to engage the hook with the latch inside the vehicle and to lift the latch for unlocking a door of the vehicle. The rod sections are foldable due to the pivotal interconnection thereof to reduce the length of the tool for storage.

3,438,291
SOCKET RELEASE MECHANISM
Clifford A. Bergquist, Alhambra, Calif., assignor to Pendleton Tool Industries, Inc., Los Angeles, Calif., a corporation of Delaware
Filed July 19, 1967, Ser. No. 654,549
Int. Cl. B25b *13/46;* **G05g** *5/06*
U.S. Cl. 81—62 **6 Claims**



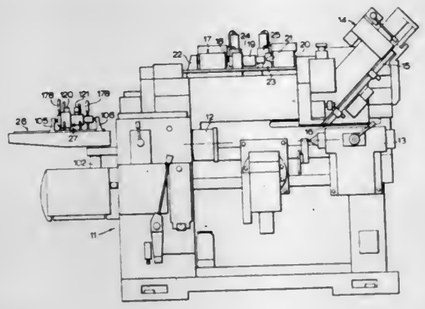
Apparatus for retaining and releasing a socket used with a wrench. It includes a stud having a longitudinal passage and an aperture communicating with the longitudinal passage. There is a pin rotatably mounted in the passage. A ball detent is movably mounted in the aperture. A spring is provided to rotate the pin to a position so that it holds the ball in an outward position to hold a socket on the stud. When the pin is rotated against the biasing force of the spring, the ball is free to move within the aperture and the socket is released from the stud.

3,438,292
MACHINE TOOL CONTROL
Donald William Burr, Malvern, England, assignor to Minister of Aviation in Her Britannic Majesty's Government of the United Kingdom of Great Britain and Northern Ireland, London, England
Filed Feb. 7, 1966, Ser. No. 525,491
Claims priority, application Great Britain, Feb. 8, 1965, 5,290/65
Int. Cl. B23b *3/28;* **B23c** *1/16, 1/18*
U.S. Cl. 82—14 **14 Claims**



A machine tool includes means for generating an optical signal indicative of a dimension of the workpiece while it is being machined at the part of the workpiece being machined, gauging means, responsive to the optical signal, for gauging the dimension and means for controlling the tool by reference to the gauged dimension and the desired dimension.

3,438,293
PROFILING LATHES
Malcolm Thorneycroft, Daventry, England, assignor to Charles Churchill and Company Limited, Northampton, England, a British company
Filed Dec. 13, 1966, Ser. No. 601,424
Claims priority, application Great Britain, Dec. 14, 1965, 53,077/65
Int. Cl. B23b *3/28;* **B24b** *5/16*
U.S. Cl. 82—14 **23 Claims**



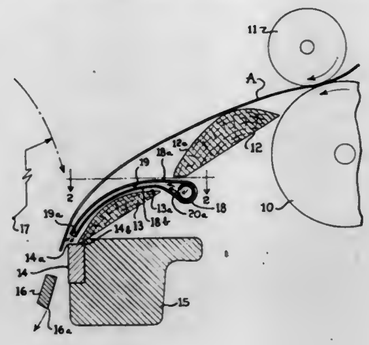
The specification describes a post-operative error correction device for an automatic profiling lathe of the kind in which excursions of a tool in relation to the workpiece are controlled by a servo-mechanism operated in response to excursions of a tracer over a template, the device serving to raise or lower each end of the template to compensate for dimensional inaccuracies measured on a finished workpiece.

3,438,294
METHOD FOR DIVISION OF BILLETS
Helmut Treppschuh, Geisweid, and Emil Baltes, Altenhundem, Germany, assignors to Stahlwerke Sudwestfalen Aktiengesellschaft, Geisweid, Germany
No Drawing. Filed Aug. 18, 1966, Ser. No. 573,172
Claims priority, application Germany, Aug. 25, 1965, St 24,313
Int. Cl. B26d *7/10*
U.S. Cl. 83—15 **4 Claims**

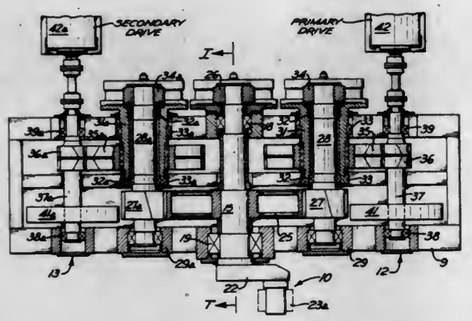
Improvement in subdividing steel billets by shearing such at between about 600 and 400° C., by cooling hot rolled steel billets to about 650 to 550° C. for about one-half to two hours and then shearing such billets at the first above set forth temperature.

3,438,295
PAPERMAKING MACHINE
Kenneth J. Heinz, Neenah, and Elmer J. Hintz, Appleton, Wis., assignors to Kimberly-Clark Corporation, Neenah, Wis., a corporation of Delaware
Filed Aug. 2, 1966, Ser. No. 569,696
Int. Cl. B26d *7/06, 1/56;* **B23d** *25/02*
U.S. Cl. 83—98 **3 Claims**

An air distributing device for a cutter of the type having a rotating knife which has a shearing action with respect to a stationary knife for shearing a web passing over the stationary knife to form individual sheets, with the air distributing device being positioned below a web carrying curved forming board which is positioned below the web carrying nip of a pair of feed rolls and the air distributing device having an upper curved web carrying surface and being positioned to direct air on to the upper surface of the stationary knife for blowing off the leading end of the web from the stationary knife just after a cut has occurred so that the web may continue to move over the stationary knife without clogging the cutter.



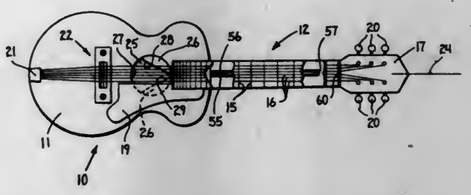
3,438,296
FLYING SHEAR WITH ALTERNATELY OPERATIVE DRIVE MOTORS
Robert Hunter Ellis, Pittsburgh, and Peter Arvid Lund, Gibsonia, Pa., assignors to United Engineering and Foundry Company, Pittsburgh, Pa., a corporation of Pennsylvania
Filed Feb. 6, 1967, Ser. No. 614,350
Claims priority, application Great Britain, Feb. 25, 1966, 8,537/66
Int. Cl. B23d *25/02;* **B26d** *1/56;* **F16h** *37/06*
U.S. Cl. 83—299 **9 Claims**



This invention relates to a flying shear, including a drive for severing metallic workpieces, such as billets, bars, strip and the like, into predetermined lengths while such workpieces are traveling at a given speed and, more particularly, to an improved shear and drive for efficiently and effectively severing varying size workpieces at both high and low speeds.

3,438,297
GUITAR
Willie E. Ogletree, Rte. 1, Clay, Ky. 42404
Filed July 17, 1967, Ser. No. 653,894
Int. Cl. G10d *1/08*
U.S. Cl. 84—267 **10 Claims**

A guitar in which the sound hole has a shape which is V-shaped in part and which is part-circular in part. The neck of the guitar is reinforced by a metal rod glued in a groove in the neck between the neck and a false fingerboard positioned beneath the real fingerboard. An adjustable bridge spaces the strings from the sound hole approximately ⅞ of an inch.

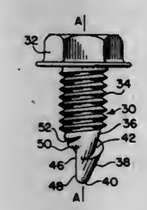


3,438,298
RECORDER
Josephus B. Thompson, Covington, Ohio, assignor to The Grossman Music Corporation, Cleveland, Ohio, a corporation of Ohio
Filed Nov. 21, 1967, Ser. No. 684,862
Int. Cl. G10d *7/02*
U.S. Cl. 84—380 **2 Claims**



A recorder having its several sections joined end-to-end in air-tight engagement through preformed resilient plastic O-rings.

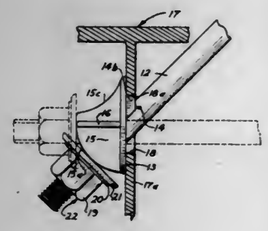
3,438,299
EXTRUDING SCREW
Charles Edward Gutshall, Roselle, Ill., assignor to Illinois Tool Works Inc., Chicago, Ill., a corporation of Delaware
Filed Jan. 26, 1968, Ser. No. 700,872
Int. Cl. F16b *25/00;* **B21k** *1/56*
U.S. Cl. 85—41 **12 Claims**



A pinch-pointed gimlet point type screw having a specific point configuration for expanding and extruding an undersized sheet metal aperture to accept the screw and

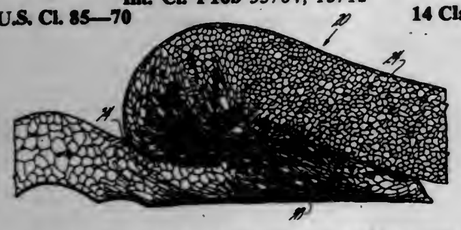
provide increased thread engagement with the threaded screw shank. This screw can also be provided with self-drilling features.

3,438,300
BRACE ROD WASHER
Kenneth M. Blom and Carmen L. Ramirez, Kansas City, Mo., assignors to Butler Manufacturing Company, Kansas City, Mo., a corporation of Missouri
Filed Aug. 17, 1967, Ser. No. 661,399
Int. Cl. F16b *43/02*
U.S. Cl. 85—50 **2 Claims**



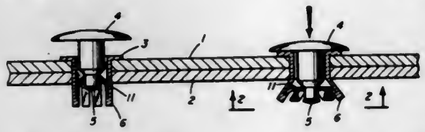
A special load bearing washer to be used in combination with a rod, a fastening means on the end thereof, and a structure having an oversized opening therethrough through which the rod passes, said washer having arcuate bearing surfaces with a center aperture and channel which permits the angular orientation between the rod and the washer and similarly between the rod and the structure to be varied while providing a firm bearing surface between the fastening means and the structure. Included also as a part of the washer is a positioning projection which fits into the oversized opening in the structure for positioning the washer with respect thereto.

3,438,301
HOLLOW RIVET AND PULL-STEM ASSEMBLY FOR BLIND FASTENING OR THE LIKE
Harold P. Mattioli, Simsbury, Conn., assignor to Emhart Corporation, Bloomfield, Conn., a corporation of Connecticut
Filed Apr. 10, 1967, Ser. No. 629,486
Int. Cl. F16b *33/04, 13/12*
U.S. Cl. 85—70 **14 Claims**



A preferably closed end hollow rivet having a head and a headed stem or mandrel inserted in its bore with at least one and preferably more annular grooves formed in the rivet body by rolling or otherwise pressing the body inwardly so that in the course of forceful retraction of the stem, its head will substantially close the rivet body grooves and tend to draw the grooved portion of the body telescopically within the adjacent portion of the rivet body while diametrically enlarging the rivet body between its head and its grooved portion. The stem can be made to break in the course of retraction after the rivet body grooves have been substantially closed, or it can have sufficient tensile strength to withstand complete retraction so that the step head will re-define substantially smooth and uniform rivet bore.

3,438,302
REMOVABLE BLIND RIVET
Raymond P. Sandor, 21 Cherry St., Darien, Conn. 06820
Filed Apr. 14, 1967, Ser. No. 630,959
Int. Cl. F16b *13/04*
U.S. Cl. 85—84 **4 Claims**



A hollow rivet which can be inserted and applied from one side only, having a dome-shaped center and slit skirt lower portion which is expanded when the dome-shaped central portion is pushed down by a pin or screw. When the dome-shaped portion is in its upwardly curved position, the hollow rivet can be inserted in a hole, for example in two pieces of sheet metal. The top of the rivet has a flange which grips one sheet. When the dome-shaped portion is flattened out by pressing down or inserting and pressing down a pin or screwing down a screw, it is flattened out and the skirt expands into a series of fingers which grip the bottom side of another piece of metal, holding it firmly between the fingers and the top flange. The rivet is a blind rivet; that is to say, it can be introduced from one side only of a wall or of sheets of metal or other materials which are to be fastened together. It is not necessary to reach the other side either with a bucking iron or other device, as in the case of an ordinary rivet.

The rivet is removable, the dome-shaped portion being of springy material, such as spring metal, so that when the pin or bolt is moved upwardly the dome-shaped member resumes its domed form and the rivet can then be pulled out and reused.

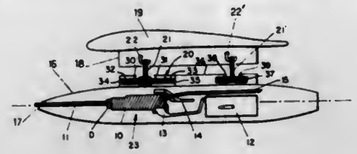
3,438,303
SYSTEM INCLUDING A TUBULAR LAUNCHING TUBE AND A ROCKET PROVIDED WITH AN OUTER AUXILIARY LAUNCHING CHARGE
Mario Pesarini, Velletri, and Carlo Tosti, Colleferro, Italy, assignors to Bombrini Parodi-Delfino Società per Azioni, Rome, Italy
Filed Nov. 16, 1967, Ser. No. 683,671
Claims priority, application Italy, Nov. 30, 1966, 43,232/66
Int. Cl. F41f *3/04*
U.S. Cl. 89—1.818 **3 Claims**



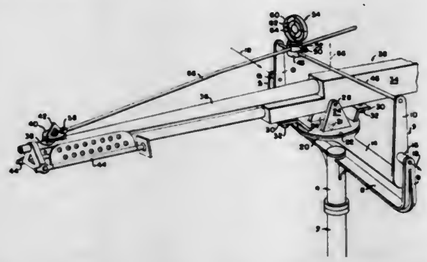
A system including a rocket and its associated launching tube, with an annular chamber, utilized as combustion chamber of a supplementary charge, between the launching tube and a tubular member, located behind the rocket nozzle and connected thereto by a disengageable coupling system.

3,438,304
DEVICE FOR MOUNTING A GUN BENEATH THE WING OF AN AIRPLANE
Pierre Sautier, Paris, and Paul Bouillard, Clamart, France, assignors to Engins Matra, Paris, France, a French company
Filed May 16, 1967, Ser. No. 638,972
Claims priority, application France, May 18, 1966, 62,096
Int. Cl. B64d *7/04*
U.S. Cl. 89—37.5 **2 Claims**

A weapons system comprising a gun secured in a container which is slung beneath a pylon of a wing of an airplane via a shock absorber which damps the transmission of forces from the container to the airplane in a direction parallel to the longitudinal axis of the container upon firing of the gun.



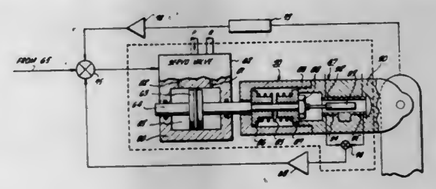
3,438,305
GUN SIGHTING SYSTEM
Anthony R. Nollet, South Acton, Mass., assignor to GCA Corporation, Bedford, Mass., a corporation of Delaware
Continuation-in-part of application Ser. No. 593,875, Nov. 14, 1966. This application June 28, 1967, Ser. No. 661,740
Int. Cl. F41g *15/14*
U.S. Cl. 89—41 **14 Claims**



The invention provides a gun sight for a machine gun mounted on a movable carrier, in which the sighting system automatically computes the velocity jump angle for the gun. There are several embodiments, in a first group of which a tiltable mounting frame is provided on which the gun may be rotated to sight on the target, and means are provided which tilt with the frame to adjust the gun sight to compensate for the velocity of the moving platform with respect to the target. In another embodiment, the machine gun is gimbaled on a rotatable base and forms the base of a parallelogram. A dummy gun constitutes the top of the parallelogram, and the forward end thereof is linked to the forward end of the gun, dummy gun and real gun thus being always parallel. The dummy gun may be swiveled and depressed to aim it and the real gun, the plane of the parallelogram swinging as this is done. A transverse arm in each embodiment supports a movable rear sight, the distance of this rear sight from the point at which the vertical axis of rotation of the gun barrel intersects the arm being adjustable so as to be set in proportion to the velocity of the gun carrier. Thus the velocity jump angle is computed when rear sight and fore sight are aligned.

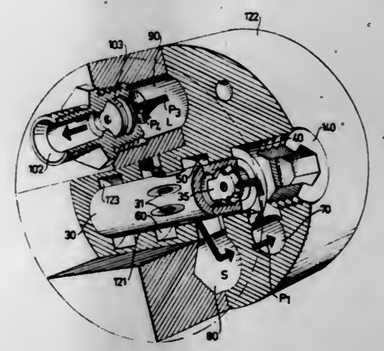
3,438,306
PRELOADED SERVO ACTUATOR CONTROLS FOR REDUNDANT SYSTEMS
Edward Kazmarek, Encino, Calif., assignor to Lear Siegler, Inc., Santa Monica, Calif., a corporation of Delaware
Filed Feb. 7, 1967, Ser. No. 614,494
Int. Cl. F15b *9/03, 15/26;* B64c *13/18*
U.S. Cl. 91—171 **23 Claims**

The invention of which certain representative embodiments are herein disclosed relates to servomechanism devices for actuating movement of a member. A new and improved servomechanism system is disclosed which has fail-operational and fail-safe characteristics as provided by a minimum amount of electronic circuitry. A signal emitting generator, such as a transducer, senses the degree of yield in a resilient member which is coupled between a servo actuator's output shaft and a member to be moved. This transducer, in addition to emitting signals



capable of utilization in a simplified technique for fail-operational and fail-safe characteristics, also emits signals which modify the command signals for the servo system in a manner which avoids a dead zone normally found in multiple redundant systems when two or more servo actuators provide opposite forces at a common member to be moved.

3,438,307
DIFFERENTIAL PISTON CONTROL SYSTEM
Gösta Ahlenius, Iggesund, Sweden, assignor to Trima AB, Iggesund, Sweden
Filed May 18, 1966, Ser. No. 551,164
Claims priority, application Sweden, May 20, 1965, 6,614/65
Int. Cl. F15b *13/042*
U.S. Cl. 91—436 **5 Claims**

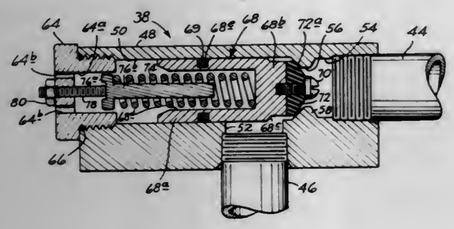


A hydraulic control system for operating a differential piston of a loading vehicle having a manually operated select valve and an automatically operated hydraulic control valve. The hydraulic control valve comprises a hydraulic pressure responsive slide valve to permit communication between the chambers on each side of the piston in one position and prevent communication in the second to thereby permit rapid movement of the piston in one direction and slower movement of the piston in the opposite direction.

3,438,308
HOIST RAM CONTROL APPARATUS
Ralph E. Nutter, Portland, Oreg., assignor to Cascade Corporation, Portland, Oreg., a corporation of Oregon
Filed Sept. 12, 1966, Ser. No. 578,618
Int. Cl. F15b *13/042*
U.S. Cl. 91—445 **5 Claims**

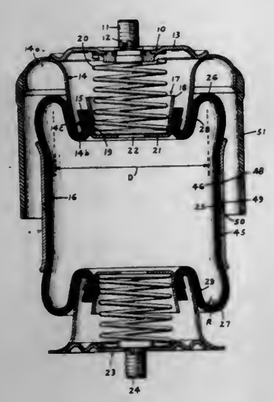
Lift apparatus including a vertical extensible hoist ram, a conduit joined to the ram through which fluid is sup-

plied to extend the ram and is exhausted to contract the ram, and a pressure-sensitive valve mechanism connected to the conduit. The pressure-sensitive valve mechanism is responsive to the pressure of fluid in the conduit, and



operable with the pressure of such fluid below a predetermined level to block the exhaust of fluid from the ram, and with the pressure of such fluid above the predetermined level to permit the exhaust of the fluid.

3,438,309
PNEUMATIC SPRINGS
Jacques Boileau, Clermont-Ferrand, Puy-de-Dome, France, assignor to Compagnie General des Etablissements Michelin raison sociale Michelin & Cie, Clermont-Ferrand, Puy-de-Dome, France
Filed Nov. 30, 1966, Ser. No. 597,976
Claims priority, application France, Dec. 4, 1965, 41,109
Int. Cl. F01b *19/00;* **F16j** *3/00;* **B60g** *11/26*
U.S. Cl. 92—103 **9 Claims**

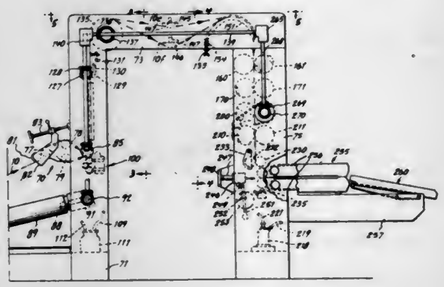


A pneumatic spring includes a flexible diaphragm defining part of an enclosure within which air under pressure is contained. The diaphragm includes a rolled-over or folded part which rolls and unrolls to effect a spring-like action. The rolled-over part contains a reinforcement of one or two plies of steel cables. The cables have a modulus of elasticity, when subjected to a stretching force equal to one-tenth their breaking load, of between about 500 and 5000 kg./mm.². The cables comprise a plurality of steel wires, each wire not exceeding 0.12 mm. in diameter.

ERRATUM

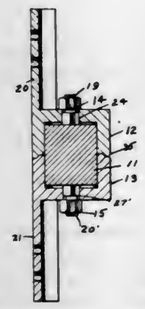
For Class 92—172 see:
Patent No. 3,438,789

3,438,310
ENVELOPE-FORMING APPARATUS AND METHOD
George M. Woodruff, Thornwood, Fred T. Morrison, Flushing, and Ostap Balaban, Richmond Hill, N.Y., assignors to General Foods Corporation, White Plains, N.Y., a corporation of Delaware
Filed Aug. 27, 1965, Ser. No. 483,233
Int. Cl. B31b *23/00, 37/00, 1/14*
U.S. Cl. 93—63 **40 Claims**



A web of envelope stock material is continuously fed and cut into a plurality of parallel strips of interconnected irregular envelope blanks, the blanks of adjacent strips being longitudinally offset relative to one another to accommodate glue flaps formed on the sides of each blank. The several strips are then fed through a glue flap folding station and thence through rephasing mechanism to bring the blanks of adjacent strips into longitudinal alignment to enable simultaneous lateral severance of the several strips into individual envelope blanks prior to the folding thereof into individual envelope structures. Reregistration mechanism operative subsequent to rephasing of the strips and just prior to lateral severance thereof precisely indexes each strip relative to the severing mechanism so that the severance will occur precisely on the line of junction between successive blanks of the respective strips.

3,438,311
HIGHWAY MARKER
Rudolph J. Remek, Fairview, Pa., assignor to Continental Rubber Works, Erie, Pa., a corporation of Pennsylvania
Filed June 14, 1967, Ser. No. 646,024
Int. Cl. E01f *9/01, 9/10;* **E01c** *23/16*
U.S. Cl. 94—1.5 **6 Claims**



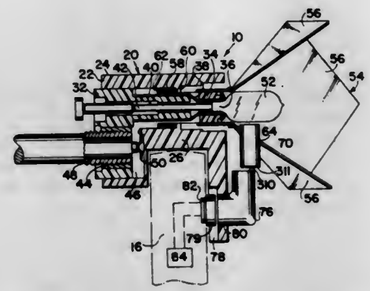
The marker disclosed herein has a torsional unit made of flexible material such as synthetic rubber or the like or some other suitable material. This torsional unit is assembled under tension into a prepared casing. Tension is applied by means of adjusting nuts while the casing is secured and can be deflected in any direction. This torsional unit can be used to support markers on the highway or various signals. It can be bolted or secured to a peg in the ground. The casing can be bolted to a marker post so that when snowplows or trucks or cars bump into the post, its flexibility allows the post to move in an opposite direction. The resiliency of the rubber forces the post to return to its original erect position when the force is removed, thus preventing damage to the post.

3,438,312
GROUND COVERING CAPABLE FOR USE IN PLAYING TENNIS IN THE OPEN AIR OR UNDER COVER
Jean P. M. Becker, 13 Ave. de la Gare, Soissons, Aisne, and André H. F. Mennessier, 70 Blvd. Victor Hugo, Bethune, Pas-de-Calais, France
Filed Oct. 22, 1965, Ser. No. 500,920
Int. Cl. E01c *5/20*
U.S. Cl. 94—13 **11 Claims**



A flexible and resilient ground covering for playing ball games such as tennis, in the open air or under cover. The covering may be made, for example, of a mouldable plastic material, composed of selectively coloured assembled members. The ground covering has an upper substantially smooth face which has over its whole extent regularly spaced openings. The openings pass through the covering and are defined by solid parts such that the surface occupied by the openings comprises between 25% and 55% of the total surface of the covering. The hubs formed by joints of the solid parts are extended perpendicularly to the lower face of the covering by support feet projecting therefrom.

3,438,313
AUTOMATIC EXPOSURE CONTROL FOR PHOTOFLASH EXPOSURES
Jeremy M. Topaz, Rehovoth, Israel, assignor to Polaroid Corporation, Cambridge, Mass., a corporation of Delaware
Filed Mar. 4, 1966, Ser. No. 531,870
Int. Cl. G01j *1/52*
U.S. Cl. 95—10 **14 Claims**

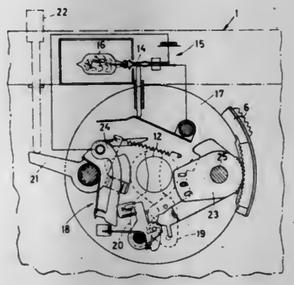


A photoflash mechanism which utilizes light which has not been reflected by the scene. A path is provided for shining a portion of the flash directly onto the photocell.

ERRATUM

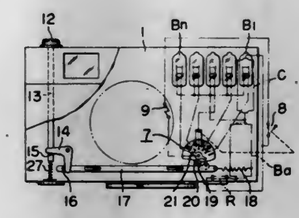
For Class 95—11 see:
Patent No. 3,438,766

3,438,314
PHOTOGRAPHIC CAMERA WITH FLASH UNIT
Karl Wagner, Ottobrunn, near Munich, Germany, assignor to Agfa-Gevaert Aktiengesellschaft, Leverkusen, Germany
Filed May 25, 1966, Ser. No. 552,840
Claims priority, application Germany, June 3, 1965, A 23,858
Int. Cl. G03b *15/035, 9/10*
U.S. Cl. 95—11 **10 Claims**



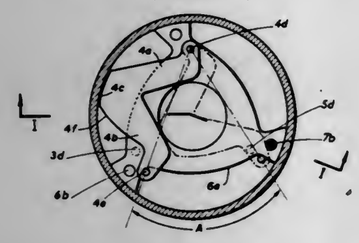
A photographic camera with a fixed diaphragm and an adjustable shutter wherein the shutter is adjusted to furnish shorter exposure times in response to decreasing shooting distance when the camera is used with an illuminating arrangement. The camera has an adjusting member for controlling the exposure time, an index or scale member on the adjusting member for indicating the various shooting distances, and a coupling device for providing an operative connection between the adjusting member and the shutter.

3,438,315
MULTIFLASH ARRANGEMENT FOR CAMERAS
Takeshi Goshima and Koichi Takado, Tokyo, Japan, assignors to Canon Camera Kabushiki Kaisha, Tokyo, Japan, a corporation of Japan
Filed Oct. 12, 1965, Ser. No. 495,095
Claims priority, application Japan, Oct. 12, 1964, 39/58,230
Int. Cl. G03b *9/70*
U.S. Cl. 95—11.5 **11 Claims**



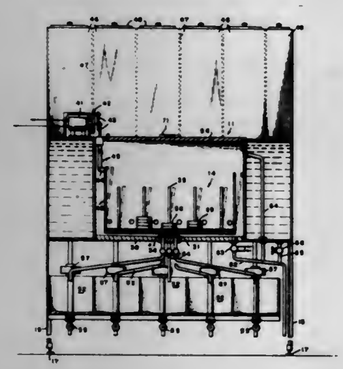
A multiflash arrangement for a camera in which a multiplicity of flash lamps mounted in a cartridge may be sequentially selected automatically, or individually selected manually, through a ratchet mechanism and stepping switch. The ratchet mechanism is advanced by spring charging elements controlled by the shutter release button or the film advancing lever of the camera. The arrangement is such to permit its incorporation into the camera body, or the multilamp cartridge alone or with its power supply may be detachably mounted as a unit on the camera body.

3,438,316
FULLY CLOSING DIAPHRAGM
Christian Rodier, Creteil, France, assignor to Societe d'Optique, Precision, Electronique et Mecanique, Paris, France, a company of France
Filed Dec. 13, 1966, Ser. No. 601,458
Claims priority, application Great Britain, Dec. 29, 1965, 44,179/65
Int. Cl. G03b 9/06
U.S. Cl. 95—64 1 Claim



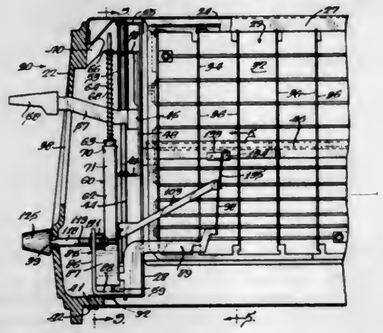
A diaphragm has three movable leaves in a cylindrical casing. Each leaf has the shape of a V and one of the two arms carries a fixed pivot on the rear surface of the leaf and the other arm has a lug on the opposite surface engaged by an operating ring in the casing. The pivot of the leaf furthest from the operating ring is mounted in the base of the casing and the pivots of the other two leaves are mounted in two plates supported in the casing between two leaves.

3,438,317
APPARATUS FOR PROCESSING PHOTOGRAPHIC FILM
Mario Merolli, 40 Ring St., Providence, R.I. 02909, and Edoardo Paniccia, Via Carbonaro 28, Ceprano, Frosinone, Italy
Filed Oct. 22, 1965, Ser. No. 500,936
Int. Cl. G03d 3/04
U.S. Cl. 95—99 3 Claims



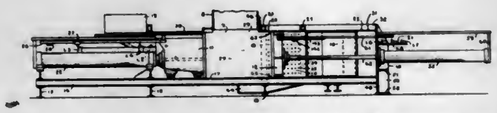
An apparatus for processing photographic film including a developing tank, a plurality of containers for developing solutions in communication with the tank, a feeding mechanism for feeding solutions from the containers to the tank, and a control device for maintaining the liquids in the containers and the tank at a predetermined temperature. The processor has a cradle device including a frame mounted in the bottom of the developing tank for holding the film to be processed, a rack removeably engaged by the frame, and a power source engageable with the cradle for oscillating the same about a point of pivotal engagement with the tank. The removable rack has a plurality of film-supporting elements thereon for holding a plurality of film processing spools at spaced intervals along the rack.

3,438,318
TOASTER
James T. Williams, Downers Grove, Ill., assignor to Sunbeam Corporation, Chicago, Ill., a corporation of Illinois
Filed Sept. 15, 1967, Ser. No. 667,956
Int. Cl. F24c 7/08
U.S. Cl. 99—329 19 Claims



An electric toaster with pneumatic latching means for latching the bread carriage in the toasting position. At the end of a toasting cycle, temperature responsive means permitting air to enter the pneumatic latching means with the result that the movable piston embodied therein is free to move to permit the return of the carriage to its upper or bread slice receiving position.

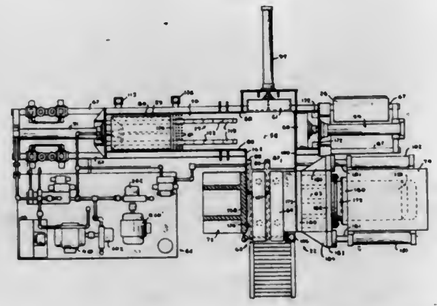
3,438,319
BALING SYSTEM
Hilary A. Raab, Hammond, Ind., assignor to East Chicago Machine Tool Corporation, East Chicago, Ind., a corporation of Indiana
Filed Sept. 21, 1965, Ser. No. 489,029
Int. Cl. B30b 13/00, 15/26, 5/00
U.S. Cl. 100—35 30 Claims



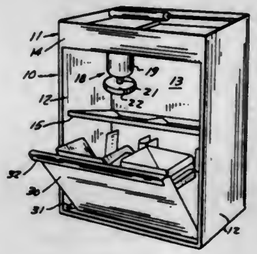
The invention, among other things, is directed to a baling machine and method whereby a pair of reciprocal rams coact to compact material into a mass within the confines of an elongate chamber having an outlet intermediate its length, and means for ejecting the mass laterally through the outlet.

3,438,320
APPARATUS AND METHOD FOR COMPACTING MATERIAL
Hilary A. Raab, Hammond, Ind., assignor to East Chicago Machine Tool Corporation, East Chicago, Ind., a corporation of Indiana
Filed July 11, 1966, Ser. No. 564,337
Int. Cl. B30b 13/00, 15/26
U.S. Cl. 100—35 43 Claims

The invention, among other things, is directed to a machine and method whereby a pair of reciprocable rams coact to compact and move material in an elongated chamber to a position opposite an opening intermediate the length of the chamber, utilizing a third ram for ejecting all of the compacted material transversely through the outlet, and means including a fourth ram disposed adjacent to the outlet for recompacting the material into a mass of greater density.



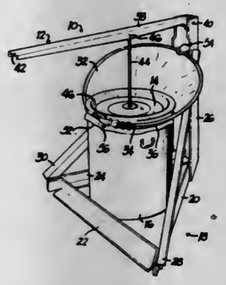
3,438,321
TRASH COMPRESSOR
Floyd R. Gladwin, Grosse Isle, Mich. (14500 Eureka St., Southgate, Mich. 48192)
Filed Dec. 8, 1967, Ser. No. 689,129
Int. Cl. B30b 15/06, 15/02, 1/32
U.S. Cl. 100—221 7 Claims



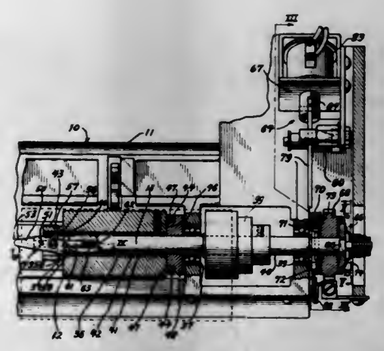
A trash compressor formed of a cabinet containing, in its lower portion, a vertically elongated open top receptacle, having front and side walls, but an open rear, pivotally connected at its lower end to the cabinet for swinging forwardly outwardly of the cabinet, with the rear wall of the receptacle normally closed by the cabinet rear wall. A horizontally arranged cover, having a central opening, fits over the receptacle to hold it in place, with the cover being hingedly secured to the cabinet for swinging upwardly to thus permit outward swinging of the receptacle. A disposable bag is closely fitted within the receptacle, with its upper edge folded over the three walls thereof. A downwardly movable ram, located above the receptacle, compacts the trash contained within the bag, with the ram being horizontally movable to also compact trash contained within a second receptacle and bag positioned within the cabinet, alongside the first mentioned receptacle.

3,438,322
REFUSE PRESS
Joseph A. Marasco, 6882 Cedarbrook, Birmingham, Mich. 48010
Filed Feb. 8, 1967, Ser. No. 614,588
Int. Cl. B30b 1/04, 9/28; B65b 1/24
U.S. Cl. 100—233 9 Claims

The invention provides a press device for compressing refuse in a disposable container so that both the refuse and the container can be disposed of. In the press device, the disposable container is held inside of a permanent container by a hoop clamp which clamps the top edge of the disposable container to the permanent container. The containers are filled with loose refuse, such as leaves, grass, papers, etc. A compressor structure including a plunger and piston is then moved downward in the containers to compress the refuse. The compressor structure may further include a lever pivotally connected to a frame, with the plunger and piston being attached to the lever. The permanent container may have a funnel-like extension at the top thereof, the bottom of the extension being clamped to the permanent container by the same hoop which clamps the disposable container. A second hoop may be provided to brace the top end of the extension, and the two hoops may have a common fastener for tightening them.



3,438,323
ARTICLE CONTROLLED ROTARY ENDORSER
Louis A. Smitzer, Chicago, Adolph J. Gawin, Skokie, and Chester S. Rempala and Jerome C. Zis, Chicago, Ill., assignors to Bell & Howell Company, Chicago, Ill., a corporation of Illinois
Filed Oct. 24, 1965, Ser. No. 504,454
Int. Cl. B41f 13/26
U.S. Cl. 101—233 2 Claims

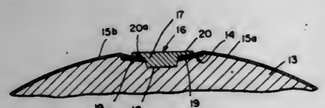


Document endorsing apparatus having a die roller mounted on the unsupported end of a cantilevered shaft which is continuously engaged with a rotative source through a friction clutch. Rotation of the shaft is controlled by solenoid operated abutment means energizable through document actuated time delay means which enables placement of the endorsement at any location along the document.

3,438,324
MAGNETIC PRINTING PLATE HOLDDOWN MEANS

Ross C. Meade and Charles J. Sanders, De Pere, Wis., assignors to Paper Converting Machine Company, Inc., Green Bay, Wis., a corporation of Wisconsin

Filed Jan. 18, 1967, Ser. No. 610,176
Int. Cl. B41f *13/10, 27/06*
U.S. Cl. 101—378 2 Claims

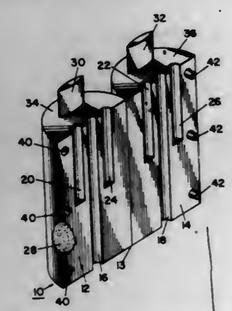


This invention relates to a magnetic printing plate holddown means and method. The invention is practiced with plate cylinders having a plurality of annular magnetic discs for attaching a metal back printing plate in conforming relation to the cylinder surface. The cylinder surface is equipped with an elongated axially-extending groove in which the ends of the printing plate are received and are clamped in immobile relation by means of a retainer bar contoured to fit the groove.

3,438,325
PLASTIC PRIMER CARTRIDGE

Graham D. Martin, Wilmington, Del., assignor to Atlas Chemical Industries, Inc., Wilmington, Del., a corporation of Delaware

Filed Oct. 26, 1967, Ser. No. 678,434
Int. Cl. F42b *3/02*
U.S. Cl. 102—24 1 Claim



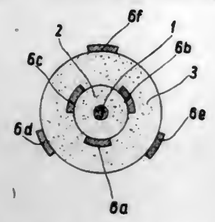
An explosive, plastic and waterproof primer cartridge is disclosed for use in containing relatively water sensitive explosive charges. The primer cartridge may include a main explosive charge disposed in two elongated hemicylindrical waterproof sections, each of which is provided with a flat or otherwise mating face surface, and face sourface joining means disposed on the face surface or holding the elongated sections in face-to-face relationship.

3,438,326
FUSE ELECTRICALLY IGNITED BY PIEZOELECTRIC GENERATOR

Franz R. Thomanek, Sandizell, and Manfred Held, Pottmes, Germany, assignors to Bolkow Gesellschaft mit beschrankter Haftung, Munich, Germany

Filed May 25, 1967, Ser. No. 641,186
Claims priority, application Germany, June 10, 1966, B 87,498
Int. Cl. F42c *13/00*
U.S. Cl. 102—70.2 15 Claims

The disclosure relates to a fuse electrically ignited by a piezoelectric generator which latter is activated by mechanical energy applied thereto. A relatively small auxiliary explosive charge is arranged in mechanical association with the piezoelectric generator electrically connected to the fuse. A mechanically activated fuse is operatively associated with the auxiliary explosive charge

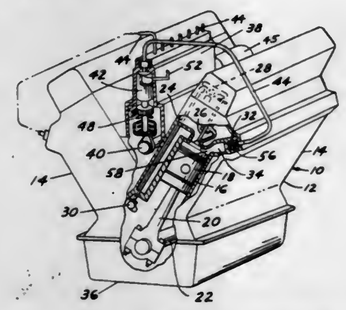


to detonate the latter to apply mechanical energy to the piezoelectric generator to ignite the electrically ignited fuse.

3,438,327
HIGH SPEED AUTOMOTIVE TYPE DIESEL ENGINE

Lionel D. Thompson, Bloomfield Hills, Mich., assignor to Holly Carburetor Company, Warren, Mich., a corporation of Michigan

Filed July 11, 1966, Ser. No. 564,276
Int. Cl. F04b *49/08;* F04d *15/00;* F02m *39/00*
U.S. Cl. 103—41 18 Claims



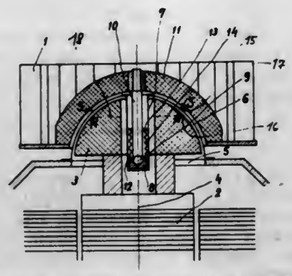
A fuel injection pump for a multicylinder engine intended to idle on less than all its cylinders, the pump including a fuel cylinder for each engine cylinder, each fuel cylinder having a rotatable and reciprocable plunger with a contoured edge inclined with respect to the plunger axis and cooperating with a control port in the fuel cylinder to determine the effective pumping stroke of the plunger, means for reciprocating and rotating the plungers, the control edges for the engine cylinders operating at idle being inclined or contoured so as to supply fuel at engine idle and the control edges for the engine cylinders not operating at idle being inclined or contoured differently so as to gradually reduce fuel at a greater rate on decreasing load until no fuel is supplied thereby at engine idle, the pump, in its preferred embodiment, including an idle governor whereby those engine cylinders operating at engine idle receive more fuel than they would if all engine cylinders were operating at engine idle.

3,438,328
MAGNETIC TORQUE TRANSMISSION DEVICE

Nikolaus Laing, 35–37 Hofener Weg, 7141 Aldingen, Germany

Continuation-in-part of application Ser. No. 509,714, Nov. 26, 1965. This application Nov. 27, 1967, Ser. No. 685,931
The portion of the term of the patent subsequent to Nov. 28, 1984, has been dedicated to the Public
Int. Cl. F04d *13/06;* H02k *5/10*
U.S. Cl. 103—87 9 Claims

A magnetic torque transmission device having a first magnetic member having a spherical inner surface and a second magnetic member having a spherical outer surface mounted with respect to each other so that the axis of

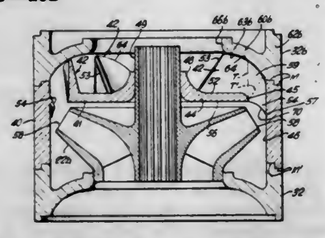


the second member intersects the axis of the first member at a fixed point and so that said first member will have a limited universal movement about said fixed point.

3,438,329
MULTISTAGE HYDRAULIC PUMP HAVING IMPROVED DIFFUSER MEANS

Thaddeus W. Fuller, Overland Park, Kans., assignor to Fairbanks Morse Inc., New York, N.Y., a corporation of Delaware

Filed June 13, 1967, Ser. No. 645,653
Int. Cl. F04d *1/06, 13/02*
U.S. Cl. 103—102 5 Claims

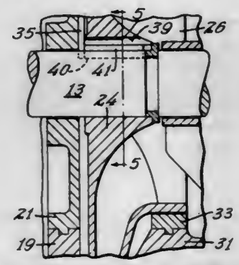


A diffuser for a multistage submersible pump utilizing in particular, stage impellers of turbine or mixed flow type, wherein the diffuser has improved guide vanes defining passages for efficient and smooth fluid transfer from the output of one impeller to the intake of the next succeeding impeller; is formed as an integral, one-piece member of suitable material such as a plastic, and is adapted to be cast or molded by a two-part, straight-draw mold.

3,438,330
NOISE SUPPRESSION MEANS

Louis B. Evans, Afton Township, Washington County, Minn., assignor to Waterous Company, Ramsey, Minn., a corporation of Minnesota

Filed Oct. 20, 1965, Ser. No. 498,438
Int. Cl. F04d *1/00*
U.S. Cl. 103—113 4 Claims

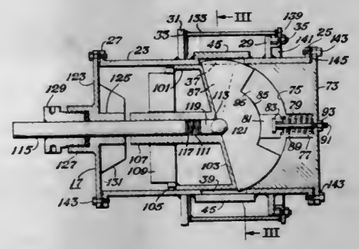


The invention relates to a structure for preventing the cavitation of a centrifugal pump. One or more passages are provided from the mouth of the impeller to the opposite side thereof which is open to all or a part of the pressure at the discharge of the impeller. In preferred form, the passage is formed by providing a groove communicating with the base of a key-way which is either in the impeller or in the supporting shaft. The arrangement is such that the groove may be formed while machining the key-way. In another form angularly spaced passages through the impeller form the connection between the high and low pressure chambers.

3,438,331
PUMP

Aaron J. Hutchins, Fort Worth, Tex., assignor of fifty percent to Hubert R. Hutchins, Fort Worth, Tex.

Filed May 11, 1967, Ser. No. 637,692
Int. Cl. F04c *1/02*
U.S. Cl. 103—124 14 Claims



This specification discloses, for pumping slurries and other difficultly pumpable fluids, a rotary pump characterized by: (a) a cylindrical housing; (b) a stator fixed relative to one end of the housing and having a conical portion axially disposed within the housing, the conical portion having therein a transverse, semicircular diametral slot; (c) a hollow rotor axially disposed within the housing and having an oblique planar end surface which is in tangential contact with a lineal element of the conical surface, the rotor having a fluid port in its end surface; (d) a semicircular paddle disposed in the slot and pivotable about the axis of the housing; (e) means for maintaining the edge of the paddle in linear contact with the oblique planar surface; (f) a fluid inlet port in the housing for admitting fluid to the rotor; and (g) two discharge valves mounted on the housing. The specification also discloses a preferred embodiment in which the fluid port is located near the point of maximum thickness of the rotor, and covers about one-fourth the area thereof; and fan blades are mounted on the shaft of the rotor to urge the fluid therethrough. The pump combines the best features of a double acting positive displacement pump and a centrifugal pump, being able to pull a substantial vacuum, effect high discharge pressures, or pump large quantities of fluids, all without significant pulsations in pressure.

3,438,332
PUMPS

Aaron J. Hutchins, Fort Worth, Tex., assignor of fifty percent to Hubert R. Hutchins, Fort Worth, Tex.

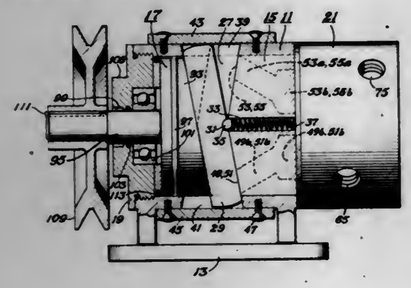
Filed May 11, 1967, Ser. No. 637,739
Int. Cl. F04c *1/16*
U.S. Cl. 103—124 7 Claims

This specification discloses a rotary pump characterized by:

(a) a cylindrical housing;

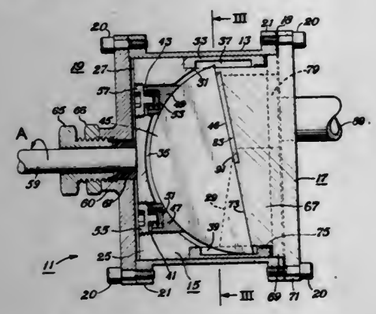
(b) a stator fixed relative to one end of the housing and having a conical portion axially disposed within the housing, the conical portion having therein a transverse diametral slot and two inlet and two outlet fluid passages extending therethrough;

(c) second and third slots in opposite sides of the housing, aligned with the diametral slot and adapted to sealingly accommodate ends of a paddle;
(d) cover plate members removably secured to the housing and sealingly covering the second and third slots in the housing;
(e) a paddle disposed in the diametral slot with its ends sealingly accommodated within said second and third slots, and pivotable about a point on the axis of said stator with its ends reciprocal along the longitudinal axis of the housing in the second and third slots;



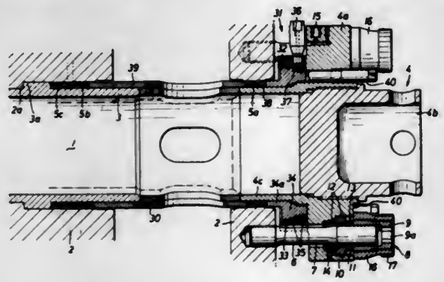
(f) a valve block having two inlet and two outlet check valves associated with the fluid passages of the stator; and
(g) a solid ungulate rotor axially disposed in the housing and arranged so that its truncate surface is in contact with the inner edge of the paddle.

3,438,333
ROTARY PUMP
Aaron J. Hutchins, Fort Worth, Tex., assignor of fifty percent to Hubert R. Hutchins, Fort Worth, Tex.
Filed May 11, 1967, Ser. No. 637,740
Int. Cl. F04c 1/16
U.S. Cl. 103—142 **7 Claims**



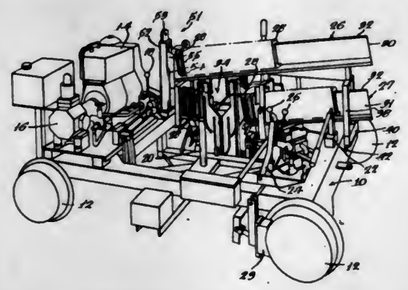
This specification discloses a fluid pump characterized by:
(a) a housing having therein a chamber defined by a side wall and end walls;
(b) a rotor mounted in the chamber for rotation in the housing, the rotor having a conical-shaped inner end with a slot therein and being provided with a skirt extending beyond the rotor to accommodate an ungulate portion of a stator, the skirt having grooves therein in line with the slot in the rotor for accommodating a paddle;
(c) a stator disposed in and secured to the housing, the stator having an ungulate portion within the skirt and with the truncate planar surface thereof adjacent to the conical-shaped end of the rotor;
(d) a paddle disposed in and movable in the slot, the paddle having a straight edge which is in contact with the truncate planar surface; and
(e) fluid inlet and outlet ports in the ungulate portion of the stator communicating with the interior and the exterior of the housing and separated by a partition; the inlet and outlet ports being adjacent to one another.

3,438,334
PUMPS, IN PARTICULAR SCAVENGING PUMPS FOR USE IN DRILLING OPERATIONS
Martin Schaaf, Erkelenz, Rhineland, Germany, assignor to Maschinen- und Bohrgerate-Fabrik Alfred Wirth & Co., K.G., Erkelenz, Rhineland, Germany, a company of Germany
Filed May 15, 1967, Ser. No. 638,265
Claims priority, application Germany, May 20, 1966, M 69,556
Int. Cl. F04b 21/08
U.S. Cl. 103—216 **5 Claims**



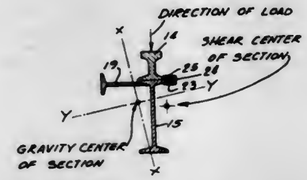
The present invention relates to improved fixing and loading means for use in association with the packing glands of high-pressure drill rig scavenging pumps and comprises arrangements for producing the initial loading on the gland packings by fluid pressure and for maintaining such loading by mechanical devices which become operative when the fluid pressure is released, a similar arrangement being provided for fixing the external component associated with the packing gland.

3,438,335
RAIL ANCHOR SETTER
William P. McIlrath, Racine, Wis., assignor to Racine Hydraulics & Machinery, Inc., a corporation of Wisconsin
Filed July 13, 1967, Ser. No. 653,207
Int. Cl. E01b 29/32, 9/38
U.S. Cl. 104—2 **15 Claims**



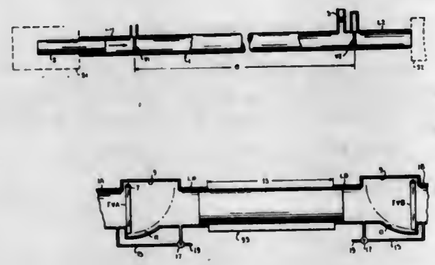
A rail anchor setter including a magazine for receiving a plurality of rail anchors to be located on rails adjacent rail supporting ties, an anchor setting means, a feeder associated with the magazine for feeding the anchor from the magazine to the anchor setting means, the latter receiving the anchor from the feeder and applying the same to the rail and including a means for boxing the anchors applied to the rail about a tie.

3,438,336
OVERHEAD CRANE RUNWAY STRUCTURES
Ernest Kalve, 1934 N. Hoyne Ave., Chicago, Ill. 60647
Filed Mar. 23, 1966, Ser. No. 536,895
Int. Cl. E01b 25/00; B66c 17/02
U.S. Cl. 104—124 **10 Claims**
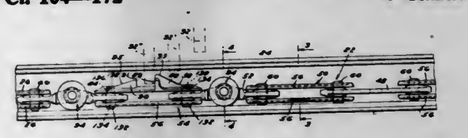


An overhead crane structure has a longitudinally extending supporting frame, a rail mounted on the frame, and prestressing means acting on the frame and located eccentrically relative to the gravity center of the frame and operative to neutralize lateral and torsional deflecting forces imposed by service loads in the operation of a crane on the rail.

3,438,337
HIGH-SPEED GROUND TRANSPORTATION SYSTEM
Lawrence K. Edwards, 301 Santa Rita Ave., Palo Alto, Calif. 94301
Continuation of application Ser. No. 473,724, July 21, 1965. This application Apr. 10, 1968, Ser. No. 720,408
Int. Cl. B61b 13/10; B65g 51/04
U.S. Cl. 104—156 **20 Claims**



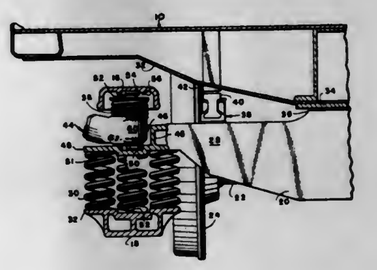
A high-speed ground transportation system comprises a duct through which a vehicle is adapted for propulsion as a free piston. Valves are provided adjacent the ends of the duct, with air locks open to the atmosphere outward of the valves. The section of the duct between the valves is pre-evacuated. With the vehicle in one lock, on opening the respective valve, atmospheric air pressure forces the vehicle into said section. After the vehicle has passed the valve, the latter is closed to trap a slug of air between the valve and the rear of the vehicle. This trapped slug of air expands to apply propulsion force to the rear of the vehicle, with attenuation of the air behind the vehicle to restore vacuum in the duct and with compression of air ahead of the vehicle. The valve at the other end of said section opens when the pressure ahead of the vehicle generally equals atmospheric pressure and, after the vehicle stops in the other air lock, this valve is closed.

3,438,338
SUB-FLOOR CONVEYOR SYSTEM
Jorgen S. Bildsoe, Royal Oak, Robert Krammer, Detroit, and Raymond A. Muirhead, St. Clair Shores, Mich., assignors to Taylor & Gaskin, Inc., Detroit, Mich., a corporation of Michigan
Filed Dec. 9, 1966, Ser. No. 600,544
Int. Cl. B61b 13/12, 9/00; B61j 3/04
U.S. Cl. 104—172 **6 Claims**



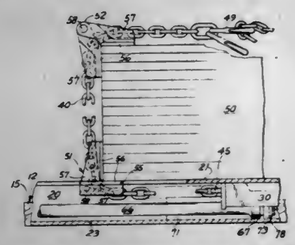
A sub-floor conveyor system for propelling wheeled trucks having a depending tow pin, the system being of such compact design as to enable its installation in structures not specifically intended to accommodate such a system. The system includes a track of generally rectangular cross section for disposal under the floor, and a continuous drive chain positioned within the track to be driven therealong by suitable motive means, the chain comprised of a series of links having similar overall dimensions and configurations, certain of the links being provided with integral driving dogs engageable with the depending tow pins on the trucks, and certain other links having wheel mounting means wherein track-riding wheels are mounted on the links within recesses so that the wheels lie substantially laterally within the marginal edges of the links.

3,438,339
RAILWAY TRUCK BOLSTER HYDRAULICALLY SNUBBED
Charles Moehling, Arlington Heights, Ill., assignor to Amsted Industries Incorporated, Chicago, Ill., a corporation of Delaware
Filed Dec. 15, 1967, Ser. No. 691,058
Int. Cl. B61d 5/06
U.S. Cl. 105—197 **3 Claims**



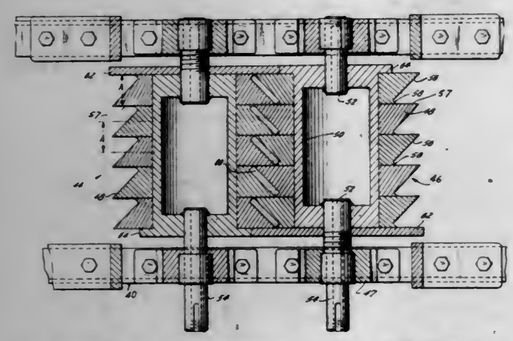
An hydraulic shock absorbing or snubbing device is located between the top or compression member of each side frame and the bolster of a railway car truck. In order to accommodate the snubber in this position, the bolster is provided with a cavity beneath each side frame and a recessed area in its bottom wall. A corresponding recess is provided in the side frame spring seat, such that the load carrying spring between the recessed areas is lowered.

3,438,340
ADJUSTABLE AND SELF-STORING FREIGHT TIEDOWN APPARATUS
Charles Brian Pendleton, Chicago, Ill., assignor to Mac-Lean-Fogg Lock Co., Mundelein, Ill., a corporation of Illinois
Filed Apr. 12, 1967, Ser. No. 630,445
Int. Cl. B61d 45/00
U.S. Cl. 105—369 8 Claims



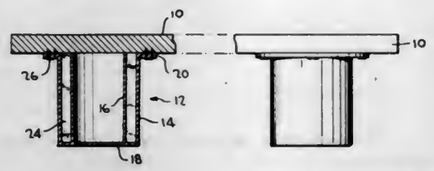
A heavy duty tiedown apparatus provided by a fixed tubular casing from which extend chain lengths for wrapping about freight. Corner protectors are provided between the chain and each corner of the load. The lower corner protectors are engaged in elongated casing slots and slidable to various tiedown positions. Protected within the casing is an anchored dual direction jack-screw and two separate traveler blocks, which are engaged on right and left hand threads of the jack-screw, respectively. The inside ends of the chain lengths are affixed to the traveler blocks which are movable by turning the jack-screw from either end of the casing, and thus, the chains may be tightened or loosened, as desired.

3,438,341
CANDY FORMING METHOD AND APPARATUS
Robert L. Greenberg, Englewood, N.J., assignor to National Equipment Corporation, Bronx, N.Y., a corporation of New York
Filed Feb. 7, 1966, Ser. No. 536,491
Int. Cl. A23g 3/06
U.S. Cl. 107—69 9 Claims



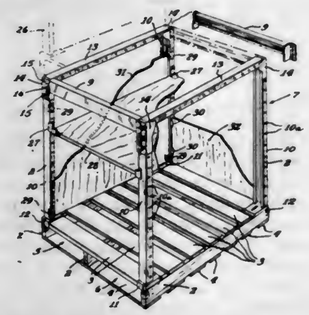
A candy forming apparatus according to which the entire volume of a mass of plastic material is converted into individual candy pieces of a predetermined length without any waste. The entire volume of the mass of plastic material is simultaneously sheared into a plurality of ropes while the mass is simultaneously shaped at each rope to provide each rope with a predetermined cross-sectional configuration which subsequently is changed into the final configuration of the candy pieces. The shearing of the mass of plastic is brought about by way of a roller means which determines the configuration of the ropes solely by maintaining in engagement with the plastic material moving surfaces with the shearing roller means defining spaces through which the plastic material passes and which determine the entire cross-sectional configuration of the ropes. The ropes which are provided in this way by the shearing roller means are subsequently acted upon by sizing roller means which change the cross sectional configuration of the ropes, after which the thus-changed ropes are conveyed away by a conveyor means.

3,438,342
MATERIAL-HANDLING PALLET AND IMPROVED PALLET LEG OR SUPPORT AND LOAD-DISTRIBUTING ATTACHMENT THEREFOR
Richard G. Woolworth, Lancaster, Pa., and Paul Allen, Ephrata, Pa., assignors to Woodstream Corporation, Lititz, Pa., a corporation of Pennsylvania
Filed Apr. 18, 1967, Ser. No. 631,690
Int. Cl. B65d 19/38, 19/32
U.S. Cl. 108—51 17 Claims



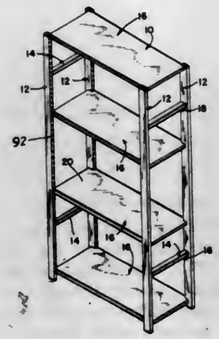
A pallet leg or support, preferably formed of a high impact plastic, and incorporating a double-wall arrangement including an outer wall member and an inwardly spaced inner wall member. Reinforcing means are advantageously provided at least in the space between the inner and outer wall members. Such reinforcing means may be spaced web members or a reinforcing insert. Further, each pallet leg includes an upper laterally extending structure which may be used to advantage as an attachment area for direct affixation of the pallet leg to the pallet structure. Also, the pallet leg may be releasably affixed to the pallet structure by means of an upper or top securing member which threadably engages with the actual pallet leg. Additionally, a load-distributing attachment may be provided for each pallet leg whenever a larger area of contact is desired.

3,438,343
STACKING FRAMES FOR PALLETS
Kennedy McConnell, Riverdale, Ill., assignor to Interlake Steel Corporation, Chicago, Ill., a corporation of New York
Filed Mar. 30, 1967, Ser. No. 627,115
Int. Cl. B65d 19/14, 21/02
U.S. Cl. 108—53 9 Claims



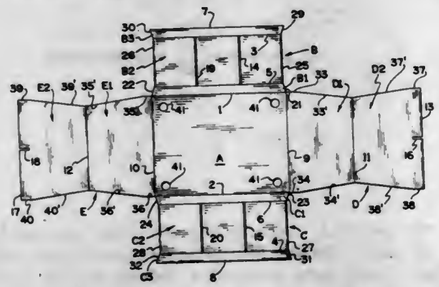
A stacking assembly having a superstructure mounted on a pallet for vertical tiering of similar assemblies. The superstructure is detachably secured to a pallet and has post members and pallet support beams thereon which are detachably engaged with each other by means of engaging lugs and openings. The post members have longitudinal openings therein for accommodating clips constructed to retain either vertical side walls or horizontal shelf members.

3,438,344
KNOCKDOWN STEEL SHELVING UNIT AND CORNER FASTENING MEANS
Irwin J. Ferdinand, Glencoe, and Dale R. Lopatka, Glenview, Ill., assignors to S. A. Hirsh Manufacturing Company, Skokie, Ill., a corporation of Illinois
Continuation-in-part of application Ser. No. 597,344, Nov. 28, 1966. This application Mar. 14, 1967, Ser. No. 623,027
Int. Cl. A47b 55/00, 57/26
U.S. Cl. 108—110 28 Claims



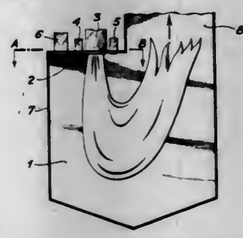
Knockdown steel shelving in which a notched shelf flange has a lever arm rotatable thereon, either about a fixed axis or a shifting axis for retracting a sliding clamp element fully within the flange confines or extending it to carry latching tongues on it into latching engagement with apertures on corner support posts for locating the shelf at a selected height. The rotatable lever arm eccentrically carries an arcuately moving driving element that cams the sliding element about a fixed working axis to draw the shelf flange into end-abutting rigidifying contact against the post with the lever arm portion concealed behind the flange, said lever arm having a hardened offset portion of large diameter rotatably engaging a circular wall of an opening in the wall.

3,438,345
ONE-PIECE COLLAPSIBLE TABLE
Alfred D. Lasaine, Terrance W. Mattson, Clifford William Moore, and Glen R. Otey, all of 1880 Spruce St., Livermore, Calif. 94550
Filed May 22, 1967, Ser. No. 639,961
Int. Cl. A47b 3/00
U.S. Cl. 108—115 1 Claim



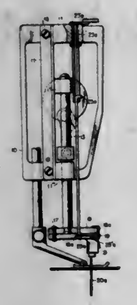
A collapsible table formed from a single blank that is cut and folded to provide two V-shaped supporting legs, the blank also having a central table top area with side flaps that can be folded to reinforce the table top and also to receive the upper ends of the inner sides of the V-shaped legs. The table top can have openings near its corners for removably receiving drinking glasses and the bottoms of the glasses are supported in a novel manner. The completely folded table requires no fastening means to keep the parts assembled and yet the table can be folded into a flat condition for storage and transportation.

3,438,346
STEAM GENERATOR FIRING SYSTEM AND METHOD OF CONTROLLING SAME
Walter Ott, Elgg, Zurich, Switzerland, assignor to Sulzer Brothers Limited, Winterthur, Switzerland, a corporation of Switzerland
Filed Oct. 31, 1966, Ser. No. 590,685
Claims priority, application Switzerland, Nov. 5, 1965, 15,322/65
Int. Cl. F23c 5/26; F23d 1/00
U.S. Cl. 110—28 8 Claims



A flow of guiding air is directed into the combustion chamber between the wall and the burner nozzle in order to pull the downwardly directed part of the U-shaped flame toward the wall and thus further down into the combustion chamber. The longer downward length of the flame allows complete combustion of the combustion particles.

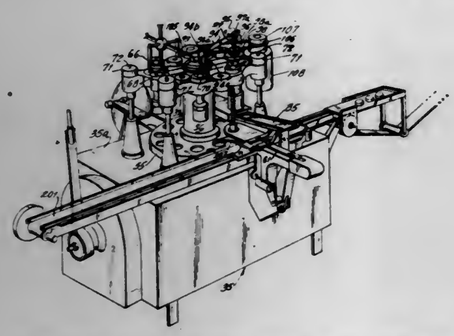
3,438,347
NEEDLE-BAR DEVICE WITH DOUBLE NEEDLE ACTION IN FANCY-STITCHING SEWING MACHINE
Bunsaku Taketomi, 2–9 Uchiyama-cho, Chikusa-ku, Nagoya-shi, Aichi-ken, Japan
Filed Feb. 3, 1967, Ser. No. 613,929
Claims priority, application Japan, Nov. 1, 1966, 41/72,294
Int. Cl. D05b 3/02, 55/10
U.S. Cl. 112—158 2 Claims



A needle-bar device with double needle action wherein a pair of needle holders which can oscillate individually and horizontally are disposed at the lower end of the needle-bar, said needle holders being oscillated individually by a pair of zigzag controlling rods having vertical

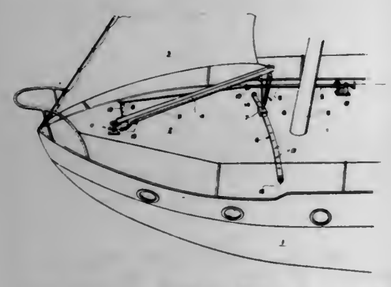
portions and horizontal portions, either of the needles oscillate over enough amplitude to sweep the sweeping area of the other needle without disturbing the motion of the latter.

3,438,348
METHOD AND APPARATUS FOR PRODUCING LUG TYPE CLOSURE CAPS
Augustus L. Merolle, 1171 86th St., Brooklyn, N.Y. 11228
Filed Oct. 12, 1966, Ser. No. 586,200
Int. Cl. B21d *51/00, 53/00*
U.S. Cl. 113—1 8 Claims



Apparatus for producing metal closure caps includes holding means which engages a metal shell having a circular skirt which is essentially at a right angle to the circular base of the shell up to and including the raw edge portion of the skirt. The holding means engages the shell and continues to hold the shell during all the steps required to transform the shell into a finished closure cap having a liner disk. At a first station of the apparatus a liner disk is inserted into the shell. Thereafter a spinning device partially incurls the raw edge of the skirt to form a flange. In the next operation a die means partially incurls the flange. Thereafter another die means engages the partially incurled flange to form partial lugs and partial beads. Further die means then engages the partially formed lugs and beads to transform these elements into their final forms.

3,438,349
BALANCED BEARING SAILBOAT TRAVELER
Larry L. Curtis, 303 Olive Ave., Larkspur, Calif. 94939; Thomas M. O'Gorman, 21 Echo Ave., Corte Madera, Calif. 94925; and Bing A. Cox, 7700 Palma Parkway, Sacramento, Calif. 95823
Filed Sept. 11, 1967, Ser. No. 666,741
Int. Cl. B63h *9/10*
U.S. Cl. 114—102 4 Claims



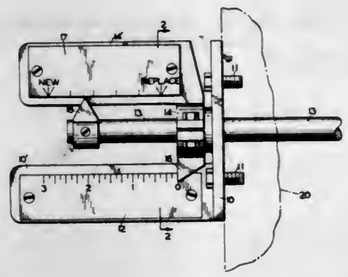
An improved sailboat fitting or traveler for use in guiding and controlling the motion of the boom of a sailboat. A runner or carriage is connected to the boom through conventional ropes and blocks to the boom or spar and arranged to travel on a T-shaped rail. The runner is equipped with anti-friction bearings to bear upon the surfaces of the T, in a novel arrangement so as to provide ease of travel of the runner on the rail and hence operation of the sail regardless of the magnitude or direction of the wind pressure, position of the sail or relative directions of movement of the boat.

3,438,350
HULL STRUCTURE FOR FAST-MOVING SHIPS
Constantin M. Gallin, Hamburg, Germany, assignor to Blohm & Voss A.G., Hamburg-Steinwerder, Germany, a company of Germany
Filed Apr. 11, 1967, Ser. No. 630,024
Int. Cl. B63b *1/06, 1/08*
U.S. Cl. 114—56 6 Claims



Hull structure for fast-moving ships in replacement for conventional smooth line hull formation utilizing plane surfaces at the bow and stern of the ships, which plane surfaces intersect at critical angles of approximately 150 to 180° along planes passing through the tangents to the streamline in the bow and at critical angles not exceeding 120° in the stern to keep down power consuming turbulence or wave formation in such a way that the ship's resistance remains of the same order of magnitude as that of a similar ship with conventional curved smooth outline while preserving the hull's main dimensions, displacement and displacement center.

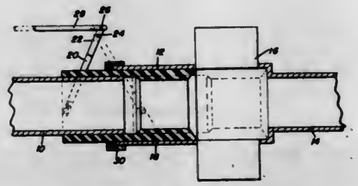
3,438,351
MEANS FOR SIMULTANEOUSLY INDICATING THE SPACING BETWEEN TWO OPPOSED ATTRITIONING ELEMENTS AND THEIR CONDITION OF WEAR
Robert B. Kirkwood, Portland, Oreg., assignor to Morden Machines Company, Portland, Oreg., a corporation of Oregon
Filed Sept. 2, 1966, Ser. No. 576,967
Int. Cl. G09f *9/00*
U.S. Cl. 116—124 3 Claims



A rod attached to the axially-adjustable element in a pair of axially-aligned attritioning elements and sliding through a stationary member; a slidable bracket on the rod engaging the member when the axially-adjustable element is brought into actual contact with the opposing element at each setting; a pointer on the bracket moving over a stationary scale to indicate the actual spacing between

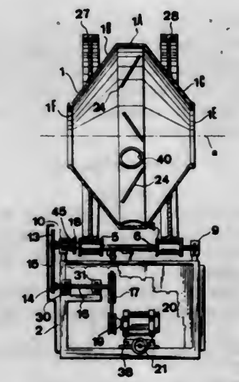
the elements when separated; a second scale carried by the slidable bracket; and a pointer fixed on the rod indicating on the second scale the amount of wear of the elements at each setting.

3,438,352
METHOD FOR FORMING AND/OR AUGMENTING AN ENERGY WAVE
Clarence W. Brandon, Tallahassee, Fla., assignor of twelve and one-half percent to Orpha B. Brandon, Tallahassee, Fla., and fifty percent to Nat A. Hardin, Catherine H. Newton, and Hazel H. Wright, all of Forsyth, Ga.
Original application June 3, 1954, Ser. No. 434,299, now Patent No. 3,042,115, dated July 3, 1962. Divided and this application June 29, 1962, Ser. No. 206,207
Int. Cl. G10k *10/00, 11/00*; E21b *43/25*
U.S. Cl. 116—137 41 Claims



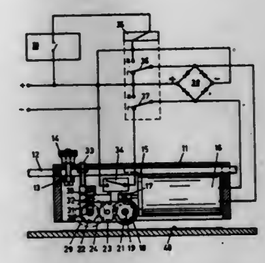
The level of energy transmitted through a transmitting medium is controllably varied by intermittent transfer of heat to or from the energy transmitting medium at a controllable frequency or interruption rate. The heat energy is furthermore transferred in a predetermined phase relation to the energy transmitted through the medium.

3,438,353
CANDYING APPARATUS FOR COATED CONFECTIONERY
Pietro Pellegrini, Milan, Italy; Colomba Quadri Pellegrini, heir of said Pietro Pellegrini, deceased; Jole Lazzaretti Pellegrini, heir of said Pietro Pellegrini, deceased, and guardian of Carla Pellegrini, minor; said Colomba Quadra Pellegrini assignor to said Jole Lazzaretti Pellegrini as guardian of Carla Pellegrini
Continuation of application Ser. No. 391,900, Aug. 25, 1964. This application Oct. 4, 1967, Ser. No. 672,927
Claims priority, application Italy, Mar. 7, 1964, 44,800/64
Int. Cl. A23g *3/26*
U.S. Cl. 118—19 4 Claims



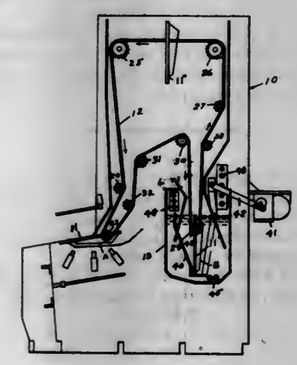
A drum for candying tablets or the like having a narrow central cylindrical portion with internal blades thereon and a tapered frusto-conical portion at each end of the cylindrical portion, the conical portions having greater axial length than the cylindrical portion and serving for the circulation of the material to be candied, the central portion serving to return the material to the frusto-conical portions.

3,438,354
DEVICE FOR APPLYING MARKS TO PHOTOGRAPHIC PAPER
René Luescher, Regensdorf, Zurich, Switzerland, assignor to Ciba Limited, Basel, Switzerland, a Swiss company
Filed July 6, 1967, Ser. No. 651,517
Claims priority, application Switzerland, July 21, 1966, 10,566/66
Int. Cl. B05c *1/08*; F16h *35/06*
U.S. Cl. 118—76 6 Claims



A marking device for applying marks to photographic paper comprising an epicyclic transmission, a reversible D.C. electric motor for driving the sun wheel, a planet wheel arm pivotable on the sun wheel shaft, a planet wheel shaft carried by the planet wheel arm, a marking wheel on the planet wheel shaft and a brake acting on one of the gear shafts. Rotation of the motor in one direction causes the planet wheel to climb around the sun wheel as a result of the brake, thus, bringing the marking wheel into contact with the paper. Rotation of the motor in the other direction lifts the marking wheel off the paper.

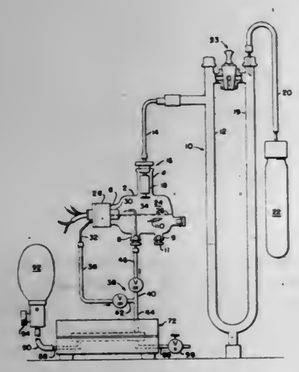
3,438,355
MASK WASHER
Robert B. Way, 439 Vermont Ave., Erie, Pa. 16505
Filed July 10, 1967, Ser. No. 652,109
Int. Cl. B05b *1/28, 15/04*
U.S. Cl. 118—301 10 Claims



The invention involves an automatic painting machine and mask washer combination. The machine has a plu-

rality of masks supported between two chains. The chains carry the masks through a serpentine path from a painting position when articles are supported over the masks by means of hydraulic cylinders to a mask washing position in a tank of paint solvent. An agitator is provided in the tank and a means to heat the solvent. A lateral track is supported below the masks when in the painting position to remove paint from the masks.

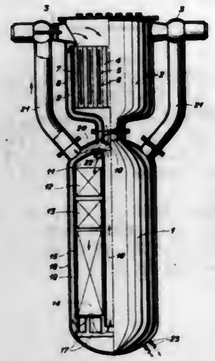
3,438,356
FLUID HABITAT OR BATH SYSTEM FOR MARINE BIOLOGICAL STUDIES
Clarence Lloyd Claff, 5 Van Beal Road, Randolph, Mass. 02154
Filed Mar. 31, 1967, Ser. No. 627,456
Int. Cl. A01k *63/00, 64/00, 61/02*
U.S. Cl. 119—1 **6 Claims**



This invention relates to fluid bath habitat or systems for biological studies of marine life, such as fish, in which the apparatus is adapted to be made in miniaturized version in order to obtain accurate measurements of the biological functions of very small fish. The apparatus comprises in combination a fish tank, a manometer for measuring the oxygen consumption of the fish, a chamber for compensating the fish tank against the effects of ambient temperature change, an oxygen electrode for measuring the oxygen tension or vapor pressure of the fluid of the bath, and a pumping means for activating the oxygen cell ii periodic manner when it is desired to measure the oxygen tension. In use, the various portions of the complete system are assembled in a closed circuit with the fish contained in the fluid bath, and because of the construction of the elements of the system and the manner in which they are assembled, all the parts of the system may be in miniaturized form, so that the functions of extremely small fish may be measured.

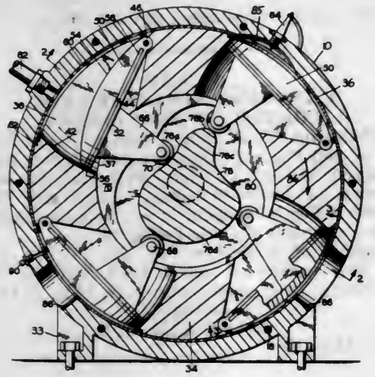
3,438,357
APPARATUS AND METHOD FOR COOLING A RECIRCULATING COOLANT MEDIUM
Max H. Weber, Wiesendangen, Zurich, Switzerland, assignor to Sulzer Brothers Limited, Winterthur, Switzerland, a corporation of Switzerland
Filed Feb. 14, 1966, Ser. No. 527,299
Claims priority, application Switzerland, Feb. 16, 1965, 2,091/65
Int. Cl. F22b *1/02*
U.S. Cl. 122—32 **12 Claims**

The flow of coolant for the reactor enters and leaves the heat exchanger at the same end. After entering the heat exchanger, the coolant flows over the nests of tubes of the heat absorbing means while flowing in a first path. Thereafter, the coolant flows in two concentric paths opposite to the first path over the walls of the heat ex-



changer to cool the walls and to return to the nuclear reactor.

3,438,358
ROTARY INTERNAL COMBUSTION ENGINE
Fred W. Porsch, P.O. Box 245, Roy, Wash. 98580, and Walter F. Porsch, Rte. 2, Box 107, Olympia, Wash. 98501
Filed Aug. 25, 1967, Ser. No. 663,406
Int. Cl. F02b *53/00, 55/00;* **F01c** *1/00*
U.S. Cl. 123—17 **8 Claims**

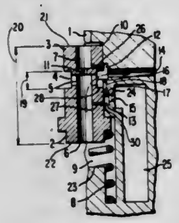


A rotary internal combustion engine has a hinged piston arrangement and a carrier therefor capable of operating the pistons in hinged movement and in sequence for proper engine operation. The pistons have inwardly extending cam follower members engageable with stationary cam means to operate the pistons.

3,438,359
PILOT INJECTION FOR DIESEL ENGINES
Frank Thoma, Stuttgart-Fasanenhof, Germany, assignor to Daimler-Benz Aktiengesellschaft, Stuttgart-Unterturkheim, Germany
Filed Sept. 6, 1967, Ser. No. 665,887
Claims priority, application Germany, Sept. 8, 1966, D 51,053
Int. Cl. F02b *3/00;* **F04b** *13/02;* **F02m** *39/00*
U.S. Cl. 123—32 **21 Claims**

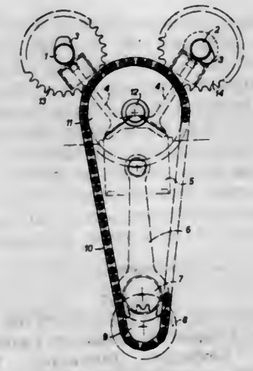
An installation for the control of the pre-injection by the use of an intermediate relief which is connected between an injection pump and an injection nozzle and which includes a control piston displaceable within a

control cylinder in a first direction by the supply impulse of the injection pump and returned to its rest position by means of a spring force and/or the fuel supply pressure, whereby the control cylinder is provided with a first control port nearer its inlet which is in communication with the outlet leading to the nozzle and a second control port disposed axially behind the first port and further removed from the inlet which is in operative connection with an intermediate relief aperture; the control piston itself forms within the end area adjacent the inlet a closure piston portion, adjoined by a control cross section through which extends a cross bore terminating inwardly



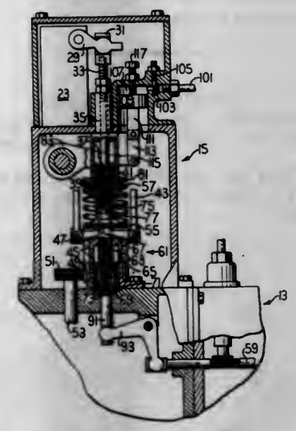
with an axial bore providing a communication with the spring space of the cylinder, disposed opposite the inlet; the mutually facing control edges of the two ports are spaced from one another a distance which is only slightly smaller than the axial dimension of the control cross section adjoining the closure piston while the over-all length of the control piston is such that the control edge formed by the inlet end thereof opens up a communication between the inlet and the first port shortly prior to abutment of the opposite end against an abutment in the spring space. The intermediate relief aperture may be connected either with a fuel storage space or with a fuel supply line or with a fuel return line.

3,438,360
ENGINE CAMSHAFT CHAIN DRIVE
Edward Turner, Coventry, England, assignor to Edward Turner Engineering Developments Ltd., Birmingham, England, a British company
Filed Mar. 27, 1967, Ser. No. 626,169
Int. Cl. F01l *1/44*
U.S. Cl. 123—90 **4 Claims**



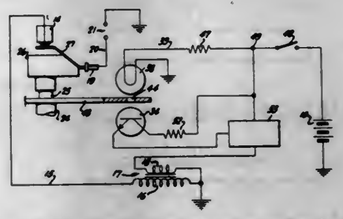
In a reciprocating internal combustion engine with at least one overhead camshaft and a chain drive to it, the chain passes over an idler on the cylinder block near the cylinder head and the outside of the chain is engaged by a sprocket on the camshaft, so that the cylinder head, complete with camshaft, can be detached without disturbing the chain.

3,438,361
HYDRAULIC-ELECTRIC SPEED CONTROL GOVERNOR
Harold H. Wagner, Peoria, Ill., assignor to Caterpillar Tractor Co., Peoria, Ill., a corporation of California
Filed Nov. 24, 1967, Ser. No. 685,554
Int. Cl. F02d *37/00, 1/04*
U.S. Cl. 123—99 **8 Claims**



An engine speed control governor in which the rate of fuel supplied to the combustion chambers is controlled first by an electrical speed measuring device, then by a mechanical measuring device, and then by the electrical speed measuring device again. During initial engine cranking, the electrical speed measuring device sets the fuel delivery rate at a fast idle speed position for delivery of fuel to the combustion chambers. As the engine begins to turn over under its own power, the mechanical speed measuring means reduces the fuel rate to a low idle position. As the engine begins to warm up and its fuel pressure begins to rise, the force exerted by the mechanical speed device is overcome and the electrical speed measuring device again takes control of the governor and controls it throughout normal operation of the engine.

3,438,362
IGNITION SYSTEM
Willis D. Clyborne, 16587 Rolando Ave., San Leandro, Calif. 94577, and Harry E. Clyborne, 1812 W. Walnut St., Lodi, Calif. 95240
Continuation of application Ser. No. 518,576, Jan. 4, 1966. This application Jan. 8, 1968, Ser. No. 696,479
Int. Cl. F02p *3/00, 7/06*
U.S. Cl. 123—146.5 **8 Claims**



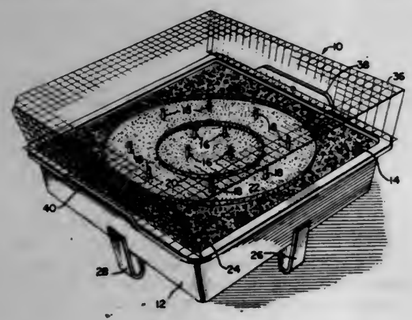
Electro-optical circuit interrupter mechanism for use with the distributor of an internal combustion engine to replace the customary distributor points as the means for converting the steady-state D.C. battery current into a pulsating D.C. current enabling the primary winding of the ignition transformer to be energized thereby. The interrupter mechanism includes a light source located exte-

riorly of the distributor casing, a photoresponsive sensor located within the casing, a light pipe through which light is conducted from the source to the sensor, an aperture-equipped interrupter disc rotatably driven by the distributor shaft and located between the sensor and light pipe to cyclically interrupt the transmission of light therebetween and a switching circuit responsive to the sensor for cyclically interrupting the primary circuit of the ignition transformer in correspondence with changes in the condition of the sensor.

3,438,363
PORTABLE HEATER

Ervin A. Millbrandt, Lisbon, N. Dak., assignor to Lisbon Industries, Inc., Lisbon, N. Dak., a corporation of North Dakota

Filed May 22, 1967, Ser. No. 640,098
Int. Cl. F24c 1/16; A47g 23/04; F23d 3/16
U.S. Cl. 126—9 10 Claims

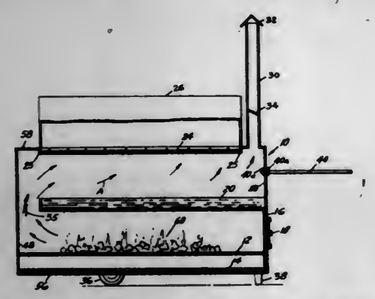


A portable heater comprising a container substantially filled with a combustible substance, a plurality of wicks vertically disposed in the substance and a foraminous member interposed between the wicks for controlling the flow of the substance to the wicks to promote uniform consumption of the substance when the wicks are lighted.

3,438,364
BARBECUE GRILL AND THE LIKE

Louie A. Galloway, Jr., 1601 W. 15th St., Pine Bluff, Ark. 71601

Filed May 16, 1966, Ser. No. 550,328
Int. Cl. A47j 37/07
U.S. Cl. 126—25 7 Claims

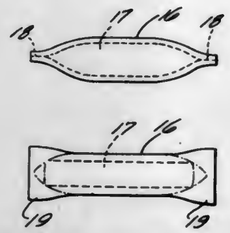


A portable barbecue grill or the like which includes an upper grill portion for carrying food to be cooked, a lower fire grate compartment, and a water baffle interposed between the grill and the grate spaced above the grate and spaced below the grill, the water baffle terminating short of one end of the device in an opening which extends from side to side of the device, the water baffle substantially completely blocking the flames in said fire grate from direct contact with the food on the grill, and the flow of heat and smoke passing only through the opening at the end of the baffle into the space below the grill.

3,438,365
RADIOACTIVE SEED CONTAINING XENON GAS FOR MEDICAL TREATMENT

Louis L. Packer, Hazardville, and Robert D. McKenzie, East Hartford, Conn., and Joseph P. Haley, Springfield, Mass., assignors to United Aircraft Corporation, East Hartford, Conn., a corporation of Delaware

Filed Mar. 1, 1965, Ser. No. 436,061
Int. Cl. A61j 1/00; G21h 5/00; A61m 31/00
U.S. Cl. 128—1.2 4 Claims

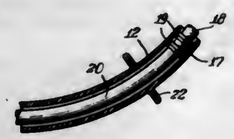


A radioactive seed for treatment of living tissue comprising a radioactive xenon gas encapsulated in a thin walled hollow cylindrical thermoplastic tube which is heat sealed at its ends.

3,438,366
SPECIMEN COLLECTOR

Donald H. Karliber and Thomas W. Smith, Rochester, N.Y., assignors to Hollister Incorporated, a corporation of Illinois

Continuation-in-part of application Ser. No. 523,436, Jan. 27, 1966. This application July 25, 1966, Ser. No. 573,146
Int. Cl. A61b 10/00
U.S. Cl. 128—2 4 Claims



A cervical canal specimen collector including a hollow tube having an upturned end. A piston near the outer upturned end of the tube is movable manually from a first position where it closes the end of the tube to provide for ease of insertion of the device, to a position drawn within the tube to draw fluids within the tube for subsequent microscopic inspection. Additionally, a probe may be carried by the outer end of the piston, which probe may penetrate further into the organs involved and at the same time, when withdrawn, scrape cell-carrying fluids from adjacent tissue for subsequent examination.

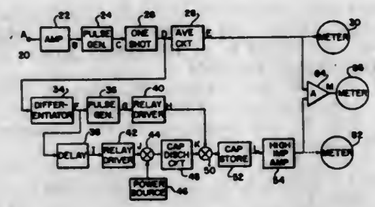
3,438,367
ECTOPIC BEAT DETECTOR

Herbert Karsh and Harold S. Goldberg, Lexington, Mass., assignors to Lexington Instrument Corporation, Waltham, Mass., a corporation of Massachusetts

Filed Sept. 27, 1966, Ser. No. 582,443
Int. Cl. A61b 5/04
U.S. Cl. 128—2.06 7 Claims

1. Apparatus for detecting an ectopic beat in a train of heart beat pulses, said apparatus, comprising first means responsive to said train for providing a first signal, the amplitude of which is the average of the repetition rate of said train weighted to give the most significance to the most recent measurement of said rate and the least significance to the most remote measurement of said rate;

second means responsive to said train for providing a second signal the amplitude of which varies according to measurement of substantially only the interval between the last two pulses in said train; and

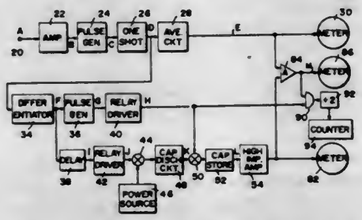


third means for determining the difference in amplitude between said first and second signals so as to provide a third signal indicative of changes in the rate of change of said train caused by one or more ectopic beats.

3,438,368
ECTOPIC BEAT DETECTOR

Herbert Karsh, Lexington, Mass., assignor to Lexington Instrument Corporation, Waltham, Mass., a corporation of Massachusetts

Filed Sept. 27, 1966, Ser. No. 582,422
Int. Cl. A61b 5/04
U.S. Cl. 128—2.06 5 Claims



1. Apparatus for detecting ectopic beats in a train of heart beat pulses, said apparatus, comprising:

first means responsive to said train for providing a first signal, the amplitude of which is the average of the repetition rate of said train weighted to give the most significance to the most recent measurement of said rate and the least significance to the most remote measurement of said rate;

second means responsive to said train for providing a second signal the amplitude of which varies according to measurement of substantially only the interval between the last two pulses in said train;

third means for determining the difference in amplitude between said first and second signals so as to provide a third signal indicative of changes in the rate of change of said train caused by one or more ectopic beats, and;

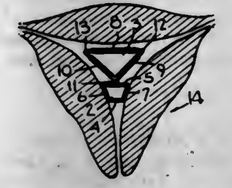
fourth means connected to said second and third means for generating a pulse corresponding to each of said ectopic beats.

3,438,369
INTRAUTERINE DEVICE

Michael S. Burnhill, Brooklyn, N.Y., assignor to I.C.D. Corporation, Brooklyn, N.Y., a corporation of New York

Filed Mar. 11, 1966, Ser. No. 533,543
Int. Cl. A61f 5/46
U.S. Cl. 128—130 19 Claims

An intrauterine device which has front and rear body portions. Each body portion has a rear base and legs tapered toward each other and extending toward the front of the device away from the rear base. The rear body

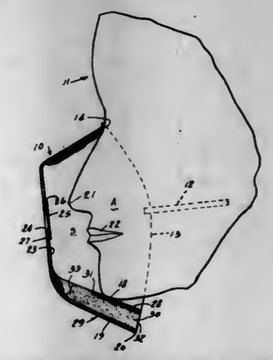


portion may be in the form of lobes which are compressible.

3,438,370
FACE MASK

John C. Krantz, Jr., 7824 Ellenham Road, Ruxton, Md. 21204

Filed Oct. 3, 1966, Ser. No. 583,706
Int. Cl. A61b 19/00
U.S. Cl. 128—139 3 Claims



1. A face mask comprising an outwardly convex, relatively thin-walled body portion integrally formed of plastic material adapted to be positioned against the user's face to include the nose and chin area and providing an included space in front thereof, the front wall of said body portion having an opening,

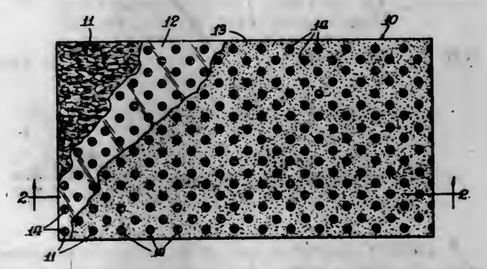
an inwardly opening hinged flap valve normally closing said opening and adapted to uncover said opening during an inhalation, and

means forming a discharge passage to direct exhaled aid toward the user's neck.

3,438,371
SELF-ADHESIVE DRESSING

John L. Fischer, Arlington Heights, and Robert J. Mack, Palatine, Ill., assignors to The Kendall Company, Boston, Mass., a corporation of Massachusetts

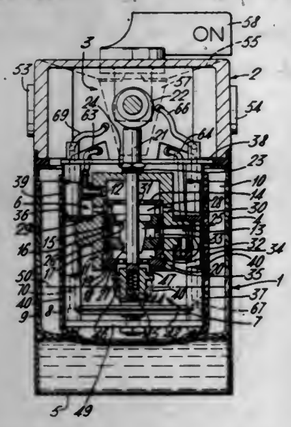
Filed May 2, 1966, Ser. No. 546,973
Int. Cl. A61l 15/01; A61f 5/40
U.S. Cl. 128—156 12 Claims



A wound dressing having an absorbent layer, the wound contact surface of which is provided with pressure

sensitive adhesive-coated zones and adhesive-free zones. The adhesive-coated surfaces is applied directly over the wound area but does not appreciably adhere to the wound thereby providing a wound dressing which is substantially non-adherent to the wound area but adherent to the areas immediately surrounding the wound area.

3,438,372
ANAESTHETICS ADMINISTERING APPARATUS
Basil R. Sugg, Abingdon, and John Lloyd, Oxford, England, assignors to Longworth Scientific Instrument Company Limited, Abingdon, England, a British company
Filed Dec. 2, 1966, Ser. No. 598,680
Claims priority, application Great Britain, Dec. 10, 1965, 52,580/65
Int. Cl. A61m 17/00, 15/00; B01d 47/16
U.S. Cl. 128—188 17 Claims



An anaesthetic administering apparatus having a vapourising chamber through which a carrier gas is passed to entrain anaesthetic vapour, the flow of the carrier gas being controlled by a single valve having three positions, these being an "off" position in which the carrier gas is passed directly to the patient without passing through the vapourising chamber and in which position anaesthetic cannot be introduced into the chamber, a "fill" position in which the carrier gas is again passed directly to the patient but in which anaesthetic can be introduced into the vapourising chamber, and an "on" position in which the carrier gas passes through the vapourising chamber before reaching the patient and in which, once again, anaesthetic cannot be introduced into the chamber.

3,438,373
CATHETER PLACEMENT UNIT WITH UNIDIRECTIONAL LOCKING MEANS TO PREVENT CATHETER RETRACTION
Karl A. Pannier, Jr., Salt Lake City, Utah, assignor to Le Voy's Inc., a corporation of Utah
Filed Mar. 21, 1966, Ser. No. 536,155
Int. Cl. A61m 5/14, 5/32, 25/00
U.S. Cl. 128—214.4 8 Claims



A catheter placement unit to facilitate the positioning of a catheter in a body lumen, said unit including a needle and a catheter telescopically associated therewith, the unit also being equipped with unidirectional locking means so disposed as to automatically prevent retraction of the catheter relative to the needle once advancement of the catheter relative to the needle into the body lumen has begun.

3,438,374
METHOD OF BONDING TISSUE SURFACES AND CONTROLLING HEMORRHAGING THEREOF USING A TISSUE ADHESIVE AND HEMOSTATIC COMPOSITION
Richard D. Falb and Charles W. Cooper, Columbus, Ohio, assignors to the United States of America as represented by the Secretary of the Department of Health, Education, and Welfare
No Drawing. Filed Feb. 28, 1966, Ser. No. 530,393
Int. Cl. A61b 17/04; A61l 17/00; C08h 7/00
U.S. Cl. 128—334 11 Claims

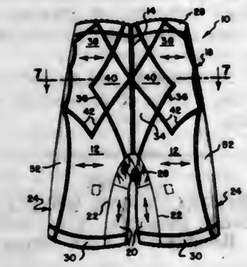
A method of bonding traumatized tissue surfaces and controlling hemorrhaging therefrom is disclosed. An adhesive comprising a mixture of a soluble proteinaceous prepolymer such as gelatin, a modifying agent in the form of a phenol derivative, and an aldehyde cross-linking agent is applied to the surfaces to be bonded and cross-linking is effected. The adhesive provides an extremely strong bond.

3,438,375
NON-TRAUMATIC RETENTION CATHETER
Richard E. Ericson, Barrington, Ill., assignor to The Kendall Company, Boston, Mass., a corporation of Massachusetts
Filed Mar. 18, 1966, Ser. No. 535,408
Int. Cl. A61m 25/02
U.S. Cl. 128—349 8 Claims



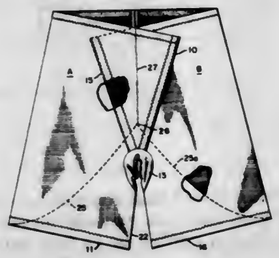
An inflatable retention catheter is disclosed wherein the retention means comprises an inflatable tubular portion which, when inflated, spans or partially overlies the drainage opening of the catheter thereby preventing body cavity walls or visceral membranes from being drawn into the drainage openings by subatmospheric pressures existing in the body cavity, clogging of the catheter as well as injury to the patient.

3,438,376
FOUNDATION GARMENT
Benjamin Murdock, New York, N.Y., assignor to Fortuna Foundations, Inc., a corporation of New York
Filed May 13, 1966, Ser. No. 549,903
Int. Cl. A41c 1/02
U.S. Cl. 128—528 10 Claims



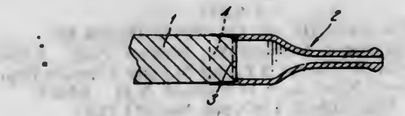
Foundation garment comprising a horizontally stretchable elastic outer shell with a diamond shaped panel having vertical stretch secured in the front portion thereof to provide abdominal restriction and two extra pieces of diamond shaped material having horizontal stretch sewn from the center front to the hipline without being restricted by the stitching of the first mentioned panel to provide a three layer sandwich of vertical stretch material between two horizontal stretch layers.

3,438,377
GIRDLE TYPE UNDERGARMENTS WITH SEPARABLE LEG PORTIONS
Joseph B. Connors, 16 Birchwood Park Court, Jericho, N.Y. 11753
Filed Dec. 5, 1966, Ser. No. 599,292
Int. Cl. A41c 1/00
U.S. Cl. 128—528 5 Claims



1. An undergarment comprising a first panel section on one side of the undergarment extending from the front area of the undergarment around to the back area thereof and having a substantially horizontal bottom edge at said one side which forms the bottom edge of the undergarment at said one side, said first panel having an inclined edge at its other side which extends upwardly to the center area of the undergarment, and a second panel section on said one side of the undergarment, said second panel section likewise extending from the front area of the undergarment around to the back area thereof, said second panel section having a substantially horizontal bottom edge at one side thereof which complements the said first panel section horizontal bottom edge whereby a thigh portion of the wearer may be jointly grasped thereby, said second panel having an inclined edge at its other side which extends upwardly to the center area of the undergarment, and duplicate panel sections on the other side of the undergarment which are reflections of said first and second panel sections, each of said panel sections being sewn at their ends to respectively front and back areas of the undergarment and both of said panel sections being otherwise free of each other.

3,438,378
MOUTHPIECE CIGARS
Derek Henry Youngman, Deptford, London, England, assignor to Molins Machine Company Limited, London, England, a corporation of Great Britain
Filed Dec. 6, 1966, Ser. No. 599,528
Claims priority, application Great Britain, Dec. 10, 1965, 52,535/65
Int. Cl. A24f 7/00; A24d 1/04, 1/06
U.S. Cl. 131—13 1 Claim

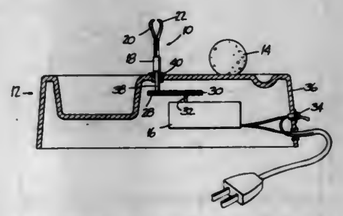


A mouthpiece cigar consists of a cylindrical, flat-ended cigar length, one end of which is embraced by a relatively thin tapered section of a hollow mouthpiece, whose cylindrical wall is thicker beyond the cigar length to provide a smoke receiving chamber. The thicker wall portion has a longitudinal extension constituting an annular wedge-like ridge located entirely within the thin section, and which extends into the periphery of the cigar face. An annular space between the thin section and the ridge contains adhesive. The ridge and the thickened portion are imperforate, and the interior surface of the ridge forms a cylindrical continuation of the smoke receiving chamber.

3,438,379
RECONSTITUTED TOBACCO SHEET HAVING A STARCH PHOSPHATE BINDING AGENT
Frank J. Mitan and Lawrence R. Cohen, Whiting, Ind., assignors to American Maize-Products Company, a corporation of Maine
No Drawing. Filed Dec. 28, 1966, Ser. No. 605,229
Int. Cl. A24b 3/14; A24f 47/00
U.S. Cl. 131—17 4 Claims

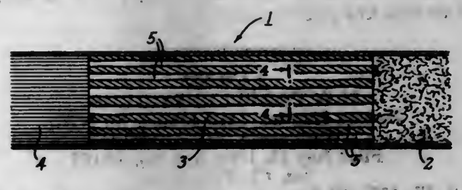
A binding agent consisting of phosphate derivatives of starch, defined by the method of preparation thereof, is used in the manufacture of sheets of tobacco from small fragments of tobacco such as particles, shavings and fines, such agent permitting the sheets to be formed mechanically with high strength at ambient temperatures.

3,438,380
PIPE CLEANER
Roland K. Paper, Davenport, and Robert D. Smyers, Wilton Junction, Iowa, assignors to Automatic Cabinet Company, Durant, Iowa, a corporation of Iowa
Filed June 26, 1967, Ser. No. 648,683
Int. Cl. A24f 9/10, 19/10
U.S. Cl. 131—232 8 Claims



An ash tray including a motor driven rotary pipe cleaner having cutter blades with means for adjusting the resiliency of the blades and for accommodating large, medium and small bowls.

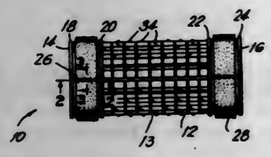
3,438,381
FILTER FOR TOBACCO PRODUCTS
Edith A. Hale, 310 E. 44th St., New York, N.Y. 10017
Filed Feb. 1, 1967, Ser. No. 613,208
Int. Cl. A24d 1/04; A24f 7/04
U.S. Cl. 131—267 2 Claims



A tobacco smoke filter having formed therein a plurality of longitudinal tunnels each having a roughened wall structure. The tunnels are coated with a viscous

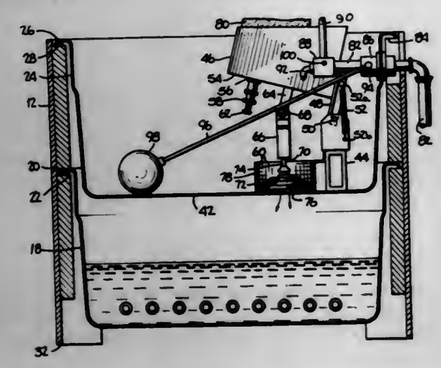
substance, such as honey, to trap noxious ingredients in the smoke.

3,438,382
HAIR CURLER
Nathan L. Solomon, Cedar Lane, Englewood, N.J. 07631
Filed May 13, 1968, Ser. No. 728,663
Int. Cl. A45d 2/02, 2/12
U.S. Cl. 132—39 8 Claims



A hair curler having cylindrical strips of material containing radially extending resilient hair gripping bristles mounted about a hollow curler body adjacent opposite ends and securely held in position without requiring stitching by passing the ends of the strips through slots interiorly into the curler body.

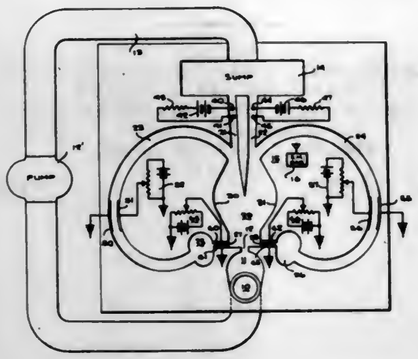
3,438,383
AUTOMATIC WATERING DEVICE FOR PLANTS AND THE LIKE
Sidney Gorlin, 598 9th Ave., New York, N.Y. 10036
Filed May 6, 1968, Ser. No. 726,702
Int. Cl. F16k 21/18; E03b 11/00; F17d 1/00
U.S. Cl. 137—78 7 Claims



An apparatus for the automatic watering of plants, based upon natural atmospheric moisture conditions, whereby the natural absorption of water from a sponge material disposed in a pivotal chamber causes the chamber to pivot, thereby releasing a predetermined quantity of water from a water tank through tubes to the areas to be watered, the emptying of the tank causing refilling of the chamber and rewetting of the sponge material automatically from an available water supply, and the refilling of the tank to a predetermined level.

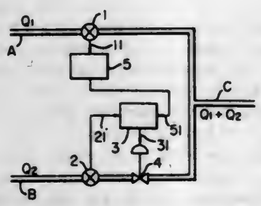
3,438,384
ELECTRO-FLUID SYSTEMS
Hyman Hurvitz, 1313 Juniper St. NW., Washington, D.C. 20012
Filed July 15, 1960, Ser. No. 43,162
Int. Cl. F15c 1/10
U.S. Cl. 137—81.5 28 Claims

1. A fluid amplifying device, comprising a fluid pump, a power nozzle coupled to said pump, said power nozzle being arranged to direct a first stream of said fluid generally in a first direction, at least one fluid control nozzle arranged to communicate with and directed transversely



of said first stream of said fluid downstream of said nozzle, said fluid being an ionizable gas, and means for ionizing said gas in at least a portion of its flow path.

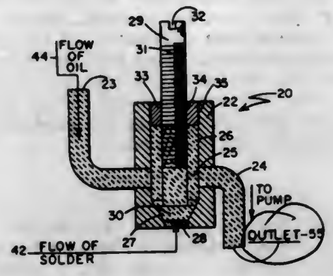
3,438,385
FLOW BLENDING CONTROL SYSTEM
Iwao Nogami, Tokyo, Japan, assignor to Honeywell Inc., Minneapolis, Minn., a corporation of Delaware
Filed Jan. 19, 1966, Ser. No. 521,597
Claims priority, application Japan, Jan. 21, 1965, 40/2,800
Int. Cl. G05d 11/13; G05b 11/38
U.S. Cl. 137—101.19 2 Claims



A flow rate signal for one of the components to be blended is applied to a signal generator which is adjusted to the desired value for the ratio of the flow rates of this component and the blend. The output of the generator is a signal representing the flow rate of the total blend, and this signal is multiplied by the desired ratio of the flow rates of a second component and the blend to form a signal representing the required flow rate of the second component. The latter signal and a flow rate signal for the second component are applied to a reversible counter which controls the flow rate of the second component to maintain the last mentioned two signals equal.

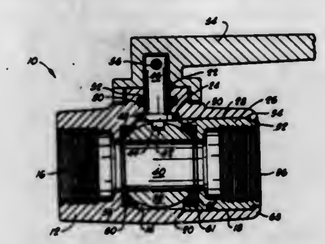
3,438,386
TWO LIQUID MEASURING DEVICES
Thomas Diggins, 4 Santerre St., Nashua, N.H. 03060; and Alexander Carini, 5 Farley St.; and Kenneth Boynton, Osgood Road, both of Milford, N.H. 03055
Filed July 5, 1967, Ser. No. 651,222
Int. Cl. B67d 5/56; F04f 1/18
U.S. Cl. 137—154 8 Claims

A submerged measuring device which can be adjusted to admit the simultaneous passage through it of varied predetermined amounts of a liquid of very high specific gravity and a liquid of very low specific gravity; the lighter liquid being drawn down and into the device by



means of a vacuum created at its outlet and the heavier liquid forcing its passage into the device, due to the pressure of its weight as compared to that of the lighter liquid.

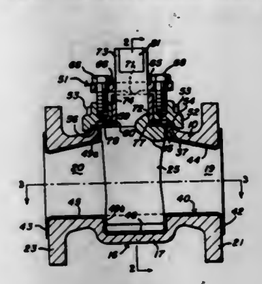
3,438,387
VALVE STRUCTURE
Domer Scaramucci, Oklahoma City, Okla., assignor to Balon Corporation, Oklahoma City, Okla., a corporation of Oklahoma
Filed Aug. 9, 1965, Ser. No. 478,242
Int. Cl. F16k 1/226, 43/00; F16l 19/04
U.S. Cl. 137—315 4 Claims



A valve including a chambered body having a movable valve member positioned therein and a passageway intersecting the chamber of the body and extending through the body to open at opposite sides thereof. A counterbore is formed in one end of this passageway to form a shoulder in the valve body, and a hollow fitting which has an exterior sized to fit snugly in the counterbore, and having an end face engaging the internal shoulder, is placed in the valve body within the passageway. The fitting has an annular shoulder on the exterior thereof which is disposed in the valve body, and the body is deformed inwardly to hook over or engage this annular shoulder.

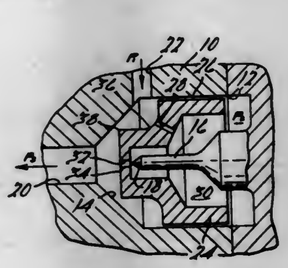
3,438,388
FULLY LINED VALVE
Robert C. Schenck, Jr., Dayton, Ohio, assignor to The Duriron Company, Inc., Dayton, Ohio, a corporation of New York
Filed Oct. 19, 1965, Ser. No. 497,825
Int. Cl. F16l 7/00; B27j 5/00
U.S. Cl. 137—375 10 Claims

A corrosion resistant valve has a continuous polytetrafluoroethylene lining and includes a rotatable closure member which is coated with a fluorocarbon resin. Positive shutoff is provided, and all metal parts in the interior of the valve are protected by the polytetrafluoroethylene lining on the body and the fluorocarbon resin lining are on



surfaces of the closure member. A method of fabricating such a valve is described in which the polytetrafluoroethylene liner is formed from a tube of isostatically molded PTFE.

3,438,389
FLOW METERING ORIFICE WITH AUTOMATIC COMPENSATION FOR CHANGE IN VISCOSITY
Eli R. Lupin, Orchard Lake, Mich., assignor to Ford Motor Company, Dearborn, Mich., a corporation of Delaware
Filed Dec. 13, 1967, Ser. No. 690,292
Int. Cl. F16k 21/00
U.S. Cl. 137—504 6 Claims

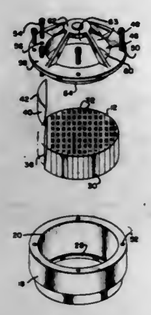


This specification discloses a fluid flow orifice assembly that maintains a controlled flow from a fluid inlet port to a fluid flow outlet port that may be either constant or variable with a precalibrated flow characteristic regardless of changes in viscosity of the fluid. For any given pressure differential between the ports, the flow remains at the controlled rate. Compensation for changes in viscosity is effected by a movable valve element that shifts to increase the effective flow area as the viscosity of the fluid increases and to decrease the effective flow area when the viscosity decreases. The response of the movable element is determined solely by changes in viscosity, not by other design variables.

3,438,390
VALVE HOUSING
Arthur E. Brown, Corning, N.Y., assignor to Ingersoll-Rand Company, New York, N.Y., a corporation of New Jersey
Filed May 10, 1966, Ser. No. 548,904
Int. Cl. F16k 17/00, 21/04
U.S. Cl. 137—512.1 5 Claims

A valve assembly formed from a plurality of flapper

type valves, which is wedged in a housing by a wedging member and restrained from passing longitudinally from

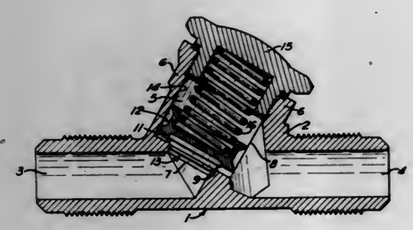


the housing by annular lips engaging the valve assembly at each of its ends.

3,438,391
CHECK VALVES HAVING PLASTIC SEALING MEMBER

William C. Yocum, Mount Lebanon, Pa., assignor to Superior Valve & Fittings Co., Pittsburgh, Pa., a corporation of Pennsylvania

Filed Jan. 13, 1964, Ser. No. 337,350
Int. Cl. F16k *15/00, 17/00, 21/04*
U.S. Cl. 137—516.29 10 Claims

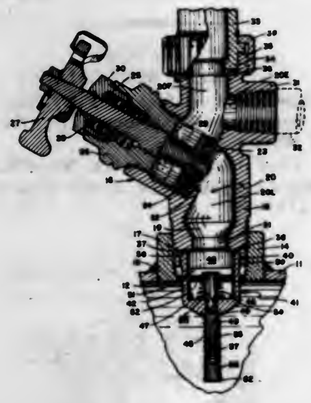


1. In a check valve having a metal body, an inlet and an outlet and a chamber interposed between and interconnecting said inlet and said outlet, said inlet having an opening into said chamber, the invention comprising a body seat in said chamber between said inlet and said outlet, said body seat comprising a surface formed by said body and extending completely around said opening of said inlet into said chamber, said body seat surface flaring outwardly from said inlet towards said chamber and being disposed at an angle such that a line substantially parallel to said surface intersects the central axis of said inlet opening at an acute angle of substantially about 15°–30°, said body seat surface extending to a protruding ridge which runs completely around said inlet opening and is disposed in said chamber, a seat disk mounted by a metal disk holder which is axially movable in said chamber so that said seat disk travels into and out of engagement with said body seat in closing and opening said valve, said seat disk having a first portion which, when said valve is closed, extends into said inlet opening and engages at least a portion of said body seat surface completely thereabout, said seat disk having a second portion which overhangs said ridge completely therearound and into which the ridge becomes embedded when said valve is closed, at least said first and second portions of said seat disk being wholly made from a plastic material having cold flow properties including a hardness from substantially about Rockwell R10–R125 as determined by ASTM D785, and a deformation under load substantially about 1%–30% as determined by ASTM D621 test carried out at 122° F. 2000 p.s.i., for 24 hours, the seat disk and body seat surface being constructed and arranged so that the seal is made between those portions of the seat disk made from the material having cold flow properties and the body seat and metal-to-metal contact between the seat disk and disk holder on the one hand and the body seat on the other hand is avoided.

3,438,392
MULTI-PURPOSE LIQUID TRANSFER VALVE

Jesse Allen Wilson, Palatine, Ill., assignor to The Bastian-Blessing Company, Chicago, Ill., a corporation of Illinois

Filed May 19, 1967, Ser. No. 639,684
Int. Cl. F16k *11/00, 21/00*
U.S. Cl. 137—517 11 Claims



A flow control three position dual spring controlled valve which snaps shut as an excess flow check valve with flow in one direction through a shut-off valve, and, with flow in the opposite direction, accommodates maximum flow capacity permitted by the shut-off valve. The flow control valve preferably is mounted on the shut-off valve for disposition within a tank flange or associated conduit and provides a high degree of excess flow control accuracy in any orientation.

3,438,393
VALVE

Philip Godley II, Wilton Center, N.H., assignor to Improved Machinery Inc., Nashua, N.H., a corporation of Maine

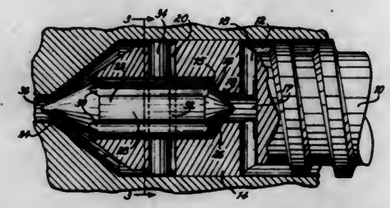
Filed July 20, 1966, Ser. No. 566,557
Int. Cl. F16k *15/02, 51/50*
U.S. Cl. 137—533.17 4 Claims

1. In injection molding apparatus for thermoplastic material, a check valve, comprising:

a main valve body having a first sealing portion,

a movable member having a stop portion and second sealing portion, said movable member being movable between a first position in which said sealing portions cooperate to prevent the flow of thermoplastic material past said movable member, and a second position in which said sealing portions are spaced to allow flow of thermoplastic material past said movable member,

a returning member located in the path of said stop portion, and spaced from the position of said stop portion corresponding to said first position of said movable member in the direction of the position of said stop portion corresponding to said second position of said movable member, said retaining member thereby cooperating with said stop portion to prevent movement of said movable member away from said first position beyond said second position, and

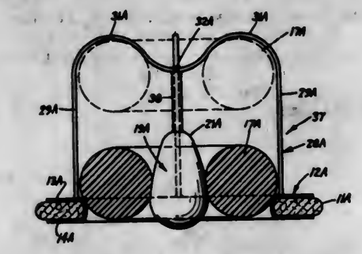


a retaining passage in said main valve body loosely receiving said retaining member and holding said retaining member in said main valve body, said passage being substantially larger than said retaining member and allowing substantial flow of thermoplastic material through said passage between the walls of said passage and said retaining member.

3,438,394
TOROIDAL HEART VALVE

Ahmad A. Nakib, Minneapolis, Minn., assignor to The Regents of the University of Minnesota, Minneapolis, Minn., a corporation of Minnesota

Filed Dec. 10, 1965, Ser. No. 512,923
Int. Cl. F16k *15/08, 15/14;* A61f *1/22*
U.S. Cl. 137—533.19 13 Claims

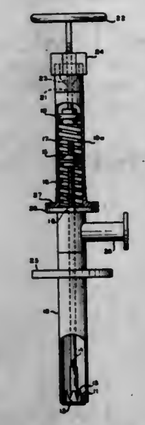


A toroidal heart valve having an annular base carrying a suture ring and a central circular opening. An annular valving member having a central hole moves relative to a seat on the base surrounding the opening to open and close positions. The valving member can be toroidal, funnel, semi-circular or flat in shape. Located along the axis of the opening in the base is a cone-shaped member having an outer continuous wall cooperating with the inner peripheral surface of the valving element when the outer peripheral surface of the valving element engages the seat to block the flow of fluid in one direction through the opening in the base. A plurality of circumferential spaced legs secure and position the cone-shaped member centrally in the opening in the base. A cage having a plurality of legs and inwardly turned ends aligns the valving element on the base as well as limits the open position of the valving element.

3,438,395
VALVE FOR DELIVERING FLUID AT CONSTANT VELOCITY

Clifford L. Reeve and Lucien H. Vantrain, Okmulgee, Okla., assignors to Phillips Petroleum Company, a corporation of Delaware

Filed Mar. 11, 1966, Ser. No. 533,485
Int. Cl. G05d *7/00, 13/00, 15/00*
U.S. Cl. 137—561 3 Claims

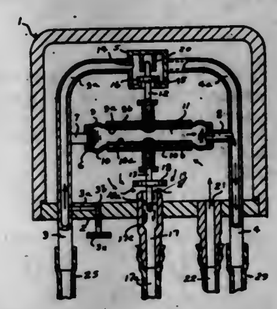


A valve comprising a valve plug with triangular ports and a system of springs applying a force to the valve stem by which the port is positioned automatically by the flow through the valve to maintain a constant flow velocity.

3,438,396
DUAL DIFFERENTIAL CONTROL VALVE

Werner F. Jehn, 438 Twinning Drive, Dayton, Ohio 45431

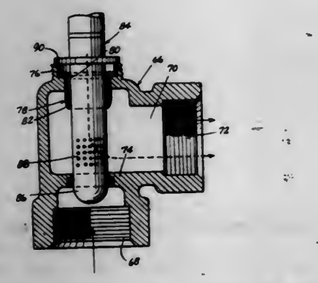
Filed Feb. 16, 1967, Ser. No. 617,768
Int. Cl. F15b *3/00;* C03b *9/02*
U.S. Cl. 137—596.18 8 Claims



A control valve for glass-blowing apparatus comprising a sealed casing having a cylindrical ring supported in said casing with spaced parallel flexible diaphragms closing the opposite side faces of said ring to form an isolated pressure or suction responsive chamber between said diaphragms. A positive or negative pressure intake conduit in communication with the interior of said isolated pressure responsive chamber adapted to be supplied with positive or negative (suction) oral pressure by the glass-blower. A positive pressure supply valve in said casing connected to one of said diaphragms and responsive to outward deflection of that diaphragm to supply a positive pressure into said casing and a negative or suction pressure control valve in said casing connected to the other

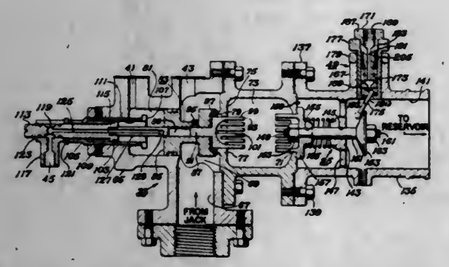
diaphragm responsive only to inward deflection of that diaphragm for applying suction or negative pressure to the interior of said casing. A flexible glass-blowing conduit connected in communication with the interior of said casing for supplying the said positive or negative pressure from the interior of said casing to the molten glass article being blown in isolated responsive relation to the glass-blower's positive or negative oral pressures.

3,438,397
PRESSURE TEST PLUG AND MEANS FOR BYPASSING GAS METERS
William V. Gilpin, Albuquerque, N. Mex., assignor to Universal Controls Corporation, Dallas, Tex., a corporation of Texas
Filed Oct. 20, 1965, Ser. No. 498,357
Int. Cl. E03b 7/09; F16k 43/00
U.S. Cl. 137—599 10 Claims



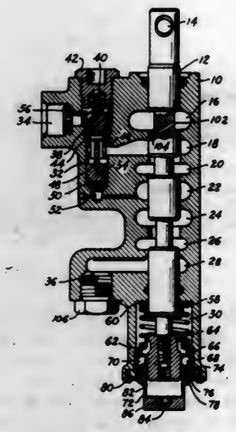
A device for bypassing a gas meter to prevent interruption in service including a bypass conduit having a high pressure needle at one end and a low pressure needle at the other end to pierce resilient coupling seals located in the main gas line upstream and downstream of the gas meter to close off flow through the gas meter and establish flow through the bypass conduit. A coupling fitting is provided having a resilient core with a slit pressed closed by an adjustable lock member and tapered shoulder for sealingly receiving a pressure gauge insertion needle.

3,438,398
HYDRAULIC ELEVATOR CONTROL SYSTEMS
Everett E. Johnston, Newark, Tex., assignor to Esco Elevators, Inc., Fort Worth, Tex.
Filed Apr. 10, 1967, Ser. No. 629,520
Int. Cl. B66b 1/24, 5/04
U.S. Cl. 137—608 1 Claim



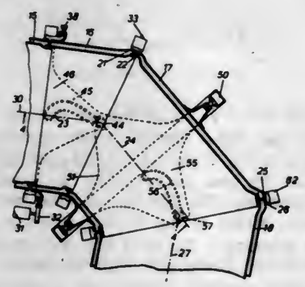
Hydraulic elevator control system maintains down-speed essentially constant for all elevator loads. Device positively responsive to fluid flow through down-control valve controls a metering valve to regulate fluid flow in a down-control valve bleed line to regulate the degree of opening of the down-control valve main flow aperture.

3,438,399
VALVE LOCKING MEANS
Charles M. Barnes and Richard L. Lewis, St. Joseph, Mich., assignors to The Bendix Corporation, a corporation of Delaware
Filed Apr. 24, 1967, Ser. No. 633,215
Int. Cl. F16k 3/26
U.S. Cl. 137—625.69 8 Claims



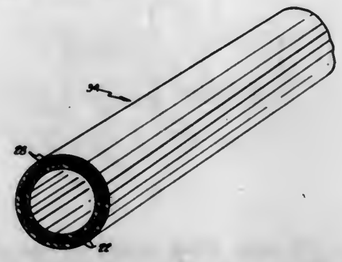
A spring biased locking means for a valve utilizing a valve spring to provide a biasing force upon the locking means to force locking elements into detents of a member affixed to or integral with the valve upon movement of the valve to a position where the detents underlie the locking elements.

3,438,400
JET PIPES
Thomas Steel, James Alexander Petrie, and Alfred John Honey, Derby, England, assignors to Rolls-Royce Limited, Derby, Derbyshire, England, a British company
Filed Feb. 6, 1967, Ser. No. 614,195
Claims priority, application Great Britain, Feb. 26, 1966, 8,535/66
Int. Cl. F15d 1/08
U.S. Cl. 138—40 8 Claims



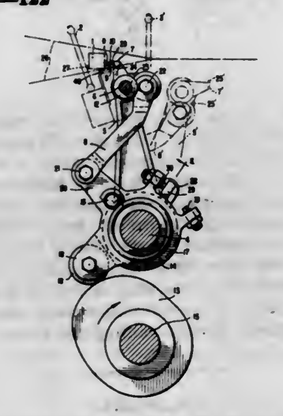
An articulated jet pipe having rotatable positions for varying the direction of jet efflux. Adjacent portions have end faces inclined to their respective axes and are rotated via ring gears and epicyclic gearing. Rollers running in tracks prevent rotation of the planet carriers of the epicyclic gears, by connecting them to a fixed portion of the jet pipe.

3,438,401
SILICEOUS FIBER AIR DUCT
George J. Hannes, Maumee, Ohio, assignor to Johns-Manville Corporation, New York, N.Y., a corporation of New York
Continuation-in-part of application Ser. No. 330,237, Dec. 13, 1963. This application Dec. 27, 1966, Ser. No. 617,737
Int. Cl. F16l 9/14
U.S. Cl. 138—141 11 Claims



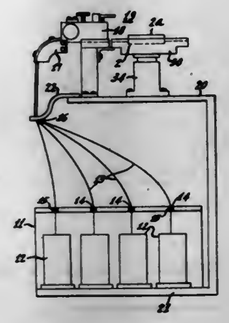
1. A siliceous fiber duct adapted for the conveyance of air consisting of a convolutely wound mat of siliceous fibers integrally united at their intersections by a thermoset resin uniformly dispersed throughout said mat in an amount between 5 and 30% by weight of the mat, said duct additionally containing an air seal consisting of an air impervious foil convolutely wound within said duct coextensively with said mat and beginning approximately after the first internal convolution of said mat and continuing for between 1 and 5 convolutions of said mat, and an outer face of a continuation of said convolutely wound mat.

3,438,402
APPARATUS FOR POSITIONING GRIPPER RODS IN SHUTTLELESS LOOMS
Nikolaus Kokkinis, Eriskirch, Germany, assignor to Lindauer Dornier Gesellschaft m.b.H., Lindau (Bodensee), Germany, a German corporation of limited liability
Filed June 29, 1967, Ser. No. 649,999
Claims priority, application Germany, Sept. 6, 1966, L 54,471
Int. Cl. D03d 49/62, 49/64, 47/24
U.S. Cl. 139—122 7 Claims



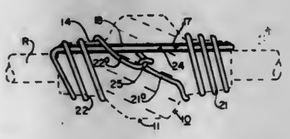
This invention relates to an apparatus for positioning gripper rods advanced into the shed of a shuttleless loom, the apparatus including press-on finger means, pivotally mounted on a shaft supported by arms secured to the comb shaft, which press-on finger means determine the position of the overlapping gripper rods when the latter are in the advanced position thereof through the warp threads of the shed.

3,438,403
WIRE HANDLING APPARATUS
Harvey D. Gibson Scheffer, Westfield, N.J., assignor to Radio Corporation of America, a corporation of Delaware
Filed June 22, 1967, Ser. No. 648,019
Int. Cl. B21f 27/10; B65h 35/10, 3/20
U.S. Cl. 140—1 7 Claims



A method and apparatus for producing wires with integral leaders. The arrangement is particularly adapted to the concurrent formation of integral leaders in a large number of fine wires such as those used for stringing a magnetic core memory matrix.

3,438,404
METHOD OF MOUNTING WELL EQUIPMENT
James C. Tripplehorn, 1013 Mary Ellen St., Pampa, Tex. 79065
Filed July 11, 1966, Ser. No. 564,399
Int. Cl. B21f 45/00; E21b 37/02
U.S. Cl. 140—93 2 Claims

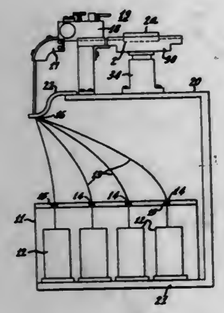


The method of attaching a resilient rod guide body to a rod to which the body can be applied by flexing, for instance spreading the guide and sliding it over the end of the rod, or parting it at a longitudinal slot, the method including winding of a wire-like material onto the annular body to compress it tightly against the rod, the opposite ends of the wire terminating near the ends of the body and the central portion of the wire going either over or under the body so that a single length of wire can be used. The opposed ends of the wire are then prevented from unwinding by one of several different methods, including a longitudinal locking member passed under the body and extending to its ends to receive the ends of the wire.

3,438,405
WIRE STRINGING MACHINE
Harvey D. Gibson Scheffer, Westfield, N.J., assignor to Radio Corporation of America, a corporation of Delaware
Filed June 22, 1967, Ser. No. 648,020
Int. Cl. B21f 45/00
U.S. Cl. 140—93 6 Claims

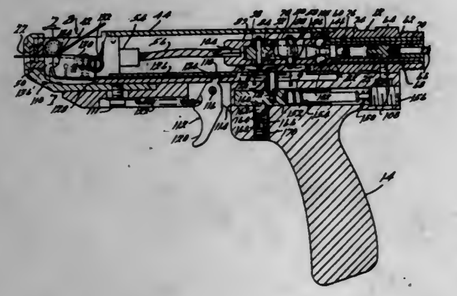
An apparatus for handling a plurality of flexible wires with a concurrent formation of integral leaders in each

of the wires. The apparatus is particularly adapted for the simultaneous manipulation of a large number of fine



flexible wires for stringing a magnetic core memory matrix.

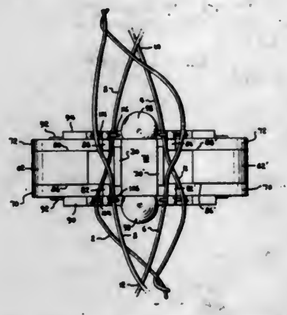
3,438,406
STRAP TENSIONING AND LOCKING TOOL
Walter J. Rozmus, Hubbardsville, N.Y., assignor, by mesne assignments, to Utica Tool Company, Inc., Orangeburg, S.C., a corporation of Delaware
Filed Oct. 13, 1966, Ser. No. 586,561
Int. Cl. B21f *9/02, 45/16*
U.S. Cl. 140—93.2 21 Claims



A power operated strap tensioning tool in which a serrated roller is continuously driven in rotation. By pulling a trigger the end of the strap to be tensioned is biased against this roller so that the roller will grip it and tighten it. When a predetermined tensional loading is applied to the strap a spring will yield so that the power used to drive the roller is employed to produce rotation of a strap supporting member to impart a permanent twist to the tensioned end of the strap and thereby lock the strap in the tensioned position.

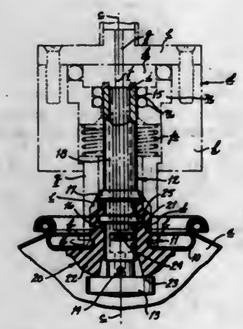
3,438,407
METHOD AND APPARATUS FOR CONNECTING GROUPS OF WIRES
William R. Over, Harrisburg, Pa., assignor to AMP Incorporated, Harrisburg, Pa.
Filed Nov. 23, 1966, Ser. No. 596,672
Int. Cl. B21f *15/04;* B21d *39/00;* H01r *43/04*
U.S. Cl. 140—111 5 Claims

Corresponding wires of two groups of wires (e.g. twisted pair) are connected by separating the wires of the groups from each other at a location adjacent to the wire ends. The wires of the two groups are positioned against each other and individual electrical connections are formed between corresponding wires of the groups. End



portions of the wires which extend beyond the electrical connections are cut off and removed.

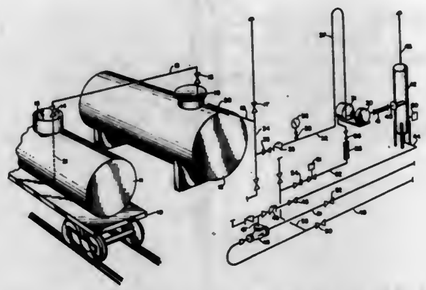
3,438,408
QUICK GASSING TILT VALVE
Richard C. Hug, St. Louis, Mo., assignor to The Clayton Corporation of Delaware, St. Louis, Mo., a corporation of Missouri
Filed Jan. 24, 1966, Ser. No. 522,542
Int. Cl. B65d *5/72*
U.S. Cl. 141—20 1 Claim



For use on aerosol cans, provision is made for fast insertion of pressurizing gas through a tilt dispensing valve. As in conventional tilt dispensing valves, a sealing grommet and sleeve sealedly mounts a tubular spout valve in the rimmed opening of the container top wall having an outflow port adjacent to its head within the can. In the present invention the stem has a large gassing port through its wall at a higher level, and an external bead above this level. When the stem is pressed axially inward the sealing sleeve is compressed against the rim of the top wall opening; thus preventing the escape upward of pressurizing gas.

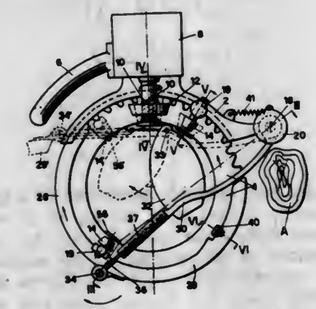
3,438,409
APPARATUS FOR TRANSFERRING ANTIKNOCK FLUID
Robert S. Bruce, Houston, Tex., and John C. Watt, Kew Gardens, N.Y., assignors to Ethyl Corporation, New York, N.Y., a corporation of Virginia
Filed Feb. 18, 1966, Ser. No. 528,591
Int. Cl. B65b *31/02;* B67c *3/16;* B01d *45/00*
U.S. Cl. 141—59 3 Claims

Transferring antiknock fluid concentrate from one vessel to another by vacuum wherein generated and displaced fluid vapors are absorbed in the hydrocarbon sealant for a liquid seal vacuum pump, the resulting hydrocarbon sealant solution and air are separated, uncon-



taminated air discharged to the atmosphere and the recovered hydrocarbon sealant and antiknock concentrate are added to a gasoline stream.

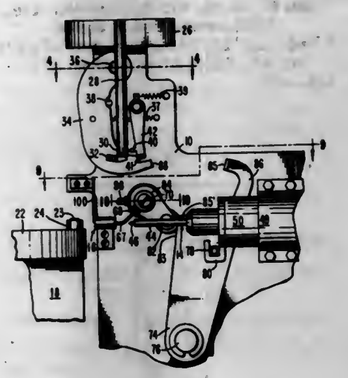
3,438,410
ANNULAR SAW WITH CIRCULAR SAFETY GUARD
Ermanno Santilli, Via Monforte 26, Compobasso, Italy
Filed July 25, 1966, Ser. No. 567,620
Claims priority, application Italy, July 30, 1965, 17,192/65
Int. Cl. B27b *5/14, 5/30*
U.S. Cl. 143—44 8 Claims



A circular safety guard for an annular saw, said saw being driven by conical rollers about an imaginary axis. A portion of the tooth periphery of the saw blade is permanently concealed within the saw casing, and nearly all of the rest of the periphery is at first concealed within the guard, a portion of said guard being slidably retractable within the casing to expose the blade teeth as the workpiece advances towards the center of the saw, so as to expose just enough of the tooth periphery to accomplish the desired cutting.

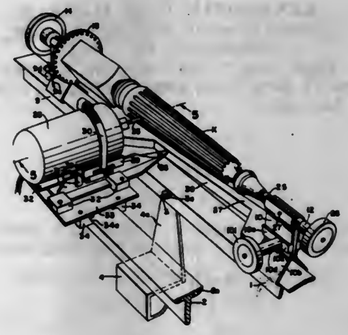
3,438,411
SET SCREW FEEDING AND HANDLING APPARATUS
Jakob Rech, Detroit, Mich., assignor to Burroughs Corporation, Detroit, Mich., a corporation of Michigan
Filed Dec. 13, 1966, Ser. No. 601,368
Int. Cl. B23p *19/06*
U.S. Cl. 144—32 8 Claims

The disclosure embodies an apparatus having a dispenser to dispense set screws singly and having handling



mechanism to position a set screw for insertion in a part by a rotatable and movable power driven screw driver.

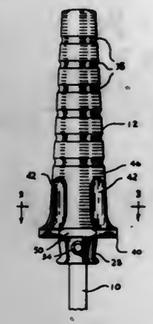
3,438,412
WOODWORKING TOOL AND WORKHOLDER
James K. Zeigler, Littlestown, Pa., assignor to Frederic C. Jay, Richmond, Va.
Filed Apr. 28, 1966, Ser. No. 546,045
Int. Cl. B27c *5/04*
U.S. Cl. 144—136 9 Claims



The invention provides a power driven rotary tool unit on a special holder for supporting the workpiece being operated on. The holder comprises a frame composed of a pair of spaced, parallel, rigidly united bars having flat upper surfaces lying in substantially the same plane. While normally horizontal, when used with the power driven tool, the frame is mounted at a point intermediate its ends on a pivot which permits the frame to be tilted in a vertical plane into any angle most convenient to permit the workpiece to be operated on by any desired hand tools. The frame adjustably carries head and tail stocks between which the workpiece is supported and by which it may be turned by hand.

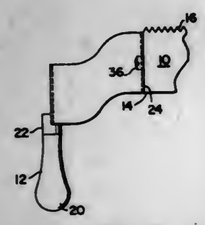
The power driven tool unit comprises a motor having a rotary tool in the nature of a router. It is mounted on a base which may either slide longitudinally along the frame and move transversely thereof toward and away from the workpiece, or may be pivoted at its end to the bar carrying the workpiece and swing around this pivot, while supported by the other or both bars. Thus the tool can perform a large variety of operations.

3,438,413
AXIALLY ROTATABLE TOOL AND HANDLE THEREFOR
John E. Borah, 815 Mishawaka Ave., Mishawaka, Ind. 46544
Filed Aug. 18, 1966, Ser. No. 573,275
Int. Cl. B25b 15/02; B25g 3/12
U.S. Cl. 145—50 8 Claims



A screwdriver, wrench or similar tool having a metal shank with a tip on one end, a handle of a general cylindrical shape mounted on the other end ot the shank, and an annular flange on the handle near the end facing the tip. A plurality of thumb pockets may be included in the handle adjacent the flange to assist in rotating the tool.

3,438,414
REVERSIBLE TOOL HANDLE
Isadore Mockrik, 8635 Provident St., Philadelphia, Pa. 19150
Filed May 5, 1967, Ser. No. 636,291
Int. Cl. B25g 1/06; E05b 7/00; A47b 95/02
U.S. Cl. 145—61 1 Claim



A detachable and reversible handle for tools including a mounting plate and a pair of prongs projecting outwardly from the said mounting plate, the said prongs being laterally, equally spaced from the central axis of the amounting plate.

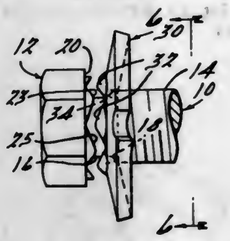
3,438,415
FRENCH PURSE
Anthony J. Burnishl, Warson Woods, and Calvin Mitchell, St. Louis County, Mo., assignors to Prince Gardner Company, Inc., St. Louis, Mo., a corporation of New York
Filed Jan. 11, 1967, Ser. No. 608,642
Int. Cl. A45c 1/06, 15/00
U.S. Cl. 150—35 15 Claims

A combination billfold and purse or French purse having a slim appearance characterized by a separate coin purse and a single sheet bill divider anchored at its ends between the sheets forming the bill folder. A modification of the invention includes a card case or pass case assembly comprising a foldable sheet anchored at one end and in



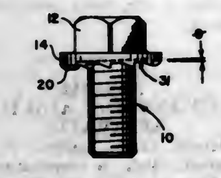
the middle to the purse and bill holder respectively, with a clear plastic pass case anchored adjacent to the fold line so that the pass case is enclosed when the sheet is folded on itself.

3,438,416
BOLT ASSEMBLY
Raymond L. Thurston, Dearborn, Mich., assignor, by mesne assignments, to Vare Corporation, New York, N.Y., a corporation of New York
Filed May 3, 1967, Ser. No. 635,875
Int. Cl. F16b 39/28, 39/26, 39/24
U.S. Cl. 151—37 1 Claim



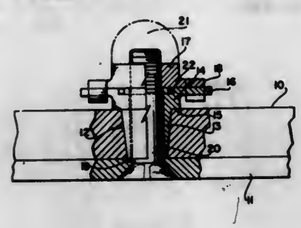
A threaded bolt assembly comprised of a special wave formed washer, a bolt head having on its underside a waved lobed surface for contact with the washer, and cut-out portions on the periphery of the washer including bent finger projetcions having a tendency to bite into the base material when the fastener type bolt assembly is attempted to be loosened.

3,438,417
CANTING LOCK BOLT
Frank R. Albris, Massillon, Ohio, assignor to Eaton Yale & Towne Inc., Cleveland, Ohio, a corporation of Ohio
Filed Jan. 20, 1967, Ser. No. 610,658
Int. Cl. F16b 39/282, 39/284
U.S. Cl. 151—37 4 Claims



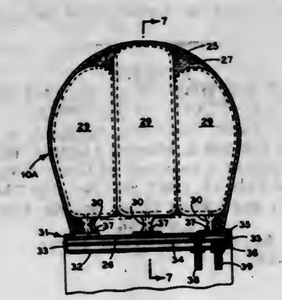
A self-locking threaded fastener having the undersurface of the head inclined with respect to a plane normal to the rotational axis of the fastener with locking being assisted by toothed projections extending from the undersurface of the head in the direction of the axis of rotation of the fastener.

3,438,418
NUT ASSEMBLY FOR SELF-ALIGNING, REMOVABLE AND REUSABLE FASTENERS
Andrew N. Regas, Atlanta, Ga., assignor to Lockheed Aircraft Corporation, Burbank, Calif.
Filed Feb. 6, 1967, Ser. No. 614,090
Int. Cl. F16b 19/00, 1/00
U.S. Cl. 151—41.73 4 Claims



A floating interference fit nut provides fatigue critical structure with residual stresses in the area around a hole therein and in which a screw is to be threaded whereby a member can be removably attached to such structure.

3,438,419
PUNCTURE RESISTANT INFLATABLE ARTICLES
Edmund C. Barbera, 55 Hillandale Road, Port Chester, N.Y. 10918
Filed Nov. 10, 1966, Ser. No. 593,537
Int. Cl. B60c 17/00
U.S. Cl. 152—338 1 Claim

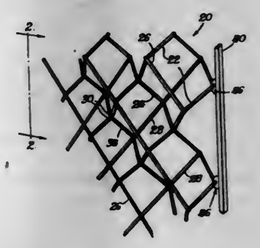


A puncture resistant inflatable article such as a tire tube or the like, having multiple air chambers and inflating and sealing means for such chambers which takes the form of air supply conduits and sealing conduits located externally of the air chambers but in communication therewith, to thereby facilitate the manufacture of the article.

3,438,420
PREPARATION OF CONCENTRATED ALKYLLITHIUM SOLUTIONS
Vishva R. Rai, Parsippany, N.J., and Howard J. Schwartz, Gastonia, N.C., assignors to Lithium Corporation of America, Inc., New York, N.Y., a corporation of Minnesota
No Drawing. Filed July 25, 1967, Ser. No. 655,779
Int. Cl. B01d 1/22
U.S. Cl. 159—49 5 Claims

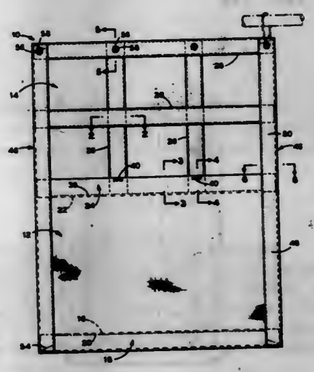
A method of concentrating solutions of alkyllithiums, particularly n-butyllithium, in a volatile organic solvent such as hexane or heptane which involves flowing a thin film thereof along a heated surface for a short residence time, particularly of the order of about 20 seconds or less, while maintaining the heated surface at a temperature below the decomposition temperature of said alkyllithium, particularly in the range of about 75° to 80° C. The solution to be concentrated advantageously is passed along the surface in a downward direction and is recovered in concentrated form at the lower end thereof ready for shipment or storage.

3,438,421
SPACE DIVIDER OR PARTITION
Joseph Catalano, 1218 W. Grand Ave., Chicago, Ill. 60622
Filed Sept. 7, 1967, Ser. No. 666,124
Int. Cl. E06b 3/92; A47g 5/00; A47h 7/00
U.S. Cl. 160—161 6 Claims



Divider or partition including pivotally interconnected strips, a pair of inner sets of strips and a pair of outer sets of strips, the inner sets being undulated, and the outer sets being spaced apart thereby in direction perpendicular to the main plane of the device.

3,438,422
VENTILATING CURTAIN
Daniel Tamez, Chicago, Ill., assignor to Dowling Textile Manufacturing Company, McDonough, Ga.
Filed May 9, 1967, Ser. No. 637,183
Int. Cl. A47h 23/00
U.S. Cl. 160—237 3 Claims



A ventilating curtain made of flame-resistant fabric that includes a body portion connected to an apertured

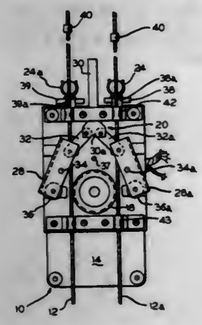
header portion. The header portion being formed by a plurality of intersecting sets of strips that are interconnected to form a lattice to insure the free flow of air therethrough.

3,438,423

DEVICE FOR OPERATING ELONGATED CORDS

Fredrick H. Melull, 531 Briar Hill Road, Glenview, Ill. 60025, and Waldemar M. Schmidt, 9342 N. Washington, Niles, Ill. 60648

Filed Feb. 28, 1968, Ser. No. 709,061
Int. Cl. A47h 1/00; B66d 1/76
U.S. Cl. 160—331 9 Claims



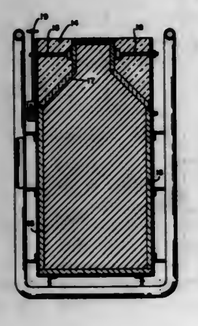
A pulley operatively connected with a reversible motor for rotatable driving thereby, said pulley having a groove therein sized to receive and engage elongated cords, releasable locking means for forcing said cords into engagement with opposing sides of said pulley, and switch means for reversing the direction of said motor.

3,438,424

METHOD OF DIRECT CASTING OF STEEL SLABS AND BILLETS

John W. North, 643 Pine Tree Drive, Decatur, Ga. 30030

Original application Nov. 13, 1964, Ser. No. 410,938. Divided and this application July 18, 1967, Ser. No. 654,123
Int. Cl. B22c 3/00
U.S. Cl. 164—138 2 Claims



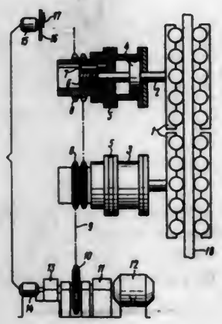
A throwaway replaceable ceramic lining for a mold used in forming ingots, billets and steel slabs.

3,438,425

GUIDING DEVICE FOR INGOTS IN SECONDARY COOLING ZONE IN CONTINUOUS CASTING PLANTS

Vladimir Alexandrovich Butkevich, Lomonosovsky Prospect, 23, Apt. 324, Dmitry Petrovich Evteev, Petrovka, 20, Apt. 6, Viktor Alexandrovich Karpeka, Gogolevsky Boulevard 8, Apt. 20, Viktor Sergeevich Pravdin, 13 Parkovaja, 38, Korpus 1, Apt. 7, and Alexandr Kononovich Fisjun, Verkhnjaja Maslovka 72, Apt. 153, all of Moscow, U.S.S.R.

Filed Feb. 17, 1966, Ser. No. 528,228
Int. Cl. B22c 19/04, 25/00; B22d 11/00
U.S. Cl. 164—150 5 Claims



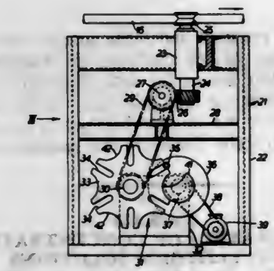
A device for adjusting the position of hydraulically controlled sections of a secondary cooling device of continuous casting apparatus, wherein the rods of the hydraulic cylinders are threadably engaged with respective nuts which are slidably engaged in associated drive members which are driven in synchronized rotation.

3,438,426

INGOT WITHDRAWAL MEANS FOR CONTINUOUS CASTING

Raymond H. Parfit, Isleworth, England, assignor to Campbell, Gifford & Morton Limited, Weybridge, Surrey, England, a company of Great Britain

Filed Feb. 13, 1967, Ser. No. 615,704
Claims priority, application Great Britain, Feb. 15, 1966, 6,690/66
Int. Cl. B22d 15/00, 11/12
U.S. Cl. 164—282 4 Claims



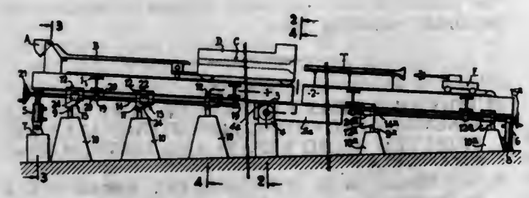
An ingot withdrawal mechanism for a continuous casting plant, in which the ingot is withdrawn from the chill mould horizontally or near-horizontally in a series of intermittent steps with intermediate dwell periods by means of a motor-driven Geneva mechanism whose output shaft drives a pair of pinch rollers gripping the ingot. The Geneva mechanism is provided with a positive interlock to hold the slotted driven wheel stationary when the eccentric driving pin is disengaged from the slots of the driven wheel.

3,438,427

MACHINE FOR CENTRIFUGALLY CASTING PIPES

Pierre Edouard Lorang, Nancy, France, assignor to Centre de Recherches de Pont-à-Mousson, Pont-à-Mousson, France, a corporation of France

Filed Oct. 10, 1966, Ser. No. 585,368
Claims priority, application France, June 21, 1966, 66,219
Int. Cl. B22d 13/10, 13/02
U.S. Cl. 164—295 11 Claims



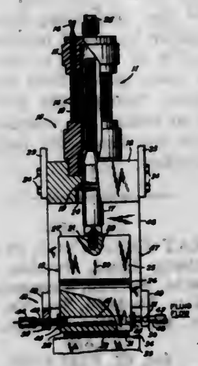
A machine for centrifugally casting tubular bodies comprising a stand which is pivoted to a horizontal transverse pin and rests on the ground through pairs of superimposed blocks, one block being fixed and the other movable, one of said blocks having a single bearing face, the other block having a step-like bearing face, and means to shift the blocks with respect to each other in each pair so that in each pair, the blocks are in mutual contact by the required step of the step-like face.

3,438,428

METHOD FOR MAINTAINING A VIBRATORY TOOL AT A CONTROLLED TEMPERATURE

Lewis Balamuth, New York, and Clifford A. Robertson, Bay Shore, N.Y., assignors to Cavitron Corporation, Long Island City, N.Y., a corporation of New York

Filed Mar. 4, 1965, Ser. No. 437,238
Int. Cl. B23k 1/06; B29c 19/02
U.S. Cl. 165—1 2 Claims



2. The method of maintaining the working surface of a vibratory tool at a controlled temperature, comprising the steps of:

(A) vibrating the working surface at a high frequency of at least 5,000 cycles per second and with a small amplitude of vibration in the direction perpendicular to its working surface,

(B) supplying a source of heat transferring fluid in a gaseous state to the vibratory tool, and

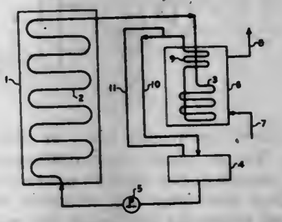
(C) flowing said fluid through a passage provided in the tool having a portion thereof extending substantially parallel to the working surface of the tool to regulate the temperature of said surface.

3,438,429

METHOD AND APPARATUS FOR THE PREVENTION OF KNOCKS IN STEAM COILS

Willis Thompson Lawrence, Arlington, Mass., assignor, by mesne assignments, to Hooker Chemical Corporation, Niagara Falls, N.Y., a corporation of New York

Filed Oct. 10, 1967, Ser. No. 674,265
Int. Cl. F28d 15/00, 27/00; F28b 11/00
U.S. Cl. 165—1 15 Claims



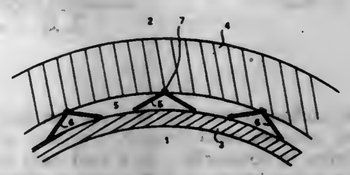
A preheater for a heat transfer medium is provided to heat the transfer medium before it enters a heat storage vessel to prevent knocking within the passageway provided for heat transfer medium as it enters the hot heat storage material. A siphon break in the heat transfer conduit is provided to prevent knocking caused by sudden pressure fluctuations.

3,438,430

DOUBLE WALL HEAT EXCHANGER UTILIZING FLEXIBLE CONDUCTOR PLATES BETWEEN THE WALLS

Lucien Kestemont, Olginasio, Italy, assignor to European Atomic Energy Community (Euratom), Brussels, Belgium

Filed Aug. 25, 1966, Ser. No. 575,167
Claims priority, application Belgium, Sept. 6, 1965, 17,548
Int. Cl. G05d 23/08; F28f 27/02, 13/08
U.S. Cl. 165—32 2 Claims



A heat exchanger having two spaced walls with gas therebetween and a bimetallic flexible conductor plate engaging the walls with a force which is variable in response to temperature changes.

3,438,431

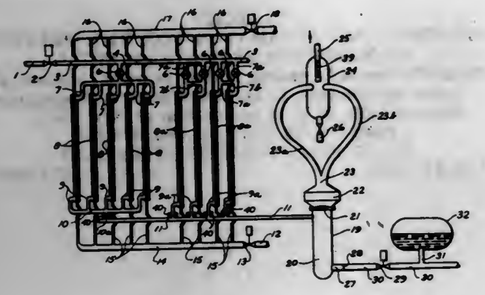
HEAT EXCHANGER SYSTEM

Siegfried Dreyer, Kreuzbergstrasse, 506 Steinmenbruck; Rudolf Harde, Huettenstrasse 1; Walter Jansing, Beethovenstrasse 12; Friedel Kalkoffen, Hermann-Loens-Strasse 17; Hans Mausbeck, Diakonissenweg 24; and Werner Schnittker, Koelner Strasse 47, all of Bensberg, Germany

Filed Aug. 25, 1967, Ser. No. 663,339
Int. Cl. G21c 9/02, 19/32; F28f 19/00
U.S. Cl. 165—134 23 Claims

The invention covers a heat exchanger system, particularly for use in a nuclear reactor plant, which comprises

one or several heat exchanger units of single or multi-part design. When leaks or pipe ruptures occur in such systems, e.g. for the media sodium/water, the problem is to evacuate the reaction products and liquid and gas vol-



umes consequent upon such leaks or pipe fractures in such a way that the plant is not destroyed or damaged or its safety impaired; the reaction products exhibit extraordinarily high pressures and velocities which in turn pressurize and accelerate the liquids and gases.

3,438,432

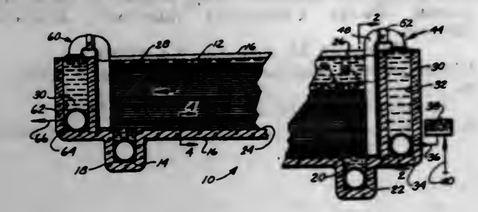
PLASTIC HEAT EXCHANGER WITH ANTI-BUOYANCY MEANS

Joseph R. Wetch, Sherman Oaks, and Louis Bernath, Canoga Park, Calif., assignors to North American Rockwell Corporation, a corporation of Delaware

Filed June 26, 1967, Ser. No. 648,581

Int. Cl. F28f 1/00

U.S. Cl. 165—138 7 Claims



A heat exchanger that passes a product fluid under a developed pressure head through a system of heat exchange tubes in counterflow to a feed fluid that passes by gravity induced flow through a tank in which the heat exchange tubes are immersed. The heat exchange tubes are plastic and have a weight within them to cause neutral buoyancy.

3,438,433

PLATE FINS

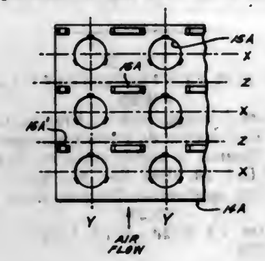
Addison Y. Gunter, Houston, Tex., assignor to Hudson Engineering Corporation, Houston, Tex.

Filed May 9, 1967, Ser. No. 637,188

Int. Cl. F28d 1/04

U.S. Cl. 165—151 10 Claims

A plate fin having laterally and longitudinally extending rows of holes with their axes arranged perpendicularly to one another and at least one louver in the area of the plate intermediate the axes of adjacent laterally and longitudinally extending rows of holes which extends longitudinally parallel to and asymmetrically of a straight



line parallel to and equidistant the axes of adjacent longitudinally extending rows.

3,438,434

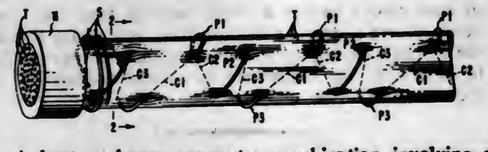
SUBDIVIDED HEAT EXCHANGER TUBE BUNDLE ASSEMBLY PROVIDING LONGITUDINALLY DISTRIBUTED FLUID BYPASS AND DISTRIBUTING CHANNELS

Robert Dilman Smith, Wilmington, Del., assignor to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware

Filed Oct. 19, 1967, Ser. No. 676,571

Int. Cl. F28f 1/00

U.S. Cl. 165—158 9 Claims



A heat exchange apparatus combination involving a tube bundle assembly of flexible plastic tubes with a given portion of the assembly being subjected to fluid flow having a significant component in a direction transverse to the tubes in the bundle, said given portion of the assembly of tubes being yieldably engaged by an elongated highly flexible hollow strand member interlaced transversely of the tubes in a pattern extending along the given portion of the assembly to maintain the portion in a substantially uniform compact transverse cross section and also subdividing the tubes of the given portion at a plurality of spaced positions along said portion into a plurality of groups of tubes separated sufficiently to form open spaced fluid bypass channels extending transversely through the given portion of the bundle in order to reduce the resistance of the portion to transverse flow and hence the forces exerted on the bundle due to such flow.

3,438,435

HEAT EXCHANGE PLATE

Fritz J. Wennerberg, Lund, Sweden, assignor to Alfa-Laval AB, Tumba, Sweden, a corporation of Sweden

Filed Dec. 23, 1966, Ser. No. 604,213

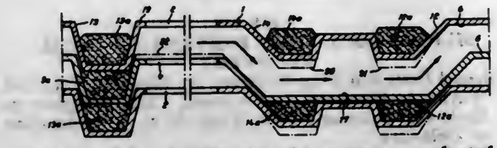
Claims priority, application Sweden, Dec. 29, 1965, 16,869

Int. Cl. F28f 3/08

U.S. Cl. 165—167 3 Claims

A heat exchange plate has a first impressed groove and first gasket means therein surrounding the heat exchange surface, the plate being provided with at least one hole within the confines of the first gasket means and with at least one hole outside said confines for passage of the respective heat exchange media, and an additional impressed groove and additional gasket means therein surround each hole outside said confines, whereby the grooves and gasket means include groove portions and gaskets

therein extending in side-by-side relation between the heat exchange surface and each said hole located outside the confines of the first gasket means. The heat exchange plate is characterized principally in that the gaskets in the side-by-side portions of the grooves are thinner than the gasket means in the other portions of the grooves, and



the parts of the plate forming the grooves are adapted to hold the gasket means, including the thinner gaskets, in sealing relation against opposing parts of an adjacent plate which form the bottoms of the grooves in the adjacent plate, whereby throttling of the flow through the interspace between adjacent plates is reduced or avoided.

3,438,436

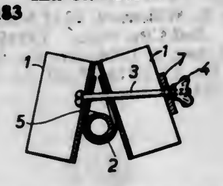
HEAT EXCHANGER

Tauno Koponen, Linjevagen 17, Solleftea, Sweden

Filed Nov. 25, 1966, Ser. No. 596,925

Int. Cl. F28f 1/14

U.S. Cl. 165—183 6 Claims



A heat exchanger comprises a tube for the flow of the heat-exchange medium, and a heat-exchange member wrapped part way about the tube and whose ends can be moved closer or farther apart by means of an adjusting nut, whereby to alter the area of heat-exchange contact between the member and the tube. The ends of the member also carry corrugated heat-exchange sheets whose corrugations are perpendicular to the axis of the tube.

3,438,437

CONVECTOR TYPE HEAT EXCHANGER

Carl Edward Christofferson, Los Angeles, Calif. (12637 Barlin, Downey, Calif. 90242)

Filed July 11, 1966, Ser. No. 568,718

Int. Cl. E21b 43/24

U.S. Cl. 166—57 13 Claims



A convector-type heat exchanger for oil wells or the like in which the heating chamber is provided with a number of extendable fins to increase the heat transfer surface. A relief valve and a check valve are provided to permit the condensate, but not the steam, to flow into the well.

3,438,438

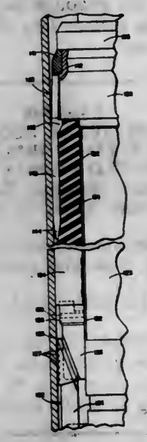
ANCHOR-PACKER

Martin B. Conrad, P.O. Box 568, Carpinteria, Calif. 93013

Filed May 22, 1967, Ser. No. 640,047

Int. Cl. E21b 23/04, 23/06

U.S. Cl. 166—121 15 Claims



An anchor-packer device including a compressible packer for sealing engagement with a well casing and an anchor incorporating an expansible sleeve adapted to expand outwardly a segmented element circumscribing it, causing the segments to frictionally engage the wall of a well casing. The packer may be incorporated in the elastomeric sleeve used to expand outwardly the anchor segments.

3,438,439

METHOD FOR PLUGGING FORMATIONS BY PRODUCTION OF SULFUR THEREIN

H Robert Froning, Tulsa, Okla., assignor to Pan American Petroleum Corporation, Tulsa, Okla., a corporation of Delaware

Filed May 29, 1967, Ser. No. 642,034

Int. Cl. E21b 33/138, 43/25

U.S. Cl. 166—292 11 Claims

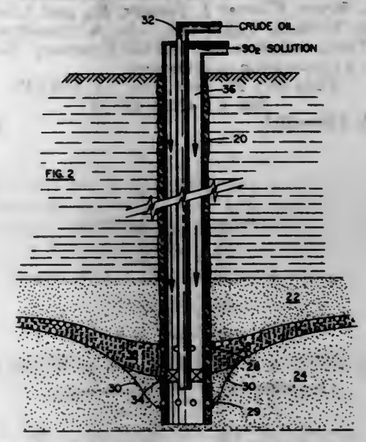


FIG. 2

When oil—which is in contact with the gas zone—is produced, the gas has a tendency to cone resulting in high gas-oil ratios. Where oil and gas are found in rather sharply dipped structures, it is desired to prevent the flow of oil up-dip into the gas cap during secondary recovery operations. Also, in such operations, the gas cap itself

requires considerable compression before the system will respond effectively. To prevent coning and in order to prevent uncontrollable migration of the oil and/or gas, this invention provides a means of segregating these two fluids. Specifically, this object is accomplished by forming a sulfur barrier or plug at the gas-oil interface by reacting sulfur dioxide with hydrogen sulfide in the presence of moisture. This process is most advantageously employed in situations where the gas gap involved contains hydrogen sulfide although both of these gases can be injected from the surface into the oil gas interface to form the sulfur barrier.

3,438,440

ELECTROLESS METAL BONDING OF UNCONSOLIDATED FORMATIONS INTO CONSOLIDATED FORMATIONS

Edwin A. Richardson, Houston, Tex., assignor to Shell Oil Company, New York, N.Y., a corporation of Delaware

No Drawing. Continuation-in-part of application Ser. No. 579,223, Sept. 14, 1966. This application Dec. 22, 1967, Ser. No. 692,686

Int. Cl. E21b *33/13, 43/27*

U.S. Cl. 166—292 11 Claims

A method of consolidating an incompetent formation having a temperature greater than 125° F. by metalizing or metal plating the formation by an electroless metal plating process using an acidic metal plating solution.

3,438,441

ELECTROLESS METAL BONDING OF UNCONSOLIDATED FORMATIONS INTO CONSOLIDATED FORMATIONS

Edwin A. Richardson, Houston, Tex., assignor to Shell Oil Company, New York, N.Y., a corporation of Delaware

No Drawing. Continuation-in-part of application Ser. No. 579,223, Sept. 14, 1966. This application Dec. 22, 1967, Ser. No. 692,670

Int. Cl. E21b *33/13, 43/22;* C23c *3/00*

U.S. Cl. 166—292 10 Claims

A method of consolidating an incompetent formation having a temperature not greater than 125° F. by metalizing or metal plating the formation by an electroless metal plating process using a basic metal plating solution.

3,438,442

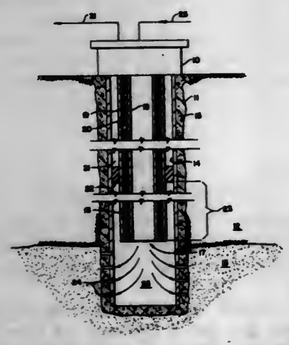
LOW-TEMPERATURE PACKER

John A. Pryor, Chester J. Frazier, Jr., and Lawrence L. Smith, Ventura, Calif., and John A. Stanzione, Littleton, Colo., assignors to Shell Oil Company, New York, N.Y., a corporation of Delaware

Filed July 29, 1966, Ser. No. 568,937

Int. Cl. E21b *43/24*

U.S. Cl. 166—303 2 Claims



Method and apparatus for treating an oil-bearing formation with steam through an injection well wherein an insulated tubing string providing a flow path for the steam is maintained in position within casing in the vicinity of the formation by means of a low-temperature packer. The low-temperature packer seals the well annulus at a position above the outlet of the tubing string sufficient to provide an insulation zone betwene the packer and the high-temperature injection zone of the well.

3,438,443

SILICA-DISSOLUTION PREVENTION IN OIL RECOVERY

Michael Prats and Evan H. Street, Jr., Houston, Tex., and Wayne A. Harthorn, Los Angeles, Calif., assignors to Shell Oil Company, New York, N.Y., a corporation of Delaware

No Drawing. Filed July 13, 1967, Ser. No. 653,037

Int. Cl. E21b *43/24*

U.S. Cl. 166—303 5 Claims

The heating of a permeable siliceous earth formation by injecting a hot aqueous fluid having a liquid phase is improved by converting the liquid phase to an aqueous solution that is substantially saturated with dissolved silica.

3,438,444

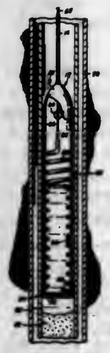
METHOD AND APPARATUS FOR REMOVING PARAFFIN AND SOLID DEPOSITS FROM AN OIL WELL

Ivan E. Wilkerson, 2321 Mansfield, Del City, Okla. 73115

Filed Aug. 1, 1966, Ser. No. 569,252

Int. Cl. E21b *37/00, 43/00*

U.S. Cl. 166—304 9 Claims



A method and apparatus for removing paraffin deposits from oil wells in which an elongated hollow member having an elongated heating coil therein is initially heated outside the well bore in an external heater and is then lowered into the well bore while continuing to heat the heating coil electrically. The heating coil convolutions are spaced axially from each other in the hollow member and project radially inwardly therefrom. When the hollow interior of the hollow member is at least partially filled with molten wax, lowering of the member is stopped, and the power to the heating coil is interrupted. After the wax congeals between the coils, the hollow member is removed from the well bore and the wax is removed from the interior thereof.

3,438,445

LIFE-SUPPORTING AND PROPERTY PROTECTING FIREFIGHTING PROCESS AND APPARATUS

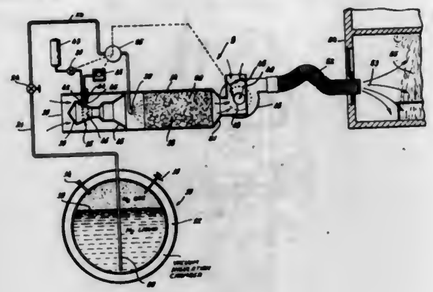
Calvin D. MacCracken, Tenafly, N.J., assignor to Calmac Manufacturing Corporation, Englewood, N.J.

Filed July 25, 1967, Ser. No. 655,792

Int. Cl. A62c *1/24, 27/16*

U.S. Cl. 169—1 14 Claims

A human being has sufficient lung capacity that, in the absence of smoke and carbon monoxide, he can be active and carry out work very effectively for long periods of time in an atmosphere containing 10% oxygen, and he can remain alive for a substantial period of time in an atmosphere containing 5% oxygen. His respiratory



rate and pulse rate will increase markedly, but he will live. On the other hand, the burning activity of common combustible materials, such as wood, paper, cloth, and the like, very rapidly diminishes as the oxygen content of the atmosphere is reduced below the natural level of 21%. Flames go out and only smoldering will take place below 14–15% oxygen content.

3,438,446

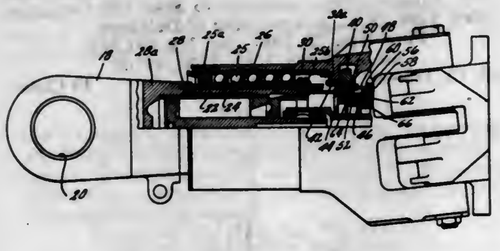
ROTOR BLADE PITCH LOCK

Luigi Vacca, Milford, and Donald L. Ferris, Newtown, Conn., assignors to United Aircraft Corporation, East Hartford, Conn., a corporation of Delaware

Filed Oct. 3, 1967, Ser. No. 672,616

Int. Cl. B64c *27/50*

U.S. Cl. 170—160.12 6 Claims



A variable pitch rotor blade has mechanism at the root of the blade for locking the blade against pitch change preliminary to folding the blade for storage including an assembly slidable axially of the blade between the blade sleeve and the blade spindle. The assembly has external and internal splines which engage cooperating splines located inboard of the slidable assembly on the blade sleeve and blade spindle, respectively. Remote controlled actuating means for the sliding splined assembly is connected to pin pulling mechanism associated with the blade folding hinge mechanism and includes a spring biased cocking mechanism for urging the splined assembly inboard axially into spline engaging position to lock the blade pitch when the splines are brought into alignment.

3,438,447

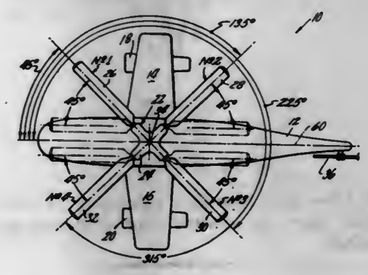
DUAL LINEAR OUTPUT AND DUAL ROTARY OUTPUT ACTUATOR WITH REDUNDANT DRIVE

Donald L. Ferris, Newtown, Conn., assignor to United Aircraft Corporation, East Hartford, Conn., a corporation of Delaware

Filed Oct. 12, 1967, Ser. No. 674,881

Int. Cl. B63h *1/22;* B64c *11/28, 27/50*

U.S. Cl. 170—160.12 14 Claims



An actuator having a redundant drive and producing at least four outputs sequentially including a first linear output, a first rotary output, a second linear output and a second rotary output.

3,438,448

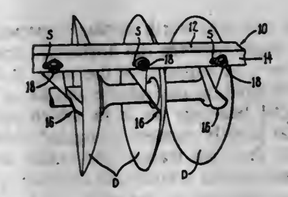
DISC SCRAPER

Clarence B. Richey, Fresno, and Richard W. Kramer, Fowler, Calif., assignors to Massey-Ferguson Inc., Detroit, Mich.

Filed Mar. 8, 1966, Ser. No. 532,617

Int. Cl. A01b *15/16, 23/06*

U.S. Cl. 172—558 2 Claims



A disc harrow is provided with a scraper for each disc. The scraper includes a flat blade portion, a contiguous coplanar shank portion, and an angled mounted arm including a mounting hole for attachment of the scraper to the vertical wall of the support bar by a bolt.

3,438,449

PNEUMATICALLY OPERATED POWER DRIVER

Arthur J. Smith, 1245 S. Fairway, Visalia, Calif. 93277

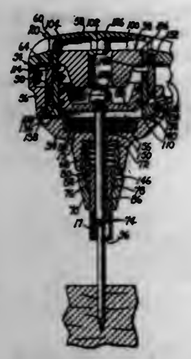
Filed Apr. 10, 1967, Ser. No. 629,797

Int. Cl. B23q *5/00;* B25d *9/12*

U.S. Cl. 173—17 25 Claims

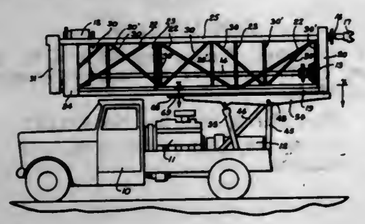
A compact reciprocating pneumatically operated impact tool, capable of driving items such as nails, screws, pins, etc. with a multiple of impact blows, controlled by a trig-

gering means that is operable by direct contact of the driving end of a driving member with an item to be driven. The unit of the invention is operable for a single stroke



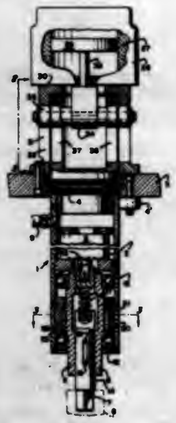
driving blow or a repetitive succession of driving blows dependent upon the desired controlled operation of the mechanism.

3,438,450
HYDRAULICALLY OPERATED EARTH BORING TOOLS
Jay C. Failing, Enid, Okla., assignor to Failing Industries Incorporated, Enid, Okla., a corporation of Oklahoma
Filed Feb. 24, 1967, Ser. No. 618,480
Int. Cl. E21c 11/02, 9/00, 5/10
U.S. Cl. 173—44 8 Claims



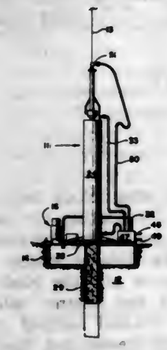
A vehicle mounted earth boring apparatus adapted to drill at any angle between the horizontal and vertical and closely adjacent the support for the same. It is mounted on a rigid frame fixed on the vehicle and has a pair of transversely spaced bearings on it in which stub shafts are mounted that pivotly connect elongated side members of a cradle with the rigid frame. The cradle also has a pair of cross members and a hydraulic cylinder is mounted between a cross member on the cradle and a cross member on a mast, for adjusting the position of the mast lengthwise of the cradle. The mast has transversely spaced longitudinal frame members that are slidably connected with the longitudinal members of the cradle, there being interengaging guide flanges on the longitudinal cradle members and the longitudinal frame members of the mast. The angular position of the cradle about the pivot members connecting it with the rigid frame members is adjusted by hydraulic cylinders extending between the cradle and the supporting vehicle. The mast is provided with a mounting for a drill and drive means for the drill that is movable lengthwise of the mast by means of hydraulic cylinders. The particular drive for the drill disclosed is a kelly held against endwise movement relative to the mast and driving means between the kelly and a drive sleeve connecting with the string of drill pipe. The mounting for the drive sleeve and its string of drill pipe is adjustable lengthwise of the mast by means of hydraulic cylinders which are incorporated in the mast and mounting for the drive sleeve.

3,438,451
POWER WRENCH
Ralph S. Hayes, Jr., Waverly, N.Y., assignor to Ingersoll-Rand Company, New York, N.Y., a corporation of New Jersey
Filed June 5, 1967, Ser. No. 643,674
Int. Cl. E21c 1/12; B25b 21/02; F01b 3/00
U.S. Cl. 173—163 5 Claims



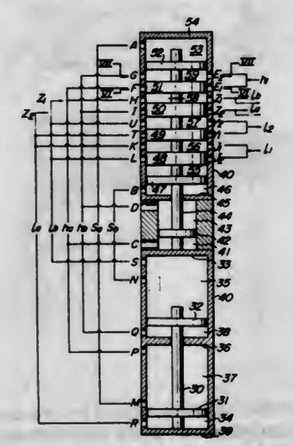
A two-speed power wrench including a casing rotatably mounted on a support and containing a rotary motor driving a spindle adapted to be connected to a fastener. A fluid-powered piston motor is mounted at the top end of the casing with the piston axis aligned with the casing axis and with a cam connection between the piston and the casing for converting the reciprocating motion of the piston to a rotary motion of the casing. The rotation of the casing is transmitted to the spindle through a unidirectional clutch which allows the rotary motor to drive the spindle freely in a fastener tightening direction while allowing the casing to drive the spindle after the rotary motor is stalled.

3,438,452
CORE SAMPLING
Hugh A. Bernard, Edwin E. Daigle, and Jacob C. Richardson, Houston, Tex., assignors to Shell Oil Company, New York, N.Y., a corporation of Delaware
Filed Dec. 18, 1967, Ser. No. 691,568
Int. Cl. E21b 7/12, 1/00, 49/00
U.S. Cl. 175—6 10 Claims



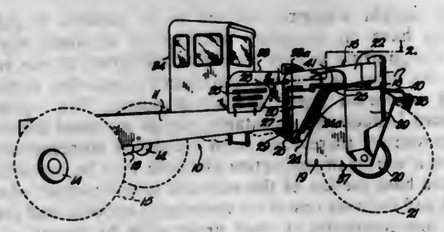
Method and apparatus for taking a core sample from a liquid permeated sedimentary earth formation. Core sampling apparatus is anchored to the formation surface and coring means is thrust into the formation. A core sample is retained by the coring means when the coring means is retracted from the earth formation.

3,438,453
FLUID PRESSURE-DRIVEN DEEP-WELL PUMP
Gaiseki Yabuno, 1464 Shimiza, Yamato-cho, Kitatama-gun, Tokyo, Japan
Filed May 28, 1965, Ser. No. 459,735
Claims priority, application Japan, May 28, 1964, 39/29,812
Int. Cl. E21b 1/06, 3/28, 5/00
U.S. Cl. 175—102 7 Claims



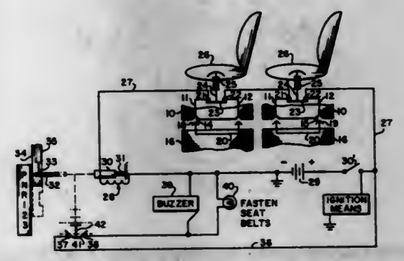
A deep-well pump having at least three principal elements, that is a transfer valve having a control valve, a reciprocating pump, and one set of six interconnecting pipes. The pipes include four pipes connected between the transfer valve and the pump and two pipes connected between the control valve and the pump. The system has three external pipes connected to the pump through the transfer valve that is reciprocated by action of the control valve moving in response to movement of the pump. The three external pipes include a pipe for the high pressure operating fluid, a pipe for pumping up the ground liquid and de-energized operating fluid, and an intake pipe for sucking in the ground liquid. The transfer valve controls at least the three external pipes and the four interconnecting pipes, and is designed to withstand extremely high pressures. The pump piston may have a drill rod and drill head at its lower end, whereby the pump piston will reciprocate the drill head to drill the well.

3,438,454
AIR COOLING ARRANGEMENT FOR TRACTOR HAVING OVERSIZED SINGLE FRONT WHEEL
Edgar J. Rickel, Leawood, and Thomas D. Kernohan, Niles, Kans., assignors to Rickel, Inc., Kansas City, Mo., a corporation of Kansas
Filed Feb. 15, 1967, Ser. No. 616,395
Int. Cl. B62d 61/08; B60k 9/00
U.S. Cl. 180—54 2 Claims



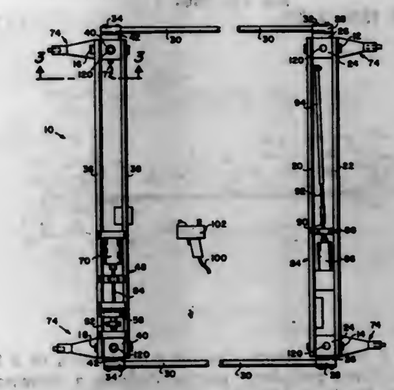
The chassis frame is constructed with an upwardly offset forwardly projecting neck structure, below the forward end of which is pivoted a front wheel mounting yoke for carrying a large diameter, low soil pressure tire. The rearward, or base portion, of the neck structure, which screens the front of the engine housing, is provided with air passages therethrough permitting ingress of air for engine cooling purposes.

3,438,455
SEAT BELT SAFETY SYSTEM FOR MOTOR VEHICLES
Benjamin Redmond, 520 E. 77th St., New York, N.Y. 10021
Filed Apr. 28, 1967, Ser. No. 634,581
Int. Cl. B60k 27/08, 33/00, 23/00
U.S. Cl. 180—82 3 Claims



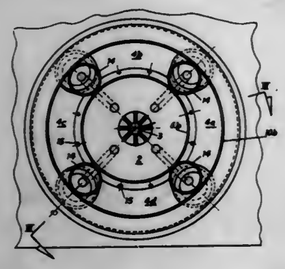
A seat belt safety system for motor vehicles wherein all seat belts of the vehicle are elements of a common electrical circuit operative to control the drive system of the vehicle and wherein an unbuckled seat belt in any occupied seat of the vehicle will automatically prevent placing of the vehicle in motion while permitting running of the vehicle's engine with the vehicle at rest.

3,438,456
MOBILE CARRIER HAVING ELECTRIC DRIVING AND STEERING MOTORS
Allen E. Hunter, 430 Halsey Ave., San Jose, Calif. 95128
Filed Dec. 7, 1966, Ser. No. 599,923
Int. Cl. B60k 27/08, 1/00
U.S. Cl. 180—104 5 Claims



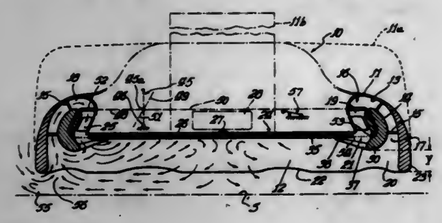
A self-propelled carrier for moving structures, such as erected scaffolding, having a disassembleable frame with wheels, remote controlled steering and motive power. Safety features include frame structure proximate to supporting ground level limiting tipping upon loss of wheel support, ground level sensing devices overriding remote drive control and "dead-man" braking arrangement.

3,438,457
MULTI-CUSHION SYSTEM FOR A SURFACE EFFECT VEHICLE
Paul Francois Guienne, Paris, and Marc Henri Jean Faure, Saint-Maur-des-Fosses, France, assignors to Bertin & Cie, Plaisir, France, a company of France
Filed Jan. 30, 1967, Ser. No. 612,545
Claims priority, application France, Feb. 1, 1966, 48,031
Int. Cl. B60v 1/16
U.S. Cl. 180—121 17 Claims



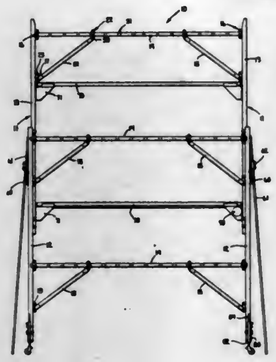
A multi-cushion system bearing a ground effect machine and supplied with pressure fluid delivered by a same generator, comprising an inner primary cushion compartment bounded by an endless wall and fed with the whole delivery of said generator, said endless wall being surrounded by a further endless wall and bounding therewith an outer space which is divided into two or more outer secondary cushion compartments by means of partitions extending between said walls, said outer secondary cushion compartments being supplied with pressure fluid tapped from said inner primary cushion compartment through communicating passages between said compartments.

3,438,458
GROUND EFFECT VEHICLE
Anthony C. Mamo, Des Plaines, Ill., assignor to Borg-Warner Corporation, Chicago, Ill., a corporation of Illinois
Filed Mar. 13, 1961, Ser. No. 95,371
Int. Cl. B60v 1/02
U.S. Cl. 180—122 12 Claims



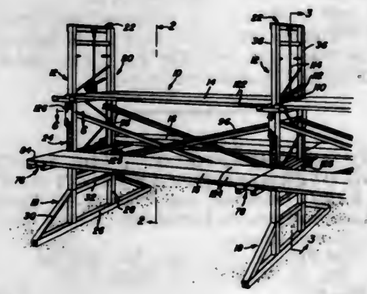
1. In a vehicle comprising the combination of a body having a lower peripheral portion defining a downwardly opening chamber, said body being formed with a duct therein having an inlet and an outlet opening in said chamber, said inlet being positioned inwardly and upwardly adjacent said lower peripheral portion and said outlet being spaced inwardly and upwardly from said inlet, and means for drawing air through said duct into said chamber for providing a pressurized air mass in said chamber to support the vehicle.

3,438,459
PORTABLE SCAFFOLD
Eugene J. Magee, 301 N. Tacoma Ave., Indianapolis, Ind. 46201
Filed Nov. 30, 1966, Ser. No. 597,951
Int. Cl. A64b 7/16; E04g 1/00
U.S. Cl. 182—119 6 Claims



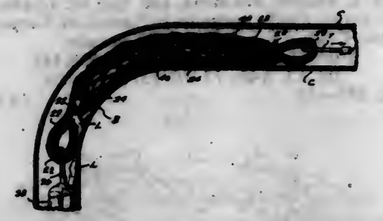
A scaffold which is characterized by two extension ladders having work planks disposed therebetween. The work planks are associated with the upper part of the extension ladders and raised and lowered electrically. Special fittings leads to extreme versatility insofar as length, width and height of the scaffold.

3,438,460
SCAFFOLD WITH ELEVATABLE SECTION
Louis J. Solari, Blue Eye, Mo. 65611
Filed Nov. 9, 1966, Ser. No. 593,207
Int. Cl. E04g 1/18, 3/10, 5/08
U.S. Cl. 182—132 9 Claims



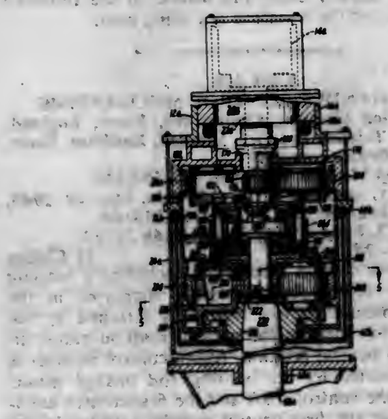
An upright standard adapted to be utilized in pairs and to have an elongated horizontally disposed workmen's supporting section supported therefrom at one end with the other end of the workmen's supporting section being supported from another standard. The upright standard includes an elevatable section mounted thereon for movement therealong from which the corresponding end of a workmen supporting platform may be supported and the base section of the standard is horizontally elongated and includes upwardly convergent opposite end portions interconnected at their upper ends by means of a horizontal portion while the elevatable section is horizontally elongated and generally parallels the base section. The elevatable section defines a longitudinally extending upstanding slot in which the upwardly convergent portions and the interconnecting upper portion of the base section are receivable when the elevatable section is in its lowest position on the standard.

3,438,461
METHOD AND MEANS FOR DISPENSING CABLE-PULLING LUBRICANT
Alister G. MacPherson, Box 746, Southern Pines, N.C. 28387
Filed Dec. 1, 1965, Ser. No. 510,770
Int. Cl. F01m 9/12; B65c 7/08; B65d 35/28
U.S. Cl. 184—1 12 Claims



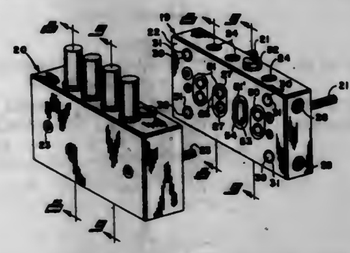
Method and apparatus for dispensing cable-pulling lubricant within an electrical conduit, including the provision of a flexible dispensing package shaped for pulling through a conduit and designed for attachment between a cable-pulling strand and the electrical cable to be pulled through the conduit. This package comprises a collapsible bag filled with lubricant and inserted into a flexible, elongated sleeve structure which is caused to extend selectively in response to tension applied thereto during the pulling operation and, consequently, to contract peripherally so as to reduce the volumetric capacity of the collapsible bag whereby lubricant is dispensed therefrom in the path of the cable being pulled.

3,438,462
INCREASED CAPACITY THRUST BEARING ASSEMBLY
Arthur I. Nelson, 1988 Broadway, San Francisco, Calif. 94109
Filed Dec. 20, 1966, Ser. No. 603,758
Int. Cl. F01m 1/00; F16n 17/06, 29/00
U.S. Cl. 184—6 12 Claims



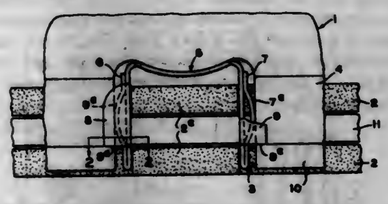
A thrust bearing assembly of the collar and ring type for use in combination with a planetary gear train. The assembly is designed for coaxial incorporation into a planetary gear train so that both the collar and ring journals thereof are independently driven by the elements of the train to establish a relative velocity therebetween exceeding that which would occur if one of the journals were stationary.

3,438,463
LUBRICANT METERING VALVE CROSS-PORTING ARRANGEMENT
Thomas J. Gruber, Chagrin Falls, Ohio, assignor to Eaton Yale & Towne Inc., Cleveland, Ohio, a corporation of Ohio
Filed Apr. 29, 1966, Ser. No. 546,434
Int. Cl. F01m 1/06; F16n 7/14, 13/22
U.S. Cl. 184—7 5 Claims



A lubricant valve assembly comprising a unitary valve block which includes at least one measuring valve and a manifold block which includes all external inlet and outlet line connections. Lubricant is introduced into the measuring valve within the valve block via the manifold block through a series of inlet passageways. The lubricant is alternately dispensed from the measuring valve to the manifold through a pair of outlet passageways. The pair of outlet passageways in the valve block unit are aligned with and correspond to a pair of outlet passageways in the manifold block unit. The lubricant is dispensed from the passageways in the manifold unit to outlet lines coupled to the members to be lubricated. Also included is a cross-porting structure located at the interface of the valve block unit and the manifold block unit. The cross-porting structure directs the lubricant emanating out of both the outlet passageways of the valve block unit into one of the outlet passageways in the manifold block unit.

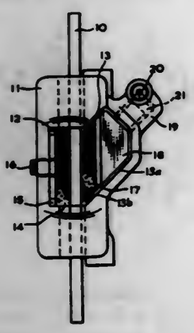
3,438,464
WHEEL BRAKE DISK DRIVE KEY
Charles E. Barrington, Stow, Ohio, assignor to The Goodyear Tire & Rubber Company, Akron, Ohio, a corporation of Ohio
Filed Nov. 30, 1966, Ser. No. 598,101
Int. Cl. F16d 55/00, 65/14, 13/52
U.S. Cl. 188—72 5 Claims



This invention relates to a wheel brake disk drive key utilized to achieve a driving action on the rotating friction members in a disk brake. More specifically, the invention comprises a plurality of stamped metal keys resiliently mounted in slots on a rotatable wheel, whereby the keys are adapted to receive ears extending from rotatable friction members of a disk brake whereby the keys transmit the torque forces from the wheel to the ears of the friction members to thus eliminate costly machining of the slots

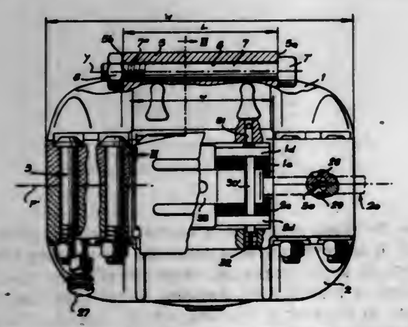
in the rotating wheel to directly receive the ears of the rotating friction members.

3,438,465
SPOT-TYPE SERVO DISC BRAKE
Henry James Butler, Sutton Coldfield, England, assignor to Dunlop Rubber Company Limited, London, England, a British company
Filed May 27, 1963, Ser. No. 283,237
Claims priority, application Great Britain, May 30, 1962, 20,768/62
Int. Cl. F16d 55/00
U.S. Cl. 188—73 9 Claims



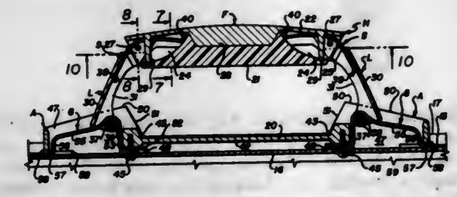
The invention relates to a servo disc brake incorporating an axially movable non-rotatable caliper straddling a portion of the periphery of a disc and having friction elements for engagement with opposite faces of the disc. The caliper has guide means in the form of a guide and stress receiving surface for slidably guiding one friction element in a direction which is inclined towards the opposed surface of the disc in the direction of rotation of the disc and which serves positively to limit the movement of the friction element to a movement along a straight line defined by the guide means.

3,438,466
BRAKE-HOUSING ASSEMBLY FOR DISK BRAKES
Ernst Meier, Frankfurt am Main-Sindlingen, Germany, assignor to Alfred Teves Maschinen- und Armaturenfabrik KG, Frankfurt am Main, Germany, a corporation of Germany
Filed Aug. 30, 1967, Ser. No. 664,340
Claims priority, application Germany, Sept. 14, 1966, T 32,053
Int. Cl. F16d 55/00
U.S. Cl. 188—73 10 Claims



The invention relates to a disk-brake assembly whose aluminum or aluminum-alloy yoke is disposed along the periphery of the brake disk and has, integrally formed at least on the cantilevered yoke half where one yoke half is affixed to the axial housing or another support, at least one reinforcing rib extending across the yoke half over the greater part of the width thereof in the direction of rotation of the disk. The rib receives a tension bolt whose head bears upon one end of the rib and whose threaded extremity either is screwed into the rib at the other end or is locked thereagainst by a nut. The ribs and bolts are tangential to the disk or to circles concentric therewith and lie in planes parallel to the braking faces of the disk.

3,438,467
RETRACTABLE HANDLES FOR LUGGAGE CASES
Kenneth A. Milette, Pasadena, and Tim M. Uyeda, South San Gabriel, Calif., assignors to Samsonite Corporation, Denver, Colo., a corporation of Colorado
Filed Aug. 4, 1967, Ser. No. 658,445
Int. Cl. A45c 13/10, 13/22, 13/26
U.S. Cl. 190—58 13 Claims

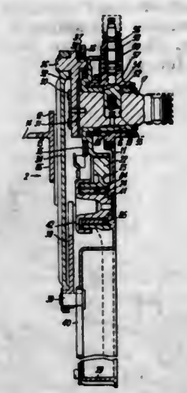


A luggage case handle secured to a base by a connective link at each end of the handle. The base, somewhat longer than the handle, includes a central, elongated saddle which receives the handle in a retracted position upon the base with the links being spread apart from each end of the handle and received by base abutments at each side of the saddle. Each link is pivoted to the handle and the outward end of each link is slidable in a guide in the abutment to which it is attached. Accordingly, when the handle is lifted from the base, the outward end of each link slides inwardly along its abutment and rotates downwardly from the end of the handle. A spring, exerting pressure at the pivotal connection of the handle and each link, is adapted to bias each link outwardly from the end of the handle to the position assumed by the link when the handle is retracted in the base saddle. This spring action thereby urges the handle to the retracted position whenever the handle is not being used.

3,438,468
SINGLE HANDLE CONTROL MECHANISMS
James Frederick Hemens, Chelmsford, Essex, England, assignor to Teleflex Products Limited, Basildon, Essex, England, a British company
Filed May 18, 1966, Ser. No. 557,336
Claims priority, application Great Britain, May 18, 1965, 21,092/65; Aug. 2, 1965, 33,018/65
Int. Cl. F16d 47/00, 23/00; F16h 21/22
U.S. Cl. 192—.96 11 Claims

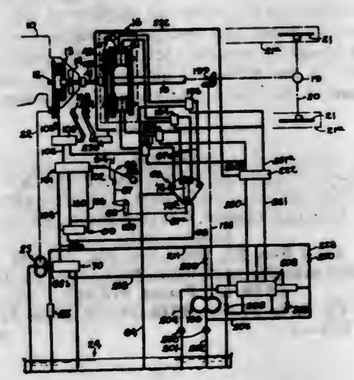
A single lever control mechanism including a housing with a main control shaft rotatably supported in the housing. A manual control handle is attached to the control shaft for rotating the control shaft in either direction from a neutral position. A first control member is rotatably supported by the housing and linkage means interconnects the control shaft and the first control member for rotating the first control member always in the same direction when the control shaft is rotated in either direction from the neutral position. A second control member is rotatably supported by the housing and a drive member is disposed on the control shaft and operatively engages the second control member for rotating the latter.

A locking means normally locks the drive member to the control shaft whereby the drive member rotates with the



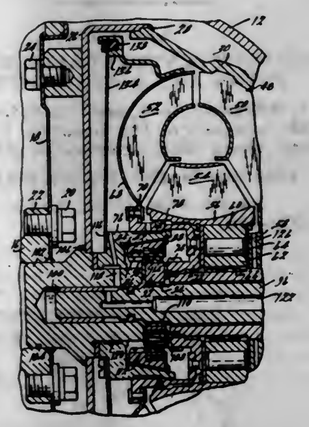
control shaft but the locking means is movable to an unlocked position for allowing the first control member to be rotated independently of the second control member.

3,438,469
CONTROL FOR A MODULATED CLUTCH AND REVERSIBLE TRANSMISSION WITH SHIFT-RESTRICTING INHIBITORS
Conrad R. Hilpert, Winnebago, Ill., assignor to Twin Disc Clutch Company, Racine, Wis., a corporation of Wisconsin
Original application July 19, 1965, Ser. No. 473,148, now Patent No. 3,348,644. Divided and this application Aug. 18, 1967, Ser. No. 661,599
Int. Cl. F16d 67/00
U.S. Cl. 192—3.5 11 Claims



A hydraulic control for a modulated clutch and a transmission drivingly interposed in tandem between the motor and the drive wheels of a tractor and including speed and direction responsive inhibitors which delay engagement of hydraulically actuated transmission clutches for reversing the direction of drive of the tractor until the latter has slowed to a safe speed thereby to allow manual shifting of a selector lever to a reverse drive condition at any time without danger of overstressing the transmission. The modulated clutch is disengaged automatically each time one of the transmission clutches is disengaged through shifting of the lever, and then is reengaged slowly after one of the transmission clutches once again has been engaged. Under special operating conditions, the inhibitors are disabled partially so as to leave the tractor free to maneuver and reverse directions in a manner required by the operation being performed. In addition, the inhibitors are disabled automatically if the brake system of the tractor should fail so that, regardless of the speed or direction of the tractor at the time of such failure, the transmission can be shifted to a condition to stop the tractor without the restrictions normally imposed by the inhibitors. A ground-driven hydraulic pump serves as a speed and direction sensor for the inhibitors, and also may be used to energize the various clutches while the tractor is being pushed by another vehicle to start the engine.

3,438,470
FLUID COUPLING IN SERIES WITH SYNCHRONIZED POSITIVE CLUTCH
Robert E. Kaptur, Birmingham, Mich., assignor to Ford Motor Company, Dearborn, Mich., a corporation of Delaware
Filed Dec. 4, 1967, Ser. No. 687,518
Int. Cl. F16d 33/00, 35/00, 37/00
U.S. Cl. 192—3.33 8 Claims

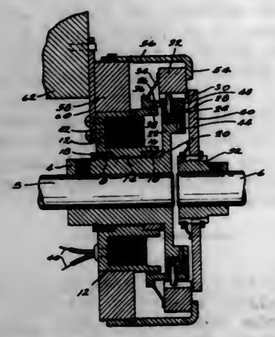


This specification describes a hydrokinetic power transmission mechanism including a torque converter powered by an internal combustion engine and multiple ratio gearing which defines plural torque delivery paths between a driven shaft and the converter turbine. At the moment of a ratio shift in the gearing, a synchronizer clutch located within the converter impeller shell disconnects the turbine from the power input element of the gearing thereby interrupting the torque delivery path between the engine and the driven shaft. After the gearing is conditioned for the changed speed ratio, the synchronizer clutch is re-engaged. But before engagement is complete, the power input element of the gearing rotates in synchronism with respect to the converter turbine.

3,438,471
COMBINATION CLUTCH AND BRAKE
Bernard E. Wrensch, Brookfield, Wis., assignor to Stearns Electric Corporation, Milwaukee, Wis., a corporation of Wisconsin
Filed Sept. 12, 1967, Ser. No. 667,220
Int. Cl. F16d 11/06, 13/22, 67/02
U.S. Cl. 192—18 7 Claims

A rotor having a hub rotatable within an annular electromagnet carries extension poles for the magnet and also supports a normally engaged brake ring which

is so positioned as to be disengaged when an armature with a clutch surface engages the extension poles on



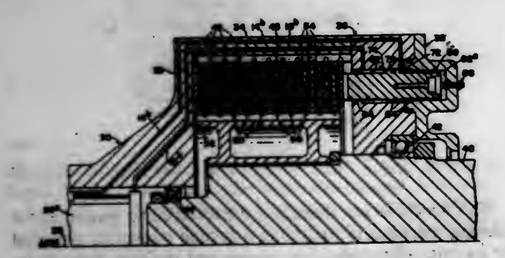
the hub and forces the brake ring out of contact with the fixed brake surface normally engaged thereby.

3,438,472

CLUTCH WITH CENTRIFUGALLY BALANCED PISTON AND ACCUMULATOR

Kenneth P. Hillegass, Copley, and John F. Gowins, Massillon, Ohio, assignors to The Goodyear Tire & Rubber Company, Akron, Ohio, a corporation of Ohio

Filed June 29, 1967, Ser. No. 649,931
Int. Cl. F16d *25/08, 43/284*
U.S. Cl. 192—106 5 Claims



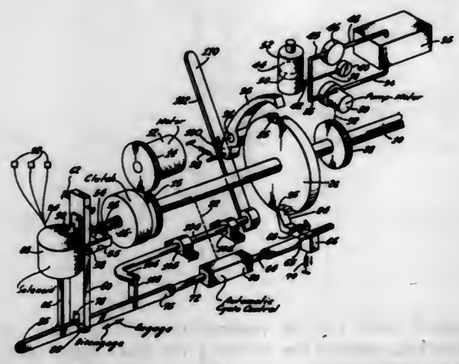
A rotating clutch utilizing interleaved internally and externally driven discs in the usual manner with a pressure plate and applying piston, where the piston rotates with a continuously rotating member so that centrifugal force acts upon the hydraulic fluid utilized to actuate the piston which is characterized by the piston having opposed actuating surfaces whereby a static hydraulic pressure acts on one surface and an active hydraulic pressure acts on the other surface so that the pressure developed by centrifugal force in both the active and static hydraulic fluids on both actuating surfaces of the piston will cancel each other, and thereby prevent actuation of the piston by centrifugal force increasing the pressure of the active hydraulic fluid supplied to the piston. The static hydraulic line feeds into a spring-charged accumulator mounted on substantially the center line of the continuously rotating element and effects release of the clutch when actuating pressure to the active hydraulic line is released. An automatic clearance adjusting device is incorporated into the piston to maintain constant operating clearance between the clutch discs throughout the clutch life.

3,438,473

DRIVE SHAFT CONTROL

Herbert E. Rohrbacher, Whittier, Calif., assignor to Bergandi Manufacturing Company, Inc., El Monte, Calif., a corporation of California

Filed Aug. 10, 1966, Ser. No. 571,600
Int. Cl. F16p *3/00*
U.S. Cl. 192—148 12 Claims



In a control system for a cyclically operating mechanism, an operating means is movable from a normal first position to a second position to engage a clutch for operating the mechanism and is retractable to its first position to stop the mechanism, the operating means being biased to its first position. An automatic cycle control advances from a retracted ineffective position to an advanced position for carrying out a predetermined operating cycle and is normally connected to the operating means to move the operating means to its second position for engaging the clutch when the automatic cycle control is advanced. In an emergency, the operating means is disconnected from the advanced automatic cycle control to return to its first position to stop the mechanism without disturbing the advanced position of the automatic cycle control. When the emergency ceases, the operating means is manually returned to its second position and is connected to the advanced automatic cycle control for completion of the interrupted cycle of operation.

3,438,474

APPARATUS FOR ATTACHMENT TO AN INLET BOX OF A COLD-ROLLING TRAIN

Alberto Tedeschi, Corso Europa 269/A, Genoa, Italy

Filed Feb. 21, 1968, Ser. No. 707,851
Claims priority, application Italy, Apr. 24, 1967, 6,999/67, Patent 818,063
Int. Cl. B65g *11/00*; B21b *39/20*; B65h *23/04*
U.S. Cl. 193—1 10 Claims



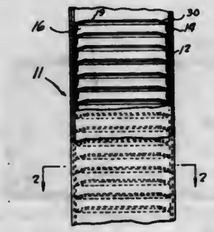
Apparatus for attachment to an inlet box of a cold-rolling train to permit the simultaneous blocking and release of a plurality of wooden guides arranged in two superposed platforms defining therebetween a passage for the metal plate to be rolled. The apparatus comprises a blocking bar connected to a set of hydraulically or mechanically actuated elbow levers. On lifting the blocking bar a plurality of hooked claws each retaining a wooden guide is simultaneously released. In this released position the wooden guides however do not yet fall due to their own weight, but are still loosely held so that they can be transversely shifted. Each hooked claw has a safety lever associated therewith, which, when released, permits the removal and exchange of the associated wooden guide. At least one transverse supporting member extends over the entire width of each platform and cooperates with the hooked claws to block the wooden guides in their position without the use of the known clamping screws.

3,438,475

CONDUIT LINER CONSTRUCTION

Herbert S. Toney, Munday, W. Va. (608 Elder St., Parkersburg, W. Va. 26101)

Filed Dec. 16, 1966, Ser. No. 602,349
Int. Cl. B65g *11/16*
U.S. Cl. 193—2 6 Claims



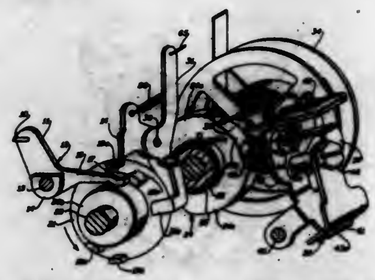
A liner for conduits intended to convey hard or abrasive material, the liner having clips for holding baffle plates or flange members in projecting positions to catch quantities of the conveyed material therebetween so that the trapped quantities of material will act as cushions to shield the liner against wear, the baffle or flange members being renewable, as required, and the clips being arranged so that the spacing between the baffles or flange members can be adjusted in accordance with the operating conditions and the nature of the material being conveyed.

3,438,476

FIXED TIME DELAY FOR CARRIAGE RETURN MECHANISM

Lloyd E. Hare, West Hartford, and Daniel J. Rosborg, Bristol, Conn., assignors to Litton Business Systems, Inc., a corporation of New York

Filed May 26, 1966, Ser. No. 553,233
Int. Cl. B41j *19/70*
U.S. Cl. 197—65 2 Claims



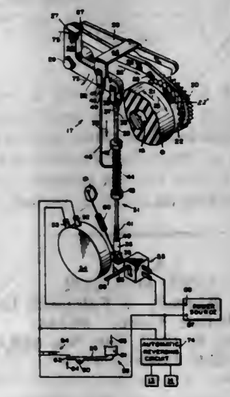
Depression of a carriage return key is adapted to effect movement of a cam to a position adapted to render a power return clutch engaged. Responsive to termination of carriage return, the power return clutch is caused to disengage automatically and the cam is caused to automatically move to a position where it will again react to depression of the carriage return key in the manner previously described. The cam provides a fixed time delay before engagement of the power clutch, and an equally precise fixed time period, which must elapse before a repeat carriage return may be initiated.

3,438,477

PLATEN REVERSING MEANS FOR A PRINTING APPARATUS

Vernon H. Foersterling, Carmel, Ind. (232 N. Lincoln St., Hinsdale, Ill. 60521)

Filed July 5, 1966, Ser. No. 562,778
Int. Cl. B41j *19/76*
U.S. Cl. 197—114 5 Claims



In a printing apparatus of the type including a platen for supporting a printing medium and means for driving the platen forwardly, means for reversing the platen in a step-by-step manner. The reversing means comprises first ratchet means arranged to move the platen in the reverse direction, second ratchet means arranged to stop movement of the platen in the reverse direction and electrically operated means for substantially simultaneously operating the first and second ratchet means to move said platen a predetermined amount in the reverse direction. Manually operated means is provided for energizing the electrically operated means and switch means is provided for deenergizing the electrically operated means when the platen is moved said predetermined amount, the switch means being responsive to movement of the electrically operated means. Preferably, circuit means is provided for automatically operating the electrically operated means, the circuit means being connected in parallel with the manually operated means and responsive to coded input means. Also, preferably, means for imparting a code index to a tape is provided, the circuit means being arranged to actuate the code index imparting means when the electrically operated means is energized by the manually operated means.

3,438,478

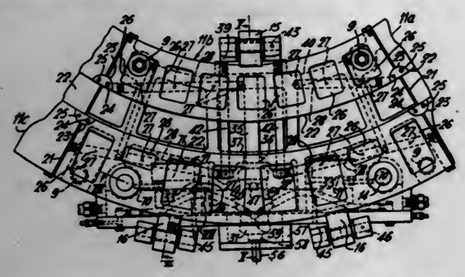
TRANSFER MACHINE

Ernest W. Bridge, Welwyn Garden City, England, assignor to The Mullard Engineering Company Limited, Hatfield, England, a British company

Filed Mar. 30, 1967, Ser. No. 627,103
Claims priority, application Great Britain, Mar. 31, 1966, 14,318/66
Int. Cl. B23q *7/02*; B65g *29/00*
U.S. Cl. 198—19 9 Claims

Transfer machine having a base structure providing a plurality of successive work stations and a plurality of bed segments defining a closed path past all the work

stations. Each segment spans a whole number of work stations, and each has a platen-supporting surface on which slide a plurality of interconnected work-carrying platens which occupy the full extent of the closed path. A single indexing mechanism on one of the bed segments indexes all the platens simultaneously, and at least each



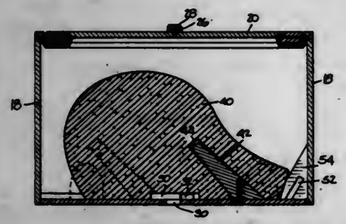
bed segment which is associated with a tool head has a platen locating device for locating each platen individually in relation to a tool head. Shallow pockets in the platen-supporting surface of each bed segment are fed with air under pressure to reduce friction between the platens and the bed segments during an indexing period.

3,438,479
COIN HOLDER
Robert A. Bennett, 38 Falmouth Drive, Shelton, Conn. 06484
Filed Dec. 6, 1967, Ser. No. 688,471
Int. Cl. A45 *1/10*
U.S. Cl. 206—.83 9 Claims



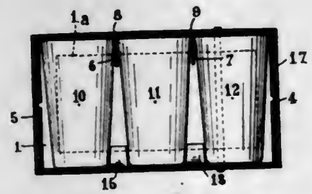
A coin holder of plastic material which can be made by vacuum forming in which coins of different denominations are held tilted at an angle in separate compartments for easy insertion and removal.

3,438,480
WIG CARRYING CASE
Paul L. Chabrelot, Johnson Ave. and Shore Road, Hopatcong, N.J. 07843
Filed May 3, 1968, Ser. No. 726,333
Int. Cl. A45c *11/00, 11/02*; B65d *25/28*
U.S. Cl. 206—8 5 Claims



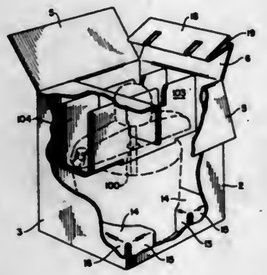
A wig carrying case in the form of an open end container that has a top wall and side walls extending from the top wall. A detachable bottom wall is disposed on the container to close the open end thereof and fastening means are provided releasably attaching the bottom wall to the container. Advantageously a wing shaped attaching member is mounted on the top wall for engaging the wig carrying case with another case. A slot is provided in the bottom wall for receiving a wing shaped attaching member for engaging the wig carrying case with another case. A manikin head is mounted in the carrying case on the bottom wall and a pair of supporting members are mounted on the side walls of the carrying case. The supporting members have obliquely formed slots therein for receiving end portions of the bottom wall for mounting the bottom wall and the manikin head in a convenient position for dressing a wig.

3,438,481
DISPLAY-BOXES FOR TUMBLERS
Jacques Georges Durand, Arques, France, assignor to Verrerie Cristallerie d'Arques J. G., Durand & Cie Societe en commandite par actions, Arques, France
Filed Sept. 23, 1966, Ser. No. 581,552
Claims priority, application France, Apr. 29, 1966, 59,679
Int. Cl. B65d *65/16*
U.S. Cl. 206—45.33 3 Claims



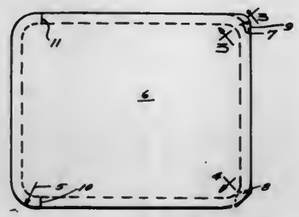
This parallelepipedic package for tumblers consists of a cardboard box having an amply apertured bottom and an open top, its longitudinal faces comprising cut lugs adapted to be folded inwardly for separating from each other the ones the bases and the others the edges of the tumblers contained in the box, and of a transparent envelope surrounding completely the box and consisting of a sheet of transparent material adequately folded around said box and fastened thereto.

3,438,482
SHIPPING CONTAINER
Gordon A. Hamilton, Richmond, Va., assignor to Albemarle Paper Company, Richmond, Va., a corporation of Virginia
Filed Mar. 9, 1967, Ser. No. 621,972
Int. Cl. B65d *85/00, 5/56, 25/14, 5/40, 5/58*
U.S. Cl. 206—46 5 Claims



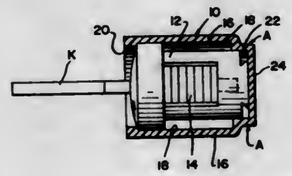
The present invention provides a two-piece carton utilized for packaging items such as ice-cream freezers. One piece, or blank, is folded to form all of the walls of the carton and, in addition, an integral contoured support in the bottom of the carton and an integral insert retainer in the top of the carton. The second piece, or blank, is the insert which engages with and is supported by the insert retainer.

3,438,483
RECLOSABLE PACKAGE
Douglas D. Miller, Marietta, Thomas Howard Hogan, Atlanta, and Richard B. Inman, Dunwoody, Ga., assignors to Scientific-Atlanta, Inc., Atlanta, Ga., a corporation of Georgia
Filed Mar. 27, 1967, Ser. No. 626,168
Int. Cl. B65d *83/00, 5/64, 43/00, 17/00, 5/54, 5/70*
U.S. Cl. 206—56 7 Claims



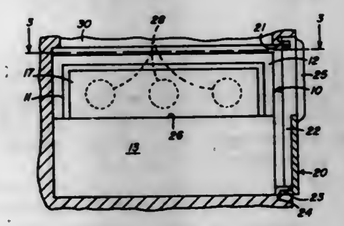
A reclosable lid for a receptacle which is a rigid or semi-rigid plastic cup or tray having a bottom, a sidewall and a flange extending laterally outwardly from the upper edge of the sidewall. The lid is flat and is composed of a laminate of metal foil and paper or cardboard. The lid extends beyond the flange of the cup or tray at two or more places spaced around the cup and generally at one side thereof. The lid is sealed to the flange of the cup. On opening the cup, the lid is not entirely removed but a peripheral portion of it is left sealed to the flange on the side opposite the extending portions. Indicia on the lid indicate this peripheral portion. When the lid is pressed back against the flange, the consumer folds the lid under the flange at the places where the lid extends beyond the flange. The folded under portions are crimped to the underside of the flange and hold the lid in place.

3,438,484
CONTAINER FOR A LOCK PLUG ASSEMBLY
Raymond K. Gray, Skokie, and Stanley C. Wolniak, Chicago, Ill., assignors to Lock Inc., a corporation of Illinois
Continuation-in-part of application Ser. No. 457,619, May 21, 1965. This application June 30, 1967, Ser. No. 650,283
Int. Cl. B65d *85/00, 65/02*
U.S. Cl. 206—46 8 Claims



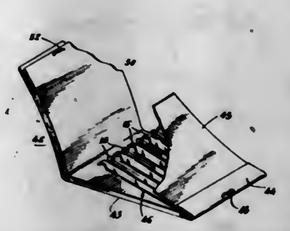
A container for a lock plug assembly for a key lock, including a cylindrical body portion having a cylindrical hollow cavity for containing the lock plug assembly. A lip is disposed adjacent one end of the body portion about the inner periphery of the hollow cavity and extending inwardly to retain the plug assembly within the cavity. A reduced diameter portion is provided at the other end of the body portion to retain the plug assembly within the cavity. The reduced diameter portion is provided as a gripping means and is deformable so that the operator can apply pressure to this portion to snap the plug assembly past the lip permitting removal of the plug from the container.

3,438,485
PACKAGE FOR FILM SHEETS
John R. Fessenden and William G. McDonald, Rochester, N.Y., assignors to Eastman Kodak Company, Rochester, N.Y., a corporation of New Jersey
Filed May 19, 1967, Ser. No. 639,789
Int. Cl. B65d *83/00, 85/48, 17/00, 5/54, 5/70*
U.S. Cl. 206—56 5 Claims



A film sheet package having a wide tear strip across the full length of one surface. So that the package may be remotely opened, the tear strip is folded full length across itself to form a straight line pull tab as distinguished from the usual unwrap pull tab. This arrangement provides a tab which extends from a lightproof enclosure so that pulling it will open a major portion of the package to develop film sheet access without exposing the film.

3,438,486
PICK ARRAY
David Pinkas, 41 Deerwood Manor, Norwalk, Conn. 06851
Filed Aug. 17, 1966, Ser. No. 572,975
Int. Cl. B65d *83/00*; A24f *27/00*; A61c *15/00*
U.S. Cl. 206—56 7 Claims

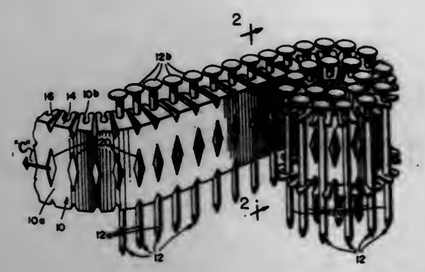


A pick array comprising a base having a plurality of pick members detachably secured thereto at one end and having the side of the notch adjacent the free end of the pick member provided with serrations and others having a rounded free end with an aperture therein intersected by a longitudinal slot, said pick members facilitating the picking of teeth and cleaning wax from the ear. The pick array is contained in a supporting and enclosing folder.

3,438,487
CARRIER FOR HOLDING A PLURALITY OF FASTENERS

George J. Gallee, Rosemont, Allen R. Obergfell, Park Ridge, and Richard H. Doyle, Mount Prospect, Ill., assignors to Fastener Corporation, Franklin Park, Ill., a corporation of Illinois

Filed May 10, 1967, Ser. No. 637,510
Int. Cl. B65d 83/00, A45c 11/00
U.S. Cl. 206—56 10 Claims

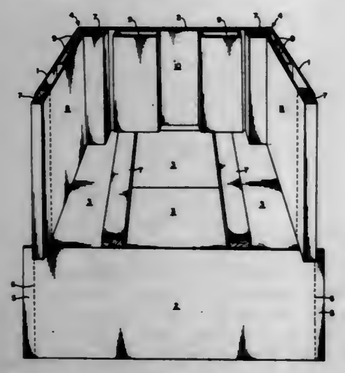


A carrier for holding a plurality of fasteners with their shanks in spaced-apart, parallel relation comprising an elongated flexible strip extending transversely of the fastener shanks and having a substantially U-shaped cross section. The strip includes a web and a pair of flanges along the upper and lower edges thereof for supporting the shanks of each fastener, and each flange comprises a plurality of independently movable shank holding segments. Each segment includes a slot opening at the free end for receiving the shank of a fastener, and adjacent segments along each flange are separated from one another by slits extending laterally transversely of the flanges and terminating in the web portion of the strip. A plurality of openings are spaced longitudinally along the web of the strip and each is offset longitudinally of an adjacent fastener shank held by the strip so that a reciprocal feeder means of a driving tool can readily engage the strip to successive fasteners advancing into the drive track of the driving tool.

3,438,488
PACKAGE FOR FRANGIBLE ARTICLES

John J. Rohde, Richmond, Va., assignor to Albemarle Paper Company, Richmond, Va., a corporation of Virginia

Filed Apr. 3, 1968, Ser. No. 718,602
Int. Cl. B65d 85/46, 85/48
U.S. Cl. 206—62 10 Claims

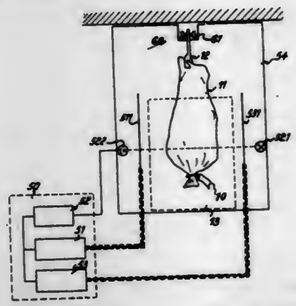


A package for frangible articles made of a corrugated carton containing reinforcement and cushioning members constituting pieces of corrugated board folded to form an air space and optionally containing wood or other reinforcements filling some of the air spaces.

3,438,489
AUTOMATIC SORTING SYSTEM FOR ARTICLES SUCH AS MAILBAGS

Michel J. Cambernac, Paris, Jean J. Chazot, Saumois, and Lucien P. Puechberty, Paris, France, assignors to Societe Mixte pour l'Etude et le Developpement de la Technique des Centres Postaux Mecanises, Orly, France, a French company

Filed June 12, 1967, Ser. No. 645,434
Claims priority, application France, May 19, 1967, 107,090
Int. Cl. B07c 5/34
U.S. Cl. 209—111.5 4 Claims

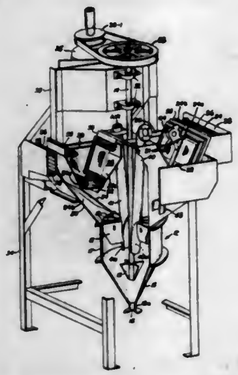


A radio sorting system for mechanically conveyed mailbags the label of which includes a radiation powered transponder is disclosed. The label is composed of two portions. The first main portion which includes said transponder is attached to the mailbag and adapted to receive on the one hand a written indication of the destination of the mailbag and on the other hand the second portion which is an index-key for coding the response signal of said transponder according to the written destination indication.

3,438,490
METHOD AND APPARATUS FOR WET SIZING FINELY DIVIDED SOLID MATERIALS

Joseph Le Roy Peterson, Salt Lake City, Utah, assignor to W. S. Tyler, Incorporated, Cleveland, Ohio, a corporation of Ohio

Filed July 24, 1964, Ser. No. 384,896
Int. Cl. B03b 3/12
U.S. Cl. 209—17 20 Claims

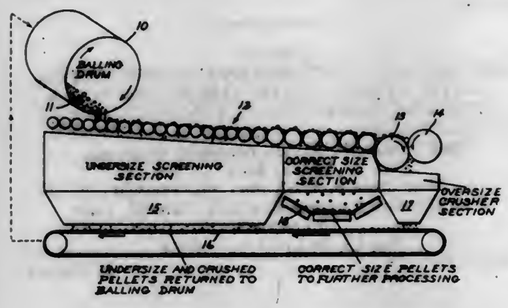


Apparatus for separating finely divided solids has a classifying vessel and overlying screens resiliently mounted for reciprocatory vibration. Baffles divide laminar overflow from the upper part of the classifying vessel into separate flows. Different ones of the separate flows are directed to overflow, across the faces of the screens or through the screens.

3,438,491
CONVEYING AND CLASSIFYING APPARATUS

Kenneth M. Haley, Lawrence J. Molinaro, and Richard L. Reed, Silver Bay, Minn., assignors to Reserve Mining Company, Silver Bay, Minn., a corporation of Minnesota

Filed Dec. 5, 1966, Ser. No. 599,067
Int. Cl. B07c 5/04, 1/10; B07b 13/04
U.S. Cl. 209—106 7 Claims



This application discloses apparatus for conveying, and for classifying according to size, green pellets of finely divided material. The apparatus includes a series of rubber coated rollers that carry the green pellets through first, second, and third screening zones. The rollers are of progressively increasing diameter in the direction of flow of the green pellets. The rollers are spaced so that in the first zone, the undersized green pellets drop through onto a conveyor for reprocessing. In the second zone, the correctly sized green pellets drop through onto a conveyor that carries them to the pellet burning equipment. In the third zone, the oversized green pellets are crushed and are carried away by a conveyor for reprocessing.

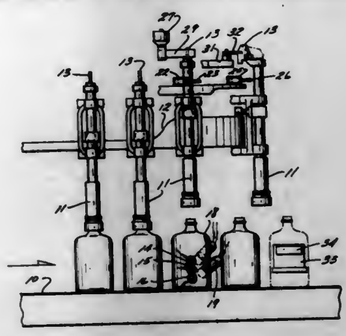
3,438,492
BIRD SWING DETECTOR

Walter R. Albers, Union City, and Arthur T. Miller, Wayne, N.J., assignors to Owens-Illinois, Inc., a corporation of Ohio

Filed Feb. 17, 1967, Ser. No. 616,883
Int. Cl. B07c 5/342
U.S. Cl. 209—111.7 6 Claims

Method and apparatus for inspecting glass containers to determine the presence of the defect termed "bird swing."

Containers to be inspected are moved in series on a conveyor with the containers being spaced apart by the operation of a plug gauging mechanism. After plug gauging, the containers are moved through an inspection position where beams of light are projected toward the side wall of the container to be inspected, with the light being focused on the further wall of the container and a pair of photo-sensitive elements are positioned adjacent to the container to view the illuminated wall portion of the container at an angle with respect to the direction of the light beams. When light is received by the pick-ups due to the presence of a "bird swing," a relay is operated to actuate a solenoid to position a flag member carried by the corresponding plug gauging head into position to be operative to close a reject switch in timed sequence so that the defective container will be

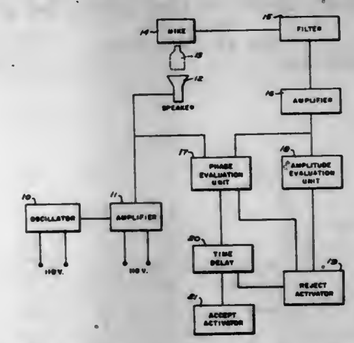


moved from the line of containers and be segregated from the good containers.

3,438,493
INSPECTION APPARATUS AND METHOD

Ralph W. Goble, Boulder, Colo., assignor, by mesne assignments, to Inco Container Company, Kansas City, Mo., a corporation of Delaware

Filed Mar. 1, 1966, Ser. No. 530,904
Int. Cl. B07c 5/34; G01n 29/00
U.S. Cl. 209—111.9 6 Claims



A method for maintaining quality standards in relatively thin walled plastic containers having flexible side and bottom walls, including establishing a known vibration response from a container of known quality, then inducing the same vibration in a container of unknown quality, sensing the response from the second container, comparing the responses from the two containers and determining whether the second container is of a quality like the first container.

3,438,494
FLOTATION METHOD FOR THE RECOVERY OF MINERALS

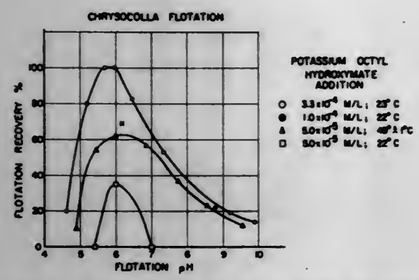
Maurice C. Fuerstenau, Golden, and Hal D. Peterson, Boulder, Colo., assignors to Colorado School of Mines Foundation, Inc., Golden, Colo., a corporation of Colorado

Filed July 25, 1966, Ser. No. 567,734
Int. Cl. B03d 1/00
U.S. Cl. 209—166 9 Claims

A flotation method for recovering chrysocolla and iron oxide minerals from their ores which comprises adding to a water suspension of the finely divided ore at a pH at which the metal ions become hydroxylated, a chelating agent having the formula:

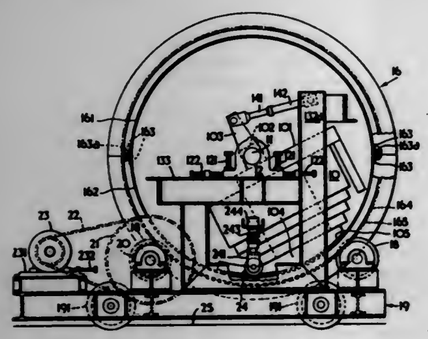
$$R_1-C=N$$
$$\quad\;|\quad\;|$$
$$\quad OH\;\;OR_2$$

wherein R_1 is a member selected from the group consisting of aliphatic and aryl radicals having from five to ten carbon atoms and R_2 is a member selected from the group



consisting of hydrogen and an alkali metal; adding a frothing agent; and recovering the floated mineral from the suspension.

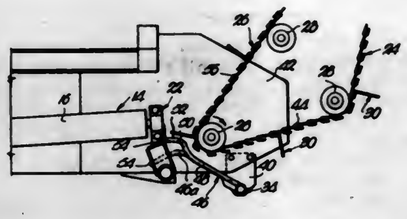
3,438,495
DRUM MAGNETIC SEPARATORS
Arthur George Turnock, Sutton Coldfield, England, assignor to Electromagnets Limited, Hockley, England, a corporation of the United Kingdom of Great Britain and Northern Ireland
Filed Dec. 27, 1966, Ser. No. 604,931
Claims priority, application Great Britain, Oct. 19, 1966, 46,643/66
Int. Cl. B03c *1/02*
U.S. Cl. 209—219 5 Claims



A drum magnetic separator in which a rotatable drum and a magnet unit are mounted independently of one another and in which provision is made for adjusting the mounting of the magnetic unit or the rotatable drum to obtain the required clearance between these two elements.

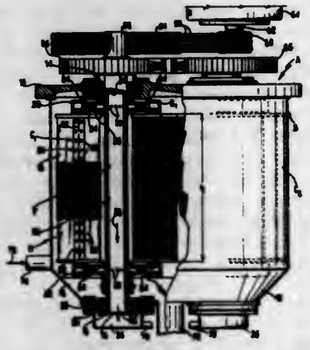
3,438,496
COMB FOR BEET HARVESTERS
Eugene C. Rollins, Ogden, Utah, assignor to Hesston Manufacturing Company, Inc., Hesston, Kans., a corporation of Kansas
Filed Feb. 10, 1966, Ser. No. 526,500
Int. Cl. B07b *1/00, 1/10*
U.S. Cl. 209—241 2 Claims

A self-cleaning comb comprising an elongated support mounted beneath a flighted crop conveyor and remote from a crop and foreign material conveyor. A plurality of elongated teeth emanating from the support extend upwardly toward the discharge end of the crop and material conveyor. The terminal lengths of the teeth are curved downwardly to present a platform to receive the



crop and hold it for pickup by the flights of the crop conveyor.

3,438,497
METHOD AND APPARATUS FOR THE AUTOMATIC CLEANSING OF THE FILTER FOR A SOLVENT, PARTICULARLY IN DRY-CLEANING PLANTS
Gino Maestrelli, 55 Via Bernardo Quaranta, Milan, Italy
Filed June 8, 1967, Ser. No. 644,560
Claims priority, application Italy, Feb. 15, 1967, 12,649/67
Int. Cl. B01d *33/02, 25/34*
U.S. Cl. 210—79 11 Claims

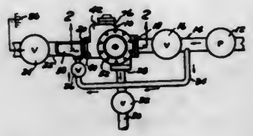


A method and apparatus for the automatic cleansing of a filter for a solvent in dry-cleaning plants wherein a plurality of filtering elements fitted in a chamber are temporarily moved in such a way as to clean their filtering surfaces owing to a turbulent motion of the solvent. The filtering elements, each consisting of an elongated hollow frame whereon spaced wires are wound, are arranged around at least two supporting spindles, which are rotated at time intervals in said chamber.

3,438,498
HIGH PRESSURE FILTER DEVICE
Nils O. Rosaen, Bloomfield Hills, Mich., assignor, by mesne assignments, to Universal Filters, Inc., Hazel Park, Mich., a corporation of Michigan
Filed Nov. 26, 1965, Ser. No. 509,792
Int. Cl. B01b *35/00*
U.S. Cl. 210—90 3 Claims

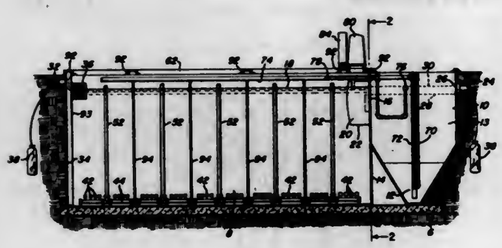
A filter device for a high pressure fluid system including a housing provided with a chamber and a filter element dividing the chamber into an outlet portion and an inlet portion with the inlet portion being of a greater

volume than the outlet portion and with the filtering surfaces of the filter element being of a greater area than the cross sectional area of the inlet and outlet. Means are



provided for indicating the clogged condition of the filter element and for back flushing the filter element when it becomes unduly clogged.

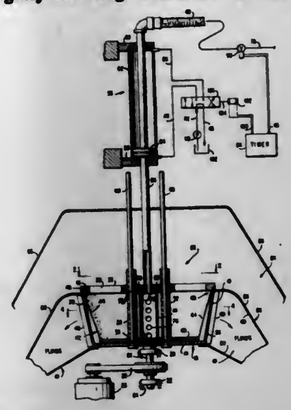
3,438,499
VESSEL FOR AEROBIC DIGESTION SEWAGE TREATMENT PLANT
Donald J. Reckers, Cincinnati, Ohio, assignor to Pollution Controls, Inc., Cincinnati, Ohio, a corporation of Ohio
Filed Dec. 26, 1967, Ser. No. 693,520
Int. Cl. C02c *5/04, 1/12, 1/10*
U.S. Cl. 210—199 16 Claims



The aerobic digestion vessel of a sewage treatment plant is contoured interiorly to promote rapid sewage circulation without deposit of solids; and baffle means provided interiorly of the vessel serve simultaneously to (1) control sewage circulation and retention, (2) to structurally reinforce the vessel internally rather than externally, and (3) to reduce the total external area of the vessel exposed to underground chemical action. The external contour of the vessel aided by internal reinforcement, assures a proper distribution of load, stress, and strain, during handling, transport, and final placement of the vessel, and subsequent burial in an excavation. Improved structural advancements in shaping and reinforcing the aerobic digestion vessel of the plant result in greater operating efficiency, lower costs of manufacture, transport, installation and maintenance, and a longer service life.

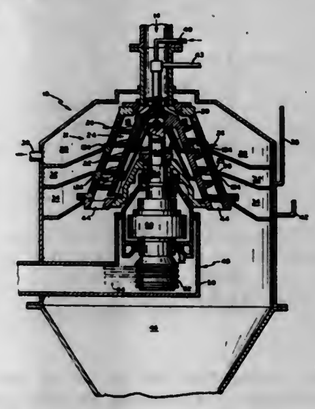
3,438,500
CENTRIFUGAL SEPARATING APPARATUS
Francisco A. Pico, Donato Guerra 2210, Chihuahua, Chihuahua, Mexico
Filed May 18, 1967, Ser. No. 639,489
Int. Cl. B01d *33/0, 33/38*
U.S. Cl. 210—213 12 Claims

Apparatus for centrifugally separting the constituents of liquid-solid admixtures, including a rotary receptacle having vanes on an apertured end closure for impelling gas into the receptacle and vanes on perforated peripheral side walls for impelling fluid from the receptacle. The mixture is subjected to separating forces from forced gas circulation as well as from centrifugation. The mixture is carried in a filter container which is turned inside out to centrifugally discharge solids into a collecting duct,



to permit continuous cyclic operation without stopping rotation of the receptacle.

3,438,501
WASHING ARRANGEMENT FOR SCREEN CENTRIFUGE
Haakon C. F. Oyen, Stamford, Conn., assignor to Dorr-Oliver Incorporated, Stamford, Conn., a corporation of Delaware
Continuation of application Ser. No. 583,051, Sept. 29, 1966. This application Oct. 4, 1967, Ser. No. 675,008
Int. Cl. B01d *33/00*
U.S. Cl. 210—213 9 Claims

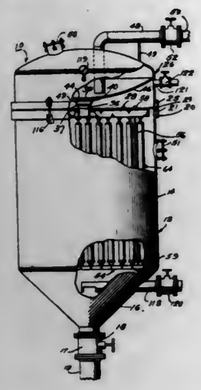


A screening centrifuge wherein the wash liquid discharge openings are oriented parallel to the helical vanes of the conveyor. A sloped wedge-shaped section is cut from the interior surface of the conveyor to provide an equi-radius weir for the inside edge of the wash liquid discharge openings.

3,438,502
FILTRATION APPARATUS
Henry Schmidt, Jr. Hinsdale, and Earl A. Borre, Itasca, Ill., assignors to Industrial Filter & Pump Mfg. Co., Cicero, Ill., a corporation of Illinois
Continuation of application Ser. No. 516,023, Dec. 23, 1965. This application Oct. 17, 1966, Ser. No. 587,342
Int. Cl. B01d *25/28, 29/10*
U.S. Cl. 210—232 10 Claims

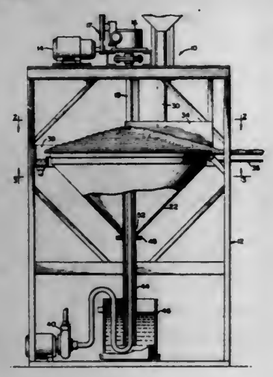
A plurality of filter tubes removably depend from an outlet manifold and are maintained in substantial align-

ment by a spacer which is loosely connected to the bottoms thereof, openings in the spacer permit individual



replacement of the tubes and passage of removed filter cake therethrough.

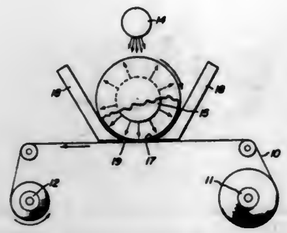
3,438,503
ROTARY VACUUM FILTER
James Hall Carpenter, Jacksonville, Fla., assignor to Carpco Research & Engineering Inc., Jacksonville, Fla., a corporation of Florida
Filed July 22, 1968, Ser. No. 746,534
Int. Cl. B01d 33/00
U.S. Cl. 210—396 9 Claims



A rotary vacuum filter for dewatering particulate material having means for removing the particulate material from a rotatable filter medium, wherein the removing means shapes the material into a substantially conical configuration so that water will flow from the upper surface of the material and pass downwardly over the periphery of the filter medium to thereby reduce the amount of water required to be withdrawn from the material through the medium.

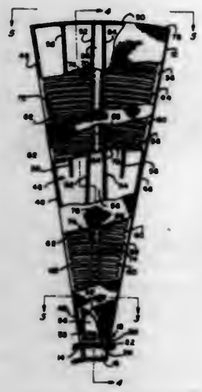
3,438,504
FILTER ELEMENT AND METHOD OF PRODUCTION
Sydney C. Furman, Union City, Calif., assignor to General Electric Company, a corporation of New York
Filed Aug. 11, 1966, Ser. No. 573,161
Int. Cl. B01d 39/14
U.S. Cl. 210—483 6 Claims

A new filter and method of filter manufacture are disclosed. Typically, a dielectric tape is irradiated with fission fragments through a mask which limits the irradiated areas. The tape is then treated with an etchant which removes the tape material in the irradiated areas forming



filter openings. A plurality of such openings may be continuously formed by moving the tape through the irradiation zone in synchronism with the mask.

3,438,505
FILTER SEGMENT FOR DISC FILTERS
Oscar Luthi, Nashua, N.H., assignor to Improved Machinery Inc., Nashua, N.H., a corporation of Delaware
Filed Jan. 27, 1967, Ser. No. 612,127
Int. Cl. B01d 25/04
U.S. Cl. 210—486 13 Claims

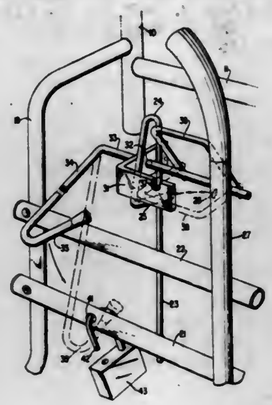


A filter segment or leaf for a disc filter formed to include a pair of spaced side walls which each include a plurality of laterally extending grooves adapted to discharge into a centrally located duct means provided in the space between the side walls.

3,438,506
LOCKABLE DISPLAY RACK
Glen L. Groth, Tiburon, Calif., assignor to American Home Products Corporation, New York, N.Y., a corporation of Delaware
Filed June 13, 1967, Ser. No. 645,787
Int. Cl. 73/00; A47f 7/024
U.S. Cl. 211—4 2 Claims

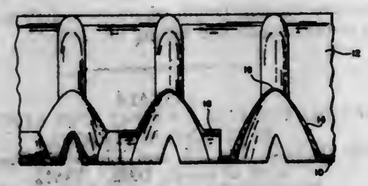
A lockable display rack for electric floor-care appliances is described, the rack having a locking subassembly comprising a frame portion to which are affixed support means terminating in generally horizontally extending hooks, brackets secured to said support means and partially enclosing said hooks, a locking rod rotatably mounted in mutually aligned holes in said brackets, and locking members secured to said locking rod and adapted

to engage notches in said brackets so as to enclose said hooks, said locking rod being bent at one end into a crank handle, and means for locking said crank handle to said



frame portion thereby preventing rotation of said locking rod and disengagement of said locking members from said notches, whereby said floor-care appliances may be displayed secure from risk of pilferage.

3,438,507
MEAT TRAY
Carl H. Krueger, 9017 Trask Ave., Playa Del Rey, Calif. 90261
Filed Jan. 6, 1967, Ser. No. 607,688
Int. Cl. A47g 29/14
U.S. Cl. 211—71 4 Claims

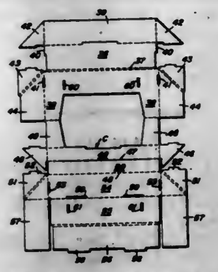


The disclosure is of a meat tray having a bottom wall and side walls to form a container. The bottom wall has a plurality of mounds or "pips," formed as protrusions drawn from the plane of the parent material. At least the apex of the protrusions are thin enough to allow air permeation. In some materials the tips are ruptured to allow air to enter, but are so fine they behave in the principle of a siphon valve system.

Additionally, the disclosure is directed to the arrangement of ribs to stiffen thin material but in a pattern to promote air circulation to the atmosphere.

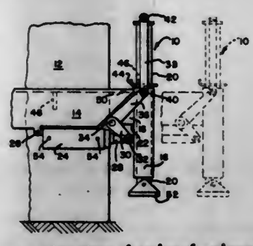
3,438,508
SWING TRAY DISPLAY STAND
Roger R. Kaan, Bellevue, and Nelson Orwig, Sandusky, Ohio, assignors to West Virginia Pulp and Paper Company, New York, N.Y., a corporation of Delaware
Filed June 22, 1967, Ser. No. 648,068
Int. Cl. A47f 3/14, 5/11; A47b 47/16
U.S. Cl. 211—133 12 Claims

A combination shipping container and display stand is presented which includes a collapsible base having an open front, stepped display shelf receiving section, and, an articulated display shelf having a pair of product holding trays which are nested together to retain the product



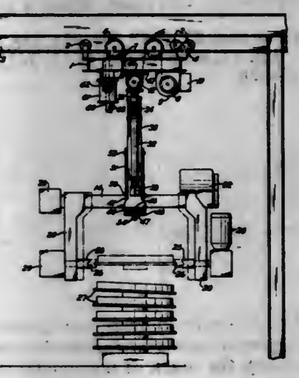
during shipment and are swung apart to present the product on the base for display.

3,438,509
EXTENSIBLE BOOM STRUCTURE
Werner Munz, Allentown, Pa., assignor to Ingersoll-Rand Company, New York, N.Y., a corporation of New Jersey
Filed Aug. 9, 1967, Ser. No. 659,532
Int. Cl. B66c 23/62
U.S. Cl. 212—145 8 Claims



Extensible boom structure having horizontally telescoping members which carry vertically disposed, relatively movable, coaxial members. A single power cylinder coupled therebetween effects both horizontal movement of the first members and vertical movement of the second members.

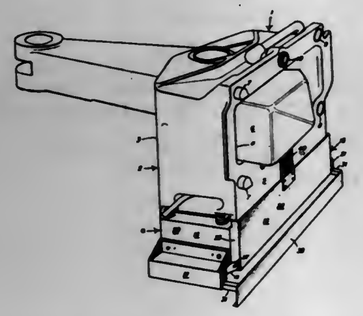
3,438,510
WHEEL HANDLING APPARATUS
Joseph E. Fawell, 407 Glen Arden Drive, Pittsburgh, Pa. 15208
Filed Sept. 26, 1967, Ser. No. 670,717
Int. Cl. B66c 19/00, 1/10
U.S. Cl. 212—128 14 Claims



A mast is suspended from a cable hanging from a traveling crane frame on which there is a hoist for lowering and raising the cable. A wheel grab is carried by the lower

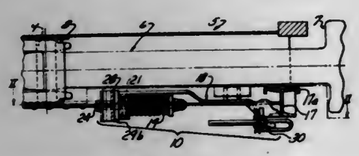
end of the mast. The mast also carries a grab-positioning member, which can be moved down the mast and the grab a predetermined distance for engaging the top of a reclining wheel when the descending mast lowers the grab to wheel-gripping level. Means are provided for stopping the descending mast when the positioning member is stopped by contact with a wheel.

3,438,511
ELECTRIC COUPLER COVER ASSEMBLY
Geoffrey W. Cope, Williamsville, N.Y., assignor to Dresser Industries, Inc., Dallas, Tex., a corporation of Delaware
Filed Sept. 6, 1967, Ser. No. 665,863
Int. Cl. B61g 5/06
U.S. Cl. 213—1.3 14 Claims



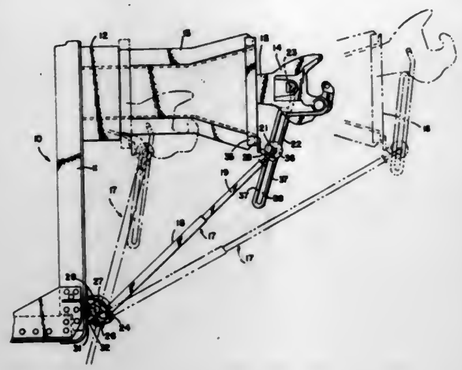
An automatic hook type mechanical coupler mounting on its head air and electric couplers, the electric coupler in a housing on the bottom of the head, and a cover mounted on the housing and normally covering the contacts of the electric coupler and an adjoining air coupler. The cover is supported at the bottom on lever arms by which it is swung between open and closed positions and guided at the top during swinging by tracks on the sides of the housing. Pushers acting against return springs and on the lever arms through rack-and-pinion drives, engage pushers of a mating coupler at the start of a coupling operation for swinging the cover out of the way to open position.

3,438,512
RAILWAY-CAR COUPLER CENTERING DEVICE
William J. Metzger, East Cleveland, and Kenneth L. De Panti, Mayfield Heights, Ohio, assignors to Midland-Ross Corporation, Cleveland, Ohio, a corporation of Ohio
Filed June 22, 1967, Ser. No. 648,153
Int. Cl. B61g 11/04, 9/12, 3/22
U.S. Cl. 213—20 6 Claims



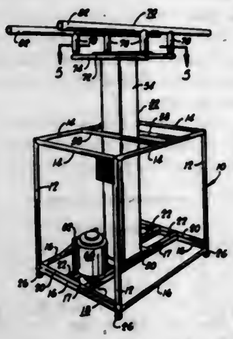
A centering device for railway cars characterized by a long arm supported cantilever-fashion by the car underframe underneath the shank of the coupler therefor. This device includes a lever release system which may be operated without the necessity for simultaneously shifting the coupler sidewise out of its neutral position.

3,438,513
UNCOUPLING ROD ARRANGEMENT
Roy W. Miller, Highland, and Donald L. Frageman, Michigan City, Ind., assignors to Pullman Incorporated, Chicago, Ill., a corporation of Delaware
Filed Mar. 7, 1967, Ser. No. 621,189
Int. Cl. B61g 3/00, 3/08
U.S. Cl. 213—166 9 Claims



An uncoupling arrangement for uncoupling the couplers mounted on the ends of a sliding sill of a long travel cushion underframe railway vehicle. The uncoupling arrangement includes an open ended sleeve-like member which is mounted for rotation on the end sill of the car. The sleeve-like member telescopingly receives a rod which is turnable therewith and has formed on one end a torque lever. The torque lever is slidably engageable and connected to a coupler operating rod which has a hooked end engageable with the uncoupling knuckle of the coupler. The lengths of the sleeve-like member, the rod and the coupler operating rod are proportioned so as to accommodate the full length of travel and swinging movements of the coupler and sliding sill.

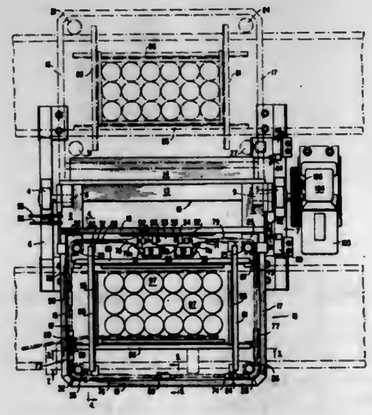
3,438,514
APPARATUS FOR LIFTING AND ALIGNING BUILDING MATERIAL
Gordon D. Bose, Box 85, and Victor E. Bose, Box 67, both of Bessie, Okla. 73622
Filed May 22, 1967, Ser. No. 639,967
Int. Cl. B25j 3/00; B65g; B66f 3/18
U.S. Cl. 214—1 7 Claims



A powered lift for elevating sheetrock or the like to a substantially horizontal position adjacent a ceiling. The

device includes a frame having vertically extending, telescoping sleeves and a motor mounted thereon, with the motor driving the inner sleeve through a screw jack connection for elevating the inner sleeve relative to the outer sleeve. The inner sleeve has a material supporting structure movably secured to the upper end thereof, and resiliently biased to a substantially horizontal position by a plurality of spring elements. The spring elements are yieldable to permit a monoplanar sheet of building material carried by the supporting structure to be depressed from a horizontal plane by a force acting downwardly on the sheet at any point on its upper surface.

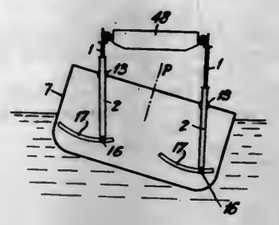
3,438,515
CLAMPING AND INVERTING MECHANISM FOR AUTOMATIC CASE LOADER
Casimir W. Nowicki, Toledo, Ohio, assignor to Owens-Illinois, Inc., a corporation of Ohio
Filed Oct. 28, 1966, Ser. No. 590,330
Int. Cl. B25j 11/00; B66c 1/10; B25b 5/00
U.S. Cl. 214—1 13 Claims



1. An article clamping mechanism comprising a frame, a first endless flexible support member mounted on said frame for movement around a first generally rectangular path, a second endless flexible support member mounted on said frame for movement around a second generally rectangular path in overlaying parallel relation to said first rectangular path, driving means for simultaneously moving each of said elongated support members about their respective paths in opposite directions, and clamping bar means mounted on said elongated support members for movement therewith upon movement of said support members about their respective paths by said driving means to clamp or release articles disposed within said rectangular path.

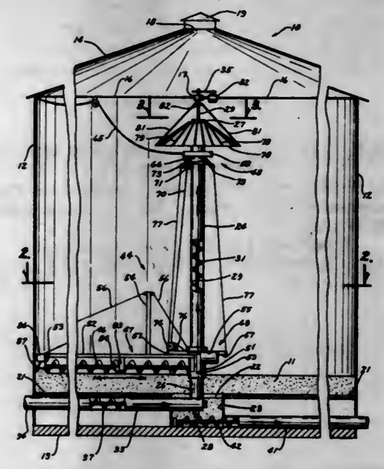
3,438,516
CRANES, DERRICKS AND LIKE CARGO HANDLING INSTALLATIONS OF SHIPS
Paul Bastide, 108, Rue de Rennes, Paris, France
Filed Nov. 27, 1967, Ser. No. 685,828
Claims priority, application France, Dec. 29, 1966, 89,337; Mar. 28, 1967, 100,461
Int. Cl. B63b 27/04, 27/10
U.S. Cl. 214—15 13 Claims

A crane, derrick or the like for loading and unloading cargo in a ship is mounted on one or more telescoping columns the lower end of the or each column being mounted on means below deck level, for example, at the bottom of the hold. The column or columns is or are capable of being pivoted into angular positions so that



the crane can be positioned in a substantially horizontal plane irrespective of any listing of the ship.

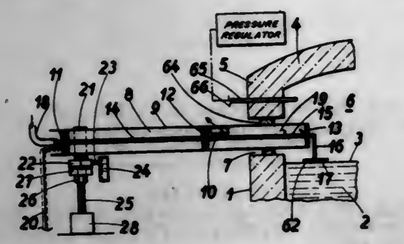
3,438,517
APPARATUS AND METHOD FOR LEVELING AND EMPTYING MATERIAL IN AND FROM STORAGE BIN
Sylvester L. Steffen, 264 S. Walnut Ave., New Hampton, Iowa 50659
Filed Nov. 9, 1966, Ser. No. 593,070
Int. Cl. B65g 65/30
U.S. Cl. 214—17 9 Claims



This invention pertains to an auger mounted at one end on a post in the center of a grain bin, with its outer end placed adjacent the bin wall. The auger is adapted to rest upon the grain, is movable about and relative to the center post, and is also movable vertically on the post by means of an arm and cable arrangement attached to the upper portion of the post. A pair of grain-engaging switches, movable with the auger, automatically control the raising and lowering of the auger, and the direction of rotation of the auger so that the auger both levels the grains as it is being filled into the bin and aids in discharging the grain from the bin. Additional to this arrangement is the provision of the center post being hollow and with an auger mounted therein, the center post and auger being connected to a horizontal auger and tube arranged at the bottom thereof, whereby grain may be discharged into the bin from the open upper end of the center post by the latter arrangement, as compared to grain being dumped into

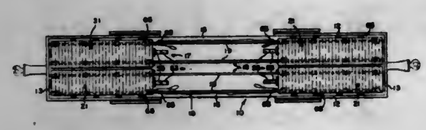
the bin from a hole in the roof thereof as is normally done.

3,438,518
MEASURING METHOD AND APPARATUS
Josef Aerts, Balen-Nette, Belgium, assignor to Glaverbel S.A., Brussels, Belgium
Filed Apr. 7, 1966, Ser. No. 541,014
Claims priority, application Luxembourg, Apr. 9, 1965, 48,366
Int. Cl. F23k 5/00
U.S. Cl. 214—18.2 24 Claims



Method and apparatus for measuring the surface level of an electroconductive liquid at a high temperature in a vessel by measuring the distance using capacitance between the surface of the liquid and a capacitive electrode positioned above the liquid. The space between the surface of the liquid and such electrode is occupied by a gas the electrical properties of which are kept constant by maintaining the pressure and/or moisture content of such gas in the vessel at a substantially constant level.

3,438,519
RAILWAY VEHICLE PLATFORM MOVING ARRANGEMENT
Flake Willis, McCloud, Calif., assignor to Pullman Incorporated, Chicago, Ill., a corporation of Delaware
Filed July 10, 1967, Ser. No. 652,142
Int. Cl. B65g 67/02; B60p 1/00; B61d 17/00
U.S. Cl. 214—38 4 Claims



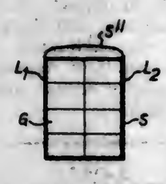
A conveying arrangement for moving cargo such as sheet plywood and the like from a side door opening in a railway box car including side-by-side disposed platforms movable on trackways from a location adjacent to the door at which the platforms are loaded to a location in the enclosed ends of the car. The platforms include resilient bumper means at each end thereof with one end engaging a floor mounted stop means which is spaced from an end wall of the car to hold the other end in engagement with the wall and thereby preclude longitudinal movement of the platforms during transit. Side wall spacers are mounted on the car sidewalls for movement from a stored position against the side wall to a position in engagement with the cargo carried on the platforms to prevent displacement from the platforms during transit. Mounted on the floor stop engaging end of each of the platforms is a pulley. Trained over the pulleys on opposite ones of the platforms is a length of cable having stop means fixed adjacent the respective ends thereof. The cable is used to move the platforms from the position adjacent the end of the car to a position in the door area. To this end one of the stop means on the floor is released to permit movement of the associated platform and the opposite platform is retained against longitudinal movement by the stop means. Thereafter the end of the cable trained over the pulley on the stationary platform is pulled to move the other platform along the trackway into the door area. The moved platform may then be returned to the enclosed end of the car and the other platform released from engagement with the stop and moved into the door area in the same manner.

3,438,520
SLUG FILLING OF BINS
Meri A. Williams, Craigville, Ind., assignor to Central Soya Company, Inc., Fort Wayne, Ind., a corporation of Indiana
Filed July 14, 1966, Ser. No. 565,263
Int. Cl. B65g 65/32
U.S. Cl. 214—152 4 Claims



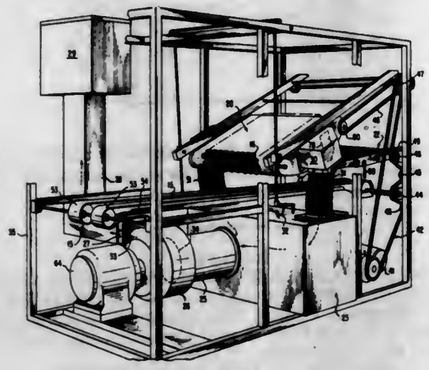
Material of varying particle size and density is filled into bins in a manner which avoids the segregation of the particles. The material is formed successively in slugs over the bin and then allowed to drop one by one into the bin, and under the impact of the fall the particles are uniformly distributed, producing a flat top of material in the bin.

3,438,521
METHOD FOR THE LIFTING OF TRANSPORT GOODS
Fredrik Munck, Bergen, Norway, assignor to Sverre Munck A/S, Bergen, Norway
Filed Sept. 21, 1967, Ser. No. 669,473
Claims priority, application Norway, Sept. 26, 1966, 164,891
Int. Cl. B66c 1/34, 1/04
U.S. Cl. 214—152 2 Claims



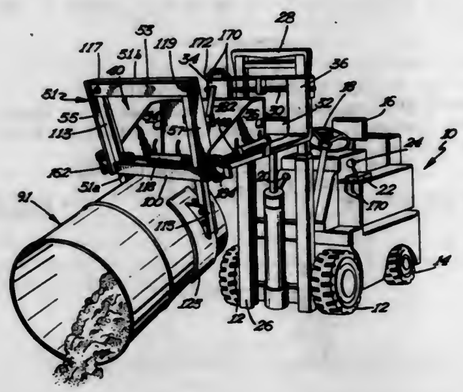
A method for lifting loads which consists of a plurality of objects which are retained in an assembled condition by a strap which is formed by a length of steel band that has one end attached to a point intermediate the ends of the band. A lifting loop is formed by attaching the free end of the band to the strap at a point intermediate its ends. Lifting means first engaging the lifting loop on its upper side to separate it from the strap and then engaging the loop on its lower side to lift the strap and the articles held thereby.

3,438,522
SILENCED BREAD PRODUCT DEPANNING SYSTEM
Frank M. Irving, Jr., York, and Albert S. Schmidt, Wormleysburg, Pa., assignors to Alto Company, York, Pa., a partnership
Filed Jan. 17, 1967, Ser. No. 609,911
Int. Cl. B65g 65/34; F01n 1/24; B65b 69/00
U.S. Cl. 214—309 1 Claim



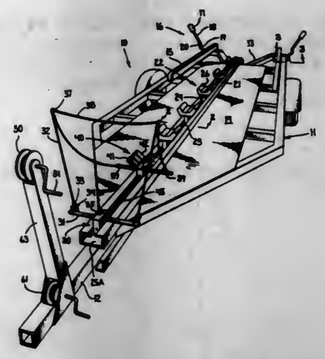
A muffled suction system for lifting rolls with the removal of solid particles such as seeds prior to suction air flow through the fan and with a sound muffler beyond the fan exhaust which has its side walls lined with a polyfoam material and which has a protective screen cover at its discharge end.

3,438,523
LOAD CLAMPING AND ARTICULATE APPARATUS
Albam M. Vik, New Brighton, Minn., assignor to Inventors Engineering Inc., Fridley, Minn., a corporation of Minnesota
Filed Apr. 19, 1967, Ser. No. 632,083
Int. Cl. B65g 65/34; B66f 9/18; B66c 1/10
U.S. Cl. 214—313 10 Claims



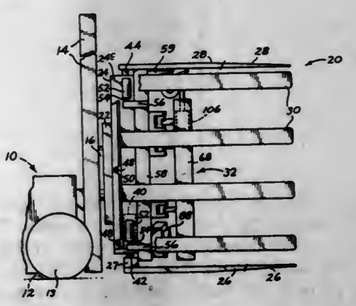
Load clamping and lifting apparatus for materials handling equipment including a fixed framework supported for example on the forks of a lift truck. A moving framework is secured by pivots at the free end of the fixed framework for tilting the load upwardly about a horizontal axis. Clamp arms are pivotally secured to the moving framework. Hydraulic cylinders operate clamp arms and articulate moving framework.

3,438,524
BOAT TRAILER
Harold F. Snodgrass, 1125 Topeka St., Emporia, Kans. 66612
Filed Dec. 27, 1966, Ser. No. 604,922
Int. Cl. B66f 9/06; B60p 1/52, 3/10
U.S. Cl. 214—505 8 Claims



The boat trailer of this invention minimizes the friction and stress on the hull of a boat during the loading, unloading and trailing operations by providing a plurality of dollies having broad keel support pads adapted to engage, support and move along with a portion of the boat keel when the boat is loaded onto or from the trailer. The dollies are individually mounted along a centrally located, substantially U-shaped track and are adapted to ride along the track with the boat.

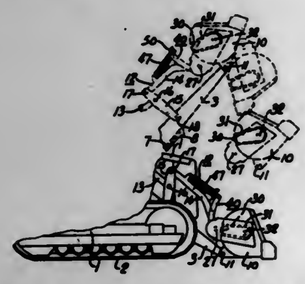
3,438,525
APPARATUS AND METHOD FOR HANDLING A LOAD SUPPORTED ON A PALLET
Ralph E. Nutter, Portland, Oreg., assignor to Cascade Corporation, Portland, Oreg., a corporation of Oregon
Filed June 12, 1967, Ser. No. 651,341
Int. Cl. B66f 9/18, 9/19; B65g 61/00
U.S. Cl. 214—652 10 Claims



Apparatus for inverting a load supported on a pallet having horizontal support forks which may be inserted under the pallet and lifted, clamp forks opposing the support forks which project over the load with the support forks under the pallet, and stabilizing forks to one side of and normal to the support and clamp forks. The clamp and support forks may be moved toward each other to grip the load and a pallet therebetween, and the stabilizing forks act to support the load from the side. The forks are mounted on a common mounting frame which is connected through a rotator to a vehicle, and on operation of the rotator the mounting frame

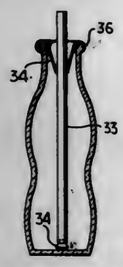
and forks are rotated about a horizontal axis to invert the load and pallet. A pusher frame with jaw mechanism is also mounted on the mounting frame between the support and clamp forks. The pusher frame is adapted to push loads from the forks and the jaw mechanism is adapted to pull loads onto the forks.

3,438,526
SELF-CLEANING HIGH LIFT BUCKET
Alfred Baker, 28 Sharp Ave., Washington, Pa. 15301
Filed Feb. 7, 1967, Ser. No. 614,505
Int. Cl. E02f 3/70; B60p 1/06
U.S. Cl. 214—767 15 Claims



A bucket cleaning scraper blade for a high lift excavator, in which the scraper blade drive lever is spring biased for movement in opposite directions to prevent breakage of the interconnecting parts of the scraper blade drive connections when the blade is blocked against movement in either direction by a load in the bucket.

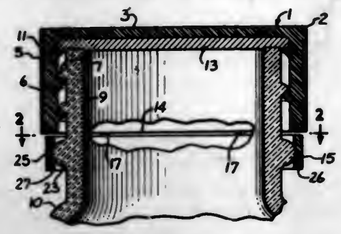
3,438,527
DRINKING STRAWS
Elton Berry Gamblin, Jr., 3513 Rolling Hills Ave., Alexandria, Va. 22309
Filed Aug. 17, 1967, Ser. No. 661,307
Int. Cl. F16k 15/00, 21/04; F16l 11/00
U.S. Cl. 215—1 10 Claims



Drinking straws are provided with one-way flow valves to normally prevent flow of liquid into a straw. The application of suction interiorly of the straw collapses an elastic member and permits fluid to flow. Termination of the suction permits the elastic member to re-expand and seal the passage.

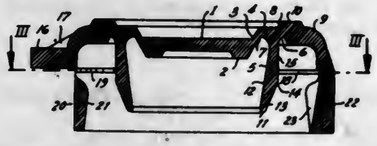
3,438,528
TAMPER-INDICATING CLOSURE
Mack R. Fields, Lighthouse Point, Fla., assignor to Roehr Metals & Plastics Company, a limited partnership of Connecticut
Filed Aug. 4, 1967, Ser. No. 658,419
Int. Cl. B65d 41/20, 55/02
U.S. Cl. 215—42 9 Claims

A molded plastic container cap has a tamper-indicating skirt joined to the lower end of the cap sidewall by frangible bridges of the plastic. The skirt is oval-shaped and telescopes with a circular bead on the container and is in engagement therewith in the regions of the short diameter of the bead. Adhesive bonds the skirt to the bead.



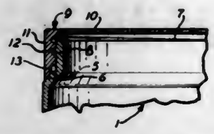
There may be radial holes or slots in the skirt, or notches in the bead so that the adhesive forms a mechanical lock between the bead and the skirt.

3,438,529
PLASTIC CLOSURE WITH OUTSIDE RING AND INSIDE TUBE FOR BEER AND BEVERAGES
Joseph Bernhard Löhrer, Ulm (Danube), Germany, assignor to Crown Cork & Seal Company, Inc., Philadelphia,, Pa., a corporation of New York
Filed Nov. 27, 1967, Ser. No. 685,920
Claims priority, application Germany, Nov. 28, 1966, B 90,043
Int. Cl. B65d 45/02, 51/14, 59/02
U.S. Cl. 215—42 7 Claims



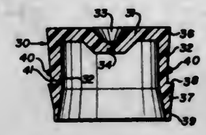
A plastic bottle cap is constructed with an outer ring-shaped edge which engages the lip of the bottle and an inner generally cylindrical sheath which extends into the neck of the bottle. A special configuration of the cap material between the sheath and the remainder of the cap permits the sheath to move to effect a tight closure.

3,438,530
JAR CLOSURE ASSEMBLY
Dean R. Wallace, Madison, Wis., assignor to Air Reduction Company, Incorporated, New York, N.Y., a corporation of New York
Filed Sept. 21, 1967, Ser. No. 669,623
Int. Cl. B65d 41/04, 11/04
U.S. Cl. 215—43 7 Claims



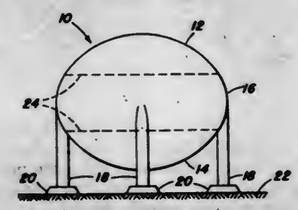
A closure assembly wherein a resilient jar cap is dimensioned so that it can be threaded on a jar neck in air-tight sealed relation thereto without internal abutting contact between the upper rim of the jar neck and the cap. The sealed relation comprises an angular exterior, intermediate surface on the jar joining the jar neck to the jar body, and a substantially complementary angular interior lower edge surface on the cap in pressure contact therewith.

3,438,531
PLASTIC BUNG FOR A BEER BARREL
Raymond L. Millard, Evergreen, and Arthur W. Tschannen, Wheatridge, Colo., assignors, by mesne assignments, to Adolph Coors Company, Golden, Colo., a corporation of Colorado
Filed July 3, 1967, Ser. No. 650,791
Int. Cl. B65d 39/04, 39/12
U.S. Cl. 217—110 2 Claims



A plastic bung, sized and formed to be driven rim first into the tapered bung orifice of a beer barrel. The plastic bung plug, formed as an inverted cup-shaped member, includes a top, a cylindrical wall, a seal ridge about the wall, and a tapered, enlarged, shouldered head at the base. This head is adapted to guide and to lock the bung into a bung orifice. The shoulder of this head is adapted to squeeze the wall at the seal ridge portion when the bung is being driven into an orifice to thereby protect this seal ridge. Preferably, the base end of the bung is formed with a small central crater adapted to guide an extractor into the bung.

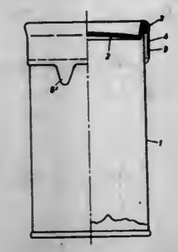
3,438,532
STORAGE VESSEL
Vadim G. Chibaeff, Paris, France, assignor to The Lummus Company, New York, N.Y., a corporation of Delaware
Filed Feb. 6, 1967, Ser. No. 614,326
Int. Cl. B65d 25/24
U.S. Cl. 220—1 14 Claims



This invention relates generally to storage vessels and, more particularly, it relates to a vessel or tank for storing fluids under pressure, having a generally ellipsoidal equatorial section and spherical bottom and top sections. The invention is characterized by an increased cross sectional area in the equatorial plane, by reduced hoop stresses over a large portion of the total area, by a reduction of the pressure on the supporting soil as compared to conventional high pressure storage spheres, and by economy of construction, particularly if the vessel is made of reinforced concrete.

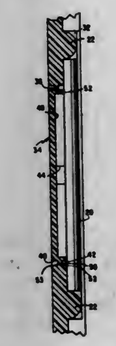
3,438,533
PROTECTIVE COVER AND LIP GUARD FOR A CAN
Emil Hanisch, Montecuccoliplatz 12/2/1/4, Vienna 13, Austria; Leopold Pretterhofer, Penzingerstrasse 71, Vienna 14, Austria; and Wilhelm Neidl, Heitzinger Hauptstrasse 124, Vienna 13, Austria
Filed July 28, 1967, Ser. No. 656,839
Claim priority, application Austria, July 29, 1966, 7,301/66
Int. Cl. B65d 39/00, 41/00, 45/00, 17/00
U.S. Cl. 220—24 8 Claims

A shipping container for beverages, preferably a can, which comprises a can including a cover and having an upper edge formation, adapted as zone usable for drinking, and a covering member applied to the upper edge



formation, and complying with the requirements of hygiene. A removable protecting layer is disposed on top of the covering member.

3,438,534
FACEPLATE
Paul J. Zerwes, Chicago, Ill., assignor to Bell Electric Co., Chicago, Ill., a corporation of Illinois
Filed Jan. 8, 1968, Ser. No. 696,237
Int. Cl. B65d 43/06
U.S. Cl. 220—24.3 23 Claims

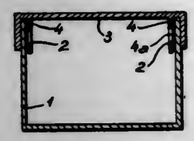


A faceplate of suitably molded plastic material for use as a cover for an electrical outlet box, said plate including a knockout portion selectively to provide a predimensioned access opening to an electrical appliance, and comprising a body having outer and inner faces and back to back oppositely opening, endless congruent grooves formed in said outer and inner faces, the outer diameter of said endless oppositely opening grooves defining the predimensioned opening, the knockout portion being provided with relief means in the form of reduced thickness portions, preferably radially arranged along intersecting lines to cause the knockout portion progressively to be segmented during severance of the knockout portion from the body by application of impact force thereupon; the outer diameters of the endless grooves having rounded edges whereby to prevent fractures, once started within the knockout portion, from progressing to the remanent body of the plate.

3,438,535
INVIOLABLE CONTAINER
Henri André Tiserand and Roger Saint-Quentin, Lyon, France, assignors to Inventions Finance Corporation, a corporation of Delaware
Filed Mar. 22, 1966, Ser. No. 536,369
Int. Cl. B65d 17/00
U.S. Cl. 220—27 6 Claims

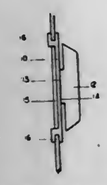
The invention provides a container for ensuring genuineness and volume of its contents and locked against opening except by visible rupture of a portion thereof,

comprising a case, a cover for the case, and a pair of complementary locking parts formed on the case and cover which mate and prevent removal of the cover once it is closed, said parts including an internal locking projection



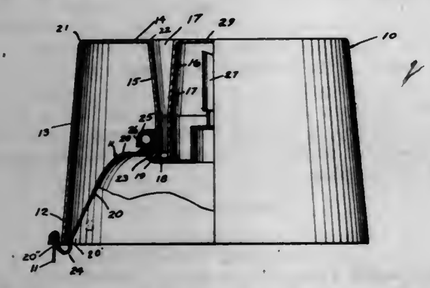
integral with the cover and having an aligned external extension secured thereto by a weakened portion of the cover, whereby the extension may be grasped and bent to rupture the cover and remove the projection.

3,438,536
REMOVABLE COVERS
Edward Tarchalski, Johannesburg, Transvaal, Republic of South Africa, assignor to Heinemann Electric (S.A.) Limited, Johannesburg, Republic of South Africa
Filed Nov. 24, 1967, Ser. No. 685,371
Claims priority, application Republic of South Africa, Nov. 29, 1966, 66/7,213
Int. Cl. B65d 43/10, 51/00
U.S. Cl. 220—27 4 Claims



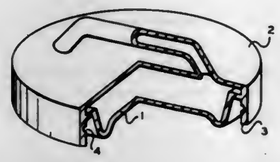
A removable cover for closing unsightly openings comprising a panel made of resilient material and a reinforcing rib attached to one side of the panel so that the panel can be flexed in one direction to facilitate the insertion thereof into the opening but cannot be flexed in the opposite direction.

3,438,537
CLOSURE FOR A CONTAINER
Richard F. Hendrickson, Erie, and Roderick V. King, Girard, Pa., assignors to Sterling Seal Company, Erie, Pa., a corporation of Pennsylvania
Filed Feb. 12, 1968, Ser. No. 704,885
Int. Cl. B65d 41/18, 41/62, 51/18
U.S. Cl. 220—27 18 Claims



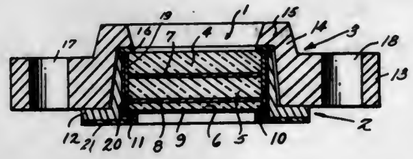
A closure or cap which may be used on an aerosol can is disclosed herein. In its preferred form the closure is made from a single integral piece of plastic material having a basic design and shape to enable the caps to be made by a thermoforming process, and to nest and interfit with each other during stacking. The structural shape of the cap uses the minimum amount of material during manufacture. The structure of the cap makes an aesthetic appearance design and can incorporate tamper-proof features. The cap can also incorporate directional features.

3,438,538
BLOW MOLDED CLOSURE
Donald L. Peters, Bartlesville, Okla., assignor to Phillips Petroleum Company, a corporation of Delaware
Filed June 5, 1967, Ser. No. 643,491
Int. Cl. B65d 41/34, 25/30, 25/28
U.S. Cl. 220—39 8 Claims



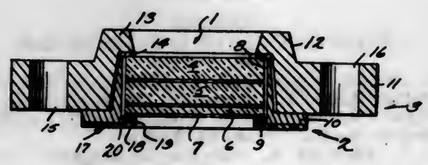
A blow molded hollow container closure is provided with a solid, axially depending container engaging means.

3,438,539
SIGHT GLASS FOR REACTION VESSELS
Gene Le Roy, Rte. 1, Box 510, Maplewood Estates, Scott Depot, W. Va. 25560
Filed Oct. 22, 1965, Ser. No. 502,662
Int. Cl. B65d 53/06
U.S. Cl. 220—46 3 Claims



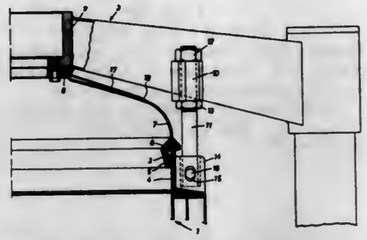
An improved sight glass of the type used to inspect contents of a chemical vessel or the like including a lens secured to the vessel adjacent to the opening therein. The lens is a laminate of two or more lens elements cemented together. A vapor impermeable thin metal tube surrounds the lens elements to prevent the contents of the vessel from attacking the cement between the lens elements.

3,438,540
SIGHT GLASS FOR REACTION VESSELS
Gene Le Roy, Rte. 1, Box 510, Maplewood Estates, Scott Depot, W. Va. 25560
Filed Oct. 22, 1965, Ser. No. 502,661
Int. Cl. B65d 53/00
U.S. Cl. 220—46 8 Claims



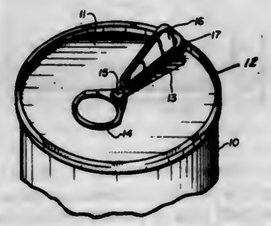
A J-shaped gasket for protecting a sight glass secured over an opening in a vessel where a resilient cushion member may be inserted in one of the legs of the gasket for absorbing pressure between the sight glass and the vessel.

3,438,541
COVER ARRANGEMENT FOR CLOSING AND SEALING A PRESSURE VESSEL
Oskar Krieger, 22 Kreuznagelweg, Muttenz, Basel-Land, Switzerland
Filed Nov. 29, 1966, Ser. No. 597,716
Claims priority, application Switzerland, Dec. 13, 1965, 17,122/65
Int. Cl. B65d 53/00, 45/00; A47j 27/08
U.S. Cl. 220—46 8 Claims



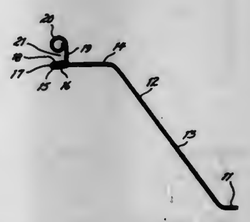
1. A sealing cover arrangement for positive and negative pressure vessels, comprising a vessel having an opening; a cover for the opening of the vessel; a first groove associated with said cover and facing the inside rim of said vessel at the opening thereof; a second groove associated with said cover and facing the edge of said vessel opening; a sealing means in each of said grooves, the sealing means of said first groove always being in sealing contact with the groove and the inside rim when said cover is in place; and coupling means for releasably coupling said cover to said vessel and, while coupled and sealed to said vessel, allowing a limited movement for the cover in a direction substantially parallel to movement thereof when placed on the vessel opening, said coupling means including a plurality of anchoring means disposed about the outside of said vessel adjacent the rim of the vessel, means for securing said anchoring means to said cover, means including plates secured to said vessel at spaced positions for interlocking with said plurality of anchoring means, and removable pins interconnecting said anchoring means and said plate means to prevent unsealing and removal of said cover, elongated apertures in at least one of said anchoring or plate means being elongated in the direction of limited cover movement, said pins being movable in said elongated apertures while the cover is still sealed to said vessel, said pins being removable from said interlocking relationship with said anchoring and plate means to allow said cover to unseal and to be removed from said vessel opening.

3,438,542
CAN OPENING AND SEALING DEVICE
Goldie F. Feld, 170 West End Ave., New York, N.Y. 10023
Filed June 4, 1968, Ser. No. 734,358
Int. Cl. B65d 43/10
U.S. Cl. 220—54 5 Claims



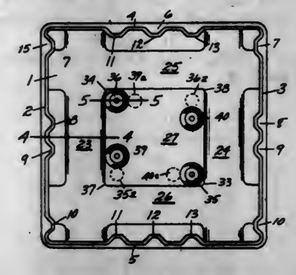
A combination opening and sealing structure for a can which employs the conventional pull ring connected to an end panel of the can, with a scored section on the end panel designed to be removed by actuating the pull ring so as to produce a dispensing opening. A resilient plastic planar plug is connected to the pull ring and freely overlies the end panel so that when the pull ring and scored section are pulled away, the plastic plug comes with them. When the scored section is then broken off the pull ring, the plastic plug, which is formed complementarily to the dispensing opening, can be held by the pull ring still connected thereto, and can be snapped into the dispensing opening so as to seal the can.

3,438,543
CONTAINER-EDGE CONSTRUCTION
George J. Buff, Jr., % Penny Plate, Inc., Kresson Road and New Jersey Turnpike, Cherry Hill, N.J. 08034
Filed Jan. 29, 1968, Ser. No. 701,437
Int. Cl. B65d 7/44, 5/26; A47j 43/18
U.S. Cl. 220—74 4 Claims



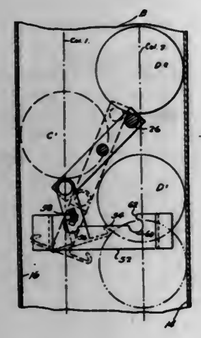
This invention is essentially concerned with a container formed of metal foil or the like wherein a side wall is provided with a pair of upper and lower outstanding beads which serve to effectively strengthen and reinforce the side wall, as well as to define a receiver or groove for a removable container lid.

3,438,544
PALLET CONTAINER
Harold S. Cloyd, Erie, Pa., assignor to Nesco Plastics, Incorporated, Erie, Pa., a corporation of Pennsylvania
Filed Feb. 26, 1968, Ser. No. 708,090
Int. Cl. B65d 21/04, 1/22, 1/42
U.S. Cl. 220—97 6 Claims



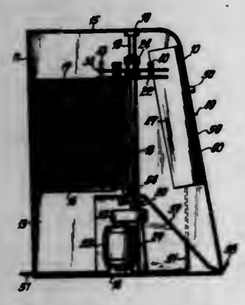
A pallet container has bottom walls formed with intersecting channels providing four-way fork entry openings, side walls provided with ribs for supporting an overlying container in either nested or stacked relation, and upstanding hollow posts at the center of the bottom wall which likewise support the overlying container in either nested or stacked relation. The area of the bottom wall of the container within the posts is preferably provided with reinforcing ribs which are tied into the post so as to increase the load carrying capacity of the container.

3,438,545
MEANS FOR DISPENSING SINGLE CONTAINERS FROM MULTIPLE COLUMNS IN MULTIPLE MAGAZINES
Knud J. Helsing, Hagerstown, Md., assignor to Victor Products Corporation, Hagerstown, Md.
Filed July 14, 1967, Ser. No. 653,388
Int. Cl. B65g 1/08
U.S. Cl. 221—67 2 Claims



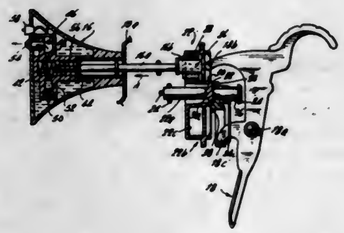
Means for dispensing containers from two vertical magazines, each magazine containing two columns of containers in corded relationship, said means comprising: a pair of rods, each extending axially of the containers across both of said magazines; a pair of levers, one at each end of said magazines, each of said levers being pivoted intermediate its length, said pivots being coaxial, one of said rods connecting one pair of free ends of said levers, and the other connecting the opposite free ends of said levers; a container retainer of inverted T cross-section pivoted to one of said rods and underlying only one of said magazines with the cross bar of the T downward; a detent bar projecting from one end of the leg of said T; a fixed cam coacting with said detent bar and operative to rock said T about the rod to which it is pivoted as said rod turns around the pivots of said levers.

3,438,546
DISPENSING APPARATUS FOR STACKED OBJECTS, SUCH AS NEWSPAPERS
Hans Wenner, Attig-Weg 5, Eppelheim, Baden, Germany
Filed Nov. 11, 1967, Ser. No. 681,148
Claims priority, application Germany, Nov. 14, 1966, W 38,504
Int. Cl. B23q 7/04; A01c 9/06; B65h 3/22
U.S. Cl. 221—215 10 Claims



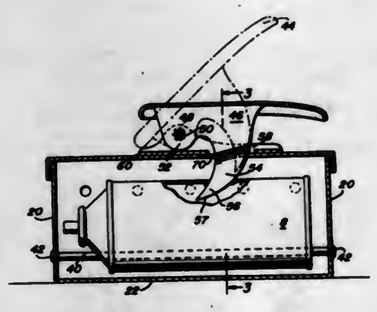
A feeler plate is located below a transporting plate and rests on the uppermost object of a stack. The transporting plate has downwardly projecting needles passing through the feeler plate and engaging the uppermost object. Feeler plate and transporting plate are simultaneously turned so that the needles move the uppermost object off the stack whereupon the feeler plate drops onto the next object. Cam means connected with the feeler plate move the transporting plate and needles upward to release the object, whereupon a sharp shoulder in the cam means permits the dropping of the transporting plate so that the needles penetrate into the next following object.

3,438,547
TOY WATER PISTOL
Anita Pereida, New Canaan, Conn., and Julian Liberman, Scarsdale, N.Y., assignors to Anita Per Limited, New York, N.Y., a corporation of New York
Filed Dec. 29, 1967, Ser. No. 694,521
Int. Cl. F41b 9/00
U.S. Cl. 222—79 5 Claims



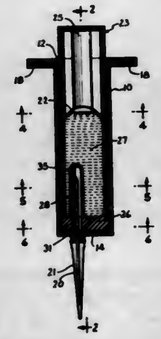
A toy water pistol having an internal rotating mechanism which cooperates with the trigger in only one position of rotation to eject a stream of water and otherwise fires "blanks"; this functioning being arranged to occur, for all practical purposes, on an unknown random basis which greatly contributes to the play value of the toy gun used by itself or as part of a child's game.

3,438,548
AEROSOL CAN PERFORATOR-GAS AND AIR RELEASER
George A. Ceyba, Munhall Gardens, Pa., assignor of fifty-one percent to Mayer J. Sniderman and five percent to Ralph Fuehr, both of Pittsburgh, Pa.
Filed Nov. 21, 1967, Ser. No. 684,735
Int. Cl. B67 7/24
U.S. Cl. 222—80 3 Claims



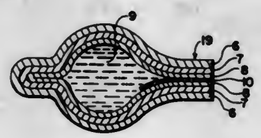
A metal container including a hinged lid, wherein a peripheral panel of the container contains vent holes. An expended aerosol can is placed within the container and after the lid is closed, a levered cam opening spur blade is depressed through a slot formed in the rid of the container then further depressed until the spur blade pierces the wall of the aerosol can. After release of residual canned gas, the lid is lifted and the can is removed, at which time it may be safely incinerated.

3,438,549
PRE-FILLED SYRINGE
Alvin H. Ritz, Deerfield, Ill., assignor to Baxter Laboratories, Inc., Morton Grove, Ill., a corporation of Delaware
Filed Sept. 29, 1967, Ser. No. 671,677
Int. Cl. B67b 7/24; A61m 5/00
U.S. Cl. 222—83.5 4 Claims



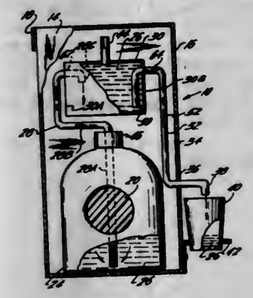
An ampule which is part of a piston-like assembly in said syringe, defines a liquid chamber having an inner end wall which, while in one angular aspect, is punctured by a needle to discharge liquid from said chamber upon ampule movement into the barrel from an extended position. A pouch which is associated with the piston-like assembly and isolated from said chamber, is arranged to receive the needle and prevent puncturing of the inner end wall when the ampule is moved into the barrel provided the piston is disposed in another angular aspect.

3,438,550
FLUID CONTAINERS
Richard W. Young, Wellesley Hills, Mass., assignor to Polaroid Corporation, Cambridge, Mass., a corporation of Delaware
Filed Mar. 1, 1965, Ser. No. 435,950
Int. Cl. B65d 35/08, 35/14, 35/16
U.S. Cl. 222—107 8 Claims



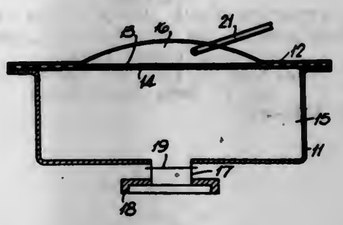
1. A rupturable, single use container having a pair of opposed walls secured together to provide a liquid retaining cavity, at least one of said walls being flexible and deformable, each of said walls comprising a plurality of layers, at least one of said layers consisting essentially of a continuous glass film, the inner layer of each of said walls comprising a polymeric material inert to the liquid to be retained within said cavity, and the bonded marginal portions of one edge of said pair of opposed walls exhibiting substantially less adhesive capacity than the remaining marginal portions of said pair of opposed walls.

3,438,551
DISPENSER COMBINATION FOR LIQUIDS
Brice Belisle, 315 E. 5th St., New York, N.Y. 10003
Filed May 17, 1967, Ser. No. 639,118
Int. Cl. B67d 5/54, 5/30
U.S. Cl. 222—182 13 Claims



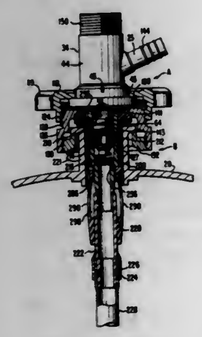
This is concerned with providing a novel dispenser combination for dispensing liquids such as alcoholic beverages. Briefly, the invention contemplates placing a polyethylene reservoir bottle inside a suitable case therefor, said reservoir bottle being provided with a smaller reservoir connected thereto, and said smaller reservoir being connected to means for delivering the liquid in measured amount to a glass outside the case. Actuating means for activating the dispensing operation are provided accessible outside of the case.

3,438,552
DEVICE FOR FILLING ELECTRIC BATTERIES WITH ELECTROLYTE
Stephen Ben Hartop, Maxstoke, near Coleshill, England, assignor to Joseph Lucas (Industries) Limited, Birmingham, England
Filed Oct. 18, 1966, Ser. No. 587,566
Claims priority, application Great Britain, Oct. 27, 1965, 45,596/65
Int. Cl. B67d 5/42; B65d 47/10
U.S. Cl. 222—386.5 1 Claim



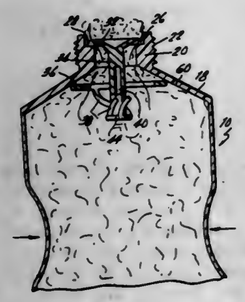
1. A device for filling electric batteries with electrolyte, comprising a housing having an outlet adapted for connection to a manifold forming a part of a battery to be filled, a resilient diaphragm dividing the housing into a main chamber which contains the electrolyte, and a second chamber adapted for connection to a source of pressure, a first bursting disc between the main chamber and the outlet, and a second bursting disc facially contacting and protecting the diaphragm from the electrolyte, the arrangement being such that pressure applied to the second chamber causes both bursting discs to burst so that the electrolyte is forced into the battery by the expension of the diaphragm.

3,438,553
TAPPING DEVICE FOR BEER KEGS AND THE LIKE
Mack S. Johnston, Rolling Hills, Calif., assignor to Johnston Enterprises, Inc., East Kalispell, Mont., a corporation of Montana
Continuation-in-part of application Ser. No, 587,627, Oct. 18, 1966, which is a continuation of application Ser. No. 406,682, Oct. 27, 1964, which in turn is a continuation-in-part of applications Ser. No. 150,982, Nov. 8, 1961, and Ser. No. 395,084, Sept. 8, 1964. This application Jan. 4, 1967, Ser. No. 607,297
Int. Cl. B65d *83/00*
U.S. Cl. 222—400.7 10 Claims



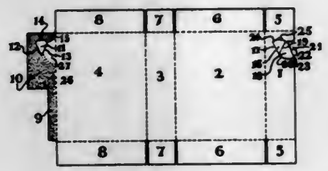
Disclosed is a tapping device for drawing liquids, such as beer, from beer kegs or barrels, using gas to drive the fluid from the container. The device comprises an adapter, semi-permanently installed in the keg at the brewery, containing a normally closed beer valve and a gas check valve. A coupler, including a probe for opening the beer valve, is attached to the keg at a tavern or other dispensing establishment. The adapter is provided with enlarged beer and gas passages including a central beer passage, an intermediate member, and a surrounding solid sleeve. The beer passage communicates with a plastic "siphon" tube in the keg.

3,438,554
ANTI-SUCK-BACK DEVICE FOR TUBES
Gilbert Schwartzman, Scarsdale, N.Y., assignor to Dab-O-Matic Corp.
Filed Sept. 20, 1967, Ser. No. 669,158
Int. Cl. B65d *25/44, 35/38*
U.S. Cl. 222—496 5 Claims



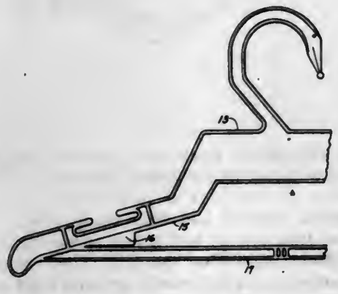
An applicator and fluid dispenser comprising a squeeze container having a valve member disposed in the container neck. The valve member includes an outwardly flared resilient valve head and a ring of larger diameter than the neck opening with means in the container for holding the ring in a predetermined position spaced from a valve seat so that helical coil springs integrally interconnecting the valve head and ring are continuously maintained under tension.

3,438,555
POURING SPOUT FOR CARTON STRUCTURES
James F. La Pierre, Middletown, Ohio, assignor to The Interstate Folding Box Company, Middletown, Ohio, a corporation of Ohio
Filed Oct. 16, 1967, Ser. No. 675,419
Int. Cl. B67d *3/04*; B65d *47/08*
U.S. Cl. 222—528 8 Claims



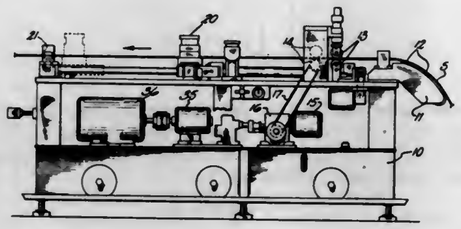
An integral pouring spout structure for a paperboard carton in which the pouring spout is formed from wall portions of the carton structure, the glue flap of a conventional tubular carton being extended in the area of the pouring spout to provide an inner wall panel having an inwardly displaceable flap defining a V-shaped dispensing opening, the overlying body wall panel having a cut and scored V-shaped spout part juxtaposed to the displaceable flap, therebeing a second spout part hingedly connected to one side edge of the first spout part, the two spout forming parts being displaceable outwardly from the plane of the body wall panel to expose the inwardly displaceable flap, whereupon the spout defining parts are foldable relative to each other to define a spout, the second spout part being slidably engageable with a side edge of the dispensing opening and having a tongue engageable inwardly of a corner edge of the dispensing opening to establish the erected position of the spout, the spout parts, once assembled, being displaceable inwardly to reclose the dispensing opening.

3,438,556
GARMENT HANGER
Giacomo M. Bonaldi, 3655 Noriega St., San Francisco, Calif. 94122
Filed Nov. 2, 1967, Ser. No. 680,063
Int. Cl. A47l *51/08*
U.S. Cl. 223—91 2 Claims



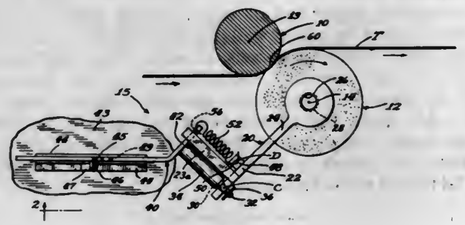
A garment hanger having outwardly extending arms and a cross bar connecting the outward extremities of the said arms, the said arms having a triangular wedge portion adjacent their extremities on the inner edges thereof, with the long side of the triangular wedge spaced from the cross bar, providing a space therebetween for gripping and removably retaining a garment.

3,438,557
FEEDING SHEET METAL
Albert F. Lehmann, Dearborn, Mich. (7800 Dix Ave., Detroit, Mich. 48209)
Filed July 3, 1967, Ser. No. 650,730
Int. Cl. B65h *17/36*
U.S. Cl. 226—8 24 Claims



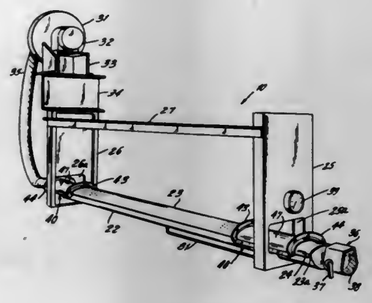
Basically, the method and apparatus described herein comprises gripping the strip metal and moving it in the direction in which it is desired to feed the metal while permitting lateral or floating action to accommodate for camber. In one form of apparatus described, the gripper assembly is mounted on a slide for transverse movement, the slide being, in turn, mounted for movement longitudinally. Where the strip has substantial width, the gripper assembly comprises a pair of gripper assemblies which grip the sheet metal adjacent the edges. Where the metal strip is narrower, the gripper assembly comprises a single gripper device for gripping the sheet metal at the center. In another form of the apparatus, the gripper assembly is mounted for reciprocating movement on a frame and the frame is, in turn, pivoted about a vertical axis so that the entire frame can swing laterally.

3,438,558
TAPE DRIVE ARRANGEMENT WITH SELF-ALIGNING PRESSURE ROLLER
Robert J. Hammond, Stevensville, Mich., assignor to V-M Corporation, Benton Harbor, Mich., a corporation of Michigan
Filed Jan. 20, 1967, Ser. No. 610,555
Int. Cl. B65h *17/20*
U.S. Cl. 226—191 10 Claims



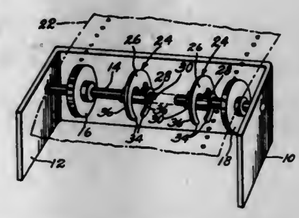
Structure providing accurate self-alignment of a pressure roller with a tape-driving capstan. The mounting for the pressure roller permits the roller to be moved toward the capstan, to have its axis tilted relative to the axis of the capstan, and to have its axis shifted generally axially relative to the axis of the capstan in order to provide desired alignment.

3,438,559
WEB TENSION MEANS
Albert F. Shields, 43 Exeter St., Forest Hills, N.Y. 11375
Filed Jan. 11, 1967, Ser. No. 608,656
Int. Cl. B65h *23/10*
U.S. Cl. 226—195 3 Claims



Constant tension is applied to a web moving across a porous portion of a suction chamber support surface. Adjustable slideable cover-guide devices are mounted at opposite ends of the suction chamber to guide the web and cover those sections of the support surface porous portions outboard of the side edges of the web.

3,438,560
SNAP-ON WEB SUPPORTING MEMBER FOR WEB FEED MECHANISM
Edward A. Nicol, Farmington, Mich., assignor to Burroughs Corporation, Detroit, Mich., a corporation of Michigan
Filed July 12, 1967, Ser. No. 658,013
Int. Cl. B65h *23/04*; G03b *1/48*
U.S. Cl. 226—196 3 Claims

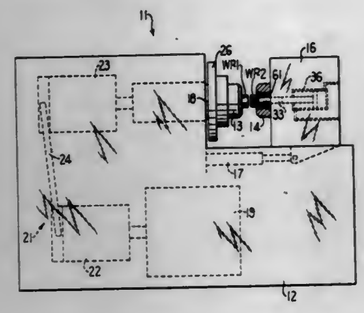


The disclosure includes a web or paper sheet feeder having a driven shaft to which pin feed wheels are affixed in spaced apart relationship along the shaft. To prevent sagging of the web between the pin feed wheels, one or more web supporting and guiding members are attached to the shaft between the pin feed wheels.

3,438,561
FRICTION WELDING APPARATUS WITH SHEARING TOOL FOR REMOVING FLASH FORMED DURING WELDING
Marion R. Calton, East Peoria, Ill., assignor to Caterpillar Tractor Co., Peoria, Ill., a corporation of California
Filed Oct. 9, 1967, Ser. No. 673,758
Int. Cl. B23k *1/20*
U.S. Cl. 228—13 5 Claims

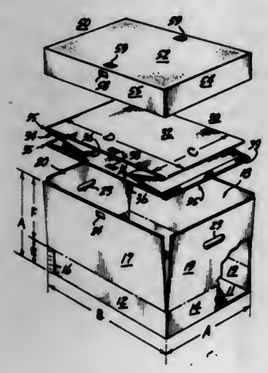
A shear tool is moved axially relative to friction weld-

ed parts to shear off the flash. An inner shear tool is moved within a welded tube to shear off the inner flash,



and the welded assembly is moved within an outer shear tool to shear off the outer flash.

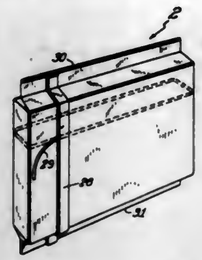
3,438,562
CONTAINER
William G. Connor, Bellevue, Donald F. Wright, Seattle, and Douglas J. A. Dove, Edmonds, Wash., assignors to Inter Store Transfer Specialists Inc., Edmonds, Wash., a corporation of Washington
Filed Oct. 25, 1967, Ser. No. 677,929
Int. Cl. B65d 5/56, 5/58, 25/14, 5/62, 5/36, 45/00
U.S. Cl. 229—14 4 Claims



A container has as main components a partially collapsible box and a collapsible liner that may be fitted into said box in both the collapsed and extended position. A telescopic lid closes the box in its extended and lined condition, as well as in its collapsed condition.

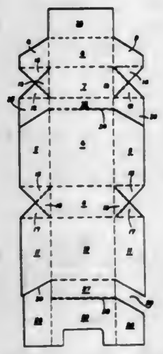
3,438,563
PACKAGE WITH TEAR STRIP
Peter C. Collura, Waltham, Mass., John D. Desmond, Philadelphia, Pa., Arthur P. Venditti, Reading, Mass., and Theodore S. Lesinski, Conshohocken, Pa., assignors to Container Corporation of America, Chicago, Ill., a corporation of Delaware
Filed Feb. 14, 1968, Ser. No. 705,493
Int. Cl. B65d 5/56, 17/00, 5/54
U.S. Cl. 229—14 4 Claims

A pouch-type package, comprising a wrapper of flexible sheet material secured around an article, is formed with a projecting tear strip secured on the interior surface of the wrapper, whereby the wrapper may readily be severed. This package is enclosed within a paperboard carton having a joint formed of overlapping panels. The end of the tear strip extends through the joint to the



exterior of the carton and, by pulling on the end of the tear strip, both the interior wrapper and a wall of the carton may be severed at the same time to give access to the packaged article.

3,438,564
CONTAINERS
Douglas Arthur Moreton, Braeside, Wormald Green, near Harrogate, England, assignor to Alf Cooke Limited, Leeds, Yorkshire, England, a British company
Filed Feb. 1, 1967, Ser. No. 613,270
Claims priority, application Great Britain, Feb. 4, 1966, 5,109/66
Int. Cl. B65d 5/00, 5/66
U.S. Cl. 229—16 5 Claims

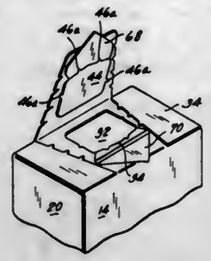


A blank to be folded into a carton or box, the blank consisting of a flat sheet creased, scored or otherwise weakened along lines such that it can be folded into a rectangular closed box or carton having front and back panels joined by a base wall, overlapping side walls, three essentially triangular gussets, on each side, joined to one another and extending respectively from the free edge of the base wall and from the two adjacent edges of the side walls, the gussets being arranged to be folded into packs lying against the inside surface of the container, and panels arranged to be folded so as to provide a lid hinged to the back wall.

3,438,565
RECLOSEABLE CARTON WITH TEAR OPEN SPOUT
Thomas Vander Lugt and Merrill J. Coe, Kalamazoo, Mich., assignors to Brown Company, New York, N.Y., a corporation of Delaware
Filed Dec. 26, 1967, Ser. No. 693,447
Int. Cl. B65d 5/72, 17/00, 5/54, 5/70
U.S. Cl. 229—17 10 Claims

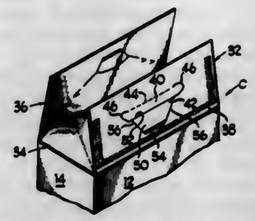
A sealed carton having a hinged tear open spout or spooning area provided with grip means protruding from

the spout flap to facilitate opening of the same. The carton is also provided with a reclosure feature which per-



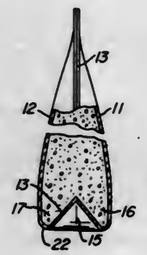
mits the carton to be locked in a closed position after the seal is broken. And, the carton blank for producing the same.

3,438,566
RECLOSABLE FOLDING CARTON
John V. Mahon, Landsdale, Pa., assignor to Container Corporation of America, Chicago, Ill., a corporation of Delaware
Filed Oct. 26, 1967, Ser. No. 678,436
Int. Cl. B65d 5/70, 5/22
U.S. Cl. 229—51 7 Claims



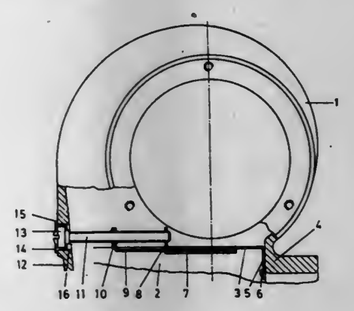
A paperboard folding carton having a plurality of walls joined to form a box-like structure having an opening on one side and a pair of inner and outer panels hinged to opposite walls and folded into overlapped relation to close the opening, one of the panels having a partially detachable tab which is insertable between a pair of tabs on the other panel to effect a reclosure of the carton.

3,438,567
FLEXIBLE FILM BAG WITH BOTTOM GUSSET
Fred E. Bell, Jr., Pasadena, Calif., assignor to The Dow Chemical Company, Midland, Mich., a corporation of Delaware
Filed Mar. 18, 1966, Ser. No. 535,541
Int. Cl. B65d 31/10, 5/42
U.S. Cl. 229—57 10 Claims



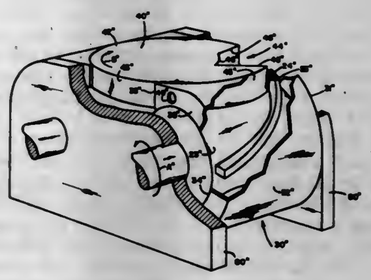
This invention concerns a flexible pouch having integral front and rear walls and a bottom gusset separating and defining front and rear bottom compartments. The gusset is formed by making an inverse fold across the bottom of the pouch and securing the fold at each side in a unitary seam with the walls of the pouch. Upon filling the pouch, the front and rear compartments receive the product and bow radially outwardly to form a generally ring-shaped base to support the resulting package in an upright position, the gusset preserving the separation of the compartments after filling to maintain the ring-shaped base.

3,438,568
DAMPER ARRANGEMENTS FOR OIL-BURNER ASSEMBLIES
Lars Svensson, Krokek, Sweden, assignor to B. Palm & Co. Aktiebolag, Norrkoping, Sweden, a Swedish company
Filed May 22, 1967, Ser. No. 640,167
Int. Cl. F04d 27/00, 7/00
U.S. Cl. 230—114 2 Claims



An improved damper arrangement for use with oil-burners in which fixed and movable damper plates are arranged to obturate in varying degrees the passage from the blower to the air-feed pipe, with the movable plate being controlled by externally accessible motion-transmission means.

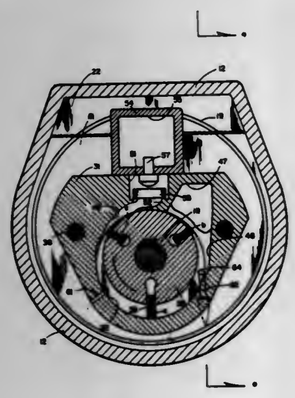
3,438,569
ROTARY WAVE COMPRESSORS AND THE LIKE
Roger C. Weatherston, Williamsville, N.Y., assignor to Cornell Aeronautical Laboratory, Inc., Buffalo, N.Y., a corporation of New York
Continuation-in-part of application Ser. No. 572,600, Aug. 15, 1966. This application Feb. 28, 1967, Ser. No. 619,445
Int. Cl. F04c 17/18
U.S. Cl. 230—150 1 Claim



A fluid rotary compressor and/or motor, one or more pistons rotatable in one or more annular expansible chambers, a rotary abutment member providing a closure and

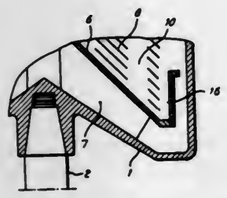
an escapement for the piston or pistons, gears synchronizing piston movement with abutment movement and supply and exhaust passages in the cylinder walls and/or the abutment member.

3,438,570
TWO STAGE VACUUM PUMP
Helmut Bode, Bergisch Gladbach, and Rudolf Brinkman, Cologne, Germany, assignors, by mesne assignments, to Leybold-Heraeus GmbH & Co. KG, Cologne-Bayenthal, Germany
Filed Aug. 18, 1967, Ser. No. 662,849
Claims priority, application Germany, Aug. 20, 1966, L 54,361
Int. Cl. F04c 23/00, 29/02
U.S. Cl. 230—158 9 Claims



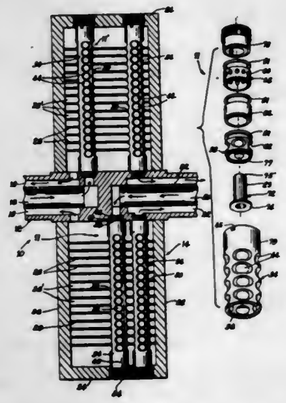
A two stage vacuum pump includes an outer housing consisting of a cup-shaped member defining one end wall and the peripheral side walls, and a closing end wall which may be integral with a driving motor housing. The two pump stages are side-by-side within the housing, each stage including a cylinder defining a cylindrical pumping chamber with suitable inlet and outlet ports, and a cylindrical rotor eccentrically mounted within the chamber and provided with three radial slots for accommodating sliding vanes. The stages are separated by a partition in the form of a circular plate which is sealed with respect to the housing side walls by a peripheral O-ring, defining two housing chambers. The rotors are mounted on a common shaft which passes through the partition; and a passage through the partition communiactes the two stages. Each of the stage cylinders is mounted within its respective housing chamber to define an annular space between the cylinder and the housing. The partition is provided with a passage communicating the second stage inlet with the annular space surrounding the first stage, whereby this space is maintained at the inlet pressure of the second stage defining a vacuum jacket chamber for the first stage. The peripheral space between the second stage cylinder and the housing wall defines an oil reservoir; and a controlled flow passage in the cylinder provides for oil flow from the reservoir into the second stage pumping chamber. The opening of the jacket chamber passage is positioned in a second stage pumping chamber so that, when the pump is shut down without venting, the oil in the second stage chamber will flow through this passage into the jacket chamber rather than into the first stage pumping chamber; and this jacket chamber is large enough to accommodate all of the oil which might otherwise be sucked into the first stage resulting in undesirable contamination.

3,438,571
CENTRIFUGAL SEPARATOR
Jakob Murkes, Bandhagen, and Carl-Goran Nilson, Tullinge, Sweden, assignors to Alfa-Laval AB, Tumba, Sweden, a corporation of Sweden
Filed Feb. 25, 1966, Ser. No. 530,009
Claims priority, application Sweden, Mar. 8, 1965, 2,976/65
Int. Cl. B04b 3/00, 7/16
U.S. Cl. 233—2 10 Claims



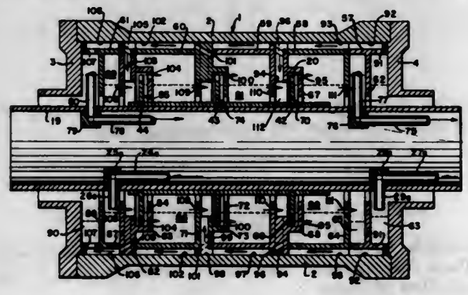
A centrifugal rotor is provided with an inlet for a mixture of two liquids to be separated and has a separating chamber including an outer peripheral portion and a main separating space, the rotor defining a completely open feed passage from the inlet to the peripheral portion of the separating chamber. The rotor also defines first and second flow paths leading from the outer portion of the open feed passage or from the peripheral portion of the separating chamber to respective outlets for the two separated liquids, these outlets being spaced radially inward from the aforesaid peripheral portion, the first flow path including the main space of the separating chamber. A porous body is inserted in one of these flow paths, preferably the first, and is of either the type operable to coalesce droplets of one of the liquids passing therethrough or the type operable to block the passage of one of the liquids. The open feed passage from the inlet allows any solids in the feed mixture to pass directly to the peripheral portion of the separating chamber and thus avoid clogging of the porous body.

3,438,572
ADJUSTABLE DUAL PHASE LIQUID FEED MEANS FOR CENTRIFUGAL COUNTERCURRENT EXCHANGE DEVICE
Wladzia G. Podbielniak Doyle and Collin Morley Doyle, both of 21 W. Elm St., Chicago, Ill. 60610
Filed May 25, 1966, Ser. No. 552,753
Int. Cl. B04b 1/12, 11/02, 15/00
U.S. Cl. 233—15 7 Claims



A fluid feed means for use in centrifugal countercurrent exchange devices wherein means is provided not only for ready disassembly of the device, but also a central conduit is provided in the bore of the device to enhance its utility.

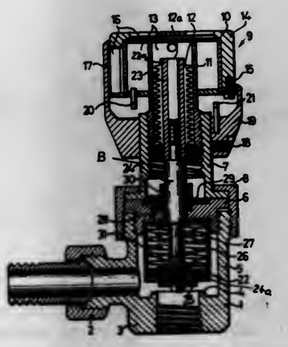
3,438,573
MIXING AND SEPARATING LIQUIDS CENTRIFUGALLY
Jacques Dollfus, Saint-Mande, and Jean Paul Miachon, Lyon, France, assignors to La Societe des Ateliers Robatel et Mulatier, Lyon, Rhone, France
Filed Dec. 27, 1966, Ser. No. 604,679
Claims priority, application France, June 13, 1966, 65,285
Int. Cl. B04b 5/02, 11/02
U.S. Cl. 233—15 28 Claims



Apparatus for mixing and then decanting, in a predetermined plurality of sequential stages, two normally immiscible liquids of heavier and lighter specific gravities, respectively, and comprising a drum rotatable at high speed about its longitudinal axis of symmetry. The drum contains a plurality of cylindrical sections fitting therein in end-to-end contacting relation, with their interfaces in planes normal to and spaced along the axis. The sections are open at their centers and a tube, which may be fixed, extends freely through the drum, along the axis. Pipes for feeding the two liquids separately into the apparatus and for exhausting the decanted liquids therefrom, extend in and along the aforesaid tube. Each main section consists at least of an annular mixing chamber and an adjacent annular decantation chamber, in communication. Heavier liquid is introduced into the mixing chamber of the first section at one end of the drum and there mixed with decanted lighter liquid flowing from the second end of the drum. The two mixed liquids then flow together into the decantation chamber of the first section. Decanted heavier liquid then reverses and flows to the mixing chamber of the next section from the first end, and so on, after which it is exhausted from the decantation chamber at the second end of the drum. Lighter liquid is introduced into the mixing chamber of the section at the second end of the drum and after mixing and decantation, flows to the mixing chamber of the next section toward the first end of the drum. This flow is interspersed by mixing and decantation, repeated for the predetermined number of stages. Following final decantation the lighter liquid is exhausted from the first end. Generally, therefore, the two liquids flow in respective opposite directions along the axis of rotation.

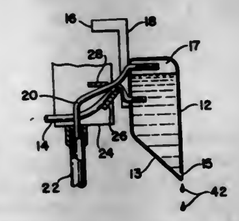
3,438,574
RADIATOR VALVE
Rudolf Killias, Gossau, Switzerland, assignor to Albert Lins, Kusnacht, Switzerland
Filed Aug. 22, 1966, Ser. No. 574,029
Claims priority, application Switzerland, Aug. 25, 1965, 11,926/65
Int. Cl. F24h 7/02, 9/20
U.S. Cl. 236—42 4 Claims

A radiator valve is disclosed which comprises a valve housing having a valve seat and a valve disc for regulating the flow of a heating medium cooperating with the valve seat. Temperature sensing means are provided incorporating a housing filled with an expansion medium and a bellows, the housing being detachably and displaceably coupled with the valve housing. A novel control bar



means operably connects the bellows with the valve disc, the length of the control bar means being itself adjustable to pre-regulate the passage volume of the heating medium through the valve in a manner independent of the actual thermostatic control of the valve.

3,438,575
ROOT CONTROLLED WATERING DEVICE
Hermann Rohling, 7 Kurzberg, 8961 Oberdorf, Germany
Filed May 24, 1967, Ser. No. 640,999
Int. Cl. A01g 27/00, 25/00; B05b 17/00
U.S. Cl. 239—1 9 Claims

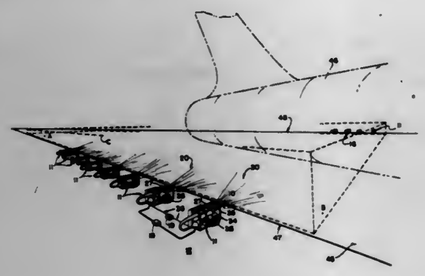


An above ground plant watering device having a water reservoir mounted for tilting to dispense water on plants responsive to a subsoil located moisture control located adjacent the plants and including a porous moss which on drying permits air to enter the reservoir thereby permitting the watering action.

3,438,576
VISIBILITY MODIFICATION METHOD AND APPARATUS
Arthur L. Handman, St. Paul, Minn., assignor to Litton Systems, Inc., Beverly Hills, Calif.
Filed Oct. 10, 1966, Ser. No. 585,390
Int. Cl. E01h 13/00; A01g 15/00
U.S. Cl. 239—2 13 Claims

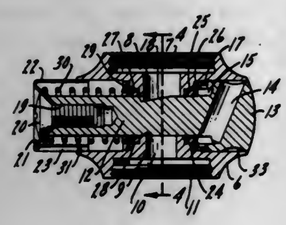
Method and apparatus for visibility modification including a pulse jet engine having an electrode disposed in

axial relation within the exhaust pipe so that in operation, the engine produces a cycling, reversing flow of hot ionized gases, the electrode withdraws ions of a given polarity to produce uni-polar ions which are discharged in



a pulsating flow with hot gases into the surrounding atmosphere to subject particles in the atmosphere to electrical, thermal and sonic forces to modify the visibility of the atmosphere.

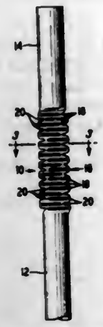
3,438,577
DRINKING FOUNTAIN ATTACHMENT
Charles G. Mackie, Glen Ellen, and Gordon J. Rahr, River Forest, Ill., assignors, by mesne assignments, to Milton Brav, Chicago, Ill.
Filed Apr. 28, 1967, Ser. No. 634,729
Int. Cl. E03c *1/02*; F16k *5/00*
U.S. Cl. 239—25 12 Claims



This invention comprises a device suitable for mounting on a faucet or other water discharge means. It is provided with an adjustable member. In one position of adjustment, that member permits normal flow of water through the faucet, the water being discharged from the device in the normal direction of its discharge from the faucet without the device. In another position of adjustment, the member causes a column of water to be directed upwardly for drinking. The device thus comprises an attachment for a conventional faucet by means of which water may be discharged in a direction convenient for drinking when desired. It makes a drinking fountain of the conventional faucet for use at will.

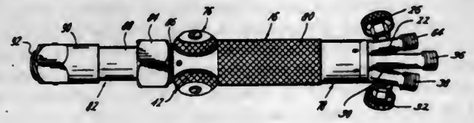
3,438,578
FLEXIBLE DRINKING TUBE
Gordon E. Peterson, Lakewood, Ohio, and Robert G. Moyer, Ridgefield, Conn., assignors to Union Carbide Corporation, a corporation of New York
Filed June 1, 1967, Ser. No. 642,929
Int. Cl. A47g *21/18*; A61j *15/00*
U.S. Cl. 239—33 5 Claims

A drinking tube made from thermoplastic material with a flexible zone intermediate its ends which is formed by providing a plurality of circumferential grooves with axial folds in a particular configuration. The method of



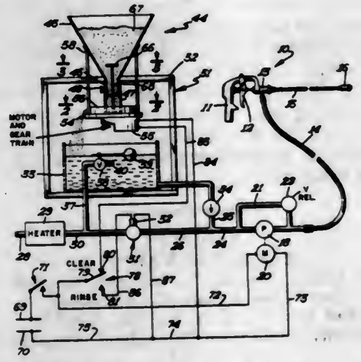
forming the flexible zone involves axially crushing the tube with or without the application of heat.

3,438,579
APPARATUS FOR FLAME SPRAYING POWDERED MATERIALS
Randolph A. Wiese, Houston, Tex., assignor to Powder Weld International Corporation, Houston, Tex., a corporation of Texas
Filed June 28, 1967, Ser. No. 649,656
Int. Cl. B44d *3/60*
U.S. Cl. 239—85 14 Claims



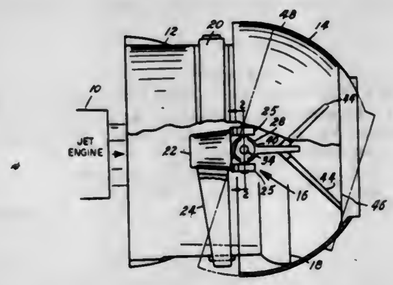
The present invention generally relates to improved apparatus for flame spraying powdered material. The invention utilizes three gases to form a flame, convey the powdered material into the flame and shroud the flame from the atmospheric conditions.

3,438,580
CLEANING APPARATUS
Gary C. Siebring, George, Iowa, assignor to Siebring Manufacturing Company, George, Iowa, a corporation of Iowa
Filed May 22, 1967, Ser. No. 640,188
Int. Cl. B05b *7/16, 7/00, 1/24*
U.S. Cl. 239—135 8 Claims



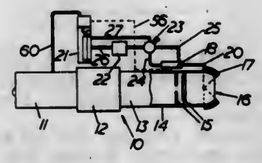
A cleaning apparatus in which provision is made for supplying either cleaning fluid from a container or water through a pump to a nozzle for directing a fluid against the surface to be cleaned and in which in one position of a two-position switch, the source of water to the nozzle is interrupted and a cleaning ingredient, such as powdered soap is supplied to the container of cleaning fluid and in the other position of which the supply of the cleaning ingredient to the container of cleaning fluid is interrupted and only water is supplied to the nozzle.

3,438,581
INTERNALLY GIMBALED VECTORING NOZZLE
Raymond Smith, Fraser, Mich., assignor to Continental Aviation and Engineering Corporation, Detroit, Mich., a corporation of Virginia
Filed Feb. 6, 1967, Ser. No. 614,305
Int. Cl. B64c *15/04*; F02k *1/24*
U.S. Cl. 239—265.35 11 Claims

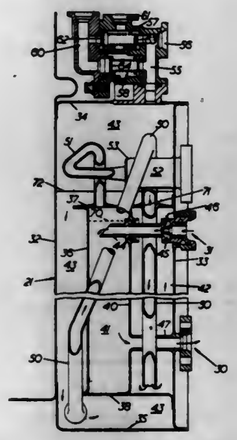


Internally gimbaled means for supporting a spherical gas deflecting nozzle to the main exhaust nozzle of a jet engine. A universal joint carried in the exhaust duct of the main nozzle is attached to the inner ends of supporting struts carried by the deflecting nozzle. The deflecting nozzle is supported downstream with a spherical portion engaging the end of the main nozzle to form a continuous discharge duct for the thrust gases in all relative positions of the nozzles.

3,438,582
TANKS FOR HOLDING LIQUIDS
Norman R. Robinson, 132 Whitaker Road, Derby, England; Donald M. Anley, 3 Park Road, Hucknall, England; and Charles S. Petrie, 134 Locko Road, Spondon, Derby, England
Continuation-in-part of application Ser. No. 441,493, Mar. 22, 1965. This application Dec. 6, 1966, Ser. No. 599,534
Claims priority, application Great Britain, Mar. 31, 1964, 13,294/64
Int. Cl. B63h *11/10*; F02g *1/00*; B67d *5/54*
U.S. Cl. 239—265.19 14 Claims

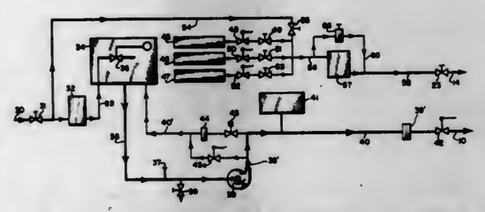


An oil tank comprises a plurality of interconnecting chambers, an oil inlet and an oil outlet, by which oil may be supplied to and withdrawn from the chambers, the oil inlet and outlet both communicating directly with one of the chambers and an air outlet for the chambers. A venturi ejector pump is provided in the oil inlet which passes through a second of the chambers so that liquid flowing through the oil inlet draws further oil from the second chamber by the action of the venturi ejector pump.



The oil passing into this first chamber urges air out through the air outlet and maintains the first chamber substantially full of oil in any disposition of the tank.

3,438,583
CLEANING APPARATUS
Robert Lawrence III, Hollywood, Fla., assignor to Heinicke Instruments Co., Hollywood, Fla., a corporation of Florida
Filed Apr. 18, 1966, Ser. No. 544,062
Int. Cl. B05b *1/26, 7/08*; B60s *3/50*
U.S. Cl. 239—305 2 Claims

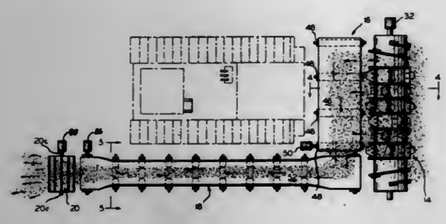


Composite liquid spray system suited for cleaning operations and adapted to spray high pressure water along with chemical solutions such as cleaning solutions. The spraying device has two nozzles, one of which is angularly disposed to the other in such a fashion that liquid streams originating from said nozzles impinge upon each other. Flow from both nozzles is regulated by appropriate valves and switches. One nozzle is connected to supplies of two different chemical solutions and is adapted to spray a single chemical solution or a mixture of chemical solutions. The other nozzle is adapted to spray a continuous or pulsating stream of high pressure water.

3,438,584
COMPOSTING DEVICE
George T. Klein, Glen Dale, Wis. (% Organic Compost Corporation, Germantown, Wis. 53022)
Filed May 19, 1967, Ser. No. 639,718
Int. Cl. A01c *17/00*; B01c *19/20*; B65g *65/22*
U.S. Cl. 239—651 7 Claims

Includes vehicle which has auger that works, turns and lifts rows of matter while vehicle is driven through the

matter. The auger directs the matter toward the center thereof and thereafter lifts the matter whereupon a conveying means receives the matter from the auger and thereafter feeds same to a spreader which selectively guides the matter so it can be piled as it originally was prior to being worked.

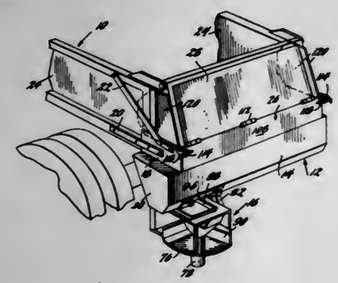


3,438,585

SPREADER DEVICE

Peter J. Buchmann, Green Bay, Wis., assignor, by mesne assignments, to Good Road Machinery Corporation, Minerva, Ohio

Filed Sept. 6, 1966, Ser. No. 577,553
Int. Cl. E01c *19/20*; A01c *17/00, 3/06*
U.S. Cl. 239—665 10 Claims



The invention disclosed is a granular material spreader which may be attached to the conventional dump truck or like vehicle and comprises an elongated well, located at the rear end of a dump truck load box, a breaker bar for clamps of granular material, an auger therebeneath for feeding material to a discharge port, a spinner assembly beneath the port to broadcast material, and a sliding plate adjacent the discharge port for varying the point of impingement of material on the spinner blades. A hinged cover is mounted over the well, to cover it when the dump truck is used in a normal manner, and pivotal to the rear of the well to block the tailgate and direct material into the well when the invention is employed.

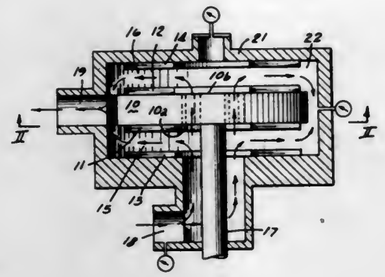
3,438,586

TWO-PIPE DISC REFINER

Vincent W. Cancilla, Pittsfield, Mass., assignor to Beloit Corporation, Beloit, Wis., a corporation of Wisconsin

Filed Aug. 15, 1966, Ser. No. 572,424
Int. Cl. B02c *19/00, 13/26*
U.S. Cl. 241—146 7 Claims

A four-disc refiner wherein the hydraulic pressures on both sides of the rotating disc are balanced so that the disc maintains a centered position between the stationary discs.

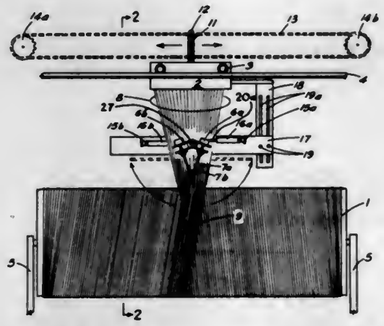


3,438,587

METHOD FOR MAKING A FILAMENTOUS MAT

Robert L. Jackson, Jr., Louisville, Ky., assignor to American Air Filter Company, Inc., Louisville, Ky., a corporation of Delaware

Filed Aug. 4, 1967, Ser. No. 658,475
Int. Cl. B65h *54/00, 57/00, 57/28*
U.S. Cl. 242—42 10 Claims



An apparatus and method for winding a curtain of filaments onto a rotating collector which includes filament guide means disposed between a reciprocating feeder and a rotating drum to narrow the width of a selected portion of the curtain of filaments. The guide can be adjustable to selectively narrow the width of the curtain of filaments and to decrease the spacing between individual filaments deposited on the drum without bringing the individual filaments into contiguous relation.

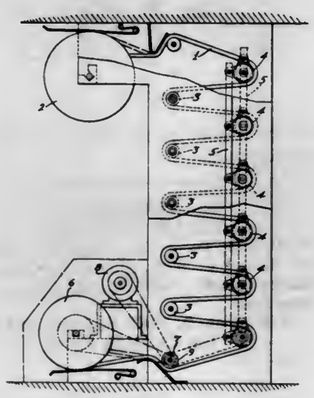
3,438,588

ADVANCING A FILTER MAT IN A ROLL FILTER

Gosta Steinholtz, Bankeryd, and Bo Aronsson, Jonkoping, Sweden, assignors to Aktiebolaget Svenska Flaktfabriken, Stockholm, Sweden

Filed Jan. 30, 1967, Ser. No. 612,444
Claims priority, application Sweden, Feb. 8, 1966, 1,567/66
Int. Cl. B65h *25/02*
U.S. Cl. 242—55.1 2 Claims

A roll filter wherein a filter mat is advanced from a freely rotatable supply roll onto a take-up roll, which is driven with a constant angular speed so as to gradually increase the peripheral speed of the mat to a maximum peripheral speed as the diameter of the take-up roll increases. The mat is guided in a zigzag path intermediate the supply and take-up rolls by two rows of guide rolls one of which rows is freely rotatable and the other of which rows is driven so that the rolls have a constant peripheral speed at least as great as the maximum peripheral speed of the take-up roll. When the mat is frictionally engaged with the driven guide rolls, these rolls create a slack in the mat between the guide rolls and the take-up rolls. When the slack is sufficient, the frictional engagement on the driven guide rolls is relieved and the driven guide rolls no longer drive the mat. The continuously driven take-up roll takes up the slack to thereby reinstate the frictional engagement of the mat on the driven guide rolls so that the mat is alternately slackened and tensioned as it is advanced through the filter.

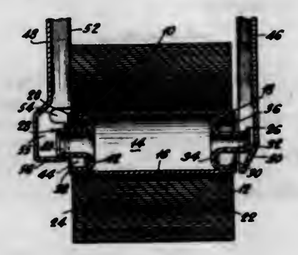


3,438,589

FLEXIBLE SHEET MATERIAL ROLLS HAVING INTERNAL SUPPORTING MEANS ADAPTED TO FALL OUT OF A DISPENSER AUTOMATICALLY

Paul W. Jespersen, Franklin Park, Ill., assignor to Georgia-Pacific Corporation, Portland, Oreg., a corporation of Georgia

Filed Mar. 8, 1967, Ser. No. 621,633
Int. Cl. B65h *19/00, 55/00, 75/02*
U.S. Cl. 242—55.2 20 Claims



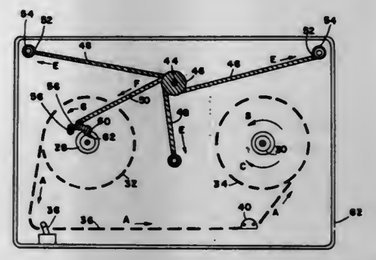
A roll of flexible sheet material, such as toilet tissue, having supporting means positioned therein for providing the roll with internal support while it is held in a dispenser, the supporting means being of an axial length unequal to the axial length of the roll and thereby adapted to fall out of the dispenser automatically after the sheet material has been exhausted from thereabout.

3,438,590

TAPE CARTRIDGE FOR USE WITH TAPE RECORDERS

Fred Hugel, West Acton, Mass., assignor to Sanders Associates, Inc., Nashua, N.H., a corporation of Delaware

Filed Dec. 2, 1966, Ser. No. 598,675
Int. Cl. G11b *15/32*
U.S. Cl. 242—55.13 12 Claims



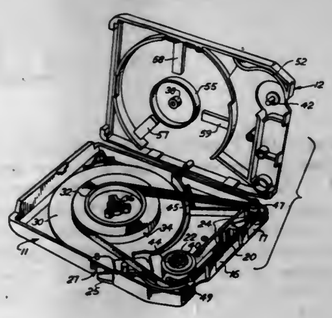
The present invention pertains to a tape cartridge for use with magnetic tape recorders and, more particularly, to a tape cartridge which will always maintain tension in that portion of the tape disposed between the two reels in the cartridge. This is accomplished by having one of the reels locked in position to prevent any rotational movement thereof when the cartridge is removed from the recorded deck while the other reel has a one-way clutch associated therewith which permits movement of the tape in only one direction, thus serving to create and maintain tension in the tape disposed between the two reels. The tape cartridge also incorporates locking means for quickly and easily securing and detaching the cartridge to and from the recorder.

3,438,591

ENDLESS TAPE CARTRIDGE

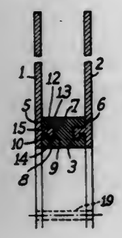
Robert Becker, Chicago, and Arnold P. Hultgren, River Forest, Ill., assignors to Amerline Corporation, Chicago, Ill., a corporation of Illinois

Filed June 24, 1966, Ser. No. 560,245
Int. Cl. B65h *17/44, 17/48*
U.S. Cl. 242—55.19 10 Claims



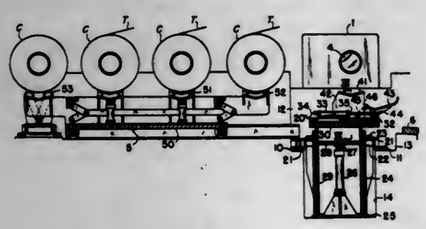
A cartridge containing an "endless" reel of magnetic sound tape supported on a rotating platform, the cartridge including a brake mechanism operated by depressing a plunger which extends outwardly from the cartridge, the brake mechanism serving to lock the platform against rotation and to secure the tape coil by clamping at least a portion of it between the platform and a friction pad fitted to the interior of the cartridge.

3,438,592
TAPE OR FILM SPOOL
Pierre A. L. Posso, 20 Rue Gandon, Paris 13, France
Filed Aug. 15, 1967, Ser. No. 660,794
Claims priority, application France, June 30, 1967, 112,645
Int. Cl. B65 *75/18*
U.S. Cl. 242—71.8 12 Claims



A spool for magnetic tape or cinematographic film is composed of a cylindrical hub and two circular plates of plastic material, the hub and plates being assembled to form the spool. The hub has oppositely facing lateral surfaces and in each surface is an annular groove or throat. Each groove or throat is formed with spaced lugs. Each circular plate has a flange formed with spaced lugs. The various lugs and spaces are so dimensioned that a respective flange may fit in a respective groove or throat, with the lugs interengaging.

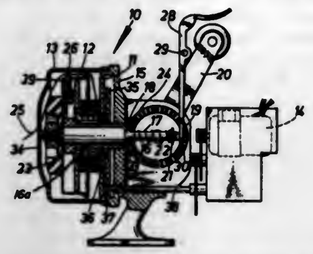
3,438,593
COIL- AND SPOOL-HANDLING APPARATUS
Duane C. Reed, East Palestine, Ohio, assignor, by mesne assignments, to L. W. Nash Company, East Palestine, Ohio, a corporation of Delaware
Filed Aug. 16, 1967, Ser. No. 661,095
Int. Cl. B21c *47/24*
U.S. Cl. 242—79 9 Claims



Apparatus for handling coils and spools including a frame mounted on wheels and a hollow outer member attached to the frame. An inner member carrying a base on its upper end fitted within the outer member for vertical movement relative thereto and a lifting mechanism to move the inner member. Spaced guideways on the upper surface of the base and a slide moveable in the guideways carrying supports for a coil and a tiltable cradle for an empty coil spool.

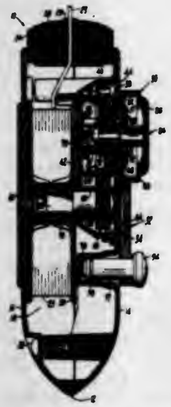
3,438,594
MOTORIZED FISHING REEL
George Bellefeuille, 65 Dieppe Ave., Elliot Lake, Ontario, Canada
Filed May 13, 1965, Ser. No. 455,572
Int. Cl. A01k *89/04, 89/00*
U.S. Cl. 242—84.2 3 Claims

A closed-face, spinning reel in which the line can be selectively retrieved by; (1) rotating a rotor relative to an associated spool by crank operated gearing, or (2) the



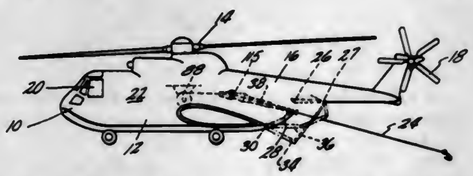
spool may be rotated by an electric motor connected to the spool by gearing.

3,438,595
CHALK LINE REEL
Martin M. Brown, Tariffville, Frank J. Kuchta, New Britain, and Robert F. West, Simsbury, Conn., assignors to The Stanley Works, New Britain, Conn., a corporation of Connecticut
Filed Feb. 9, 1967, Ser. No. 614,852
Int. Cl. B65h *75/40*
U.S. Cl. 242—96 10 Claims



The apparatus of this invention includes a unitary subassembly for controlling rotation of a chalk line spool journaled in a casing, with the subassembly supported thereon for rotation about an axis in parallel offset relation to the spool axis and having a crank and a push button operated clutch serving to engage and disengage the crank in relation to the spool.

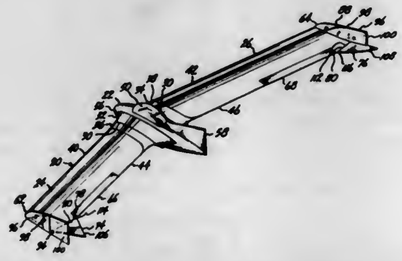
3,438,596
TOW BOOM INSTALLATION
Ronald A. Durno, Trumbull, and William Huly, Stratford, Conn., assignors to United Aircraft Corporation, East Hartford, Conn., a corporation of Delaware
Filed May 15, 1967, Ser. No. 638,305
Int. Cl. B64d *3/00*; B60d *1/14*
U.S. Cl. 244—3 7 Claims



A tow boom carried by an aircraft has a releasable tow hook latching mechanism at its trailing end. A tow

cable routed through the boom has its inboard end attached to a winch and its outboard end attached to a two hook assembly that can be raised and lowered and is automatically engaged by the latching mechanism on the end of the tow boom when the cable is fully winched in.

3,438,597
AIRCRAFT
Witold A. Kasper, 1853 132nd SE., Bellevue, Wash. 98004
Filed Apr. 3, 1967, Ser. No. 628,127
Int. Cl. B64c *1/50, 5/08, 9/00*
U.S. Cl. 244—13 11 Claims

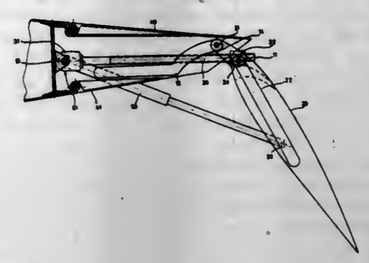


An aircraft for powered and non-powered flight has an arrangement of its entire aerodynamic controls mounted essentially on the trailing edges at and near wing tips of swept back wings which extend outwardly and rearwardly from a fuselage to position such controls so there is no additional requirement to extend such fuselage beyond the approximate width of such swept back wings for the sole purpose of supporting one or more aerodynamic controls, thereby resulting in an aircraft that is fully controllable, even in intentionally induced tumbling, which has superior flight characteristics in all aspects of flight in comparison to aircraft having extended fuselages or other structures to support one or more aerodynamic controls at the rear of the fuselage.

These aerodynamic controls which are all mounted essentially on the trailing edges at and near the wing tips are: horizontal stabilizers serving optionally in emergencies as elevators; elevons acting as elevators and/or ailerons; vertical stabilizers extending above and below the wing tips and optionally positioned inwardly to increase directionally stability and at all times serving as end plates; rudders essentially aligned with the vertical stabilizers to continue the end plate functions when aligned and then to operate independently of one another for directional control, and each rudder having portions positioned forward of their mounting which are pivotable over the wing, ahead of the stabilizers to act independently of one another as spoilers also creating an aileron effect and to act together also serving as air brakes.

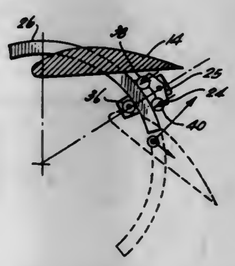
3,438,598
EXTENDABLE WING FLAP ARRANGEMENT FOR AIRPLANES
Karl Vinzenz Tammel, Munich, Germany, assignor to Entwicklungsring Sued GmbH, Munich, Germany, a corporation of Germany
Filed Oct. 13, 1966, Ser. No. 586,498
Claims priority, application Germany, Oct. 27, 1965, E 30,367
Int. Cl. B64c *3/40*
U.S. Cl. 244—42 5 Claims

In combination with a wing and a wing flap, cooperating means on the wing and flap constituting the support for the flap and including a roller mounted on the flap and movable in a guide mounted on the wing, and a second roller mounted on the wing and movable in a guide



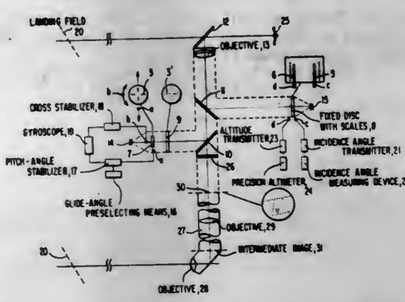
mounted on the flap during all movements of the flap. The rollers and guides are disposed so that the flap will move rearwardly and downwardly of the wing.

3,438,599
FLAP TRACK ROLLER SUPPORT
Joseph A. Welzen, Los Alamitos, Calif., assignor to McDonnell Douglas Corporation, a corporation of Maryland
Filed Oct. 12, 1967, Ser. No. 674,855
Int. Cl. B64c *3/50, 9/32*; E05d *13/02*
U.S. Cl. 244—42 9 Claims



A pivoting roller assembly for retaining the track of an aircraft flap subjected to twist and other loads.

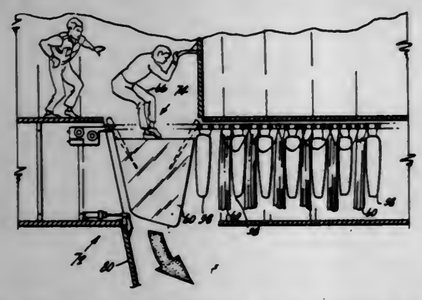
3,438,600
HOMING SYSTEM FOR AIRCRAFT
Gabor Jakab, Markdorf, Germany, assignor to Dornier Werke GmbH, Friedrichshafen, Germany
Continuation-in-part of application Ser. No. 501,512, Oct. 22, 1965. This application May 19, 1966, Ser. No. 551,373
Int. Cl. B64c *13/18, 13/20*
U.S. Cl. 244—76 9 Claims



This invention describes an adjustable sighting device whose line of sight points towards the touchdown point on the ground at an inclination corresponding to the angle of approach. The line of sight is held at a preselectable

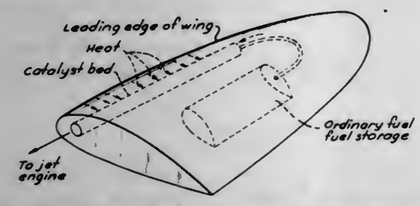
constant angle of inclination relative to the geodetic horizontal plane by stabilizing means during all possible flight movements during approach. The azimuth direction of the line of sight is maintained either parallel to the plane of symmetry of the aircraft, or is adjustable to form an angle with respect to the plane of symmetry which angle is required by the mechanics of flight. The adjustable sighting device enables the pilot of the aircraft being landed to directly view the landing field by means of a periscope, if otherwise the pilots vision is obstructed by fuselage parts, heat shields, etc. and portrays the necessary information required to accomplish a safe landing. This information is projected onto an appropriate reflex sighting pane mounted on the windshield of the aircraft so that the pilot does not have to divert his view from the approaching landing field and yet is provided with all necessary information pertaining to the safe landing.

3,438,601
AIR CREW ESCAPE AND SURVIVAL SYSTEM
Robera G. McIntyre, Manhattan Beach, Calif., assignor to McDonnell Douglas Corporation, a corporation of Maryland
Filed Dec. 18, 1967, Ser. No. 691,457
Int. Cl. B64d *17/00, 1/10*
U.S. Cl. 244—137 **6 Claims**



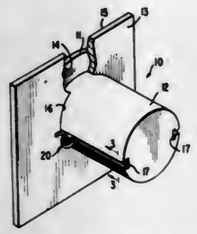
An emergency escape system for aircrewmen working in a shirt-sleeve environment. An automatic module advance dispenser mechanism for a series of parachutes and modules stored under the aircraft cabin floor. A crewman passes through an opening in the bottom of the airplane and into a module containing oxygen, life raft, impact bag and other essentials in a fully encapsulated "cocoon." A parachute opens and keeps the module within a safe descent velocity.

3,438,602
ENDOTHERMIC FUEL SYSTEM FOR AIR-BREATHING AIRCRAFT
Charles R. Noddings and James A. Kelly, Midland, Mich., assignors to The Dow Chemical Company, Midland, Mich., a corporation of Delaware
Filed Oct. 20, 1967, Ser. No. 676,715
Int. Cl. B64d *37/34;* **C10g** *11/00*
U.S. Cl. 244—135 **2 Claims**



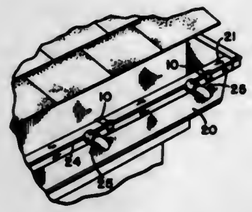
A superior fuel for air-breathing aircraft is obtained by catalytically cracking and dehydrogenating ordinary jet fuel at high temperatures.

3,438,603
PANEL METER MOUNTING DEVICE
Carl F. van Bennekom, Lynnfield, Mass., asisgnor to General Electric Company, a corporation of New York
Filed June 9, 1967, Ser. No. 644,951
Int. Cl. A44b *21/00*
U.S. Cl. 248—27 **5 Claims**



A panel meter fastener. Inverted T-slots in a panel meter housing loosely capture a fastener formed of spring material. A curved fastener section contacts a panel and forces transversely extending tabs on a generally planar fastener section captured in the slot to engage the housing.

3,438,604
RETAINER CLIPS FOR TEMPORARY WIRING
William M. Spicer, 5709 Mapleview Drive, Dayton, Ohio 45432
Filed Nov. 16, 1966, Ser. No. 594,852
Int. Cl. A44b *21/00*
U.S. Cl. 248—74 **4 Claims**



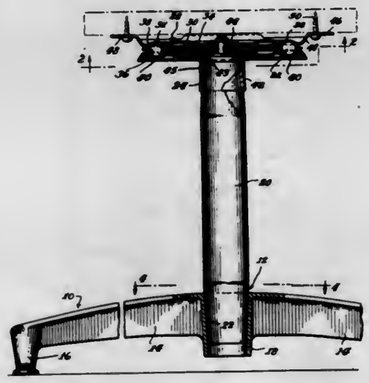
Metal retainer clips, preferably plastic coated and zinc plated, are provided for temporarily attaching wiring, as for outdoor decorations, to structure such as rain gutters, facia, and other trim on the exterior of a dwelling, or to fencing, trees, and the like. One form of retainer is for attachment to both rain gutters, standard thicknesses of facia boards and other projections with a thickness of 3/8" to 1" and another form is for attachment to tree limbs, siding, shingles, or the like.

3,438,605
IRON HOLDER FOR USE ON IRONING BOARDS AND THE LIKE
Edward Tashjian, 319 E. Yosemite, Madera, Calif. 93637
Filed Mar. 28, 1967, Ser. No. 626,543
Int. Cl. D06f *79/02, 71/32;* **A47b** *88/16*
U.S. Cl. 248—117.1 **6 Claims**



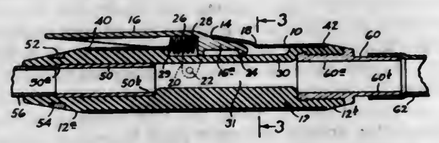
An iron holder having a frame mountable on an ironing board or the like including an elongated guide track having telescopically related sections and an iron receiving tray supported on one of the sections for movement between a retracted position with the iron hidden beneath the ironing board and an extended position outwardly spaced therefrom.

3,438,606
SUPPORTING STRUCTURE FOR A CHAIR OR THE LIKE
Saul Rubin, 758 S. Washtenaw Ave., Chicago, Ill. 60612
Filed Dec. 1, 1966, Ser. No. 598,271
Int. Cl. F16m *13/00*
U.S. Cl. 248—415 **1 Claim**



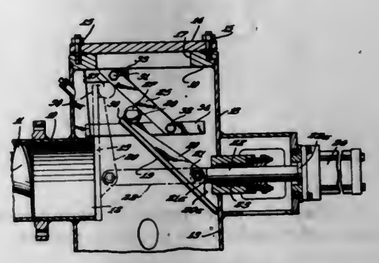
A supporting structure for a chair which includes a column having its opposite ends provided with identical tapers so that either end of the column may frictionally engage the complementary tapered collar or cup-shaped member which is secured to the means attached to the seat of the chair and to the complementary tapered sleeve of the base so that there is no rotation between the column and the sleeve and the collar or cup-shaped member.

3,438,607
VALVE FOR EVACUATOR
Norman C. Williams and Dwight A. Booth, Portland, Oreg., assignors, by mesne assignments, to Omark Air Controls, Inc., Portland, Oreg., a corporation of Oregon
Filed Mar. 28, 1966, Ser. No. 537,992
Int. Cl. F16l *55/14;* **F16k** *7/06*
U.S. Cl. 251—9 **4 Claims**



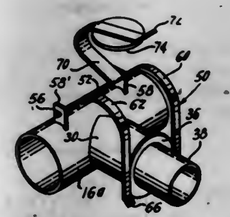
A valve including an elongated hollow element having a flexible sleeve section between its ends formed by a tubular wall which defines an open throat with the sleeve section relaxed. The sleeve section has a generally ovate cross section, and the valve has means for flattening opposed sides of the sleeve section against the major axis of such cross section. Side regions of the sleeve section located circumferentially from said opposed sides move against the side expanses of a backing integral with the sleeve section, to be supported by said side expanses on compressing of the sleeve section.

3,438,608
PRESSURE VESSEL INLET VALVE
Elbert D. Wood, Lenox, Mass., assignor to Beloit Corporation, Beloit, Wis., a corporation of Wisconsin
Filed Dec. 15, 1966, Ser. No. 602,005
Int. Cl. F16k *31/12, 1/16;* **B65g** *65/30*
U.S. Cl. 251—147 **6 Claims**



A valve including an inlet duct 10 with an opening 12 closable by a valve plate 19 which is moved between a solid line open position and a dotted line closed position by a piston rod 22 as shown in FIGURE 2. For positively controlling the pivotal angle of the plate to a predetermined angle in all locations between the open and closed position, rollers 27 and 28 traverse along a pair of rails 25 and 26 preventing flopping movement of the plate and insuring positive angle control.

3,438,609
MILK INLET
Lloyd T. Lee, Holmen, Wis. (818 S. 3rd St., La Crosse, Wis. 54601)
Filed Dec. 2, 1966, Ser. No. 598,702
Int. Cl. F16k *51/00;* **A01j** *5/00*
U.S. Cl. 251—145 **6 Claims**

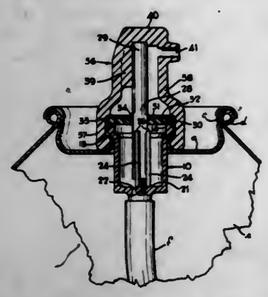


A vacuum milk manifold T having a plain cylindrical inlet sleeve which receives a cylindrical nipple having a collar thereabout, the collar being sealed to the sleeve by a resilient gasket and connected to a flexible hose, the nipple being held in the sleeve by a pivoted retaining member which carries a closure cap on an arm for closing the sleeve when the nipple is removed.

3,438,610
HEADLESS VALVE ASSEMBLY FOR DISPENSING CONTAINERS
Richard C. Hug, St. Louis, Mo., assignor to Clayton Corporation, St. Louis, Mo., a corporation of Delaware
Filed Apr. 21, 1967, Ser. No. 632,615
Int. Cl. F16k *13/00;* **B65d** *83/14*
U.S. Cl. 251—303 **15 Claims**

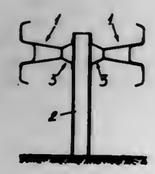
A valve for single use aerosol dip tube dispensers has no valving head. The molded plastic cup, to which the dip tube is mounted, has a valve stem rising integrally. The base of the cup serves as a fulcurm for the stem, which passes upward through the bore of a sealing washer and through a larger opening in the container top above

the washer. A dispensing head is mounted on a flexible flanged sleeve in this opening. Application of a lateral



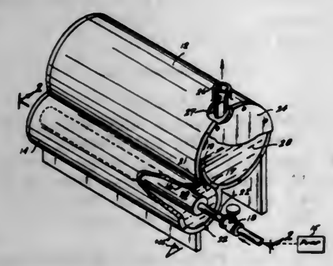
force will deflect the stem about its fulcrum, distending the sealing washer sufficiently to permit outflow.

3,438,611
GUARD RAIL OR ROAD PROTECTION BARRIER HAVING A HOLLOW BEAM BOOM
Vittorio Giavotto, Milan, and Carlo Caprile, Castello-Lecco (Como), Italy, assignors of four-fifths to S.I.N.A. Societa Iniziative Nazonali Autostradali S.p.A., Milan, Italy
Filed May 5, 1967, Ser. No. 636,458
Claims priority, application Italy, Dec. 16, 1966, 31,199/66
Int. Cl. E01f *15/00*
U.S. Cl. 256—13.1 3 Claims



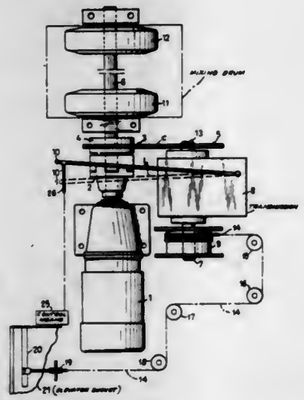
The highway guard rail is composed of a very rigid hollow horizontal girder rigidly connected to vertical standing plastically deformable posts. When the girder is struck, the posts yield.

3,438,612
PRESSURE DIFFERENTIAL TYPE MIXING DEVICE
Robert E. Knowlden, 22712A Nadine Circle, Torrance, Calif. 90505
Filed Feb. 9, 1967, Ser. No. 614,946
Int. Cl. B01f *7/00, 5/00*
U.S. Cl. 259—60 14 Claims



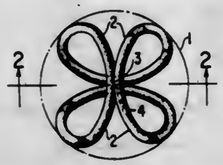
Pressure differential type mixing devices comprising at least one cylindrical chamber containing a fluid and a smaller diameter hollow cylindrical body for introducing another fluid and producing a directed flow of fluids around the interior wall of the chamber to provide a thorough mixing of the fluids in the chamber or in an interconnected cylindrical chamber.

3,438,613
REVERSIBLE GRAVITY CONCRETE OR MORTAR MIXER
Paul August, C. Capellades 1, Barcelona 6, Spain
Filed Apr. 14, 1966, Ser. No. 542,553
Claims priority, application Germany, Jan. 28, 1966, J 2,992
Int. Cl. B28c *5/18, 7/16*
U.S. Cl. 259—162 4 Claims



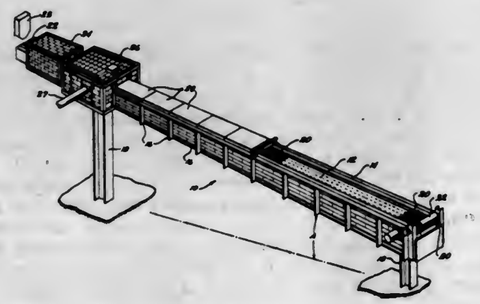
1. A reversible gravity mixer for concrete and mortar, comprising rotatable supporting means on which a rotary mixing drum is adapted to be rotatably positioned for rotation thereby, a single motor having a driving shaft selectively rotatable in opposite directions of rotation, means operatively connecting the drive shaft in one direction of rotation thereof to the rotatable supporting means for effecting an emptying movement of the mixing drum and in the other direction of rotation thereof to the rotatable supporting means for effecting a rotational movement of the mixing drum for mixing a charge therein, a free wheel operatively associated with the drive shaft and adapted to be actuatably locked therewith when it rotates in such other direction of rotation, a transmission means having an input and an output shaft and having a drive coupling arrangement drivingly coupling said shafts and including a selectable reversing gear, a winch operatively connected to and driven by the output shaft and having a cable means adapted to be connected to an elevator bucket for charging the mixing drum, a driving element carried by the input shaft and to which the free wheel is drivingly connected for driving the input shaft in one direction of rotation, and means operatively connected to the transmission means for controlling the direction of rotation of the output shaft, said last means being operative in one position for causing the input and output shafts to rotate in the same direction so as to drive the winch in a direction to effect a lifting movement of the elevator bucket in charging the mixing drum and being operative in a second position when such bucket reaches its highest movement so as to cause the reversing gear to be operative and effect a rotation of the output shaft in an opposite direction from the input shaft whereby the bucket is lowered under the control of the motor.

3,438,614
TOWER PACKING
Frank Lipinski, 61 Magnolia Lane, Jericho, N.Y. 11753
Filed Sept. 22, 1967, Ser. No. 669,912
Int. Cl. B01d *57/00*
U.S. Cl. 261—98 4 Claims



Packing elements having a three-dimensional, hollow geometrical structure which fit within a substantially spherical or ellipsoidal outline which provides efficient means for mass transfers and a tower for treating a gas.

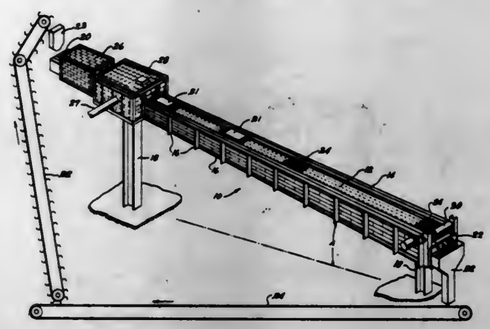
3,438,615
INCLINED KILN
Daniel E. Reardon, Bethel Park, and Richard W. Wallace and Raymond S. Beals, Pittsburgh, Pa., assignors to Dresser Industries, Inc., Dallas, Tex., a corporation of Delaware
Filed May 23, 1967, Ser. No. 640,731
Int. Cl. F27d *9/14, 3/18*
U.S. Cl. 263—6 9 Claims



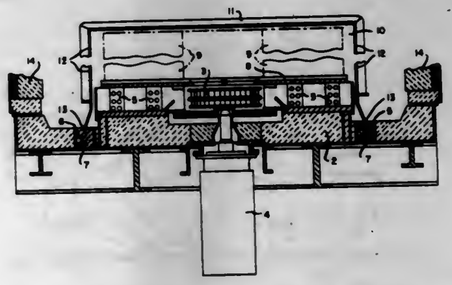
The present invention is directed to a static kiln for uniformly burning, in a continuous manner, ceramic or refractory spheres, rods and similar articles. The kiln consists of a flat hearth which is disposed at an acute angle from the horizontal wherein the ceramic wear can be fed at the top of the kiln and allowed to descend by gravity through the burning zone and ultimate discharge. The rate of descent of the ceramic ware is controlled at the discharge end of the kiln and can be varied.

3,438,616
KILN WITH CONVEYOR MECHANISM
Fred H. Fanning, Jr., Ingomar, and Edwin Ruh, Pittsburgh, Pa., assignors to Dresser Industries, Inc., Dallas, Tex., a corporation of Delaware
Filed June 12, 1967, Ser. No. 645,355
Int. Cl. F27b *9/16*
U.S. Cl. 263—6 7 Claims

The present invention is directed to a static kiln for burning, in a continuous manner, refractory articles. The kiln consists of a flat hearth which may be disposed horizontally or at an acute angle from the horizontal. The hearth is lined with rotatable ceramic ware so that the refractory articles may pass across the ware from the feed end to the discharge end of the kiln by rotation of the ware with a minimum of friction. Additionally, the invention is directed to methods for burning refractory articles utilizing the above apparatus.



3,438,617
ATMOSPHERIC SEALS
Gerome Gordon, North Strabane Township, Washington County, and George J. Barth, Jr., Hampton Township, Allegheny County, Pa. (both % Swindell-Dressler Company, Division of Pullman Incorporated, 441 Smithfield St., Pittsburgh, Pa. 15222)
Continuation-in-part of application Ser. No. 601,400, Dec. 13, 1966. This application Apr. 10, 1968, Ser. No. 720,027
Int. Cl. F27b *3/02*; F27d *7/00*
U.S. Cl. 263—40 7 Claims

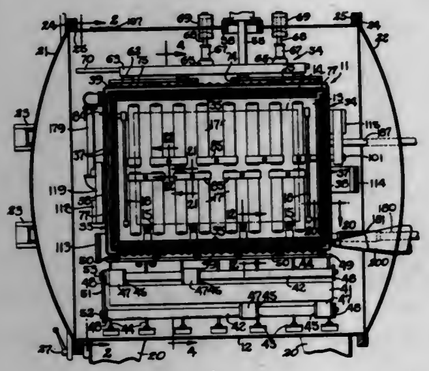


An improved atmospheric seal to close-off a work area of a heat treating furnace such as a coil annealing furnace or the like. It has ceramic fibrous material of density between 5 to 20 pounds per cubic feet placed in a sealing trough. The seal is effectuated by the weight of a removable work cover on the fibrous material, the work cover having rounded and/or flat end portions in contact with the fibrous material.

3,438,618
VACUUM HEAT TREATING FURNACE
Karl H. Seelandt, Ogle County, Ill., assignor, by mesne assignments to Alco Standard Corporation, Philadelphia, Pa., a corporation of Ohio
Filed Sept. 8, 1966, Ser. No. 577,941
Int. Cl. F27b *5/04*; C21d *9/00*
U.S. Cl. 266—5 29 Claims

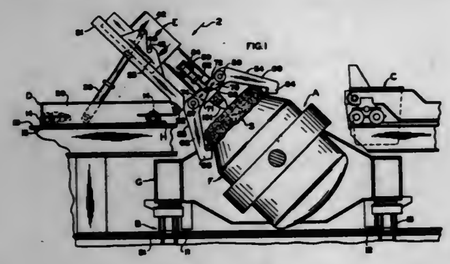
The retort of a vacuum heat treating furnace is formed by two side-by-side and oppositely concave shells which are separable sidewise from one another to exposed workpieces in the chamber to quenching fluid and which are separable endwise from one another to facilitate loading of the workpieces into the chamber. Correspondingly concave heating elements and reflecting shields are nested

compactly within shells and are movable with the latter, the heating elements being formed by bars with an elliptical cross section and being located to radiate heat of



high and substantially uniform intensity. Cooling jackets surround each shell and insure positive circulation of cooling fluid around and in direct contact with the shell while providing reinforcing cold support for the shell.

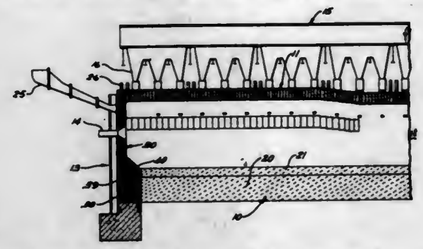
3,438,619
FURNACE SKULL STRIPPER
Klaus W. Forster, Brecksville, Ohio, assignor to Kerma Corporation, Alliance, Ohio, a corporation of Ohio
Filed Dec. 23, 1966, Ser. No. 604,347
Int. Cl. C21c *5/50*
U.S. Cl. 266—36 **2 Claims**



1. In apparatus for removing skull from the mouth of a steel making furnace a frame, a first member slidably supported by said frame, a pair of tongs connected to said first member adjacent to one end thereof and adapted to engage below the skull ring on a furnace, means operatively connected to said first member and to said tongs for moving said tongs to open and close the same, a second member slidably carried by said first member, means carried by said second member adapted to engage the skull ring on a furnace at points equally spaced from the engagement thereof by said tongs, and power actuated means operative between said first and second members for moving said first member relative to said frame and to said second member.

3,438,620
REVEBERATORY COPPER-MATTE SMELTING FURNACE
Albert L. Renkey, Bethel Park, Pa., assignor to Dresser Industries, Inc., Dallas, Tex., a corporation of Delaware
Filed Apr. 21, 1967, Ser. No. 632,689
Int. Cl. F27d *1/02*; C04b *29/02*
U.S. Cl. 266—43 **4 Claims**

A reverberatory copper-matte smelting furnace construction in which at least the charging holes are con-



structed of phosphate-bonded brick having from 60 to 90% Al_2O_3.

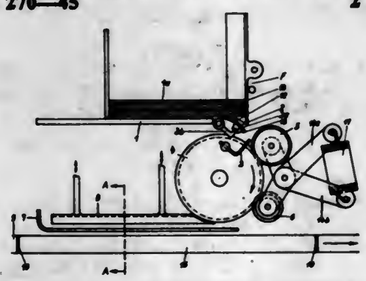
3,438,621
CONTINUOUS TREATING APPARATUS FOR SHEET MATERIAL
Matuichi Tajima, Kanagawa, Japan, assignor to Fuji Shashin Film Kabushiki Kaisha, Kanagawa, Japan
Filed June 22, 1966, Ser. No. 559,620
Claims priority, application Japan, June 22, 1965, 40/36,747
Int. Cl. B65h *5/06*; B03d *3/10*
U.S. Cl. 271—3 **10 Claims**





An apparatus and a method for the continuous transfer of sheet material, which comprises a pair of opposed rollers between which the leading edge of a sheet may be engaged, a stop means against which said leading edge abuts when the trailing edge of the sheet is disengaged from the rollers, a guide for maintaining the sheet in a flexed curved position between the nip of the rollers and the stop, and apparatus for reengaging the sheet so as to permit its withdrawal from its curved position, said withdrawal apparatus being capable in a first embodiment, of functioning as the stop means and in a second embodiment, being the same apparatus as said pair of opposed rollers.

3,438,622
SHEET FEEDING APPARATUS FOR BINDING MACHINES
Georg Laschewski, Neuss, Reuschenberg, Germany, assignor to Wilhelm Zilling, Duesseldorf, Germany
Filed Sept. 9, 1966, Ser. No. 578,218
Claims priority, application Germany, Sept. 13, 1965, Z 10,134
Int. Cl. B42c *1/02, 1/00*; B41f *13/64*
U.S. Cl. 270—45 **2 Claims**

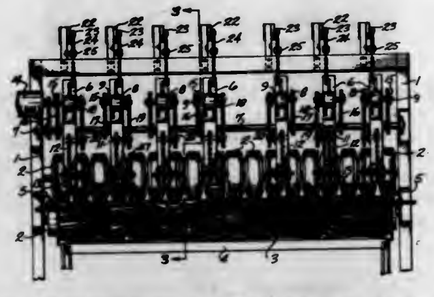


A sheet feeding apparatus for operation with unfolded or prefolded supplies of sheets wherein subsequent to the folding operation, the delivery of the sheet to a conveyor is made by gravity for transport to the assembly and binding machine.

ERRATUM

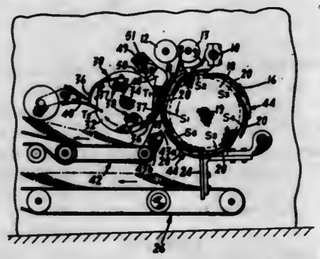
For Class 271—3 see:
Patent No. 3,438,621

3,438,623
AUTOMATIC UNSTACKER FOR VENEER AND OTHER MATERIALS
Robert L. Bridges, Kelso, and Earl D. Hasenwinkle, Longview, Wash., assignors to Weyerhaeuser Company, Tacoma, Wash., a corporation of Washington
Filed Feb. 27, 1967, Ser. No. 618,668
Int. Cl. B65h *3/06, 5/06*
U.S. Cl. 271—39 **4 Claims**



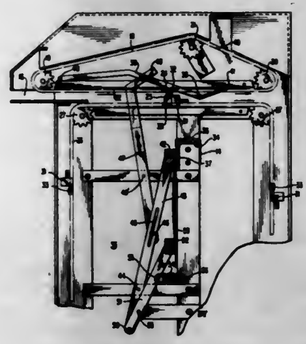
The disclosure shows a method and machine for unstacking veneer or other sheet materials and transferring them to a conveyor. The machine is operated by raising a stack of material supported on a powered lift table to the point where the surface layer of material is engageable with a series of drive discs. These provide high horizontal friction with the material yet exert a low vertical pressure. This enables the separation of the layers of material and transferal thereof to a conveyor with a minimum of multiple feeding.

3,438,624
SEPARATOR FOR FOLDERS
Alfred C. Behringer, Ringwood, N.J. assignor to Publication Corporation, Greenwich, Conn., a corporation of New York
Filed May 1, 1967, Ser. No. 635,222
Int. Cl. B65h *29/62, 29/06*
U.S. Cl. 271—64 **17 Claims**



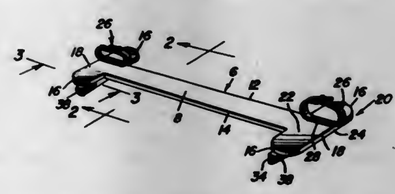
A separator for delivering alternate books received one after another from a folder to separate delivery points comprising two rotary fan units positioned relative to each other such that the book-receiving spaces on each traverse non-overlapping paths. Guide surfaces on one of the fans intercept alternate books and deflect them from a path leading to that fan along a path leading to the other fan. Preferably, the books from the fans are deposited on conveyors located vertically over one another and leading off in the same direction, and the fan feeding the upper conveyor is of a smaller diameter than the other fan to provide space for the upper conveyor above the lower conveyor.

3,438,625
STACKING MECHANISM
Willard A. Ramsey and Aaron G. Coln, Greenville, and Horace E. Owens, Owings, S.C., assignors to Her Majesty Underwear Company, Mauldin, S.C., a corporation of South Carolina
Continuation-in-part of application Ser. No. 632,308, Apr. 20, 1967. This application Mar. 1, 1968, Ser. No. 709,752
Int. Cl. B65h *29/04*
U.S. Cl. 271—68 **12 Claims**



An apparatus of economical and simplified construction particularly useful for stacking apparel articles and the like made from slick and flimsy fabric. To prevent slippage of the stacked articles, at least one securing means always engages the stack to hold it fixedly with relation to a stack supporting member. The apparatus has an automatic and repetitive operating cycle.

3,438,626
BALANCING AND AMBULATING EXERCISING DEVICE
Andrew Paul Modla, 223 W. Union St., Nanticoke, Pa. 18634
Filed Sept. 9, 1966, Ser. No. 578,319
Int. Cl. A63b *23/04*
U.S. Cl. 272—70 **3 Claims**



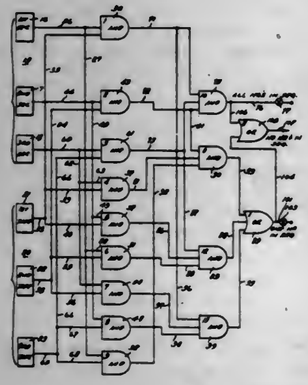
For use by one in a stand-up ambulatory manner, a maneuverable balancing and exercising device comprising a horizontally elongated teetering board. The respective outer ends of the board are provided with integral crossheads which provide footrests. A foot strap is secured to the median portion of each footrest and unique surface engaging oblique angled rockers are affixed to the underneath side of each footrest. The user can ambulate forwardly, backwardly, can hop, rock and teeter from side to side and swing about in a circular path in an amusing manner in keeping with his skill and capability.

3,438,627
WEIGHT-LIFTING DEVICE
Jack La Lanne, Hollywood, Calif., assignor to Fitness King, Inc., Hollywood, Calif.
Filed July 25, 1966, Ser. No. 567,617
Int. Cl. A63b 21/06
U.S. Cl. 272—81 4 Claims



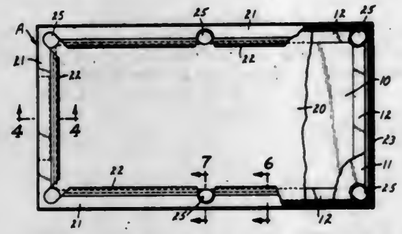
A weight lifting device having adjustable weights connected to one end of a cable and a handgrip connected to the other end of the cable. The cable is trained over various pulleys. The pulley nearest the handgrip is vertically and angularly adjustable so that a pulling force on the handgrip can be applied from any desired angular direction.

3,438,628
ELECTRICAL GAME APPARATUS
Adam Becker, 35 Fuller Road, Albany, N.Y. 12205, George W. Greene, Jr., Roaring Brook Ranch, Lake George, N.Y. 12845, and Louis D. Bruno, 5 Elk St., Albany, N.Y. 12207
Filed Feb. 16, 1966, Ser. No. 537,592
Int. Cl. A63f 9/00; A63b 71/00
U.S. Cl. 273—1 11 Claims



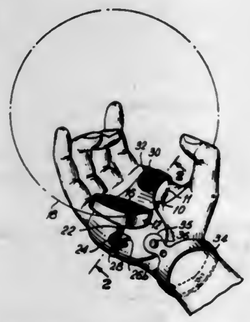
This invention is related to game apparatus wherein a player selects in sequence a series of numbers or characters from which an electrical comparison is made with a like number of unknown characters from a previously programmed record comprising randomly distributed groupings of numbers or letters. The player wins when there is identity between all or a selected number of the numbers or letters or under some conditions where there is identity between the numbers and letters selected and the preselected numbers or letters, even though the order may not be identical.

3,438,629
POCKET BILLIARD TABLE
James L. Stengel and Neil D. Lewis, both % Dakota Granite Co., P.O. Box 269, Milbank, S. Dak. 57252
Filed Jan. 27, 1965, Ser. No. 428,293
Int. Cl. A63d 15/00
U.S. Cl. 273—6 3 Claims



An improved pocket billiard table having a bed constructed from a rectangular shaped granite slab, the opposite sides of which are substantially parallel throughout the length thereof, and a frame and bumpers surrounding the slab so that pockets placed therein receive a ball directly from the slab without forming notches or indentures therein.

3,438,630
BOWLING AID DEVICE
Joseph Petti, 3 Orient Ave., Brooklyn, N.Y. 11211
Filed Feb. 21, 1966, Ser. No. 528,711
Int. Cl. A63d 5/00
U.S. Cl. 273—54 8 Claims



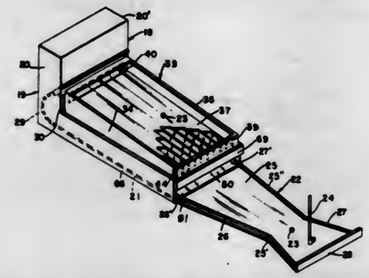
A bowling aid device which includes a palm portion adapted to be strapped to the hand of the bowler and a pivotally adjustable cradle member integral with the palm portion, whereby the bowler may adjust the position of the cradle member relative to a bowling ball in order to impart a desired amount of spin to the ball as it is released.

3,438,631
BALL GAME INCLUDING CHANCE BALL PATH DISRUPTER
Gail Hamilton Hines, P.O. Box 51, Lansing, Mich. 48901
Filed May 4, 1965, Ser. No. 453,086
Int. Cl. A63b 69/40, 71/00; F41b 15/00
U.S. Cl. 273—95 10 Claims

A game wherein a pitched ball is hit toward a target to score. Disposed between the pitcher and the batter is at least one inclined chute supported above the playing surface through which a pitched ball must pass to reach the batter. The chute includes interrupting members to change the path of the ball as it gravitates through the chute so that the batter does not know where the exit point of the ball from the chute will be.



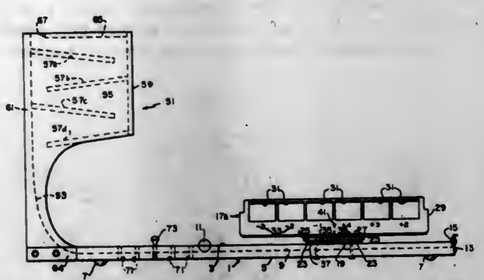
3,438,632
BALL GAME DEVICE
Leo Rosenvold, Wildrose, N. Dak. 58795
Filed July 21, 1965, Ser. No. 473,874
Int. Cl. A63f 7/00; A63d 3/00
U.S. Cl. 273—118 5 Claims



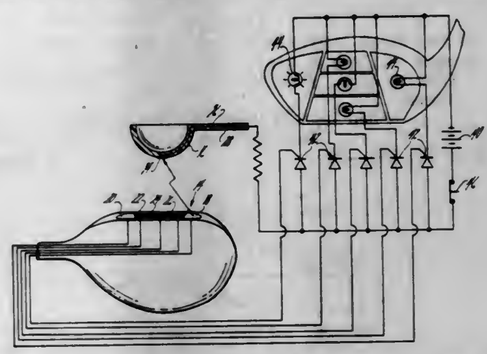
A ball game device having an elongated housing. The housing has a lower playing surface with a reversely curved wall at one end with an upper playing surface overlying the lower playing surface and slots at the end of the upper playing surface opposite the curved wall. A tray immediately overlying the lower playing surface and slidable away from said lower playing surface to be telescoped out of said housing and positioned adjacent the lower playing surface to provide an extension for the lower playing surface with horizontal legs along the edges adapted to rest upon the lower playing surface to align the tray and lower playing surface in a horizontal plane with one another. A ball for positioning on a tray and a club for striking the ball to cause it to roll along the tray and lower playing surface and upward and reversely about the curve wall onto the upper playing surface where it may roll into one of the curved slots, trap doors for releasing the ball from the slots to allow to drop onto the lower playing surface.

3,438,633
GRAVITY-TYPE ROLLING BALL GAME DEVICE
Harold L. Thomas, Carbondale, Ill., assignor to Southern Illinois University Foundation, Carbondale, Ill., a corporation of Illinois
Filed Apr. 17, 1967, Ser. No. 631,310
Int. Cl. A63f 7/00, 7/02
U.S. Cl. 273—120 9 Claims

A game for two contestants includes a game board having a slot in it defining a track. A ball is propelled into the slot by traveling back and forth along a plurality of inclined runways and then down an inclined chute into the slot. Part of the ball projects out of the slot. Two trap members located on opposite sides of the slot are independently operated by each of two players. The trap members each include a series of apertures or openings positionable above the slot to allow free movement of the ball in the slot and are operable for trapping the ball in one of the openings as it travels along the slot. Each opening is marked with either positive or negative scoring indicia. As the ball travels along the slot between the trap members, each player tries to be first in trapping the ball in the opening in his trap member having the highest scoring indicia associated therewith. The contestant who first reaches a predetermined positive score or forces his opponent to accumulate a perdetermined negative score is the winner.



3,438,634
APPARATUS FOR DEPICTING EFFECTIVENESS OF GOLFER'S SWING
Emil Roy, 21 Skyline Drive, Farmington, Conn. 06032
Filed June 28, 1967, Ser. No. 649,727
Int. Cl. A63b 69/36
U.S. Cl. 273—186 10 Claims

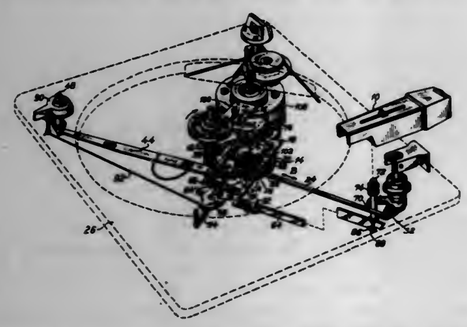


A plurality of conductive plates are arranged on the face of a golf club, and each is electrically connected, through a cable, to a console on which a pictorial representation of the clubface is portrayed with lamps associated with segments of the clubface corresponding to these plates. A target ball is mounted on a flexible arm, and a contact element on the target ball is electrically connected to the console by means of a conductor embedded in the flexible arm. Circuit means in the console illuminates one or more of the lamps in response to engagement between one or more of the plates and the contact element.

3,438,635
PHONOGRAPHS
Hans C. Hansen, 14 Christiansholmsvej, Copenhagen, Denmark
Filed Feb. 14, 1966, Ser. No. 527,323
Claims priority, application Great Britain, Feb. 15, 1965, 6,451/65
Int. Cl. G11b 25/04
U.S. Cl. 274—9 15 Claims

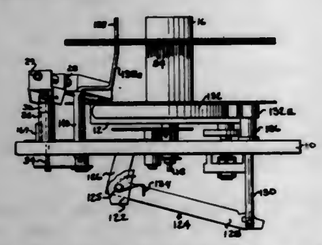
A phonograph with a turntable, a tone arm carrying a stylus to engage the playing groove of a record sup-

ported on the turntable and a control mechanism for controlling the operation of the phonograph which includes a first reciprocable control member movable from an inoperative position to an operative position and provided with a cam surface which is engaged by an abutment carried on a second reciprocable member that is operatively connected with the tone arm so that the tone arm is swung inwardly to the preselected start-of-play position by reciprocation of the first member from its inoperative



position; a third member that moves substantially at right angle to the direction of movement of the first member is engaged by the abutment on the second member and in effect forms a brake against inward movement of the tone arm; a rotatable control member controls the third member so as to move to its inoperative position in response to completion of the inward movement of the tone arm.

3,438,636
REPEATING PHONOGRAPH RECORD CHANGER
Reuben C. Carlson, Bensonville, Ill., assignor to Marvco Tool & Mfg., Franklin Park, Ill., a corporation of Illinois
Filed Sept. 23, 1966, Ser. No. 581,515
Int. Cl. G11b *17/10*
U.S. Cl. 274—10 **9 Claims**



A plurality of records are disposed on a spindle and released one at a time to a turntable where they are played. When the last record of the stack is discharged a sensing member is operated and after the last record is played the entire stack of records is raised up and replaced on the spindle.

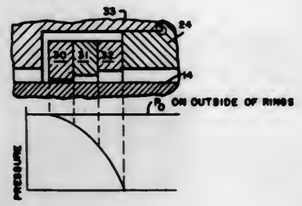
3,438,637
LONGITUDINAL POSITIONING OF A PHONOGRAPH STYLUS ASSEMBLY
William A. Cavagnaro, Greece, N.Y., assignor to General Electric Company, a corporation of New York
Continuation of application Ser. No. 477,647, July 26, 1965, which is a continuation of application Ser. No. 213,355, July 30, 1962. This application Nov. 7, 1965, Ser. No. 600,327
Int. Cl. G11b *3/06, 3/04*
U.S. Cl. 274—37 **3 Claims**

A combination of a phonograph cartridge and a replaceable styli assembly, where the assembly is accurately positioned longitudinally by the selective cooperation



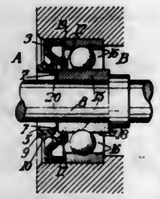
of a lever arm of the styli assembly with a pair of slots formed in the cartridge housing.

3,438,638
METALLIC PACKING
Wallace K. Newcomb, Charles E. Blank, Sr., and Donald F. Van Loon, Painted Post, N.Y., assignors to Ingersoll-Rand Company, New York, N.Y., a corporation of New Jersey
Application Sept. 15, 1966, Ser. No. 579,615, now Patent No. 3,348,849, dated Oct. 24, 1967, which is a continuation-in-part of application Ser. 313,878, Oct. 4, 1963. Divided and this application Aug. 28, 1967, Ser. No. 705,866
Int. Cl. F16d *17/00;* **F16j** *15/40*
U.S. Cl. 277—27 **2 Claims**



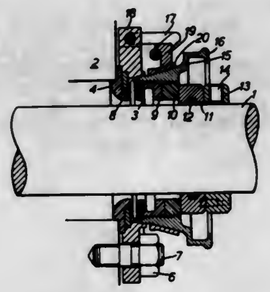
A reciprocating rod packing comprising a plurality of metal rings circling the rod and arranged with a predetermined clearance between themselves and the rod. The rings are made of a very strong metallic material and are dimensioned to contract under pressure to nearly close their clearances during operation of the rod. At least one of the rings is arranged to have a greater clearance on the rod than the clearances provided by the other rings.

3,438,639
PACKING DEVICES FOR ROTATING SHAFTS
Jean Felix Paulsen, Chateaudun, France, assignor to Luxembourgeoise de Brevets et de Participations
Filed Mar. 24, 1966, Ser. No. 537,154
Claims priority, application France, Mar. 30, 1965, 11,301
Int. Cl. F16j *15/36, 15/32*
U.S. Cl. 277—84 **4 Claims**



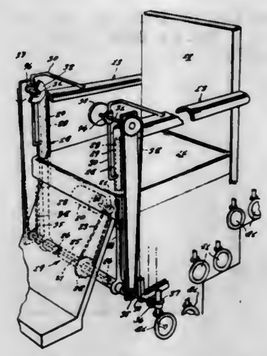
The packing device comprises a packing joint of resilient material comprising a first lip and a second lip. The first lip is applied axially against a first, transverse surface portion carried by the rotating shaft, and a second lip is applied radially against a second, cylindrical surface portion carried by the rotating shaft.

3,438,640
ROTARY MECHANICAL SEALS
Samuel C. W. Wilkinson, Cookham, England, assignor to Crane Packing Limited, Slough, Buckinghamshire, England, a British company
Filed July 15, 1966, Ser. No. 565,602
Claims priority, application Great Britain, July 27, 1965, 31,921/65
Int. Cl. F16j *15/34*
U.S. Cl. 277—88 **8 Claims**



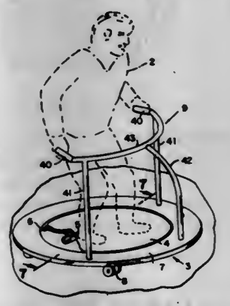
In a rotary mechanical face seal in place of the usual single helical coil spring, coaxial with the seal or the usual array of small coil springs placed on a pitch circle, at least two hairpin-like springs are used to provide the axial thrust, the limbs of the hairpins preferably extending tangentially. One limb bears against a shroud that embraces the axially movable seal face member. Where this member is sealed to its associated part by bellows the shroud may enclose the bellows completely and may form a connecting sleeve between the bellows and the seal face member.

3,438,641
STAIR CLIMBING WHEELCHAIR
Bartholomew M. Bradley, 378 Forest St., Kearny, N.J. 07032
Filed Mar. 31, 1966, Ser. No. 539,100
Int. Cl. B62b *5/02, 9/02;* **B62d** *57/02*
U.S. Cl. 280—5.28 **7 Claims**



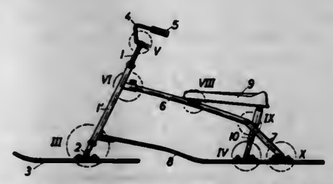
A motorized, self-propelled wheelchair adapted to ascend and descend stairs, has three pairs of driving wheels on each side, each set of wheels and the corresponding set of wheels on the opposite side of the chair are adapted to rest on the tread of the same stair while the other sets of wheels are on lower or higher stairs as the case may be. Mechanism is provided for raising or lowering corresponding sets of driving wheels together as necessary to negotiate stairs as the chair moves forward.

3,438,642
WHIRLABLE VEHICLE
Charles Kenneth Kite and Elio J. Puleo, Indianapolis, Ind., assignors to C. K. Kite, E. J. Puleo, A. E. Kite, Jr., A. C. Conde, and J. A. Whitehead, doing business as Unique Associates, Indianapolis, Ind.
Filed Feb. 24, 1967, Ser. No. 618,483
Int. Cl. A63g *13/00;* **B62b** *3/00*
U.S. Cl. 280—8 **13 Claims**



A rotatable amusement vehicle having a base supported for movement along a vehicle supporting surface and for rotation about a vertical axis. The base is adapted to carry a vehicle operator, and vehicle controls are provided which are operable by the operator while the vehicle base is so moving, for causing the base to rotate about a generally vertical central axis.

3,438,643
SKI BOBSLED
Oswald Spiehs, 46 Rechte Nordbahnstrasse, Vienna 21, Austria
Filed Apr. 17, 1967, Ser. No. 631,448
Claims priority, application Austria, Apr. 18, 1966, A 3,616/66; Mar. 23, 1967, A 2,863/67
Int. Cl. B62b *13/00, 9/04, 17/02*
U.S. Cl. 280—16 **12 Claims**



Ski bobsled having a framework resembling that of a bicycle, and two aligned gliding skids, the front skid being laterally swingable by way of a steering column. There are provisions to fold or knock down the structure to a flat unit which occupies a limited space for transportation. The front end of the lower frame portion can be swiveled with respect to the front frame portion, in the plane of the frame, about a substantially horizontal axis. An upper strut portion of the frame is articulated in the region of the driver's seat and is supported above the rear gliding skid from a spot which is more rearwardly than another spot where a resilient support is attached for the seat.

3,438,644
SHOPPING CART MOUNTED ASH RECEPTACLE
James O. McMillan, 2225 Manhattan Drive 67204, and Robert W. Kaplan, 430 N. Market 67202, both of Wichita, Kans.
Filed Jan. 23, 1967, Ser. No. 611,163
Int. Cl. B62b *5/00, 11/00*
U.S. Cl. 280—33.99 **12 Claims**

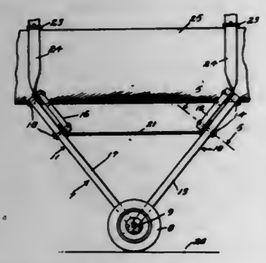
The mounting of an ash receptacle on the transfer push bar handle at the upper rear end of a self-aervice, nesting

type, shopping cart in such a manner not to interfere with the nesting of such carts, with such receptacles being mounted to oscillate between positions for receiving and emptying ashes, with the provision of a common means for selectively preventing or making difficult both the



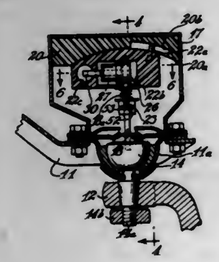
unauthorized emptying of or removal of the receptacle from the cart. The receptacle is disposed on the cart to be in front of the user of the cart for convenience in depositing ashes and has means thereon for securing an indicia bearing medium in the view of such user.

3,438,645
CARPET DOLLY
Jimmie E. Pounders, 8717A Garvin, Berkeley, Mo. 63134
Filed May 10, 1967, Ser. No. 637,604
Int. Cl. B62d *21/14*; B62b *1/04, 3/02*
U.S. Cl. 280—41 **1 Claim**



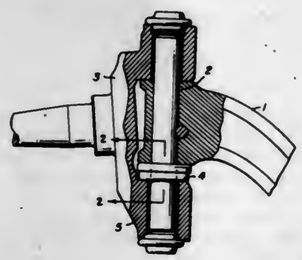
A two wheel dolly for supporting rolled carpets, rugs and similar items to enable such items to be readily moved about without being manually supported. The dolly is detachably secured to the carpet or rug to be lifted therewith for movement over curbs or up and down stairs. Two supporting sections of the dolly are foldable relative to one another when the dolly is not in use.

3,438,646
ALIGNMENT CHANGE INDICATOR FOR MOTOR CAR WHEELS
Martin Hannapel, 9316 S. 73rd Ave., P.O. Box 222, Oaklawn, Ill. 61943
Filed Aug. 28, 1967, Ser. No. 663,580
Int. Cl. B62d; B60g; B60p
U.S. Cl. 280—87 **9 Claims**



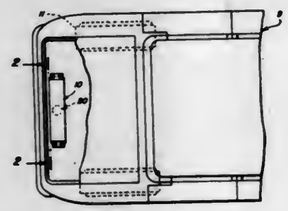
A pair of attachments are mounted on a steering frame inwardly of the front wheels of a motor car, the attachments containing magnetic means operating within prescribed limits during the normal operations of the wheels, but going beyond such limits in case the wheels are thrown out of alignment. In such event an extension of the magnetic means to the driver's compartment operates a visual indicator in an electrical circuit—when a switch in the same is closed manually—to show the departures of wheel alignment on a dial.

3,438,647
SEALING MEANS FOR KINGPIN THRUST BEARING ASSEMBLIES
Henry J. Fraboni, Watkins Glen, Harold C. Mapes, Elmira, and Newell D. Mullin, Pine City, N.Y., assignors to Trayer Products, Incorporated, Elmira, N.Y., a corporation of New York
Filed June 30, 1967, Ser. No. 650,526
Int. Cl. B62d *7/06*
U.S. Cl. 280—96.1 **12 Claims**



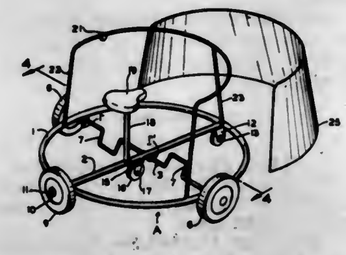
The invention comprises the provision of improved sealing means for excluding foreign matter from and confining lubricant in a thrust bearing assembly of an automotive vehicle front axle, kingpin and steering knuckle combination while permitting spent and contaminated lubricant to be extruded under pressure from within the bearing for replacement by fresh lubricant.

3,438,648
VEHICLE STABILIZER
Gary E. Tolley, Orlando, Fla., assignor, by mesne assignments, to Brown Auto Stabilizer Co., a corporation of Florida
Filed Oct. 16, 1967, Ser. No. 675,599
Int. Cl. B60r *27/00*
U.S. Cl. 280—150 **7 Claims**



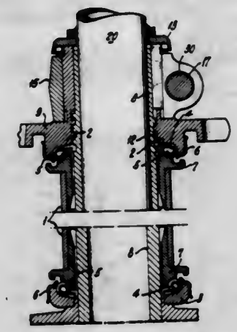
A vehicle stabilizer apparatus for attachment to an automobile, or the like, to reduce vehicle skidding and vibrations. A mass of inertia is movably mounted to a base by hangers, or the like, for easy lateral movement, and at least one flexible load absorbing coupler couples the mass to the base for efficient transfer of a force produced by the mass resisting lateral movement of the base. The flexible load absorbing coupler allows only a small lateral movement of the mass before applying the load to the base and to a vehicle to which the base is attached.

3,438,649
OCCUPANT-PROPELLED VEHICLE HAVING A PLURALITY OF WHEELS AND WEIGHT SECTIONS
Robert S. Schermerhorn, Bridgeton, and Miguel Carlos Guerrero, Ferguson, Mo.; said Guerrero assignor to Richard B. Clement, Webster Groves, Mo.
Filed Jan. 26, 1967, Ser. No. 611,975
Int. Cl. B62m *1/02*; B62k *19/00*
U.S. Cl. 280—259 **9 Claims**



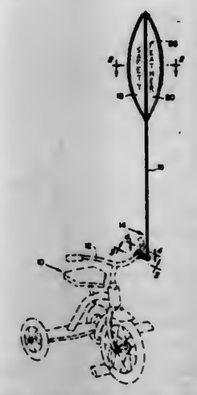
A vehicle having a circular frame with a pair of diametrally opposed driving wheels mounted centrally on the frame, a forward non-pivotal wheel and a pivotal caster located centrally of the frame but slightly rearwardly of the driving wheels. A rear wheel is mounted on the frame at a 90° angle with respect to the driving wheel. A seat and handle bar is also provided. In forward motion the vehicle is supported by the driving wheels, forward wheel and center caster. In turning, the child shifts his weight to either of the rear quadrants of the frame causing the vehicle to tilt rearwardly about the caster and rotate through the action of one of the driving wheels and the rear wheel.

3,438,650
BEARING ARRANGEMENT FOR DISMOUNTABLE BICYCLE
Eric Jaulmes, Paris, France, assignor to Ateliers de la Motobecane, Pantin, Seine-Saint-Denis, France, a corporation of France
Filed Sept. 19, 1967, Ser. No. 668,759
Claims priority, application France, Sept. 30, 1966, 78,234
Int. Cl. B62k *3/00, 21/06*
U.S. Cl. 280—279 **5 Claims**



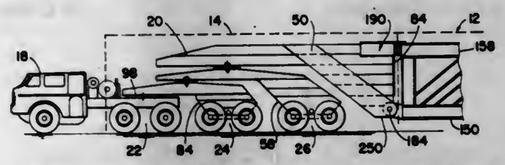
The ball bearing cup of the lower bearing is mounted on the fork or pivot tube of a dismountable bicycle and the cone of the lower bearing is mounted on the steering tube so that the cage and balls will be carried by the fork tube during disassembly. Also, the steering tube has square-shaped, high-pitched threads for bearing adjustment.

3,438,651
SAFETY FEATHER ATTACHMENT FOR CHILD'S VEHICLE
Leo C. Hertoghe and Adrienne F. Hertoghe, both of 8043 Grandstaff Drive, Sacramento, Calif. 95823
Filed May 22, 1967, Ser. No. 640,060
Int. Cl. B62h; B62j; A47g *25/12*
U.S. Cl. 280—289 **2 Claims**



A support which carries a brightly colored feather on the upper end and a clamp for securing the support to handle bars of a child's vehicle such as a tricycle for giving warning of the presence of the tricycle to persons in the vicinity and an improved clamp for such utilization which includes a keeper which engages the edge of the support to secure the support in apertures in a pair of clamp members is disclosed.

3,438,652
SNOBBLE TRAILER
Don L. Hoffacker, Uniondale, Ind. 46791
Filed Jan. 25, 1967, Ser. No. 611,598
Int. Cl. B62d *53/06*; B60d *1/00*
U.S. Cl. 280—423 **9 Claims**

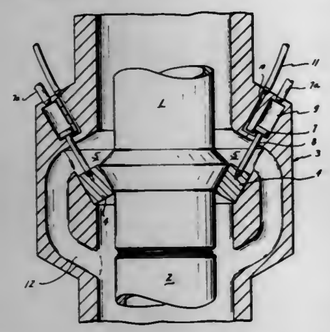


A snobble trailer of the low-bed variety which has increased dirigibility and load-bearing capacity. The trailer has a load bed disposed between and pivotally connected by horizontally disposed pins to fore and aft dolly assemblies. The dolly assemblies are swingable about the axes of the pins by the weight of the load so as to urge portions of the assemblies, located directly over the pins, together to hold the structure therebetween in compression.

3,438,653
WELLHEAD
John H. Fowler, Houston, Tex., assignor to Rockwell Manufacturing Company, Houston, Tex., a corporation of Pennsylvania
Filed Oct. 14, 1966, Ser. No. 586,725
Int. Cl. F16l *21/00*; E21b *33/03*
U.S. Cl. 285—133 **5 Claims**

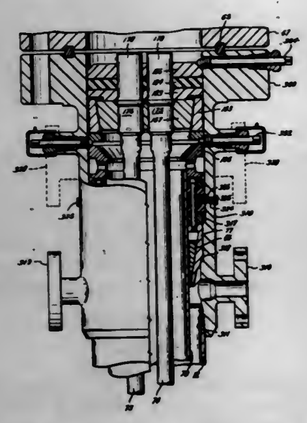
An underwater wellhead with retractable hanger support shoulder. The support shoulder comprises several segments which when projecting radially inward of the bore of the wellhead provide a substantially 360° upwardly facing frustoconical support for a pipe hanger. Each segment also has a downwardly facing frusto-coni-

cal surface which rests on an upwardly facing frusto-conical surface of a recess encircling the wellhead. Each segment is connected by a rod to a piston which moves in a hydraulic cylinder in the wellhead. When pressured from one end of the cylinder the piston and rod move each segment along the recess surface radially inward until the substantially continuous support shoulder is



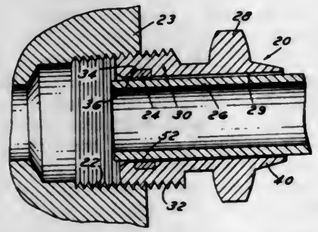
formed. When pressured from the other end of the cylinder the piston and rod move each segment along the recess surface radially outward until each segment is completely retracted within the recess leaving the well bore free of any projections. To permit fluid passage around the shoulder in its inward position passages are provided in the wellhead walls or through the segments.

3,438,654
WELL COMPLETION APPARATUS
John G. Jackson, Jr., deceased, late of Angleton, Tex., by Bank of the Southwest National Association, Houston, Tex., executor, John Beson and Charles R. Crawford, Houston, Tex., assignors to Rockwell Manufacturing Company, Houston, Tex., a corporation of Pennsylvania
Filed May 4, 1964, Ser. No. 364,843
Int. Cl. F16c *21/00;* **T21b** *19/10*
U.S. Cl. 285—141 **2 Claims**



1. Apparatus comprising:
a wellhead body having a substantially cylindrical vertical bore therethrough and a wall around said bore,
pipe hanger means positioned within said bore,
means on said pipe hanger means to support a well pipe therebelow,
seal means above and supported by said pipe hanger means positioned to sealingly engage said vertical bore and a tubular member extending upwardly from said well pipe, upon being vertically compressed,
means on said body engageable with said seal means to compress it downwardly and thereby cause it to be moved into such sealing engagement independently of the load of the weight of the well pipe,
means on said pipe hanger means engageable with a portion of said bore for partial support of the pipe hanger means upon movement of said pipe hanger means downwardly in said bore to a predetermined position,
and retractable means extending through the wall of said body into said bore and engaging and partially supporting said pipe hanger means at said predetermined position.

3,438,655
FLUID PRESSURE COUPLING
Vernon R. Campbell, Berkley, Mich., assignor to L & L Manufacturing Company, St. Clair Shores, Mich., a corporation of Michigan
Filed Sept. 27, 1967, Ser. No. 670,931
Int. Cl. F16l *21/00, 25/00, 13/14*
U.S. Cl. 285—158 **5 Claims**



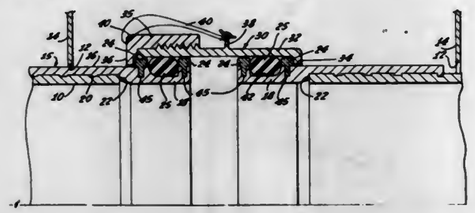
This disclosure relates to a fluid pressure coupling adapted to connect a fluid line or tube directly into an internally threaded port. The leading end of the coupling body, which receives the tube, is provided with a biting ring, and the threaded portions of the body and port have an interference fit which biases the leading end of the body into sealing contact, and the ring into biting contact with the tube.

3,438,656
PRESSURE CAN VALVE CLAMP
Junior L. Fritch, Edgerton, Ohio, assignor to Robinair Manufacturing Corporation, Montpelier, Ohio, a corporation of Ohio
Filed May 19, 1967, Ser. No. 639,835
Int. Cl. F16l *55/00, 37/26*
U.S. Cl. 285—178 **7 Claims**



This disclosure relates to a valve assembly and clamp adapted to be received on the radial lip of a container, such as a pressure can for Freon or other gases. The assembly includes a clamp having a skirt portion receivable beneath the container lip and an eccentrically mounted cam lever swingable to be received beneath the container lip opposite the skirt portion.

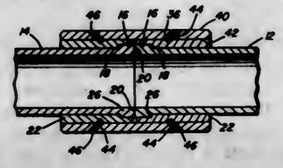
3,438,657
SWAGED FERRULE TYPE FLEXIBLE COUPLING
Jorge Torres, Los Angeles, Calif., assignor to Purolator Products, Inc., Rahway, N.J., a corporation of Delaware
Filed Jan. 25, 1967, Ser. No. 611,616
Int. Cl. F16l *21/00, 19/00, 21/02, 33/18*
U.S. Cl. 285—233 **10 Claims**



A coupling for interconnecting two confronting tube ends of the type wherein each tube end has two spaced radial flanges to confine an O-ring and the four radial flanges are surrounded and captivated by a cylindrical coupling body made of separable parts. The invention teaches that the overall diameter of the assembled coupling may be minimized with the radial flanges in the form of split rings that may be removed temporarily to permit the two tube ends to be extended through bulkhead openings of substantially less diameter than the outside diameter of the assembled coupling.

3,438,658
PIPE JOINT EMPLOYING ENLARGED PIPE ENDS
William E. Stevens, P.O. Box HH, Hollywood, Fla. 33022
Filed Aug. 8, 1967, Ser. No. 659,141
Int. Cl. F16l *37/14, 37/10, 21/06*
U.S. Cl. 285—404 **2 Claims**

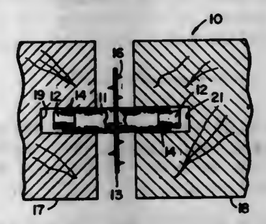
A pipe joint including an outer sleeve telescoped over end abutted end portions of adjacent pipe sections, the end portions of the adjacent pipe sections including collar segments disposed thereabout provided with opposing abutment surfaces engaged with oppositely facing abutment surfaces defined on the abutted end portions and the outer sleeve and collar portions including coacting means adjustably urging the collar portions disposed about the



end abutted pipe sections toward each other and thus adjustably urging the abutted ends of the pipe sections into tight sealed engagement with each other.

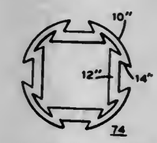
3,438,659
DOWEL TYPE FASTENER WITH SHEAR COLLAR
Howard Lawrence Waldron, 2510 Wexford Ave., South San Francisco, Calif. 94080
Filed May 15, 1967, Ser. No. 638,406
Int. Cl. F16b *7/00, 5/00, 9/00, 13/00*
U.S. Cl. 287—20.92 **8 Claims**

A dowel type fastener supplying three zones of fixity to a butt joint is disclosed. A first zone of fixity is furnished by a shear collar secured to a tubular element extending into each joint member, the collar having projections in penetrating engagement with the co-facing surfaces of the joint members. Two other zones of fixity are supplied on each end on the tubular member by teeth gripping the sidewalls of the joint hole. One embodiment includes a tubular sleeve provided with a telescopic insert at each end to urge teeth into engagement with the sidewalls. Another embodiment includes a pair of tubular



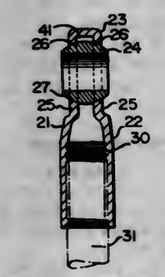
sleeves and an elongate insert having indentations to interlock with internal teeth on the sleeves while the external teeth of the sleeve engage the sidewalls of the joint hole.

3,438,660
MECHANICAL CLAMPING MEANS
Lajos Steiner, Neutral Bay, New South Wales, Australia, assignor of one-half to Robert F. Shaw, Locust Valley, N.Y.
Filed Oct. 23, 1964, Ser. No. 406,069
Int. Cl. F16d *1/06;* **B60b** *27/06;* **F16c** *3/10*
U.S. Cl. 287—52.04 **1 Claim**



Frictional clamping means having a clamping insert which comprises a strip consisting of rows of bars connected and held apart by displacement bars. The insert is wedged between the opposed surfaces of two members which are to be clamped together. When wedged between the surfaces, the insert is stressed, causing the rows of bars to move closer together. The resulting strain energy stored in the displacement bars clamps the members with great force in fixed relative positions.

3,438,661
BALL BUSHING ROD END AND METHOD OF MAKING SAME
Willard L. Bowen III, Harwinton, Conn., assignor to The Torrington Company, Torrington, Conn., a corporation of Maine
Filed July 8, 1966, Ser. No. 563,843
Int. Cl. F16c *11/06;* **F16b** *7/00;* **B25g** *3/38*
U.S. Cl. 287—88 **9 Claims**



This disclosure relates to a ball bushing rod end which is of a seamless sheet metal construction and is formed by drawing a sheet metal blank into a cup, after which a

ball bushing is inserted through an open end of the cup, followed by the shaping of the cup both generally around the ball bushing and adjacent thereto to the desired rod end configuration, together with the piercing of the rod end in alignment with the ball bushing and the shaping of the rod end around the ball bushing with the rod end surfaces contacting the ball bushing corresponding thereto.

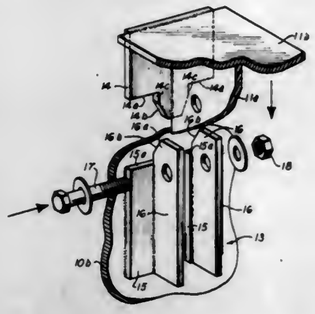
3,438,662
DEVICE FOR OPERATING SWITCHES
Alexander R. Cowal, 4601 13th St. NW. 44708; Gary L. Sams, 1215 19th St. NW. 44709; and William H. Sollie, 955 Briarview Ave. NW. 44720, all of Clinton, Ohio
Filed May 18, 1967, Ser. No. 639,342
Int. Cl. F16h 7/00; E04b 1/58; B25g 3/36
U.S. Cl. 287—104 7 Claims



A tubular guide projects from the enclosure of a switching assembly in surrounding relationship to a switch actuator shaft extending through the enclosure. A stationary tube is keyed at one end thereof to the guide and is provided with an indicator plate spaced from the guide. A switching rod is inserted within the tube and into engagement with the actuator shaft to rotate the latter, the rod being provided with a dial plate that cooperates with the indicator on the tube to inform the operator of the position of the actuator shaft, i.e., the electrical switching condition of the switch assembly. Interengageable parts on the rod and the shaft may be interlocked by manipulating the rod, but only when proper alignment of the indicating plates is effected. Switch operation from a remote operating location is thus achieved with assurance that the indication of the switch position is correct.

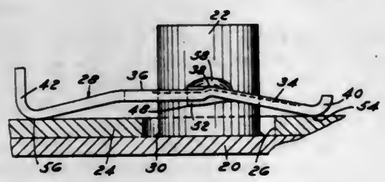
3,438,663
COLUMN AND BEAM STRUCTURE
Thomas C. Colson, Overland Park, Kans., assignor to Butler Manufacturing Company, Kansas City, Mo., a corporation of Missouri
Filed May 29, 1967, Ser. No. 642,074
Int. Cl. F16b 1/00, 5/00, 7/00
U.S. Cl. 287—189.36 6 Claims

The ends of a transverse beam are connected to spaced supporting columns by connector assemblies having co-operating inclined surfaces which, during lowering of the beam into position, serve to guide the beam and con-



nector components into a locked and supported condition pending completion of the joint at each connector by insertion of a bolt or similar fastener.

3,438,664
STRUCTURAL ASSEMBLY AND CLIP
Engelbert A. Meyer, Union Lake, Mich., assignor to Warren Fastener Corporation, Mount Clemens, Mich., a corporation of Michigan
Filed Nov. 7, 1967, Ser. No. 681,446
Int. Cl. F16b 1/00, 3/00 5/00
U.S. Cl. 287—189.36 16 Claims

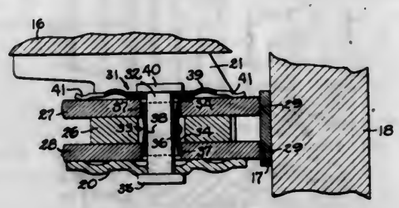


A structural assembly including a support having a stud extending from the surface thereof, a structural member overlying the support and an improved sheet metal clip secured to the stud and retaining the member on the support. The clip includes a stud receiving slot whose marginal edges have a beveled cutting edge defining an acute angle with the top of the clip. The opposed cutting edges of the clip are parallel and form opposed notches in the softer stud, in which the marginal edges of the clip are received.

3,438,665
MAGNETIC CATCH
Lloyd L. Anderson, Rockford, Ill., assignor, by mesne assignments, to Amerock Corporation, Rockford, Ill., a corporation of Connecticut
Filed May 27, 1966, Ser. No. 553,403
The portion of the term of the patent subsequent to Nov. 22, 1983, has been disclaimed and dedicated to the Public
Int. Cl. E05c 19/16
U.S. Cl. 292—251.5 17 Claims

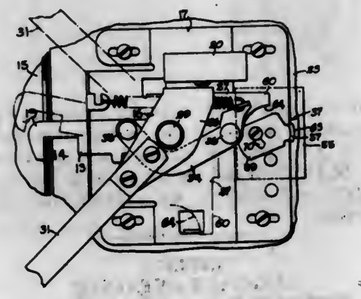
For holding the door of a cabinet in a closed position, a magnetic catch mounted on the cabinet includes a pair of pole plates disposed on opposite sides of a permanent

magnet and engageable with a strike on the door to hold the door closed with magnetic force. Full face engagement of the poles plates with the strike is insured in spite of misalinement between the plates and the strike by utilizing a lever to mount the plates for bodily shifting in



opposite directions and also for rotation in their respective planes so that engagement of the strike with the plates as an incident to initial closing of the door will adjust the positions of the plates automatically to compensate for any misalinement. To promote uniform holding force, a resiliently yieldable spring exerts a restraining force on the plates to prevent the latter from being shifted out of their adjusted positions as the door is opened repeatedly during service use.

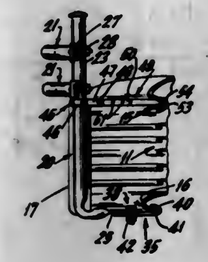
3,438,666
LATCHING MECHANISM WITH TEMPERATURE-RESPONSIVE BLOCKING DEVICE
Karl H. Erickson, Rockford, Ill., assignor to Amerock Corporation, Rockford, Ill., a corporation of Connecticut
Filed May 10, 1967, Ser. No. 637,504
Int. Cl. E05b 51/00, 65/44
U.S. Cl. 292—210 8 Claims



A temperature-responsive blocking device having a blocking member which is rotated into blocking relation with a latch for a self-cleaning oven to prevent movement of the latch to an unlatched position when the temperature of the oven is above a predetermined value. The blocking member is rotated solely by the action of a spiraled bimetallic coil which is subjected only to thermal stresses imposed by normal expansion and contraction of the metal strips forming the coil.

3,438,667
VERTICAL BUMPER GUARD
Walter Davis, 99—05 63rd Drive, Rego Park, N.Y. 11374
Filed Oct. 23, 1967, Ser. No. 677,150
Int. Cl. B60r 19/04, 21/14; B61f 19/04
U.S. Cl. 293—64 12 Claims

The grill and bumper guard comprises a pair of side members interconnected by a pair of horizontal transverse members. The side members each comprises a vertical portion from the lower end of which a horizontal foot extends rearwardly. Attached to the vertical portions and to the horizontal feet of the side members, are adjustable hooked members extending rearwardly to engage upper



and lower edges respectively of a grill bumper or any other bumper. The transverse members extend forwardly from the ends thereof and are bolted at their outer ends to the vertical portions of the side members. The hooked members which are attached to the vertical portions of the side members can be adjusted in height and in length.

3,438,668
CONTACTLESS LIFTER
Raymond G. Olson, Jamesville, and Earl C. Williams, Syracuse, N.Y., assignors to General Electric Company, a corporation of New York
Filed Aug. 26, 1965, Ser. No. 482,810
Int. Cl. B66c 1/02; A47b 97/00; F16k 31/00
U.S. Cl. 294—64 6 Claims

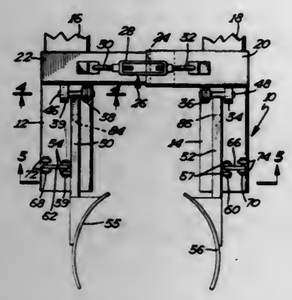


1. A wafer pick-up device comprising a pick-up head having a flow boundary surface, an opening in said surface, a duct for conveying air connected to said opening, valve means for controlling the flow of air in said duct, means for directing the air flowing through said opening between said surface and the wafer to be picked up to produce a low pressure region between said surface and the wafer, the flowing air in said low pressure region serving as a buffer preventing contact between the wafer and said surface, and projections formed on the perimeter of said surface, said projections extending perpendicular to the direction of air flow in said low pressure region and engageable with the edge of the wafer to prevent said wafer from moving in a direction parallel to said surface.

3,438,669
CLAMP MECHANISM FOR A LIFTING IMPLEMENT
Albam M. Vik, New Brighton, Minn., assignor to Inventors Engineering Inc., Fridley, Minn., a corporation of Minnesota
Filed Jan. 16, 1967, Ser. No. 609,394
Int. Cl. B66c 1/30; B66f 9/06, 9/18
U.S. Cl. 294—90 9 Claims

A mechanical clamp apparatus for a lifting implement composed of a framework to which a pair of horizontal parallel arms are pivotally secured at their rearward ends. A jaw is mounted on the forward end of each arm and a link extends toward the side from each arm and is

pivotally connected at its free end to the framework to confine the movement of the arms and jaws to an arcuate path extending centrally then downwardly so that



the downward pressure of an object on the jaws causes the jaws to move toward one another against the object with a pressure greatly exceeding the weight of the object.

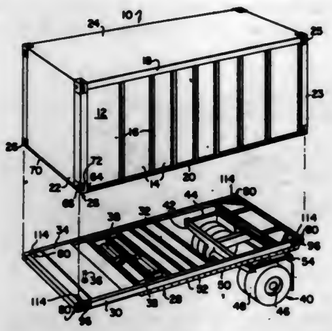
3,438,670
SHELTER ASSOCIATED WITH AUTOMOTIVE PASSENGER VEHICLE
Robert R. Salmans, Wichita, Kans., assignor to Ceramics of Kansas, Inc., Wichita, Kans., a corporation of Kansas
Filed Nov. 28, 1966, Ser. No. 597,365
Int. Cl. B60p 3/34
U.S. Cl. 296—23 25 Claims



A shelter is erected behind a station wagon or the like during use and is stored on top of the vehicle during transportation. Roof and rear wall side portions fold during transportation so that a shelter can be provided which is wider than the vehicle during use but which is no wider than the vehicle during transportation. The roof is erected to a height higher than the vehicle by short forward legs resting on the vehicle top. Tracks are secured to the top of the vehicle and the shelter has rollers to roll in the tracks for convenience in moving the shelter on and off the vehicle and for securing the shelter during transportation. Side and front end walls are of flexible sheet material and the front end wall has a "draw string" to secure it about the rear end of the vehicle. When the rear door of a station wagon is opened, vehicle and shelter space become common.

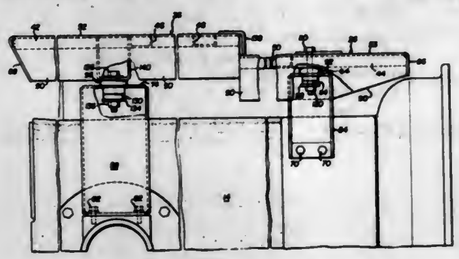
3,438,671
ADAPTER FRAME WITH TWIST LOCKS FOR REMOVABLE ATTACHMENT TO A CARGO CONTAINER
Paul J. Seng, Langhorne, Pa., assignor to Strick Corporation, Fairless Hills, Pa., a corporation of Pennsylvania
Filed Mar. 24, 1967, Ser. No. 625,779
Int. Cl. B62d 33/00, 23/00
U.S. Cl. 296—35 5 Claims

For use with van-size cargo containers which are transferrable as such intermodally to railroad cars, ships, aircraft, etc., an adapter frame or chassis equipped with twist locks to effect removable mounting of the container



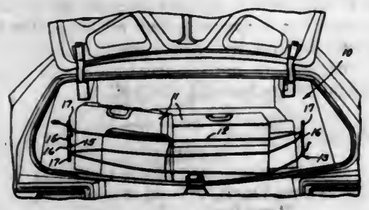
on the frame employing means to draw the container tightly against the frame in the locked position.

3,438,672
ISOLATED PLATFORM MOUNTING
Wilbert O. Gipp, Racine, Wis., assignor to J. I. Case Company, Racine, Wis., a corporation of Wisconsin
Filed Oct. 12, 1967, Ser. No. 674,866
Int. Cl. B62d 23/00, 39/00
U.S. Cl. 296—35 4 Claims



A platform assembly for a tractor having an operator's station resiliently supported and unitarily removable from the tractor. The assembly includes yieldable connections between the platform and the tractor such that the operator's station and controls are isolated from the rigid tractor frame.

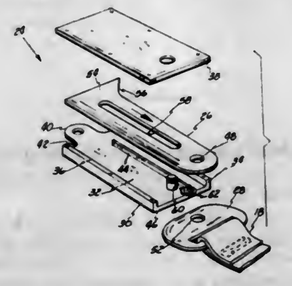
3,438,673
LUGGAGE RETAINER
Stanford C. Nelson, 8 S. Merrill Ave., Park Ridge, Ill. 60068
Filed June 6, 1967, Ser. No. 643,986
Int. Cl. B60r 7/02, 7/08; B61d 45/00
U.S. Cl. 296—37 5 Claims



Tie down for trying articles of luggage and the like from shifting along the luggage compartment of an automotive vehicle. The tie down consists of at least two spaced anchor straps made from metal and sufficiently flexible to conform to the configurations of the walls of luggage compartments of various automotive vehicles.

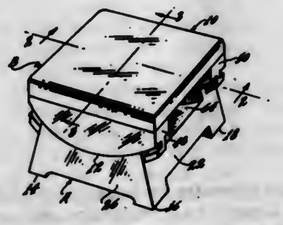
The anchor straps are drilled at spaced points for attachment to the wall of the luggage compartment by self-tapping screws or like securing means. Each anchor strap forms an anchoring means for a plurality of spaced anchoring eyes, pivotally connected to the strap between the drilled portions of the strap, for movement in the plane of the strap and also pivotally movable about an axis perpendicular to the plane of the strap and spaced from the axis of pivotal connection of the anchoring eyes to the strap. A flexible tie down, which may be a nylon cord, is laced through the eyes to engage the sides of the articles of luggage and to tie the articles from shifting movement along the deck of the luggage compartment, particularly where the luggage compartment may be partially empty.

3,438,674
SAFETY SEAT BELT DEVICE WITH SHEAR STRIP ENERGY ABSORBING MEANS
Donald G. Radke, Troy, and Frederick C. Booth, Birmingham, Mich., assignors to Jim Robbins Seat Belt Co., Royal Oak, Mich.
Filed July 13, 1967, Ser. No. 653,248
Int. Cl. B60r 21/10; A47d 1/12; A47c 31/00; B6n 7/00
U.S. Cl. 297—386 15 Claims



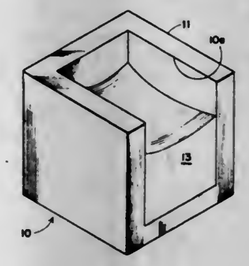
An energy absorbing connection between a vehicle safety seat belt and the vehicle for restraining the sudden displacement of an occupant from his seated position. The connection includes an elongated shear strip fixedly mounted to the vehicle and a shear member connected by the seat belt to the occupant with a cutting edge engaged with the strip and movable along a shearing path. When the occupant is suddenly displaced by abnormal forces acting on the vehicle the shearing action absorbs the kinetic energy of the occupant.

3,438,675
ADJUSTABLE FOOTSTOOL
Joseph C. Seguin and Ruby Seguin, both of 7030 Vandike St., Philadelphia, Pa. 19135
Filed July 14, 1967, Ser. No. 653,534
Int. Cl. A47c 9/12, 9/00
U.S. Cl. 297—439 6 Claims



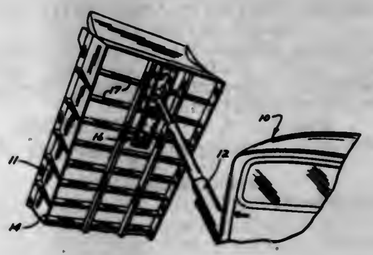
A footstool comprising a stationary base supporting spaced arcuate rails and an adjustable footrest including arcuately curved runners in sliding engagement with the said rails.

3,438,676
ARTICLE OF FURNITURE
Jeffrey Owen Brosk, 150 E. 69th St., New York, N.Y. 10021
Filed July 10, 1967, Ser. No. 652,131
Int. Cl. A47c 5/00, 7/00, 1/12, 7/02, 11/00
U.S. Cl. 297—445 7 Claims



A lounge chair or the like made entirely of plastic material, the outer shell and the supporting base constituting the body of the chair consisting preferably of plastic material of sufficient rigidity to support a person sitting therein, but preferably embodying that degree of yieldability for comfort and a seat portion of resiliently yieldable elastic, depressable plastic material, flush with the shell, the chair normally simulating a solid cube, cylinder or other desirable solid geometric body.

3,438,677
VIBRATOR FOR DUMPING VEHICLES
Gregory L. Redpath, 5225 Baker Road, Minnetonka, Minn. 55343
Filed Mar. 21, 1967, Ser. No. 624,777
Int. Cl. B60p 1/16, 1/58; F16h 33/10
U.S. Cl. 298—1 6 Claims

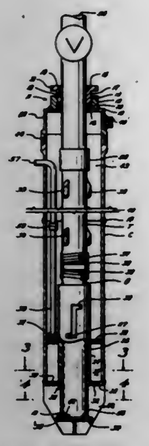


Presented herein is a dumping vehicle, such as a dump truck which has a vibrator mounted on the box to remove any of the load in the truck when it is in dumping position. The vibrator comprises an electric motor controlled from the cab of the truck which drives a shaft having an eccentric weight thereon. The shaft is mounted in a pair of bearings. The complete unit is mounted onto a framework that in turn is bolted onto the bottom of the truck box or other dumping vehicle box. When the vehicle is in dumping position the vibrator is run in order to loosen material that adheres to the bottom or sides of the box. Electrical control means for adjusting the speed of the motor are included to permit varying the frequency of vibration. The addition of weight to the eccentric is provided for as well as adjustment of the weight with respect to the rotational axis of the shaft. As a D.C. motor is used to drive the eccentric this also slows down the motor and changes the frequency as well as the force of vibration.

3,438,678
METHOD AND APPARATUS FOR CONVEYING MATERIALS

Larry G. Smith, Gordon H. Blake, and Jim P. Van Way, Lafayette, La., assignors, by mesne assignments to Alpine Geophysical Associates, Inc., a corporation of New Jersey

Filed Aug. 11, 1966, Ser. No. 571,893
Int. Cl. E21c *37/06*; B65g *53/20, 53/04*
U.S. Cl. 299—17 14 Claims

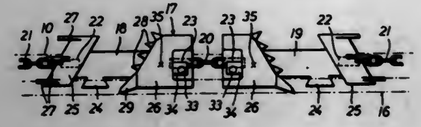


In the preferred embodiments an inner tubing member is concentrically positioned relative to an outer casing member adjacent material formations. A plurality of jets mounted with the tubing member enables a pressurized medium to communicate with the inside of the tubular member thereby creating an upward lifting force for moving the material formation.

3,438,679
BIPARTITE MINING PLANER WITH INTERMEDIATE FLOOR CUTTERS

Werner Georg, Altlunen, Westphalia, and Christoph Rassmann, Lunen, Westphalia, Germany, assignors to Gewerkschaft Eisenhutte Westfalia, Wethmar, near Lunen, Westphalia, Germany

Filed July 6, 1967, Ser. No. 651,501
Claims priority, application Germany, July 19, 1966, G 47,462
Int. Cl. E21c *27/32*
U.S. Cl. 299—34 9 Claims

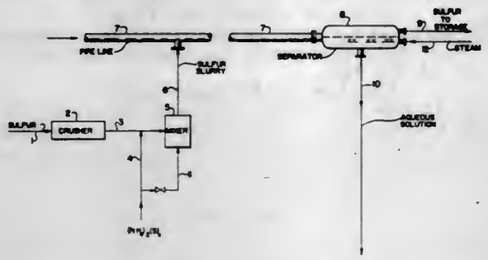


Bipartite mining machine, e.g., planer, for extracting mineral such as coal from a mine face, including a pair of articulatedly interconnected base members each having a pair of longitudinally spaced apart runners adapted to be received guidably in a longitudinal guide disposed along the mine face, e.g., a mining conveyer equipped with guide grooves, to maintain the machine in the desired longitudinal path along the mine face, and each having main cutting means and floor cutting means positioned for cutting engagement with the mine face in the corresponding operative direction, such that the floor cutting means of each base member is disposed longitudinally between the corresponding pair of runners, preferably with the main cutting means being positioned longitudinally outwardly of the floor cutting means, and optionally with a top portal span equipped with upper level cutting means being articulatedly connected to the base members longitudinally outwardly of the floor cutting means as well.

3,438,680
TRANSPORTATION OF SULFUR IN PIPELINES AS A SULFUR-AQUEOUS POLYSULFIDE SLURRY

Ronald F. Scheuerman, El Cerrito, Calif., and Paul R. Scott and John P. Fraser, Houston, Tex., assignors to Shell Oil Company, New York, N.Y., a corporation of Delaware

Filed Oct. 5, 1967, Ser. No. 673,188
Int. Cl. B65g *53/30, 53/40*
U.S. Cl. 302—14 8 Claims



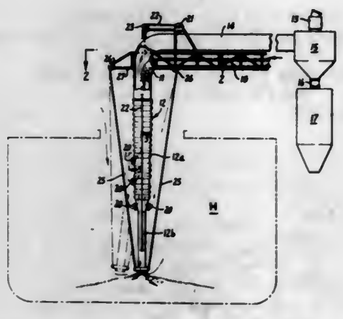
An improved method of transporting solid slurries through pipelines and recovering the solid product at the terminal station of the pipeline.

The invention relates to an improved and novel process for transporting solids through a pipeline. More particularly, the invention is directed to pipeline transportation of sulfur slurries over great distances and recovering pure sulfur at a terminal station.

3,438,681
METHOD AND APPARATUS FOR HANDLING PARTICULATE MATTER

Thomas T. Lunde, 6 Locksley Ave., San Francisco, Calif. 94122

Filed Nov. 15, 1966, Ser. No. 594,436
Int. Cl. B65g *53/08, 53/58*
U.S. Cl. 302—17 8 Claims

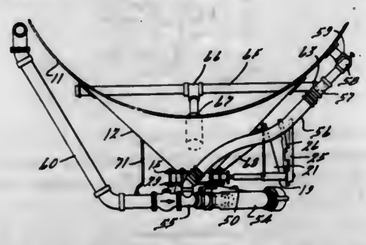


Methods and apparatus for impeding the fall of particulate matter to control the granular size and impact velocity of such matter as it is deposited into a compartment; methods and apparatus that have particular utility in loading particulate matter into the hold of a ship to avoid the hazards of explosion and fire.

3,438,682
COMBINATION GRAVITY AND PNEUMATIC DISCHARGE SYSTEM FOR HOPPERS

Theodore J. Mohrhusen, Fresno, Calif., assignor to Fruehauf Corporation, Detroit, Mich., a corporation of Michigan

Filed Oct. 17, 1967, Ser. No. 677,502
Int. Cl. B65g *53/40, 53/58*
U.S. Cl. 302—52 8 Claims

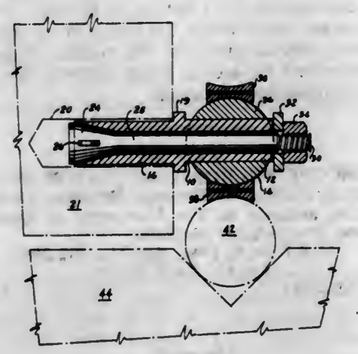


A hopper at the bottom of a sealable compartment having a cylindrical collar and butterfly valve at the bottom, has a discharge unit secured thereto by which the contents of the compartment is expressed from the discharge unit under air pressure. A conduit system pressurizes the compartment, the hopper and the discharge unit so that the powder or granules are aerated to permit a greater flow rate as it is advanced through a discharge conduit.

3,438,683
TRUNNION FOR LINEAR ANTIFRICTION BEARINGS

John B. Thomson, 1029 Plandome Road, Manhasset, N.Y. 11030

Filed Feb. 19, 1965, Ser. No. 434,054
Int. Cl. F16c *17/00, 21/00, 19/00*
U.S. Cl. 308—6 2 Claims

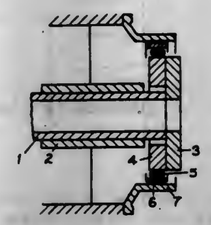


1. A self-locking, adjustable cantilever trunnion for a linear motion bearing comprising an outer cylindrical bearing portion to receive and support the bearing assembly, an inner cylindrical portion eccentric with respect to said outer bearing portion, said inner portion being longitudinally split near the inner end thereof with said formed split portion having an interior tapered surface, a shoulder portion between said outer bearing portion and said inner cylindrical portion, said shoulder portion including means to receive a tool for rotation of said trunnion to adjust the rotational position of said outer bearing portion, an expansion cone within said split portion of said trunnion, stem means connected at one end to said expansion cone and extending axially through said inner cylindrical portion and said outer bearing portion, said stem means including means to draw said expansion cone into and thereby expand said split portion and means disposed between said cone and said split portion for preventing relative rotation between said expansion cone and said split portion of said trunnion to permit said split portion to be expanded without changing the position of said bearing portion of said trunnion.

3,438,684
PRESSURE GAS LUBRICATED THRUST BLOCK

Winfried Krüger, Radolfszell, Germany, assignor to Aktiengesellschaft Brown, Boveri & Cie, Baden, Switzerland, a joint-stock company

Filed July 17, 1967, Ser. No. 653,901
Claims priority, application Switzerland, Sept. 28, 1966, 14,007/66
Int. Cl. E21b *17/046*; F16c *19/04, 17/06*
U.S. Cl. 308—9 7 Claims

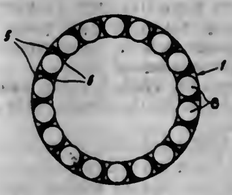


A pressure gas lubricated thrust block structure for a rotatable shaft comprises one thrust block disc secured to the shaft so as to rotate with it and another, stationary thrust block disc having one plane face engaging a corresponding plane face of the rotatable thrust disc. The stationary thrust block disc is supported in a gimbal type mounting including external and internal rings, the external ring being secured by a first set of diametrally opposite gimbal pins to a stationary support and the internal ring being secured to the external ring by a second set of diametrally opposite gimbal pins displaced 90° with respect to the first set. The stationary thrust block disc is interconnected with and supported by the internal gimbal ring by means of at least three radially extending and uniformly circumferentially spaced attachment pins and a resilient element in the form of an O-ring surrounds each attachment pin. These attachment pins are provided with axially extending bores which communicate with other bores in the stationary thrust block disc leading to the interface surfaces of the thrust discs and through which the pressure gas is fed.

3,438,685
RADIAL CAGE FOR CYLINDRICAL ROLLERS

Anton Teufel, Tubingen, Germany, assignor to Industriewerk Schaeffler OHG, Herzogenaurach, Germany, a corporation of Germany

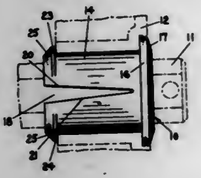
Continuation-in-part of application Ser. No. 475,138, July 27, 1965. This application July 28, 1967, Ser. No. 656,915
Claims priority, application Germany, Aug. 28, 1964, J 26,469
Int. Cl. F16c *19/20, 33/49, 33/54*
U.S. Cl. 308—217 3 Claims



A radial cage for cylindrical rollers, particularly bearing needles, consisting of a thin-walled cylindrical jacket

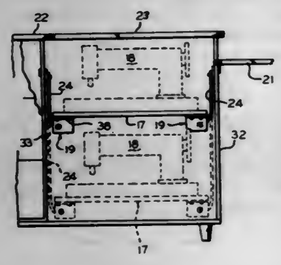
with pockets for the accommodation of the rollers, the flanges of the crossbars which define the pockets and are adapted to guide and/or to support two adjacent rollers, being deflected in a radially inward direction.

3,438,686
BEARING SUPPORT BUSHING
Alan J. Stone, Honeoye, N.Y., assignor, by mesne assignments, to Murray Company of Texas Inc., a corporation of Delaware
Filed Jan. 23, 1967, Ser. No. 611,147
Int. Cl. F16c *33/00, 43/00*
U.S. Cl. 308—238 1 Claim



A bearing support bushing having axially extending reliefs communicating with one end thereof which provides a means for compressing said bushing to facilitate its assembly within a bearing member.

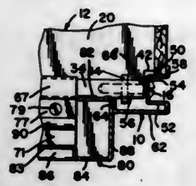
3,438,687
SEWING MACHINE CENTER
Arnold Wikey, 5040 Newport, Chicago, Ill. 60641
Filed Jan. 22, 1968, Ser. No. 699,563
Int. Cl. A47b *81/00, 88/00, 57/00*
U.S. Cl. 312—21 7 Claims



Portable sewing machine is mounted on an elevator shelf in the improved sewing machine center. The shelf can be raised to a sewing position or lowered to be stored within the improved sewing machine center. The shelf is counter balanced to facilitate elevating it from its lowered position to its raised position.

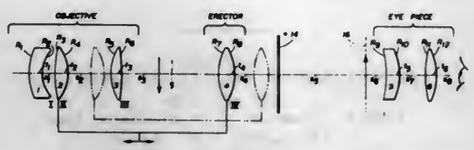
3,438,688
KNOCKDOWN STEEL SHELVING AND CABINET HARDWARE THEREFOR
Irwin J. Ferdinand, Glencoe, and Irwin R. Kulbersh, Niles, Ill., assignors to S. A. Hirsh Manufacturing Co., Skokie, Ill., a corporation of Illinois
Filed Sept. 18, 1967, Ser. No. 668,435
Int. Cl. A47b *88/00;* E06b; A47f *3/00*
U.S. Cl. 312—295 8 Claims

A sliding door frame assembly is secured adjustably in place at any level upon knockdown steel shelving having a plurality of vertically spaced shelves supported at their corners on posts. Each shelf has front and rear flanges extending above and below the shelf surface interengaging the posts. Removable roll-formed channels of strip steel adjustably secure the door frame against the shelf flanges between the posts and provide spaced facing track



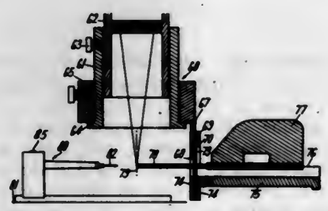
channels which receive overlapping doors in weight supported relationship with minimized sliding friction, and restrain the doors from visible scuffing against the door frame and shelves.

3,438,689
ZOOM TELESCOPIC FINDER
Clyde W. Wehr, Rochester, N.Y., assignor to Eastman Kodak Company, Rochester, N.Y., a corporation of New Jersey
Filed Jan. 24, 1967, Ser. No. 611,398
Int. Cl. G02b *7/04, 7/10*
U.S. Cl. 350—42 6 Claims



A telescopic optical system suitable for a camera finder with an objective having, in order, negative, positive and positive components for creating an inverted real image and an erector which relays the image to an image plane for viewing with an eyepiece, the middle component of the objective and the erector being movable as a unit for optically compensated zooming.

3,438,690
MICROSCOPE MICROMANIPULATOR SUPPORT
Victor Bruce Darlington Skerman, Brisbane, Queensland, Australia, assignor to The University of Queensland, Brisbane, Queensland, Australia
Filed Nov. 8, 1966, Ser. No. 592,895
Int. Cl. G02b *21/32*
U.S. Cl. 350—81 8 Claims



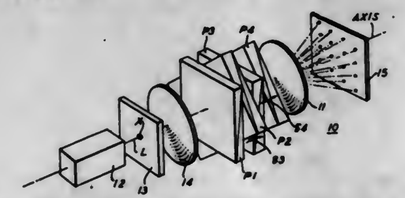
A micromanipulator assembly for a miscroscope includes a tool-holder slidable endwise on a slide and supporting a tool passing beneath the microscope objective, and a support for the slide attachable to and carried by said objective. The support may be rotatable around the objective. A micro-tool fabrication system uses a similar arrangement with tool-forming elements (e.g. a heater) carried by the microscope stage.

3,438,691
BIREFRINGENT POLARIZER
Albert S. Makas, Medford, Mass., assignor to Polaroid Corporation, Cambridge, Mass., a corporation of Delaware
Continuation-in-part of application Ser. No. 290,715, June 26, 1963. This application May 14, 1964, Ser. No. 367,489
Int. Cl. G02f *1/24;* G02b *5/30, 27/28*
U.S. Cl. 350—157 13 Claims



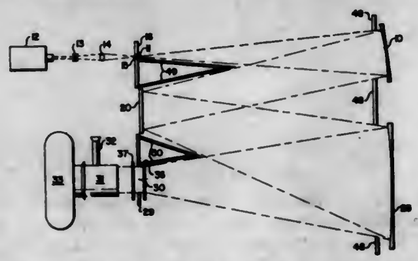
A sheet-like polarizer comprising both isotropic and birefringent components, the index of refraction of the isotropic component lying between the ordinary and extraordinary indices of refraction of the birefringent components and said ordinary indices of refraction being symmetrically disposed relative to the axes of the extraordinary indices of refraction which axes are oriented substantially normal to a planar surface of said sheet-like polarizer.

3,438,692
BIREFRINGENT DEVICE FOR FORMING MULTIPLE IMAGES
William J. Tabor, Murray Hill, N.J., assignor to Bell Telephone Laboratories, Incorporated, New York, N.Y., a corporation of New York
Filed Mar. 8, 1965, Ser. No. 437,770
Int. Cl. G02f *1/24;* G02b *5/30, 27/28*
U.S. Cl. 350—157 11 Claims



A plurality of birefringent crystals are arranged in fixed orientations with respect to one another along an optical path. The arrangement functions as a fly's-eye lens for monochromatic inputs thereto. An arrangement including polarization rotators between adjacent crystals is also described.

3,438,693
SPATIAL FILTERING SYSTEM UTILIZING REFLECTION OPTICS
Samuel Pinckney Cook, Houston, Tex., assignor to Shell Oil Company, New York, N.Y., a corporation of Delaware
Filed Apr. 29, 1965, Ser. No. 451,795
Int. Cl. G02b *5/18, 1/00;* G01v *1/00*
U.S. Cl. 350—162 3 Claims



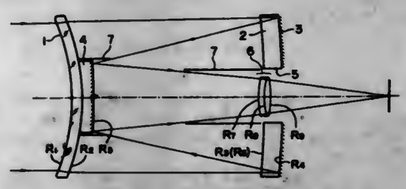
A method and apparatus for the formation of Fraunhofer diffraction patterns of seismic data using reflection optics and light diffracted from replicas of variable density or light and dark recordings so that more accurate optical filtering may be done.

3,438,694
WIDE BAND PELLICLE BEAM SPLITTER FOR INTERFEROMETRY
Lee R. Reid, Richardson, and Robert H. Berkshire, Dallas, Tex., assignors to Texas Instruments Incorporated, Dallas, Tex., a corporation of Delaware
Filed Oct. 18, 1965, Ser. No. 497,294
Int. Cl. G02b *27/14*
U.S. Cl. 350—171 4 Claims



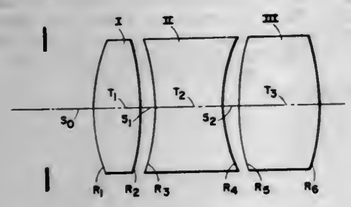
Disclosed is a beam splitter and a method for making it, the beam splitter comprising a one micron thick optically flat pellicle of a nitrocellulose material having deposited on one surface a thin semireflective coat which partially reflects and partially transmits a beam of light incident thereupon. The method for making the beam splitter includes the steps of releasing a highly volatile collodion mixture onto a surface of water; allowing the mixture to solidify to form an extremely thin film pellicle; removing the pellicle with a wire holder; and subjecting the pellicle to a vapor of a reflective material released in a measured amount through a shutter.

3,438,695
HIGH SPEED CATADIOPTRIC OPTICAL SYSTEM OF CASSEGRAIN TYPE
Yoshiya Matsui, Tokyo, Japan, assignor to Cannon Camera Kabushiki Kaisha, Tokyo, Japan, a corporation of Japan
Continuation-in-part of application Ser. No. 343,558, Feb. 10, 1964. This application Aug. 2, 1967, Ser. No. 669,635
Int. Cl. G02b *17/08*
U.S. Cl. 350—201 2 Claims



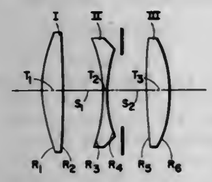
Catadioptric optical system having an aperture ratio above 1:4 in which the elements constituting the correcting member and main member are reduced to a minimum. The present invention provides a long focus catadioptric optical system consisting of four components: a correcting member of a single negative meniscus lens concave to the object, a main member consisting of a single positive meniscus lens concave to the object and a main mirror on its rear surface, a second mirror convex to the main member, and an achromatic compound lens disposed within the centering aperture of the main member facing to the second mirror and forming the image behind itself. Thus the number of elements constituting the large correcting member and the main member is reduced to minimum, i.e., two, and the thicknesses of these elements are reduced to decrease the weights thereof, and yet aperture ratio above 1:4 is obtained.

3,438,696
TRIPLET-TYPE OBJECTIVE LENS
Paul L. Ruben, Penfield, N.Y., assignor to Eastman Kodak Company, Rochester, N.Y., a corporation of New Jersey
Filed Jan. 23, 1967, Ser. No. 610,883
Int. Cl. G02b 9/14
U.S. Cl. 350—226 7 Claims



A photographic objective of the simple triplet type is disclosed which is well corrected for high relative apertures and is particularly suited for use in motion picture cameras.

3,438,697
WIDE-ANGLE TRIPLET OBJECTIVE
Charles J. Melech, Rochester, N.Y., assignor to Eastman Kodak Company, Rochester, N.Y., a corporation of New Jersey
Filed Jan. 23, 1967, Ser. No. 611,115
Int. Cl. G02b 9/14
U.S. Cl. 350—226 7 Claims



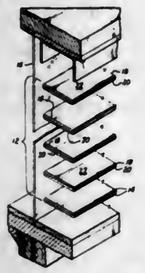
A photographic objective is disclosed which is of the simple triplet type. The objective has a field angle of at least 53°, is well corrected for spherical and chromatic aberrations, coma, astigmatism, flatness of field and is compensated for temperature variations. Seven embodiments are disclosed.

3,438,698
PHOTOGRAPHIC APPARATUS
Charles W. Triggs, Lynn, Mass., assignor to Polaroid Corporation, Cambridge, Mass., a corporation of Delaware
Filed Feb. 28, 1967, Ser. No. 619,411
Int. Cl. G02b 7/02; G09f 11/30, 13/10
U.S. Cl. 350—250 8 Claims



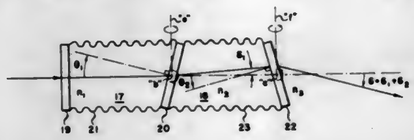
The subject invention relates to an inexpensive but highly-efficient hand-held, folding, reflex, viewing-device or "slide-viewer" for inspecting photographic transparencies of a miniature category. The invention is particularly pointed toward constructions thereof which provide an augmented illumination of the transparency and which include: (1) A peaked or triangular structure involving front and rear panel members joined together at the top or peak and depending at acute angles from the apex toward a base member having an inner reflecting surface; (2) a removable diffusing screen which is snapped or hooked into functional position across a light-admitting aperture formed in the front panel and which, when removed, permits entrance to the interior for cleaning purposes; (3) a top-, bottom-, and center-hinged rear panel member mounting an eye-piece; (4) a two-position detent or locking means for holding the device at either a folded transport position or an erect functional position; and (5) an integral, hinged, non-separable relation of front, side, rear and base panel members for enhanced durability and for providing that no manual interconnection of parts is necessary prior to operation.

3,438,699
OPTICAL CONTROL OF SUNLIGHT AT WINDOW AND DOOR OPENINGS WITH CONTROLLED POSITIONING OF COMPOSITE TRANSPARENT MATERIALS TO ELIMINATE GLARING SUNLIGHT RAYS WHILE PROVIDING NORMAL DAYLIGHT ILLUMINATION
Bernard I. Seeger, 1600 SW. Dawson St., Seattle, Wash. 98106
Filed Oct. 21, 1965, Ser. No. 499,962
Int. Cl. G02b 27/38
U.S. Cl. 350—263 7 Claims



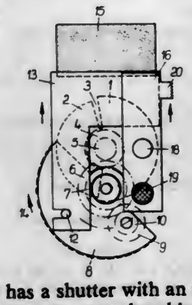
An adjustable multiple slat assembly assembled in a configuration similar to a Venetian blind is used to control glaring rays of sunlight through selectively changing angular adjustments without otherwise interfering with daylight illumination of a space, each slat being a composite subassembly of at least two transparent pieces of material having interfitting smooth surfaced ridges or prisms and otherwise smooth even outer surfaces.

3,438,700
OPTICAL BEAM DEVIATOR
Calvin W. Gillard, Palo Alto, Calif., assignor to Lockheed Aircraft Corporation, Burbank, Calif.
Filed June 25, 1965, Ser. No. 466,991
Int. Cl. G02b 1/06, 5/00, 7/00
U.S. Cl. 350—285 4 Claims



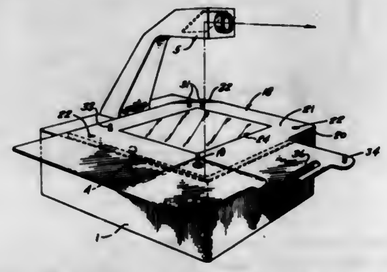
An optical beam deviator in which the deviation angle is controlled by changing the angle at which the optical beam intersects the plane of the interface of adjacent refractive mediums. By using three or more adjacent fluids of different refractive indexes coarse and fine beam deviation control is achieved.

3,438,701
CAMERA WITH PHOTOELECTRIC LIGHT METER
Petrus G. Saraber, Bruggtobel 802, Wolfhalden, Switzerland
Filed Mar. 10, 1966, Ser. No. 533,286
Claims priority, application Austria, Mar. 15, 1965, A 2,288/65
Int. Cl. G03b 7/08
U.S. Cl. 352—141 13 Claims



A camera which has a shutter with an adjustable sector-shaped opening that moves past the objective. The size of the adjustable shutter opening is controlled by a photocell. The photocell can be masked to compensate for changes in the diaphragm opening.

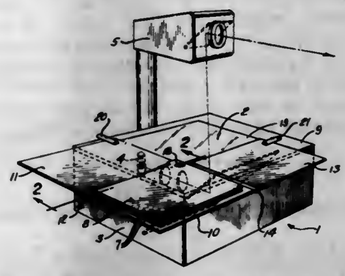
3,438,702
TRANSPARENCY PROJECTING ACCESSORY
Howard A. Milhaupt, Milwaukee, and Donald S. Henning, Hartland, Wis., assignors to Carl W. Winnemann, Mequon, Wis.
Filed Nov. 28, 1966, Ser. No. 597,334
Int. Cl. G03b 21/26
U.S. Cl. 353—35 10 Claims



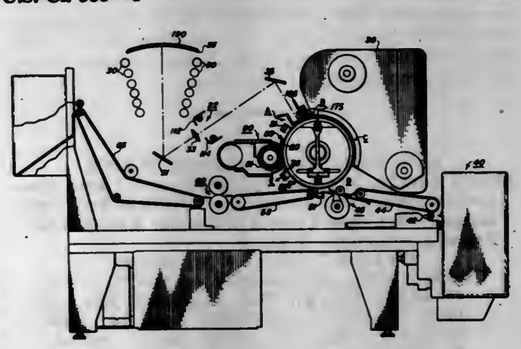
A projecting accessory for an overhead projector comprising a separate projector stage and a magazine of transparencies releasably mounted directly to the stage. The magazine includes transparencies interconnected to a self-supporting plate at one corner by a tubular pivot unit which includes a pair of releasable elements. The stage includes a heavy base portion adapted to rest on the top of the projector and a relatively light member having a planar top surface projecting outwardly therefrom to define a magazine support portion, a reading portion, and a transmitting portion overlying the overhead projector transmitting window and a storage portion.

3,438,703
TRANSPARENCY PROJECTION ACCESSORY
Carl W. Winnemann, 11666 N. St. James Lane, 28W, Mequon, Wis. 53092
Filed Nov. 28, 1966, Ser. No. 597,335
Int. Cl. G03b 21/54
U.S. Cl. 353—120 10 Claims

An accessory for use with an overhead projector comprising a magazine having a stack of bound transparencies which can be rotated through 360 degrees. A pivot pin connects a corner of the magazine to the base of a L-shaped self-supporting cover, having two further supports secured to adjacent edges of the base. The auxiliary supports are hinged to the base support to permit folding over the magazine for convenience of storage and filing. In the expanded position, the supports are releasably secured by any suitable device to the edges of the overhead projector with the viewing area lying between the two auxiliary covers. The magazine is secured to the overhead projector with the pivot pin adjacent an outer corner of the viewing screen. The transparencies are rotated ninety degrees to the one cover for reading, one hundred and eighty degree for viewing and two hundred and seventy degree to the third support for temporary storage while other transparencies are being shown.



3,438,704
ILLUMINATION CONTROL SYSTEM
John J. Schoen, Webster, N.Y., assignor to Xerox Corporation, Rochester, N.Y., a corporation of New York
Filed Oct. 11, 1966, Ser. No. 585,908
Int. Cl. G03g 15/08
U.S. Cl. 355—8 8 Claims



1. In a recording apparatus of the type in which a document to be reproduced in projected in line scan fashion onto a photoreceptor moved past an exposure station characterized by an illumination control system comprising in combination:
- support means located at the object plane to position a document to be reproduced,
- a source of illumination optically positioned to illuminate the document,
- a photoreceptor at the image plane to receive a pattern of light and shadow according to the document to be recorded,
- an optical system to project a line scan image of the document onto said photoreceptor, said optical system including a spherical lens corrected for oblique spherical aberration in the tangential plane,
- light masking means interposed in the optical path in close proximity to said lens including a pair of spaced apart wall members impervious to light

adapted for movement transverse to the optical center line in the sagittal direction to mask out selected light rays,

drive means operative to position said wall members toward and away from the optical center line to control the intensity of illumination at the surface of said photoreceptor at a predetermined level in response to discrete bi-polar electrical signals,

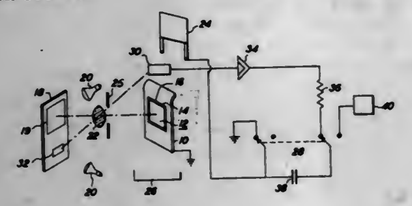
circuit means coupled to said drive means to emit discrete bi-polar electrical signals to actuate said drive means to move said wall members toward and away from the optical center line in a sagittal direction to maintain a predetermined level of an illumination on the surface of said photoreceptor with a minimum of optical deterioration thereat.

3,438,705

AUTOMATIC XEROGRAPHIC DEVELOPMENT CONTROL

Paul F. King, Webster, N.Y., assignor to Xerox Corporation, Rochester, N.Y., a corporation of New York

Filed Jan. 3, 1967, Ser. No. 606,888
Int. Cl. G03g *15/04*
U.S. Cl. 355—8 **9 Claims**



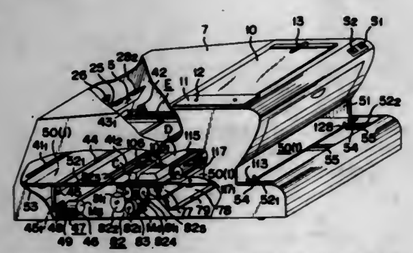
A xerographic exposure and development apparatus whereby background density is automatically controlled by a photosensitive device which scans the material to be reproduced. The potential derived from scanning the background material by the photosensitive device is then applied to the developing plate during exposure thereby reducing overcharging of the plate.

3,438,706

ELECTROPHOTOGRAPHIC DEVICE

Hiroshi Tanaka, Shinkichi Takahashi, and Tetuo Hasegawa, Tokyo, and Toshihiko Sato, Saitama-ken, Japan, assignors to Canon Camera Kabushiki Kaisha, Tokyo, Japan, a corporation of Japan

Filed Oct. 7, 1966, Ser. No. 585,091
Claims priority, application Japan, Oct. 11, 1965, 40/62,246; Oct. 27, 1965, 40/65,491; Mar. 23, 1966, 41/17,781, 41/17,782; June 14, 1966, 41/38,695; Aug. 23, 1966 (utility model), 41/79,861; Aug. 25, 1966, 41/56,010; Aug. 30, 1966, 41/57,482; Sept. 14, 1966, 41/60,332
Int. Cl. G03g *5/04, 13/22, 15/00*
U.S. Cl. 355—11 **23 Claims**



1. An electrophotographic copying device which comprises:

charging means for appying a primary charge on the surface of a photosensitive plate, which plate comprises a base, a photoconductive layer and a translucent insulating layer overlaid thereon;

means for simultaneously exposing an original image and for applying a corona discharge onto the surface of said charged insulating layer;

means for forming a high contrast static image of the original image on the surface of said insulating layer by uniformly irradiating the whole surface of said insulating layer, thereby activating the photoconductive layer;

developing means for visualizing said static latent image;

means for transferring said visualized image onto copying material; and

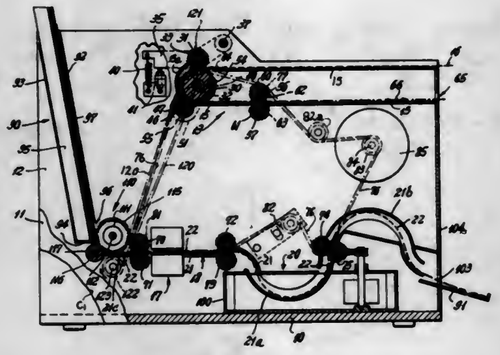
cleaning means for removing residual developer from the surface of said insulating layer remaining after the transfer of the image, whereby the photosensitive plate is prepared for repeated use.

3,438,707

SHEET FEED DEVICE FOR PHOTOCOPY MACHINE

Walter J. Hanson, Old Greenwich, Conn., assignor to Pitney-Bowes, Inc., Stamford, Conn., a corporation of Delaware

Filed May 16, 1966, Ser. No. 550,477
Int. Cl. G03b *15/10*
U.S. Cl. 355—14 **18 Claims**



A sheet handling arrangement for photocopy machines wherein the original sheet feeding means is adapted to actuate a separate copy sheet feeding means. The original sheet feeding means includes a pair of closely-spaced drive rollers, a first one of which is power driven while the second one of which is adapted to be frictionally driven by the first roller when an original is present therebetween. The second roller is coupled so as to actuate said copy sheet feeding means so as to thereby provide a simple demand copy sheet feed in response to the feed of an original into the photocopy machine.

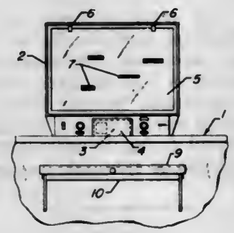
3,438,708

METHOD FOR MAKING A DELETION OF FILM DATA DURING THE PRINT PRODUCING PHASE

Fletcher Thorne-Thomsen, Shreveport, La., assignor to Universal Oil Products Company, Des Plaines, Ill., a corporation of Delaware

Filed Nov. 14, 1966, Ser. No. 594,133
Int. Cl. G03b *27/58*
U.S. Cl. 355—77 **6 Claims**

1. In effecting the reproduction of a drawing from a film with a reader-printer type unit having a film holder means, a light source, a viewing screen, a supply of sensitized printing paper, internal mirror means for projecting an image onto the viewing screen and optionally to the printing paper, and means for producing an enlarged printed reproduction of said film, the improved method for providing a finished print having a deletion of material with respect to that showing on the film, which comprises the steps of placing the film in the unit and projecting an image thereof on the reader screen, positioning a transparent matrix sheet over the projected image on



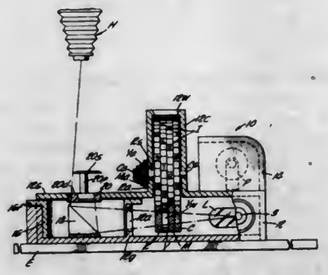
said screen, applying an opaque coating material on said sheet over sections thereof which cover reflections of said film which are to be deleted in a reproduction printing, inserting the thus coated sheet in the reader-printer unit in a controlled position adjacent the printing paper and between the latter and the light source, and then subsequently operating the printing step whereby to provide a finished print with desired deletions.

3,438,709

PHOTOGRAPHIC DARKROOM APPARATUS

Kimio Hatashita, Gardena, Calif., assignor to Rocker Solenoid Company, Wilmington, Calif., a corporation of California

Filed Oct. 10, 1966, Ser. No. 585,571
Int. Cl. G03b *27/76*
U.S. Cl. 355—35 **7 Claims**



1. Photographic darkroom apparatus comprising:

first means, including surface forming means, providing a flat white surface;

second means, including a translucent member having a light diffusing surface having a boundary substantially coextensive with a boundary of said flat white surface;

third means, including light-source means and means for directing light from said source means through said translucent member to said diffusing surface, said third means being adjustable to vary the intensity of light diffused by said diffusing surface; and

fourth means, including opaque means arranged to provide along said boundary a coincident boundary of a shadow produced thereby from image-producing light projected toward said flat white surface and said diffusing surface,

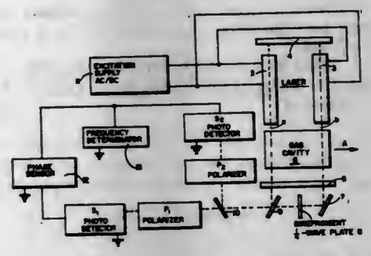
whereby by adjustment of said third means said coincident boundary may be made to be substantially extinct.

3,438,710

OPTICAL SIGN DETECTOR

William H. Quick, La Mirada, and Earl D. Jacobs, Tustin, Calif., assignors to North American Rockwell Corporation

Filed Apr. 27, 1965, Ser. No. 451,234
Int. Cl. G01p *3/36, 15/00*
U.S. Cl. 356—28 **6 Claims**



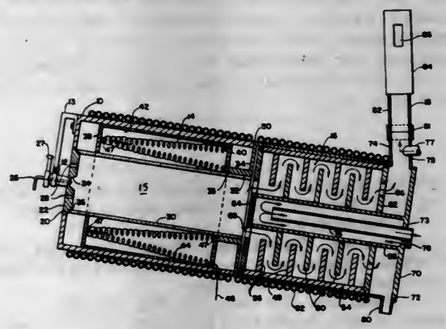
A device for detecting the sign difference in frequency between two laser beams. One of the beams is passed through a birefringent ¼ wave plate and then combined with the other beam. The combined beam is then passed through a set of polarizing elements to form two outputs, one being the sum of the two beams and the other being the sum of the two beams with a phase lag of ¼ wavelength on the first beam. By comparing the output of the two polarizing elements, the sign of the frequency difference between the two beams may be determined.

3,438,711

BURNER SYSTEM WITH HEATED SPRAY CHAMBER FOR SPECTROSCOPIC ANALYSIS

August Hell, Whittier, Calif., assignor to Beckman Instruments, Inc., a corporation of California

Filed Jan. 21, 1964, Ser. No. 339,218
Int. Cl. G01n *21/00;* **G01j** *3/00;* **B05b** *1/14*
U.S. Cl. 356—36 **22 Claims**



Method and apparatus for obtaining a larger concentration of atomic vapor greater than that heretofore obtainable particularly for use in atomic absorption spectroscopic analysis are disclosed. The method includes the steps of spraying a sample dissolved in a solvent into a heated chamber where the solvent is evaporated, delivering the vaporized solvent and the sample to a condensing chamber for condensing the solvent, mixing the remaining solvent and sample with a fuel and igniting the resulting mixture. Apparatus is disclosed for carrying out the method which consists of a heated spray chamber and an atomizer for spraying a solution of solvent and sample into the chamber and a condensing chamber in fluid communication with the heated spray chamber. The condenser is connected to a suitable burner, preferably a laminar flow burner.

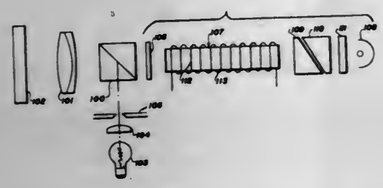
A burner head, particularly adapted for use with fuels of high burning velocity is also disclosed, which gen-

erally comprises a head member with an elongated slot therein and removable strips and spacers such that a plurality of narrow slits, the width of which may be varied, are provided.

3,438,712
MAGNETO-OPTICAL DISPLACEMENT SENSING DEVICE

Robert J. Meltzer, Irondequoit, N.Y., assignor to Bausch & Lomb Incorporated, Rochester, N.Y., a corporation of New York

Filed July 1, 1963, Ser. No. 291,998
Int. Cl. G01n *21/00*; G01j *3/00*; G02f *1/22*
U.S. Cl. 356—117 8 Claims

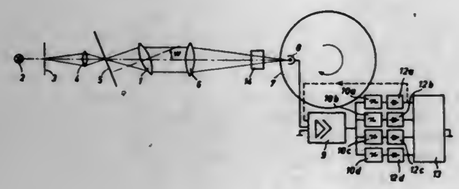


1. A combination comprising a magneto optical modulator, circuit means for applying a periodic signal to said modulator, a polarizer, means for directing a polarized beam of radiation through said modulator to said polarizer, polarization rotating means comprising first and second optically active means mounted in series in said beam before said polarizer, at least one of said optically active means being movable along a path transverse said beam, said polarization means uniformly polarizing said beam and rotating the polarization of said beam in accordance with the relative displacement between said first and second optically active means in a direction normal to the axis of said beam, photoelectric means receiving said beam from said polarizer and circuit means coupled to said photoelectric means and said above-mentioned circuit means for providing a signal indicative of the sense and displacement between said first and second optically active means normal to the axis of said beam.

3,438,713
DEVICE FOR MEASURING OR TESTING THE IMAGE FORMING QUALITY OF LENS SYSTEMS

Erich Heynacher, Heidenheim, Wurttemberg, and Erwin Wiedmann, Essingen, Germany, assignors to Carl Zeiss, Heidenheim (Brenz), Germany

Filed Mar. 20, 1964, Ser. No. 353,408
Claims priority, application Germany, Mar. 27, 1963, Z 10,008
Int. Cl. H01j *39/12, 3/14*; G01b *9/00*
U.S. Cl. 356—124 4 Claims

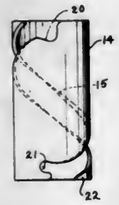


A device for measuring and testing the image-forming quality of optical systems according to the contrast transfer theory which assumes that the optical image is composed of sine-shaped brightness variations of different amplitude and spatial frequency. A drum rotating with a constant speed has mounted on its perimeter a number of different grating patterns onto which is projected the image of a slot by the optical system to be tested. The light transmitted by the patterns is collected by a photoelectric receiver and is converted into electrical signals which after amplification are passed through narrow band filters, each one of which is tuned to one of the spatial frequencies of said grating patterns and by means of which the modulations produced by the individual grating patterns are separated. The modulations are then rectified to indicate as D.C. voltages, which are proportional to the modulation transfer factors, the contrast values of the image formed by said optical system. For a quick quality control during the series testing of objectives the knowledge of two or even only one spatial frequency is sufficient.

3,438,714
SWIVEL-TYPE LIPSTICK CONTAINER

Donald A. Seaver, Cheshire, Conn., assignor to Scovill Manufacturing Company, Waterbury, Conn., a corporation of Connecticut

Filed Jan. 30, 1967, Ser. No. 612,400
Int. Cl. A45d *40/06*
U.S. Cl. 401—78 2 Claims



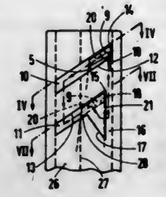
In a swivel type lipstick container, improved means is provided to prevent any accidental turning movement between the inner shell and the spiral cam sleeve which might cause damage to the lipstick material by jamming against the cap during handling or shipment. This is accomplished by the simple expedient of flattening the angular bottom tip of the spiral to bear on the inner shell. Relative turning of the parts by an ordinary jarring action is thus prevented while permitting smooth movement in either direction by manual operation.

3,438,715
WRITING TOOL

Helmut Karl Anton Bross, Biberttalstrasse 24, Altenberg, near Nuremberg, Germany

Filed Nov. 17, 1967, Ser. No. 683,921
Claims priority, application Germany, Nov. 23, 1966, B 89,981
Int. Cl. B43k *7/12*
U.S. Cl. 401—112 26 Claims

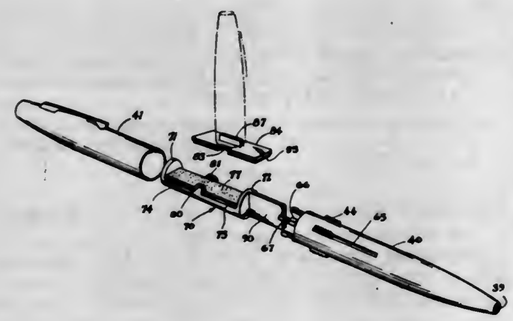
In a writing tool such as a ball-point pen with a writing insert which is adapted to be moved within a casing so as to project therefrom or to be fully retracted therein, an improved actuating mechanism in which the element which locks the relatively movable parts together consists of a rocker. For counteracting fatigue of the material of the rocker, the invention provides an additional spring element the resilience of which assists in bending the rocker back to its normal inactive position. This spring element preferably consists of the return spring which acts upon the writing insert.



3,438,716
STAMP DEVICE FOR WRITING INSTRUMENTS

Jack David Peters, P.O. Box 2021, Beverly Hills, Calif. 90213

Filed Sept. 16, 1966, Ser. No. 580,001
Int. Cl. B43k *29/00*; B41k *1/42*
U.S. Cl. 401—195 5 Claims



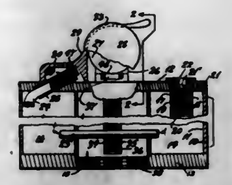
The device of the invention is an improved combination of inking pad and stamp embodied in an elongate body particularly a writing instrument such as a pen. The device features a receptacle for the inking pad which is constructed with means in the form of an extension so that the receptacle can be attached to or secured to the body of a pen, that is, a conventional pen, not originally constructed to be provided with an inking pad and stamp. The combination is further constructed so that operating means for the pen tip operable from the other end of the instrument extends laterally within the body of the instrument past the inking pad receptacle.

3,438,717
CIGARETTE LIGHTERS

Patrick J. Murphy, Sr., 2842 Wills St., and Patrick J. Murphy, Jr., 2835 Wills St., both of Niagara Falls, Ontario, Canada

Filed Oct. 21, 1965, Ser. No. 499,501
Int. Cl. F23q *2/06, 25/00*
U.S. Cl. 431—137 5 Claims

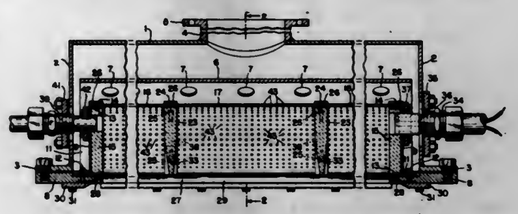
Lighters having (i) a large diameter thumb-wheel journalled to a flint-wheel, and both independent of a coaxial snuffer with rod and cam fast-return, permitting vigorous sparking, and self-locking exposed wick snuffer position, (ii) close proximity of wick and flint (iii) easy flint insertion from top (iv) snuffer return by flint pressure release (v) adjustability of peripheral contact between flint and wheel, and (vi) conical wick opening.



3,438,718
INDUSTRIAL BURNER

Charles W. Morck, Jr., Philadelphia, Pa., assignor to Selas Corporation of America, Dresher, Pa., a corporation of Pennsylvania

Filed Oct. 31, 1967, Ser. No. 679,344
Int. Cl. F23r *1/10*
U.S. Cl. 431—158 6 Claims

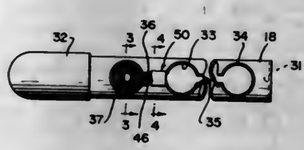


A commercial burner of the internal combustion type constructed of sheet metal parts. A combustible mixture of fuel and air is injected radially into a substantially cylindrical combustion chamber from a multiplicity of points with the products of combustion being discharged through a slot in the side of the chamber.

3,438,719
SPIRAL RIBBON GAS BURNER

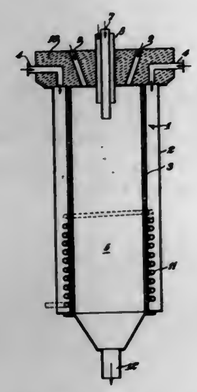
Frank Gething, Milwaukee, Wis., assignor to Cleaver-Brooks Company, a corporation of Wisconsin

Filed Oct. 19, 1966, Ser. No. 587,840
Int. Cl. F23c *5/08*; F23d *13/36*
U.S. Cl. 431—286 6 Claims



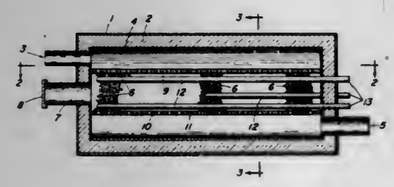
A burner assembly for use in a fire tube boiler including at least one pipe adapted to receive a combustible mixture therein, with a plurality of spaced generally circular openings in the pipe each having a cylindrical wall around the opening with a burner disc secured within each wall. Each disc is defined by a single length of spirally wound ribbon burner element, with spaced corrugations in each element cooperating with non-corrugated portions to form outlet openings of small cross sectional area. Diametrically extending pins positively retain each disc within its respective wall, and also hold adjacent convolutions of each disc against movement relative to one another.

3,438,720
OXIDES
Denis Cleaver, Saltburn, England, assignor to British Titan Products Company Limited, Billingham, England, a corporation of Great Britain
Filed Jan. 11, 1966, Ser. No. 520,006
Claims priority, application Great Britain, Jan. 18, 1965, 2,135/65
Int. Cl. C01b *13/14;* B01J *1/14;* H05h *1/00*
U.S. Cl. 23—1 14 Claims



In the production of metal or metalloid oxides by the vapor phase oxidation of a corresponding halide with an oxygenating gas in which a plasma-heated gas is provided in a reaction zone, a significant problem exists with regard to wall deposition and encrustation in the reaction zone. While this problem is particularly serious in all such plasma-heated reactions, it is particularly serious when the plasma is formed in the reaction zone since the encrustation significantly alters the induction characteristcis. By the transpiration of a suitable fluid through an internal fluid-permeable barrier, wall encrustation can be susbtantially eliminated or minimized. Both apparatus and process are claimed.

3,438,721
OXIDATION CATALYST FOR HYDROCARBON COMBUSTION EXHAUST GASES AND PROCESS FOR USING THE SAME
William Beveridge Innes, Upland, Calif., assignor to American Cyanamid Company, Stamford, Conn., a corporation of Maine
Original application Dec. 10, 1964, Ser. No. 417,405. Divided and this application Feb. 24, 1966, Ser. No. 529,866
Int. Cl. B01d *53/34;* B01j *9/04, 11/44*
U.S. Cl. 23—2 7 Claims



A method for oxidizing combustion exhaust gases by contacting in the presence of oxygen with an alumina base catalyst having copper and vanadium and optionally palladium; and an automobile exhaust gas converter using such a catalyst.

3,438,722
REMOVAL OF SULFUR OXIDES FROM FLUE GAS
Laszlo A. Herédy, Canoga Park, and Donald E. McKenzie and Samuel J. Yosim, Woodland Hills, Calif., assignors to North American Rockwell Corporation
Filed May 15, 1967, Ser. No. 638,528
Int. Cl. B01d *47/02;* C01b *17/16*
U.S. Cl. 23—2 7 Claims

A method for removing sulfur dioxide from flue gas by absorption of the sulfur dioxide in a molten alkali metal carbonate mixture. The absorbent is preferably regenerated and commercial sulfur values recovered as hydrogen sulfide by a single-stage treatment of the resultant absorbent solution with a gaseous mixture containing hydrogen and either carbon monoxide or carbon dioxide.

3,438,723
METHOD OF PREPARING +2 VALENT METAL YTTRIUM AND RARE EARTH FERRITES
Maggio P. Pechini, Williamstown, Mass., assignor to Sprague Electric Company, North Adams, Mass., a corporation of Massachusetts
No Drawing. Continuation-in-part of application Ser. No. 304,434, Aug. 26, 1963. This application July 10, 1967, Ser. No. 652,001
Int. Cl. C22b *59/00*
U.S. Cl. 23—22 5 Claims

The method of preparing ferrites comprising dissolving the oxide, alkoxide or alpha hydroxycarboxylate of iron in aqueous citric acid and dissolving in the resulting solution the oxide, hydroxide, carbonate or alkoxide of a +2 valency metal, yttrium or the rare earth metals. A resin forming portion of a polyhydroxy alcohol is then added and the solution heated to form a resin intermediate which is calcined to form the ferrite.

3,438,724
MANUFACTURE OF CHROMIUM SPINELS
Winslow H. Hartford, Manlius, and Walter R. Kelly, Geddes, N.Y., assignors to Allied Chemical Corporation, New York, N.Y., a corporation of New York
No Drawing. Filed Mar. 12, 1964, Ser. No. 351,544
Int. Cl. C01g *49/00, 37/00;* C04b *35/42*
U.S. Cl. 23—56 16 claims

Chromium spinels of the formula $X(Cr_nY_{1-n})_2O_4$ where X is one of the divalent metals magnesium, cobalt, manganese, nickel, iron, copper or zinc, Y is one of the trivalent metals aluminum, manganese, cobalt, iron, titanium or vanadium and *n* has a value greater than 0 up to and including 1 are prepared. The process comprises igniting a finely divided mixture containing oxide-yielding compounds of the divalent and trivalent metals, an alkali metal chromate and sulfur to initiate a self-sustaining reaction which yields a fused mass containing the spinel and by-product alkali metal sulfate. The by-product sulfate has been found to promote the reaction and contribute to optimum yields of the spinel product.

3,438,725
PROCESS FOR THE MANUFACTURE OF SODIUM TRIPOLYPHOSPHATE WITH A HIGH CONTENT OF THE LOW TEMPERATURE MODIFICATION
Gero Heymer, Knapsack, near Cologne, Heinz Harnisch, Lovenich, near Cologne, Gerhard Hartlapp, Hermulheim, near Cologne, and Karl Traulsen, Knapsack, near Cologne, Germany, assignors to Knapsack Aktiengesellschaft, Knapsack, near Cologne, Germany, a corporation of Germany
No Drawing. Filed July 7, 1967, Ser. No. 651,691
Claims priority, application Germany, Aug. 6, 1966, K 59,977
Int. Cl. C01b *25/30*
U.S. Cl. 23—106 2 Claims

Production of sodium tripolyphosphate containing less than 10% of weight high temperature modification (phase I) with the use of a phosphate solution containing a maximum of 0.26% by weight sulfate ions and a maximum of 0.11% by weight foreign elements, referred to P_2O_5.

3,438,726
BORIC ACID RECOVERY AND DEHYDRATION
Joseph Lee Russell, Ridgewood, and Mitchell Becker, Teaneck, N.J., assignors to Halcon International Inc., a corporation of Delaware
Continuation-in-part of application Ser. No. 310,523, Sept. 19, 1963. This application Dec. 1, 1967, Ser. No. 687,388
Int. Cl. C01b *35/00*
U.S. Cl. 23—149 3 Claims

The present invention is directed to an improved process for the recovery and workup of an ortho boric acid solution in an all liquid system for recycle and reuse in a hydrocarbon oxidation. A borate ester is hydrolyzed at elevated temperatures whereby a highly concentrated ortho boric acid solution can be recovered and this concentrated solution is dispersed in a hydrocarbon and dehydrated to produce a meta boric acid dispersion suitable for use in an oxidation process.

3,438,727
ABSORBENT REGENERATION USING CARBON REGENERANT
Laszlo A. Herédy, Canoga Park, Calif., assignor to North American Rockwell Corporation
Filed May 15, 1967, Ser. No. 638,365
Int. Cl. C01b *17/16*
U.S. Cl. 23—181 9 Claims

A method for removing sulfur dioxide from flue gas by (1) absorption of the sulfur dioxide in a molten salt mixture containing alkali metal carbonate to form alkali metal sulfite and (2) regeneration of the absorbent and recovery of hydrogen sulfide by either a one-stage or two-stage treatment of the resultant absorbent solution. For single-stage regeneration, the sulfite-containing absorbent solution is reacted with a hydrocarbonaceous composition, preferably carbon and hydrogen. For the two-stage regeneration, the sulfite-containing absorbent solution is first treated with a carbonaceous material, preferably carbon, to reduce the alkali metal sulfite to alkali metal sulfide, which is then treated with a gaseous mixture containing steam and carbon dioxide to form hydrogen sulfide and regenerate the alkali metal carbonate absorbent.

3,438,728
TWO-STAGE REGENERATION OF ABSORBENT FOR SULFUR OXIDES
Le Roy F. Grantham, Calabasas, Calif., assignor to North American Rockwell Corporation
Filed May 15, 1967, Ser. No. 638,529
Int. Cl. C01b *17/16*
U.S. Cl. 23—181 8 Claims

A method for removing sulfur dioxide from flue gas by (1) absorption of the sulfur dioxide in a molten salt mixture containing alkali metal carbonate to form alkali metal sulfite, (2) reduction of the alkali metal sulfite by treatment with hydrogen, carbon monoxide, or a mixture thereof to form alkali metal sulfide, and (3) treatment of the alkali metal sulfide with a gaseous mixture containing steam and carbon dioxide to form hydrogen sulfide and regenerate the alkali metal carbonate absorbent.

3,438,729
PREPARATION OF FINELY DIVIDED CRYSTALLINE METAL CARBIDES
Harold A. Ohlgren, 2920 Overridge Drive, Ann Arbor, Mich. 48104
Filed July 16, 1965, Ser. No. 472,469
Int. Cl. C01b *31/36*
U.S. Cl. 23—208 4 Claims

A process for manufacturing metal carbides which are used principally as abrasive grits and abrasive structures wherein raw material mixtures are subjected to controlled temperature and time conditions causing rapid chemical reaction rates and nucleation of the raw materials promoting the formation of the uniform microcrystallites of metal carbides.

3,438,730
METHOD OF DISINTEGRATING SINTERED HARD CARBIDE MASSES
Warren M. Shwayder, 684 E. Woodbridge, Detroit, Mich. 48226
No Drawing. Filed Nov. 14, 1966, Ser. No. 593,675
Int. Cl. C01b *31/30;* C22c *29/00*
U.S. Cl. 23—208 6 Claims

1. A method of disintegrating sintered hard carbide masses formed of hard carbide particles, such as tungsten carbide, titanium carbide and tantalum carbide, cemented by cobalt, comprising immersing such masses in a relatively weak phosphoric acid at relatively low temperature, such as in the range of slightly above room temperature, thereby causing the cobalt to dissolve in said acid and freeing the particles in essentially their original, pre-sintered sizes, from the masses and causing the particles to suspend in the acid; and thereafter mechanically separating the particles from the acid, such as by centrifuging or filtering.

3,438,731
METHOD OF PRODUCING FLAKE GRAPHITE
Gilbert S. Layne and James O. Huml, Midland, Mich., assignors to The Dow Chemical Company, Midland, Mich., a corporation of Delaware
Filed Feb. 13, 1967, Ser. No. 615,618
Int. Cl. C01b *31/04*
U.S. Cl. 23—209.1 6 Claims

A process for producing flake graphite which comprises heating, in an inert atmosphere, a mixture of a metal carbide and a metal sulfide or halide capable of forming a gaseous subvalent metal compound. When the temperature of the mixture reaches the formation temperature of the gaseous subvalent metal compound, such compound is removed as a gas from a solid residue of graphite flakes. The metal carbide starting material may be prepared either by direct reaction of a carbide-forming metal with carbon or by cooling a subvalent metal compound to below its formation temperature in the presence of carbon.

3,438,732
METHOD AND APPARATUS FOR PRODUCTION OF CARBON BLACK
Roger Morel, 3 Rue d'Aumale, 75, Paris 9, France
Filed May 26, 1966, Ser. No. 553,241
Claims priority, application France, May 31, 1965, 18,909
Int. Cl. C09c *1/48*
U.S. Cl. 23—209.4 8 Claims

A system in the form of a method and apparatus is

provided for continuously producing carbon black by introducing an atomized stream of hydrocarbon within a confined space and cracking the hydrocarbon to produce carbon black and tail-gas by contacting the hydrocarbon with a hot gas. The improvement resides in the step of freeing the tail-gas of water vapor and combustible components to provide inert tailgas which is recirculated to the confined space together with air and a combustible gas.

3,438,733
SULFUR PRODUCTION USING CARBON REGENERANT

Le Roy F. Grantham, Calabasas, and Christian M. Larsen, Reseda, Calif., assignors to North American Rockwell Corporation, a corporation of Delaware

Filed May 15, 1967, Ser. No. 638,366
Int. Cl. C01b *17/02*
U.S. Cl. 23—224 **4 Claims**

A method for removing sulfur dioxide from flue gas and recovering it as sulfur by (1) absorption of the sulfur dioxide in a molten salt mixture containing alkali metal carbonate to form alkali metal sulfite and (2) regeneration of the absorbent and formation of elemental sulfur by reacting the alkali metal sulfite-containing absorbent solution with a carbonaceous material, preferably activated carbon, under reaction conditions favoring formation of sulfur.

3,438,734
SULFUR PRODUCTION USING CARBON OXIDE REGENERANT

Le Roy F. Grantham, Calabasas, Calif., assignor to North American Rockwell Corporation, a corporation of Delaware

Filed May 15, 1967, Ser. No. 638,530
Int. Cl. C01b *17/02*
U.S. Cl. 23—224 **7 Claims**

A method for removing sulfur dioxide from flue gas and recovering it as sulfur by (1) absorption of the sulfur dioxide in a molten salt mixture containing alkali metal carbonate to form alkali metal sulfite, (2) reduction of alkali metal sulfite by treatment with a reducing agent to form alkali metal sulfide, and (3) treatment of the alkali metal sulfide with alkali metal sulfite and a gaseous mixture containing carbon monoxide, carbon dioxide, or carbon monoxide-carbon dioxide to regenerate the alkali metal carbonate absorbent and form elemental sulfur.

3,438,735
REMOVAL OF METALS FROM OLEAGINOUS MATERIALS AND ANALYSIS OF THE METALS

Doris M. Doyle, Springfield, Pa., assignor to The Boeing Company, Seattle, Wash., a corporation of Delaware

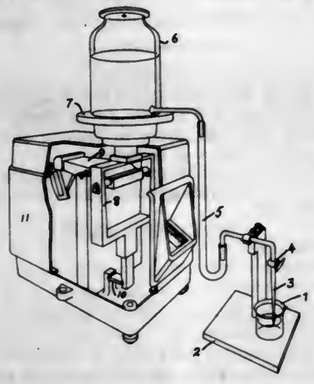
No Drawing. Filed Dec. 18, 1964, Ser. No. 419,547
Int. Cl. B01d *11/02*; G01n *21/20*
U.S. Cl. 23—230 **29 Claims**

A method and composition for removing metal contaminants, such as metallic iron and the like, from oleaginous materials, particularly helicopter gear box oils, and determining the relative quantity of the removed metal, including mixing all or a part of the oil with a carrier liquid, which is immiscible with the oil so as to form two separate liquid phases, for example an oil phase and an anhydrous diethylether phase, and a solubilizing composition capable of converting the metal in question to a form having a substantial affinity for the carrier liquid, for example hydrochloric acid to convert metallic iron to ferrous chloride and hydrogen peroxide to oxidize the ferrous chloride to ferric chloride which is soluble in the diethylether phase, separating the carrier liquid containing the solubilized metal contaminant from the oil, filtering the carrier liquid to remove oil droplets therefrom, preferably adding a second portion of the solubilizing composition to separate any residual oil, again filtering the carrier layer and washing with distilled water, and analyzing the resultant liquid for the metal in question, as by adding a color indicator, such as 1,10-phenanthroline, and measuring the intensity of the resultant color against a standard.

3,438,736
GRAVIMETRIC TITRATION PROCESS AND APPARATUS THEREFOR

Hans Conrad Jucker, Kusnacht, Switzerland, assignor to Mepag A.G., Zollikon, Switzerland, a corporation of Switzerland

Filed Apr. 13, 1966, Ser. No. 542,436
Claims priority, application Switzerland, June 22, 1965, 8,717/65
Int. Cl. G01n *31/16, 5/00*
U.S. Cl. 23—230 **4 Claims**



1. A gravimetric titration process in which a reagent solution is fed to a titration vessel through a discharge nozzle which is held stationary relative to said titration vessel throughout the titration, and in which said reagent solution is fed to said nozzle from a reservoir supported throughout the titration on the scale pan of a balance so that the weight of solution discharged to the titration vessel may be continuously measured.

3,438,737
PROTEIN TEST COMPOSITION, DEVICE AND METHOD

Roger Lee Atkinson, Three Rivers, Mich., and Marshall Lloyd Fader, Elkhart, Ind., assignors to Miles Laboratories, Inc., Elkhart, Ind., a corporation of Indiana

No Drawing. Continuation-in-part of application Ser. No. 492,264, Oct. 1, 1964. This application May 5, 1966, Ser. No. 547,766
Int. Cl. G01n *31/22*
U.S. Cl. 23—230 **28 Claims**

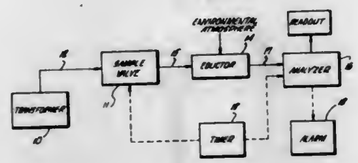
A test composition, device and method for detecting protein in fluids comprising a pH chromogenic indicator material exhibiting protein error, a buffer for maintaining the pH of the test system at a value within the pH range in which the pH indicator is normally chromogenically responsive to a change in pH and, preferably, a background coloring material. The system is also preferably incorporated with a bibulous carrier material.

3,438,738
TRANSFORMER INCIPIENT FAULT DETECTION

Kenneth W. Johnson, Palo Alto, Calif., assignor to Johnson-Williams, Inc., Mountain View, Calif., a corporation of California

Filed June 1, 1965, Ser. No. 460,279
Int. Cl. G01n *27/62, 31/00*
U.S. Cl. 23—232 **6 Claims**

Detection of incipient faults in transformers having an insulating fluid in contact with an inert gas under pressure. The gas under pressure is periodically sampled, and the sample, under pressure, is applied to an eductor. The sample flow through the eductor educts air into the

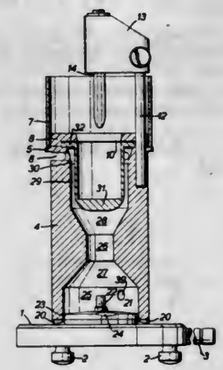


sample so as to form a combustible mixture. The mixture is applied to a catalytic filament type combustible gas detector.

3,438,739
RING OVENS

Robert H. Powell, Surrey, England, assignor to Shandon Scientific Company Limited, London, England, a British company

Filed Apr. 13, 1966, Ser. No. 542,325
Claims priority, application Great Britain, Mar. 30, 1966, 14,029/66
Int. Cl. G01w *31/20*
U.S. Cl. 23—253 **7 Claims**



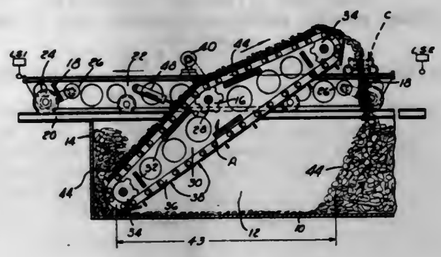
Gas heated ring oven comprising a gas burner at the base of a chimney the top of which supports a heat-conductive well that is heated by combustion products rising in the chimney and exhausting through apertures in the chimney in the region of the well, the well providing a rim for supporting a filter paper disc secured by an overlying clamp ring. In a modification, metal inserts fit within the well for gripping a filter paper strip held by support means disposed above the well.

3,438,740
COMPOSTING CONVEYOR

Victor Brown, Elmhurst, Ill., assignor to New Life Foundation, a corporation of Illinois

Filed Feb. 1, 1966, Ser. No. 524,344
Int. Cl. C05f *9/02, 9/04*
U.S. Cl. 23—259.1 **5 Claims**

A compositing conveyor movable along an elongated tank for periodically agitating organic material placed in veyor to a position above the level of the material in the tank and discharge it back into the tank, the conveyor being reversible as to direction of travel relative to the tank whereby it may traverse the tank in alternately opposite directions. The conveyor is pivoted intermediate its the conveyor moves longitudinally of the tank in the opposite direction. Reversible means is provided for simultaneously traversing the wheeled frame along the tank, actuating the inclined conveyor and effecting its inclination, control means being provided adjacent each end of the tank and operable by the wheeled frame approaching such control means for effecting simultaneous reversal of the wheeled frame, and the inclination of the conveyor. A second conveyor laterally of the tank travels along with

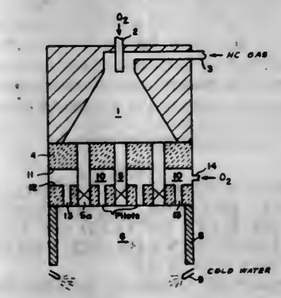


the inclined conveyor to receive material from it and discharge it beyond one side of the tank after the organic material has been aerobically digested. The control means the tank for aerobic digestion. The conveyor is inclined and operable in a gap of the material to progressively elevate the material adjacent the lower portion of the conwhen the frame moves longitudinally of the tank in one direction and for inclination in an opposite direction when inclination of the conveyor is effected by a hydraulic unit includes limit switches at the ends of the tank and the responsive to the limit switches.

3,438,741
APPARATUS FOR FLAME REACTION OF HYDROCARBONS

Joe M. Boyd, La Marque, Philip Grandio, Jr., Texas City, and James R. Lobb, Dickinson, Tex., assignors to Monsanto Company, St. Louis, Mo., a corporation of Delaware

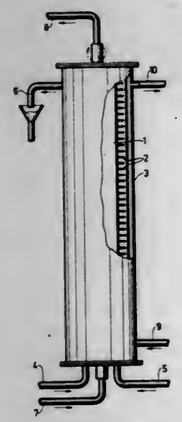
Filed Aug. 25, 1966, Ser. No. 575,133
Int. Cl. B01f *3/02*
U.S. Cl. 23—277 **8 Claims**



A cylindrical gas distributor for use in an apparatus for the incomplete combustion of hydrocarbons with oxygen in a flame reaction having a plurality of parallel channels for passing gas from the mixing chamber to the reaction chamber of said apparatus which contain devices for imparting a swirling motion to the gases exiting therefrom, said gas distributor being fabricated of ceramic material combined with metal and designed so as to provide uni-

form gas distribution to the pilot flames on the face of the gas distributor and thus provide a uniform flame front in the reactor.

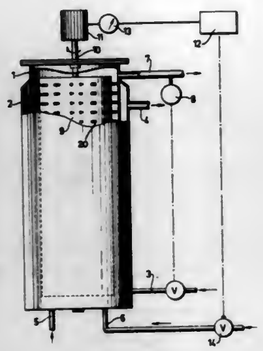
3,438,742
APPARATUS FOR CONTINUOUS SULPHONATION AND/OR SULPHATION OF ORGANIC SUBSTANCES
Helmut Grunewald, Goteborg, and Olof Steijner, Stenungsund, Sweden, assignors to Mo och Domsjo Aktiebolag, Ornskoldsvik, Sweden, a corporation of Sweden
Filed Nov. 3, 1964, Ser. No. 408,624
Claims priority, application Sweden, Nov. 4, 1963, 12,099/63
Int. Cl. B01l *11/00*; F28d *7/10*
U.S. Cl. 23—285 9 Claims



Apparatus is provided for carrying out exothemic reactions of organic substances, requiring cooling during the reaction to maintain reaction temperature within a desired range. The apparatus comprises two concentrically spaced cooling surface members. One of the cooling surface members is movably mounted with respect to the other and is provided with members protruding at approximately right angles to the cooling surface, and arranged to impart a rotating axial and lateral turbulent movement to fluid in the space between the cooling members. The apparatus also contains means for introducing fluid into the space, and means for carrying away fluid ejected from the space by such rotation. The apparatus of the invention is particularly useful in carrying out a process for continuous sulphonation and/or sulphation of fluid organic compounds with sulphur trioxide.

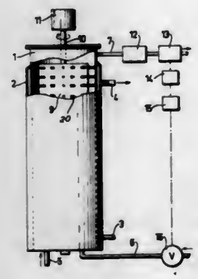
3,438,743
APPARATUS FOR SULPHONATING AND/OR SULPHATING ORGANIC COMPOUNDS CONTROLLING THE RATE OF FEED OF THE REACTANT BY MEASUREMENT OF THE VISCOSITY OF THE REACTION MIXTURE
Helmut Grunewald, Goteborg, and Olof Steijner, Stenungsund, Sweden, assignors to Mo och Domsjo Aktiebolag, Ornskoldsvik, Sweden, a corporation of Sweden
Continuation-in-part of application Ser. No. 408,624, Nov. 3, 1964. This application Feb. 1, 1965, Ser. No. 429,546
Claims priority, application Sweden, Nov. 4, 1963, 12,099/63; Feb. 4, 1964, 1,316/64
Int. Cl. B01j; C07c *143/24*
U.S. Cl. 23—285 7 Claims

Apparatus is provided for the controlled sulphonation and/or sulphation of organic compounds, by measurement of the viscosity of the reaction mixture, and controlling the rate of feed of the reactant according to vis-



cosity in order to adjust the sulphonation and/or sulphation degree within the desired limits.

3,438,744
APPARATUS FOR SULPHONATING AND/OR SULPHATING ORGANIC COMPOUNDS CONTROLLING THE SULPHONATION OR SULPHATION DEGREE ACCORDING TO THE CONDUCTIVITY OF THE REACTION MIXTURE
Olof Steijner, Stenungsund, Sweden, assignor to Mo och Domsjo Aktiebolag, Ornskoldsvik, Sweden, a corporation of Sweden
Filed Feb. 1, 1965, Ser. No. 429,557
Claims priority, application Sweden, Feb. 4, 1964, 1,318/64
Int. Cl. C01b *17/96*
U.S. Cl. 23—285 6 Claims

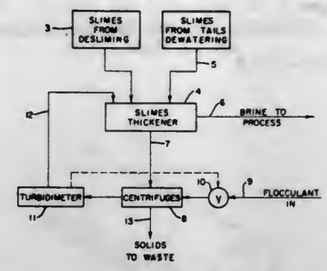


Apparatus is provided for use in the sulphonation and/or sulphation of organic compounds, having means for measuring the conductivity of the reaction mixture and controlling the rate of speed of the reactants to maintain a predetermined degree of sulphonation or sulphation.

3,438,745
CONTROL OF FLOCCULANT INTRODUCTION TO CENTRIFUGING IN POTASH ORE TREATMENTS
Randal E. Smith, Carlsbad, N. Mex., assignor, by mesne assignments, to Ideal Basic Industries, Inc., Denver, Colo., a corporation of Colorado
Filed Aug. 17, 1965, Ser. No. 480,457
Int. Cl. B01j *9/06*
U.S. Cl. 23—312 4 Claims

A continuous treatment of sylvinite ore in stages, including a regulation of the quantity of flocculant introduction into a centrifuging treatment of thickened slimes of a sylvinite ore treatment for recovery of a clarified

brine for use in another stage of the circuit by continuous measurement of turbidity in the centrate discharge of centrifuging, and automatically regulating the



input of flocculant to centrifuging to a minimum amount established by measured changes in turbidity of the centrate discharge so as to maintain a desired uniformity of clarity of the centrate.

3,438,746
EXTRACTION OF WET PROCESS PHOSPHORIC ACID USING ORGANIC SULFOXIDES
Gilbert Cousserans and Robert Amanrich, Toulouse, France, assignors to Office National Industriel de l'Azote, Toulouse, France
No Drawing. Filed Aug. 31, 1966, Ser. No. 576,250
Claims priority, application France, Sept. 2, 1965, 30,193
Int. Cl. B01j *9/00*; C01b *25/22*
U.S. Cl. 23—312 12 Claims

1. In a method for the selective extraction of phosphoric acid from a solution resulting from the decomposition by a member selected from the group consisting of sulfuric acid and hydrochloric acid by subjecting the said solution to extraction with a solvent and recovering P_2O_5 from the obtained extract, the improvement according to which the extraction is carried out with a solvent selected from the group consisting of di-n-butylsulfoxide, di-isobutylsulfoxide, dipentylsulfoxide, dihexylsulfoxide, didodecylsulfoxide, diphenylsulfoxide, dichloroethylsulfoxide, diethoxyethylsulfoxide, dibenzylsulfoxide, phenylbenzylsulfoxide and dodecylvinylsulfoxide and mixtures thereof.

3,438,747
NOVEL BORON CONTAINING COMPOUNDS AND PROCESS FOR THEIR PREPARATION
Walter R. Hertler, Wilmington, Del., assignor to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware
No Drawing. Filed Sept. 27, 1965, Ser. No. 490,661
Int. Cl. C01b *35/00, 6/22*; C07f *5/02*
U.S. Cl. 23—315 7 Claims

The reaction of decaborane with a sulfur diimine results in the formation of $B_{10}H_{11}S^-$ anions. The acid, alkali metal, alkaline earth metal and ammonium salts are disclosed. The compounds are useful reducing agents. By calcination the compounds form resistive elements. Copolymers with isocyanides can also be made.

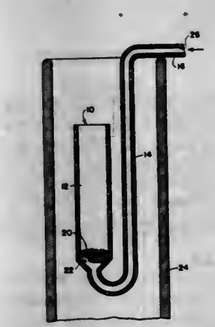
3,438,748
METHOD FOR THE PREPARATION OF THIOGOLD (I) COMPOUNDS
Bernard Hippoliet Tavernier, Edegem, and Alfons Jozef De Meyer, Schelle, Belgium, assignors to Gevaert-Agfa N.V., Mortsel, Belgium, a Belgian company
No Drawing. Filed Dec. 19, 1966, Ser. No. 602,492
Claims priority, application Great Britain, Dec. 29, 1965, 55,043/65
Int. Cl. C07f *1/12*; C01b *17/00*; C01g *7/00*
U.S. Cl. 23—315 5 Claims

High purity thiogold (I) compounds useful in preparing photo-sensitive silver halide emulsion layers are prepared by

(1) Mixing a gold (III) compound with aqueous ammonia to form a "gold fulminate," and

(2) Causing the "gold fulminate" to react with a compound containing a bivalent sulfur atom such as a thiol or salt thereof, a thioacid or its corresponding anhydride, a thioether, a thio-oxo compound, or a thiosulphate. Steps (1) and (2) may be combined by forming the "gold fulminate" in situ, i.e., by reacting the gold (III) compound directly with one of the above sulfur compounds in an aqueous-ammonia medium.

3,438,749
ION EXCHANGE METHOD FOR PREPARING METAL OXIDE MICROSPHERES
Frank D. Lonadier, Miamisburg, and Willard B. Brown and Fred C. Fushimi, Dayton, and Gary L. Silver, Centerville, Ohio, assignors to the United States of America as represented by the United States Atomic Energy Commission
Filed Oct. 25, 1966, Ser. No. 589,467
Int. Cl. C01g *56/00*
U.S. Cl. 23—344 7 Claims



A process for the preparation of metal oxide microparticles comprising absorbing metal cations in an ion exchange resin and burning away the resinous portion leaving metal oxide microparticles as residue.

3,438,750
PALLADIUM CARBONYL HALIDE AND METHODS FOR ITS PREPARATION
Wilhelm J. Schnabel, Branford, Ehrenfried H. Kober, Hamden, and Strong K. Gardner, North Haven, Conn., assignors to Olin Mathieson Chemical Corporation, a corporation of Virginia
No Drawing. Continuation of application Ser. No. 629,359, Apr. 10, 1967. This application Apr. 30, 1968, Ser. No. 739,985
Int. Cl. C01g *55/00*
U.S. Cl. 23—367 10 Claims

A new composition of matter having the formula

$$[Pd(CO)X]_n$$

where X is a halogen and where n is an integer in a range between about 2 and about 100,000. This composition is prepared by reacting carbon monoxide with a palladium-containing material selected from the group consisting of

(a) palladium dihalide
(b) a mixture of elemental palladium with an acid halide, and
(c) mixtures thereof,

in the presence of a liquid reaction medium.

3,438,751
BERYLLIUM-ALUMINUM-SILICON COMPOSITE
Richard H. Krock, Peabody, Mass., Earl I. Larsen, Indianapolis, Ind., and Clintford R. Jones, Arlington, Mass., assignors to P. R. Mallory & Co. Inc., Indianapolis, Ind., a corporation of Delaware
Filed Mar. 23, 1967, Ser. No. 625,377
Int. Cl. B22f 7/00
U.S. Cl. 29—182.1 4 Claims

A two-phase composite material whose microstructure consists of pure beryllium dispersed in an aluminum-silicon-beryllium heat treatable matrix phase was prepared by liquid phase sintering pressed powder mixtures of beryllium, aluminum and silicon.

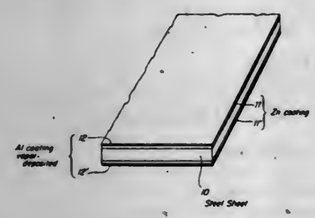
3,438,752
BERYLLIUM-SILVER-TIN COMPOSITE
Richard H. Krock, Peabody, Mass., Earl I. Larsen, Indianapolis, Ind., and Clintford R. Jones, Arlington, Mass., assignors to P. R. Mallory & Co. Inc., Indianapolis, Ind., a corporation of Delaware
Filed Mar. 23, 1967, Ser. No. 625,473
Int. Cl. C22c 25/00; B22f 3/10
U.S. Cl. 29—182.1 4 Claims

A two phase composite material whose microstructure consists of beryllium dispersed in a beryllium-silver-tin solid solution alloy matrix was produced by liquid phase sintering pressed powder mixtures of beryllium, silver, and tin.

3,438,753
TUNGSTEN-COPPER COMPOSITES
James C. Kenney and J Richard Lawrence, Indianapolis, Ind., assignors to P. R. Mallory & Co., Inc., Indianapolis, Ind., a corporation of Delaware
No Drawing. Original application July 23, 1965, Ser. No. 474,448, now Patent No. 3,382,066. Divided and this application May 1, 1967, Ser. No. 649,388
Int. Cl. B22f 7/00
U.S. Cl. 29—182.1 7 Claims

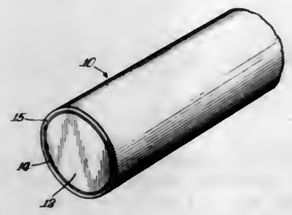
A tungsten-copper composite wherein a body of tungsten and copper is formed by pressing and sintering co-reduced powders of tungsten and copper, the body being impregnated with additional copper.

3,438,754
ZINC-COATED STEEL WITH VAPOR-DEPOSITED ALUMINUM OVERLAY AND METHOD OF PRODUCING SAME
George A. Shepard, Parma, and Carl F. Brooker, Garfield Heights, Ohio, assignors to Republic Steel Corporation, Cleveland, Ohio, a corporation of New Jersey
Filed Feb. 18, 1965, Ser. No. 433,710
Int. Cl. B21c 23/22; C23f 17/00; B44d 1/14
U.S. Cl. 29—183.5 12 Claims



A zinc-coated steel article with a vapor-deposited aluminum overlay is produced by applying to a steel surface an adherent coating of zinc, and thereafter applying a coating of aluminum to the zinc-coated steel surface by depositing aluminum vapor thereon.

3,438,755
WELDING WIRE
Thomas N. Millhoff, Niles, Mich., assignor to National-Standard Company, Niles, Mich., a corporation of Delaware
Filed Oct. 19, 1966, Ser. No. 587,746
Int. Cl. B22d 19/08
U.S. Cl. 29—183.5 5 Claims



1. A welding wire comprising a steel core, a first copper coating on said steel core, a second manganese coating on said copper coating, and said first copper coating defining a substrate for said second manganese coating.

3,438,756
ANTISMOKE BARIUM PHENATE COMPOSITIONS
Eddie G. Lindstrom, Martinez, Calif., assignor to Chevron Research Company, San Francisco, Calif., a corporation of Delaware
No Drawing. Filed June 27, 1966, Ser. No. 560,907
Int. Cl. C10l 10/02, 1/18
U.S. Cl. 44—51 6 Claims

Barium compositions are provided for fuels to reduce smoking comprising a combination of alkylphenol, either bridged or unbridged, with a relatively high molecular weight alkenyl succinic acid and barium carbonate, prepared by carbonation of barium oxide dispersed in the presence of the alkylphenol and alkenyl succinic acid.

3,438,757
HYDROCARBYL AMINES FOR FUEL DETERGENTS
Lewis R. Honnen and Robert Gordon Anderson, Novato, Calif., assignors to Chevron Research Company, San Francisco, Calif., a corporation of Delaware
No Drawing. Continuation-in-part of applications Ser. No. 408,686, Nov. 3, 1964, Ser. No. 481,916, Aug. 23, 1965, Ser. No. 488,775, Sept. 20, 1965, and Ser. No. 538,571, Mar. 30, 1966. This application June 21, 1967, Ser. No. 647,611
Int. Cl. C10l 1/22
U.S. Cl. 44—58 12 Claims

Hydrocarbyl amines and polyamines substantially free of aromatic unsaturation of from about 450 to 10,000 molecular weight find use as detergents in fuels, particularly in combination with a small amount of an oil. The amine portion is primarily amino or alkylene polyamine.

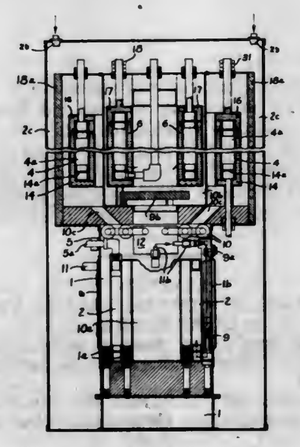
3,438,758
CURTAIN CLAMPING STRUCTURE FOR GASHOLDERS
John H. Wiggins, P.O. Box 418, Menlo Park, Calif. 94025
Filed Mar. 15, 1965, Ser. No. 439,756
Int. Cl. F17b 1/24
U.S. Cl. 48—174 6 Claims

A gasholder having a side wall and a piston disposed concentrically thereof and a sealing curtain attached to the side wall and to the piston by sealing structure, the sealing structure including a sealing bar held in position by a series of clamping keys each having a recess at one

end to engage the sealing bar and having a foot on the other end to engage the adjacent wall to hold the clamping key in spaced relation from the sealing curtain, and nut and bolt fasteners for mounting the clamping keys on the associated wall, the end of the clamping key engaging the sealing bar being shaped to have a recess to receive a sealing bar and a nose with an outer curved configuration projecting beyond the sealing bar properly to control the bending of the curtain during the folding thereof over the clamping key.



3,438,759
GAS REFORMER AND CONTROL MEANS
Henry R. Linden and Bernard S. Baker, Hinsdale, and John Meek and Arthur C. Allen, Chicago, Ill., assignors, by mesne assignments, of one-half to Consolidated Natural Gas Service Company, Inc., Pittsburgh, Pa., a corporation of Delaware, and one-half to Southern California Gas Company, Los Angeles, Calif., a corporation of California, and Southern Counties Gas Company of California, Los Angeles, Calif., a corporation of California, jointly
Filed Dec. 3, 1965, Ser. No. 511,452
Int. Cl. C10k 3/04; B01j 9/04
U.S. Cl. 48—196 14 Claims

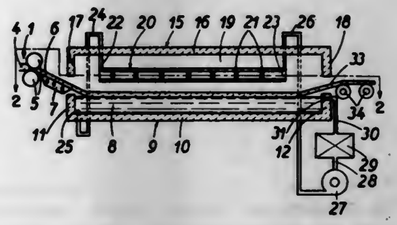


Apparatus and temperature control means for effecting steam reformation of gaseous hydrocarbons, particularly methane or natural gas, followed by carbon monoxide shift and methanation of the resultant gas to produce a hydrogen-rich gas with substantially no carbon monoxide. A plurality of reactors are staged and so positioned that waste heat from each higher temperature reactor is used to maintain the temperature of the next lower temperature reactor. Above the steam reformation section of the apparatus is located a jacketed carbon monoxide shift reactor and a jacketed methanation reactor. Jacketing fluids maintained at or near their boiling point serve as a means to control the temperature of each reactor. Heat is supplied to the reforming section by a gas burner and the exhaust flue gas serves first to heat the jacketing fluids and to maintain the shift and methanation reactors.

3,438,760
METHOD OF COLORING GLASS
David Gordon Loukes, Eccleston Park, Prescot, and Edward Albert Buckley, Liverpool, England, assignors to Pilkington Brothers Limited, Liverpool, England, a company of Great Britain
No Drawing. Filed June 21, 1965, Ser. No. 465,733
Claims priority, application Great Britain, June 23, 1964, 25,954/64
Int. Cl. C03c 17/06
U.S. Cl. 65—30 9 Claims

A method of treating glass containing on the surface a reducing agent, comprising treating the surface with metal which does not normally exhibit a valency 1 or compound of such metal at an elevated temperature to introduce some of the metal into the glass.

3,438,761
METHOD AND APPARATUS FOR MANUFACTURING FLOAT GLASS WITH INTERNAL CIRCULATORY BATH HEAT EXCHANGE
Pierre Eloy, Lodelinsart, Belgium, assignor to Glaverbel S.A., Brussels, Belgium
Filed Oct. 20, 1966, Ser. No. 588,059
Claims priority, application Belgium, Oct. 21, 1965, 49,673
Int. Cl. C03b 18/02
U.S. Cl. 65—99 17 Claims

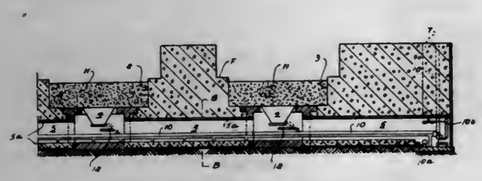


Method and apparatus of manufacturing flat glass in which molten or plastic glass is fed onto a bath of molten metal in a tank to form a floating layer and cooled as it moves along the tank to a withdrawal point. Recirculating the molten metal of the bath by means provided therefor, through at least one heat exchanger provided in the tank; the molten metal being recirculated from the colder end portion to the hotter end portion of the bath. Raising the temperature of the recirculated molten metal in the heat exchanger by transferring heat from the contents of the tank to the heat exchanger.

3,438,762
SLAG PROCESSING PLANT
Fritz Forschepiepe, Asselner Hellweg 106, Dortmund-Asseln, Germany
Filed Mar. 2, 1965, Ser. No. 436,524
Int. Cl. C03b 37/10
U.S. Cl. 65—141 12 Claims

In a slag processing plant, in which a plurality of open casting beds arranged to receive a supply of molten slag

which, after hardening, is broken up in the bed to form a mass of particulated material, are each provided with a bunker extending downwardly from the respective bed so that the particulated material may be pushed from the bed



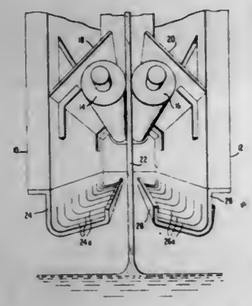
thereinto, and in which transporting means located in channel means extending at least in part below the bed and below and between the bunkers serve to transport the particulated material from the bunkers to a loading station.

3,438,763

COMB-LIKE CATCH PANS FOR VERTICAL DRAW SHEET GLASS MAKING MACHINES

John Martin, Anahuac, Monterrey, Nuevo Leon, Mexico, assignor to Fabricacion de Maquinas, Monterrey, Mexico, a corporation of Mexico

Filed Oct. 19, 1965, Ser. No. 497,659
Int. Cl. C03b *15/02*
U.S. Cl. 65—165 **3 Claims**



Catch pans for a vertical draw sheet glass forming and annealing machine are disclosed which are positioned at the lower end of the machine between the molten glass bath and the first pair of drawing rolls. Each catch pan is slit at a plurality of points pependicular to the plane of the glass sheet and is covered on one side with a replaceable sheet metal cover.

3,438,764

STABLE FERTILIZER AMMONIATING SOLUTION AND METHOD OF MAKING SAID SOLUTION

Robert J. Church, Wilmington, Del., assignor to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware

No Drawing. Continuation-in-part of application Ser. No. 304,268, Aug. 23, 1963. This application Aug. 30, 1965, Ser. No. 483,842
Int. Cl. C05c *9/02*
U.S. Cl. 71—30 **3 Claims**

A fertilizer ammoniating solution is made by heating a composition nominally containing 12–26% ammonia, 17–41% urea, 16–36% formaldehyde, 14–29% water and 0–7% carbon dioxide, the mol ratio of urea to formaldehyde between 0.3:1 to 1:1, for a period of time to produce a crystallization temperature between 4° and —20° C.

3,438,765

METHOD FOR TOBACCO SUCKER CONTROL

Tien C. Tso, Beltsville, and George L. Steffens, Silver Spring, Md., assignors to the United States of America as represented by the Secretary of Agriculture

No Drawing. Original application Mar. 26, 1965, Ser. No. 443,106. Divided and this application Oct. 22, 1965, Ser. No. 508,414
Int. Cl. A01n *9/24, 5/00*
U.S. Cl. 71—78 **6 Claims**

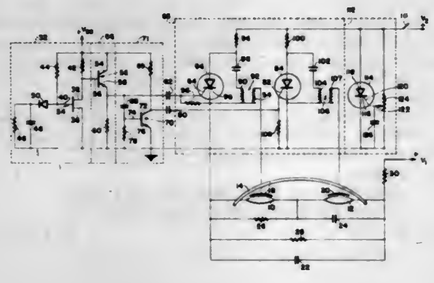
A method is developed for inhibiting the growth of suckers on tobacco plants by applying to topped tobacco plants or nontopped plants having newly formed flower buds a mixture of isopropyl-N-(3-chlorophenyl) carbamate and a saturated C_6 to C_{18} fatty alcohol. This invention relates to the discovery that, when these alcohols are mixed with amounts of synthetic growth regulators which are ordinarily too small for effective control, excellent inhibition of sucker development is achieved. Although all of the C_6 to C_{18} saturated fatty alcohols have been found effective in the mixture, best results were obtained with octanol and decanol.

3,438,766

ELECTRONIC FLASH APPARATUS HAVING VARIABLE OUTPUT

Conrad H. Biber, Needham, Mass., assignor to Polaroid Corporation, Cambridge, Mass., a corporation of Delaware

Filed May 25, 1966, Ser. No. 552,920
Int. Cl. G03b *9/70*
U.S. Cl. 95—11 **22 Claims**



Electronic flash apparatus which produces a succession of periodic light pulses, the number and frequency of which are controlled to regulate the light output thereof. The light pulses are of continually decreasing peak amplitudes. To compensate for illumination drop off with increasing object distances, the pulses are provided so as to increase in frequency with time in an exponential manner.

3,438,767

RECOVERY OF COPPER VALUES FROM COPPER ORE

Georg Ludvig Busch, Raa, Sweden, assignor to W. R. Grace & Co., New York, N.Y., a corporation of Connecticut

No Drawing. Filed Oct. 9, 1967, Ser. No. 673,976
Claims priority, application Great Britain, Oct. 28, 1966, 48,388/66
Int. Cl. C22b *15/08*
U.S. Cl. 75—117 **6 Claims**

Copper is recovered from copper bearing ores by first contacting the ore with an aminocarboxylic acid or derivative thereof to produce a solution containing a copper chelate or complex of copper, and subsequently reducing the chelate to obtain copper metal.

3,438,768

SEPARATION OF COBALT FROM NICKEL BY EXTRACTION FROM AMMONIACAL SOLUTION

Allan W. Ashbrook, Ottawa, Ontario, and Gordon M. Ritcey, Bell's Corners, Ontario, Canada, assignors to Eldorado Mining and Refining Limited, Ottawa, Ontario, Canada, a company of Canada

No Drawing. Filed June 21, 1965, Ser. No. 465,750
Int. Cl. C22b *23/04*
U.S. Cl. 75—119 **8 Claims**

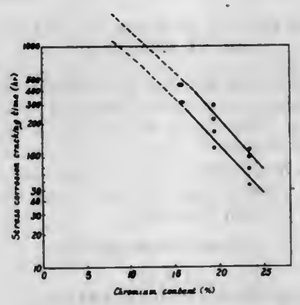
A process for separating cobalt from nickel in an ammoniacal leach solution containing cobalt and nickel in which the cobalt is oxidized to the cobaltic form and the solution is then contacted with di(2-ethylhexyl) phosphoric acid dissolved in an inert organic solvent, whereby the cobalt values are selectively extracted into the organic phase and the resultant cobalt loaded organic phase is separated from the remaining aqueous phase containing the nickel.

3,438,769

STAINLESS STEEL HAVING STRESS CORROSION CRACK RESISTING PROPERTY

Masao Kawahata, Yokohama, and Yukishige Fukase and Koichiro Osozawa, Kawasaki, Japan, assignors to Nippon Yakin Kogyo Company Limited, Tokyo, Japan, a corporation of Japan

Filed Dec. 8, 1966, Ser. No. 600,240
Claims priority, application Japan, Dec. 15, 1965, 40/76,671
Int. Cl. C22c *39/20, 39/26, 39/48*
U.S. Cl. 75—125 **2 Claims**



1. Stainless steel having stress corrosion crack resisting property, which contains as its main ingredients 0.01–0.1% by weight of carbon, 0.01–3% by weight of manganese, 0.001–0.5% by weight of molybdenum, 12–40% by weight of nickel, and 8–18% by weight of chromium and further contains 2–6% by weight of silicon and 1–6% by weight of copper, remainder being chiefly iron and slight amount of impurities.

3,438,770

BRAZING ALLOY OF IMPROVED WORKABILITY CONTAINING NICKEL AND PALLADIUM

Charles Alfred Clark, Birmingham, and Roy David Berry, High Wycombe, England, assignors to The International Nickel Company, Inc., New York, N.Y., a corporation of Delaware

No Drawing. Filed Oct. 18, 1966, Ser. No. 587,427
Claims priority, application Great Britain, Oct. 22, 1965, 44,841/65; May 26, 1966, 23,675/66
Int. Cl. C22c *19/00, 5/00, 1/02*
U.S. Cl. 75—134 **3 Claims**

A palladium-nickel brazing alloy for joining ceramic to metal contains, in atomic percent, about 20–65% palladium, up to 7% titanium, and about 1.5–9% of at least one element selected from zirconium, niobium, hafnium and lanthanum.

3,438,771

EXTRUDED ARTICLE OF MAGNESIUM-BASE ALLOY

Peter F. King, Farmington, Mich., assignor to The Dow Chemical Company, Midland, Mich., a corporation of Delaware

No Drawing. Filed Sept. 29, 1966, Ser. No. 583,058
Int. Cl. C22c *23/00, 1/02*
U.S. Cl. 75—168 **7 Claims**

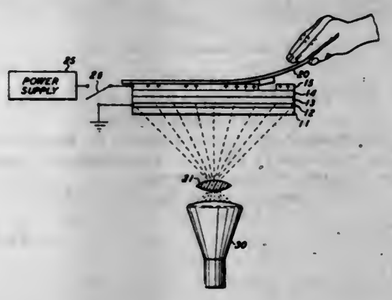
1. An extruded article formed of magnesium-base alloy comprising by weight from 1.7 to 2.5 percent of zinc, from 0.5 to 1.5 percent of silicon, from 0.012 to about 0.05 percent of iron present as an impurity and the balance magnesium, the ratio of the weight percent of zinc to the weight percent of silicon being not less than about 1.667, the aluminum content of the alloy not exceeding about 0.2 percent by weight, the manganese content of the alloy not exceeding about 0.05 percent by weight and the extruded article being further characterized by a salt water corrosion rate lower than about 1 milligram per square centimeter per day, as determined by a standard alternate immersion test in 3 percent aqueous sodium chloride solution.

3,438,772

IMAGE REPRODUCTION INVOLVING ELECTROSTATIC TRANSFER OF A RELEASABLE DONOR FILM FROM A PHOTOCONDUCTIVE INSULATING LAYER TO AN ADHESIVE TRANSFER MEMBER

Robert W. Gundlach, Victor, N.Y., assignor to Xerox Corporation, Rochester, N.Y., a corporation of New York

Filed Dec. 2, 1964, Ser. No. 415,310
Int. Cl. G03g *13/22*
U.S. Cl. 96—1 **9 Claims**



A method of forming image reproductions with a releasable donor film supported overlying a photoconductor, wherein an electrical charge differential is applied to the donor film during exposure whereby the tenacity of the film to its support is increased in the areas of illumination permitting only non-illuminated areas to be stripped therefrom to an adhesive transfer member.

3,438,773

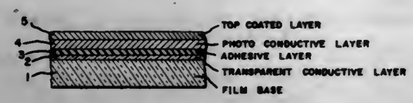
FLEXIBLE TRANSPARENT ELECTROPHOTOGRAPHIC FILM AND METHOD OF DEVELOPMENT OF SAID FILM

Yoshiki Hayashi, Hirakata-shi, and Hikofumi Oido, Osaka-fu, Japan, assignors to Matsushita Electric Industrial Co., Ltd., Osaka, Japan

Filed Oct. 4, 1965, Ser. No. 492,695
Claims priority, application Japan, Oct. 2, 1964, 39/56,714; Oct. 29, 1964, 39/61,927; Nov. 9, 1964, 39/63,913; Mar. 26, 1965, 40/17,946
Int. Cl. G03g *5/06*
U.S. Cl. 96—1.5 **13 Claims**

Flexible and transparent electrophotographic film characterized by less fog and high resolution covering half tone is prepared with a polyvinylacetate adhesive layer of from

3 to 7μ in thickness between a transparent conductive layer and an organic photoconductive layer. Toner is brushed onto a top coating layer having a latent electro-



static image by means of a "magnetic brush" which reveals an image immediately as the brush is swept across the top coated layer.

3,438,774

LIGHT-SENSITIVE COMPOSITIONS CONTAINING METHINE DYES HAVING A BENZOTHIAZOLE NUCLEUS SUBSTITUTED WITH A SULFONAMIDO GROUP

Henri Depoorter and Marcel Jan Libeer, Mortsel-Antwerp, Belgium, assignors to Gevaert-Agfa N.V., Mortsel, Belgium, a Belgian company

No Drawing. Filed Aug. 23, 1965, Ser. No. 481,976
Claims priority, application Great Britain, Aug. 25, 1964, 34,691/64
Int. Cl. G03c 1/08
U.S. Cl. 96—1.7 9 Claims

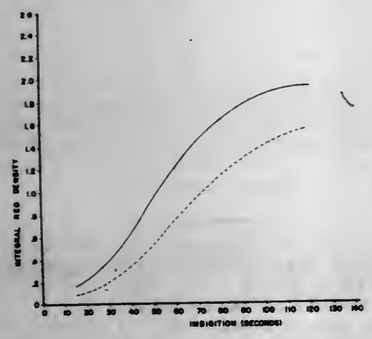
Light-sensitive materials useful in photography and electrophotography are disclosed. These materials contain methine dyes which serve as optical sensitizing agents. The dyes are compounds containing at least one benzothiazole nucleus having in the 4- or 7-position a sulphonamido group, or an N-acetyl-substituted sulphonamido group, which sulphonamido groups are linked to the benzene-ring of the benzothiazole nucleus either by the sulphur atom or by the nitrogen atom.

3,438,775

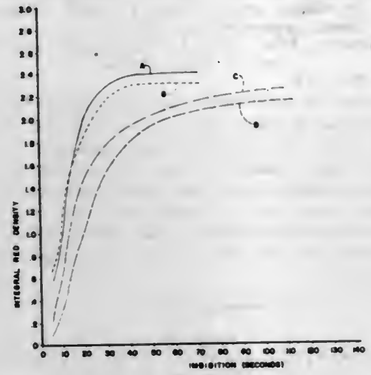
NOVEL PHOTOGRAPHIC PRODUCTS AND PROCESSES

Sidney Kasman, Newton, and Howard G. Rogers, Weston, Mass., assignors to Polaroid Corporation, Cambridge, Mass., a corporation of Delaware

Filed Aug. 9, 1967, Ser. No. 659,370
Int. Cl. G03c 1/06, 7/06, 5/54
U.S. Cl. 96—3 21 Claims



The present invention relates to photography and, more particularly, to photographic products which comprise a photosensitive silver halide emulsion having a dye which is a silver halide developing agent, i.e., a dye developer, associated therewith in a concentration within the range of about 0.01 to 5 mgs. of dye per mg. of silver, by weight, dispersed in an alkaline solution permeable polymeric matrix in a concentration within the range of about 0.1 to 25 mgs. of dye per mg. of polymer, by weight, and in particulate form having a particle size distribution wherein at least 50% and preferably at least 75% of the dye possesses a diameter below about 1



micron, and to photographic dye developer diffusion transfer processes particularly adapted to employ such products.

3,438,776

NON-AQUEOUS SILVER HALIDE PHOTOGRAPHIC PROCESS

Joseph S. Yudelson, Rochester, N.Y., assignor to Eastman Kodak Company, Rochester, N.Y., a corporation of New Jersey

Filed Dec. 28, 1964, Ser. No. 421,378
Int. Cl. G03c 5/30
U.S. Cl. 96—28 38 Claims

Dry processing of exposed photographic elements is carried out using a nonaqueous material which is solid at about room temperature but which becomes a nonaqueous liquid containing a photographic processing agent upon heating. Such nonaqueous material can be a component of the photographic element or can be contacted therewith to effect dry processing.

3,438,777

PHOTOGRAPHIC MATERIAL

Jozef Frans Willems, Wilrijk, and Antoon Leon Vandenberghe, Hove, Belgium, assignors to Gevaert-Agfa N.V., Mortsel, Belgium, a Belgian company

No Drawing. Filed Feb. 13, 1967, Ser. No. 615,389
Claims priority, application Great Britain, Feb. 14, 1966, 6,332/66
Int. Cl. G03c 1/34
U.S. Cl. 96—29 9 Claims

The present invention relates to the use of 5,5-bis-1,2,4-triazoline-3-thiones or the tautomeric forms thereof as antibronzing and/or antisludge agents in photographic materials and processes.

3,438,778

PLANOGRAPHIC PRINTING PLATE

Fritz Uhlig, Wiesbaden-Biebrich, Erwin Lind, Wiesbaden, and Hartmut Steppan, Wiesbaden-Dotzheim, Germany, assignors, by mesne assignments, to Azoplate Corporation, Murray Hill, N.J., a corporation of New Jersey

No Drawing. Filed Jan. 22, 1965, Ser. No. 427,508
Claims priority, application Germany, Jan. 25, 1964, K 51,939
Int. Cl. G03g 1/52
U.S. Cl. 96—33 30 Claims

This invention relates to a presensitized printing plate comprising a plastic or non-absorbent paper base having a first layer thereon comprising at least one organic phosphonic acid or derivative thereof and a second reproduction layer on the first layer.

3,438,779

MORDANTS FOR BLEACHABLE FILTER LAYERS

Donald W. Heseltine and Dugald A. Brooks, Rochester, N.Y., assignors to Eastman Kodak Company, Rochester, N.Y., a corporation of New Jersey

Filed Aug. 16, 1965, Ser. No. 479,718
Int. Cl. G03c 1/84
U.S. Cl. 96—84 11 Claims

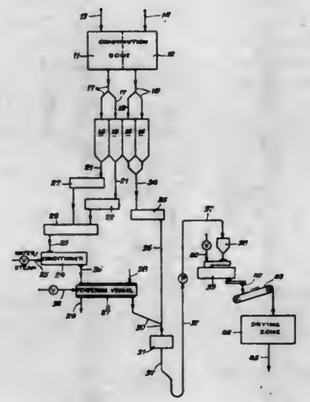
A bulky quaternary nitrogen heterocyclic alkali-release mordant that forms a methylene base under alkaline conditions with loss of the positive charge on the nitrogen atoms and the corresponding loss in ability to mordant anions, is advantageously used as a mordant for acid dyes in a hydrophilic colloid layer, especially in a hydrophilic colloid light-absorbing or light-filtering layer of a photographic element where it is desired to firmly mordant an acid dye in the photographic element until photographic processing when it is desired to completely release the acid dye without remordanting dye or thiosulfate ions from the fixing bath.

3,438,780

PROCESS FOR MAKING ANIMAL FEEDS

Philip A. Singer, Peoria, Ill., assignor to Allied Mills, Inc., a corporation of Indiana

Filed Nov. 8, 1963, Ser. No. 322,362
Int. Cl. A23k 1/10
U.S. Cl. 99—2 8 Claims



Animal feeds containing a starch component 1 and a nonstarch component 2 are produced by separately comminuting 1 and 2, conditioning and tempering 1 in the presence of water to a moisture content of 15 to 30% and at 160 to 200° F. until all starch cells are thoroughly permeated with water, mixing 2 with 1, replenishing the mixture with water to the 15 to 30% moisture content level, heating to 240 to 300° F. under generated steam pressure of 1 to 50 p.s.i.g., and rupturing all starch cells by extruding to atmospheric conditions in the form of the animal food.

3,438,781

METHOD OF DETECTING FAT SOLUBLE VITAMINS IN ANIMAL FEED

Melvin J. MacMillan, Cranford, and Charles M. Ely, Berkeley Heights, N.J., assignors to Diamond Shamrock Corporation, a corporation of Delaware

No Drawing. Filed Feb. 27, 1964, Ser. No. 347,678
Int. Cl. A23l 1/16, 1/30
U.S. Cl. 99—2 1 Claim

Detecting the presence of vitamin particles in an animal by visually counting the number of colored particles and confirming the visual count by pressing absorbent paper against the colored particles and inspecting the surface thereof.

3,438,782

EDIBLE OIL SUPPLEMENT FOR FEED RATION

Gilbert D. Elenbogen, Skokie, and Merle A. Clovis, Glenwood, Ill., assignors to Vitamins, Inc., Chicago, Ill., a corporation of Illinois

No Drawing. Filed Jan. 18, 1965, Ser. No. 426,374
Int. Cl. A23k 1/14, 1/18
U.S. Cl. 99—2 2 Claims

A vegetable oil based nutritive supplement for animals in the form of an emulsion of 40 to 75% vegetable oil, 10 to 55% emulsifying agent, vitamins, and sufficient water to act as a solvent for any water soluble vitamins present.

3,438,783

IMPROVING EGG QUALITY IN POULTRY BY ORALLY ADMINISTERING ANDROGENS

Lawrence J. Machlin, St. Louis, Mo., assignor to Monsanto Company, St. Louis, Mo., a corporation of Delaware

No Drawing. Filed Aug. 16, 1965, Ser. No. 480,163
Int. Cl. A23k 1/18
U.S. Cl. 99—4 8 Claims

A method for improving the quality of poultry eggs, especially the albumen height, which consists of orally administering to laying hens a diet which consists of a nutrient feed ration containing an androgen. The androgen is present in the nutrient feed ration in the proportion of about 0.1 to 20 milligrams for each pound of ration.

3,438,784

FREEZE-DRYING OF GRANULAR COFFEE EXTRACT

William P. Clinton, Monsey, N.Y., James Mahlmann, Wayne, N.J., and George B. Ponzoni, Spring Valley, N.Y., assignors to General Foods Corporation, White Plains, N.Y., a corporation of Delaware

No Drawing. Continuation-in-part of application Ser. No. 534,176, Mar. 14, 1966, which is a continuation-in-part of application Ser. No. 264,063, Mar. 11, 1963. This application Feb. 9, 1968, Ser. No. 724,655
Int. Cl. A23f 1/04, 1/08
U.S. Cl. 99—71 10 Claims

Coffee extract is frozen either fast or slow, depending on its concentration, to obtain a dark-colored product which is then subdivided to a granular particle size prior to vacuum freeze-drying.

3,438,785

INSTANT TEA FROM FRESH GREEN LEAF

Wolfgang Zameltat, Agrapatna, Ceylon, and Roy E. Morse, Ridgewood, N.J., assignors to Thomas J. Lipton Inc., Englewood Cliffs, N.J., a corporation of Delaware

No Drawing. Filed Aug. 9, 1966, Ser. No. 576,171
Int. Cl. A23f 3/02
U.S. Cl. 99—77 12 Claims

1. A process for treating green tea leaf containing naturally occurring enzymes comprising the steps of

(a) rolling said leaf in the presence of a rolling additive which is selected from the group consisting of water-insoluble, innocuous, powered and fibrous substances having an average particle diameter of at least about 100 microns, said substance being effective to promote the maceration of the tea leaf and to break down the cellular structure thereof and to expose the leaf juices to the action of oxygen, the amount of said rolling additive being at least about 10% by weight of said leaf; and

(b) fermenting the rolled tea leaf to develop a desirable black tea flavor

3,438,786
CONTINUOUS SPONGE PREPARATION
Herbert Wutzel, Vienna, Austria, assignor to Patentauswertung Vogelbusch Gesellschaft m.b.H., Vienna, Austria, a company of Austria
Filed Aug. 9, 1965, Ser. No. 478,095
Claims priority, application Austria, Aug. 10, 1964, A 6,834/64
Int. Cl. A21d *8/02, 8/04*
U.S. Cl. 99—90 2 Claims

A method of preparing a yeast sponge or the like as a continuous process, comprising preparation of a batch of fermented sponge in a large open fermentation pan without any stirring paddles or the like, withdrawing fermented sponge from the bottom of the pan at a rate of prehaps ten times the rate required for use and returning the remainder of the withdrawn sponge to the top of the pan and simultaneously adding replacement flour, water and leaven at the top of the pan at the rate required to maintain the material within the pan at a constant volume.

3,438,787
SUGARLESS CONFECTION
James W. Du Ross, Rolling Park, Claymont, Del., assignor to Atlas Chemical Industries, Inc., Wilmington, Del., a corporation of Delaware
No Drawing. Continuation-in-part of application Ser. No. 505,737, Oct. 29, 1965. This application Mar. 9, 1967, Ser. No. 621,751
Int. Cl. A23g *3/00*
U.S. Cl. 99—134 6 Claims

A crystalline confection of sorbitol and mannitol prepared by seeding a substantially anhydrous melt of the ingredients and then allowing the seeded melt to solidify under controlled conditions of temperature and humidity.

3,438,788
SARAN COATING OF FILLED RIGID PLASTIC CONTAINERS
Maurice J. Gifford and Oscar E. Seiferth, Madison, Wis., assignors to Oscar Mayer & Company, Inc., Chicago, Ill., a corporation of Illinois
No Drawing. Filed Mar. 30, 1966, Ser. No. 538,552
Int. Cl. B67b *5/04*; B65b *25/02*
U.S. Cl. 99—171 6 Claims

Food packages formed in substantial part with a preformed clear plastic container portion are treated with a coating of saran latex emulsion or saran solution and then dried so as to form a continuous coating over the clear plastic, which coating constitutes an oxygen barrier. The saran coating may be applied in several ways but preferably is applied by dipping. Desirably, the heat of the contents of the container are relied upon to provide the heat required to dry the saran coating. No primer coating is required when the containers are formed from polycarbonate resin or from polyvinyl chloride base resin. With other resins it is usually desirable to employ a primer coat to obtain improved adhesion of the saran latex emulsion or solution coating.

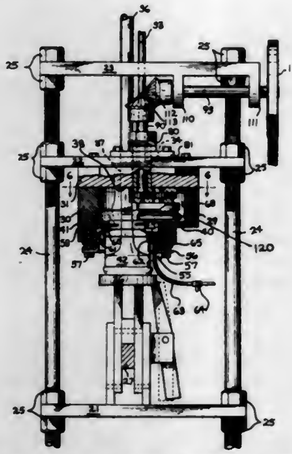
3,438,789
LUBRICANT COATING FOR FRICTION SURFACES AND PROCESS FOR PRODUCING SAME
Franz Weiss and Hermann Bauer, Neckarsulm, Germany, assignors to Karl Schmidt G.m.b.H., Neckarsulm, Germany, a corporation of Germany
Filed Feb. 16, 1965, Ser. No. 432,969
Claims priority, application Germany, Feb. 27, 1964, Sch 34,715
Int. Cl. F16j *1/02*; F16c *1/24, 33/00*
U.S. Cl. 92—172 6 Claims

There are disclosed lubricant coatings for friction surfaces which are microporous and capable of serving as a liquid lubricant reservoir and a method of making such coatings. Thus an object such as a piston or bearing is plated with a metal coating, the metal coating is thereafter anodized to form an adherent pulverulent microporous layer and then a liquid lubricant is dispersed in



the microporous layer. According to the invention, the plating layer, as well as the pulverulent layer, are rendered microporous, thereby providing an increased lubricant reservoir for liquid lubricant.

3,438,790
METHOD AND APPARATUS FOR PACKAGING
Herbert A. Barnby, deceased, late of Toledo, Ohio, by Bernice P. Barnby, executrix, Toledo, Ohio, assignor to Owens-Illinois, Inc., a corporation of Ohio
Continuation-in-part of applications Ser. No. 507,589, and Ser. No. 507,590, Nov. 12, 1965. This application Jan. 21, 1966, Ser. No. 522,330
Int. Cl. A23b *1/00, 7/00*
U.S. Cl. 99—182 23 Claims



1. A method for packaging a flowable liquid-containing product in a container, which comprises:
(1) supporting a hollow piston at an elevation at which the piston is partially inserted in shiftable and hermetically sealing relationship in a cylindrical bottom opening of a filling chamber;
(2) inserting a closure for a container up through the an open upper end, through the hollow piston until hollow piston until entirely within the chamber and spaced from the hollow piston but in axial alignment with the piston;
(3) supporting the closure in the filling chamber;
(4) raising a container having a top part, including at least the open end of the container is in the filling chamber and spaced from the closure and the piston;
(5) introducing gas into the chamber at the top of the chamber to purge at least some air from the container by passing through the space between the container and the piston to the atmosphere;
(6) closing the space between the piston and the container to close the bottom opening of the filling chamber to provide a hermetically-sealed closed filling chamber and to cause the piston to be movable above its supported elevation upon any lifting of the container;
(7) introducing pressurized gas into the chamber through a gas inlet to provide an elevated gaseous pressure within the closed filling chamber by communicating the gas inlet with a source of pressurized gas;
(8) moving the closure laterally in an arcuate path until out of the product flow zone of the pressurized closed filling chamber;
(9) introducing flowable product into the pressurized closed filling chamber and then into the container through a different inlet in the chamber and in alignment with at least part of the open end of the container until the container is filled with the product to the desired extent while maintaining communication between the gas inlet and the source of pressurized gas and while maintaining the piston at its initially-supported elevation;
(10) ceasing the introduction of flowable product through the different inlet;
(11) returning the closure through the arcuate path until again in axial alignment with the hollow piston while closing the gas inlet;
(12) rotating the closure while continuing to support the closure for its maintenance at a fixed elevation;
(13) lifting the container and thereby raising the piston until the closure abuts the top part of the container;
(14) continuing the rotation and support of the closure while continuing to raise the container and thereby the piston, whereby the closure is applied to the container in hermetically sealing relationship;
(15) opening the space between the hollow piston and sealed container to release elevated gaseous pressure in the chamber and to release the piston from its support by the container, whereby the piston moves to its lower initially-supported elevation; and
(16) lowering the sealed container until the container is completely outside the chamber and outside the hollow piston.

3,438,791
REFRIGERATED DOUGH PRODUCT
Samuel A. Matz, Milwaukee, Wis., assignor to The Borden Company, New York, N.Y., a corporation of New Jersey
No Drawing. Filed July 29, 1965, Ser. No. 475,871
Int. Cl. A21d *8/02*; A23l *3/36*
U.S. Cl. 99—192 4 Claims

The invention relates to the method of making dough products for refrigerated storage which retain their rounded shape on subsequent baking by forming a cereal dough, shaping the dough into individual units and rounding the dough, partially proofing the rounded dough in a humidified atmosphere at a suitable temperature and for a time sufficient to condition the dough to the spherical shape, again rounding the dough units and placing the units into a container for final proofing and subsequent refrigerated storage.

3,438,792
COMBINED FREEZE DRYING-AIR DRYING PROCESS OF DEHYDRATING FOOD PRODUCTS
Herbert W. Kruger, Portland, Oreg., assignor to Lamb-Weston, Inc., Portland, Oreg., a corporation of Oregon
No Drawing. Filed Dec. 28, 1965, Ser. No. 517,100
Int. Cl. A23; F26b *5/06*
U.S. Cl. 99—199 8 Claims

A process of dehydrating a food product containing water comprising freezing a piece of the product prior to any air drying thereof, freeze drying the product for a period of between 30 minutes and one hour to remove water by sublimation from the external regions thereof and to provide a porous surface layer through which the moisture in the interior can readily pass, and then air drying the product for between one and three hours to substantially further reduce the moisture content.

3,438,793
THERMOFLUID SCREEN-COLOR PIECE
George D. Martin, Baltimore, Md., assignor, by mesne assignments, to SCM Corporation, New York, N.Y., a corporation of New York
Continuation-in-part of application Ser. No. 289,564, June 21, 1963. This application Nov. 22, 1966, Ser. No. 596,267
Int. Cl. C03c *9/00, 9/02*
U.S. Cl. 106—19 2 Claims

Thermofluid screening color in the form of a small hard piece having a generally smooth convex top, where the piece is a viscous drop of the screening color that has been deformed and solidified by contact with a cooling surface in motion transverse to the path of fall of the drop, is described. The color piece is substantially free of sharply angular profiles and makes possible ready melting, easy shipping and dust-free thermofluid screen color application.

3,438,794
RELEASE COATING COMPOSITIONS CONSISTING ESSENTIALLY OF WATER SOLUBLE SALTS OF CARBOXYMETHYL CELLULOSE (OR ALGINIC ACID) AND WATER-SOLUBLE SALTS OF HIGHER ALIPHATIC SULFATES
Daniel Dickerson Ritson, Riverside, Charles Frazier, Stamford, and Anthony Thomas Coscia, South Norwalk, Conn., assignors to American Cyanamid Company, Stamford, Conn., a corporation of Maine
No Drawing. Continuation-in-part of application Ser. No. 427,081, Jan. 21, 1965. This application June 19, 1967, Ser. No. 647,174
Int. Cl. C08b *21/30, 25/00*
U.S. Cl. 106—194 6 Claims

A composition consisting essentially of (a) a major amount of a material selected from the group consisting of the water-soluble salts of carboxymethyl cellulose, the water-soluble salts of alginic acid, and mixtures of said salts; and (b) a minor amount of a water-soluble salt of a C_6–C_{20} straight chain aliphatic sulfate has been discovered to be a release agent, i.e., when present on a surface it decreases the adhesiveness of the surface with respect to pressure-sensitive adhesive material.

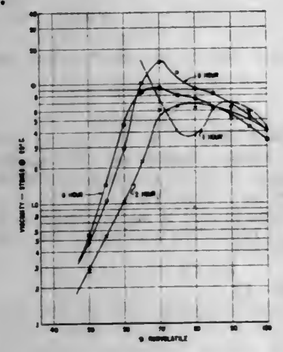
3,438,795
WATER DISPERSIBLE COMPOSITION CONTAINING A REACTION PRODUCT OF A MODIFIED DRYING OIL COMPONENT AND AN ALKOXY POLYALKYLENE GLYCOL
Herbert M. Schroeder, Williamsville, and Stanton E. Walker, Westfield, N.Y., assignors to Textron Inc., Providence, R.I., a corporation of Rhode Island
Filed Aug. 10, 1961, Ser. No. 130,542
Int. Cl. C09d *3/26*
U.S. Cl. 106—254 11 Claims

1. A liquid, water-dispersible composition of matter having a viscosity of up to about 100 poises which is a reaction product of a mixture consisting essentially of about 70 to 90% of a drying oil ester of an unsaturated fatty acid of 14 to 20 carbon atoms and a polyhydric alkanol of 3 to 6 carbon atoms and having 3 to 6 hydroxyl groups, said drying oil ester being modified with about 5 to 40% of monomer or polymer of 2 to 10 monomer units of dialkenyl hydrocarbon of 4 to 8 carbon atoms, and about 10 to 30% of an alkoxy polyalkylene glycol of the formula:

$$RO[(CH_2)_2O]_yH$$

wherein y is an integer giving a molecular weight of

about 200 to 2,500 and R is an alkyl radical of up to 20 carbon atoms.



4. The composition of claim 1 which contains about 10 to 100% zinc oxide based on said reaction product.

3,438,796
ALUMINUM-SILICA-ALUMINUM FLAKE PIGMENTS
Albert R. Hanke, Westfield, N.J., assignor to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware
No Drawing. Filed Feb. 2, 1967, Ser No. 613,429
Int. Cl. C09c *1/28, 1/64*
U.S. Cl. 106—291 6 Claims

Flake pigments of brilliant color made up of layers of thin, translucent films of metallic aluminum with each layer being separated by a thin protective film of silica superimposed on the aluminum and the pigment color varying with thickness of the silica coating. With thicker, substantially opaque aluminum films, successively coated on each side with thin films of silica, aluminum and silica, more brilliant colors are obtained, varying with the thickness of the silica layers adjacent to the central, thick aluminum film.

3,438,797
METHOD OF PREPARING PHARMACEUTICAL TABLETS
Jerry Allen Biddle, Sr., Rte. 1, Box 85, Bristol, Ind. 46507
No Drawing. Filed Oct. 21, 1965, Ser. No. 500,293
Int. Cl. B44d *1/16*
U.S. Cl. 117—12 13 Claims

A method of preparing wax-coated pharmaceutical tablets is provided wherein sugar syrup coatings are applied to the tablets and while the coatings are in a tacky state a wax emulsion is applied. The tablets are then dried to obtain an unpolished wax coating and imprinted with conventional shellac-based ink indicia, if desired.

3,438,798
ELECTROLESS PLATING PROCESS
Donald W. Baudrand, Temple City, and Glenn O. Mallory, Jr., Los Angeles, Calif., assignor, by direct and mesne assignments, to ARP, Inc., a corporation of Maryland
No Drawing. Filed Aug. 23, 1965, Ser. No. 481,944
Int. Cl. C23c *17/00;* B44d *1/44*
US. Cl. 117—47 8 Claims

A process for plating non-conductive materials such as plastics by means of an electroless transition metal plating bath at a temperature below the deformation temperature of the non-conductive material to be plated. The process provides for the sensitizing of the material to be plated and thereafter immersing the sensitized material in a plating bath comprising an aqueous solution of a transition metal salt, a transition metal reducing agent, a ligand complexing agent, and a carbonate buffering agent wherein the bath is maintained at a pH in the range of 7 to 11. The material to be plated is left in the bath until plating to the desired depth has been accomplished and the plated material is thereafter removed.

3,438,799
METHOD FOR THE SURFACE TREATMENT OF METAL ARTICLES
Fritz Eck, Ulm (Danube), and Gerhard Theodor Emmerichs, Grunwald, Isartal, Germany, assignors, by mesne assignments, to Chemengineering, Ltd., Zug, Switzerland
No Drawing. Filed June 22, 1965, Ser. No. 466,091
Int. Cl. B44d *1/34, 1/36, 1/14*
U.S. Cl. 117—49 8 Claims

A method of treating the surfaces of iron-base metal articles, such as steels which rust, which comprises subjecting the articles to the action of a pickling solution containing a mineral acid mixture, a pickling accelerator, a corrosion inhibitor, a wetting agent, and an organic solvent of polar character which is miscible in water and which is a solvent for fats, fatty acids and mineral oils, washing the articles with water after completion of pickling, and finally treating the washed surfaces with a solution containing an organic solvent selected from the group consisting of aliphatic and aromatic hydrocarbons, a wetting agent, a soluble film-forming substance and a drying agent, whereby the finally treated surfaces are characterized by a corrosion-preventing film which may serve as a base for receiving a primer, enamel or other surface coating.

3,438,800
SYNTHETIC ENAMEL COATING PROCESS
Arthur L. Johnson, Farmington, Mich., assignor to Celanese Coatings Company, a corporation of Delaware
Filed Oct. 13, 1965, Ser. No. 495,662
Int. Cl. B44d *1/09, 1/46;* C09d *3/52*
U.S. Cl. 117—64 6 Claims

A process for coating automobiles by applying to the surface of the automobile an enamel coating made from a hydroxy-carboxy acrylic copolymer and an aminoplast resin, heating the coating to harden it without curing it, sanding and repairing the coating, followed by reheating it to reflow the coating to remove sanding and repair marks and to cure the coating.

3,438,801
METHOD OF RENDERING GLASS SURFACES ABRASION-RESISTANT AND GLASS ARTICLES PRODUCED THEREBY
Walter J. Schlientz, Waterville, and Bradley E. Wiens, Toledo, Ohio, assignors to Owens-Illinois Inc., a corporation of Ohio
No Drawing. Filed Jan. 4, 1965, Ser. No. 423,340
Int. Cl. C03c *17/30*
U.S. Cl. 117—88 8 Claims

Improving abrasion resistance of glass surfaces by coating the glass with a silane of the formula

$$(CH_3O)_3SiC_3H_6X,$$

wherein X is a functional group such as an amine,

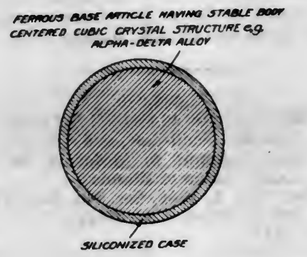
$$CH_2{=}C(CH_3)COO{-}RCOO{-}$$

wherein R contains up to 17 carbon atoms, glycidoxy or lecithin, and an acetic acid salt of an alkylamine of the formula

$$(RNH_3)^+(CH_3\overset{O}{\overset{\|}{C}}{-}O)^-$$

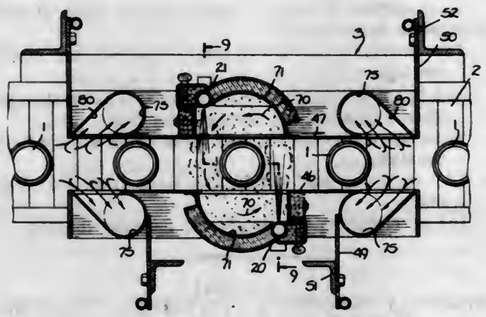
where R is alkyl up to 18 carbon atoms to thereby form a thin, tightly adhering, transparent coating on the glass surface.

3,438,802
SILICONIZED ALPHA-DELTA FERROUS ALLOY
Jerome J. Kanter, Palos Park, Ill., assignor to Crane Co., Chicago, Ill., a corporation of Illinois
Filed May 25, 1962, Ser. No. 197,702
Int. Cl. B44d *1/09;* C23c *13/02*
U.S. Cl. 117—106 6 Claims



1. As a new article of manufacture, a ferrous base metal alpha-delta alloy having a stable body centered cubic crystal structure in sufficient amounts in its solid solution phase to suppress allotropic transformations in the temperature range up to about 2,000° F., said ferrous base metal alpha-delta alloy provided with an adherent siliconized case.

3,438,803
METHOD AND MEANS FOR VAPOR COATING
Roger D. Dubble, Lancaster, and Edward H. Alten, Columbus, Ohio, assignors to Anchor Hocking Glass Corporation, Lancaster, Ohio, a corporation of Delaware
Filed May 18, 1965, Ser. No. 456,623
Int. Cl. C23c *13/04, 13/08*
U.S. Cl. 117—106 9 Claims



A method and related apparatus for coating articles by exposing hot surfaces of the articles to a vapor, causing the vapor to pyrolize on the surfaces. The vapor is formed by bubbling a gas or gas mixture such as air through a liquid source of vapor. A preferred bubbler has a bubbling chamber including a vertical bubbler tube connected to the liquid source. A second tube within the bubbler tube has a closed top and a gas outlet in its side walls intermediate its bottom and a closed top which releases the bubbling gas into the bubbler tube. The heated articles, such as glass containers, are carried in an upright and spaced arrangement on a moving conveyor through a coating tunnel. Vapor nozzles are positioned in the tunnel adjacent arcuate vapor directing surfaces which form a cylindrical vapor pattern so that the axes of the moving containers are generally parallel to the axis of the vapor pattern.

3,438,804
WATER ABSORBENT MATERIAL RENDERED WATER REPELLENT WITH POLYISOBUTENYLSUCCINIC ANHYDRIDE
Jerry E. Berger, Edwardsville, Ill., assignor to Shell Oil Company, New York, N.Y., a corporation of Delaware
No Drawing. Filed Oct. 21, 1965, Ser. No. 500,279
Int. Cl. C03c *25/02;* C09d *5/00*
U.S. Cl. 117—123 4 Claims

A water repellent material is prepared by treating a normally water-absorbent material such as cellulosic and masonry materials with a dilute inert hydrocarbon solution of polyisobutenylsuccinic anhydride and drying said materials to provide a hydrophobic film thereon.

3,438,805
CHEMICAL METALLIZING PROCESS
Earl M. Potrafke, New Castle County, Del., assignor to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware
No Drawing. Filed Apr. 6, 1966, Ser. No. 540,517
Int. Cl. B44d *1/22*
U.S. Cl. 117—130 16 Claims

1. A method of chemically metalizing a substrate which comprises heating a metal salt/phosphine complex derived from one mole of a non-organometallic salt of a normally solid heavy metal of the Deming Periodic Table and 1 to 4 moles of a triorganophosphine in which each organo group is a hydrocarbyl or dihydrocarbylamino radical in the presence of the substrate to be metallized at a temperature of 25° to 350° C., but below the decomposition temperature of the substrate and the metal salt alone, provided that when the substrate is not a heavy metal of the Deming Periodic Table other than the plating metal, the metal salt/phosphine complex is in substantially pure form in direct contact with the substrate.

3,438,806
PROCESS FOR THE MANUFACTURE OF CIGARETTE CONTAINING CYANAMIDE-CELLULOSE ACETATE FILTER ELEMENTS
Ralph Joseph Chamberlain, Glenbrook, Conn., assignor to American Cyanamid Company, Stamford, Conn., a corporation of Maine
No Drawing. Original application May 20, 1965, Ser. No. 457,281, now Patent No. 3,319,629, dated May 16, 1967. Divided and this application Nov. 18, 1966, Ser. No. 595,339
Int. Cl. A24c *1/06;* C08b *27/08;* B32b *32/00*
U.S. Cl. 117—144 3 Claims

A filter material, useful as a smoke filter element in cigarettes, is manufactured by passing cationic cyanamide-cellulose acetate tow through an aqueous suspension of pigmentary activated carbon and drying the tow.

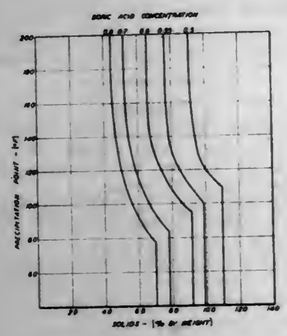
3,438,807
SILICONE SIZED PAPER AND CELLULOSIC FIBER
Joseph E. Pikula, Depew, N.Y., assignor to Union Carbide Corporation, a corporation of New York
No Drawing. Filed Dec. 15, 1965, Ser. No. 514,125
Int. Cl. D21h *3/10, 3/62, 1/40*
U.S. Cl. 117—154 5 Claims

Sized cellulosic fiber and paper characterized by the presence on at least a surface portion thereof of an addition product of a hydrosilicon compound containing at least one silanic hydrogen bond with a fatty acid ester containing at least one unsaturated carbon-to-carbon bond; the addition product containing from about 0.2 to about 85 weight percent silicon and being present on the fiber in an amount at least sufficient to enhance the resistance of the fiber to wetting by an aqueous medium.

3,438,808
POLYVINYL ALCOHOL-BORIC ACID-CONTAINING COMPOSITION, TREATMENT OF PAPER WEB THEREWITH AND THE TREATED PAPER WEB

Raymond L. Hawkins, Bernardsville, and George Davidowich, Bayonne, N.J., assignors to Air Reduction Company, Incorporated, New York, N.Y., a corporation of New York

Filed Apr. 22, 1965, Ser. No. 450,137
Int. Cl. B32b *29/06*; D21h *1/38*; C08f *27/12*
U.S. Cl. 117—155 12 Claims



Cellulosic fibrous webs are treated to apply polyvinyl alcohol to them with minimum penetration of the polyvinyl alcohol into the web by preparing an aqueous composition containing the polyvinyl alcohol in admixture with boric acid in the amount of more than 15% and at most 50% by weight of the polyvinyl alcohol, the composition having a pH of at most 6.0, applying the composition to the web at a temperature up to about 210° F., and drying the web with the polyvinyl alcohol thereon. Most suitably there is used an aqueous composition containing 0.5% to 35% of polyvinyl alcohol with the ratio of polyvinyl alcohol to boric acid being 0.5 to 1.3 parts by weight of boric acid per 3 parts of polyvinyl alcohol.

3,438,809
METHOD FOR MASKING ARTICLES WITH WAX BY CAPILLARY ACTION

Frederick S. Kaveggia, Beverly Hills, Carl J. Rossi, Orange, and Leland L. Peart, San Clemente, Calif., assignors to North American Rockwell Corporation, a corporation of Delaware

Filed Apr. 1, 1965, Ser. No. 444,673
Int. Cl. B44d *1/18, 1/52*; B41m *1/12*
U.S. Cl. 117—212 9 Claims

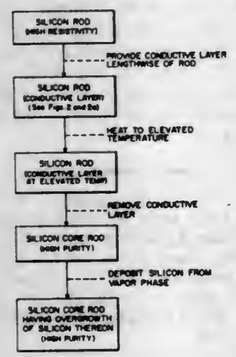


The invention is directed toward a method for masking a surface for etching. A mask with the desired design (apertured openings) is placed in light contact with the surface to be etched. The mask is held in position on the surface and the entire assembly is lowered partially into a liquid wax solution such that the surface of the wax does not reach up to the apertured openings. By capillary action the liquid wax seeps up and around the opening. When the opening is surrounded with wax the assembly is removed and the wax is allowed to solidify. The mask is then removed and the solid wax defines accurately the area to be etched. A dye or fluorescent material may be added to the liquid wax to make it easier to see.

3,438,810
METHOD OF MAKING SILICON

Theodore S. Benedict, Scottsdale, and Albert E. Ozias, Jr., Tempe, Ariz., assignors to Motorola, Inc., Franklin Park, Ill., a corporation of Illinois

Filed Apr. 4, 1966, Ser. No. 540,018
Int. Cl. B44d *1/40*; C01b *33/02*
U.S. Cl. 117—213 12 Claims



1. A method of making semiconductor material which comprises the steps of:
   (a) providing a high purity semiconductor starting element,
   (b) forming a conductive layer on said element to provide a conductive semiconductor body,
   (c) electrically heating said body to an elevated temperature,
   (d) removing said conductive layer from said body, and
   (e) precipitating semiconductor material thereon.

3,438,811
REMOVAL OF COPPER CONTAINING INCRUSTATIONS FROM FERROUS SURFACES

Lester W. Harriman, Angleton, and Paul E. Muehlberg, Jackson, Tex., and Fred N. Teumac, Charlotte, S.C., assignors to The Dow Chemical Company, Midland, Mich., a corporation of Delaware

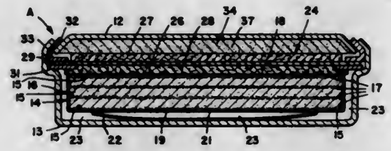
No Drawing. Continuation-in-part of application Ser. No. 387,481, Aug. 4, 1964. This application Oct. 18, 1965, Ser. No. 497,530
Int. Cl. B08b *3/08*
U.S. Cl. 134—2 9 Claims

1. A process for removing copper from a ferrous metal surface containing copper thereon by contacting said surface with an aqueous alkaline solution wherein the solution employed contains as an essential constituent at least one member of the group consisting of ferric chelates of polycarboxylic acid chelating agents and mixtures of ferric and ferrous chelates of polycarboxylic acid chelating agents in amount sufficient and for a time sufficient at a reaction temperature above about 68° F. and up to about 300° F., to dissolve said copper.

3,438,812
RECHARGEABLE ALKALINE CELL

Seymour Cherney, Berkeley, Martin G. Klein, Glendora, and Morris Eisenberg, Palo Alto, Calif., assignors to Electrochimica Corporation, Menlo Park, Calif.

Filed Aug. 25, 1965, Ser. No. 482,488
Int. Cl. H01m *1/08, 35/04, 43/04*
U.S. Cl. 136—6 15 Claims



In a rechargeable alkaline electrochemical cell having an enclosure, a cathode mounted within the enclosure, and a wet separator impregnated with an alkaline electrolyte solution and having one surface in liquid contact with the cathode of the cell, a porous anode mounted within the enclosure with one surface thereof in liquid contact with the separator surface remote from the cathode, an oxygen recombination catalytic material disposed on the surface of the anode remote from the separator, with the entire cell so constructed that there is an open passageway for free fluid circulation from the wet separator to the oxygen recombination catalytic material disposed on the surface of the anode, whereby oxygen gas produced during the charge and overcharge period of the charge-discharge cycle of the cell causes oxygen to come into contact with the oxygen recombination catalytic material on the anode, thereupon to be reduced to hydroxyl ions thus reducing the risk of excessive gas pressure building up in the cell during the charge and over-charge portion of the cell cycle while also maintaining a favorable alkalinity condition within the cell itself.

3,438,813
BATTERY CELL DEPOLARIZERS

Stanley M. Davis, Bridgewater Township, Somerset County, N.J., assignor to American Cyanamid Company, Stamford, Conn., a corporation of Maine

Filed Mar. 24, 1967, Ser. No. 625,806
Int. Cl. H01m *15/04, 15/06*
U.S. Cl. 136—83 10 Claims

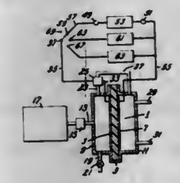
Depolarizers for electric cells comprise charge transfer complexes which are reaction products of polynuclear aromatic compounds as donors with iodine, bromine, cyanogen iodide, or iodine monochloride as acceptors.

3,438,814
FUEL CELL UNIT EQUIPPED TO CONSUME EXCESS GASEOUS REACTANT

Eugene Robert White, Topsfield, Mass., assignor to General Electric Company, a corporation of New York

Filed Apr. 27, 1966, Ser. No. 545,606
Int. Cl. H01m *27/12*
U.S. Cl. 136—86 10 Claims

1. The combination comprising
   a fuel cell electrode-electrolyte assembly formed of
      first and second electrodes and
      electrolyte means separating said electrodes,
   housing means cooperating with said electrode-electrolyte assembly for confining a gaseous first reactant adjacent said first electrode and for permitting a second reactant to contact said second electrode, and
   means providing an electrical circuit extending between said electrodes comprised of
      first and second terminal means for permitting an electrical load to be connected thereto,
      means for selectively shunting said electrical load, and



      means for selectively opening said electrical circuit between said electrodes in response to a predetermined negative pressure adjacent said first electrode as compared to the pressure adjacent said second electrode.

3,438,815
ELECTROCHEMICAL CELL CONTAINING AN ELECTRODE COMPRISING A CATALYTIC LAYER CONSISTING OF UNIFORMLY DISPERSED CATALYTIC METAL PARTICLES AND A HYDROPHOBIC POLYMER, AND (IN CONTACT WITH THE CELL ELECTROLYTE) A SEPARATE POROUS METAL LAYER

Jose D. Giner, Glastonbury, Conn., assignor, by mesne assignments, to Leesona Corporation, Cranston, R.I., a corporation of Massachusetts

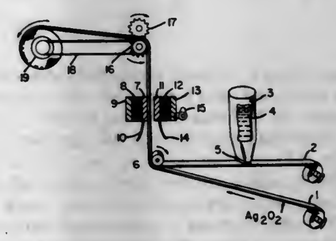
No Drawing. Continuation of application Ser. No. 491,881, Sept. 30, 1965. This application May 1, 1967, Ser. No. 635,267
Int. Cl. H01m *27/04*
U.S. Cl. 136—86 18 Claims

An electrochemical device comprising an anode, a cathode, and an electrolyte separating said anode and cathode is described. According to the invention, at least one of said anode or cathode comprises an integral porous metal layer adjacent to and in physical contact with a separate catalytic layer. The catalytic layer comprises a uniform mixture of a catalytic metal and a hydrophobic polymer. When the electrode is disposed of in an electrochemical cell, the integral porous metal layer is in contact with the electrolyte of the cell.

3,438,816
TAPE FOR DRY TAPE FUEL CELL

Bernard A. Gruber, Boxford, Mass., assignor to Monsanto Research Corporation, St. Louis, Mo., a corporation of Delaware

Original application Jan. 8, 1964, Ser. No. 336,557, now Patent No. 3,293,080, dated Jan. 20, 1966. Divided and this application May 18, 1966, Ser. No. 558,157
Int. Cl. H01m *21/04*
U.S. Cl. 136—111 2 Claims



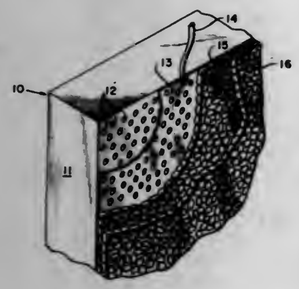
A dry tape especially adapted for use in fuel cells of the type defined in U.S. Patent 3,260,620. The tape com-

prises a permeable substrate of an inert synthetic polymer and a coating of silver peroxide bound to the substrate by way of a water soluble binder.

3,438,817
METHOD OF MAKING FUEL CELL ELECTRODE INCLUDING RESIN AND RESULTANT PRODUCT

Richard T. Short, Newton, and Clive Pinnington, Farndon, near Chester, England, assignors to Shell Oil Company, New York, N.Y., a corporation of Delaware

Filed Dec. 7, 1965, Ser. No. 512,055
Claims priority, application Great Britain, Dec. 8, 1964, 49,896/64
Int. Cl. H01m 27/06
U.S. Cl. 136—120 5 Claims

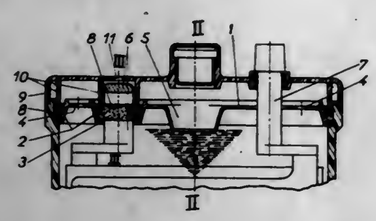


An electrode for use in a fuel cell comprising of a nonconductive strata having impregnated thereon an electrically conductive film to which are bonded at least two catalytic layers with dissimilar bonding agents.

3,438,818
STORAGE BATTERIES WITH DEFLECTORS AND A GENERAL COVER

Robert Rowe, Paris, France, assignor to Societe de l'Accumulateur Fulmen, Clichy, Hauts-de-Seine, France, a corporation of France

Filed Aug. 3, 1966, Ser. No. 569,931
Claims priority, application France, Aug. 3, 1965, 27,071
Int. Cl. H01m 1/02, 3/00, 12/10
U.S. Cl. 136—170 8 Claims

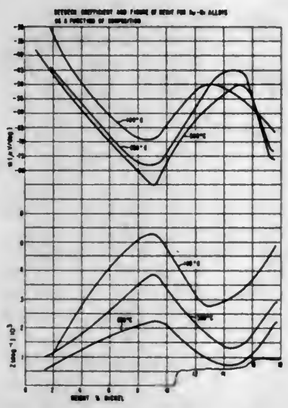


A storage battery wherein the battery container partitioned into individual cells is provided with deflectors serving as closures for the cells and being profiled peripherally to form continuous channels with the container walls and the adjacent deflectors surrounding said cells individually and collectively, and a general cover supported in spaced relation to said deflectors on the container walls and having depending ribs forming a continuous skirt projecting into said channel within which is provided a cementing product whereby the container, cover and deflectors are sealed together.

3,438,819
THERMOELECTRIC ALLOY OF GOLD AND NICKEL

William T. Hicks, Brandywine Hundred, Del., assignor to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware

Continuation-in-part of application Ser. No. 419,722, Dec. 21, 1964. This application May 18, 1967, Ser. No. 639,320
Int. Cl. H01v 1/22; C22c 5/00
U.S. Cl. 136—241 1 Claim



A thermocouple having as an essential component thereof a negative leg consisting of an alloy in which there is from 6 to 11% by weight of nickel, the balance being gold, and thermoelectric devices having as an essential component thereof at least one such thermocouple.

3,438,820
SILICON STEEL PROCESS

Norman P. Goss, Mentor, Ohio, and James Black and William J. Stewart, Burlington, Ontario, Canada, assignors to Dominion Foundries and Steel, Limited, Hamilton, Ontario, Canada

Filed Apr. 2, 1965, Ser. No. 445,023
Int. Cl. C21d 7/14, 3/04
U.S. Cl. 148—110 14 Claims

In a process for the production of gain-oriented silicon steel for magnetic purposes and containing 2.5% to 4% silicon the steel is made by the "Basic Oxygen" process, but the process is continued until the steel reaches at least about 3000° F. in the vessel and is discharged at at least about 2900° F. to the ladle; the steel is stirred in the ladle and discharged to an ingot mould; the resulting ingot is hot rolled and then cold rolled to obtain the oriented crystal structure; the cold rolled material is unexpectedly "magnetically clean," giving improved magnetic properties, and can be decarburized unexpectedly rapidly in a period of not less than about 5 seconds and not more than about one minute to carbon contents of not more than about .005%.

3,438,821
ARTICLE AND METHOD OF HEAT TREATING HIGH PHOSPHORUS STEELS

John Y. Riedel, Bethlehem, Pa., assignor to Bethlehem Steel Corporation, a corporation of Delaware

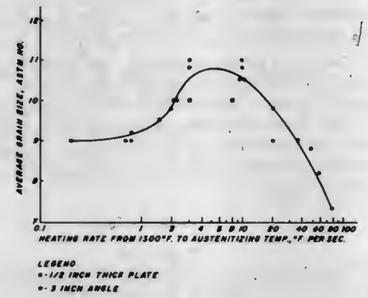
No Drawing. Continuation of application Ser. No. 497,550, Oct. 18, 1965. This application May 17, 1968, Ser. No. 731,680
Int. Cl. C21d 1/22
U.S. Cl. 148—134 7 Claims

A method of tempering martensitically hardened high phosphorus-carbon steel to provide a combination of corrosion resistance, high strength and low impact transition temperature. The tempering treatment comprises heating the martensitically hardened steel to a temperature between the Ac_1 temperature and about 150° F. below the Ac_1 and cooling from such temperature at a rate not less than 1° F. per second.

3,438,822
METHOD OF MAKING FINE-GRAINED STEEL

Robert M. Allen, Pleasant Hills Borough, Pa., assignor to United States Steel Corporation, a corporation of Delaware

Filed Oct. 31, 1966, Ser. No. 590,817
Int. Cl. C21d 1/18; C22c 39/20, 39/26
U.S. Cl. 148—143 3 Claims



This invention relates to a method of improving the notch toughness of steel. More particularly, the invention relates to an improvement in the method of producing austenitized quenched and tempered steel sections of a particular composition to obtain a fine-grained metallurgical structure having an average grain size of ASTM No. 10 or finer. A method is disclosed herein for treating steel of a particular composition to produce a fine-grained structure and data is presented to show criticality of certain processing conditions to this end. The steel treated has the following composition: up to 0.18%, 0.1 to 0.4% manganese, 0.15 to 0.35% silicon, 2.0 to 2.5% nickel, 1.0 to 1.8% chromium, 0.2 to 0.4% molybdenum, up to 0.025% phosphorus, up to 0.025% sulfur and up to 0.25% copper. The treatment comprises an improvement in the method of making austenitized, quenched and tempered steel sections up to about 1-inch thick of the aforementioned composition wherein the heating from 1300° F. to austenitizing temperature is performed at a rate between 2 and 20° F. per second. Steel of the composition described above responds in an unusual manner to different heating rates. As is shown by data presented herein, the grain size first decreases and then increases as the heating rate gets faster. When the rate is within the above limits, the desired fine-grain size may be obtained.

3,438,823
BLASTING COMPOSITION CONTAINING A SALT, LIQUID NITRIC ESTER AND WETTING AGENT

Erich Ludolphy and Adolf Berthmann, Leverkusen, Germany, assignors to Dynamit Nobel Aktiengesellschaft, Troisdorf, Germany, a corporation of Germany

No Drawing. Filed Dec. 12, 1967, Ser. No. 689,785
Claims priority, application Germany, Dec. 13, 1966, D 51,763
Int. Cl. C06b 1/00, 3/02
U.S. Cl. 149—53 14 Claims

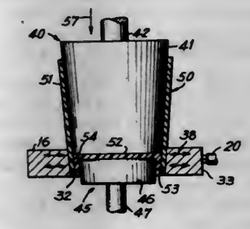
Explosive compositions in powder form characterized by their suitability for use in wet situations comprising an explosive component, i.e., ammonium nitrate and/or potassium nitrate and/or ammonium chloride in association with explosive sensitizing ingredients and namely from 3 to 20 wt.-percent of at least one liquid nitric ester referred to the explosive mixture and 0.001 to 1 wt.-percent of a wetting agent referred to the water soluble components of the explosive mixture, the latter wetting agents rendering the water-soluble components of the explosive composition wettable by the nitric esters.

A process of waterproofing and sensitizing explosive compositions containing ammonium nitrate and/or potassium nitrate and/or ammonium chloride is also disclosed, the same comprising incorporating into such a composition at least one liquid nitric ester and a wetting agent.

3,438,824
METHOD AND APPARATUS FOR JOINING A CLOSURE TO A CONTAINER BY HIGH FREQUENCY RADIAL VIBRATIONS

Lewis Balamuth, New York, N.Y., assignor to Cavitron Corporation, a corporation of New York

Filed May 14, 1965, Ser. No. 455,928
Int. Cl. B32b 31/20
U.S. Cl. 156—69 22 Claims

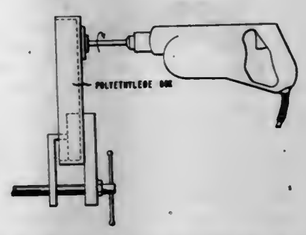


A method and appartus for joining a cylindrical element to a second element, wherein at least one of the elements is a thermoplastic. The two elements are positioned in an overlapping relationship and high frequency radial forces are applied to the overlapped surface to effect a joinder of the elements.

3,438,825
METHOD OF APPLYING ANTI-SKID AGENTS TO SHAPED PLASTIC ARTICLES BY SPIN-WELDING

William Edward Fidler, Saskatoon, Saskatchewan, Canada, assignors, by mesne assignments, to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware

Filed Apr. 27, 1965, Ser. No. 451,321
Int. Cl. B32b 27/08
U.S. Cl. 156—73 5 Claims



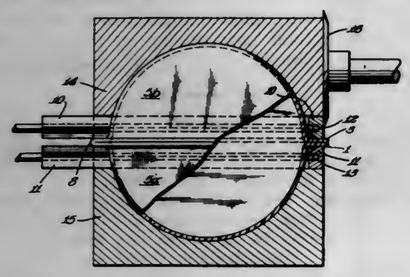
A method is disclosed for imparting anti-skid properties to the polymeric surface of an article such as a polyethylene box. The method involves adhering to the surface an anti-skid agent prepared from polymeric compositions of ethylene/vinyl acetate copolymers or blends of the copolymers with polyethylene. Preferably, the anti-skid agent is in the shape of a ring which is spin-welded to the surface.

3,438,826

METHOD OF HEAT SEALING THE CONTAINER EDGES OF PLASTIC FOAM MATERIAL BY FLAME CONTACT

Hans Van Eikeren, Elm Grove, Wis., and Berthold L. Weller, Deerfield, Ill., assignors to Kitchens of Sara Lee, Inc., Deerfield, Ill., a corporation of Maryland

Filed Jan. 26, 1966, Ser. No. 523,062
Int. Cl. B65d 85/36; B29c 27/02, 24/00
U.S. Cl. 156—82 8 Claims



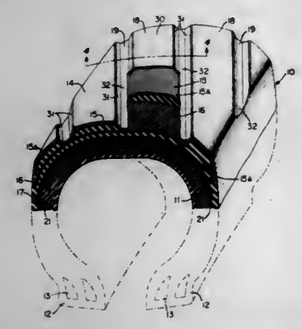
5. The method of constructing a sealed container of cellular foam plastic which comprises folding the container about a median line to provide three remaining edges in abutting side-to-side relationship, which comprises clamping the side-to-side surfaces into tight surface contact with each other between a pair of highly heat-conductive clamp elements, slicing the edges of the container back to the edges of the clamp elements leaving substantially no projecting container material extending beyond the clamp elements, and directing a flame against the thus sliced edges from adjacent thereto but spaced therefrom to heat seal said edges.

3,438,827

METHOD OF MANUFACTURE OF A TIRE

Charles F. Bush, Cuyahoga Falls, Ohio, assignor to The Goodyear Tire & Rubber Company, Akron, Ohio, a corporation of Ohio

Original application Apr. 19, 1965, Ser. No. 452,044, now Patent No. 3,299,935, dated Jan. 24, 1967. Divided and this application Sept. 28, 1966, Ser. No. 582,603
Int. Cl. B29h 17/10; B60c 11/04
U.S. Cl. 156—128 5 Claims



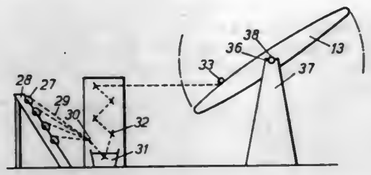
The process of applying reinforcing cords in the tread ribs of an airplane tire by applying cords parallel to the ribs in the tread rubber layer and when molding dividing the cords by the pressure of the groove making projections of the mold, so that beneath the final grooves of the tire these cords do not appear having been forced apart to embed in the ribs.

3,438,828

PROCESS FOR MAKING SKIS FROM PLASTICS REINFORCED WITH GLASS FIBERS

Odd Bjørnestad, Oldernesveien 16, Laksevag, near Bergen, Norway

Filed June 22, 1965, Ser. No. 465,872
Int. Cl. B31c 13/00
U.S. Cl. 156—171 5 Claims



A process for making skis from plastic reinforced with glass fibers wherein plastic coated glass filaments are wound on mold elements in back to back relation; the mold elements being arranged for rotation during the winding operation, together with the application of pressure applying mold members to each of the mold elements to thereby form ski blanks joined at their opposite ends, followed by separation of the ski blanks, formation of the tip portion on each blank and hardening the plastic content of the blanks.

3,438,829

PROCESS FOR PREPARING BREATHABLE FABRIC LAMINATES

Beresford Coe, Riverton, N.J., assignor to Rohm & Haas Company, Philadelphia, Pa., a corporation of Delaware

No Drawing. Filed June 28, 1966, Ser. No. 561,059
Int. Cl. B32b 31/20
U.S. Cl. 156—235 8 Claims

1. A method of preparing fabric laminates which comprises:

(a) frothing of an elastomeric adhesive emulsion so as to increase in volume by about 15 to 400%,

(b) depositing the frothed emulsion in sufficient thickness on a release surface so as to give a porous film which when substantially dried has a thickness in the range of 0.001 to 0.010 inch,

(c) drying said frothed emulsion so as to reduce the moisture content to the range of 0 to 15% based on the total weight of the porous film,

(d) transferring the substantially dried porous film to a backing fabric,

(e) laminating a finishing fabric onto the backing fabric with an effective amount of porous adhesive film sandwiched between the two fabrics, and

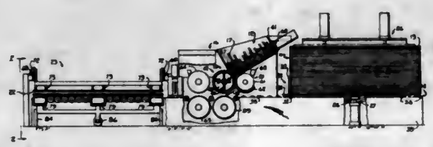
(f) curing the laminate.

3,438,830

METHOD AND APPARATUS FOR FORMING PLYWOOD PANELS

James R. Harmsworth, Oakland, Calif. (410 Dahlia St., Fairfield, Calif. 94533)

Filed Aug. 16, 1965, Ser. No. 479,939
Int. Cl. B32b 31/04; B27g 11/00
U.S. Cl. 156—300 8 Claims



A method and apparatus is described for forming structures such as plywood out of laminated ply. The method

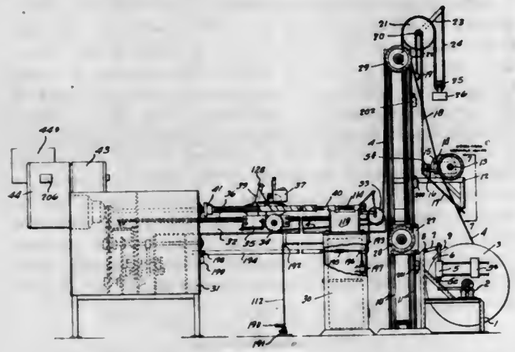
includes the steps of conveying successive single panels of lamina from a first set of lamina along a first, straight line path while simultaneously conveying lamina from a second set of lamina along an arcuate path to tangentially converge with the lamina of the first set. A coating of an adhesive is applied between the laminas prior to their convergence. The apparatus includes a conveyor for moving the laminas of the first set along the straight line path, and a revolving drum to which lamina of the second set adhere by suction for movement through the arcuate path into convergence with the straight line path and, hence, application of the lamina of the second set to the lamina of the first set.

3,438,831

APPARATUS FOR WRAPPING WIRE AND OVERLAY OF TAPE AROUND AND ALONG THE LENGTH OF AN EXTENDED CORE

James L. Otstot, Carlisle, Pa., assignor to Carlisle Tire and Rubber Division of Carlisle Corporation, a corporation of Delaware

Filed Dec. 8, 1964, Ser. No. 416,796
Int. Cl. B65h 81/08
U.S. Cl. 156—368 15 Claims



The present machine is for forming convolutions of one or more strands of material around and along an extended tubular member supported and rotated by a quickly detachable selectively driven and automatically stopped mandrel on the machine and includes means for guiding said strand material to said tubular member in coordination with the rotation of said mandrel, feeds at least one of said strands at a predetermined rate while automatically compensating for any variations in the feeding speed of the strand as well as maintaining a constant tension on the strand being fed, feeds a tape around and over the strand and exposed areas of said tubular member at a proper angle and at controlled speeds to give a uniform spiral, pitch and overlapping of the edges of said tape to form a wire reinforced hose and includes a carriage driven in coordination with said mandrel carrying said end tape means for feeding a liquid to the periphery of the tubular member prior to the winding of the wire and tape thereon, means for providing a cast to one of said strands and means for preventing said cast strand from pulling out of said casting means.

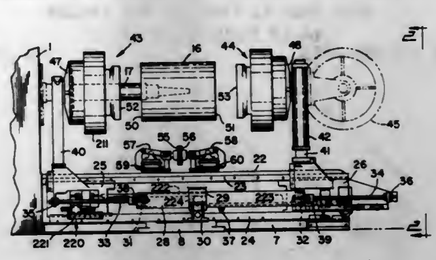
3,438,832

TIRE BUILDING MACHINE

Armindo Cantarutti, Cuyahoga Falls, Ohio, assignor to NRM Corporation, Akron, Ohio, a corporation of Ohio

Filed Aug. 17, 1964, Ser. No. 390,161
Int. Cl. B29h 17/22, 17/24
U.S. Cl. 156—401 11 Claims

A tire building machine with ply turn up means consisting of inflatable bags near the end of the tire building drum, one bag being contiguous to the other and arranged on inflation to push the first bag radially outwardly and to wrap around the end of the drum, and having fingers to turn down the ply edges and said fingers arranged to



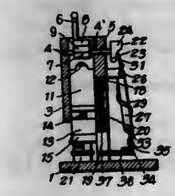
supply a reaction surface for said second bag during the wrapping around. The arrangement of the bags when deflated are such as not to interfere with the turning down of the ply edges over the bead.

3,438,833

THERMO-PLASTIC TAPE OR BAND BONDING MACHINE

Akio Nakano, Tokyo, Japan, assignor to Nichiro Kogyo Company, Ltd., Sugata-cho, Kanagawa-ku, Yokohama-shi Kanagawa-ken, Japan

Filed Dec. 1, 1965, Ser. No. 510,821
Claims priority, application Japan, Dec. 4, 1964, 39/67,949
Int. Cl. B29c 27/02; B32b 31/12
U.S. Cl. 156—502 3 Claims

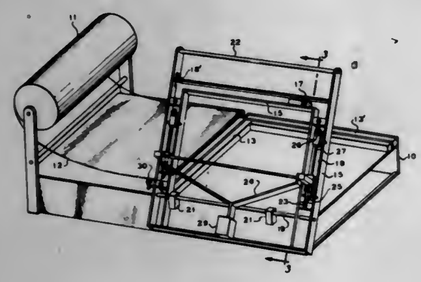


This thermo-plastic tape or band bonding machine comprises a base plate, a frame fixed to the base plate, a plunger which has a mounting on the frame for movement toward and away from the base plate and a pressing plate provided on the end of the plunger adjacent to the base plate. A two-stepped cam which has a pivotal mounting on the frame acts during its rotation upon the plunger to cause the pressing plate to move first toward the base plate, then away from the base plate and then again toward the base plate. A heating piece which has a mounting on the frame for movement into and out of a position between the pressing plate and the base plate is provided with mechanism acting in synchronism with the rotation of the cam, to move the heating piece into such position prior to the completion of the first movement of the pressing plate toward the base plate, to move the heating piece out of said position upon the subsequent movement of the pressing plate away from the base plate, and to maintain the heating piece out of such position during the second movement of the pressing plate toward the base plate, so that the first movement of the pressing plate toward the base plate can be used to press the heating piece between two tapes to fuse the opposed surfaces of the tapes, and the second such movement can be used to press the fused surfaces of the tapes together to bond the tapes.

3,438,834
CUTTING AND HEAT SEALING THERMOPLASTIC FILM

Chester C. Johnston, Dewey, Okla., assignor to Phillips Petroleum Company, a corporation of Delaware

Filed Mar. 31, 1966, Ser. No. 539,080
Int. Cl. B32b *31/18, 31/26*
U.S. Cl. 156—515 4 Claims

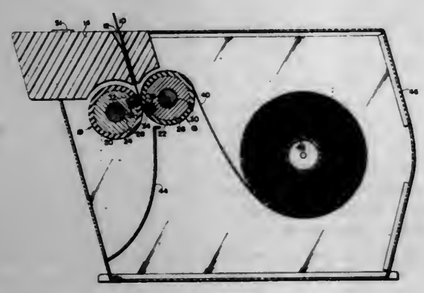


In an apparatus for making and sealing thermoplastic bags, a plurality of cams are operatively connected to a pivotally mounted press frame which contains longitudinally grooved bars; a wire supported on a wire support frame, operatively connected to said cams, is positioned in the grooves of said bars, said wire is maintained at a constant temperature by a first electrical circuit; and a second electrical circuit is operatively connected to said cams and contains a switch that is closed when said press frame is pressed upon layers of thermoplastic whereby said wire support frame is moved by said cams to cause the wire to move out of said grooves in said press frame, through said thermoplastic layers, and into grooves in a work table cutting said layers and sealing them together.

3,438,835
APPARATUS FOR LAMINATING AND CUTTING INCLUDING A PAIR OF ROLLERS WITH CUTTING EDGES

Richard J. Chen, Winchester, and Nicholas Gold, Arlington, Mass., assignors to Polaroid Corporation, Cambridge, Mass., a corporation of Delaware

Filed Mar. 4, 1966, Ser. No. 531,880
Int. Cl. B32b *31/18, 31/20*
U.S. Cl. 156—522 8 Claims

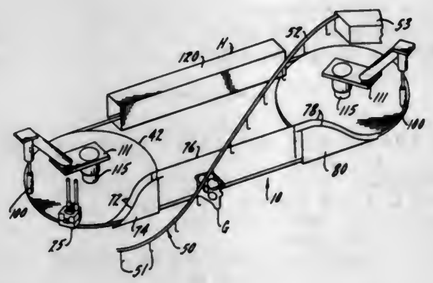


Apparatus laminates the image-bearing surface of a photographic print to a continuous web of plastic material and then severs the portion of the web laminated to the print from the remainder of the web.

3,438,836
APPARATUS FOR FORMING LAMINATES

Robert G. Farnam, Glen Ellyn, Ill., assignor to F. D. Farnam Co., a corporation of Illinois

Filed June 6, 1966, Ser. No. 555,393
Int. Cl. B30b *15/34*
U.S. Cl. 156—583 8 Claims

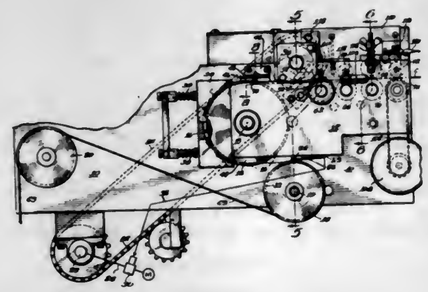


Apparatus for preparing laminated gaskets and similar objects in which a plurality of die blocks are attached to an endless moving chain. After the laminae are placed in a cored die block the block automatically is closed by means of a torque wrench which closes the block to the desired pressure by turning a bolt which passes through the head of the die block and is threaded into a tapped hole in the other member of the die block. After the die block is closed to the desired pressure, it passes through a heated tunnel where it is heated to the desired temperature. After the blocks emerge from the heat tunnel, they are automatically opened by another torque wrench and the laminate is automatically freed from the cored die block by means of a lifting plate and removed from the block.

3,438,837
CARD FEEDER FOR WRAPPING MACHINES

James C. Travis, Anderson, Ind., assignor to Lynch Corporation, Anderson, Ind., a corporation of Indiana

Filed June 29, 1964, Ser. No. 378,530
Int. Cl. B26d *1/02, 5/38*
U.S. Cl. 156—585 5 Claims

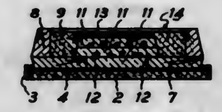


A card feeder which feeds a strip of cardboard to a wrapping machine, cuts the cardboard into individual cards and projects the individual cards into the wrapping mechanism of the machine by means of rapidly rotating projecting rolls. The card feeder is automatically stopped by a limit switch responding to absence of cardboard strip.

3,438,838
METHOD OF MANUFACTURING DECORATIVE PANELS AND THE RESULTING ARTICLE FORMED THEREBY

Carlos Fradera Pellicer and Mario Fradera Pellicer, Plaza Conde de Rodezno 11, Pamplona, Navarra, Spain

Filed Nov. 3, 1965, Ser. No. 512,616
Claims priority, application Spain, Nov. 19, 1964, 306,163
Int. Cl. B44f *7/00;* B32b *3/02*
U.S. Cl. 161—5 6 Claims

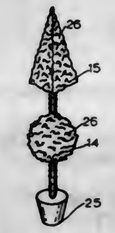


A method and the resulting article of forming a decorative panel by providing a frame with a ring or hoop projecting from the rear surface thereof and applying successive fluid layers of transparent plastics and ornamental items through an opening provided by said frame and ring or hoop with polymerization of each layer before application of the next layer. The last layer applied is an opaque plastic which serves as a backing for the decorative transparent layers and ornamental items. A porous protective bevelled edging may be applied to the inner surface of the ring or hoop, in contact with said frame to retain the pastille formed by the plastic layers during molding.

3,438,839
ARTIFICIAL TOPIARY FORMS AND METHOD

William H. Williams, Marietta, Ga., and Knud Nielsen, Jr., Evergreen, Ala., assignors, by mesne assignments, to Knud Nielsen Company, Inc., Evergreen, Ala., a corporation of Delaware

Filed Aug. 16, 1965, Ser. No. 479,923
Int. Cl. A47g *33/00*
U.S. Cl. 161—22 4 Claims



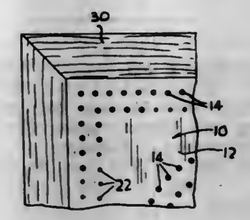
An artificial topiary form utilizes a lightweight tube having one or more pins extending out of the tube and surrounding each such pin and encompassing portions of the tube, a plastic foam form such as a sphere, prism, cone or the like with those remaining portions of the tube being wrapped with a thin tape covered cord to simulate a rough, bark, like texture.

3,438,840
DECORATIVE WOODEN BLOCK SURFACE

William R. George, Barland, Dargle Rail, Lions River, Natal, Republic of South Africa

Filed July 6, 1965, Ser. No. 469,648
Claims priority, application Republic of South Africa, July 27, 1964, 64/3,525
Int. Cl. B32b *3/14, 21/04*
U.S. Cl. 161—38 6 Claims

A wooden block decorative surface including at least one wooden block having a cross-grained surface provided with a plurality of ring-shaped spaced beads secured to said surface forming the desired decorative pattern.

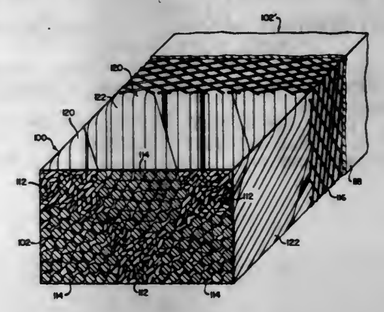


Said block may be secured to a laminated base and provided with a surrounding wooden frame.

3,438,841
PACKING MATERIAL

Julio Zumeta, New York, N.Y., and Edward Murray Case, Weston, Conn., assignors to The Marlo Company, Inc., New York, N.Y.

Filed Mar. 3, 1965, Ser. No. 436,800
Int. Cl. D03d *11/00*
U.S. Cl. 161—47 15 Claims



1. A packing material comprising two end surfaces, at least one metallic cord containing a plurality of inter-twisted metallic strips of an anti-frictional metal, at least one fibrous non-metallic cord containing a plurality of inter-twisted strips of a fibrous material said fibrous cord being impregnated with polytetrafluoroethylene, each of said metallic cords being inter-twisted with each of said fibrous cords, said inter-twisted cords continuously extending from one of said end surfaces to the other of said end surfaces, the outer surfaces of said inter-twisted cord being enclosed with polytetrafluoroethylene.

3,438,842
WOVEN STRETCH FABRIC AND METHODS OF MANUFACTURING THE SAME

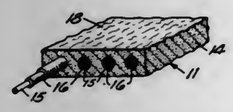
De Witt R. Petterson, North Brunswick, N.J., and Delmont K. Smith, Long Meadow, Mass., assignors to Johnson & Johnson, a corporation of New Jersey

Continuation-in-part of application Ser. No. 416,412, Dec. 7, 1964. This application Oct. 20, 1967, Ser. No. 676,779
Int. Cl. D03d *9/00;* D06m *3/12;* D06c *3/00*
U.S. Cl. 161—77 8 Claims

A lightweight open woven dimensionally stable stretch fabric made from cellulose yarns in the warp direction and elastic stretch yarns in the filling direction of the fabric. The fabric is treated with a dimensional stabilizing resin to cross-link the cellulose. The elastic stretch yarns have a thermoplastic component which is heat dimensionally stabilized. Both the dimensional stabilization and the heat stabilization being accomplished while the

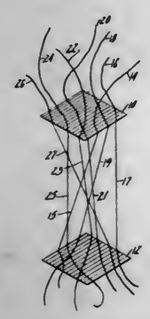
fabric is in a stretched condition of from about 5 to 100 percent of its completely relaxed width to give balanced and uniform linear stretch and recovery characteristics to the fabric.

3,438,843
ADHESIVE FILM CONTAINING HEATING ELEMENTS
Warren C. Pagel, North Hudson, Wis., assignor to Minnesota Mining and Manufacturing Company, St. Paul, Minn., a corporation of Delaware
Filed Mar. 3, 1965, Ser. No. 436,869
Int. Cl. B32b *3/14*
U.S. Cl. 161—143 4 Claims



Resinous adhesive film is supplied with a monolayer of parallel equally spaced fiber-covered insulated resistance wires for uniformly heating the film, e.g. in bonding metal honeycomb to metal panels.

3,438,844
SPOT-BONDED NONWOVEN FABRICS AND THEIR PREPARATION
Victor M. Kumin, Newton Highlands, Mass., assignor to The Kendall Company, Boston, Mass., a corporation of Massachusetts
Filed June 4, 1965, Ser. No. 461,480
Int. Cl. D04h *1/04, 5/06*
U.S. Cl. 161—150 7 Claims



A fibrous web consisting at least in part of thermoretractile textile-length polymeric fibers is spot-bonded at a set of discrete and spaced-apart areas. The spot-bonded web is then heated under restraint so that substantially no shrinkage occurs. The portions of the thermoretractile fibers lying between the spot-bonded areas are drawn into a tensioned configuration, and the web strength is enhanced.

3,438,845
LAMINATES OF STYRENE POLYMERS AND BLOCK COPOLYMERS
Saul M. Cohen, Springfield, and Marshall J. Derby, Littleton, Mass., assignors to Monsanto Company, St. Louis, Mo., a corporation of Delaware
Filed Nov. 20, 1967, Ser. No. 684,413
Int. Cl. B32b *27/08, 27/30, 31/04*
U.S. Cl. 161—165 8 Claims

Transparent shatter-resistant plastic laminate structures employing alternate mutually bonded layers of sheets composed of styrene or styrene/acrylonitrile polymers and sheets composed of butadiene/styrene block copolymers.

3,438,846
LAMINATES OF STYRENE-ACRYLONITRILE AND POLYURETHANE
Saul M. Cohen, Springfield, and Marshall J. Derby, Littleton, Mass., assignors to Monsanto Company, St. Louis, Mo., a corporation of Delaware
Filed Nov. 20, 1967, Ser. No. 684,415
Int. Cl. B32b *27/08, 27/30, 31/04*
U.S. Cl. 161—165 4 Claims

Transparent shatter-resistant plastic laminate structures employing alternate mutually bonded layers of sheets composed of styrene acrylonitrile polymers and sheets composed of polyurethanes.

3,438,847
PROCESS OF TREATING COMPOSITE BOARDS WITH BORATE CHEMICALS PRODUCED THEREBY AND PRODUCT
Harry A. Chase, Longview, Wash., assignor to Weyerhaeuser Company, Tacoma, Wash., a corporation of Washington
No Drawing. Filed Feb. 26, 1965, Ser. No. 435,695
Int. Cl. B32b *21/04, 7/02*
U.S. Cl. 161—166 20 Claims

A composite board of comminuted wood and a binder with chemical components to make the board fire retardant and a method for producing the same wherein a borate chemical is diffused into the comminuted wood furnish prior to bonding the same.

3,438,848
MOLDED GRAPHITE BODIES AND PROCESS FOR MAKING THE SAME
Herbert Greiner, 6 Passauerstrasse, 8 Munich 25, Germany
Continuation of abandoned application Ser. No. 687,518, Oct. 1, 1957. This application Feb. 9, 1965, Ser. No. 431,392
Int. Cl. B32b *19/00;* B29j *1/00*
U.S. Cl. 161—168 6 Claims

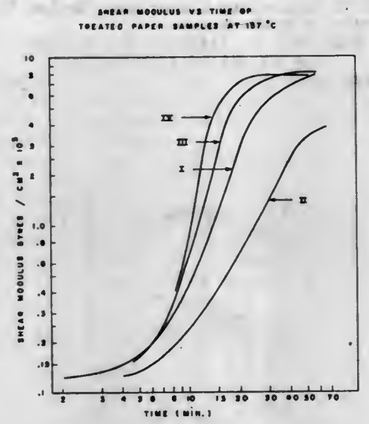
5. Large, compact, binder-free and substantially pore-, crack-, and fissure-free molded graphite body having a bulk density of at least 2.1 g./cu. cm. and consisting of parallel oriented, crystalline graphite flakes of a purity of at least about 99.9% of carbon, said graphite flakes being wedged into each other and welded together, said molded body being useful as moderator and reflector mass in a nuclear reactor.

3,438,849
FUSIBLE CYCLOALIPHATIC ACETAL POLY-EPOXIDE-DICARBOXYLIC ACID REACTION PRODUCTS
Charles D. Isack, 553 Miller Ave., Clairton, Pa. 15025
No Drawing. Filed Aug. 31, 1966, Ser. No. 576,244
Int. Cl. B32b *17/10;* C08g *45/06*
U.S. Cl. 161—170 19 Claims

Cycloaliphatic acetal polyepoxides are reacted with dicarboxylic acids, with specified carboxyl/epoxide equivalent ratios, in the presence of specified amounts of catalysts to form fusible, polar solvent-soluble reaction products. The products can be cured to insoluble, infusible products with epoxide curing agents.

3,438,850
PLIABLE PHENOLIC-TREATED SUBSTRATES
John R. Le Blanc, Wilbraham, and William D. Burke, West Springfield, Mass., assignors to Monsanto Company, St. Louis, Mo., a corporation of Delaware
Filed Dec. 26, 1963, Ser. No. 333,598
Int. Cl. B32b *27/42, 27/10*
U.S. Cl. 161—232 3 Claims

This disclosure pertains to flexible fibrous substrates, particularly paper substrates. Improved flexibility is obtained by impregnating a fibrous substrate with a phenol-formaldehyde resin having dissolved therein a particular

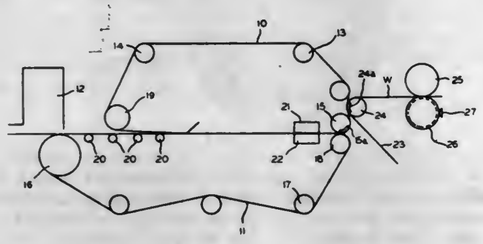


amine terminated polyester or a particular methylolated amine terminated polyester.

3,438,851
METHOD FOR THE REGENERATION OF WATER-RESISTANT PAPER AS WELL AS A METHOD FOR THE MANUFACTURE OF PAPER FROM THE MATERIAL OBTAINED AND THE SHEETS AND WEBS OF PAPER THUS OBTAINED
Endre Schonberg, Noordlaan, Netherlands, assignor to N.V. Euro-Grondstof, Amersfoort, Netherlands
No Drawing. Filed Feb. 25, 1966, Ser. No. 529,952
Claims priority, application Netherlands, Mar. 2, 1965, 6502643
Int. Cl. D21c *5/02, 3/20, 3/04*
U.S. Cl. 162—5 4 Claims

In the regeneration of water-resistant paper, treating the paper at an elevated temperature with an aqueous solution of an organic aliphatic or aromatic compound containing at least one basic amino group in addition to at least one acidic group selected from the class consisting of carboxylic acid group and sulphonic acid group.

3,438,852
WEB PICK-UP FOR TWO WIRE FORMING PAPER MACHINE
Donald A. Ely, Sr., Beloit, Wis., assignor to Beloit Corporation, Beloit, Wis., a corporation of Wisconsin
Filed Oct. 28, 1965, Ser. No. 505,544
Int. Cl. D21f *1/50, 1/10*
U.S. Cl. 162—303 1 Claim

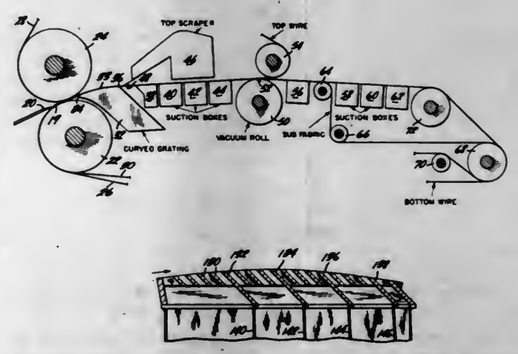


1. A two wire forming paper machine comprising in combination,
upper and lower forming wires defining a horizontal web forming run between them,
a pulp delivering means at the forming end of the wires for placing a layer of stock between the wires to form a web, dewatering means within each of said wires for removing water from the web through each of the wires,
means supporting the wires including couch rolls at the end of the dewatering run of the wires,
said couch roll for said upper wire having a suction gland which causes the web to follow the upper wire upwardly in a generally vertical plane,
a pick off felt in an angular web pick off relation with the generally vertical plane of the upper wire beyond and above the upper wire couch roll,
a suction pick off roll within the felt above the couch roll having a suction gland facing the upper wire and forming a pick off nip with the upper wire, and
a press roll couple in nip defining relation with the felt passing horizontally therebetween having a lower water receiving roll engaging the felt so that the web is carried on the upper surface of the felt and engages the upper roll of the press couple.

3,438,853
PROCESS OF CURING HARDBOARD CONTAINING WOOD FIBERS AND PORTLAND CEMENT
Charles Haines, Jr., Lancaster, and Roy R. Rothrock, Wrightsville, Pa., assignors to Armstrong Cork Company, Lancaster, Pa., a corporation of Pennsylvania
Filed Feb. 10, 1966, Ser. No. 526,479
Int. Cl. D21j *1/18*
U.S. Cl. 162—164 6 Claims

The process of curing a water-laid hardboard of wood fibers and portland cement by applying 350°–475° F. heat and high pressure for a period of time of about 12–40 minutes to a wet board containing 60%–80% water.

3,438,854
DUAL WIRE PAPER FORMING APPARATUS AND SUCTION BOX THEREFOR
John A. Means, South Norwalk, Conn., assignor to Time, Incorporated, New York, N.Y., a corporation of New York
Filed Oct. 29, 1964, Ser. No. 407,307
Int. Cl. D21g *9/00;* D21f *9/02*
U.S. Cl. 162—303 2 Claims



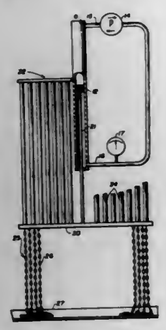
A twin-wire paper-making machine is provided with a forming box having a permeable, stationary, curved forming surface. The box is formed with a plurality of blade means which, while themselves straight in a preferred embodiment, assist in the definition of the curved surface. The orientation of the box and, adjacent thereto,

the forming wires, is such that the force of gravity tends in the absence of countervailing forces to effect removal of water through one of the wires more than through the other. One web-contacting wire of the machine is wrapped about a break roll downstream of the curved forming box through an arc of about 6° to facilitate separation of a paper web formed on the machine from the other of the web-contacting wires.

3,438,855
PURIFYING RADIOACTIVE ISOTOPES
Joseph J. Fitzgerald, Winchester, Mass., assignor to Sanders Nuclear Corporation, Nashua, N.H., a corporation of Delaware
No Drawing. Filed Dec. 2, 1966, Ser. No. 598,638
Int. Cl. G21g *5/00*
U.S. Cl. 176—16 6 Claims

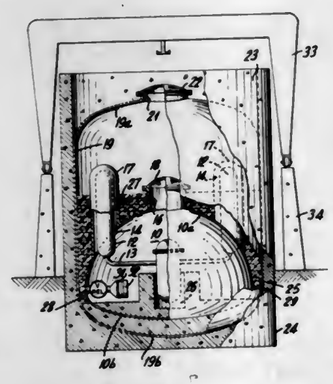
The present invention relates to the economic production of thulium 170 and thulium 171 radioactive isotopes. The method comprises obtaining substantially pure thulium 170 and thulium 171 by first combining thulium 169 with a carrier to form a target material of a stable thulium 169 compound. The compound is irradiated to form thulmium 170 in the compound with the resultant recoil energy breaking the bond between the thulium 170 and its attached carrier. The thulium 170 can be easily separated from the target material and recombined with a carrier to form a second stable compound with bonded thulium 170. The second compound is then irradiated to again cause the recoil energy to separate the thulium 171 formed and allow final separation of the substantially pure thulium 171 from the target material. The method can be used to separate various isotopes other than those of thulium.

3,438,856
NUCLEAR REACTOR HYDRAULIC CONTROL DRIVE SYSTEM
Charles C. Ripley, San Jose, Calif., assignor to the United States of America as represented by the United States Atomic Energy Commission
Filed Dec. 29, 1967, Ser. No. 694,536
Int. Cl. G21c *19/00, 7/08, 7/10*
U.S. Cl. 176—29 8 Claims



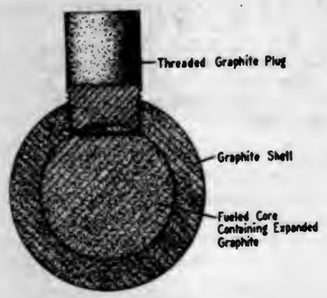
Nuclear reactor control system in which a horizontal bar connected to a hydraulic actuated piston in a vertically disposed cylindrical tube supports and positions a curtain of neutron reflecting chains within a nuclear reactor core to regulate reactivity. A plurality of neutron absorbing rods are mounted on the top of the beam also to be positioned within the reactor core to regulate reactivity. A pressure gauge calibrated in units of length relevant to the weight of chain being lifted by the beam indicates the vertical position of the beam. The remainder of the chain rests on a tray or the bottom end of the curtain chain is attached to a supporting wall.

3,438,857
CONTAINMENT VESSEL CONSTRUCTION FOR NUCLEAR POWER REACTORS
Hans D. Sulzer, Winterthur, Switzerland, assignor to Stone & Webster Engineering Corporation, Boston, Mass., a corporation of Massachusetts
Filed Mar. 21, 1967, Ser. No. 624,829
Int. Cl. G21c *13/10, 11/02*
U.S. Cl. 176—37 21 Claims



Several structural modifications for containment of water-cooled nuclear power reactors of the pressurized-water type are disclosed. Single and double shell configurations display a combination of structural advantages containing, in addition, chambers for suppression of excessive pressure due to accidental causes by means of condensation of the generated steam and vacuum producing apparatus for reduction of leakage.

3,438,858
FUEL ELEMENTS
Ronald A. Howard and Arnold A. Kellar, Lawrenceburg, Tenn., and Joseph T. Meers, Cleveland, Ohio, assignors to Union Carbide Corporation, a corporation of New York
Original application Aug. 7, 1964, Ser. No. 388,267. Divided and this application Sept. 29, 1966, Ser. No. 582,851
Int. Cl. G21c *3/04, 21/02*
U.S. Cl. 176—69 5 Claims



A fuel element for use in nuclear reactors having a fueled core encompassed within an unfueled graphite extension shell, said fueled core comprising a mixture of a nuclear fuel material, a high temperature matrix, expanded graphite and a carbonized bond. The use of expanding graphite in the core of the fuel element provides for continuous contact between the core and outer graphite shell by overcoming the shrinkage which occurs when the fueled core is placed in the solid graphite exterior shell and baked to carbonize the binder. If desired, bonding between the core and shell can be provided by a layer of carbonaceous cement containing expanded graphite.

3,438,859
THYMUS EXTRACT
Pierre De Somer, Louvain, and Pierre Denys, and Roger Leyten, Heverlee, Belgium, assignors to Recherche et Industrie Therapeutiques, R.I.T., Genval, Belgium, a corporation of Belgium
No Drawing. Filed Oct. 27, 1964, Ser. No. 406,891
Int. Cl. C12k *9/00;* A01n *1/02*
U.S. Cl. 195—1.8 1 Claim

1. A noncellular thymus extract capable of inducing immunological capacity in mice, prepared by isolating thymus from a young calf, incubating said thymus at about 37° C. for about 24–48 hours in a tissue culture medium, said medium comprising:

Enzymatic lactalbumin hydrolyzate	g.	50
Sodium chloride	g.	80
Potassium chloride	g.	4
Calcium chloride, anhydrous	g.	1.4
Magnesium sulfate heptahydrate	g.	1.0
Magnesium chloride hexahydrate (2 molar aqueous solution	ml.	2.5
Sodium phosphate dibasic, anhydrous	g.	0.6
Potassium phosphate monobasic, anhydrous	g.	0.6
Phenol red (0.5% solution)	ml.	40
Glucose	g.	10
Sodium bicarbonate (7.5% aqueous solution)	ml.	100
Sodium penicillin G	I.U.	2×10^6
Streptomycin sulfate	g. (base)	1
Distilled water, q.s.	liters	10

centrifuging the harvested fluid to remove cellular debris, and collecting the supernatant fluid containing said thymus extract.

3,438,860
PROCESS FOR THE PREPARATION OF PYRIDOXAL-5'-PHOSPHATE
Osamu Shoji, Ikeda-shi, Kanae Yokogawa, Amagasaki-shi, Noriyuki Sunahara, Kyoto, and Koichi Ogata, Minoo-shi, Japan, assignors to Dainippon Pharmaceutical Co., Ltd., Osaka, Japan, a corporation of Japan
No Drawing. Filed Feb. 24, 1967, Ser. No. 618,337
Claims priority, application Japan, Mar. 4, 1966, 41/13,443; Oct. 29, 1966, 41/71,485
Int. Cl. C12b *1/00*
U.S. Cl. 195—28 3 Claims

Pyridoxine-5'-phosphate is subjected to oxidizing action of enzymes of microorganisms, e.g., *Alcaligenese faecalis*, in the presence of an α-amino acid such as glutamic acid, and a metal salt such as zinc sulfate. From the reaction broth, pyridoxal-5'-phosphate is separate in the form of a calcium salt of the Schiff base-metallic chelate compound. The salt is dissolved in sulfuric acid, and the solution is treated with a cation-exchange resin, and from that resin pyridoxal-5'-phospate is eluted with water. The process is advantageous in view of the higher conversion when operated at higher concentration of the starting phosphate.

3,438,861
PREPARATION OF PHOSPHATIDYLETHANOLAMINE FROM *E. COLI*
Elizabeth Work and Kenneth William Knox, London, England, assignors to Twyford Laboratories Limited
No Drawing. Filed Oct. 14, 1966, Ser. No. 586,645
Claims priority, application Great Britain, Oct. 25, 1965, 45,015/65
Int. Cl. C12d *13/06;* C12k *3/00*
U.S. Cl. 195—29 8 Claims

Phosphatidylethanolamine is prepared by growing a lysine-requiring mutant of *E. coli* in a suboptimal concentration of lysine, obtaining a cell-free liquid from the resulting culture, precipitating a complex of phospholipid with protein-liposaccharide from the cell-free liquid by dissolving a polar water-immiscible organic compound in the cell-free liquid, separating the precipitated material, and separating phosphatidylethanolamine from the precipitated material.

3,438,862
PREPARATION OF BACTERIAL LIPOPOLYSACCHARIDES
Elizabeth Work, London, England, assignor to Twyford Laboratories Limited
No Drawing. Filed May 17, 1966, Ser. No. 550,608
Claims priority, application Great Britain, May 24, 1965, 21,840/65
Int. Cl. C12d *13/08, 13/04, 13/00*
U.S. Cl. 195—31 21 Claims

A stable water-soluble lipopolysaccharide is produced by growing a lysine-requiring mutant of gram-negative bacteria in a culture medium containing a limited concentration of lysine, separating a cell-free liquid from the resulting culture, separating lipopolysaccharide-complex from the cell-free liquid, treating the complex with a mixture of phenol and water, removing the phenol and recovering the lipopolysaccharide from the remaining aqueous material.

3,438,863
FERMENTATION PROCESS FOR PRODUCING CITRIC ACID
Mario Alexander Batti, Elkhart, Ind., assignor to Miles Laboratories, Inc., Elkhart, Ind., a corporation of Indiana
No Drawing. Filed July 25, 1966, Ser. No. 567,395
Int. Cl. C12c
U.S. Cl. 195—36 5 Claims

Citric acid fermentation of carbohydrates (especially where iron is a contaminant) is improved by adding quaternary ammonium compounds or amine oxides to the fermentation medium.

3,438,864
PRODUCTION OF CELLULASE, ANTIBIOTIC AND ANTI-TUMOR SUBSTANCES BY GROWING EUMYCES ATCC 16425
Moses D. Tendler, 4 Cloverdale Lane, Monsey, N.Y. 10952
No Drawing. Filed Jan. 19, 1966, Ser. No. 521,532
Int. Cl. C12b *1/00;* C12d *13/10*
U.S. Cl. 195—66 6 Claims

Antibiotic and antitumor substances and a cellulase enzyme are produced by growing a new strain of a thermophilic mold the Eumyces group in a sterile liquid medium containing assimilable sources of carbon and nitrogen.

3,438,865
PREPARATION OF BACTERIAL LIPOPOLYSACCHARIDES
Elizabeth Work and Kenneth William Knox, London, England, assignors to Twyford Laboratories Limited
No Drawing. Filed Aug. 30, 1966, Ser. No. 575,981
Claims priority, application Great Britain, Sept. 9, 1965, 38,522/65
Int. Cl. C12k *3/00*
U.S. Cl. 195—96 10 Claims

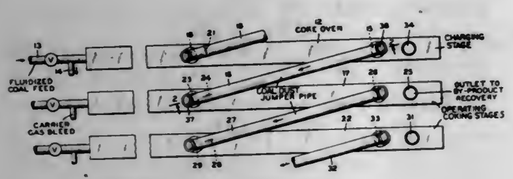
1. A process for the preparation of a soluble complex of phospholipid with protein lipopolysaccharide which process comprises growing a lysine-requiring mutant of *Escherichia coli* in a sub-optimal concentration of lysine, obtaining a cell-free liquid from the resulting culture, precipitating a complex of phospholipid with protein-lipopolysaccharide from the cell-free liquid by dissolving a polar water-immiscible organic compound in the cell-

free liquid, separating the precipitated material and removing the organic compound to leave a water-soluble complex of phospholipid with protein-lipopolysaccharide.

3,438,866
SERUM CHOLINESTERASE TEST
Adrian J. Penicnak, Corona, N.Y., assignor to Chas. Pfizer & Co., Inc., New York, N.Y., a corporation of Delaware
No Drawing. Filed Mar. 21, 1967, Ser. No. 624,695
Int. Cl. C12k *1/04*
U.S. Cl. 195—103.5 **5 Claims**

Colorimetric procedure for the determination of serum cholinesterase activity in human blood utilizing 5,5'-dithiobis-(2-nitrobenzoic acid) as a color developer reagent, quinidine sulfate as an inhibitor reagent and a halide salt of propionylthiocholine as a substrate.

3,438,867
DISENTRAINMENT OF COAL PARTICLES IN PNEUMATICALLY CHARGED COKE OVENS
Harvey S. Auvil, Ashland, Ky., assignor to Allied Chemical Corporation, New York, N.Y., a corporation of New York
Filed June 2, 1966, Ser. No. 554,735
Int. Cl. C10b *49/02, 37/00, 35/00*
U.S. Cl. 201—40 **8 Claims**



1. A method for the disentrainment of coal particles entrained in the gases evolved when a coke oven chamber is charged by introducing a stream of coal and carrier gas into one of a battery of heated coke ovens which comprises:

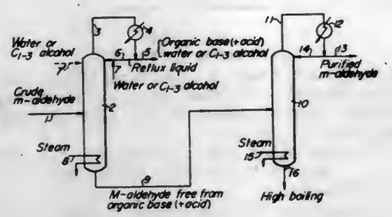
(a) withdrawing a gas stream of carrier gas containing entrained coal dust from an outlet in the charged oven chamber at a point remote from the point of introduction of said coal and carrier gas;

(b) introducing and passing said withdrawn gas stream into at least one of the other oven chambers in the battery while said other chamber is in the coking stage whereby the said entrained coal dust comes into contact with the bed of coal and chamber walls; and

(c) withdrawing the said gas stream from said charged oven chamber with substantially reduced amounts of entrained coal dust.

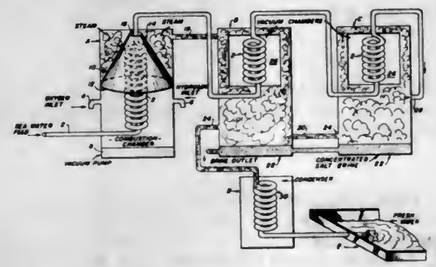
3,438,868
PROCESS FOR PURIFYING β-METHYLMERCAPTOPROPIONALDEHYDE BY REDUCED PRESSURE DISTILLATION IN THE PRESENCE OF WATER OR A C_1 TO C_3 ALCOHOL
Yoshitsugu Sawaki, Katsuyoshi Tokunaga, Masao Sada, Mitsuyoshi Manabe, and Shigekatsu Kondo, Niihama-shi, Japan, assignors to Sumitomo Chemical Company, Ltd., Osaka, Japan, a corporation of Japan
Filed Aug. 29, 1967, Ser. No. 663,995
Claims priority, application Japan, Feb. 2, 1966, 41/58,313
Int. Cl. C07c *149/02, 149/20;* **B01d** *3/34*
U.S. Cl. 203—8 **5 Claims**

A process for purifying of β-methylmercaptopropionaldehyde which is an intermediate for the synthesis of methionine, an essential amino acid, in which organic bases contained in the β-methylmercaptopropionaldehyde



are separated as low boilings by effecting the purification while adding water or an alcohol either to the reflux liquid or directly to the rectifier.

3,438,869
SYSTEM FOR CONVERSION OF SEA WATER INTO FRESH WATER
Miguel A. Saavedra, Rimac, Peru
(Sanchez Carrion 199, Barranco, Lima, Peru)
Filed Jan. 13, 1967, Ser. No. 609,090
Int. Cl. C02b *1/06;* **B01d** *3/10*
U.S. Cl. 203—11 **10 Claims**

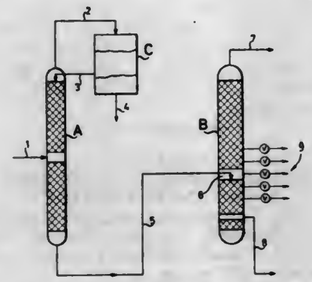


This invention relates to a method and apparatus for producing fresh water from sea water wherein hydrogen and oxygen are burned at a pressure less than atmospheric pressure to completely vaporize a brine solution. The vapors are then passed through coils maintained in a vacuum and are then passed into a condensation chamber maintained at reduced temperature and pressure to condense liquid water containing the impurities, and separate said liquid containing impurities from the pure water vapor. The fresh water is recovered by condensation.

3,438,870
PROCESS FOR THE CONTINUOUS RECOVERY OF VINYL ESTERS AND CARBOXYLIC ACIDS BY AZEOTROPIC DISTILLATION
Günter Roscher, Kelkheim, Taunus, and Klaus Günther, Otto Probst, and Jorg Scholderer, Frankfurt am Main, Germany, assignors to Farbwerke Hoechst Aktiengesellschaft vormals Meister Lucius & Bruning, Frankfurt am Main, Germany, a corporation of Germany
Filed Dec. 19, 1967, Ser. No. 691,747
Claims priority, application Germany, Jan. 12, 1967, F 51,238
Int. Cl. B01d *3/34, 3/10*
U.S. Cl. 203—60 **8 Claims**

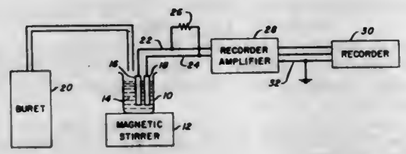
The invention provides a process for the continuous recovery of vinyl esters and carboxylic acids from crude mixtures obtained by vinylation of carboxylic acids with ethylene and oxygen and consisting of the vinyl ester,

unreacted carboxylic acid, water and other by-products. The mixture is separated in two subsequent distilling columns in which in the first column the water and part



of the by-products are separated and in the second column the remaining mixture is separated into the vinyl ester, the carboxylic acid and the rest of the by-products.

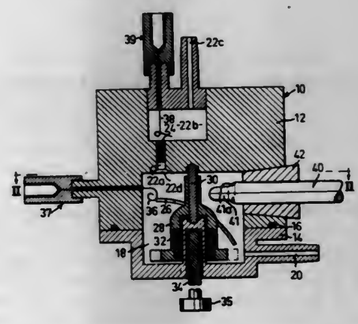
3,438,871
METHOD AND APPARATUS FOR TITRATIONS
Robert Paul Menichelli, Trenton, N.J., and Lawrence Philip Morgenthaler, West Lafayette, Ind., assignors to Western Electric Company, Incorporated, New York, N.Y., a corporation of New York
Filed July 29, 1965, Ser. No. 475,797
Int. Cl. B01k *3/00*
U.S. Cl. 204—1 **17 Claims**



An indicator electrode and a nonpolarizable reference electrode are shorted across a fixed resistance and used in the titration of a metal ion solution with EDTA or a similar chelating agent. No potential is impressed on the electrodes, and the end-point is indicated by a current flowing through the fixed resistance. This method of end-point determination is called "amperogenic." The method is effective at any pH at which a complex can form, and at very low metal ion concentrations.

3,438,872
METHODS OF PERFORMING COULOMETRIC TITRATION OF FLOWING FLUIDS AND AN APPARATUS THEREFOR
Gillis Rune Johansson, Lund, Sweden, assignor, by mesne assignments, to Jungner Instrument AB, Stockholm, Sweden, a Swedish joint-stock company
Filed Oct. 18, 1965, Ser. No. 497,105
Claims priority, application Sweden, May 5, 1965, 5,866/65
Int. Cl. B01k *3/00;* **G01n** *31/16*
U.S. Cl. 204—1 **9 Claims**

A method and apparatus for performing coulometric titration of flowing fluids, fed through a round chamber during vigorous agitation, wherein the flow of fluid in the chamber follows a helical path and the fluid during its flow along the wall of the chamber first contacts a working electrode, then a measuring electrode system and then, after leaving the chamber through an outlet, an auxiliary electrode, and wherein the amount of Coulombs supplied by the working electrode and the auxiliary electrode is measured and the end point of the titration is determined by means of the measuring electrode system. The apparatus for use in the coulometric titration of



flowing fluids, has a round chamber with an agitator adjacent one end wall, an inlet adjacent the agitator, and a baffle extending helically along the wall of the chamber. An outlet is provided at the end wall opposite the agitator. The apparatus also has a working electrode and a measuring electrode system in the chamber at the outlet end thereof and an auxiliary electrode in the outlet from the chamber.

3,438,873
ANODIC TREATMENT TO ALTER SOLUBILITY OF DIELECTRIC FILMS
Paul F. Schmidt, Allentown, Pa., assignor to Bell Telephone Laboratories, Incorporated, Murray Hill, N.J., a corporation of New York
Filed May 11, 1966, Ser. No. 549,338
Int. Cl. C23b *5/50*
U.S. Cl. 204—35 **8 Claims**

A method of altering the solubility of a silicon nitride film by localized anodic treatment comprising forming a patterned dielectric film on a semiconductor surface, forming a continuous layer of silicon nitride over the dielectric film and semiconductor surface, anodically passing a current through the dual coated semiconductor which alters the solubility of that portion of the silicon nitride layer in contact with the semiconductor surface but not altering the solubility of that in contact with the dielectric film, and etching the composite to remove the portion of the layer with altered solubility.

ERRATUM

For Class 204—37 see:
Patent No. 3,439,188

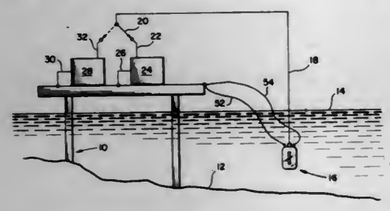
3,438,874
FABRICATION OF SOLID THIN FILM CAPACITOR
Ferenc E. Rosztoczy, Berkeley Heights, N.J., assignor to Bell Telephone Laboratories, Incorporated, Murray Hill, N.J., a corporation of New York
Filed May 11, 1966, Ser. No. 549,306
Int. Cl. C23b *5/52, 5/50*
U.S. Cl. 204—37 **7 Claims**

A method of making a solid electrolytic capacitor by impregnating the anodized barrier layer with a hydrogen peroxide-manganous nitrate mixture and then pyrolyzing.

3,438,875
METHOD OF FORMING REFERENCE ELECTRODES

Hideo Watanabe, Fullerton, and John N. Harman III, La Habra, Calif., assignors to Beckman Instruments, Inc., a corporation of California

Filed Apr. 14, 1966, Ser. No. 542,623
Int. Cl. C23b *11/00*
U.S. Cl. 204—56 3 Claims

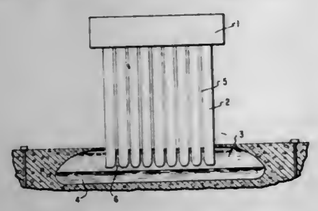


A silver-silver chloride reference electrode for use in control of anodic protection systems or for making ion concentration measurements of halide solutions, particularly sea water. The sea water constitutes the salt bridge solution of the reference electrode. After the silver chloride coating of the electrode erodes away, a constant direct anodic current is applied to the silver element of the electrode until it is completely coated by silver chloride and thus suitable for use as a stable and reliable reference electrode.

3,438,876
FORMING SLOTS IN SODERBERG ANODES

Herbert Charles Marshall, Jr., Florence, Ala., assignor to Reynolds Metals Company, Richmond, Va., a corporation of Delaware

Filed Sept. 23, 1966, Ser. No. 581,520
Int. Cl. C22d *1/08*; B01k *3/04*
U.S. Cl. 204—67 3 Claims



3. Method of operating an alumina reduction cell having a continuous self-baking anode comprising the steps of feeding carbon anode paste to form self-baked carbon anode sections, while simultaneously feeding with the paste at least one aluminum sheet to become interleaved with said anode sections, said paste being in direct contact with both sides of each sheet, passing both the paste and the sheet through a baking zone to cause hardening of the paste, and to produce a transverse slot at the lower face of the anode, said slot being located below and parallel to said sheet and tapering inwardly toward the lower end of said sheet.

3,438,877
ELECTROLYTIC REDUCTIVE COUPLING OF AZO COMPOUNDS

Manuel M. Baizer, St. Louis, Mo., assignor to Monsanto Company, St. Louis, Mo., a corporation of Delaware

No Drawing. Filed May 18, 1966, Ser. No. 550,941
Int. Cl. B01k *1/00*
U.S. Cl. 204—73 12 Claims

1. The method of electrolytic reductive coupling which comprises electrolyzing a solution of an azo compound in which the azo group is electroreducible and an olefin selected from the group consisting of α,β-olefinic esters, nitriles, carboxamides, phosphonates, phosphinates and sulfones, 2-alk-1-enyl pyridines, and 4-alk-1-enyl pyridines, the said solution containing a supporting electrolyte and the electrolysis of the solution occurring in contact with a cathode, and attaining a cathode potential sufficient to effect the reductive coupling, and recovering a reduced, coupled product in which coupling has occurred between the β-carbon of the olefin and nitrogen of the azo compound.

3,438,878
SIMULTANEOUS REFINING OF ZINC AND MANGANESE DIOXIDE

Donald K. Bell, Toronto, Ontario, and Graham Edward Brown, Scarborough, Ontario, Canada, assignors to Union Carbide Canada Limited, Toronto, Ontario, Canada, a company of Canada

No Drawing. Filed Oct. 27, 1966, Ser. No. 589,825
Int. Cl. C22d *1/22*; B01k *3/02*; C01g *45/02*
U.S. Cl. 204—83 12 Claims

1. A process for the simultaneous electrolytic production of manganese dioxide and zinc comprising:

charging an aqueous solution consisting essentially of manganese sulphate and zinc sulphate in concentrations sufficient to limit concentration polarization into an electrolytic cell having a cathode upon which zinc can be plated and an anode upon which manganese dioxide can be plated,

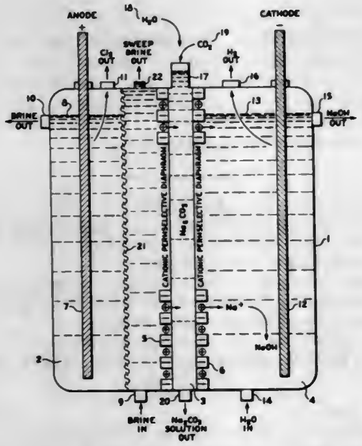
heating the cell and its contents to a temperature within a range of which the upper limit is about 100° C. and of which the lower limit is about 75° C.

and causing a current to flow between the anode and the cathode,

3,438,879
PROTECTION OF PERMSELECTIVE DIAPHRAGM DURING ELECTROLYSIS

Morton S. Kircher, Vancouver, British Columbia, Canada, and George T. Miller, Lewiston, N.Y., assignors to Hooker Chemical Corporation, Niagara, Falls, N.Y., a corporation of New York

Continuation-in-part of application Ser. No. 250,292, Jan. 9, 1963. This application July 31, 1967, Ser. No. 664,587
Int. Cl. C01d *1/06*; C01b *7/06*; B01b *3/10*
U.S. Cl. 204—95 13 Claims

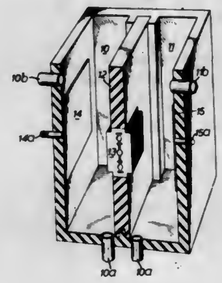


In the electrolytic decomposition of an aqueous solution of a chemical compound in an electrolytic cell having a permselective diaphragm adjacent an anode, in contact with anolyte, the method of extending the useful life of the said permselective diaphragm during electrolysis, which comprises interposing a chemically resistant porous protective barrier between the said anode and the said permselective diaphragm, thereby forming a buffer zone between the diaphragm and the anolyte in the anode compartment and introducing feed for the anode compartment into the said buffer zone between the permeselctive diaphragm and the protective barrier, so that the anolyte feed percolates from the buffer zone through the porous barrier into the anode compartment, thereby keeping anode electrolysis products away from the face of the permselective diaphragm. A tetrafluoropolyethylene screen is preferred.

3,438,880
ELECTROLYTIC METHOD OF SHARPENING THE EDGE OF A METAL MEMBER

Colin E. Martin, Windsor, England, assignor to Wilkinson Sword Limited, London, England, a British company

Filed Dec. 14, 1965, Ser. No. 513,681
Int. Cl. C23b *3/04*
U.S. Cl. 204—142 11 Claims



A method of electroforming or electrofinishing the cutting edge of a metal member, comprises placing the metal member with a first portion in electrolyte which is in contact with a first electrode and with a second portion in electrolyte which is in contact with a second electrode, the electrolyte in contact with the first electrode being isolated from the electrolyte in contact with the second electrode, and applying an electrical potential difference between the first electrode and the second electrode whereby an electric current passes between the two electrodes. The path for the current is from that electrode which is at the higher positive potential through the electrolyte contacting that electrode and thence to the metal member, through the metal member to the electrolyte contacting the electrode which is at the less positive potential and thence to the latter electrode. The current density in the region of the metal member at which current leaves the metal member is substantially greater than the current density in the region at which current enters.

3,438,881
METHOD OF PREPARING LUMINESCENT MATERIALS

Zoltan J. Kiss, Trenton, N.J., assignor to Radio Corporation of America, a corporation of Delaware

Filed Apr. 30, 1963, Ser. No. 276,764
Int. Cl. B01j *1/10*
U.S. Cl. 204—157.1 4 Claims

1. A method comprising growing a crystal from a fused quantity of an alkaline earth halide containing 0.0001 to 1.0 mol percent of at least one lanthanide, said crystal being substantially free of oxygen and characterized by an absorption spectrum lacking an absorption band at about 2000 A., and then exposing said crystal to gamma rays to a dosage of 1×10^5 to 5×10^7 rads.

3,438,882
PROCESS FOR THE PREPARATION OF OXYGEN-CONTAINING CHEMICAL COMPOUNDS

John J. Beereboom, Jr., Old Lyme, and Jay S. Buckley, Jr., Groton, Conn., assignors to Chas. Pfizer & Co., Inc., New York, N.Y., a corporation of Delaware

No Drawing. Filed Sept. 11, 1964, Ser. No. 395,905
Int. Cl. B01j *1/10*
U.S. Cl. 204—158 14 Claims

Benzoyl peroxide preparation by contacting benzalchloride with benzoic acid in the presence of an electrophilic reagent capable of complexing with said chloride at elevated temperatures to obtain benzaldehyde and benzoic anhydride followed by oxidation in the presence of alkali and alkaline earth metal sulfates or benzoates. A mixture of benzalchloride and benzotrichloride may be employed in lieu of said benzalchloride reactant. Said oxidation is promoted by low intensity irradiation. Benzoic anhydride oxidation may employ hydrogen peroxide.

3,438,883
IONIZING IRRADIATION POLYMERIZATION OF TRIOXANE

Nelson S. Marens, Silver Spring, Md., and Fred Jaffe, Cincinnati, Ohio, assignors to W. R. Grace & Co., New York, N.Y., a corporation of Connecticut

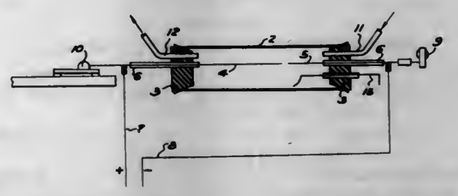
No Drawing. Continuation-in-part of application Ser. No. 274,924, Apr. 23, 1963. This application Dec. 2, 1966, Ser. No. 598,593
Int. Cl. B01j *1/10*; C08f *1/16*; C08g *1/04*
U.S. Cl. 204—159.21 9 Claims

In abstract, this invention is directed to, a method for preparing high molecular weight fibers of polyoxymethylene which comprises preparing trioxane crystals having a length exceeding about 1 mm., irradiating said crystals with about 0.02–5.0 megarads of high energy ionizing radiation at a temperature below 25° C., aging the irradiated trioxane at about 25–60° C. for a period sufficient to allow substantial polymeric growth, and removing non-polymerized trioxane from the aged crystals, all as recited hereafter.

3,438,884
PREPARATION OF BORON FILAMENTS IN AN ELECTRICAL DISCHARGE

Arvo J. Juhola, Pittsburgh, and Thomas A. Pferdehirt, Evans City, Pa., assignors to Mine Safety Appliances Company, a corporation of Pennsylvania

Filed Oct. 17, 1966, Ser. No. 587,154
Int. Cl. C22d *7/00*; C01b *35/00*
U.S. Cl. 204—164 14 Claims



1. A method of preparing a boron filament comprising the steps of subjecting a gas consisting essentially of a

mixture of hydrogen and boron trichloride and from 0 to about 5 mol percent diborane, said gas mixtures containing not less than about 50 mol percent hydrogen, to a direct current thermionic arc electrical discharge between spaced positive and negative electrodes whereby a filament forms on said positive electrode, and moving said positive electrode away from said negative electrode at a rate such that the space between said electrodes is substantially constant.

3,438,885

METHOD OF MAKING FERRIMAGNETIC FILMS BY CATHODIC SPUTTERING

Derek C. Lewis and William D. Westwood, Ottawa, Ontario, Canada, assignors to Northern Electric Company Limited, Moutreal, Quebec, Canada

No Drawing. Continuation of application Ser. No. 394,603, Sept. 4, 1964. This application Aug. 2, 1967, Ser. No. 662,559

Int. Cl. C23c *15/00*

U.S. Cl. 204—192 **2 Claims**

Ferrimagnetic films are deposited by cathodic sputtering from a source cathode of ferrimagnetic oxide compounds which were first fired in a reducing atmosphere to lower the resistivity.

3,438,886

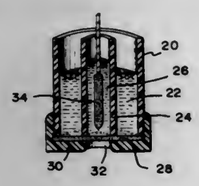
ORGANIC LIQUID ION-EXCHANGER ELECTRODE

James W. Ross, Newton, Mass., assignor to Orion Research, Incorporated, Cambridge, Mass., a corporation of Massachusetts

Filed Mar. 14, 1966, Ser. No. 534,052

Int. Cl. B01k *3/10*

U.S. Cl. 204—195 **8 Claims**



This invention is an electrochemical electrode for detecting ion activity in solution and having an organic ion-exchanger liquid as the ion-sensitive portion. The electrode includes membrane formed with an interconnected porous structure open to the surfaces and preferentially wettable by the liquid. There are also a pair of reservoirs, one containing the ion-exchanger liquid and abutting peripheral portions of the membrane; the other containing an internal reference electrolyte solution and abutting a central portion of the membrane. The membrane serves as a wick to maintain a layer of the exchanger liquid between the reference solution and the solution in which the activity of ions is to be determined.

3,438,887

PRODUCTION OF LUBRICATING OILS

Herbert C. Morris, Groves, and Avilino Sequeira, Jr., Nederland, Tex., assignors to Texaco Inc., New York, N.Y., a corporation of Delaware

No Drawing. Filed July 11, 1967, Ser. No. 652,407

Int. Cl. C10g *43/14, 31/14*

U.S. Cl. 208—87 **9 Claims**

Improved lubricating oils are prepared from waxy distillates by the processing sequence of solvent refining, catalytic dewaxing and hydrorefining.

3,438,888

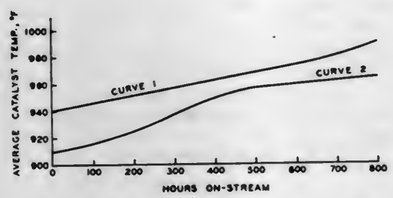
CATALYST PRETREATMENT PROCESS

Burwell Spurlock, Lafayette, Calif., assignor to Chevron Research Company, San Francisco, Calif., a corporation of Delaware

Filed July 10, 1967, Ser. No. 652,093

Int. Cl. C10g *35/08;* **B01j** *11/16*

U.S. Cl. 208—138 **4 Claims**



A catalyst containing platinum and rhenium on a porous solid carrier is contacted with a highly aromatic feedstock and hydrogen at reforming conditions for at least 0.5 hour prior to reforming a naphtha with the catalyst.

3,438,889

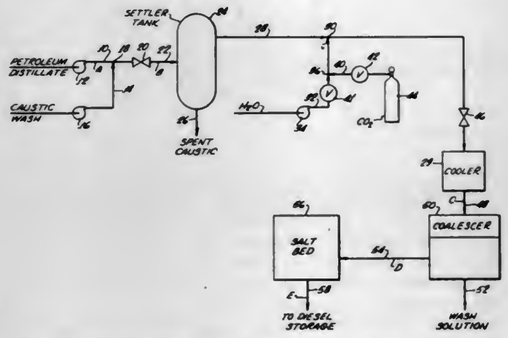
RESULFURIZATION OF PETROLEUM HYDROCARBON

William J. Racine, Los Alamitos, Edward D. Alpert, Arcadia, and James H. Caldwell, Jr., Manhattan Beach, Calif., assignors to Atlantic Richfield Company, Philadelphia, Pa., a corporation of Pennsylvania

Filed Aug. 24, 1966, Ser. No. 574,637

Int. Cl. C10g *31/14, 19/02, 17/02*

U.S. Cl. 208—263 **12 Claims**



A process for de-hazing hydrocarbon fuels comprising the steps of treating the hydrocarbon with caustic, separating the caustic solution therefrom, treating the separated hydrocarbon with carbonic acid, and separating the aqueous phase therefrom is disclosed.

3,438,890

METHOD AND APPARATUS FOR SEPARATING SOLIDS-LIQUIDS MIXTURES

James B. Neighbor, Mount Prospect, Ill., assignor to FMC Corporation, a corporation of Delaware

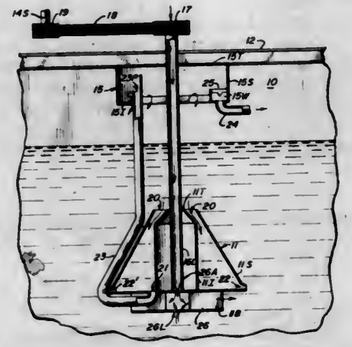
Filed Sept. 10, 1965, Ser. No. 486,404

Int. Cl. C02c *1/24, 1/10*

U.S. Cl. 210—14 **15 Claims**

Package sewage treatment plants are disclosed, one for land based installation and the other for marine installation. Each installation is shown with an aeration tank having a body of mixed liquor defining a liquid level therein, the mixed liquor being a solids-liquid mixture in which the solids are slowly settleable. A rotary separator is submerged in the mixed liquor and serves to produce a bodily flow of the mixed liquor through a centrifugal separator chamber where a differential centrifugal field

acts to effect solids and liquid separation while the external effect of the rotary separator maintains the tank contents homogeneous as respects suspended solids and oxygen supply. A tubular rotary drive shaft has one end external of the body of mixed liquor and has an opposite end submerged and carrying an impeller blade structure, with a shell-like housing rigidly mounted on the shaft adjacent the impeller blade structure and defining



the separating chamber. The housing end remote from the impeller has a mixture inlet and the other housing end has a solids outlet and a liquid outlet at radially spaced locations. A receiving tank is located above the liquid level defined in the aeration tank and a delivery line rotates with the housing and leads from the radially inward solids outlet to terminate at a discharge location radially outward of the mixture inlet and in communication with the receiving tank.

3,438,891

PROCESS FOR DEMINERALIZING POLAR LIQUIDS AND FOR REGENERATING ION EXCHANGE RESINS

Kenneth A. Schmidt, Chicago Ridge, and Karsten Odland, La Grange Park, Ill., assignors to Nalco Chemical Company, Chicago, Ill., a corporation of Delaware

No Drawing. Filed Mar. 15, 1965, Ser. No. 439,959

Int. Cl. C02b *1/76;* **B01d** *15/06*

U.S. Cl. 210—32 **10 Claims**

A process for regenerating a multibed ion exchange system, said system including a weak acid cation exchange resin, a strong acid cation exchange resin, and an anion exchange resin in the polyvalent salt form. In the process bed void water from the anion exchanger is passed through the spent anion exchange bed. The effluent from the bed, which is weakly acidic, is passed through the weak acid cation exchange resin. The acid from the effluent is picked up by the weak acid resin. The effluent from the weak acid exchanger which contains sulfates is passed through the anion exchange resin where regeneration and desorption of acid takes place. A continuous recirculation is set up which is continued until regeneration has occurred.

3,438,892

DRYING FLUIDS WITH REGENERABLE SULFONATE CATION-EXCHANGE RESINS

Charles E. Wymore and Robert M. Wheaton, Midland, Mich., assignors to The Dow Chemical Company, Midland, Mich., a corporation of Delaware

No Drawing. Continuation-in-part of application Ser. No. 478,032, Aug. 4, 1965, which is a continuation-in-part of application Ser. No. 85,150, Jan. 26, 1961. This application Oct. 16, 1967, Ser. No. 675,294

Int. Cl. B01d *15/06;* **C02b** *1/76, 1/14*

U.S. Cl. 210—32 **14 Claims**

Dry sulfonic acid cation-exchange resins in monovalent salt form are efficient desiccants for many fluids. Because of the high water capacity and relatively low thermal regeneration temperature, a resin column regenerated in situ at 90°–200° C. is particularly suited for removing small amounts of water from liquid organic process streams.

3,438,893

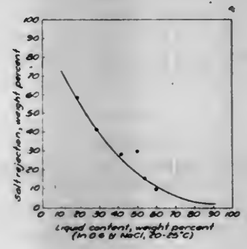
DESALINATION OF WATER WITH THERMALLY REVERSIBLE WATER-SWELLABLE RESINS

Robert E. Anderson and Giffin D. Jones, Midland, Mich., assignors to The Dow Chemical Company, Midland, Mich., a corporation of Delaware

Filed Oct. 7, 1966, Ser. No. 585,025

Int. Cl. C02b *1/18*

U.S. Cl. 210—59 **9 Claims**



An improved process for the desalination of water by selective extraction of water with a thermally-reversible, water-swellable resin is achieved by using a crosslinked polymeric ether as the selective resin. Among the suitable polymeric ethers are crosslinked polyvinyl ethers with a carbon-oxygen atomic ratio (C/O ratio) of about 2.0–3.0, polyalkyleneoxypolyols with a C/O ratio af about 2.0–4.0, and alkylcellulose ethers with a C/O ratio of about 1.4–2.0.

3,438,894

EFFLORESCENT COMPOSITION

Kurt Ludwig von Stoesser, Ronheider Weg 39, Aachen, Germany

Filed Jan. 25, 1966, Ser. No. 522,965

Int. Cl. C09k *3/00;* **B01j** *17/00;* **B01d** *9/00*

U.S. Cl. 252—1 **3 Claims**

An efflorescent composition consisting essentially of an intimate mixture of (1) a substantially saturated aqueous solution of urea or of the sodium salt of a saturated fatty acid having from 6 to 10 carbon atoms in the carbon chain or of a mixture of urea and said fatty acid sodium salt, and (2) colloidal silicic acid.

3,438,895

DRILLING MUD AND PRODUCT THEREFOR

George B. Alcorn and Frank D. Edmonsond, Crossett, Ark., assignors by mesne assignments, to Georgia-Pacific Corporation, Portland, Oreg., a corporation of Georgia

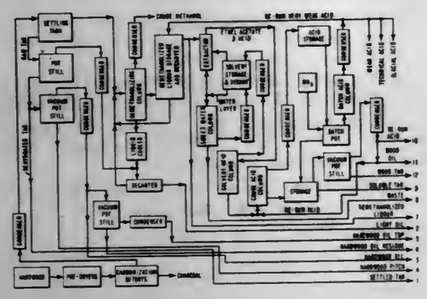
Continuation-in-part of applications Ser. No. 234,442, Oct. 31, 1962, and Ser. No. 258,297, Feb. 13, 1963. This application July 30, 1965, Ser. No. 478,025

Int. Cl. C10m *7/16;* **E21b** *43/16*

U.S. Cl. 252—8.5 **19 Claims**

A water base fluid useful in oil well drilling and water flooding. The drilling fluid or water flooding medium contains as an essential component the reaction product of an alkali metal alkali or ammonia alkali with an organic fraction of the pyroligneous liquor obtained from the

destructive distillation of ligneous material, which component functions to inhibit clay or shale hydration. In



drilling fluids the alkali-pyroligneous acid fraction reaction product also functions to reduce viscosity.

3,438,896

LUBRICANT COMPOSITION AND METHOD OF USING SAME

Bill E. Council and Warren W. Woods, Ponca City, Okla., assignors to Continental Oil Company, Ponca City, Okla., a corporation of Delaware

Filed Sept. 9, 1965, Ser. No. 486,173

Int. Cl. C10m *7/26, 3/22;* **F16n** *17/00*

U.S. Cl. 252—12 **4 Claims**

Lubricant composition comprising wax, wax-extendible copolymer and an extreme pressure solid lubricant.

In one aspect the invention relates to a method of lubricating a railroad center plate assembly employing the above-described composition in the form of solid pellets.

3,438,897

ENGINE LUBRICATING COMPOSITIONS

Bennett M. Henderson, Edwardsville, Ill., assignor to Shell Oil Company, New York, N.Y., a corporation of Delaware

No Drawing. Filed Oct. 10, 1966, Ser. No. 585,261

Int. Cl. C10m *1/34, 1/08;* **C08f** *19/00*

U.S. Cl. 252—32.7 **8 Claims**

Mineral lubricating oil compositions containing basic alkaline earth metal petroleum sulfonates and a mixture of the copolymer of C-vinyl pyridine and an alkyl methacrylate with a succinimide of mono(polyolefin) succinic anhydride and a polyalkylene polyamine have improved stability, detergent-dispersant, antiwear and anticorrosion properties. The compositions can optionally contain a zinc dialkyl dithiophosphate.

3,438,898

NON-ASH FORMING ADDITIVE FOR LUBRICANTS

Roland T. Schlobohm, Bethalto, Ill., and Margaret A. Kelly, Jennings, Mo., assignors to Shell Oil Company, New York, N.Y., a corporation of Delaware

No Drawing. Filed Mar. 17, 1967, Ser. No. 623,837

Int. Cl. C10m *1/38;* **C07c** *143/72*

U.S. Cl. 252—33 **10 Claims**

A non-ash forming additive suitable for use in lubricating oil compositions is obtained by reacting certain amides with organic sulfonic acids to form oil-soluble salts. These salts are particularly useful in lubricating compositions as rust inhibitors and dispersants.

3,438,899

ALKENYL SUCCINIMIDE OF TRIS (AMINOALKYL) AMINE

George J. Benoit, Jr., San Anselmo, Calif., assignor to Chevron Research Company, San Francisco, Calif., a corporation of Delaware

No Drawing. Continuation-in-part of application Ser. No. 649,054, June 26, 1967. This application Feb. 23, 1968, Ser. No. 707,427

Int. Cl. C10m *7/32*

U.S. Cl. 252—51.5 **4 Claims**

Alkenyl succinimides of tris(aminoalkyl) amines suitable as ashless detergents in lubricating oil compositions are prepared by reaction of alkenyl succinic anhydrides or the corresponding alkenyl succinic acids and tris(aminoalkylene) amines. Said alkenyl groups containing from 30 to 200 carbon atoms and said amines containing from 6 to 9 carbon atoms.

3,438,900

FERRIMAGNETIC MATERIAL SUITABLE FOR USE AT FREQUENCIES OF AT LEAST 50 MC./SEC. WITH IMPROVED PROPERTIES

Gerhard Winkler, Hamburg, Germany, assignor to North American Philips Company, Inc., New York, N.Y., a corporation of Delaware

No Drawing. Filed Mar. 3, 1966, Ser. No. 531,360

Claims priority, application Germany, Mar. 25, 1965, P 36,383

Int. Cl. C04b *35/32, 35/28;* **H01f** *1/10*

U.S. Cl. 252—62.6 **3 Claims**

A ferrimagnetic material is disclosed which is useful at frequencies of at least 50 mc./sec. This material has a higher resonance frequency, a lower loss factor (tan δ) and a higher quality factor ($\mu'O=\mu'/\tan\delta$, μ' being the real initial permeability) than a comparable known material. This material has a composition

$$Ba_{3-a-b-e}Sr_aPb_eMe^{II}_{(2-d)}Co^{II}_{(d+e)}Ir^{IV}_eFe^{III}_{(24-2e)}O_{41}$$

(the comparable material has no ($Co^{II}+Ir^{IV}$) pair) where Me^{II} is Mn^{II}, Fe^{II}, Ni^{II}, Cu^{II}, Zn, Mg, or the bivalent metal complex

$$\frac{Li^{I}+Fe^{III}}{2}$$

The material has the same crystal structure as the comparable material.

3,438,901

METAL TREATING BATH AND CHELATING AGENT FOR METAL REACTIVE ACID BATHS

Neiko I. Vassileff, 12 E. 63rd St., New York, N.Y. 10021

No Drawing. Filed Oct. 22, 1965, Ser. No. 502,319

Int. Cl. C23g *1/06*

U.S. Cl. 252—79.3 **10 Claims**

A new treating, pickling, etching, acid bath for metal is provided with a chelating agent reacting or acting catalytically to extend the useful life of the bath. The chelating agent for metal acid baths is also provided for its separate introduction into selected metal acid baths.

3,438,902

ORGANIC PHOSPHORUS COMPOUNDS

Riyad R. Irani, St. Louis, and Kurt Moedritzer, Webster Groves, Mo., assignors to Monsanto Company, St. Louis, Mo., a corporation of Delaware

No Drawing. Continuation-in-part of application Ser. No. 483,339, Aug. 27, 1965. This application Feb. 3, 1967, Ser. No. 613,724

Int. Cl. C11d *1/34*

U.S. Cl. 252—153 **5 Claims**

A dry cleaning composition is described containing a volatile, organic solvent of the dry cleaning type, such as Stoddard's solvent, naphtha, benzene, carbon tetrachloride, trichloroethylene and perchloroethylene, and an

ester of an organo-amino-di-alkylenephosphonic acid which includes an ester of a long chain hydrocarbyl-amino-di-lower alkylene phosphonic acid such as tetraethyl tetradecyl-amino-di-methylphosphonate, tetraethyl dodecyl-amino-di-methylphosphonate and the like.

3,438,903

PLASTIC RADIATION AND ACOUSTIC BARRIER COMPOSITIONS CONTAINING A THIXOTROPIC AGENT

Helmut F. Prahl, Middleton, Wis. (% Sidney B. Ring, P.O. Box 6825, Brentwood, Mo. 63144)

No Drawing. Continuation-in-part of application Ser. No. 550,596, May 17, 1966. This application Mar. 22, 1967, Ser. No. 625,018

Int. Cl. C04b *35/68;* **E04b** *2/00*

U.S. Cl. 252—478 **18 Claims**

A composition comprising a hardenable or thermoset resin, a thixotropic agent and a radiation attenuator; the hardened or cured product thereof; methods of applying this composition in a thixotropic state in the manner of plaster and hardening or curing it to yield structures shielded against noise and/or penetrating radiation, particularly in seamless applications.

3,438,904

LIQUID TONER

Edward W. Wagner, Elmhurst, Ill., assignor to SCM Corporation, New York, N.Y., a corporation of New York

No Drawing. Continuation-in-part of applications Ser. No. 165,254, Jan. 9, 1962, and Ser. No. 300,910, Aug. 8, 1963. This application Jan. 10, 1966, Ser. No. 519,520

Int. Cl. G03g *9/00, 9/04, 13/10*

U.S. Cl. 252—62.1 **11 Claims**

1. The method of developing a negatively charged latent electrostatic image into a visual image, comprising the steps of:

(a) applying to said image a substantially water-free positive acting developer composition consisting essentially of *an evaporative liquid hydrocarbon* carrier having a resistivity of not less than about 10^{10} ohm-cm.; 0.00005 to 5% by weight of finely divided, opaque, insoluble, pigment particles dispersed in said carrier; and a manganese salt of an organic acid in an effective amount equal to not more than about 0.2% by weight of manganese metal based on total developer, for visually improving the quality of the image produced by the pigment particles, said salt being selected from the group consisting of manganese linoresinate, manganese 2-ethylhexoate and manganese naphthenate, and

(b) thereafter removing excess developer from the carrier bearing the electrostatic image.

3,438,905

IODINE-CONTAINING NONIONIC SURFACTANT COMPOSITIONS

Irving R. Schmolka, Grosse Ile, Mich., assignor to Wyandotte Chemicals Corporation, Wyandotte, Mich., a corporation of Michigan

No Drawing. Filed Aug. 19, 1965, Ser. No. 481,098

Int. Cl. C11d *3/48;* **A61k** *27/00;* **C07c** *103/30*

U.S. Cl. 252—106 **18 Claims**

Iodine-containing detergent compositions are obtained by complexing elemental iodine with biodegradable, water-miscible nonionic surfactants having enhanced detergency. The surfactants are prepared by condensing certain mixtures of ethylene oxide and propylene oxide with an organic compound having an active hydrogen atom and from 8 to 22 carbon atoms so that the total weight of the surfactants is from 55% to 80% oxyethylene and oxypropylene group, the weight ratio of oxyethylene to oxypropylene being from 1.3:1 to 15:1. The compositions may then be diluted with water, acidified, and thereafter used in the cleaning and sanitizing of food-handling equipment.

3,438,906

IODINE-CONTAINING NONIONIC SURFACTANT COMPOSITIONS

Jacque L. Duvall, Grosse Ile, Mich., assignor to Wyandotte Chemicals Corporation, Wyandotte, Mich., a corporation of Michigan

No Drawing. Filed July 26, 1965, Ser. No. 474,949

Int. Cl. C11d *3/48;* **C07c** *103/32*

U.S. Cl. 252—106 **14 Claims**

Iodine-containing compositions are obtained by mixing elemental iodine with liquid, biodegradable, nonionic, heteric surfactants having enhanced detergency. The heteric surfactants are prepared by condensing a mixture of ethylene oxide and propylene oxide in a weight ratio of ethylene oxide to propylene oxide of from 1.3:1 to 6.8:1 with an organic compound having an active hydrogen atom and from 8 to 22 carbon atoms, the amount of oxide mixture being 67% to 80% of the total weight of the surfactant. The iodine-containing compositions may then be diluted with water and acidified. The diluted compositions are advantageously used to clean and sterilize metal parts and equipment.

3,438,907

IODINE-CONTAINING NONIONIC SURFACTANT COMPOSITIONS

Irving R. Schmolka, Grosse Ile, Mich., assignor to Wyandotte Chemicals Corporation, Wyandotte, Mich., a corporation of Michigan

No Drawing. Filed July 26, 1965, Ser. No. 474,986

Int. Cl. C11d *3/48;* **C07c** *43/02*

U.S. Cl. 252—106 **14 Claims**

Iodine-containing compositions are obtained by mixing elemental iodine with liquid, biodegradable, nonionic, heteric surfactants having enhanced detergency. The heteric surfactants are prepared by condensing, in at least two distinct steps, certain mixtures of ethylene oxide and propylene oxide with an organic compound having an active hydrogen atom and from 8 to 22 carbon atoms so that the total weight of the surfactants is from 67% to 80% oxyethylene and oxypropylene groups, the weight ratio of oxyethylene to oxypropylene being from 1.3:1 to 6.8:1. The compositions may be then diluted with water, acidified, and thereafter used in the cleaning and sanitizing of food-handling equipment.

3,438,908

STABILIZER FOR POLYURETHANE-PREMIX

Harold E. Reymore, Jr., Wallingford, and Adnan A. R. Sayigh, North Haven, Conn., assignors to The Upjohn Company, Kalamazoo, Mich., a corporation of Delaware

No Drawing. Filed Sept. 20, 1966, Ser. No. 580,615

Int. Cl. C09k *3/00*

U.S. Cl. 252—182 **3 Claims**

Polyurethane premixes containing an alkylene oxide-phosphoric acid adduct in association with a tertiary amine catalyst are stabilized by the addition of 1 to 6% of either N,N-diethylcyclohexylamine or N,N-dimethylethanolamine. The tertiary amine catalysts are those having at least twice the catalytic activity (i.e. activity as polyurethane forming catalysts) than the aforesaid stabilizing amines.

3,438,909
METHOD OF PRODUCING FLEXIBLE EPOXY RESINS

Wolfgang Kleeberg, Munich, Hans Denk, Gauting, near Munich, and Klaus-Robert Hauschildt, Munich, Germany, assignors to Siemens Aktiengesellschaft, Munich, Germany

No Drawing. Filed June 24, 1963, Ser. No. 290,209
Claims priority, application Germany, June 26, 1962, S 80,075
Int. Cl. C08g *30/12, 30/10*
U.S. Cl. 260—2 1 Claim

1. A method for the manufacture of a flexible epoxy resin which comprises effecting a reaction of a mixture of (a) a component formed by at least 50% esterifying a mixture of castor oil with a dicarboxylic anhydride in a proportion such that the ratio of carboxylic equivalent to hydroxyl equivalent is greater than two to form an esterification product containing at least one aliphatic chain of at least four carbon atoms as an essential molecular element, and (b) at least one epoxy compound containing two epoxy groups in the molecule, the ratio of the total carboxylic equivalents to the epoxy groups being at least 1.5 and not greater than 2.

3,438,910
POLYPHENYLENEIMINES AND PROCESS FOR THE PREPARATION THEREOF

Eckhard Christian August Schwarz, Grifton, N.C., assignor to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware

No Drawing. Filed Apr. 20, 1965, Ser. No. 449,635
Int. Cl. C08g *23/20, 51/60*
U.S. Cl. 260—2 3 Claims

Linear polyphenyleneimines are prepared by reacting equimolar amounts of phenylenediamine and phenylenediamine dihydrochloride. These polyimines are useful as epoxy ring-opening catalysts and as antioxidants.

3,438,911
REDUCTION OF HYDROXYL GROUP CONTENT OF EPOXY RESINS

Bryan Dobinson, Duxford, England, assignor to Ciba Limited, Basel, Switzerland, a Swiss company

No Drawing. Filed July 29, 1965, Ser. No. 475,895
Claims priority, application Great Britain, Sept. 10, 1964, 37,094/64
Int. Cl. C08g *30/02, 30/04, 30/06*
U.S. Cl. 260—2 4 Claims

The hydroxyl group content of an epoxy resin is reduced by the reaction in the presence of a small amount of an acid catalyst, such as hydrogen chloride, of an epoxy resin and a vinyl ether of the formula

$$R'-CH=\overset{R''}{\overset{|}{C}}-O-R'''$$

wherein R′ and R″ each is hydrogen or alkyl groups of 1 to 4 carbon atoms, R‴ is an alkyl group with 1 to 4 carbon atoms, and together R′ and R‴ are a polymethylene chain containing at least two and at the most three carbon atoms in the chain.

3,438,912
POROUS PLATE OF POLYVINYL CHLORIDE RESIN AND METHOD FOR PRODUCING THE SAME

Hiroshi Tsukamoto, Nishinomiya-shi, and Syunji Iwahashi, Toyonaka-shi, Japan, assignors to Sumitomo Chemical Company, Ltd., Osaka, Japan, a corporation of Japan

Filed Nov. 20, 1964, Ser. No. 412,663
Claims priority, application Japan, Nov. 22, 1963, 38/62,831
Int. Cl. C08f *47/08;* B29g *27/08*
U.S. Cl. 260—2.5 2 Claims

A porous, permeable sheet consisting essentially of a vinyl chloride polymer, free of plasticizer and stabilizer, characterized by a porosity of 35 to 70%, thickness of 0.3 to 0.8 mm., tensile strength of 0.15 to 1.5 kg./mm.², brittleness of 9 to 30 by measurement of JIS C–2311 and electric resistance of 0.0008 to 0.004 Ω/dm.²/mm., is produced by pre-heating with agitation a layer of a powdered vinyl chloride resin on a moving belt at a temperature of 70° to 300° C. for 72 hours to 2 minutes and then sintering the pre-treated powdered resin without pressing at a temperature of 160° to 350° C.

3,438,913
PROCESS FOR ETHERIFICATION AND GELATINIZATION OF STARCH

Erling T. Hjermstad, Cedar Rapids, Iowa, assignor to Penick & Ford, Limited, New York, N.Y., a corporation of Delaware

No Drawing. Continuation-in-part of applications Ser. No. 143,062, Oct. 5, 1961, and Ser. No. 163,856, Jan. 2, 1962. This application May 11, 1965, Ser. No. 454,976
Int. Cl. C08b *19/04, 19/02, 25/02*
U.S. Cl. 260—17.3 8 Claims

A process for preparing highly cross-linked, etherified starches which are capable of being fully gelatinized by special cooking procedures, said products having low biochemical oxygen demand (B.O.D.) and being useful as sizes for textile yarns. The process is a combination of steps involving crosslinking to the point of insolubilization with specific crosslinking agents, etherification to a relatively high substitution level while still obtaining a filterable product and heating the starch under specific alkali or acid conditions to achieve full gelatinization.

3,438,914
WATER-BASE PAINT COMPOSITION

Emil A. Krockenberger, Tonawanda, N.Y., assignor to National Gypsum Company, Buffalo, N.Y., a corporation of Delaware

No Drawing. Filed Nov. 18, 1966, Ser. No. 595,366
Int. Cl. C09d *5/02, 3/26*
U.S. Cl. 260—17.4 9 Claims

Water-based coating compositions resistant to staining due to leaching of tannins and especially suitable for water-soluble-tannin rich woods such as redwood and cedar are composed of pigment, drying oil emulsion or latex, a tannin precipitant such as potassium antimony tartrate or guar gum, and an aluminum salt or antimony potassium tartrate as a dye mordant. Glucose or formaldehyde are added to synthetic latices to remove, by reduction, traces of polymerization catalyst.

3,438,915
AQUEOUS SURFACE-COATING COMPOSITIONS CONTAINING POLYSACCHARIDE THICKENERS

Theodore A. Girard, Wayne, N.J., assignor, by mesne assignments, to Tenneco Chemicals, Inc., a corporation of Delaware

No Drawing. Filed May 14, 1963, Ser. No. 280,431
Int. Cl. C09d *5/04;* C09
U.S. Cl. 260—17.4 4 Claims

1. A surface-coating composition comprising an aqueous dispersion containing (a) 10% to 60% by weight of the ammonium salt of a copolymer of approximately 66% by weight of ethyl acrylate, 32.5% by weight of methyl methacrylate, and 1.5% by weight of acrylic acid and (b) approximately 0.1% to 1%, based on the weight of said composition, of a thickener that is a polysaccharide produced by the fermentation of a carbohydrate by an organism selected from the group consisting of bacteria of the genus *Xanthomonas*, bacteria of the genus *Arthrobacter*, and yeasts of the genus *Cryptococcus*.

3,438,916
USE OF CHLORINATED MELAMINES IN CURING OF POLYURETHANES

Arnold Rogers Davis, Berkeley Heights, N.J., assignor to American Cyanamid Company, Stamford, Conn., a corporation of Maine

No Drawing. Continuation-in-part of abandoned application Ser. No. 324,842, Nov. 19, 1963. This application May 25, 1967, Ser. No. 641,111
Int. Cl. C08g *22/04, 51/84*
U.S. Cl. 260—18 3 Claims

A process of heat curing sulfur-curable polyurethanes with sulfur and a vulcanization accelerator, effecting said curing in the presence of: (A) about 0.1 to 1.2 weight percent of an N-chloromelamine having 3 to 6 chlorine atoms, preferably hexachloromelamine; (B) about 0.1 to 2.5 weight percent of a zinc salt of a fatty acid having 12 to 18 carbon atoms; (C) about 0.1 to 2.5 weight percent of a fatty acid having 12 to 18 carbon atoms, said percentages being based on the amount of polyurethane.

3,438,917
FRICTION ELEMENT COMPRISING A PHENOL ISOBUTYRALDEHYDE CONDENSATE

Frank S. Grazen, Frank M. Bryzinsky, and Broni Kozma, North Tonawanda, N.Y., assignors to Hooker Chemical Corporation, Niagara Falls, N.Y., a corporation of New York

No Drawing. Continuation-in-part of application Ser. No. 364,018, Apr. 30, 1964. This application Nov. 29, 1967, Ser. No. 686,699
Int. Cl. C08g *37/06;* C09k *3/14;* F16d *69/02*
U.S. Cl. 260—19 12 Claims

A binder for a friction element composition comprised of asbestos fibre, friction imparting material, and a thermosettable phenol-aldehyde pre-condensate is provided by reaction of a phenol with isobutyraldehyde followed by a reaction with formaldehyde wherein the mole ratio of total aldehyde to phenol is between about 0.5 and about 1.0 and the total aldehyde comprises between about 5 and about 100 parts isobutyraldehyde and between about zero and about 95 parts formaldehyde. Then phenol may be phenol itself (C_6H_5OH), an alkyl substituted phenol, a terpene modified phenol, or mixtures thereof. The phenol aldehyde pre-condensate material may similarly be subsequently modified with a terpene or a vegetable derived oil, or both. The pre-condensate binder is dissolved in a hydrocarbon solvent and reacted with hexamethylenetetramine to become thermoset after the application of heat.

3,438,918
ETHYLENE-PROPYLENE TERPOLYMER RUBBER COMPOSITION WITH IMPROVED TACK

Herbert George Arlt, Jr., Ridgefield, and Charles Oliver Myatt, Stamford, Conn., assignors to American Cyanamid Company, Stamford, Conn., a corporation of Maine

No Drawing. Continuation-in-part of application Ser. No. 316,255, Apr. 20, 1964. This application Dec. 1, 1966, Ser. No. 598,185
Int. Cl. C08f *29/10*
U.S. Cl. 260—22 8 Claims

Building tack is imparted to ethylene-propylene terpolymer rubber by incorporating therein about 1–20% of a polymeric ester of a polyhydric alcohol with both an organic polycarboxylic acid and either rosin or a drying or semi-drying oil fatty acid mixture such as tall oil fatty acids, preferably as a solution in rubber processing oil.

3,438,919
LUBRICATING COMPOSITION COMPRISING OLEIC ACID AND OLEYL ACID PHOSPHATE FOR POLYESTER RESINS

Martin S. Maltenfort, Newark, Del., assignor, by mesne assignments, to Koppers Company, Inc., Pittsburgh, Pa., a corporation of Delaware

No Drawing. Continuation-in-part of application Ser. No. 438,075, Mar. 8, 1965. This application Oct. 20, 1967, Ser. No. 676,702
Int. Cl. C08f *47/12, 45/10, 45/36*
U.S. Cl. 260—22 2 Claims

A lubricating composition comprising oleic acid and oleyl acid phosphate is added to a polyester resin to lubricate the resin when the resin is used in the formation of fiber reinforced resin articles by the extraction technique. The lubricating composition does not deleteriously affect the finished article by the formation of voids and other surface defects such as are experienced with the use of other lubricating compositions.

3,438,920
PROCESS FOR PREPARATION OF OIL EXTENDED POLYISOPRENE LATEX

Walter M. Halper, Palos Verdes Peninsula, Calif., and Fred Dudley Moss, Greenwich, Conn., assignors to Shell Oil Company, New York, N.Y., a corporation of Delaware

No Drawing. Filed Aug. 8, 1966, Ser. No. 570,751
Int. Cl. C08g *51/34, 11/22*
U.S. Cl. 260—23.7 3 Claims

This invention is a process for preparing oil extended polyisoprene latices. An unemulsified extending oil is added to a polyisoprene latex, and the latex containing oil is processed in a shear homogenizer at elevated temperature and pressure. An emulsifying agent is added to the oil extended latex. The oil extended polyisoprene latex may be utilized as carpetbacking material.

3,438,921
HOT-MELT BOOKBINDING ADHESIVES MODIFIED WITH A REACTION PRODUCT OF HEXAFLUOROACETONE

Mathias M. Coburn, Springfield, Pa., assignor to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware

No Drawing. Filed June 8, 1966, Ser. No. 555,992
Int. Cl. C09j *3/14;* C08f *29/38*
U.S. Cl. 260—27 7 Claims

A hot-melt thermoplastic adhesive especially adapted for binding books, magazines, catalogs and the like that consists essentially of a blend of: (A) 15–45% by weight of a copolymer of ethylene and vinyl acetate; (B) 35–55% by weight of a thermoplastic oleoresinous product; and (C) 10–50% by weight of a hexafluoroacetone reaction product.

3,438,922
ADHESIVE COMPOSITION

Kenzo Ueno and Yukio Sato, Osaka, Japan, assignors to Takeda Chemical Industries, Ltd., Osaka, Japan

No Drawing. Continuation of application Ser. No. 356,084, Mar. 31, 1964. This application Aug. 18, 1967, Ser. No. 661,722
Claims priority, application Japan, Apr. 2, 1963, 38/16,858; July 15, 1963, 38/38,520
Int. Cl. C08 *37/14, 37/08*
U.S. Cl. 260—29.3 2 Claims

An adhesive composition is provided herein which is an aqueous dispersion of the reaction product of (1) an isocyanate blocking agent which may be a phenol, an active methylene compound or an oxime, and (2) a polymeric modified triisocyanate being produced by the reaction of an aromatic di-isocyanate with a trifunctional polyester polymer having a molecular weight of about

1000–4000, the isocyanate groups of the said reaction product being completely blocked.

3,438,923

COAGULATION OF LATEX OF ACRYLONITRILE AND STYRENE GRAFTED ONTO POLYBUTADIENE

Charles W. Strobel, Bartlesville, Okla., assignor to Phillips Petroleum Company, a corporation of Delaware

No Drawing. Filed July 18, 1966, Ser. No. 565,677
Int. Cl. C08f *47/02, 37/00*
U.S. Cl. 260—29.7 5 Claims

An ABS latex is converted to granular particles during coagulation by heating at a temperature of at least 287° F.

3,438,924

AGGLOMERATION AND CONCENTRATION OF SYNTHETIC LATEX

David Calder Chalmers and Joseph Maxwell Mitchell, Sarini, Ontario, Canada, assignors to Polymer Corporation Limited, Sarnia, Ontario, Canada, a body corporate

No Drawing. Continuation of application Ser. No. 338,595, Jan. 20, 1964. This application Sept. 1, 1967, Ser. No. 665,185
Claims priority, application Canada, Feb. 8, 1963, 868,355
Int. Cl. C08d *7/02*
U.S. Cl. 260—29.7 7 Claims

Rubbery diene-polymer particles in a latex can be agglomerated by adding to the latex a small amount of a water-soluble compound prepared by reacting a polyethylene glycol of molecular weight about 1,000–20,000 with the diepoxide obtained by reacting epichlorohydrin with a polyhydric phenol. The latex now can be readily concentrated to high solids while maintaining a low viscosity.

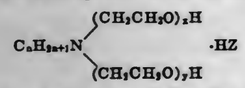
3,438,925

STABILIZED OIL- AND WATER-REPELLENT COMPOSITION

Stuart Raynolds, Wilmington, and Thomas K. Tandy, Jr., Newark, Del., assignors to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware

No Drawing. Filed July 22, 1966, Ser. No. 567,049
Int. Cl. C08f *45/60;* D06m *15/32*
U.S. Cl. 260—29.4 5 Claims

The addition of a compound of the structure



wherein n is 12 to 18, the sum of x and y is 10–20, each of x and y is at least 1, and Z is chloride or acetate, to a pad bath for applying fluorinated oil- and water-repellent polymers to textile fabrics has been found to stabilize the bath against the undesirable interaction of incompatible pad bath ingredients.

3,438,926

WATER BASE UNSATURATED INTERPOLYMER COATINGS

Oliver W. Burke, Jr., 506 Intracoastal Drive, Fort Lauderdale, Fla. 33304, Eldon E. Stahly, Ellicott City, Md., and Oscar M. Grace, Madison Heights, Mich.; said Grace and said Stahly assignors to said Burke

No Drawing. Continuation-in-part of application Ser. No. 854,560, Nov. 23, 1959. This application Jan. 24, 1966, Ser. No. 522,413
Int. Cl. C08f *15/40;* C09d *5/02, 3/74*
U.S. Cl. 260—29.7 14 Claims

Solvent resistant latex base coatings are prepared by polymerizing a first set of monomers comprising a vinylidene halide and a nitrile to substantial completion in the presence of from 0 to 0.5% emulsifier and adding to the polymerized latex a second set of monomers comprising a nitrile and a conjugated diene and polymerizing to substantial completion. The conjugated diene comprises from 5% to 45% of the total monomers in the final polymer.

3,438,927

INVISIBLE INK

Joseph R. Ehrlich, New York, N.Y., assignor to Meredith Publishing Company

No Drawing. Filed Apr. 28, 1967, Ser. No. 634,466
Int. Cl. C08f *33/04;* C09d *11/10;* B41m *5/22*
U.S. Cl. 260—33.4 6 Claims

An invisible ink, comprising (1) a low weight percentage of polyvinyl pyrolidone resin, (2) a colorless reagent capable of giving a colored reaction product with another reagent and (3) butyl or amyl alcohol which is liquid at room temperature. An appropriate reagent is used to react with the colorless reagent thereby producing a visible image on the printed surface.

3,438,928

SOLUTIONS OF POLYALKYLQUINOZOLONE

Paul Etienne Lateltin and Maurice Jules Arthur Mallet, Lyon, France, asignor to Phone-Poulenc S.A.

No Drawing. Filed Aug. 8, 1966, Ser. No. 570,723
Claims priority, application France, Aug. 12, 1965, 28,182; May 27, 1966, 63,365
Int. Cl. C08g *51/34*
U.S. Cl. 260—33.4 5 Claims

The invention provides novel solutions of controlled viscosity containing up to 30% of polyalkylquinazolones in aromatic alcohols as solvent.

3,438,929

OIL-EXTENDED POLYUREA COATING COMPOSITIONS

Bruce R. Appel, Berkeley, Calif., assignor to Shell Oil Company, New York, N.Y., a corporation of Delaware

No Drawing. Filed Sept. 16, 1966, Ser. No. 579,837
Int. Cl. C08f *22/02, 51/28;* C09d *3/70*
U.S. Cl. 260—33.6 9 Claims

Polyurea coating compositions which exhibit outstanding weathering properties comprise (1) an aliphatic polyisocyanate derived from polymeric fatty acids (2) a ketimine and (3) a low-aromatic petroleum extender oil.

3,438,930

ALKOXYHYDROXY-TERMINATED POLYDIORGANOSILOXANES CURABLE AT ROOM TEMPERATURE

Melvin D. Beers, Schenectady, N.Y., assignor to General Electric Company, a corporation of New York

No Drawing. Filed May 1, 1967, Ser. No. 634,828
Int. Cl. C08g *47/02, 51/02, 51/08*
U.S. Cl. 260—37 10 Claims

Organopolysiloxane compositions curable at room temperature to the elastomeric state upon exposure to moisture, in the form of the reaction product of a silane having three hydrolyzable radicals attached to silicon and a polydiorganosiloxane terminated with a mixture of silanol radicals and tert-alkoxy radicals. Elastomers resulting from the cure of these compositions exhibit superior toughness and improved adhesion to various substrates.

3,438,931

PHENOLIC MOLDING COMPOSITIONS

Philip A. Mitchell, South Bound Brook, Carlo F. Martino, Somerville, and Lawrence G. Imhof, Westfield, N.J., assignors to Union Carbide Corporation, a corporation of New York

No Drawing. Filed Dec. 14, 1964, Ser. No. 418,298
Int. Cl. C08g *37/20*
U.S. Cl. 260—38 6 Claims

A phenolic molding composition wherein a curable phenolic resin and from 0.7 to 17 parts by weight of a nonacidic ethylene/vinyl copolymer per hundred parts phenolic resin are intimately admixed, the ethylene/vinyl copolymer containing polymerized monomer of ethylene to vinyl comonomer of from 90:10 to 50:50.

3,438,932

HIGH STRENGTH, HEAT RESISTANT FLUOROELASTOMERS

Jerry K. Sieron, Dayton, Ohio, assignor to the United States of America as represented by the Secretary of the Air Force

No Drawing. Filed Dec. 9, 1966, Ser. No. 600,669
Int. Cl. C08f *29/16, 45/04*
U.S. Cl. 260—41 2 Claims

This invention encompasses reinforced fluoroelastomer materials suitable for seals, O-rings, clamping devices, etc., which have high tensile strength, high tear, high heat resistance, good compression set and utility at 700° F. for reasonable time periods. In particular the invention concerns a vinylidene fluoride-perfluoroethylene copolymer vulcanizate containing acicular-platy talc as a reinforcing material.

3,438,933

MOLDING PROCESS AND COMPOSITION

James R. Bartsch, Lebanon, N.J., assignor to PCR Patent Development Corporation, Princeton, N.J., a corporation of New Jersey

No Drawing. Continuation-in-part of application Ser. No. 252,058, Jan. 28, 1963. This application Dec. 5, 1966, Ser. No. 598,911
Int. Cl. C08f *15/18, 47/12;* A63b *37/00*
U.S. Cl. 260—41.5 7 Claims

The molding of bodies, such as golf balls, from a diene elastomer, such as cis butadiene rubber containing a relatively large quantity, such as about 25–90% by weight of a cross-linking monomer, such as butylene glycol dimethacrylate or divinyl benzene under the influence of a free radical initiator, such as a peroxide catalyst preferably under the influence of heat.

3,438,934

SALICYLATE STABILIZED FLUORO-POLYMERS

Heinz F. Reinhardt, Claymont, Del., assignor to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware

No Drawing. Filed Aug. 18, 1966, Ser. No. 573,176
Int. Cl. C08f *45/58, 45/60, 45/62*
U.S. Cl. 260—45.75 8 Claims

Temperature stable fluoro-polymer compositions containing (1) a fluoro-polymer prepared by polymerizing at least 10 percent by weight of a fluoro-monomer and (2) a temperature stabilizing non-acidic salt of salicylic acid are provided for use in making coatings and molded articles.

3,438,935

STABILIZED POLYOLEFIN COMPOSITIONS

Kurt W. Leu, Amsterdam, Netherlands, assignor to Shell Oil Company, New York, N.Y., a corporation of Delaware

No Drawing. Filed Dec. 27, 1963, Ser. No. 334,003
Claims priority, application Netherlands, Jan. 31, 1963, 288,392
Int. Cl. C08f *45/60, 3/08*
U.S. Cl. 260—45.85 3 Claims

Polymers of monoolefins (polypropylene) are stabilized against oxidation when in the presence of copper by incorporating therein an inhibitor combination comprising (1) a hydrozone or a salt thereof and (2) a sterically-hindered phenolic compound.

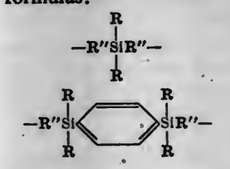
3,438,936

MODIFIED CYCLOTETRASILOXANE POLYMERS

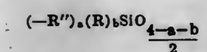
Harry F. Lamoreaux, Schenectady, N.Y., assignor to General Electric Company, a corporation of New York

No Drawing. Filed Oct. 6, 1967, Ser. No. 673,268
Int. Cl. C08g *31/09, 47/02, 51/04*
U.S. Cl. 260—46.5 10 Claims

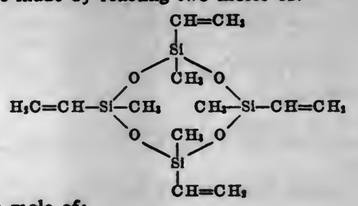
A cyclotetrasiloxane polymer contains a plurality of cyclotetrasiloxane rings joined together through divalent modifier radicals attached to the silicon atoms of the cyclotetrasiloxane rings. The modifier radicals are described by the formulas:



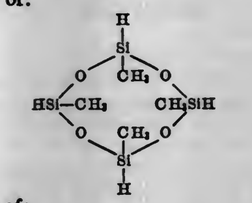
and



where R is a substituted or unsubstituted monovalent hydrocarbon radical, R'' is a divalent alkylene radical, a has a value of 0.5 to 1 and b has a value of 2. An organopolysiloxane polymer within the scope of the present invention is made by reacting two moles of:



with one mole of:



and two moles of:



Polymers within the scope of the present invention are useful as potting compounds.

3,438,937

PROCESS FOR CURING POLYEPOXIDES AND RESULTING PRODUCTS

Samuel H. Christie, Warren Township, N.J., assignor to Shell Oil Company, New York, N.Y., a corporation of Delaware

No Drawing. Continuation-in-part of application Ser. No. 277,465, May 2, 1963. This application Oct. 19, 1964, Ser. No. 404,909

Int. Cl. C08g *30/14, 30/16*

U.S. Cl. 260—47 6 Claims

This invention relates to a process for curing polyepoxides. More particularly, then invention relates to a new process for curing polyepoxides, using a special type of cyclic curing agent, and to the useful products obtained therefrom.

3,438,938

POLYESTER RESINS AND PREPARATION THEREOF

Bryce C. Oxenrider, Florham Park, and Richard B. Lund, Whippany, N.J., assignors to Allied Chemical Corporation, New York, N.Y., a corporation of New York

No Drawing. Filed Jan. 24, 1966, Ser. No. 522,420

Int. Cl. C08g *17/08*

U.S. Cl. 260—47 5 Claims

This invention relates to polyester resins prepared from bisphenols selected from the group consisting of 2,2-bis (4'-hydroxyphenyl) - 1,1a,3,3a,4,5,5a,5b,6-decachlorooctahydro-1,3,4-metheno-2H-cyclobuta[cd] pentalene and derivatives thereof having one or both of the positions ortho to each phenolic hydroxyl group substituted with alkyl and/or halogen substituents. The polyesters of this invention possess excellent thermal stability and can be molded, extruded and solvent cast to form films, fibers and shaped articles.

3,438,939

PROCESS FOR PREPARING RESINOUS CONDENSATION COMPOSITIONS BY REACTING A METHYLOLATED SPACED POLYPHENOL WITH A MONOHYDRIC PHENOL AND THEN REACTING THE RESULTANT PRODUCT WITH ALDEHYDE

William R. Brookes, Lanesboro, Mass., assignor to General Electric Company, a corporation of New York

No Drawing. Filed May 12, 1966, Ser. No. 549,465

Int. Cl. C08g *5/10*

U.S. Cl. 260—57 6 Claims

1. In an improved method for preparing a resinous condensation product which method comprises reacting methylolated spaced polyphenols with a monohydric phenol in the presence of an acid catalyst to form a cross-condensate; the improvement which consists of (1) reacting the methylolated spaced polyphenols with a monohydric phenol in the presence of a weak acid and at a temperature of at least 130° C., said spaced polyphenols consisting of a polyarylolated hydrocarbon and a phenolic nuclei separated from each other by polymethylene chains, and (a) thereafter reacting the resulting cross-condensate with an aldehyde in the presence of the same weak acid and at a temperature of at least 130° C.; said weak acid having a dissociation constant of between

$$7.5\times10^{-3}$$

to 7.2×10^{-10}, and the total aldehyde is less than one mole thereof per mole of spaced polyphenol and phenol combined, said aldehyde being selected from the group consisting of paraformaldehyde, formaldehyde, acetaldehyde, and butyraldehyde.

3,438,940

PROCESS OF PREPARING WATER DISPERSIBLE POLYURETHANES AND RESULTING PRODUCT

Wolfgang Keberle, Bergisch Neukirchen, and Dieter Dieterich, Leverkusen, Germany, assignors to Farbenfabriken Bayer Aktiengesellschaft, Leverkusen, Germany, a corporation of Germany

No Drawing. Filed Mar. 24, 1966, Ser. No. 536,956
Claims priority, application Germany, Apr. 3, 1965, F 45,718

Int. Cl. C08g *22/04*

U.S. Cl. 260—67 6 Claims

Water dispersible polyurethanes are prepared by reacting a polyurethane having a molecular weight of 5000–2,000,000 with an aldehyde and an alkali metal sulphite, hydrosulphite, aminocarboxylate or amino sulphonate at a temperature of about 0° to 150° C. The products are useful for coating and impregnating textiles, leather and the like or for use as antistatic and crease resistant finishes.

3,438,941

HOMOPOLYMERIZATION OF ACROLEIN IN AQUEOUS MONOMER EMULSION VIA REDOX CATALYST

George T. Kekish, Chicago, Ill., assignor to Nalco Chemical Company, Chicago, Ill., a corporation of Delaware

No Drawing. Filed Oct. 16, 1967, Ser. No. 675,316

Int. Cl. C08f *3/40, 1/62*

U.S. Cl. 260—67 9 Claims

The present invention is directed towards an *all-aqueous* process for the polymerization of an α,β-ethylenically unsaturated aldehyde, and particularly is directed to the homopolymerization of an emulsion or dispersion of acrolein in water, wherein the preferred species water is added and the mix is diluted at spaced time intervals or incrementally from a preferred reactant ratio of acrolein to water of about 1:1 to a final ratio of about 1:4. A polymerization catalyst is used which is a unique combination of a redox system consisting of a synergistic oxidant component comprising ammonium persulfate and an active hydroperoxide or peroxide. This synergistic effect was observed in the oxidant combination reducer and this effect was more marked when the preferred hydroperoxides were used and was optimum with the use of tertiary alkyl hydroperoxides.

A most preferred hydroperoxide is tertiary butyl hydroperoxide and a most preferred ratio of persulfate/hydroperoxide is about 4:1 and preferred ratios show a predominance of the persulfate oxidant component (ratios by weight).

The reducing component of the redox is a conventionally prepared polyacrolein bisulfite adduct.

The ratio acrolein-water is initially preferably about 1:1 parts by weight and as the reaction proceeds by the preferred process, the mixture is diluted with water incrementally to control viscosity and give a final ratio of about 1:4 parts by weight. The use of the stepwise addition of the aqueous diluent and the unique combination of the dual oxidant component of the redox operation synergistically with the bisulfite reducing component are asserted for invention and novelty.

The remaining steps of the process are standard and well known in the art. For instance, such features as inert atmosphere (e.g. N_2); the preferred polymerization temperatures of about 0 to 40° C.; operating at an atmosphere pressure slightly greater than 1 atmosphere, utilization of acid pH medium to favor addition polymerization and separation and recovery of the polyacrolein polymer by differential solubility V[s] monomer in water are old and conventional in the art. Refer to Generalized Process, Post.

3,438,942

CONTINUOUS POLYESTER PROCESS

Hans Scheller, Schonberg, Taunus, Germany, assignor to Vickers-Zimmer Aktiengesellschaft, Planung und Bau von Industrieanlagen

No Drawing. Filed June 1, 1965, Ser. No. 460,499

Int. Cl. C08g *17/01*

U.S. Cl. 260—75 7 Claims

The specification discloses a proces for the production of polyesters and in particular to production of polyethylene terephthalate. Complete transesterification of alkylene glycols with dialkyl terephthalates is conducted in a generally horizontal chambered reactor wherein a plurality of zones are provided by vertical insulated baffle plates. Bis-2-hydroxy-alkyl terephthalate product passes sequentially through the zones, which are maintained at progressively higher temperatures, by means of openings in the lower portions of the baffle plates. During transesterification, alkanol is distilled from the reaction mass and vaporized alkylene glycol is condensed and refluxed to the reactor. The ester product and its pre-polycondensate is then pumped sequentially through three polycondensation reactors in which a temperature is maintained progressively higher and pressure progressively lower, at critical values for the production of a white polyester product. In each successive reactor, a portion of unreacted alkylene glycol is removed from the system.

3,438,943

POLYESTERS FROM OXAZOLINE POLYOLS

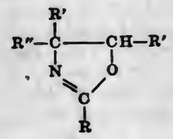
Thomas J. Miranda, Granger, and Herbert R. Herman, South Bend, Ind., assignors to The O'Brien Corporation, South Bend, Ind., a corporation of Indiana

No Drawing. Original application Mar. 6, 1963, Ser. No. 263,114. Divided and this application Aug. 17, 1966, Ser. No. 584,939

Int. Cl. C08g *17/06, 17/08, 17/10*

U.S. Cl. 260—75 9 Claims

A polymerization product obtained by the condensation reaction of a polycarboxylic acid having no more than four carboxylic groups and a molecular weight not over 350 with a heterocyclic compound having the formula



wherein R' is hydrogen or R''; R'' is a hydrocarbon radical having only hydroxy groups as derivative groups and having at least two hydroxy groups therein attached to aliphatic carbon atoms and having no more than four said hydroxy groups; and R is a hydrocarbon radical and derivatives thereof in which the derivative groups are selected from specific groups named hereinafter.

3,438,944

ANTIMONY OXALATE AS A POLY-CONDENSATION CATALYST

Mary J. Stewart, Riddlewood, Media, and John A. Price, Swarthmore, Pa., assignors to FMC Corporation, Philadelphia, Pa., a corporation of Delaware

No Drawing. Filed Nov. 7, 1966, Ser. No. 592,252

Int. Cl. C08g *17/015*

U.S. Cl. 260—75 4 Claims

Process of preparing polyethylene terephthalate comprising carrying out an ester-interchange reaction between ethylene glycol and dimethyl terephthalate or carrying out a direct esterification reaction between ethylene glycol and terephthalic acid and polycondensing the reaction product thereof in the presence of antimony oxalate.

3,438,945

ANTIMONY OXYSULFIDE AS A POLY-CONDENSATION CATALYST

Mary J. Stewart, Riddlewood, Media, and John A. Price, Swarthmore, Pa., assignors to FMC Corporation, Philadelphia, Pa., a corporation of Delaware

No Drawing. Filed Nov. 15, 1966, Ser. No. 594,363

Int. Cl. C08g *17/015*

U.S. Cl. 260—75 4 Claims

Process of preparing polyethylene terephthalate comprising carrying out an ester-interchange reaction between ethylene glycol and dimethyl terephthalate or carrying out a direct esterification reaction between ethylene glycol and terephthalic acid and polycondensing the reaction product thereof in the presence of antimony oxysulfide.

3,438,946

FLUOROALKYL-SUBSTITUTED ESTERS, DIESTERS, AND POLYMERS THEREFROM

Bernard M. Lichstein, Elizabeth, and Cyril Woolf, Morristown, N.J., assignors to Allied Chemical Corporation, New York, N.Y., a corporation of New York

No Drawing. Filed Dec. 6, 1966, Ser. No. 599,358

Int. Cl. C08g *17/06;* C08f *3/64;* C09c *69/62*

U.S. Cl. 260—75 9 Claims

New fluorine-containing esters and diesters and their polymers derived from fluorinated dihydric alcohols. The esters are prepared by esterifying the alcohols in known manner. They are useful as lubricants and heat transfer media, and as intermediates for the preparation of polymeric materials containing fluorine, which are useful as hydrophobic and oleophobic coatings. The diesters can form polyesters or, in the case of esters containing vinyl unsaturation, can polymerize through the vinyl groups to give linear polymers having fluorine-substituted side chains.

3,438,947

COPOLY-β-AMIDES AND PROCESS FOR THEIR MANUFACTURE

Walter Rupp, Niederhofheim, Taunus, Germany, assignor to Farbwerke Hoechst Aktiengesellschaft vormals Meister Lucius & Bruning, Frankfurt am Main, Germany, a corporation of Germany

Filed Apr. 19, 1965, Ser. No. 449,094
Claims priority, application Germany, Apr. 18, 1964, F 42,652

Int. Cl. C08g *20/10;* D01f *7/04*

U.S. Cl. 260—78 3 Claims

A process has been provided for preparation of copolymer β-amides by polymerizing β-lactams especially those monosubstituted in the 4 position. A representative copolymer has as its monomer precursors 4-monomethyl-azetidin-2-one, 3,4-dimethyl-azetidin-2-one and 4 - monoethyl-azetidin-2-one. The copolymer is useful as a fiber.

3,438,948

AMINO ACID COPOLYMERS

Edward W. Pietrusza, Morristown, Jack R. Pedersen, Parsippany, and Rudolph Pinter, Morristown, N.J., assignors to Allied Chemical Corporation, New York, N.Y., a corporation of New York

No Drawing. Filed Sept. 16, 1965, Ser. No. 487,900

Int. Cl. C08g *20/04*

U.S. Cl. 260—78 8 Claims

Novel processable copolymers prepared by condensation polymerization of a mixture containing at least 35 mol percent of benzylamine-3-carboxylic acid or an acyl derivative thereof and at least 18 mol percent of benzylamine-4-carboxylic acid or an acyl derivative thereof. The copolymers are stable in the melt and form films and fibers which are resistant to elevated temperatures.

3,438,949

POLYCARBONAMIDES RESISTANT TO ACID DYES AND CONTAINING TERMINAL NAPHTHYL DISULFONATED RADICALS

Lawrence W. Crovatt, Jr., Raleigh, N.C., assignor to Monsanto Company, a corporation of Delaware

No Drawing. Filed Oct. 21, 1965, Ser. No. 500,358
Int. Cl. C08g *20/20, 53/14*
U.S. Cl. 260—78 4 Claims

Fiber-forming linear polycarbonamides modified to contain certain terminal naphthyl disulfonated radicals as an integral part of the polymer chain possess excellent acid dye-resistant properties. Fibers formed from these polycarbonamides may, for example, be combined with standard polycarbonamide fibers to provide a fabric which is dyeable in a single dye bath to different colors or color tones.

3,438,950

ALKYLATED DERIVATIVES OF VINYL AROMATIC COPOLYMERS

Edmund B. Davidson, Elizabeth, N.J., assignor to Esso Research and Engineering Company, a corporation of Delaware

No Drawing. Filed Aug. 6, 1965, Ser. No. 477,954
Int. Cl. C08f *27/02, 19/04*
U.S. Cl. 260—78.4 20 Claims

Curable polymers and a process for preparing said polymers which comprises copolymerizing between about 1 and about 25 mole percent of a monovinyl aromatic and between about 99 and about 75 mole percent of a C_4–C_8 isomonoolefin, at a temperature of between about 0° C. and about −95° C. with a Friedel-Crafts catalyst, and alkylating said isomonoolefin-monovinyl aromatic copolymer with between about 5 and about 20 mole percent of a member of the group consisting of an alpha-beta-unsaturated monocarboxylic acid halide, maleic anhydride and an unsaturated organotrihalosilane, at a temperature of between about 0° C. and about 150° C. with a Friedel-Crafts catalyst in the presence of a polar diluent.

3,438,951

SULFUR-CURABLE POLYMERS

John F. Van de Castle, Westfield, and Herbert K. Wiese, Cranford, N.J., assignors to Esso Research and Engineering Company, a corporation of Delaware

No Drawing. Filed Dec. 31, 1963, Ser. No. 334,938
Int. Cl. C08f *15/40, 17/00, 19/00*
U.S. Cl. 260—80.78 9 Claims

Sulfur-curable polymers of ethylene, propylene, and alkenyl substituted cyclopentent are prepared using conventional Ziegler catalysts at temperatures ranging from 20° C. to 100° C.

3,438,952

PROCESS FOR THE POLYMERIZATION OF OLEFIN MONOMERS

Don C. Christensen, Bartlesville, Okla., assignor to Phillips Petroleum Company, a corporation of Delaware

Filed Nov. 2, 1964, Ser. No. 408,184
Int. Cl. C08f *1/08, 1/74;* C08d *1/04*
U.S. Cl. 260—83.7 4 Claims

Polymerization of an olefin mixture, such as butadiene-styrene in an organic solvent, is effected by trapping a portion of the mixture in a restricted area of the reaction zone, after which catalyst is fed into the trapped portion and heat is applied to initiate polymerization and then the initiated portion is circulated thru the remaining portion of the reaction zone to initiate polymerization therein.

3,438,953

CARBOXY AND ESTER TERMINATED COPOLYMERS OF VINYLIDENE FLUORIDE-HEXAFLUOROPROPENE AND METHOD OF PREPARATION

David E. Rice, Minneapolis, and Carl L. Sandberg, St. Paul, Minn., assignors to Minnesota Mining and Manufacturing Company, St. Paul, Minn., a corporation of Delaware

No Drawing. Filed Jan. 18, 1965, Ser. No. 426,354
Int. Cl. C08f *15/06, 27/08*
U.S. Cl. 260—87.7 26 Claims

Carboxyl and carboxyl ester terminated copolymers of vinylidene fluoride and perfluoropropene are provided as well as a process for making such copolymers by, inter alia, reacting a liquid mixture of vinylidene fluoride and perfluoropropene with a bis-(omega carboxyl ester perfluoroacyl) peroxide.

3,438,954

POLYMERIZATION OF VINYL CHLORIDE IN THE PRESENCE OF CYCLOOLEFINES AS CHAIN-TRANSFER AGENTS

Gilbert Paul Christen, Lyon, and Michel Ruaud, Bron, Rhone, France, assignors to Rhone-Poulenc S.A., Paris, France, a French body corporate

No Drawing. Filed July 24, 1964, Ser. No. 385,062
Claims priority, application France, Aug. 21, 1963, 945,273
Int. Cl. C08f *1/80*
U.S. Cl. 260—92.8 11 Claims

Cycloolefines are advantageously used as chain-transfer agents in the polymerization of vinyl chloride at −25° to −5° C. in an aqueous saline solution containing a protective colloid and in the presence of a free radical-generating catalyst.

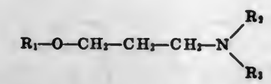
3,438,955

NONYELLOWING ANTIELECTROSTATIC MOLDED MASSES AND MOLDED BODIES

Konrad Rombusch and Friedrich Seifert, Marl, Germany, assignors to Chemische Werke Huls Aktiengesellschaft, Marl, Germany, a corporation of Germany

No Drawing. Filed Sept. 29, 1966, Ser. No. 583,502
Claims priority, application Germany, Oct. 5, 1965, C 37,052
Int. Cl. C08d *3/04;* C09k *3/16*
U.S. Cl. 260—93.7 2 Claims

1. A nonyellowing antielectrostatic molded mass consisting essentially of a polyolefine and .01 to 4 percent by weight, relative to the polyolefine of at least one alkyloxypropylamine of the formula



in which R_1 represents a member selected from the group consisting of alkyl, alkenyl, alkylcycloalkyl, aryl, alkylaryl and alkenylaryl groups with 6 to 25 carbon atoms in the alkyl and alkenyl groups; R_2 and R_3 each represents a member selected from the group consisting of hydrogen and alkyl and alkenyl groups with 1 to 5 carbon atoms and the group $(C_xH_{2x}O)_nH$ with x=one of the numbers 2 and 3 and n=1 to 10 and .1 to 3.0 percent by weight, relative to the polyolefine, of an alkali metal alkylsulfonate with 8 to 20 carbon atoms in the alkyl group.

3,438,956

SEPARATION OF MACROMOLECULES HAVING DIFFERENT STEREOREGULARITIES FROM POLYPROPYLENES COMPRISING MIXTURES OF SUCH MACROMOLECULES

Giulio Natta, Milan, Piero Pino, Pisa, and Giorgio Mazzanti, Milan, Italy, assignors to Montecatini Edison S.p.A., Milan, Italy, a corporation of Italy

No Drawing. Continuation-in-part of application Ser. No. 215,475, July 23, 1962, which is a continuation-in-part of applications Ser. No. 514,097, June 8, 1955, and Ser. No. 550,164, Nov. 30, 1955. This application July 23, 1968, Ser. No. 746,767
Claims priority, application Italy, June 8, 1954, (Milan) 24,227/54, (Rome) 7,749/54
Int. Cl. C08f *1/94*
U.S. Cl. 260—93.7 15 Claims

A process for separating polypropylene into fractions having different percentages of crystallinity due to isotactic structure which process comprises treating polypropylene with a solvent selected from the group consisting of ethyl ether and n-heptane.

3,438,957

METALATED ACETYLENIC POLYMERS AND THEIR PREPARATION

Henry L. Hsieh, Bartlesville, Okla., assignor to Phillips Petroleum Company, a corporation of Delaware

No Drawing. Filed Nov. 9, 1964, Ser. No. 409,989
Int. Cl. C08g *9/00, 1/72*
U.S. Cl. 260—94.1 7 Claims

Production of acetylenic polymers by contacting a polyalkali metal substituted 1-acetylene with a polyhalide compound of a Group III–B or IV–B metal.

3,438,958

METHOD OF POLYMERIZING BUTADIENE BY MEANS OF A REACTION PRODUCT OF ORGANOALUMINUM FLUORIDE, CERTAIN ORGANONICKEL COMPOUNDS AND BORON TRIFLUORIDE OR ITS STABLE COMPLEXES

Morford C. Throckmorton, Akron, Ohio, assignor to The Goodyear Tire & Rubber Company, Akron, Ohio, a corporation of Ohio

No Drawing. Filed Feb. 23, 1967, Ser. No. 617,847
Int. Cl. C08d *1/14, 3/08*
U.S. Cl. 260—94.3 10 Claims

A method and a catalyst system for the solution polymerizing butadiene or butadiene in mixture with other diolefins to form polymers containing a high content of cis 1,4 addition is described. The solution polymerization is carried out within a preferred temperature range of from 30 to 90° C. The catalyst employed is a reaction product of (1) an organoaluminum fluoride, (2) organonickel compounds and (3) boron trifluoride or boron trifluoride complexes.

3,438,959

LIGNOSULFONATE DERIVATIVE AND A PROCESS FOR ITS PREPARATION

Chung Sul Youn Kim, Bellingham, Wash., assignor to Georgia-Pacific Corporation, Portland, Oreg., a corporation of Georgia

No Drawing. Filed Oct. 1, 1965, Ser. No. 492,262
Int. Cl. C07g *1/00;* C11d *1/30*
U.S. Cl. 260—124 20 Claims

The preparation of a halogenated lignosulfonate by the reaction of lignosulfonate with thionyl chloride or thionyl bromide under substantially anhydrous conditions.

3,438,960

LIGNOSULFONAMIDE AND A PROCESS FOR ITS PREPARATION

Chung Sul Youn Kim, Bellingham, Wash., assignor to Georgia-Pacific Corporation, Portland, Oreg., a corporation of Georgia

No Drawing. Filed Oct. 1, 1965, Ser. No. 492,296
Int. Cl. C07g *1/00;* C11d *1/30;* C07c *143/72*
U.S. Cl. 260—124 18 Claims

A lignosulfonamide composition useful as a surface active agent prepared by reaction of a lignosulfonate with an acid halide and an amine.

3,438,961

DISAZO DYES FOR HYDROPHOBIC FIBERS

David J. Wallace, Max A. Weaver, and James M. Straley, Kingsport, Tenn., assignors to Eastman Kodak Company, Rochester, N.Y., a corporation of New Jersey

No Drawing. Filed Nov. 19, 1965, Ser. No. 508,847
Int. Cl. C09b *29/38, 62/40;* C08g *51/66*
U.S. Cl. 260—152 10 Claims

Disazo compounds prepared by coupling a diazotized aminoazobenzene with an aniline coupler, in which the aniline nitrogen atom is substituted with a dicarboximidoalkyl group, are useful as dyes for hydrophobic textile materials.

3,438,962

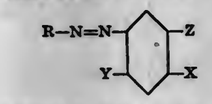
MONOAZO-TRIAZINE CONTAINING DYESTUFFS

Henri Riat, Arlesheim, and Gert Hegar, Basel, Switzerland, assignors to Ciba Limited, Basel, Switzerland, a company of Switzerland

No Drawing. Continuation-in-part of application Ser. No. 266,525, Mar. 20, 1963. This application Aug. 27, 1965, Ser. No. 483,298
Claims priority, application Switzerland, Mar. 26, 1962, 3,598/62
Int. Cl. C09b *62/08, 62/82, 62/50*
U.S. Cl. 260—153 11 Claims

Monoazo dyestuffs of the formula

(1)



in which R represents a radical of a naphthalene trisulfonic acid, Y and Z each represent a hydrogen atom or an alkyl group of low molecular weight (for example, a methyl or ethyl group) or an alkoxy group of low molecular weight (for example, a methoxy or ethoxy group), and X represents the radical of a mono-halogenated 1:3:5-triazine bound through an amino bridge, especially through an —NH-bridge.

3,438,963

ALKYLATION PROCESS FOR CATIONIC TRIAZOLE DYE

Woodrow Wilson Robbins, Plainfield, N.J., assignor to American Cyanamid Company, Stamford, Conn., a corporation of Maine

No Drawing. Filed Feb. 7, 1966, Ser. No. 525,340
Int. Cl. C09b *5/30*
U.S. Cl. 260—157 3 Claims

Cationic triazole dyes are prepared from triazole dye bases by a process which involves reacting the dye base with an alkali metal hydroxide or alcoholate in the presence of a solvent to form an alkali metal salt of the dye base in the solvent, removing substantially all water present in the solvent solution, adding to said solution an alkylating agent, such as an alkyl halide, maintaining the temperature of the solution at from 5 to 60° C. for from 0.5 to 4 hours, then raising the temperature to between about 60° C. and 85° C. and maintaining this temperature for from 5 to 15 hours, whereby the quaternized, cationic dye product is formed.

3,438,964

HYDRAZONIUM AZO DYESTUFFS

Chi Kang Dien, Buffalo, N.Y., assignor to Allied Chemical Corporation, New York, N.Y., a corporation of New York

No Drawing. Filed Sept. 28, 1965, Ser. No. 491,042

Int. Cl. C09b *29/36, 29/00*

U.S. Cl. 260—158 8 Claims

Production of 1,1-polysubstituted hydrazonium halide derivatives of 4,4'-bis(2-benzothiazolyl)azobenzene dyestuffs by reaction of a halomethyl substituted 4,4'-bis(2-benzothiazolyl)azobenzene with a polysubstituted hydrazine. The azobenzene dyestuffs of the present invention are particularly useful for dyeing cellulosic materials such as paper and cotton.

3,438,965

DISAZO DYES FOR TEXTILE MATERIALS

Max A. Weaver and David J. Wallace, Kingsport, Tenn., assignors to Eastman Kodak Company, Rochester, N.Y., a corporation of New Jersey

No Drawing. Filed Aug. 17, 1965, Ser. No. 480,500

Int. Cl. C09b *33/06, 33/00, 31/04*

U.S. Cl. 260—187 9 Claims

Azobenzene-azo-aniline compounds having a di(acyl) amidoalkyl group attached to the nitrogen atom of the aniline coupling component are useful as dyes for hydrophobic textile materials.

3,438,966

MONOAZO-DYESTUFFS

Karl Ronco and Willy Mueller, Riehen, Switzerland, assignors to Ciba Limited, Basel, Switzerland, a Swiss company

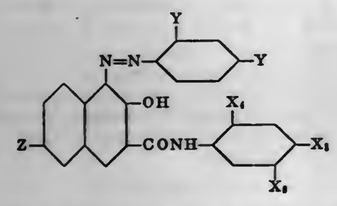
No Drawing. Filed Mar. 4, 1965, Ser. No. 437,298

Claims priority, application Switzerland, Mar. 13, 1964, 3,297/64; Feb. 1, 1965, 1,332/65

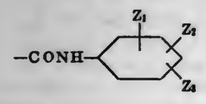
Int. Cl. C09b *29/20*

U.S. Cl. 260—204 6 Claims

1. A monoazo dyestuff pigment of the formula



in which one Y represents a nitro group and the other Y represents a trifluoromethyl group, X_4 represents a member selected from the group consisting of chlorine and methoxy, one of the substituents X_5 and X_6 represents a hydrogen or chlorine atom and the other a group of the formula



in which Z_1, Z_2 and Z_3 represent members selected from the group consisting of hydrogen, chlorine lower alkoxy, trifluoromethyl, carbamide, lower carbalkoxy, carbophenoxy, carbo-chlorophenoxy, carbo-lower alkylphenoxy and carbobenzyloxy groups, and Z represents a member selected from the group consisting of hydrogen, chlorine, bromine and lower alkoxy group.

3,438,967

WATER-INSOLUBLE MONOAZO DYESTUFFS

Paul Rhyner, Basel, and Klaus Artz, Muttenz, Switzerland, assignors to Ciba Limited, Basel, Switzerland, a Swiss company

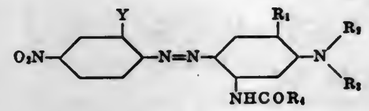
No Drawing. Filed Apr. 29, 1964, Ser. No. 363,616

Claims priority, application Switzerland, May 3, 1963, 5,585/63; Mar. 5, 1964, 2,847/64

Int. Cl. C09b *29/34*; C07c *121/78*; D06p *1/02*

U.S. Cl. 260—207.1 6 Claims

1. Water-insoluble monoazo dyestuffs of the formula



in which Y represents a member selected from the group consisting of a hydrogen, a chlorine and bromine atom, a lower alkyl group, a lower alkoxy, a lower carbalkoxy and a cyano group, R_1 represents a member selected from the group consisting of a hydrogen atom, a lower alkyl and a lower alkoxy group, R_2 represents a β-cyanoethoxyethyl group, R_3 represents a member selected from the group consisting of a hydrogen atom, a β-cyanoethoxyethyl and a lower alkanoyloxyethyl group and R_4 represents a member selected from the group consisting of lower alkyl and lower alkoxy groups.

3,438,968

SUBSTITUTED AMMONIUM BASIC ADDITION SALTS OF RIBONUCLEIC ACID

Alvin J. Glasky, Santa Ana, Calif., assignor to International Chemical and Nuclear Corporation, City of Industry, Calif., a corporation of California

No Drawing. Filed June 23, 1966, Ser. No. 560,924

Int. Cl. C07d *51/50*; A61k *27/00*

U.S. Cl. 260—211.5 5 Claims

Novel substituted ammonium basic addition salts of ribonucleic acid and their method of preparation by the neutralization of ribonucleic acid with substituted organic amines. The compounds are useful as central nervous system stimulants.

3,438,969

PROCESS FOR THE CONTINUOUS XANTHATING OF ALKALI CELLULOSE

Werner Meister, Bern, Switzerland, assignor of one-half each to Ing. A. Maurer S.A., Bern, Switzerland, and Buss A.G., Basel, Switzerland, both corporations of Switzerland

Filed Aug. 1, 1966, Ser. No. 569,517

Claims priority, application Switzerland, Aug. 5, 1965, 10,993/65

Int. Cl. C08b *9/04*

U.S. Cl. 260—216 7 Claims

Continuous process of xanthating alkali cellulose wherein carbon disulphide is intensively kneaded into porous alkali cellulose in a worm kneader whereby the reaction mixture is continuously moved from an input position to an output position during kneading. The carbon disulphide is used in excess of the amount theoretically required for xanthating the alkali cellulose and the reaction begins at a temperature of at least about 20° C. and ends with a temperature in the range from about 30° C. up to the boiling point of the carbon disulphide. The kneading step can be extended over a time interval insufficient for the complete xanthating of the alkali cellulose and the xanthation may be completed thereafter without further kneading the reaction mixture.

3,438,970

STORAGE-STABLE CYANAMIDE-STARCH AND METHOD FOR THE MANUFACTURE THEREOF

Ralph Joseph Chamberlain, Glenbrook, and Daniel Elmer Nagy, Stamford, Conn., assignors to American Cyanamid Company, Stamford, Conn., a corporation of Maine

No Drawing. Filed Nov. 13, 1964, Ser. No. 411,102

Int. Cl. C08b *19/04, 25/02*; D21h *3/28*

U.S. Cl. 260—233.3 5 Claims

An improvement in the preparation of cyanamide starch which results in a storage stable product. The process consists of reacting granular starch with cyanamide in an aqueous alkaline medium then acidifying said slurry to a pH below 3 and gelatinizing the cyanamide starch product before it is dried.

3,438,971

DIENE RUBBER-NITRILE COPOLYMER-UNSATURATED TRIGLYCERIDE BLENDS HAVING INCREASED TOUGHNESS

George E. Walker, Longmeadow, Mass., assignor to Monsanto Company, St. Louis, Mo., a corporation of Delaware

No Drawing. Continuation-in-part of application Ser. No. 485,119, Sept. 3, 1965. This application June 22, 1967, Ser. No. 647,933

Int. Cl. C08f *19/18, 29/56*; C09d *3/80*

U.S. Cl. 260—23.7 12 Claims

There is disclosed a novel polymeric product having highly desirable ductility and toughness comprising an intimate mixture of (A) a blend containing 1.0 to 15.0 percent by weight of a diene rubber and 99.0 to 85.0 percent by weight of an interpolymer formed of 20.0 to 95.0 percent by weight of a monovinylidene aromatic hydrocarbon and 80.0 to 5.0 percent by weight of an unsaturated nitrile of the group consisting of acrylonitrile, methacrylonitrile and mixtures thereof and (B) about 0.2 to 7.0 percent by weight, based upon the weight of the composition, of a triglyceride stable at the processing temperatures for the composition.

3,438,972

PROCESS FOR PREPARING BENZODIAZEPINES

Werner Metlesics, Clifton, and Leo Henryk Sternbach, Upper Montclair, N.J., assignors to Hoffmann-La Roche Inc., Nutley, N.J., a corporation of New Jersey

No Drawing. Filed Nov. 10, 1964, Ser. No. 410,305

Int. Cl. C07d *53/06*

U.S. Cl. 260—239 3 Claims

A process for oxidizing a 2-alkylamino-5-phenyl-3H-1,4-benzodiazepine to the corresponding 4-oxide wherein the 2-alkylamino grouping is protected by an acyl grouping which may be hydrolyzed after the reaction.

3,438,973

2,2- AND 3,3-HYDRAZI-STEROIDS OF THE ANDROSTANE AND PREGNANE SERIES

Robert Fitz Randolph Church, Old Greenwich, Conn., Andrew Steven Kende, Hartsdale, N.Y., and Martin Joseph Weiss, Oradell, N.J., assignors to American Cyanamid Company, Stamford, Conn., a corporation of Maine

No Drawing. Filed Aug. 25, 1964, Ser. No. 392,022

Int. Cl. C07c *173/10, 169/34, 169/20*

U.S. Cl. 260—239.5 7 Claims

1. The compound 2,2-hydrazi-5α-androstan-17β-ol acetate.

3,438,974

HYDRAZO STEROIDS AND METHOD OF MANUFACTURE

Munemitsu Tomoeda, Kanazawa, Japan, assignor to Schering Corporation, Bloomfield, N.J., a corporation of New Jersey

No Drawing. Continuation-in-part of application Ser. No. 438,100, Mar. 8, 1965. This application May 6, 1966, Ser. No. 548,035

Int. Cl. C07c *173/10, 167/06*

U.S. Cl. 260—239.5 17 Claims

The process of reacting an azodicarboxylic acid ester or an equivalent thereof with a steroid homo cisoid conjugated diene in a non-reactive solvent yields a hydrazo steroid of the group consisting of a 1,4-adduct and an allylic adduct of said steroid homo cisoid conjugated diene with said azodicarboxylic acid ester or equivalent thereof, which hydrazo steroids have bactericidal, bacteriostatic and fungicidal properties. Also useful as anti-androgens are a preferred species of hydrazo steroids, i.e. 20-lower alkanoyloxy - 16,21 - hydrazo - 17(20) - pregnene - N_1, N_2-dicarboxylic acid lower alkyl esters (and amides) and the corresponding 20-hydroxy derivatives thereof, said 20-hydroxy derivatives usually being isolated in the tautomeric 20-keto form as 20-keto-16,21-hydrazo-17 (α and β)-pregnane-N_1,N_2-dicarboxylic acid lower alkyl esters (or amides).

3,438,975

15α,16α-METHYLENE PREGNANES AND 19-NOR-PREGNANES

John A. Edwards, Los Altos, Calif., assignor to Syntex Corporation, Panama, Panama, a corporation of Panama

No Drawing. Filed July 1, 1966, Ser. No. 562,080

Int. Cl. C07c *169/34, 169/32, 173/00*

U.S. Cl. 260—239.55 23 Claims

15α,16α-methylene-17α-hydroxypregn-4-enes and 19-norpregn-4-enes and 17α-ethers and esters thereof; optionally substituted at positions C–1, 2, C–3, C–6, C–16β and/or C–20; and/or optionally unsaturated at positions C–1, 2 and/or C–6, 7; are progestational agents.

3,438,976

1-SULFONYL-3-NORTROPANYL-UREA DERIVATIVES

Ernst Jucker, Ettingen, Adolf Lindenmann and Erhard Schenker, Basel, and Fulvio Gadient and Andre Stoll, Birsfelden, Switzerland, assignors to Sandoz, Ltd., Basel, Switzerland

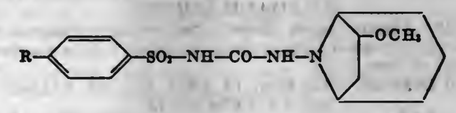
No Drawing. Filed June 10, 1966, Ser. No. 556,544

Claims priority, application Switzerland, June 14, 1965, 8,248/65; Jan. 14, 1966, 507/66; Mar. 11, 1966, 3,573/66; Mar. 16, 1966, 3,808/66

Int. Cl. C07d *43/06*; A61k *27/00*

U.S. Cl. 260—239.6 13 Claims

1. A compound selected from the group consisting of a compound of the formula



in which R is alkyl, alkoxy, alkylthio, alkylsulphinyl, alkylsulphonyl each of 1 to 3 carbon atoms, hydrogen, halogen, nitro, amino or acetyl amino, and alkali or ammonium salts thereof.

3,438,977

6,7-METHYLENE AND 6,7-HALOMETHYLENE PREGNANES AND 19-NORPREGNANES AND PROCESS FOR THEIR PREPARATION

Colin C. Beard, Boulder, Colo., and Alexander D. Cross, Mexico City, Mex., assignors to Syntex Corporation, Panama, Panama, a corporation of Panama

No Drawing. Continuation-in-part of applications Ser. No. 486,226, Sept. 9, 1965, and Ser. No. 499,092, Oct. 20, 1965. This application Apr. 11, 1967, Ser. No. 634,411

Int. Cl. C07c *173/00, 169/30;* A61k *17/06*

U.S. Cl. 260—239.55 40 Claims

6,7-methylene-, 6,7-monohalomethylene-, and 6,7-dihalomethylene-3-keto-Δ^4-pregnanes and -19-norpregnanes optionally containing double bond unsaturation at the C–1, 2 position and/or hydrogen, methyl, chloro, or fluoro at C–6, and/or hydrogen, chloro, or fluoro at C–9, and/or hydrogen, hydroxy, keto, or chloro at C–11, and/or hydrogen, methylene, methyl, chloro, fluoro, hydroxy, or acyloxy at C–16, and/or hydrogen, hydroxy, or acyloxy at C–17, and/or alkylidenedioxy at C–16,17, and/or hydrogen, fluoro, chloro, phosphato, tetrahydropyranyl, tetrahydrofuranyl, or acyloxy at C–21, and/or an ortho ester grouping at C–17,21 which compounds exhibit corticoid, anti-inflammatory, and progestational activities and processes for the preparation of such compounds.

3,438,978

6-FLUORO STEROIDS

Howard J. Ringold, Albert Bowers, George Rosenkranz, and Octavio Mancera, Mexico City, Mexico, assignors, by mesne assignments, to Syntex Corporation, a corporation of Panama

No Drawing. Filed Aug. 7, 1958, Ser. No. 753,629

Claims priority, application Mexico, Aug. 9, 1957, 48,511

Int. Cl. C07c *169/18, 169/30, 169/34*

U.S. Cl. 260—239.55 79 Claims

51. 5,6 - oxido - 17α - hydroxypregnane - 3,20 - dione 17-acylate, 3-alkylene ketal wherein the acyl group is of a hydrocarbon carboxylic acid containing from one to twelve carbon atoms and wherein the alkylene radical contains not more than eight carbon atoms, inclusive, and the attaching oxygen to carbon bonds are separated by a chain of at least two and not more than three carbon atoms.

3,438,979

2 - AMINOMETHYL - 3 - (17β - HYDROXY - 3 - OXO-ANDROST-4-EN-17α-YL)-PROPIONIC ACID LACTONES AND INTERMEDIATES

Edward A. Brown, Wilmette, Ill., assignor to G. D. Searle & Co., Chicago, Ill., a corporation of Delaware

No Drawing. Filed Aug. 11, 1966, Ser. No. 571,722

Int. Cl. C07c *173/00, 173/10;* A61k *27/00*

U.S. Cl. 260—239.57 5 Claims

Preparation of the captioned compounds, such as 2-diethylaminomethyl - 3 - (17β - hydroxy - 3 - oxoandrost-4-en-17α-yl)propionic acid γ-lactone, and their valuable biological properties, including pepsin-inhibiting, anti-inflammatory, and antibiotic properties, are disclosed.

3,438,980

N^1-ACETYL-N^1-(CYCLOPROPYL-2-PYRIMIDINYL)-SULPHANILAMIDES

Markus Zimmermann, Riehen, Switzerland, assignor to Geigy Chemical Corporation, Ardsley, N.Y., a corporation of New York

No Drawing. Filed Mar. 14, 1967, Ser. No. 622,902

Int. Cl. C07d *51/44*

U.S. Cl. 260—239.75 3 Claims

N^1-acetyl-N^1-(2-pyrimidinyl) - sulphanilamides substituted by a cyclopropyl group in 4-, 5- or 6-position, which are antibacterial agents against gram positive bacteria such as staphylococci, streptococci, pneumococci and against gram-negative bacteria such as salmonella, escherichia and klebsiella strains; pharmaceutical compositions containing the aforesaid pyrimidines as antibacterial ingredients, and a method of treating diseases caused by such bacteria, by administration of such pyrimidines or pharmaceutical compositions containing them.

3,438,981

DIBENZOOXEPINE AND DIBENZOTHIEPINE DERIVATIVES

Kurt Stach, Mannheim, Germany, assignor to C. F. Boehringer & Soehne GmbH, Mannheim-Waldhof, Germany

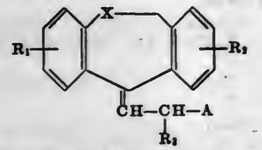
No Drawing. Continuation-in-part of application Ser. No. 378,046, June 25, 1964. This application Aug. 17, 1967, Ser. No. 661,182

Claims priority, application Germany, July 9, 1963, B 72,596

Int. Cl. C07d *29/12, 67/00;* A61h *27/00*

U.S. Cl. 260—240 3 Claims

A novel class of compounds is disclosed which are possessed of muscle relaxing and tranquilizing activity. These compounds have the formula:



wherein X is a sulfur or oxygen atom, R_1 and R_2 are each hydrogen, halogen, trifluoromethyl, alkyl, acyl, alkoxy or alkylmercapto, R_3 is hydrogen or lower alkyl and A is amino and the acid addition and quaternary ammonium salts thereof.

3,438,982

PHTHALOYLPHENOTHIAZINE COMPOUNDS

James M. Straley and David J. Wallace, Kingsport, Tenn., assignors to Eastman Kodak Company, Rochester, N.Y., a corporation of New Jersey

No Drawing. Continuation-in-part of applications Ser. No. 502,339 and Ser. No. 502,340, Oct. 22, 1965. This application May 15, 1967, Ser. No. 638,597

Int. Cl. C07d *93/14;* C07c *87/28;* D06p *1/20*

U.S. Cl. 260—243 8 Claims

Novel compounds having a phthaloylphenothiazine nucleus are useful as dyes for hydrophobic fibers.

3,438,983

COMPLEX ADDITION PRODUCTS OF PHOSPHORUS PENTAFLUORIDE AND SUBSTITUTED NITRILES

Mervin E. Brokke, Richmond, Calif., George E. Lukes, deceased, late of El Cerrito, Calif., by John Hazzard, administrator, Kentfield, Calif., and Duane R. Arneklev, Sunnyvale, Calif., assignors to Stauffer Chemical Company, New York, N.Y., a corporation of Delaware

No Drawing. Filed Apr. 20, 1965, Ser. No. 450,264

Int. Cl. C07f *9/02*

U.S. Cl. 260—247 5 Claims

Compounds which are adduct complexes of phosphorus pentafluoride and certain substituted nitriles corresponding to the formula

$$[R-(CH_2)_n-C\equiv N\cdot PF_5]$$

in which n is an integer from 1 to 3, inclusive, and R is hydrogen lower, alkoxy, morpholino, and substituted amino in which the substituents are hydrogen lower, alkyl lower, alkenyl or cyclohexyl. The above compounds are effective herbicides. Representative compounds are: diethylaminopropionitrile-phosphorus pentafluoride complex, diethylaminobutyronitrile-phosphorus pentafluoride complex, β-N-morpholinopropionitrile phosphorus pentafluoride complex, 3-methoxypropionitrile-phosphorus pentafluoride complex, diallylaminopropionitrile-phosphorus pentafluoride complex.

3,438,984

TRIS-β-CHLOROACRYLYLHEXAHYDRO-s-TRIAZINES

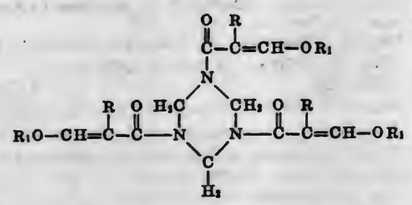
Joseph Adrian Hoffman, Bridgewater Township, Somerset County, N.J., assignor to American Cyanamid Company, Stamford, Conn., a corporation of Maine

No Drawing. Filed Dec. 17, 1965, Ser. No. 514,690

Int. Cl. C07d *55/14;* C08f *21/00*

U.S. Cl. 260—248 2 Claims

A compound of the formula:



wherein each R is individually hydrogen or lower alkyl, and each R_1 is lower alkyl. These compounds are useful as a co-agent in the vulcanization by conventional methods of ethylene-propylene rubbers; and as a comonomer in the preparation of unsaturated polyester resins of the alkyd type.

3,438,985

PROCESS FOR PREPARING OXADIAZINEDIONES

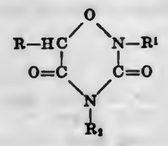
Jack Bernstein and Kathryn Alice Losee, New Brunswick, N.J., assignors, by mesne assignments, to E. R. Squibb & Sons, Inc., a corporation of Virginia

No Drawing. Continuation-in-part of application Ser. No. 290,918, June 27, 1963. This application Sept. 22, 1965, Ser. No. 489,380

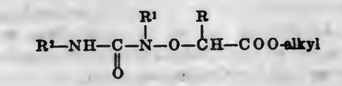
Int. Cl. C07d *87/52;* A61k *27/00*

U.S. Cl. 260—244 3 Claims

This application relates to a process for preparing novel 1,2,4-oxadiazinediones of the formula



wherein R and R^1 each is a member of the group consisting of hydrogen and alkyl, R^2 is a member of the group consisting of hydrogen, alkyl and B-lower alkyl, and B is a basic nitrogen containing group of less than twelve carbon atoms, and salts thereof, which comprises cyclizing in the presence of a metal alkoxide a compound of the formula



wherein the symbols have the same meaning as described above. The compounds prepared by this process possess anti-convulsant activity.

3,438,986

OXYALKYLATED NITROGEN COMPOUNDS

Donald W. Kaiser, Hamden, and John K. Zane, East Haven, Conn., assignors to Olin Mathieson Chemical Corporation, a corporation of Virginia

No Drawing. Filed May 21, 1965, Ser. No. 457,810

Int. Cl. C07d *55/32, 55/20;* C08g *22/08*

U.S. Cl. 260—249.6 7 Claims

Oxyalkylated aryl diamines are used as a solvent in the reaction between cyanoguanidine and an organo nitrile to yield a 2-organo-4,6-diamino-triazine, and used as a solvent in the oxyalkylation of the resulting triazine. The oxyalkylated aryl diamines, with or without the oxyalkylated triazine, are used as a reactant to effect cross-linking during the reaction of a polyol and an organic isocyanate in the presence of a catalyst and a foaming agent to yield a polyurethane foam.

3,438,987

MELAMINE PRODUCTION

Kurt Scheinost, Tacherting, Germany, assignor to Suddeutsche Kalkstickstoff-Werke Aktiengesellschaft, Trostberg, Uppper Bavaria, Germany

No Drawing. Filed Oct. 31, 1966, Ser. No. 590,526

Claims priority, application Germany, Nov. 3, 1965, S 100,337

Int. Cl. C07d *55/26*

U.S. Cl. 260—249.7 4 Claims

Melamine is prepared from dicyanodiamide in a fluidized bed catalyst system at a temperature of 300–450° C. by means of a current of ammonia, the catalyst being in the form of a mixed gel which contains 5–20% by weight of Al_2O_3, calculated on the anhydrous basis, the balance being SiO_2. The Al_2O_3 and SiO_2 are at least partially present in chemical linkage in the gel. The catalyst is formed by co-precipitating both oxide hydrates to form an aluminum silicate or to form a silicoaluminum acid. By use of such catalyst form, improved melamine yields of 98.5 to 99.0% are obtained with a melamine purity of 99.9%.

3,438,988

COUMARIN DERIVATIVE

Don Pierre René Lucien Giudicelli, Fontenay-sous-Bois, and Henry Najer, Paris, France, assignors to Les Laboratoires Dausse, Paris, France, a company of France

No Drawing. Filed Feb. 20, 1967, Ser. No. 617,030

Claims priority, application France, Feb. 25, 1966, 51,103; May 24, 1966, 62,676

Int. Cl. C07d *57/36;* A61k *27/00*

U.S. Cl. 260—253 6 Claims

The invention provides the new compound 6,7-dihydroxycoumarin-4-methylsulphonic acid and its salts, which are useful in the treatment of capillary permeability and fragility and for protecting oxidizable metabolites and drugs against bio-oxidation.

3,438,989

PROCESS FOR THE PRODUCTION OF (±) DIHYDROTHEBAINONE

John Shavel, Jr., Menham, and Glenn C. Morrison, Dover, N.J., assignors to Warner Lambert Pharmaceutical Company, Morris Plains, N.J., a corporation of Delaware

No Drawing. Filed Mar. 10, 1967, Ser. No. 622,108

Int. Cl. C07d *43/32*

U.S. Cl. 260—285 2 Claims

A new method for the preparation of (±) dihydrothebainone, an intermediate for the synthesis of morphine, is claimed. This method comprises subjecting 1,2,3,4-tetrahydro - 6 - methoxy-2-methyl-1-veratrylisoquinoline to

Birch reduction, first to remove the methyl group from the 3-oxygen of the veratryl group and second to reduce the isoquinoline moiety. Treatment of the resulting intermediate with dilute acid afforded (±) dihydrothebainone and 2-hydroxy - 3 - methoxy-M-methylmorphin-6-one. This method was also carried out in the N-des lower alkyl series.

3,438,990

NOVEL 1-CYCLOALKENYL-PIPERIDINES

Herbert Merz, Hans-Detlef Schroeder, Adolf Langbein, and Karl Zelle, Ingelheim am Rhein, Germany, assignors to Boehringer Ingelheim G.m.b.H., Ingelheim am Rhein, Germany, a corporation of Germany

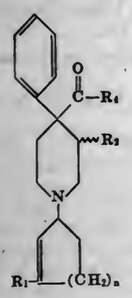
No Drawing. Filed June 29, 1966, Ser. No. 561,389

Claims priority, application Germany, June 29, 1965, B 82,611

Int. Cl. C07d *29/24, 29/20;* A61k *27/00*

U.S. Cl. 260—294.3 10 Claims

A member selected from the group consisting of compounds of the formula



wherein

R_1 is hydrogen, chlorine or bromine
R_2 is hydrogen, α-methyl or β-methyl
R_3 is m-hydroxyl, p-hydroxyl, m-methoxy or p-methoxy
R_4 is methyl, ethyl, propyl, methoxy, ethoxy or propoxy, and
n is an integer from 1–4 inclusive and pharmacologically acceptable acid addition salts thereof. These compounds prepared by reacting an appropriately substituted piperidine with a 1-halo 3-R_1 cycloalkene exhibit analgesic and morphine antagonistic properties.

3,438,991

1-AROYLALKYL DERIVATIVES OF ARYLHYDROXYPYRROLIDINES AND ARYLHYDROXY-PIPERIDINES

Paul Adriaan Jan Janssen, Vosselaar, near Turnhout, Belgium, assignor to Research Laboratorium Dr. C. Janssen, N.V., a company under the laws of Belgium and doing business at Beerse, Belgium

No Drawing. Continuation-in-part of application Ser. No. 801,990, Mar. 26, 1959. This application Nov. 15, 1960, Ser. No. 69,282

Claims priority, application Great Britain, Nov. 18, 1959, 39,123/59

Int. Cl. C07d *29/20, 27/06;* A61k *27/00*

U.S. Cl. 260—294.7 13 Claims

The invention involves pharmacologically useful 1-aroylalkyl derivatives of arylhydroxypyrrolidines and arylhydroxypiperidines and pharmaceutically useful salts thereof. These compounds are potent depressants of the central nervous system and are also analgesics, antipyretics and spasmolytic agents.

3,438,992

CERTAIN LOWER-ALKYL SULFINYLMETHYL PYRIDINES

Tsung-Ying Shen, Westfield, Alexander Matzuk, Colonia, and Conrad P. Dorn, Jr., Plainfield, N.J., assignors to Merck & Co., Inc., Rahway, N.J., a corporation of New Jersey

No Drawing. Filed Nov. 9, 1966, Ser. No. 592,977

Int. Cl. C07d *31/48, 31/50, 31/02*

U.S. Cl. 260—294.8 4 Claims

Alkylsulfinylmethyl pyridines are produced by reaction of a chloromethyl pyridine with a metal mercaptide followed by oxidation to the sulfoxide. They are used as anti-inflammatory agents.

3,438,993

PYRIDINE ESTERS OF CYCLOPROPANECARBOXYLIC ACID

Godfrey Wilbert, Carmel, Seymour Hyden, Spring Valley, and Henry Wetstein, Monroe, N.Y., assignors to Nepera Chemical Co., Inc.

No Drawing. Filed Mar. 23, 1966, Ser. No. 536,637

Int. Cl. C07d *31/34, 33/48;* A01n *9/22*

U.S. Cl. 260—295 2 Claims

The present invention discloses pyridine and quinoline esters of cyclopropanecarboxylic acid, for example, 3-pyridyl cyclopropanecarboxylate and 3-pyridylmethyl cyclopropanecarboxylate. These compounds are prepared by treating cyclopropanecarboxylic acid chlorides with a pyridinehydroxy compound or a quinolinehydroxy compound.

These compounds are useful as herbicides.

3,438,994

METHINE DYES CONTAINING TRICYANOALKYL-SUBSTITUTED PHOSPHORUS

Henri Depoorter and Jean Marie Nys, Mortsel-Antwerp, and André Emile Van Dormael, Heverlee-Leuven, Belgium, assignors to Gevaert Photo-Producten N.V., Mortsel, Belgium, a Belgian company

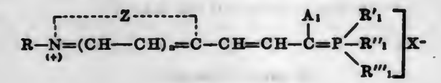
No Drawing. Filed July 6, 1964, Ser. No. 380,678

Claims priority, application Great Britain, July 9, 1963, 27,154/63

Int. Cl. C07f *9/02;* C09b *23/04, 23/16*

U.S. Cl. 260—304 4 Claims

1. A methine dye salt corresponding to the following general formula:



wherein:

R'_1, R''_1 and R'''_1 are identical and each is a cyano-substituted lower alkyl radical,
A_1 is a member selected from the group consisting of carbloweralkoxy, cyano and benzoyl,
Z represents the non-metallic atoms necessary to complete a heterocylic nucleus selected from the group consisting of those of the thiazole series, benzothiazole series, naphthothiazole series, thionaphtheno thiazole series, oxazole series, benzoxazole series, naphthoxazole series, selenazole series, benzoselenazole series, naphthoselenazole series, thiazoline series, thiazolidine series, oxazoline series, 2-quinoline series, 4-quinoline series, 1-isoquinoline series, 3-isoquinoline series, 3,3-dialkylindolenine series, pyridine series and benzimidazole series,
R stands for a member selected from the group consisting of lower alkyl,
n is a number from 0 to 1, and
X^- represents a strong acid radical.

3,438,995

DIAZAHETEROCYCLIC SUBSTITUTED BENZOXAHETEROCYCLIC COMPOUNDS

John Andrew Faust, Santa Ynez, and Melville Sahyun, Santa Barbara, Calif., assignors to Melville Sahyun, doing business as Sahyun Laboratories, Santa Barbara, Calif.

No Drawing. Continuation-in-part of application Ser. No. 466,430, June 23, 1965. This application Jan. 8, 1968, Ser. No. 696,145

Int. Cl. C07d *49/34, 51/28, 53/02*

U.S. Cl. 260—309.6 15 Claims

Isochromans, phthalans and the corresponding thio compounds substituted at the 1-position by a 2-imidazolinyl, 2-tetrahydropyrimidinyl, or 2-tetrahydrodiazepinyl group. These compounds may be used as rubber accelerators, anti-oxidants, corrosion inhibitors, central nervous system depressants and anti-inflammatories.

3,438,996

ROLLING MILLS

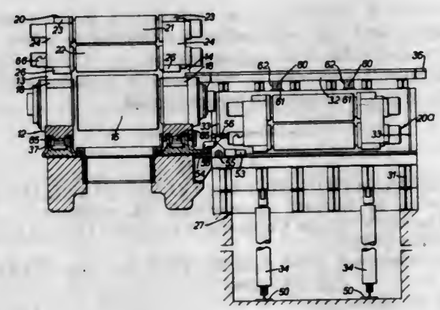
Jack H. Beard, Sheffield 11, Yorkshire, Harold Hoole, Hathersage, Derbyshire, and Allan Hayes, Coal Aston, Derbyshire, England, assignors to Davy and United Engineering Company Limited, Sheffield, Yorkshire, England

Filed Dec. 12, 1966, Ser. No. 601,069

Claims priority, application Great Britain, Dec. 13, 1965, 52,905/65

Int. Cl. B21b *31/10*

U.S. Cl. 72—239 11 Claims



A roll changing apparatus for a rolling mill including a roll support having two platforms, one above the other, the upper one of which is removable from the lower one. The roll support is vertically movable so that either of the platforms may be positioned for transfer of the rolls between that platform and the mill.

3,438,997

POLYOL SYNTHESIS USING FORMALDEHYDE AND OLEFINS

Lloyd C. Fetterly and George W. Conklin, Oakland, Calif., assignors to Shell Oil Company, New York, N.Y., a corporation of Delaware

No Drawing. Continuation of application Ser. No. 280,110, May 13, 1963. This application May 11, 1966, Ser. No. 549,143

Int. Cl. C07c *29/14*

U.S. Cl. 260—340.7 14 Claims

1. The continuous process for the production of glycols by contacting in the vapor phase an alkene having up to 8 carbon atoms with formaldehyde, the molar ratio of formaldehyde to said alkene being from about 1:5 to about 10:1, in a normally liquid polar monohydroxylic reaction diluent selected from the group consisting of water, alkanoic acids having up to 4 carbon atoms and alkanols having up to 4 carbon atoms, in the presence of an acidic cationic exchange resin catalyst at a temperature from about 0° C. to about 250° C. for a contact time of less than two minutes, and hydrolyzing the resulting oxygen-containing reaction product to the glycol.

7. The continuous process for the production of a material selected from the group consisting of glycols, esters thereof, and ethers thereof which comprises contacting in the vapor phase an alkene having up to 8 carbon atoms with formaldehyde, the molar ratio of formaldehyde to said alkene being from about 1:5 to about 10:1, in a normally liquid polar monohydroxylic reaction diluent selected from the group consisting of water, alkanoic acids having up to 4 carbon atoms and alkanols having up to 4 carbon atoms, in the presence of an acidic cationic exchange resin catalyst at a temperature from about 0° C. to about 250° C. for a contact time of less than two minutes.

3,438,998

ANTIBIOTIC LAMBERTELLIN AND METHOD FOR PRODUCTION

Thomas Sproston, Jr., Burlington, Vt., assignor to Research Corporation, New York, N.Y., a non-profit corporation of New York

No Drawing. Continuation-in-part of abandoned application Ser. No. 145,974, Oct. 18, 1961. This application Oct. 5, 1964, Ser. No. 401,667

Int. Cl. C07d *7/24;* A61k *21/02*

U.S. Cl. 260—343.2 9 Claims

Lambertellin, an antibiotic substance having the following structural formula



was isolated by the solvent extraction of ground dried cultures of *Lambertella hicoriae.*

3,438,999

SECOTETRACYCLINE DERIVATIVES AND THEIR METHOD OF PREPARATION

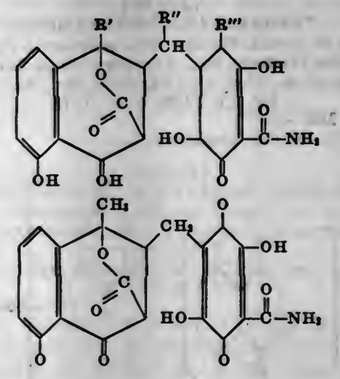
John Samuel Paul Schwarz and Frank L. Weisenborn, Somerset, and Saul Lewis Neidleman, Lawrence Township, N.J., and Roland Walter Kinney, Berwyn, Pa., assignors to E. R. Squibb & Sons, Inc., New York, N.Y., a corporation of Delaware

No Drawing. Continuation-in-part of application Ser. No. 373,850, June 9, 1964. This application Jan. 27, 1966, Ser. No. 523,273

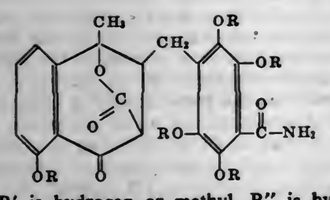
Int. Cl. C07d *5/00, 5/32;* A61k *7/00*

U.S. Cl. 260—343.3 10 Claims

New secotetracycline derivatives of the formulae:



and



wherein R′ is hydrogen or methyl, R″ is hydrogen or hydroxy, R‴ is hydrogen or dimethylamino, and R is the acyl radical of a hydrocarbon carboxylic acid of less than twelve carbon atoms, are disclosed. The compounds of the first two formulae possess strong ultraviolet absorption properties and the compounds of the last formula possess anti-androgenic activity.

3,439,000

ALDEHYDES AND KETONES OF TRIFLUOROMETHYLFURANS

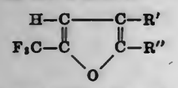
Kenneth K. Wyckoff, Ronald E. Bambury, and David M. Tennent, Ashland, Ohio, assignors to Richardson-Merrell Inc., New York, N.Y., a corporation of Delaware

No Drawing. Continuation-in-part of application Ser. No. 482,907, Aug. 26, 1965. This application Oct. 6, 1965, Ser. No. 493,535

Int. Cl. C07d *5/26, 5/22;* **A61l** *13/00*

U.S. Cl. 260—347.5 **13 Claims**

1. A compound of the formula



wherein: one of R′ and R″ is formyl and the remaining R′ or R″ is a member selected from the group consisting of hydrogen, phenyl and naphthyl.

6. 4-carbethoxy-5-trifluoromethyl-2-furfural.

3,439,001

EPOXIDATION USING ETHYLBENZENE HYDROPEROXIDE WITH ALKALI OR ADSORBENT TREATMENT OF RECYCLE ETHYLBENZENE

Melvyn Pell, East Paterson, and Ernest Ian Korchak, Hackensack, N.J., assignors to Halcon International, Inc., a corporation of Delaware

No Drawing. Filed Oct. 1, 1965, Ser. No. 492,299

Int. Cl. C07d *1/06, 1/08*

U.S. Cl. 260—348.5 **4 Claims**

This invention relates to the epoxidation of olefins using ethylbenzene hydroperoxide, and specifically to the separation and recycle of unreacted ethylbenzene with the recycle ethylbenzene being subjected to an alkali or adsorbent treatment.

3,439,002

THIOARYLOXYANTHRIMIDES

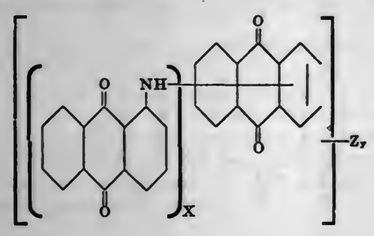
Guido R. Genta, Pitcairn, Pa., assignor to American Aniline Products, Inc., a corporation of Delaware

No Drawing. Filed Apr. 16, 1963, Ser. No. 273,273

Int. Cl. C09b *1/48, 1/16*

U.S. Cl. 260—367 **5 Claims**

1. A dye of the formula:



wherein Z is a member selected from the group consisting of SR and SO_2R wherein R is a member selected from the group consisting of phenyl, benzyl, halozbenzyl, lower alkylphenyl, lower alkoxyphenyl, and halophenyl, *y* is an integer having a value of 1–2, and *x* is an integer having a value of 2–4, each anthraquinonylamino group being attached to anthraquinone in an α-position, and when *x* is 4, *y* is 1.

3,439,003

1,5-BIS-(2′,4′-DIHALO-BENZAMIDO)-4-HYDROXY (AND 4,8-DIHYDROXY)-ANTHRAQUINONES

Ernst Reich, Bettingen, and Hans Rudolf Rickenbacher, Basel, Switzerland, assignors to Ciba Limited, Basel, Switzerland, a Swiss company

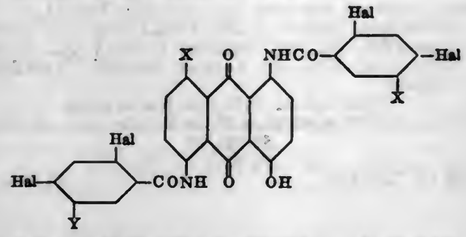
No Drawing. Filed Mar. 23, 1965, Ser. No. 442,206

Claims priority, application Switzerland, Mar. 26, 1964, 3,975/64

Int. Cl. C09b *1/42;* **C09c** *1/00*

U.S. Cl. 260—377 **2 Claims**

Anthraquinone dyestuffs of the formula



in which X is hydrogen or hydroxyl, Y is hydrogen or halogen, and Hal is halogen, are obtainable when 1:5-diamino-4:8-dihydroxyanthraquinone or 1:5-diamino-4-hydroxyanthraquinone is condensed in a molar ratio of 1:2 with a 2:4-di-halogen benzoyl halide.

3,439,004

PREPARATION OF TRIARYL METHANE DYES

Maurice E. Beckett, Homewood, Ill., assignor to The Sherwin-Williams Company, Cleveland, Ohio, a corporation of Ohio

No Drawing. Filed Apr. 26, 1965, Ser. No. 451,023

Int. Cl. C09b *11/20, 11/22*

U.S. Cl. 260—391 **5 Claims**

Mono-, di- and tri(cyclohexylamine)triaryl methane carbinols, mixtures thereof, salts thereof, and mixtures of said salts are prepared in which the aryl groups are phenyl or tolyl and the amine groups are primary or secondary, depending upon the number of cyclohexyl radicals substituted. The process involves reacting a triaminotriaryl methane carbinol with cyclohexylamine in the presence of an acid catalyst, distilling off any excess cyclohexylamine and recovering the resultant dye product. This product is very water insoluble, makes an excellent pigment, and is especially useful in duplicating inks and moisture set varnishes.

3,439,005

DIHALO SUBSTITUTED PHOSPHORANYLIDENEAMINO BENZOQUINONES AND METHOD FOR THEIR PRODUCTION

William Lindsay Mosby, North Plainfield, Helen Currier Gillham, Princeton, and Allan Ellis Sherr, Martinsville, N.J., assignors to American Cyanamid Company, Stamford, Conn., a corporation of Maine

No Drawing. Original application Feb. 17, 1964, Ser. No. 345,075, now Patent No. 3,322,860, dated May 30, 1967. Divided and this application Dec. 19, 1966, Ser. No. 602,465

Int. Cl. C07f *9/54;* **C09k** *3/28*

U.S. Cl. 260—396 **8 Claims**

A process for the production of dihalo substituted phosphoranylideneamino benzoquinones and the compounds per se are disclosed.

3,439,006

METHOD OF PREPARING ORGANIC SEMICONDUCTING MATERIALS

Yoshio Matsunaga, Stamford, Conn., assignor to American Cyanamid Company, Stamford, Conn., a corporation of Maine

No Drawing. Filed Nov. 2, 1964, Ser. No. 408,328

Int. Cl. C07c *45/00, 49/64*

U.S. Cl. 260—396 **8 Claims**

A method of preparing an organic molecular complex, possessing low resistance semiconducting properties is provided in which 1,6-diaminopyrene and a tetrahalogeno-p-benzoquinone are reacted in an inert ketonic aliphatic solvent whereby the so-formed complex finds utility in solid state semiconducting devices.

3,439,007

N-(2,3-DIHYDROXYPROPYL)ALIPHATIC AMIDES AND METHOD FOR PREPARING THE SAME

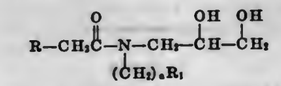
John Edward Milks, Stamford, Conn., assignor to Arizona Chemical Company, New York, N.Y., a corporation of Delaware

No Drawing. Filed Jan. 14, 1965, Ser. No. 425,627

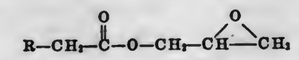
Int. Cl. C07c *103/16;* **C11c** *3/00;* **C09k** *3/16*

U.S. Cl. 260—404 **6 Claims**

1. A process for preparing a glycol amide of the structure:



where R is a substituent selected from the group consisting of hydrogen, linear alkyl containing from 1 to 21 carbon atoms and linear alkenyl containing no more than three points of unsaturation and containing up to 21 carbon atoms, *n* is an integer from 0 to 1, and R_1 is a substituent consisting of (a) hydrogen, (b) linear alkyl, (c) hydroxy-substituted linear alkyl, said alkyl containing from 1 to 21 carbon atoms, when *n* is 1 and (d) hydrogen when *n* is 0, which comprises the steps of: reacting at a temperature ranging from about 20° C. to about 150° C. and for a time from 1 hour to about 10 hours (a) a glycidyl ester of the structure:



where R is as defined above with (b) a nitrogen compound of the structure:

$$R_1(CH_2)_nNH_2$$

where *n* and R_1 are as above defined.

3,439,008

METHOD FOR MAKING ORGANOMETALLIC HYDRIDES

Abe Berger, Schenectady, N.Y., assignor to General Electric Company, a corporation of New York

No Drawing. Filed Mar. 31, 1966, Ser. No. 538,976

Int. Cl. C07f *7/12, 7/18, 7/00*

U.S. Cl. 260—429 **7 Claims**

A method is provided for converting certain halogenated Group IVb elemental materials, such as halosilane, halosiloxane, or halogermane to the corresponding Group IVb elemental hydrides utilizing a tin hydride as a reducing agent and a Group III metal compound, such as alkylaluminum halide as a promoter.

3,439,009

PREPARATION OF OLEFIN METAL COMPLEXES

Arthur D. Ketley, Silver Spring, Md., assignor to W. R. Grace & Co., New York, N.Y., a corporation of Connecticut

No Drawing. Continuation-in-part of application Ser. No. 592,326, Nov. 7, 1966. This application Aug. 2, 1968, Ser. No. 749,619

Int. Cl. C07c *3/10;* **C07f** *15/00*

U.S. Cl. 260—429 **9 Claims**

In abstract, this invention is directed to a process for preparing an olefin-palladium(II) chloride complex having the formula

$$(\text{olefin})_2Pd_2Cl_4$$

by reacting an aliphatic mono-olefin having 2–12 carbon atoms with palladium(II) chloride in the presence of dioxane or an ether having the formula $R_1—O—R_2$ where R_1 is an aromatic group having 6–12 carbon atoms, the aromatic nucleus being bonded directly to the O of said ether, and R_2 is a member selected from the group consisting of alkyl having about 1–12 carbon atoms, phenyl, naphthyl, alkaryl having about 6–12 carbon atoms, and aralkyl having about 6–12 carbon atoms, all as recited hereinafter. The compound has utility as a catalyst for the dimerization of olefins.

3,439,010

METHOD FOR PREPARING ORGANOTIN HYDRIDES

Rokuro Okawara, Itami, and Mitsuaki Ohara, Nishinomiya, Japan, assignors to M & T Chemicals, Inc., New York, N.Y., a corporation of Delaware

No Drawing. Filed Sept. 13, 1965, Ser. No. 487,065

Int. Cl. C07f *7/22*

U.S. Cl. 260—429.7 **5 Claims**

According to certain of its aspects, the method of this invention for preparing organotin hydride may comprise heating organotin formate to its decomposition temperature thereby forming organotin hydride, and recovering said organotin hydride.

3,439,011

AMINE-HYDROCARBYL ACID-ORTHOPHOSPHATE-ZINC HALIDE COMPLEXES

Frederic C. McCoy, Beacon, and Edwin C. Knowles, Poughkeepsie, N.Y., assignors to Texaco Inc., New York, N.Y., a corporation of Delaware

No Drawing. Original application Sept. 30, 1965, Ser. No. 491,822, now Patent No. 3,340,189, dated Sept. 5, 1967. Divided and this application Dec. 13, 1966, Ser. No. 615,873

Int. Cl. C07f *3/06*

U.S. Cl. 260—429.9 **9 Claims**

1. A complex represented by the formula:

$$[RNH_3)^+_a(R'R''PO_4)^-]_bZnX_2$$

wherein R is an alkyl radical having from 6 to 24 carbon atoms, R′ is a hydrocarbyl radical having from 2 to 24 carbon atoms, R″ is selected from the group consisting of hydrogen and a hydrocarbyl radical having from 4 to 24 carbon atoms, the sum of the carbon atoms in R′ and R″ being in the range from 10 to 30, X is a halogen, *a* is a number from 1 to 2 and *b* is a number from 1 to 20.

3,439,012

PRODUCING ALKYLLEAD HALIDE

Julian B. Honeycutt, Jr., Baton Rouge, La., assignor to Ethyl Corporation, New York, N.Y., a corporation of Virginia

No Drawing. Filed May 5, 1967, Ser. No. 636,285

Int. Cl. C07f *7/24*

U.S. Cl. 260—437 **2 Claims**

R_2PbCl_2 (R=alkyl) is produced in high purity by reacting R_4Pb with HCl in hot tetrahydrofuran. Excessive contamination of product by R_3PbCl and $PbCl_2$ is

avoided. R_3PbCl_2 is useful as a mildewcide, and as a chemical intermediate.

3,439,013

PROCESS FOR THE PREPARATION OF LINEAR ORGANOPOLYSILOXANES

Jean Claude Delaval, Paul Alfred Eugene Guinet, and Jean Morel, Lyon, Rhone, France, assignors to Rhone-Poulenc S.A., Paris, France, a French body corporate

No Drawing. Filed Dec. 1, 1966, Ser. No. 598,225
Claims priority, application France, Dec. 7, 1965, 41,278
Int. Cl. C07f 7/18
U.S. Cl. 260—448.2 7 Claims

1. Process for the preparation of a linear organopolysiloxane having a viscosity less than 100 centistokes at 25° C. which comprises contacting a cyclic organopolysiloxane, alone or in admixture with an α,ω-dihydroxyorganopolysiloxane, with a monohalogeno organosilane in the presence of ferric chloride, and hydrolysing the product obtained.

3,439,014

SILICON HYDRIDE-OLEFIN ADDITION

Robert Patton, Saltcoats, Scotland, and Edward Keith Pierpoint, Liverpool, England, assignors to Imperial Chemical Industries Limited, London, England, a corporation of Great Britain

No Drawing. Filed May 4, 1965, Ser. No. 453,199
Claims priority, application Great Britain, May 14, 1964, 20,153/64
Int. Cl. C07f 7/02
U.S. Cl. 260—448.2 14 Claims

A process for the production of organosilicon compounds is disclosed, wherein a silicon compound containing at least one silicon-bonded hydrogen and an unsaturated compound which is not a primary or secondary amine, an aldehydic compound or a compound having a cyano group on an unsaturated carbon atom, are reacted together in the presence of a complex of a platinum II halide with a hydrocarbyl sulphide.

3,439,015

PROCESS FOR RING HALOGENATING ALKYL-SUBSTITUTED AROMATIC ISOCYANATES

Herbert Felix McShane, Jr., Wilmington, Del., assignor to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware

No Drawing. Filed Apr. 15, 1964, Ser. No. 360,066
Int. Cl. C07c 119/04
U.S. Cl. 260—453 4 Claims

Process for preparing ring halogenated alkyl-substituted aromatic isocyanates of high purity and improved yield, in which process a catalyst such as ferric chloride is used in a liquid system, a halogen reactant being thoroughly mixed in said system, the concentration of hydrogen halide by-product being controlled and significantly decreased.

3,439,016

2-AMINO-2' AND 4'-CYANOBENZOPHENONES

Rodney Ian Fryer, North Caldwell, and Leo Henryk Sternbach, Upper Montclair, N.J., assignors to Hoffmann-La Roche Inc., Nutley, N.J., a corporation of New Jersey

No Drawing. Original application Nov. 13, 1962, Ser. No. 237,437, now Patent 3,261,867, dated July 19, 1966. Divided and this application Mar. 10, 1966, Ser. No. 534,989
Int. Cl. C07c 121/78, 121/76
U.S. Cl. 260—465 2 Claims

Amino or substituted amino benzophenones are prepared by treating fluoro-substituted benzophenones with a compound selected from the group consisting of ammonia, lower alkylamine and phenyl lower alkylamine. The aminobenzophenones are useful as intermediates in the preparation of therapeutically valuable 5-phenyl-1,4-benzodiazepine 4-oxides and 5-phenyl-1,4-benzodiazepin-2-ones.

3,439,017

COMPOUNDS CONTAINING NITROGEN AND FLUORINE AND A METHOD FOR THEIR PREPARATION

Travis E. Stevens, Huntsville, Ala., assignor to Rohm & Haas Company, Philadelphia, Pa., a corporation of Delaware

No Drawing. Filed May 5, 1964, Ser. No. 365,569
Int. Cl. C07c 85/00, 87/28, 87/02
U.S. Cl. 260—465.5 14 Claims

1. A composition of matter having the formula



wherein R^1 represents groups containing up to 18 carbon atoms from the class consisting of alkyl, phenyl, alkylphenyl, naphthyl, alkylnaphthyl, benzylnaphthyl, alkylbenzyl, phenylalkyl and halophenyl, and

R^2 is a halogen having an atomic weight of about 19 to 80.

9. The composition, 1-chloro-1,1-bis(difluoramino)-5-cyanopentane.

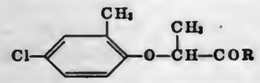
3,439,018

ALPHA-(4-CHLORO-2-METHYLPHENOXY) PROPIONANILIDES

Robert Frederick Brookes, David Henry Godson, and Edward Levi Leafe, Nottingham, England, assignors to Boots Pure Drug Company Limited, Nottingham, England, a British company

No Drawing. Filed Sept. 16, 1964, Ser. No. 397,032
Claims priority, application Great Britain, Sept. 30, 1963, 38,458/63
Int. Cl. C07c 103/74, 127/16; A01n 9/20
U.S. Cl. 260—471 4 Claims

Herbicidal compounds of the formula



in which R may be, inter alia, optionally substituted amino, hydrazino, oxyamino, ureido, sulfonamido, carbamato, and the like.

3,439,019

N-BENZOYLOXYMETHYL BENZAMIDES AND THEIR PREPARATION

Lewis H. Sarett, Princeton, Clarence S. Rooney, Bridgewater Township, and Louis H. Peterson, Woodbridge, N.J., assignors to Merck & Co., Inc., Rahway, N.J., a corporation of New Jersey

No Drawing. Filed Jan. 19, 1966, Ser. No. 521,502
Int. Cl. C07c 103/84, 67/00; A61k 27/00
U.S. Cl. 260—472 10 Claims

Anticoccidial N-benzoyloxymethyl benzamides are prepared by reacting a 3,5-dinitrobenzamidomethyl pyridinium chloride with a 2-alkoxy-(or alkenoxy)-4-substituted benzoic acid.

3,439,020

PROCESS FOR PURIFYING BIS(β-HYDROXYETHYL) TEREPHTHALATE AND ISOPHTHALATE

Michitoshi Kitabatake, Masatomo Ito, Takashi Ikeda, Noriyoshi Aozuka, and Yoshitaka Noguchi, Tokyo, Japan, assignors to Showa Denko Kabushiki Kaisha, Tokyo, Japan, a corporation of Japan

No Drawing. Filed July 19, 1966, Ser. No. 566,219
Claims priority, application Japan, July 26, 1965, 40/44,822
Int. Cl. C07c 69/80, 69/82
U.S. Cl. 260—475 6 Claims

This invention relates to a process for purifying bis (beta-hydroxyethyl) terephthalate or bis(beta-hydroxyethyl) isophthalate which has been prepared by reacting terephthalonitrile or isophthalonitrile with ethylene glycol and water which comprises treating the crude ester with an aqueous solution of an acid having a pH of 1–5. The purified esters are used as intermediates for the production of films and fibers.

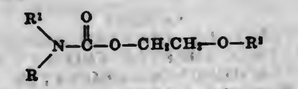
3,439,021

HALO-SUBSTITUTED PHENOXYETHYL CARBAMATES AND DERIVATIVES THEREOF

Llewellyn W. Fancher, Orinda, Calif., assignor to Stauffer Chemical Company, New York, N.Y., a corporation of Delaware

No Drawing. Continuation-in-part of application Ser. No. 367,879, May 15, 1964. This application Dec. 23, 1966, Ser. No. 604,136
Int. Cl. C07c 125/04, 125/06
U.S. Cl. 260—482 8 Claims

The compounds of the class halo-substituted phenyl oxyethyl esters of N-alkyl carbamic acids having the general formula



wherein R and R^1 are selected from the group consisting of hydrogen, lower alkyl having from 1 to 6 carbon atoms, inclusive, and lower alkenyl having from 2 to 6 carbon atoms, inclusive, at least one of R and R^1 is a group other than hydrogen; and R^2 is selected from the group consisting of nuclearly substituted phenyl, wherein said substituents are from 1 to 5 halogens, inclusive, especially chlorine; for example, 2,4-dichlorophenoxyethyl-N-methyl carbamate and 2,4,5-trichlorophenoxyethyl-N,N-di-n-propyl carbamate.

The compounds of the class are useful as preemergence and post-emergence herbicides. The compounds can be prepared by condensing a halophenyl oxyethanol and an alkyl isocyanate or condensing a halophenyl oxyethanol with an N,N-dialkyl carbamyl chloride.

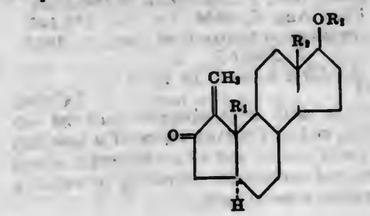
3,439,022

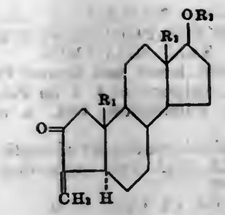
METHYLENE-SUBSTITUTED-A-NORGONANES

Jean Jacques, Paris, France, assignor to Merck & Co., Inc., Rahway, N.J., a corporation of New Jersey

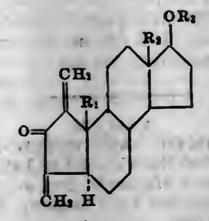
No Drawing. Filed Mar. 1, 1966, Ser. No. 530,772
Int. Cl. C07c 171/06
U.S. Cl. 260—488 1 Claim

1. A compound selected from the class consisting of compounds of the formulas:





and



wherein R_1 is hydrogen or a methyl group, R_2 is a lower alkyl group, and R_3 is hydrogen or a lower alkanoyl group.

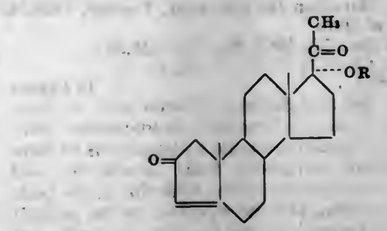
3,439,023

DERIVATIVES OF A-NORPROGESTERONE

Seymour D. Levine, Princeton, and Patrick A. Diassi, Westfield, N.J., assignors to E. R. Squibb & Sons, Inc., New York, N.Y., a corporation of Delaware

No Drawing. Original application Sept. 28, 1964, Ser. No. 399,838, now Patent No. 3,381,029, dated Apr. 30, 1968. Divided and this application Nov. 13, 1967, Ser. No. 708,735
Int. Cl. C07c 169/36; A61k 17/06
U.S. Cl. 260—488 3 Claims

1. A compound of the formula



where R is selected from the group consisting of hydrogen and acyl derived from a hydrocarbon carboxylic acid having less than twelve carbon atoms.

3,439,024

PREPARATION OF LINALYL ESTERS

John Edward Milks and Roland Pierre Scharrer, Stamford, Conn., assignors to Arizona Chemical Company, New York, N.Y., a corporation of Delaware

No Drawing. Filed Nov. 22, 1965, Ser. No. 509,161
Int. Cl. C07c 69/02, 33/02, 67/00
U.S. Cl. 260—489 6 Claims

A process is provided for the preparation of tertiary terpene allylic esters in which a terpene allylic halide is subjected to an esterification reaction with a carboxylic acid salt, under non-aqueous conditions at temperatures between about 20° C. and about 100° C. in the presence of either 1,3-diphenylguanidine or its acid addition salts, and recovering a tertiary terpenic allylic ester composition in good yield.

3,439,025
PROCESS FOR PURIFYING NYLON SALT SOLUTION

Ralph Gallay, Haifa, Israel, and Samuel Peter La Penta, Richmond, Va., assignors to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware

No Drawing. Continuation-in-part of application Ser. No. 332,968. Dec. 23, 1963. This application July 8, 1965, Ser. No. 470,569
Int. Cl. C01b *31/02*
U.S. Cl. 260—501.2 5 Claims

Process for the treatment of activated carbon used in the purification of a nylon salt solution wherein the carbon is washed with an aliphatic dibasic acid and thereafter with a diamine, said dibasic acid and diamine being those used to prepare the nylon salt.

3,439,026
MANUFACTURE OF CARBOXYLIC ACIDS FROM CORRESPONDING METALLIC SALTS

James W. Patton and Marion O. Son, Jr., Littleton, Colo., assignors to Marathon Oil Company, Findlay, Ohio, a corporation of Ohio

Filed Dec. 23, 1964, Ser. No. 420,502
Int. Cl. C07c *51/02, 51/00*
U.S. Cl. 260—515 12 Claims

The present invention comprises a process for the manufacture of carboxylic acids from their corresponding metallic salts comprising treating the salts with a weak protonic ion exchange resin, thereafter removing substantially all of any excess of the salt which remains uncombined with the resin, thereafter eluting the resin with an organic solvent in which the carboxylic acid is soluble and thereafter recovering the carboxylic acid from the resulting solution, and related processes.

3,439,027
PRODUCTION OF AROMATIC CARBOXYLIC ACIDS AND THEIR ALKALI METAL SALTS

James W. Patton and Marion O. Son, Jr., Littleton, Colo., assignors to Marathon Oil Company, Findlay, Ohio, a corporation of Ohio

Filed Dec. 23, 1964, Ser. No. 420,503
Int. Cl. C07c *63/02, 51/42, 63/50*
U.S. Cl. 260—524 12 Claims

1. A process for manufacture of metal salts of alkylaromatic acids from alkylaromatic hydrocarbons comprising oxidizing the alkylaromatic hydrocarbons to form a product mixture comprising basic constituents and metal salts of alkylaromatic acids, neutralizing the basic constituents by passing at least a portion of the product mixture through a weak protonic ion exchange resin, and recovering the resulting metal salts of alkylaromatic acids.

3,439,028
PROCESS FOR PRODUCING α,β-UNSATURATED CARBOXYLIC ACID

Masaya Yanagita, Hoya-machi, Kitatama-gun, Tokyo, Masao Kitahara, Chiba-shi, and Takashi Mitsui, Nakameguro, Tokyo, Japan, assignors to Rikagaku Kenkyusho, Bunkyo-ku, Tokyo, Japan, a corporation of Japan

No Drawing. Filed Mar. 23, 1964, Ser. No. 354,147
Claims priority, application Japan, Apr. 3, 1963, 38/17,007; Sept. 17, 1963, 38/49,236
Int. Cl. C07c *51/24, 51/16*
U.S. Cl. 260—530 8 Claims

α,β-Unsaturated carboxylic acid is prepared by reaction of α,β-unsaturated aldehyde in vapor phase with an oxygen containing gas at a temperature in the range 200–500° C., in the presence of a catalyst comprising a mixed complex of vanadium and molybdenum oxides, supported on aluminum sponge.

3,439,029
PROCESS FOR THE PRODUCTION OF ACETIC ACID BY CATALYTIC GAS-PHASE OXIDATION OF n-BUTENES

Rudolf Brockhaus, Marl, Germany, assignor to Chemische Werke Huls A.G., Marl, Germany

No Drawing. Filed May 19, 1966, Ser. No. 551,236
Claims priority, application Germany, May 19, 1965, C 35,887
Int. Cl. C07c *51/32*
U.S. Cl. 260—533 11 Claims

Acetic acid is produced by the gas phase oxidation of butene in the presence of an antimony vanadate catalyst.

This invention relates in general to the production of acetic acid and, more particularly, to the use of a new catalyst in the production thereof.

3,439,030
C-9 TO C-20 p-ALKYLPHENYLDICRLOROBORANES

Melville E. D. Hillman, Corte Madera, Calif., assignor to Chevron Research Corporation, a corporation of Delaware

No Drawing. Filed Apr. 23, 1964, Ser. No. 362,186
Int. Cl. C07f *5/02*
U.S. Cl. 260—543 2 Claims

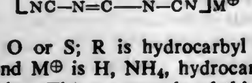
This invention relates to the novel C_9–C_{20}-alkyl-p-phenyldichloroborane compounds and their use for the production by hydrolysis of a new class of detergent compounds, particularly low foaming detergents for use in tumbler type washing machines. On the other hand, when a rich foam is desired, the addition of a minor amount of mannitol to the foregoing detergents yields an excellent foam.

3,439,031
N,N' - DICYANO - 1,3 - DIAZAPROPENES AND THE PREPARATION THEREOF FROM CYANAMIDES AND N-CYANOIMINOCARBONATES

Elwood P. Blanchard, Jr., Wilmington, Del., assignor to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware

No Drawing. Filed June 15, 1965, Ser. No. 464,210
Int. Cl. C07c *149/24, 149/42, 121/60*
U.S. Cl. 260—551 13 Claims

Described and claimed are N,N'-dicyano-1,3-diazapropenes of the formula



wherein Y is O or S; R is hydrocarbyl or substituted hydrocarbyl and $M^{\oplus}$ is H, NH_4, hydrocarbylammonium or another cation. The compounds of this invention are prepared by the reaction of cyanamide or an alkali metal cyanamide with N-cyanoiminocarbonates at temperatures of 0–150° C. and are useful as antistatic additives for hydrocarbon fuels and fiber-forming polycarbonamides.

3,439,032
ALKALI AMINOPHOSPHIDES AND ALKALINE EARTH AMINOPHOSPHIDES AND PROCESS OF PREPARATION

Ludwig Maier, Zurich, Switzerland, assignor to Monsanto Company, St. Louis, Mo., a corporation of Delaware

No Drawing. Filed Aug. 5, 1966, Ser. No. 570,445
Claims priority, application Switzerland, Aug. 11, 1965, 11,364/65
Int. Cl. C07f *9/02, 9/58, 9/60*
U.S. Cl. 260—551 7 Claims

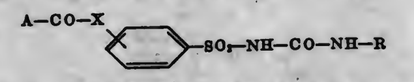
Alkali and alkaline earth aminophosphides of the formulae $MP(NR^1R^2)_2$ and $M_2PNR^1R^2$ where M is an alkali or alkaline earth metal and R^1 and R^2 are hydrogen atoms or organic groups, and process for preparing by reacting white phosphorus with a metal amide.

3,439,033
BENZENE-SULFONYL UREAS

Erich Haack, Heidelberg, Wilhelm Peschke and Kurt Stach, Mannheim, Felix H. Schmidt, Mannheim-Neuostheim, and Helmut Weber, Frankfurt am Main, Germany, assignors to C. F. Boehringer & Soehne G.m.b.H., Mannheim-Waldhof, Germany, a German corporation

No Drawing. Filed June 1, 1965, Ser. No. 460,502
Claims priority, application Germany, June 10, 1964, B 77,176
Int. Cl. C07c *127/00, 143/38*
U.S. Cl. 260—553 4 Claims

Highly effective antidiabetic agents comprising benzenesulfonyl ureas and the alkali metal salts thereof wherein the free compound corresponds to the formula:



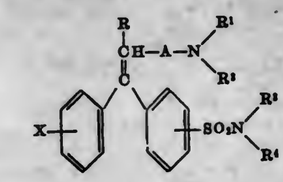
wherein A is an aliphatic, cycloaliphatic, aryl, aralkyl, aralkoxyalkyl or heterocyclic radical, X is a divalent aliphatic radical and R is an aliphatic or cycloaliphatic radical (which can be interrupted by oxygen or sulfur atoms) an aryl or aralkyl radical.

3,439,034
AMINOALKENYLBENZENESULFONAMIDES

Johann Martin Grisar and William J. Hudak, Cincinnati, Ohio, assignors to Richardson-Merrell Inc., New York, N.Y., a corporation of Delaware

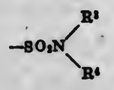
No Drawing. Filed June 21, 1966, Ser. No. 559,075
Int. Cl. C07c *143/78*
U.S. Cl. 260—556 11 Claims

Discloses novel compounds which have vasodepressor activity. The disclosed compounds are of the formula



wherein:

(a) each of R, R^1, R^2, R^3, and R^4 is a member selected from the groups consisting of hydrogen and (lower) alkyl;
(b) A is saturated alklyene having 1 to 5 carbon atoms; and
(c) X is a member selected from the group consisting of hydrogen, (lower) alkyl, (lower) alkoxy, halogen, trifluoromethyl and the group



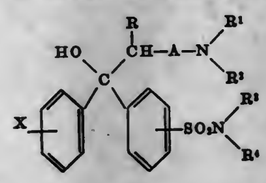
wherein R^3 and R^4 have the same meaning given hereinabove; and pharmaceutically acceptable acid addition salts thereof.

3,439,035
AMINOALKANOLBENZENESULFONAMIDES

Johann Martin Grisar and William J. Hudak, Cincinnati, Ohio, assignors to Richardson-Merrell Inc., New York, N.Y., a corporation of Delaware

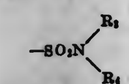
No Drawing. Filed June 21, 1966, Ser. No. 559,076
Int. Cl. C07c *143/78*; C07d *51/00, 29/34*
U.S. Cl. 260—556 11 Claims

Discloses novel compounds which can be used as vasodepressors or to lower blood cholesterol or as intermediates for preparing analogous ethylenically unsaturated compounds. The disclosed compounds are of the formula



wherein:

(a) each of R, R^1, R^2, R^3, and R^4 is a member selected from the group consisting of hydrogen, (lower) alkyl, and R^1 and R^2 or R^3 and R^4, respectively, when taken together with the nitrogen to which they are joined are pyrrolidino, piperidino, piperazino or morpholino;
(b) A is saturated alkylene having 1 to 5 carbon atoms; and
(c) X is a member selected from the group consisting of hydrogen, (lower) alkyl, (lower) alkoxy, halogen, trifluoromethyl and the group



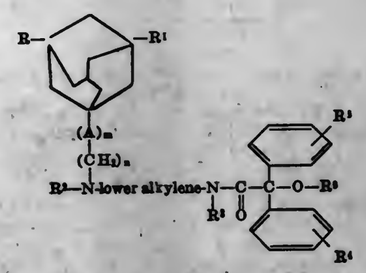
wherein R^3 and R^4 have the same meaning given hereinabove; and pharmaceutically acceptable acid addition salts thereof.

3,439,036
ADAMANTANE DERIVATIVES OF 2,2-DIPHENYLACETAMIDES

Jack Bernstein, New Brunswick, N.J., assignor to Olin Mathieson Chemical Corporation, New York, N.Y., a corporation of Virginia

No Drawing. Filed July 26, 1965, Ser. No. 474,966
Int. Cl. C07c *103/20, 103/44, 103/42*
U.S. Cl. 260—559 10 Claims

This invention relates to new compounds of the general formula



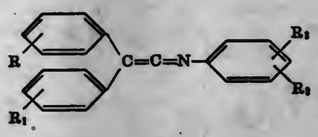
and to acid addition salts and quaternary salts thereof, compounds which are useful for the alleviation of pain.

3,439,037
METHOD OF PREPARATION OF KETENIMINES

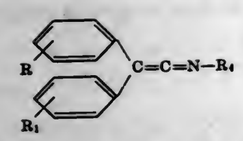
Gopal Hari Singhal, King of Prussia, Pa., assignor to Pennsalt Chemicals Corporation, Philadelphia, Pa., a corporation of Pennsylvania

No Drawing. Filed Mar. 31, 1966, Ser. No. 538,963
Int. Cl. C07c *119/00*
U.S. Cl. 260—566 6 Claims

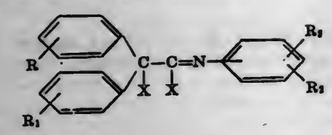
Ketenimines having the structures



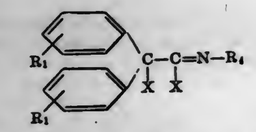
and



are prepared by reacting copper with a corresponding haloimino halide having the structure



and



where R_1, R_2, R_3 and R_4 are chlorine, nitro, or lower alkyl, R_4 is lower alkyl, and X is chlorine, bromine or iodine.

3,439,038

PROCESS FOR PRODUCING AMINOACETYLENES FROM PROPARGYLAMINES

Heinz G. Viehe, Linkebeek, and André J. Hubert, Brussels, Belgium, assignors to Union Carbide Corporation, a corporation of New York

No Drawing. Filed Sept. 29, 1965, Ser. No. 491,371
Int. Cl. C07c *85/00*
U.S. Cl. 260—583 9 Claims

Aminoacetylenes having the nitrogen atom attached to one of the carbon atoms bearing the triple bond are prepared by contacting a propargylamine with a dispersion of potassium metal or potassium amide on alumina.

3,439,039

DIFLUOROAMINO ALKANOLS AND THEIR PREPARATION

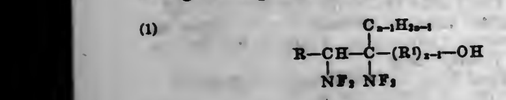
Robert C. Petry and Samuel F. Reed, Jr., Huntsville, Ala., assignors to Rohm & Haas Company, Philadelphia, Pa., a corporation of Delaware

No Drawing. Filed Oct. 24, 1961, Ser. No. 147,712
Int. Cl. C07c *69/62, 91/02, 95/02*
U.S. Cl. 260—584 14 Claims

1. A process for the preparation of alkanols containing difluoramino groups which comprises reacting (1) a compound selected from the group consisting of alkenols and the formate, acetate and trifluoroacetate esters thereof with (2) tetrafluorohydrazine, N_2F_4, at a temperature of from 50° C. to 300° C. and isolating the difluoramino alkanol.

8. Difluoramino alkanols selected from the group consisting of compounds with the formula

(1)



in which R is selected from the group consisting of hydrogen and lower alkyl, and *n* is an integer from 1 to 5, and R^1 is selected from the group consisting of methylene and lower alkylene, *x* is an integer from 1 to 5, and (2) the compound of the formula



3,439,040

13-ALKYL A-NOR-3-GONENE-2-ONES

Jean Jacques, Paris, France, assignor to Merck & Co., Inc., Rahway, N.J., a corporation of New Jersey

No Drawing. Filed Oct. 21, 1965, Ser. No. 500,252
Int. Cl. C07c *169/10, 171/06, 173/00*
U.S. Cl. 260—586 6 Claims

The invention disclosed herein relates to a new group of A-nor-3-gonenes, derivatives thereof and novel processes for preparing these compounds. In particular it relates to 13-substituted-A-nor-3-gonen-2-ones and 13-substituted-16- and 17-substituted-A-nor-3-gonen-2-ones which carry a hydroxyl together with a hydrocarbon or halogenated hydrocarbon substituent in the 16 or 17 positions. These new compounds are prepared by reducing the corresponding 13-alkyl-17β-hydroxy-4-gonen-3-one to a 5α-gonane which is acylated and oxidized to form a mixture of 2,3- and 3,4-seco decarboxylic acids; this mixture is reacted with a dehydrating agent, the resulting mixture is separated, and the resulting 13-alkyl-17β-acyloxy-A-nor-5α-gonan-2-one is dibrominated, mono-dehydrobrominated, and the residual bromine removed by hydrogenolysis, followed by hydrolysis of the 17-acyl substituent to give the Δ^3-17β-hydroxy derivative; ketal protection of the 3-ketone, oxidation of the 17β-hydroxy to the 17-ketone and the reaction with an organo-metallic alkyne, haloalkyne, or haloalkene gives the presently invented 13-alkyl-17β-hydroxy-17α-(alkynyl, haloalkynyl or haloalkenyl)-A-nor-3-gonan-2-ones and corresponding 10-methyl analogs.

3,439,041

OXIDATION PRODUCT SEPARATION

Werner Gey, Offenbach, and Hans Dieter Hofmann, Dornigheim, Germany, assignors to Vickers-Zimmer Aktiengesellschaft Planung und Bau von Industrieanlagen, Frankfurt am Main, a corporation of Germany

Filed Feb. 1, 1966, Ser. No. 524,206
Claims priority, application Germany, Jan. 30, 1965, 211,299
Int. Cl. C07c *45/24, 29/30, 27/32*
U.S. Cl. 260—586 4 Claims

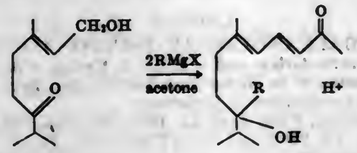
Method for the recovery of cyclohexanol and cyclohexanone from oxidation reaction products containing these components togethed with water, cyclohexane, biproduct acids and esters of cyclohexanol which includes the improvement of separating the water of reaction containing the adipic acid from the organic phase, thereafter neutralizing the organic phase by treatment with a dilute aqueous caustic solution which is insufficient to cause saponification of esters, treating the neutral reaction product by distillation to remove cyclohexane. cyclohexanone and cyclohexanol from the mixture and treating the remaining mixture with caustic in the substantial absence of cyclohexanone to saponify the remaining esters and recover additional cyclohexanol from the mixture.

3,439,042

SYNTHESIS OF PSEUDOIONONES

Emile H. Eschinasi, Montclair, and Mary Lou Cotter, East Orange, N.J., assignors to The Givaudan Corporation, New York, N.Y., a corporation of New Jersey

No Drawing. Filed June 24, 1964, Ser. No. 377,503
Int. Cl. C07c *33/02*
U.S. Cl. 260—594 9 Claims



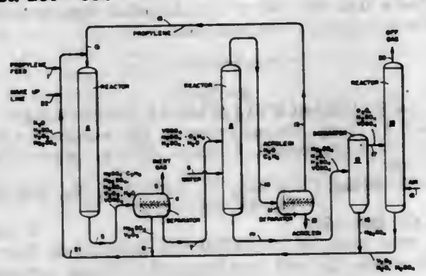
R may be lower alkyl or lower alkylene having up to 6, C atoms, phenyl, benzyl or cycloaliphatic.

3,439,043

PRODUCTION OF UNSATURATED CARBONYLIC COMPOUNDS

Marvin L. Deviney, Jr., Pasadena, Tex., assignor to Shell Oil Company, New York, N.Y., a corporation of Delaware

Filed Feb. 17, 1964, Ser. No. 345,440
Int. Cl. C07c *45/02*
U.S. Cl. 260—604 2 Claims



1. The process for the production of acrolein by
(a) contacting propylene in an initial reaction zone with aqueous sulfuric acid, mercurous sulfate and an inorganic pentavalent vanadium oxygen-containing compound,
(b) hydrolyzing the resulting product mixture by contact with water at a temperature from about 80° C. to about 150° C., thereby producing acrolein,
(c) separating the mercurous sulfate hydrolysis product from the nongaseous hydrolysis product mixture and oxidizing the hydrolysis product solution by contacting with oxygen-containing gas at a temperature from about 120° C. to about 250° C. and oxygen pressure from about 3 atmospheres to about 30 atmospheres, and
(d) returning the pentavalent vanadium oxidation product and said product mercurous sulfate to the initial reaction zone.

3,439,044

PROCESS FOR THE PREPARATION OF ACETALDEHYDE

Lothar Hirsch, Kelkheim, Taunus and Lothar Hörnig, Günther Mau and Therese Quadflieg, Frankfurt am Main, Germany, assignors to Farbwerke Hoechst Aktiengesellschaft vormals Meister Lucius & Bruning, Frankfurt am Main, Germany, a corporation of Germany

No Drawing. Filed Mar. 16, 1965, Ser. No. 440,289
Claims priority, application Germany, Mar. 26, 1964, F 42,438
Int. Cl. C07c *45/04*
U.S. Cl. 260—604 6 Claims

A process has been provided for the preparation of acetaldehyde by oxidizing ethylene with oxygen in the presence of water and a catalyst which comprises using as a catalyst an elementary precious metal of Group VIII of the Periodic System of the elements according to Mendeleeff. A preferred catalyst is palladium metal per se on an inert carrier substance.

3,439,045

MANUFACTURE OF METHACRYLALDEHYDE

Roger P. Cahoy, Merriam, and Donald M. Coyne, Prairie Village, Kans., assignors to Gulf Oil Corporation, Pittsburgh, Pa., a corporation of Pennsylvania

No Drawing. Continuation of application Ser. No. 208,637, July 9, 1962. This application Feb. 17, 1966, Ser. No. 528,050
Int. Cl. C07c *45/04, 47/20*; B01j *11/22*
U.S. Cl. 260—604 1 Claim

2-methylpropene, not necessarily pure, is oxidized selectively to methacrylaldehyde in vapor phase at elevated temperature over a catalyst consisting of mixed oxides of copper and molybdenum and a minor amount of tellurium oxide on an inert refractory support of low surface area, such as silicon carbide or alumina. The catalyst bed is preferably arranged so as to minimize free space in which noncatalytic reactions may occur and catalyst life is prolonged by replenishment of tellurium oxide, so as to maintain selectivity of catalytic action.

3,439,046

PROCESS FOR OXIDATION OF HYDROCARBYLBORANE COMPOUNDS TO ALCOHOLS

Herbert C. Brown, 1840 Garden St., West Lafayette, Ind. 47906

No Drawing. Continuation of application Ser. No. 221,880, Sept. 6, 1962. This application Apr. 18, 1967, Ser. No. 631,843
Int. Cl. C07c *29/00, 35/08*
U.S. Cl. 260—617 14 Claims

Process for selectively oxidizing a hydrocarbylborane compound having at least one carbon to boron linkage to essentially alcohols by using an alkali metal oxyhalide compound in an aqueous system at a temperature of from about 0° C. to about 200° C. Alkali metal oxyhalide compound may be present in weight ratio to the hydrocarbylborane of from about 1 to 1 to about 100 to 1 and a metal hydroxide may be present also.

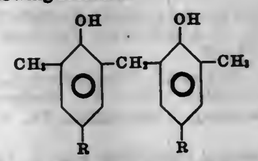
3,439,047

DERIVATIVES OF 2,2'-DIHYDROXY, 3,3'-DIMETHYLDIPHENYLMETHANE AND PROCESS FOR PREPARING SAME

Frank P. Florentine, Jr., Pittsfield, Mass., assignor to General Electric Company, a corporation of New York

No Drawing. Filed Sept. 27, 1965, Ser. No. 490,663
Int. Cl. C07c *37/20, 91/44, 39/12*
U.S. Cl. 260—619 1 Claim

A dimethylol or diamino derivative of a compound having the following formula:



The above formula is either a methylol group —CH_2OH or an amino group, or mixtures thereof. In addition, it is directed to a process for preparing 2,2'-dihydroxy-3,3'-dimethyldiphenylmethane, which process consists of heating o-cresol in the presence of 0.3–5.0 weight percent of an alkaline catalyst such as calcium hydroxide at a temperature of at least 120° C. and then adding a formaldehyde source. In addition, this is also directed to a process for preparing the dimethylol or diamino derivatives of 2,2'-dihydroxy-3,3'-dimethyldiphenylmethane by reacting the intermediate thereof with an excess of formaldehyde at a temperature of at least 60° C. This is then followed by cooling the reaction to room temperature in order to solidify the composition as set forth above.

3,439,048

PROCESS FOR ALKYLATION OF PHENOL

Efim Biller, Fribourg, Switzerland, assignor to Union Rheinische Braunkohlen Kraftstoff Aktiengesellschaft, Wesseling, near Cologne, Germany

No Drawing. Filed Mar. 14, 1966, Ser. No. 533,855
Claims priority, application Germany, Mar. 27, 1965, U 11,566
Int. Cl. C07c *37/16, 37/12*
U.S. Cl. 260—621 1 Claim

The alkylation of phenol with methanol or dimethyl ether in the presence of an aqueous solution of zinc chlo-

ride or zinc bromide as the catalyst to obtain m-cresol-free methyl phenol mixtures containing predominantly o-cresol whereby the catalyst solution contains about 10–60% by weight water and small amounts of hydrogen chloride or hydrogen bromide and the conversion is carried out at 180–250° C. with an amount of alkylating agent lower than the stoichiometric requirement and the molar ratio of methanol, when used, to zinc chloride or zinc bromide being between 1:0.05 to 1 and the molar ratio of dimethyl ether, when used, to zinc chloride or zinc bromide being between 0.5:0.05 to 1.

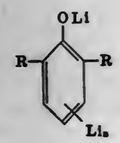
3,439,049

ORGANOLITHIUM POLYMERIZATION INITIATOR

William J. Trepka, Bartlesville, Okla., assignor to Phillips Petroleum Company, a corporation of Delaware

No Drawing. Filed May 11, 1964, Ser. No. 366,588
Int. Cl. C07c *39/06;* C07f *1/02*
U.S. Cl. 260—624 2 Claims

1. A polymerization initiator which is free of associated ether and has the formula



wherein each R is selected from the group consisting of saturated alkyl radicals and saturated cycloalkyl radicals having 1 to 6 carbon atoms and *n* is an integer of 1 to 2.

3,439,050

COLOR-INHIBITED ALCOHOL COMPOSITION FOR PRODUCING PLASTICIZER ESTERS WITH IMPROVED COLOR

Charles Harlan McKeever, Meadowbrook, and Jerome Dohling, Huntingdon Valley, Pa., assignors to Rohm and Haas Company, Philadelphia, Pa., a corporation of Delaware

No Drawing. Original application Sept. 2, 1964, Ser. No. 394,037. Divided and this application Nov. 2, 1967, Ser. No. 680,025
Int. Cl. C07c *29/24, 69/76;* C08f *45/38*
U.S. Cl. 260—632.5 3 Claims

This invention provides a stable, color-inhibited alcohol composition comprising an alcohol selected from the group consisting of branched chain and straight chain alcohols of 8 to 18 carbon atom content, a compound selected from the group consisting of carbonyl and carbonyl-forming compounds in a minor contaminating amount, and a color-inhibiting amount of N,N-dimethylformamide.

3,439,051

2,3-DIHYDRO-1,4-DITHIINS AS STABILIZERS FOR CHLORINATED HYDROCARBONS

Leonard Levine, Lake Jackson, Tex., assignor to The Dow Chemical Company, Midland, Mich., a corporation of Delaware

No Drawing. Filed Jan. 13, 1967, Ser. No. 608,981
Int. Cl. C07d *73/00;* C07c *19/02, 17/42*
U.S. Cl. 260—652.5 8 Claims

2,3-dihydro-1,4-dithiins prepared by the condensation of 1,2-ethanedithiol with α-halocarbonyl compounds are effective stabilizers for chlorinated hydrocarbons such as trichloroethylene and methylchloroform.

3,439,052

FLUOROFORM PRODUCTION

Geir Bjornson, Bartlesville, Okla., assignor to Phillips Petroleum Company, a corporation of Delaware

No Drawing. Filed Oct. 23, 1967, Ser. No. 677,055
Int. Cl. C07c *19/08*
U.S. Cl. 260—653 5 Claims

Fluoroform is produced by the reaction of a chlorotrifluoromethane with hydrogen in a reaction zone substantially free of solid materials other than palladium, platinum, copper, silver, and gold.

3,439,053

α-CHLOROALKYLLITHIUM COMPOUNDS

Donald F. Hoeg, Mount Prospect, Ill., assignor to Borg-Warner Corporation, Chicago, Ill., a corporation of Illinois

No Drawing. Filed May 28, 1965, Ser. No. 459,940
Int. Cl. C07f *1/02*
U.S. Cl. 260—665 6 Claims

A new class of organolithium compounds that are stable mono-, di- and trichloromethyllithium compounds and a method of preparing stable alpha-chloroalkyllithium compounds by reacting polychloromethanes with lower alkyllithium compounds such as N-butyllithium in tetrahydrofuran at low temperatures and preferably below —70° C.

3,439,054

METAL CARBONYL CATALYST AND HYDROGENATION PROCESS THEREFOR

Wolfram R. Kroll, Linden, N.J., assignor to Esso Research and Engineering Company, a corporation of Delaware

No Drawing. Continuation-in-part of application Ser. No. 296,859, July 22, 1963. This application Dec. 8, 1966, Ser. No. 600,032
Int. Cl. C07f *5/06;* C07c *15/00;* B01j *11/22*
U.S. Cl. 260—666 16 Claims

A catalyst formed by the reaction of a transition metal carbonyl and an organo aluminum compound is useful in the hydrogenation of unsaturated organic compounds.

3,439,055

PROCESS FOR THE PREPARATION OF HEXAMETHYL - BICYCLO[2,2,0]HEXADIENE - (2,5) ("HEXAMETHYL-DEWAR-BENZOL")

Wolfgang Schäfer, Marl, Germany, assignor to Chemische Werke Huls Aktiengesellschaft, Marl, Germany, a corporation of Germany

No Drawing. Filed May 1, 1967, Ser. No. 634,825
Claims priority, application Germany, Dec. 14, 1966, C 40,965
Int. Cl. C07c *3/04, 3/18*
U.S. Cl. 260—666 4 Claims

Hexamethyl-bicyclo[2,2,0]hexadiene-(2,5) is made by intimately contacting butine-(2) with a catalyst selected from the group consisting of aluminum chloride, aluminum bromide, alkyl aluminum dichlorides and alkylaluminum dibromides at a temperature within the range from 0 to 50° C. in the presence of an inert solvent.

3,439,056

MACROCYCLIC COMPOUNDS PREPARATION

Nissim Calderon, Akron, Ohio, assignor to The Goodyear Tire & Rubber Company, Akron, Ohio, a corporation of Ohio

No Drawing. Filed Sept. 1, 1967, Ser. No. 664,907
Int. Cl. C07c *3/10, 3/18, 3/12*
U.S. Cl. 260—666 4 Claims

The invention described is one of preparation of unsaturated large ring alicyclic compounds by subjecting unsaturated alcyclic hydrocarbons containing 4 or 5 carbon atoms containing one double bond and unsaturated alicyclic hydrocarbons containing 8 or more carbon atoms

containing at least one carbon-carbon double bond and containing no conjugated double bonds to a catalyst which is a mixture of (a) at least one organometallic compound wherein the metal is from Groups I*a*, II*a*, II*b* and III*a* of the Periodic Table of Elements, (b) at least one metal salt wherein the metal is selected from the group of molybdenum and tungsten and (c) at least one compound of the general formula RYH wherein Y is from the group of oxygen and sulfur and R is a radical selected from the group of hydrogen, alkyl, aryl, aralkyl, alkaryl and alkenyl and when Y is S, R may be a thioalkyl, thioaralkyl and a thioalkaryl and when Y is O, R is an alkoxy, alkaryloxy or a aralkoxy and radicals of alkyl, aryl, aralkyl, alkaryl, and alkenyl which a hydrogen is substituted by a thiol or a hydroxyl group. These unsaturated large ring cycle compounds are useful as intermediates to produce such things as large ring ketones which in turn are useful as perfume bases.

3,439,057

PREPARATION OF MACROCYCLIC COMPOUNDS

Nissim Calderon, Akron, Ohio, assignor to The Goodyear Tire & Rubber Company, Akron, Ohio, a corporation of Ohio

No Drawing. Filed Sept. 1, 1967, Ser. No. 664,947
Int. Cl. C07c *3/00;* C08f *3/02*
U.S. Cl. 260—666 6 Claims

The invention described is one of preparation of unsaturated large ring alicyclic compounds by subjecting, acyclic unsaturated compounds containing at least two non-conjugated double bonds and containing at least 16 carbon atoms, to a catalyst which is a mixture of (a) at least one organo metallic compound wherein the metal is from Groups I*a*, II*a*, II*b* and III*a* of the Periodic Table of Elements, (b) at least one metal salt wherein the metal is selected from the group of molybdenum and tungsten and (c) at least one compound of the general formula RYH wherein Y is from the group of oxygen and sulfur and R is a radical selected from the group of hydrogen, alkyl, aryl, aralkyl, alkaryl and alkenyl and when Y is S, R may be a thioalkyl, thioaralkyl and a thioalkaryl and when Y is O, R is an alkoxy, alkaryloxy or an aralkoxy and radicals of alkyl, aryl, aralkyl, alkaryl, and alkenyl which a hydrogen is substituted by a thiol or a hydroxyl group. These unsaturated large ring alicyclic compounds are useful as intermediates to produce such things as large ring ketones which in turn are useful as perfume bases.

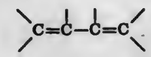
3,439,058

PRODUCTION OF DIENES

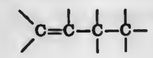
Hubert Charles Bailey, Ealing, London, John Bentley Williamson, Sutton, and Clifford William Capp, Ewell, England, assignors to The Distillers Company Limited, Edinburgh, Scotland, a British company

No Drawing. Filed Sept. 16, 1966, Ser. No. 585,997
Claims priority, application Great Britain, Sept. 17, 1965, 39,675/65
Int. Cl. C07c *5/24*
U.S. Cl. 260—669 18 Claims

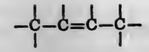
This invention has to do with a process for preparing a chemical compound having the grouping



by reacting at a temperature in the range of 50 to 400° C. an unsaturated compound containing the grouping



or the grouping



and a molecular oxygen containing gas in the presence of a platinum group metal catalyst. A carboxylic acid such as acetic acid may also be present in the reaction system. Gaseous diluents such as carbon dioxide, steam, volatile acids and mixtures thereof may be employed. The platinum group metal catalyst may also contain materials such as multivalent metals, acidic compounds, and mixtures thereof to promote the activity of the catalyst.

3,439,059

PROCESS FOR THE PRODUCTION OF DIVINYLBENZENES FROM DIACETYLBENZENES

Ninel Iosifovna Yakovich, Tverskaya Yamskaya ul. 6, kv. 108; Khachik Egorovich Khcheyan, Prospekt Mira 118–a, kv. 190; Larisa Borisovna Izrael, ul. Gertsent 50/5, kv. 28; Alexei Fedorovich Pavlichev, Nikitinskaya ul. 6, kv. 13; and Nina Nikolaevna Kondtratieva, ul. Alymova 29, kv. I, all of Moscow, U.S.S.R.

No Drawing. Filed Jan. 2, 1968, Ser. No. 694,822
Int. Cl. C07c *15/10, 1/22, 1/24*
U.S. Cl. 260—669 12 Claims

A process for converting diacetylbenzenes to divinylbenzenes in a single-stage reaction in the presence of an alcohol and a $MgO\text{-}MgSO_4$ catalyst at a temperature of 250–400° C.

3,439,060

SELECTIVE REMOVAL OF CYCLOPENTADIENE FROM A MIXTURE CONTAINING AT LEAST ONE OTHER HYDROCARBON

William E. Kempton, Akron, Ohio, assignor to The Goodyear Tire & Rubber Company, Akron, Ohio, a corporation of Ohio

No Drawing. Filed June 21, 1966, Ser. No. 559,077
Int. Cl. C07c *7/02, 7/12*
U.S. Cl. 260—681.5 14 Claims

A method of removing 1,3-cyclopentadiene from a mixture consisting essentially of at least one hydrocarbon and 1,3-cyclopentadiene comprising contacting the said mixture with at least one oxide of a metal selected from the group consisting of copper, chromium and mixtures thereof.

3,439,061

CATALYTIC DEHYDROGENATION OF PARAFFINS

David W. Henderson, San Francisco, and John H. Raley, Walnut Creek, Calif., assignors to Shell Oil Company, New York, N.Y., a corporation of Delaware

No Drawing. Filed Oct. 10, 1966, Ser. No. 585,270
Int. Cl. C07c *5/20, 5/18*
U.S. Cl. 260—683.3 1 Claim

Olefins are prepared by dehydrogenation of paraffins over supported catalysts containing Group VIII noble metal, which is sulfided during initial operation, the catalyst sulfur content being maintained by controlled sulfur addition during subsequent operation.

3,439,062

EPISULFIDE-MODIFIED EPOXIDE POLYMER COMPOSITIONS AND METHOD OF PREPARATION

Stephen Adamek, Islington, Ontario, and Bertie B. J. Wood, Oakville, Ontario, Canada, assignors to The Dunlop Company Limited

No Drawing. Filed June 28, 1966, Ser. No. 561,020
Claims priority, application Great Britain, July 30, 1965, 32,580/65
Int. Cl. C08g *45/06, 30/14*
U.S. Cl. 260—830 20 Claims

Tough, durable, weather-resistant coatings are prepared from novel polymer compositions comprising a mixture of (A) a polymer of an episulfide having from 2 to 4 car-

bon atoms, said polymer having a molecular weight less than 10,000 and at least two reactive terminal groups and (B) an epoxide compound selected from epoxide resins and aliphatic, cycloaliphatic and aromatic compounds having at least two epoxide groups, in the proportions of from 5 to 99 parts by weight of (B) and 100 parts by weight of (A) and (B). These compositions are also useful as adhesives, producing bonds of high shear and tensile strength.

3,439,063

RADIATION INDUCED GRAFTING OF STYRENE/BUTADIENE ONTO A POLYETHYLENE TEREPHTHALATE SUBSTRATE

Patrick J. Reilly, Akron, Ohio, assignor to The Goodyear Tire & Rubber Company, Akron, Ohio, a corporation of Ohio

Filed June 16, 1967, Ser. No. 646,728

Int. Cl. C08f *3/18, 29/10*; C08g *49/04*

U.S. Cl. 260—873 **6 Claims**

When styrene/butadiene is graft polymerized to polyethylene terephthalate tire cord, good cord-rubber adhesion is achieved. Liquid monomers produce higher grafts per dose with cord while amorphous fibers graft more efficiently with the vapor phase monomer. The graft level and ultimate cord-rubber adhesion are maximized at feed levels of approximately 40% butadiene. Maximum adhesion is achieved at low graft levels. This surface or boundary property adhesion is maximized by grafting with accelerated electrons (minimum penetration) rather than gamma radiation (deep penetration).

3,439,064

LAMINATING VARNISH CONSISTING OF LOW VISCOSITY, CURABLE BLOCK COPOLYMER

Henry S. Makowski, Scotch Plains, and Merrill Lynn, Elizabeth, N.J., assignors to Esso Research and Engineering Company, a corporation of Delaware

No Drawing. Filed Jan. 11, 1965, Ser. No. 424,829

Int. Cl. C08d *3/02*; C08f *1/56, 15/04*

U.S. Cl. 260—879 **5 Claims**

A non-blocking, low viscosity, heat curable block copolymer having the configuration A–B wherein A is a polymer block of one C_4–C_8 conjugated diolefin and B is a polymer block of one vinyl compound chosen from the group consisting of styrene, x-methyl styrene, paramethyl styrene, 3,4-dimethyl styrene, acrylnitrile, methyl methacrylate and vinyl chloride, which copolymer composition has particular utility as a laminating varnish.

3,439,065

BULK POLYMERIZATION OF VINYL AROMATIC COMPOUNDS IN PRESENCE OF A MINOR AMOUNT OF WATER

Murray A. Luftglass, Palos Verdes Peninsula, Calif., assignor to Shell Oil Company, New York, N.Y., a corporation of Delaware

Continuation-in-part of application Ser. No. 95,877, Mar. 15, 1961. This application Apr. 30, 1965, Ser. No. 453,886

Int. Cl. C08f *1/04, 1/11*

U.S. Cl. 260—880 **6 Claims**

An improved non-catalyzed, non-ionic bulk polymerization process in which part of the heat of polymerization is removed from the reaction mass by evaporative cooling, the improvement consisting of maintaining in the polymerization zone a controlled small amount of water.

3,439,066

DYEABLE POLYPROPYLENE FIBERS CONTAINING COPOLYMERS OF ACRYLATES, METHACRYLATES, VINYL PYRIDINES AND N-SUBSTITUTED ACRYLAMIDES

Harry W. Coover, Jr., and Frederick B. Joyner, Kingsport, Tenn., assignors, by mesne assignments, to Uniroyal, Inc., a corporation of New Jersey

No Drawing. Continuation of application Ser. No. 6,598, Feb. 4, 1960. This application Apr. 18, 1966, Ser. No. 543,437

The portion of the term of the patent subsequent to Nov. 10, 1981, has been disclaimed and dedicated to the Public.

Int. Cl. C08f *29/12*

U.S. Cl. 260—895 **34 Claims**

Polypropylene fibers and articles of excellent dye affinity are provided by blending amorphous copolymers of acrylate, methacrylate, vinly pyridine and N-substituted acrylamide monomers with copolymerizable ethylenically unsaturated monomers.

3,439,067

PHOSPHORUS-CONTAINING REACTION PRODUCT OF AN ACID OF PHOSPHORUS, TETRAHYDROFURAN AND AN ALKYLENE OXIDE

Arthur L. Austin and Robert J. Hartman, Southgate, and John T. Patton, Jr., Wyandotte, Mich., assignors to Wyandotte Chemicals Corporation, Wyandotte, Mich., a corporation of Michigan

No Drawing. Filed Dec. 10, 1965, Ser. No. 513,106

Int. Cl. C07f *9/02*; C08g *51/50*; C09k *3/28*

U.S. Cl. 260—920 **10 Claims**

Phosphorus-containing products are prepared by the reaction of an acid of phosphorus having a P_2O_5 equivalency of from about 62% to 100% with tetrahydrofuran and, optionally, an alkylene oxide. These products are particularly useful in the preparation of polyurethane foams.

3,439,068

PROCESS FOR STABILIZING A POLYOL PHOSPHORUS BY ADDING LIMONENE DIOXIDE, VINYLCYCLOHEXENE DIOXIDE OR DICYCLODIEPOXY CARBOXYLATE AND COMPOSITION

Harry E. Hill, Wallingford, and Donald W. Kaiser, Hamden, Conn., assignors to Olin Mathieson Chemical Corporation, a corporation of Virginia

No Drawing. Filed May 21, 1965, Ser. No. 457,830

Int. Cl. C07f *9/08*; C08g *22/08*; C08k *1/60*

U.S. Cl. 260—928 **8 Claims**

Polyethers are prepared by reacting a concentrated phosphoric acid compostion with an organic hydroxy compound containing between about 3 and 10 hydroxyls in the presence of a solvent, reacting the resulting reaction product with an alkylene oxide to effect oxyalkylation thereof. Excess solvent and excess alkylene oxide are separated from the oxyalkylated phosphorus compound. A stabilizing proportion of an epoxide selected from the group consisting of limonene dioxide, vinylcyclohexene dioxide, dicyclodiepoxy carboxylate, and mixtures thereof, is admixed with the oxyalkylated phosphorus compound to permit storage for extended periods. The resulting oxyalkylated phosphorus compound is reacted with an organic isocyanate in the presence of a foaming agent and a catalyst to yield a urethane foam having flame resisting properties.

3,439,069

MONOPHOSPHORIC ACID ESTERS OF HALOGEN CONTAINING 2,2'-METHYLENEDIPHENOLS

Samuel Van Der Meer, Amstelveen, and Hendrik Pouwels, Amsterdam, Netherlands, assignors to ACF (Amsterdam Chemie Farmacie) N.V., Amsterdam, Netherlands, a limited-liability company of the Netherlands

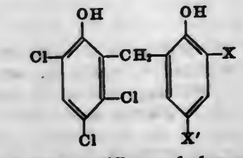
No Drawing. Filed July 9, 1965, Ser. No. 470,885

Claims priority, application Netherlands, July 11, 1964, 6407946

Int. Cl. C07f *9/08*; A61k *27/00*

U.S. Cl. 260—953 **3 Claims**

The monophosphoric acid esters of compounds having the formula



in which X and X' are different halogens selected from the group consisting of chlorine, bromine and iodine, are particularly suited for the treatment of fascioliasis, liver rot or liver-fluke infections.

3,439,070

PROCESS FOR PREPARING ALKYL ESTERS OF O,O - DIALKYLDITHIOPHOSPHORYL - α - PHENYLACETIC ESTERS

Giuseppe Losco, Giorgio Rossi, Nicola Troiani, and Romano Santi, Milan, Italy, assignors to Montecatini Edison S.p.A., Milan, Italy, a corporation of Italy

No Drawing. Filed Nov. 26, 1965, Ser. No. 510,079

Claims priority, application Italy, Nov. 26, 1964, 25,292/64

Int. Cl. C07f *9/16*

U.S. Cl. 260—971 **10 Claims**

This invention relates to a process of preparing alkyl esters of O,O-dialkyldithiophosphoryl-alpha-phenylacetic acids and particularly the O,O-dimethyl and O,O-diethyl esters. This consists of reacting an alkaline metal or ammonium salt of O,O-dimethyl- or O,O-diethyl-dithiophosphorirc acid with an alpha-halo-phenylacetic acid. The O,O-dimethyl- or O,O - diethyldithiophosphoryl - phenylacetic acid thus obtained is then esterified with an alcohol. Compounds wherein R is CH_3, when prepared according to the process of the invention, have a lower toxicity toward warm-blooded animals than products obtained according to known processes.

3,439,071

METHOD FOR DEODORIZING O,O-DIALKYL S-(ALKYLTHIO)ALKYL PHOSPHORODITHIOATES

Alfred Finlay Marks, Trenton, and Armin Wolfgang Brahm, Robbinsville, N.J., assignors to American Cyanamid Company, Stamford, Conn., a corporation of Maine

No Drawing. Filed June 30, 1966, Ser. No. 561,699

Int. Cl. C07f *9/16*; A01n *9/36*

U.S. Cl. 260—989 **1 Claim**

A method for deodorizing mercaptan-containing, organic dithiophosphates. The organic dithiophosphates are pesticides.

3,439,072

METHOD OF PRE-HEATING A REFRACTORY LINED VESSEL

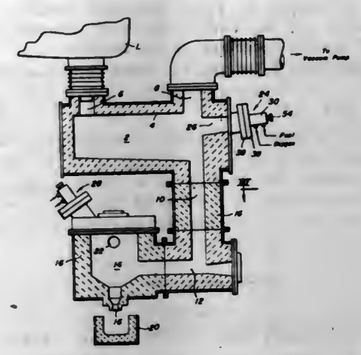
Richard E. Lyman, Homewood, Ill., assignor to United States Steel Corporation, a corporation of Delaware

Filed May 23, 1967, Ser. No. 640,749

Int. Cl. F27d *1/16*

U.S. Cl. 263—52 **9 Claims**

A method of preheating a refractory lined vessel prior to receiving molten steel in which a mixture of fluid hydrocarbon fuel and oxygen is burned within the vessel with the oxygen-to-fuel ratio being maintained sufficiently low to produce combustion products which will be reducing to iron oxides at the temperature within the vessel. Thus, there will be no molten iron oxide to dissolve the refractory lining.



3,439,073

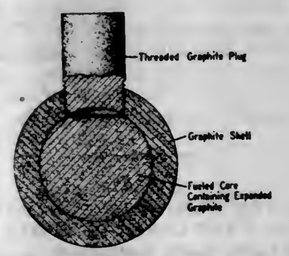
METHOD OF MANUFACTURING FUEL ELEMENTS

Ronald A. Howard and Arnold A. Kellar, Lawrenceburg, Tenn., and Joseph T. Meers, Cleveland, Ohio, assignors to Union Carbide Corporation, a corporation of New York

Continuation-in-part of application Ser. No. 388,267, Aug. 7, 1964. This application Dec. 15, 1966, Ser. No. 602,054

Int. Cl. C21c *21/02*

U.S. Cl. 264—.5 **8 Claims**



A process for making nuclear fuel elements having a fueled core and an unfueled rigid graphite exterior shell which comprises the steps of preparing a fueled core mixture containing a nuclear fuel material, a high temperature matrix material, expanding graphite and a carbonizable binder; incorporating said mixture within a rigid graphite shell; heating the resulting composite when a thermosetting binder is employed to cure the binder, and then baking the composite at a temperature sufficient to carbonize the binder and expand the expanding graphite.

The use of expanding graphite in the core of the fuel element provides for continuous contact between the core and outer graphite shell by overcoming the shrinkage which occurs when the fueled core is placed in the solid graphite exterior shell and baked to carbonize the binder.

3,439,074

METHOD FOR PREPARING DESALINATION MEMBRANES

Allan Sharples and William Banks, Edinburgh, Scotland, assignors, by direct and mesne assignments, of one-half each to Arthur D. Little Research Institute, Iveresk, Scotland, and the United States of America as represented by the Secretary of the Interior

No Drawing. Filed Oct. 1, 1965, Ser. No. 492,341
Int. Cl. B29d 27/00
U.S. Cl. 264—41 10 Claims

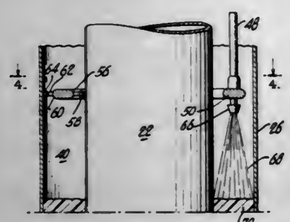
Reverse osmosis membranes are produced by dissolving a cellulosic ester and a swelling agent in an organic solvent, casting the solution in a thin film on a smooth surface, evaporating a portion of the organic solvent at 15° C. or more immersing the membrane in water and heating in water to about 70 to 75° C.

3,439,075

METHOD FOR INSULATING PIPES

Richard H. Bauer, West Caldwell, and Richard Kilpert, Berkeley Heights, N.J., assignors to Esso Research and Engineering Company, a corporation of Delaware

Filed May 23, 1966, Ser. No. 552,196
Int. Cl. B28b 21/42; B29d 27/02
U.S. Cl. 264—45 4 Claims



A method of pouring a foamable plastic insulation between inner and outer pipes held in a vertical position wherein an insulation filling ring is lowered to the bottom of the space and gradually raised. The filling ring ejects plural streams of foamable plastic and functions to concentrically space the pipes and may be either oscillated or rotated as it is raised. The interior of the inside pipe is heated throughout its length during the foam filling process.

3,439,076

PROCESS FOR PREPARING CONCRETE TILES HAVING A TOP LAYER OF EPOXY RESIN

Hendrikus J. Loois, Delft, Netherlands, assignor to Shell Oil Company, New York, N.Y., a corporation of Delaware

No Drawing. Filed Nov. 9, 1966, Ser. No. 593,003
Claims priority, application Netherlands, Nov. 15, 1965, 6514788
Int. Cl. B28b 1/08, 1/04
U.S. Cl. 264—69 12 Claims

1. In a process for the manufacture of articles having a plastic top layer and a concrete base layer with simultaneous curing of the two layers, in which process a liquid layer containing an epoxy resin and a curing agent is first applied in a mold and concrete is poured onto said layer and is compacted before the resin is cured, the improvement which comprises cooling by at least 30° C. the layer applied in the mold and containing epoxy resin and curing agent, fresh concrete being then poured on it and both layers being substantially cured simultaneously.

3,439,077

PROCESS FOR MAKING PLASTIC ARTICLES HAVING DECORATIVE SURFACE EFFECTS

Daniel A. Fischler, New Hyde Park, N.Y., assignor to Emsig Manufacturing Corp., New York, N.Y., a corporation of New York

Filed June 9, 1966, Ser. No. 556,430
Int. Cl. B29c 9/00
U.S. Cl. 264—73 12 Claims



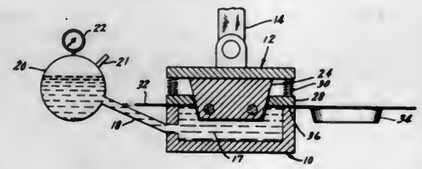
The method of forming a three-dimensional surface effect on a plastic article which includes the step of heterogeneously intermixing batches of resin, causing the resin of one batch to assume flow characteristics differing from the resin of the other batch, and applying to at least one surface of the batches a force which will texture or three-dimensionally pattern said surface by reason of the differential responsiveness of the batches to the deforming force.

3,439,078

PROCESS FOR STAMPING THERMOPLASTIC ELEMENTS

Carlton L. Whiteford, Stamford, Conn., assignor to Poly-Pak Corporation of America, Springdale, Conn., a corporation of Delaware

Filed Feb. 16, 1967, Ser. No. 616,563
Int. Cl. B29f 5/00; B29c 3/00
U.S. Cl. 264—88 11 Claims



A high-speed thermoforming process is provided wherein preheated thermoplastic sheet material is clamped and rapidly forced by a male mold member into a liquid medium which simultaneously forms the sheet material about the mold member and rapidly chills the formed part. In this manner, partial orientation of the molecules may be achieved in a high-speed process of forming from sheet material of little or no orientation.

3,439,079

MOLDING HOLLOW ARTICLES

Francis C. McDowell, Pittsfield, Mass., assignor to General Electric Company, a corporation of New York

No Drawing. Filed May 16, 1966, Ser. No. 550,118
Int. Cl. B29c 5/04
U.S. Cl. 264—102 6 Claims

A process is provided for preparing a hollow article of a thermoplastic polymer wherein the process requires partially filling a cavity with a thermoplastic polymer wherein the mold can be sealed and sealing the mold. A vacuum is then applied to the mold cavity and the thermoplastic polymer is heated to a temperature above its melting point while the mold is simultaneously rotated. The vacuum is released while the mold is rotated and the rotation is continued until a smooth continuous coating of the inner surfaces of the mold is obtained. The mold is then cooled and the molded article is removed therefrom. The above process is particularly adapted to preparing articles of an aromatic polycarbonate or a styrene homopolymer. The vacuum may be released to the atmospbere or to an inert gas.

3,439,080

PROCESS FOR IMPROVING ELECTRICAL AND THERMAL CONTACTS

Leonard M. Vaught and Lee Roy Cervenka, Lake Jackson, Tex., assignors to The Dow Chemical Company, Midland, Mich., a corporation of Delaware

No Drawing. Filed Apr. 4, 1966, Ser. No. 539,634
Int. Cl. C04b 35/54
U.S. Cl. 264—105 7 Claims

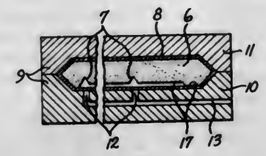
This invention relates to a method for improving the electrical and thermal efficiency of electrical and thermal contact surfaces, such as between clamps and electrodes, which comprises inserting malleable graphite between such surfaces in a quantity which is at least sufficient to occupy any areas of such surface where there is otherwise no contact.

3,439,081

METHOD OF MOLDING A MATERIAL TO PREVENT PLUGGING OF VENT HOLES IN THE DIE

Hans-Carl Enderlein, Essen, Germany, assignor to PAG Presswerk AG, Essen, Germany

Filed Jan. 13, 1966, Ser. No. 520,437
Int. Cl. D04b 1/20
U.S. Cl. 264—112 9 Claims



A method of preventing molding material of comminuted wood fiber and resin from expanding and clogging vent holes in a die by a two-step process. The first step is to form the molding material into a blank having recesses which will be aligned with the vent holes. The blank is formed in a first compression die which has projections which form the recesses. The blank is then placed in a second molding die which heats and compresses the blank. The recess in the blank align with the vent holes in the second die.

3,439,082

PROCESS OF MAKING MOLDED ARTICLES OF A THERMALLY STABLE POLYIMIDE

Jack Lendymore Riley, Sutton Coldfield, England, assignor to Imperial Chemical Industries Ltd., London, England, a corporation of Great Britain

No Drawing. Filed Nov. 15, 1965, Ser. No. 507,683
Claims priority, application Great Britain, Nov. 25, 1964, 47,977/64
Int. Cl. C07g 3/00; C08g 20/32; B29
U.S. Cl. 264—126 10 Claims

A process for making molded articles of a thermally stable polyimide which comprises compacting a polyamic acid powder and heating the compact so formed at a temperature between 250° C. and 400° C. to sinter it and convert the polyamic acid into the polyimide.

The charge to be compacted may consist entirely of unconverted polyamic acid, but preferably it also contains polyimide, and the proportion of polyamic acid can then be quite low, for example 5–30% by weight. The polyamic acid is in powder form, i.e., as particles consisting of polyamic acid (which may be mixed with particles of polyimide) or as particles of polyimide coated with polyamic acid.

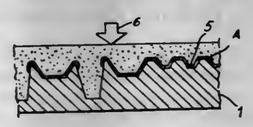
The compacting pressure should be chosen so that the compressed charge contains substantially no interstices between the particles. A compacting pressure between 1½ and 6 kg./mm.² will usually suffice and a pressure of 4½–5 kg./mm.² is preferred at room temperature.

3,439,083

PROCESS FOR MANUFACTURE OF A MAT OR CARPET LIKE THE TWO-COLOUR RUBBER MATS MOLDED

Ugolino Ugolini, Via Pistoiese, 247, Florence, Italy

Filed June 15, 1966, Ser. No. 557,825
Int. Cl. B29c 9/00; B32b 31/20
U.S. Cl. 264—139 2 Claims



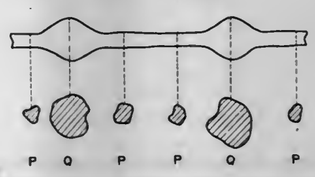
A process for the manufacture of a two-color mat or carpet including the steps of preparing a die having a surface machined with relatively deep recesses and relatively shallow recesses, the shallow recesses flanking the deep recesses. Pressing moldable material of one color in the deep recesses thereby forming ribs of one color, and pressing moldable material of another color in the shallow recesses, the material of said one color being superimposed on the material of the other color. The shallow recesses form ribs of another color.

3,439,084

THICK AND THIN YARN AND PROCESS FOR THE PREPARATION THEREOF

Terumichi Ono, Shigeru Mizutani, and Hazime Arai, Nishi-ku, Nagoya, Japan, assignors to Toyo Rayon Kabushiki Kaisha, Tokyo, Japan, a corporation of Japan

Filed Aug. 4, 1966, Ser. No. 570,200
Claims priority, application Japan, Aug. 9, 1965, 40/48,037; Nov. 15, 1965, 40/69,783; July 22, 1966, 41/47,670
Int. Cl. D01d 5/20
U.S. Cl. 264—167 4 Claims



A process for the preparation of thick and thin yarn characterized by the following properties:

(a) the ratio of the cross sectional area of the basic drawn filament parts to that of enlarged parts is 1:2–1:15;
(b) the enlarged parts are present with the frequency of at least 1 per 30 mm. along the yarn length; and
(c) the modified configuration of the cross section is substantially continuous along the length of the yarn,

such process comprising extruding a molten filament-forming synthetic polymer, e.g. linear polyamide through a spinneret under the condition to exert such shear stress that melt fracture occurs at the frequency of 10^3 to 10^4 order per second and under conditions of non-quenching

such that there will be no substantial solidification of the as-spun yarn until the point at which the drafting of the yarn starts.

3,439,085

PROCESS FOR THE PRODUCTION OF NON-WOVEN ELASTIC POLYURETHANE FABRIC

Ludwig Hartmann, Lutzelsachsen, Germany, assignor to Carl Freudenberg Kommanditgesellschaft auf Aktien, Weinheim an der Bergstrasse, Germany, a corporation of Germany

No Drawing. Continuation-in-part of application Ser. No. 341,489, Jan. 27, 1964. This application Oct. 21, 1964, Ser. No. 405,617
Claims priority, application Germany, Oct. 25, 1963, F 41,089
Int. Cl. D01f 7/06; D06m 3/24
U.S. Cl. 264—210 4 Claims

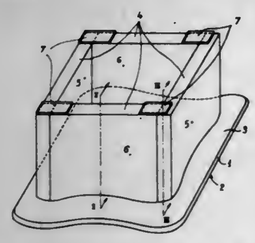
1. Process for the production of non-woven elastic fabric, which comprises fusing a cross-linkable polyurethane mass; melt-spinning said fused mass into a multiplicity of substantially endless filaments; air-drawing said substantially endless filaments while maintaining said filaments in a hot and tacky state, whereby the molecules of said filaments are oriented in the direction of the axis of said filaments; laying said hot, tacky oriented substantially endless filaments on a supporting surface; cross-linking said substantially endless filaments by means of moisture in said air; and welding said substantially endless polyurethane filaments to other such filaments by means of its tackiness, wherein said filaments become solid and non-tacky after said welding.

3,439,086

REFERENCE DEVICES FOR TOOLS OF CUTTING, STAMPING AND SWAGING PRESSES

Gaëtan de Coye de Castelet, Billancourt, France, assignor to Regie Nationale des Usines Renault, Billancourt, France

Filed June 27, 1966, Ser. No. 560,450
Claims priority, application France, July 6, 1965, 23,682
Int. Cl. B29c 1/02
U.S. Cl. 264—219 6 Claims



A reference device comprising a profiled plate corresponding to a model and a frame having the plate mounted thereon. The plate is preferably formed of a mixture of polyepoxid and glass fibers. The frame is preferably made from expanded polystyrene. The plate and frame are integrally bonded together with a layer of epoxid resin and glass fibers.

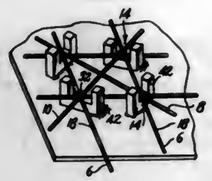
3,439,087

METHOD OF MAKING MEMORY CORE PLANE

Edward A. Ledeen, Teaneck, N.J., assignor to Electronic Research Corporation, Hagerstown, Md., a corporation of Maryland

Filed July 27, 1966, Ser. No. 568,301
Int. Cl. B29d 3/00
U.S. Cl. 264—255 4 Claims

A core plane for a memory device is formed by arranging wires in a holder in the desired grid formation having a plurality of intersections. The grid is then invested in a mold material and annular cavities are formed in the material around each intersection. The cavities are then filled with magnetic material to form a memory core around each intersection.



3,439,088

COSMETIC PREPARATIONS—WAX ROUGE AND FOUNDATION MAKE-UP

Walter W. Edman, Port Washington, N.Y., assignor to Esso Research and Engineering Company, a corporation of Delaware

No Drawing. Filed June 16, 1964, Ser. No. 375,625
Int. Cl. A61k 7/02
U.S. Cl. 424—63 9 Claims

A hydrocarbon solvent having at least 85 wt. percent isoparaffins and having a boiling range of about 360° F. to 428° F. in combination with cosmetic powders and waxes produce a high quality facial cosmetic composition. The function of a hydrocarbon solvent in a cosmetic composition is to aid in the application of powders and waxes to desired areas of the skin. The solvent then evaporates leaving the cosmetic ingredients on the face in the desired amounts. Heretofore, solvents used for this purpose had unwanted odors and did not evaporate in a reasonable length of time. The solvent of this invention is superior to those previously known in that it is odorless, non-iritating and evaporates quickly upon application.

3,439,089

MEDICATED HARD CANDY

Max A. Cherkas, Philadelphia, and Ellwood T. Martin, Jr., Blue Bell, Pa., assignors to Merck & Co., Inc., Rahway, N.J., a corporation of New Jersey

No Drawing. Continuation-in-part of application Ser. No. 343,128, Feb. 6, 1964. This application Mar. 27, 1968, Ser. No. 716,362
Int. Cl. A61k 27/00
U.S. Cl. 424—78 3 Claims

An exceptionally large amount of a solid medicament can be incorporated in a lozenge of the hard candy type by adding the medicament to a solid polyethylene glycol and heating to a liquid state and mixing them and then incorporating this in the hard candy base.

3,439,090

METHOD FOR EXTRACTING THE ANTIBIOTIC LEVORIN FROM A CULTURE MEDIUM

Valjter Osvaljdovich Kuljbakh, Leonid Borisovich Sokolov, and Jury Fedorovich Sveshnikov, Leningrad, and Olja Alexandrovna Kuznetsova and Galina Nickolaevna Malinovskaja, Penza, and Valentina Jakovlevna Raigorodskaja and Galina Vasiljevna Kholodova, Leningrad, U.S.S.R., assignors to Leningradsky nauchno-issledovateljsky institute antibiotikov, Leningrad, U.S.S.R.

No Drawing. Filed June 4, 1964, Ser. No. 373,137
Int. Cl. A61k 21/00; C07g 11/00
U.S. Cl. 424—124 9 Claims

A method for extracting the antibiotic levorin from a culture medium in which the organism *Actinomyces levoris* Kras., strain 26/1 has been grown.

The method comprises adding a diatomite to the culture medium, adjusting the pH to 5.5–5.8, thereby causing the levorin and impurities to be adsorbed on the diatomite. The diatomite precipitates and is separated from the medium, after which the diatomite is treated with methylene chloride to extract impurities. Then the diatomite is treated with a lower alkanol or ketone to extract levorin therefrom.

3,439,091

METHOD OF TREATMENT WITH MODIFIED TETRACYCLINE COMPOUNDS AND COMPOSITION THEREFOR

Carlos Ferrer Salat, Lauria 29, Jorge Ferrer Battles, Vallmajo 18, and Juan Colome Riera, San Elias 34, all of Barcelona, Spain

No Drawing. Original application Sept. 15, 1965, Ser. No. 487,573. Divided and this application Nov. 29, 1967, Ser. No. 686,714
Claims priority, application France, Sept. 15, 1964, 988,203
Int. Cl. A61k 21/00; C07g 11/00
U.S. Cl. 424—177 7 Claims

Method of treating a patient suffering from an infectious process sensitive to tetracycline comprising administering to the patient effective doses of a compound of the formula A—CH_2—P wherein A is selected from the group consisting of tetracycline, oxytetracycline and chlortetracycline, and wherein P is a carnosine residue.

The invention also embraces a pharmaceutical preparation comprising a compound of the type indicated in a pharmaceutically acceptable carrier therefor.

3,439,092

CONTROL OF FUNGI WITH O,O-DIETHYL-S-TRICHLOROMETHYLPHOSPHORODITHIOATE

Ralph B. Fearing, Hammond, Ind., and Malcolm B. McClelland, San Jose, Calif., assignors to Stauffer Chemical Company, New York, N.Y., a corporation of Delaware

No Drawing. Original application Oct. 7, 1964, Ser. No. 402,327, now Patent No. 3,391,230, dated July 2, 1968. Divided and this application Feb. 14, 1968, Ser. No. 724,307
Int. Cl. A01n 9/36
U.S. Cl. 424—225 1 Claim

This invention concerns the control of fungi with O,O-diethyl-S-trichloromethylphosphorodithioate.

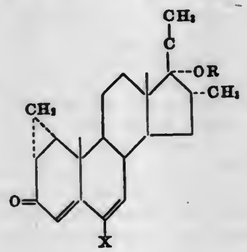
3,439,093

6 - HALOGEN - 1α,2α - METHYLENE - 16α - METHYL - $\Delta^{4,6}$ - PREGNADIENE - 17α - OL - 3,20 - DIONES AND THE 17-ESTERS

Josef Hader, Friedmund Neumann, and Rudolf Wiechert, Berlin, Germany, assignors to Schering AG, Berlin, Germany

No Drawing. Filed Oct. 12, 1965, Ser. No. 495,341
Claims priority, application Germany, Oct. 13, 1964, Sch 35,945
Int. Cl. A61k 17/06
U.S. Cl. 424—243 11 Claims

A compound of the formula



wherein R is a member selected from the group consisting of hydrogen and carboxylic acyl and X is a member selected from the group consisting of chlorine and fluorine.

A specific example of the compound is 6-chlor-1α,2α-methylene - 16α - methyl - $\Delta^{4,6}$-pregnadiene-17α-ol-3,20-dione.

The compound has strong progestational and ovulation inhibiting effects.

3,439,094

ANALGESIC COMPOSITIONS CONTAINING NAMOL XENYRATE, CAFFEINE AND ACETYL-p-AMINOPHENOL

Jane F. Emele, Morris Plains, N.J., assignor to Warner-Lambert Pharmaceutical Company, Morris Plains, N.J., a corporation of Delaware

No Drawing. Continuation-in-part of application Ser. No. 465,414, June 21, 1965. This application July 20, 1967, Ser. No. 654,684
Int. Cl. A61k 27/00
U.S. Cl. 424—253 3 Claims

The present invention relates to a novel method for producing analgesia in mammals by the oral administration of a combination containing the combination of namol xenyrate, acetyl-p-aminophenol and caffeine in the relative proportions of about 1 part by weight of namol xenyrate to about 1 part by weight of caffeine and 1 part by weight of acetyl-p-aminophenol.

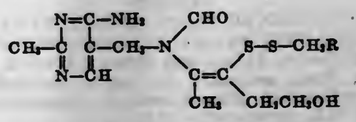
3,439,095

INCREASING EGG PRODUCTION IN POULTRY BY ADMINISTERING POULTRY FEEDING THIAMINE DERIVATIVES AND POULTRY FEED COMPOSITIONS CONTAINING SAID DERIVATIVES

Yoshio Hamada, Tokyo, and Motohisa Yoshino, Osaka, Japan, assignors to Takeda Chemical Industries, Ltd., Osaka, Japan

No Drawing. Filed Dec. 28, 1965, Ser. No. 517,115
Claims priority, application Japan, Dec. 29, 1964, 39/74,887
Int. Cl. A61k 27/00; A23k 1/16
U.S. Cl. 424—255 6 Claims

A method for elevating the rate of egg production, fertility and hatchability of poultry comprises the feeding of the poultry with a compound of the formula



wherein R is a member selected from the group consisting of alkyl having up to 6 carbon atoms, tetrahydrofuryl and tetrahydropyranyl, in feedstuff, the amount of compound being 5 to 100 milligrams per kilogram of a feedstuff.

3,439,096

METHOD OF IMPROVING MICROCIRCULATION AND TREATING SENILITY WITH BETA-(PYRIDYL LOWER ALKYL)-AMINES

Spencer M. Fossel, Morristown, N.J., assignor to Unimed, Inc., Morristown, N.J.

No Drawing. Filed Sept. 9, 1965, Ser. No. 486,237
Int. Cl. A61k 27/00
U.S. Cl. 424—263 8 Claims

This invention relates to the improving of microcirculation and to the treatment of senility, and more partiularly to oral treatments to treat microcirculation and senility, according to which invention a beta-(2-pyridyl-lower alyl)-amine is administered in order to achieve these results.

3,439,097
COMPOSITIONS AND A METHOD FOR THE PREVENTION AND CONTROL OF HISTOMONIASIS WHICH EMPLOY A 5-NITROIMIDAZOLE AND A BENZENEARSONIC ACID
Robert D. Vatne and Robert R. Baron, Charles City, Iowa, assignors to Salsbury Laboratories, a corporation of Iowa
No Drawing. Continuation-in-part of application Ser. No. 479,601, Aug. 13, 1965. This application Jan. 29, 1968, Ser. No. 701,133
Int. Cl. A61k 27/00
U.S. Cl. 424—273 10 Claims

An improved remedy for the prevention and control of histomoniasis. The remedy consists of a synergistic composition which comprises a mixture of a 5-nitroimidazole as the active ingredient and a benzenearsonic acid as synergizer. The composition is administered to gallinaceous fowl in medicated feed rations which are consumed by the birds ad libitum.

3,439,098
TRIBUTYLTIN MOLLUSCICIDES
Ashley H. Freiberg, Santa Clara, Calif., assignor to Stauffer Chemical Company, New York, N.Y., a corporation of Delaware
No Drawing. Filed Dec. 9, 1964, Ser. No. 417,207
Int. Cl. A01m 9/12, 9/24
U.S. Cl. 424—288 7 Claims

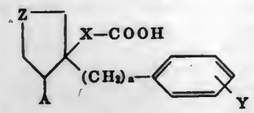
The method of combating snails by contacting them with an effective amount of a compound of the formula



wherein the lower alkyl groups contain from 1 to 6 carbon atoms, inclusive; X is oxygen or sulfur; R is methyl, chloromethyl, chloroethyl, bromomethyl, bromoethyl, chloro-1,3-butadienyl, heptadecatrienyl, nitro-substituted benzyl, phenyl or phenyl substituted with a member from the group of lower alkyl, nitro or amino. Representative compounds are tri-i-butyltin-1-chloropropionate, tri-n-butyltin thioacetate, tri-i-butyltin thiobenzoate, tri-n-butyltin linolenate, and tri-n-butyltin 4-nitrophenylacetate. Representative gastropods controlled by this method are *Helisoma tenut,* Philippi and *Helisoma subscrenatum* Carpenter.

3,439,099
STIMULATION OF FLOW OF BILE BY SUBSTITUTED CYCLOALKANE-ALKANOIC ACIDS
Raffaello Fusco, Milan, and Franco Tenconi, Monza, Milan, Italy, assignors, by mesne assignments, to Warner-Lambert Pharmaceutical Company, Morris Plains, N.J., a corporation of Delaware
No Drawing. Filed Apr. 27, 1964, Ser. No. 362,959
Claims priority, application Italy, Apr. 29, 1963, 34,493
Int. Cl. A61k 27/00
U.S. Cl. 424—317 5 Claims

1. A method for stimulating the flow of bile in animals in need of such stimulation comprising administering daily to said animal from 30 to 900 mg. of a compound selected from the group consisting of (a) a 1-substituted cycloalkane alkanoic acid having the formula



wherein X is a member selected from the group consisting of alkylene chain of from 1 to 4 carbon atoms and alkylene chain of 1 to 4 carbon atoms substituted by lower alkyl, Z is selected from the group consisting of methylene and ethylene, A is selected from the group consisting of ketonic oxygen and hydroxy, Y is selected from the group consisting of hydrogen, chloro, fluoro and alkoxy containing from 1 to 3 carbon atoms in the alkyl group and *n* is selected from 0 and the integer 1; (b) a therapeutically acceptable salt thereof and (c) nontoxic methyl or ethyl ester thereof.

3,439,100
PREVENTING INFLUENZA INFECTIONS WITH BICYCLO(2.2.2)OCTANE-2-METHYLAMINE
Alfred W. Chow, Radnor, Pa., assignor to Smith Kline & French Laboratories, Philadelphia, Pa., a corporation of Pennsylvania
No Drawing. Filed Aug. 9, 1966, Ser. No. 571,185
Int. Cl. A61k 27/00; C07c 87/40
U.S. Cl. 424—325 8 Claims

Bicyclo[2.2.2]octane-2-methylamine and the α-methyl derivative, or salts thereof, are prepared, formulated and administered to animals to combat influenza infections.

3,439,101
BICYCLO[3.2.1]OCTANE AMINES AS ANTI-INFLUENZA AGENTS
Alfred W. Chow, Radnor, Pa., assignor to Smith Kline & French Laboratories, Philadelphia, Pa., a corporation of Pennsylvania
No Drawing. Filed Aug. 9, 1966, Ser. No. 571,189
Int. Cl. A61k 27/00; C07c 87/40
U.S. Cl. 424—325 8 Claims

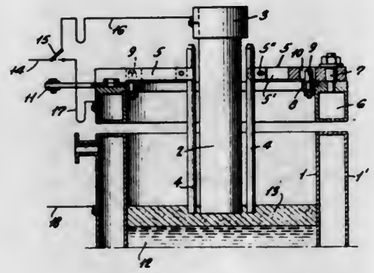
Bicyclo[3.2.1]octanes, substituted with an amino, aminomethyl, or α-aminoethyl group, are prepared, formulated, and administered to warm-blooded mammals to combat influenza infections.

3,439,102
PREVENTING INFLUENZA INFECTION WITH AMINOBICYCLO[3.2.2]NONANES
Alfred W. Chow, Radnor, Pa., assignor to Smith Kline & French Laboratories, Philadelphia, Pa., a corporation of Pennsylvania
No Drawing. Continuation-in-part of application Ser. No. 507,057, Nov. 9, 1965. This application Aug. 10, 1966, Ser. No. 571,430
Int. Cl. A61k 27/00; C07c 87/40
U.S. Cl. 424—325 7 Claims

Amino, aminomethyl, and α-aminoethylbicyclo[3.2.2]nonanes and their salts are prepared, formulated, and administered to animals to combat influenza infections.

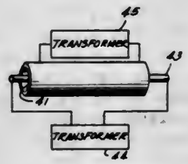
ELECTRICAL

3,439,103
ELECTRODE ASSEMBLY FOR ELECTRIC SLAG MELTING
Wolfgang Holzgruber, Othmar Kleinhagauer, and Fritz Schwanter, Kapfenberg, Austria, assignors to Gebr. Bohler & Co. Aktiengesellschaft, Vienna, Austria
Filed Oct. 18, 1967, Ser. No. 676,095
Claims priority, application Austria, Apr. 28, 1967, A 4,005/67
Int. Cl. H05b 7/10
U.S. Cl. 13—14 6 Claims



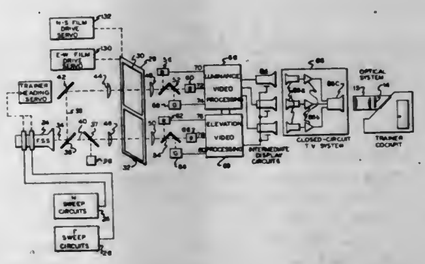
A main electrode holder is adapted to detachably carry a main electrode on an axis. An auxiliary electrode holder comprises a plurality of mountings angularly spaced around the axis. A plurality of rods of electrode material define an auxiliary electrode and are carried by the mountings parallel to the axis and are in spaced relationship to one another as well as the main electrode. The auxiliary electrode only carries current when the main electrode is shut down, e.g. is being replaced.

3,439,104
APPARATUS FOR MELTING METALS BY RESISTANCE HEATING
Charles G. Robinson, Sterling, Ill., assignor to Northwestern Steel and Wire Company, Sterling, Ill., a corporation of Illinois
Filed Sept. 22, 1966, Ser. No. 581,390
Int. Cl. H05b 3/62
U.S. Cl. 13—20 3 Claims



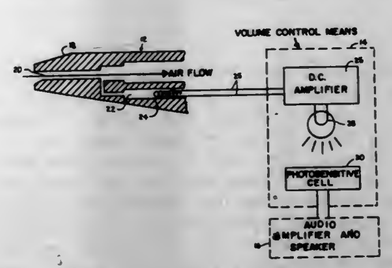
Electric melting vessel having a lining of refractory brick within the steel shell of the vessel and a lining of resistor brick within the lining of refractory brick. The lining of resistor brick forms a resistance to give the heat for melting when current is passed through the lining from one end thereof to the other. The vessel may be a vertical vessel of the blast furnace type, a rotary kiln type of vessel or may converge from its top to its bottom end. A resistance rod may also extend through the center of the vessel to aid in balancing the heat within the vessel. The lining of resistor brick may also be separated by refractory brick which acts as an insulator and individual transformers may be provided to energize the separate rows of resistor brick to graduate the temperature along the furnace.

3,439,105
VISUAL DISPLAY SYSTEM
William C. Ebeling, Binghamton, N.Y., and Eldred H. Paufve, Susquehanna, Pa., assignors to Singer-General Precision, Inc., a corporation of Delaware
Filed Mar. 24, 1965, Ser. No. 442,392
Int. Cl. G09b 29/00
U.S. Cl. 35—10.2 17 Claims



The disclosed embodiment of the invention is a visual display system which employs a pair of transparencies, simultaneously scanned from a flying spot scanner, one of which is a rectified aerial photograph of an area and the other of which is an elevation map of the same area. Video luminance information derived from scanning the aerial photograph is applied to a display cathode ray tube, the sweep operation of which is varied in accordance with elevation information derived from scanning the elevational map. A shadow computer disconnects the video signal and the vertical sweep signal from the CRT when the terrain being scanned at any given instant has a change in elevation such that the terrain could not be seen by any observer located at the instantaneous simulated aircraft altitude.

3,439,106
VOLUME CONTROL APPARATUS FOR A SINGLE-TONE ELECTRONIC MUSICAL INSTRUMENT
Edmund E. Goodale, Saratoga, Calif., assignor to General Electric Company, a corporation of New York
Filed Jan. 4, 1965, Ser. No. 423,067
Int. Cl. G10h 3/06, 1/02
U.S. Cl. 84—1.27 6 Claims



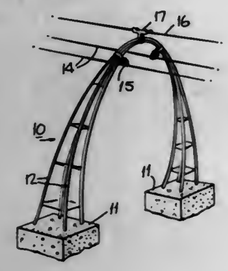
In a monophonic electronic musical instrument, breath control is utilized for controlling the volume of an audio frequency amplifier.

3,439,107

ELECTRICAL TRANSMISSION TOWER OF ARCH SHAPE

Arthur L. Scott, Columbia, S.C., assignor to C/P Corporation, Newberry S.C., a corporation of South Carolina

Filed Aug. 14, 1967, Ser. No. 660,456
Int. Cl. H02g 7/20; E04h 15/22
U.S. Cl. 174—45 9 Claims



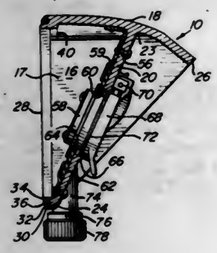
The transmission tower is constructed as an arch. The support rods are spaced apart by spacer rods to converge from the bases to the apex of the arch so as to form a tapered width of arch. The rods are made of a resin impregnated glass fiber filament so as to be non-corrosive and dielectric and, where voltages permit, to eliminate the need for porcelain insulators for carrying the transmission wires.

3,439,108

HOODED WEATHERPROOF EXTENSION ADAPTER AND JUNCTION BOX CONSTRUCTION

Paul J. Zerwes, Chicago, Ill., assignor to Bell Electric Company, Chicago, Ill., a corporation of Illinois

Filed July 25, 1966, Ser. No. 567,461
Int. Cl. H01r 13/46; H01h 9/02, 13/04
U.S. Cl. 174—53 17 Claims



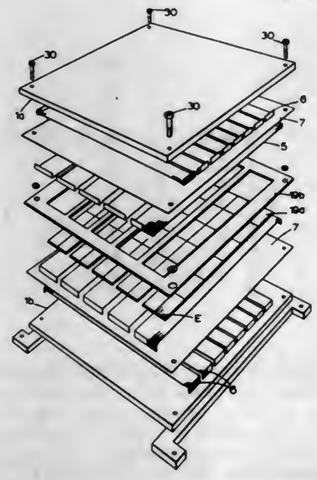
A weatherproof electrical junction box adapter and/or electrical junction box per se comprising a single casting having a hollow chambered body defined by congruent side walls, closed off top and bottom walls and a planar inclined recessed front wall, the top and side walls defining a canopy-like hood shielding the front wall, the front wall having means for mounting an electrical appliance thereto and a passageway to accommodate such appliance. Embodiments wherein the side, top and bottom walls are rearwardly extended to define a junction box per se are described. Also, the front wall may have an open-ended conduit formed integral therewith for mounting a cap and a compression gland thereon for specialized electrical lead-in uses.

3,439,109

THIN FILM MAGNETIC STORES USING PRINTED ELECTRIC CIRCUITS

David Edward Birt, West Ealing, London, Anthony Thomas Gibson, Tilehurst, Reading, Peter John Holden, Rickmansworth, and Reginald Sidney Webley, Hayes, England, assignors to Electric & Musical Industries Limited, Hayes, Middlesex, England, a company of Great Britain

Filed Sept. 28, 1962, Ser. No. 226,865
Claims priority, application Great Britain, Sept. 29, 1961, 35,059/61
Int. Cl. H05k 1/06; G11b 5/74; H02b 1/02
U.S. Cl. 174—68.5 1 Claim



1. A printed electric circuit comprising a first set of conductors adhering to the surface of a first support of insulating material, said conductors having straight and parallel portions, a second set of conductors adhering to the surface of a second support of insulating material, said latter conductors having straight and parallel portions, a third set of conductors adhering to the surface of a third support of insulating material, said last mentioned conductors having straight and parallel portions, said straight and parallel portions of said third set being arranged to register respectively with the straight and parallel portions of at least selected conductors of the first set and at least selected conductors of the second set, at least part of certain of said straight and parallel conductor portions bridging a common gap between parts of the respective supports so that they are not covered by insulating material when in contact with the respective conductor on another support, the conductors of the third set being applied to conductors of the first and second sets, so that the straight and parallel portions of conductors of the third set register respectively with the straight and parallel portions of conductors of the first and second sets without insulating material between the registering portions, the registering conductor portions being joined at the gap to establish electrical connections between conductors of the sets.

3,439,110

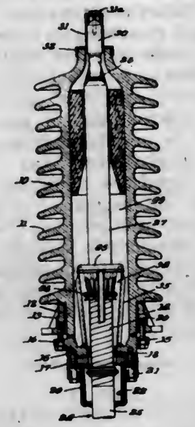
PREFABRICATED STRESS CONTROL SHIELD

George E. Lusk, Downers Grove, Ill., assignor to G & W Electric Specialty Company, Blue Island, Ill., a corporation of Illinois

Filed June 4, 1968, Ser. No. 734,491
Int. Cl. H02g 3/00, 1/14
U.S. Cl. 174—73 7 Claims

The stress control shield of the invention is prefabricated of metal having some resiliency and the same is

suitably supported within a cable terminator. The stress control shield essentially consists of a plurality of fingers



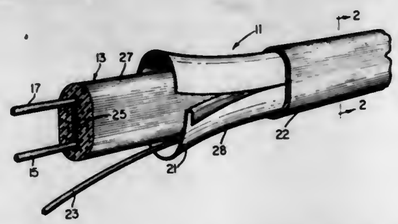
which depend from a supporting ring. Each finger is formed with a plurality of tabs along one longitudinal edge and which overlap the finger adjacent to the tabs.

3,439,111

SHIELDED CABLE FOR HIGH FREQUENCY USE

Roland Miracle and Robert E. Sharp, Richmond, Ind., assignors to Belden Manufacturing Company, Chicago, Ill., a corporation of Illinois

Filed Jan. 5, 1966, Ser. No. 518,859
Int. Cl. H01b 7/18, 11/06
U.S. Cl. 174—107 7 Claims



A high frequency cable is provided having a pair of parallel spaced conductors embedded within a core of insulating material which maintains the conductors in uniformly spaced fixed planar relation to each other throughout the length of the cable. The core includes a sheath of multi-cellular, low density insulating material, and a shield envelopes the sheath. The shield comprises an enlongated strip of conductive foil which is wrapped about the sheath with the marginal edges generally parallel to the axis of the cable. A further insulating material surrounds the shield and provides a weather tight insulation thereabout.

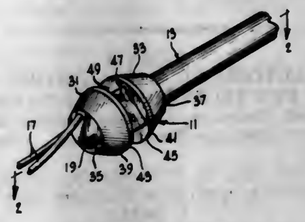
3,439,112

CABLE WITH MOLDED STRAIN RELIEF AND METHOD OF MAKING SAME

Thomas L. Brown, Richmond, Ind., and Paul E. Vance, Franklin, N.C., assignors to Belden Corporation, Chicago, Ill., a corporation of Illinois

Filed June 21, 1967, Ser. No. 647,652
Int. Cl. H01b 17/30
U.S. Cl. 174—153 7 Claims

This invention concerns an electrical cable including a molded strain relief and a method of manufacture thereof. The jacket of the cable is stripped back from one end so as to expose the conductor leads and the filler cord constructed of fibrous material. The strain relief is molded about the jacket, conductors and filler cord so that the plastic molding material penetrates the fibrous material



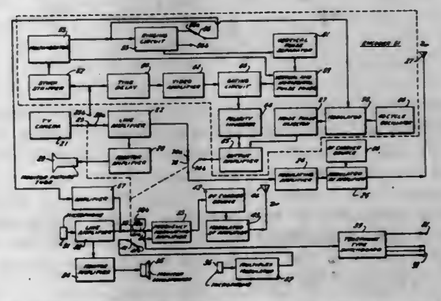
of the filler cord thereby providing an improved high-strength bond between the strain relief and cable.

3,439,113

SUBSCRIPTION TELEVISION COMMUNICATION SYSTEM

Harold R. Walker, Metuchen, N.J., assignor to Teleglobe Pay-TV System, Inc., New York, N.Y.

Filed Nov. 15, 1963, Ser. No. 324,009
Int. Cl. H04n 1/44
U.S. Cl. 178—5.1 14 Claims



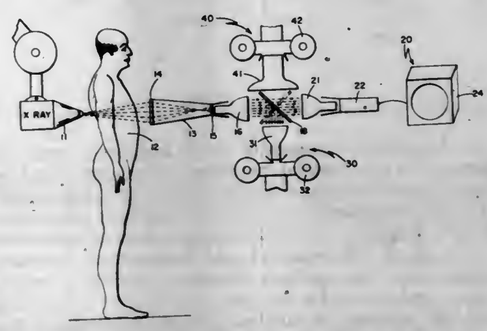
The transmitted signals are coded by setting the front porch portions to a varying gray level, the video signal is polarity inverted, and false horizontal synchronizing signals are provided. The back porch is undisturbed for color information, or replaced by a noise pulse for black and white. Audio may be multiplexed on a key subcarrier the receiver reinverts the video signal and inserts proper sync signals.

3,439,114

FLUOROSCOPIC TELEVISION AND CINE-CAMERA SYSTEM

Donald A. Taylor, 15 Partridge Road, Lexington, Mass. 02173

Filed Apr. 17, 1967, Ser. No. 631,477
Int. Cl. H04n 3/02; H01j 29/89
U.S. Cl. 178—6.8 10 Claims



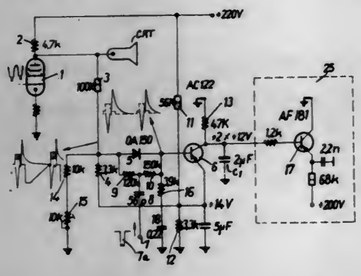
A fluoroscopic television and cine-camera system is disclosed which for the first time permits the use of a

Vidicon or Plumbicon type of television camera at very low radiation dose levels. The radiologist obtains more readable visual images.

3,439,115
KEYED AUTOMATIC GAIN CONTROL CIRCUIT FOR TELEVISION RECEIVERS

Alfred Pollak, Hannover, Germany, assignor to Telefunken Patentverwertungsgesellschaft m.b.H., Ulm (Danube), Germany

Filed May 27, 1965, Ser. No. 459,290
Claims priority, application Germany, May 30, 1964, T 26,283
Int. Cl. H04n *5/54*
U.S. Cl. 178—7.3 **9 Claims**

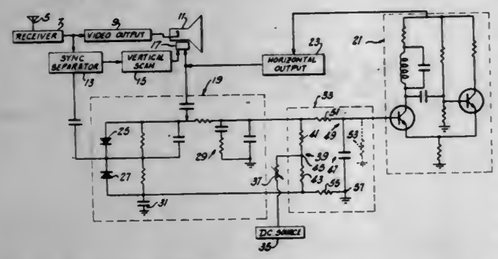


A keyed automatic gain control circuit for television receivers and including a keyed amplifying element whcih is arranged to produce an automatic gain control voltage that is a function of the amplitude of the synchronizing pulses of the received video signal, the keyed element being connected to be responsive to the synchronizing pulses only when those pulses are in synchronism with keying pulses so that the element is not responsive to any other portion of the video signal.

3,439,116
FREQUENCY CONTROL CIRCUIT FOR TELEVISION HORIZONTAL OSCILLATOR

Joseph Lee Menendez and Benton Boyd Scott, Batavia, N.Y., assignors to Sylvania Electric Products Inc., a corporation of Delaware

Filed Oct. 11, 1966, Ser. No. 585,969
Int. Cl. H04n *3/16, 5/44;* **H04l** *7/04*
U.S. Cl. 178—7.3 **9 Claims**



1. In electronic apparatus which includes a source of signals at a fundamental frequency, a local oscillator having a control element requiring current flow and capable of being synchronized to provide signals at said fundamental frequency, a balanced phase detector responsive to the phase differential of said fundamental frequency signals and said oscillator signals to provide a control signal, and means for applying signals from said source and said oscillator to said balanced phase detector, a balanced bias control circuit comprising in combination:

a DC potential source;

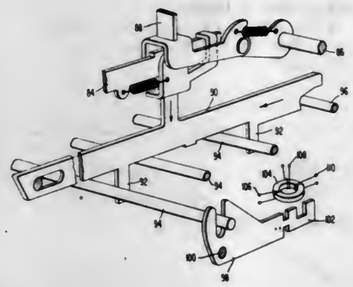
a four-armed balanced bridge network including first and second series connected arms and third and fourth series connected arms connected in shunt with said balanced phase detector, said first and second arms each containing an impedance of substantially equal value and said third and fourth arms each containing an impedance of substantially equal value, said third and fourth series connected arms having the junction thereof connected to circuit ground with the impedance in one of said arms including said local oscillator; and

an adjustable impedance connecting said DC potential source to the junction of said first and second series connected arms whereby said oscillator is responsive to variations in said control signals from said balanced phase detector and said potential from said DC source and the balance of said phase detector is substantially unaffected by said DC potential variations.

3,439,117
KEYBOARD CONTROLLED MAGNETIC CORE INFORMATION STORAGE AND TRANSFER SYSTEM

Flavius A. Mathamel, Allen Park, and Narendra M. Shukla, Detroit, Mich., assignors to Burroughs Corporation, Detroit, Mich., a corporation of Michigan

Filed Sept. 30, 1965, Ser. No. 491,664
Int. Cl. H04l *15/18, 15/12, 15/24*
U.S. Cl. 178—17 **2 Claims**



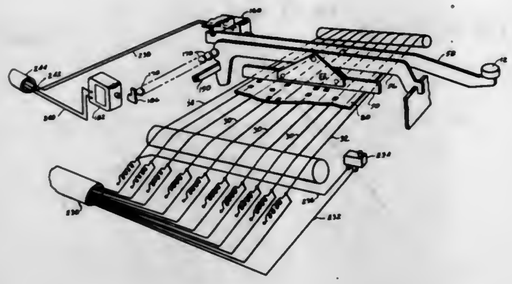
The disclosure embodies a plurality of individually pivoted key levers connected respectively to a plurality of interposers which are individually movable by the key levers. Each of the interposers has a plurality of projections which are positioned to engage predetermined code bails such that different groups of the code bails are movable by selected ones of the key levers. A plurality of transducer levers are connected to different ones of the code bails whereby each of the transducer levers is movable from a first to a second position whenever the corresponding one of the code bails is moved. Each of the transducer levers carries a permanent magnet and adjacent each magnet there is a transfluxer. Each of the transfluxers has a reset winding, a sense winding, and an output winding.

3,439,118
KEYBOARD WITH CODE OUTPUT

Bernard Howard, New Haven, and Ralph M. Hirsch, Woodbridge, Conn., assignors to Mite Corporation, New Haven, Conn., a corporation of Delaware

Filed July 20, 1966, Ser. No. 566,523
Int. Cl. H04l *15/12;* **B41j** *5/00*
U.S. Cl. 178—17 **18 Claims**

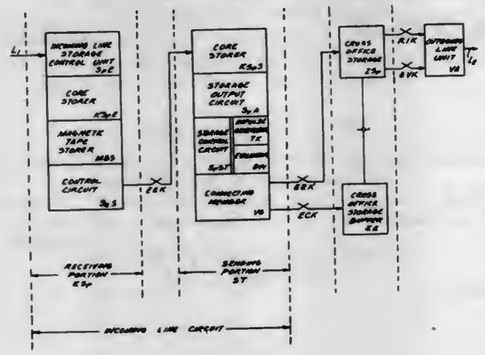
1. A keyboard for providing a coded output, comprising collateral taut conductive wires, collateral shorting bars disposed over the wires and extending transversely thereof, a flexible code card made of insulating material and disposed between the shorting bars and the wires, and key levers for selectively depressing one shorting bar or another, said code card having perforations in registration with cross over points of the shorting bars and the wires, said perforations beneath any one shorting bar being located in accordance with a desired code to correspond to the character on the key lever which depresses that particular shorting bar, said shorting bar when depressed by a key serving to make electrical contact with the desired wires through the perforations in the code card.



3,439,119
CIRCUIT ARRANGEMENT FOR TELEGRAPH STORAGE EXCHANGE INSTALLATIONS

Horst Gehrmann, Munich, Germany, assignor to Siemens Aktiengesellschaft, Munich, Germany, a corporation of Germany

Filed Feb. 25, 1965, Ser. No. 435,179
Claims priority, application Germany, Feb. 26, 1964, S 89,692
Int. Cl. H04l *11/04, 17/16*
U.S. Cl. 178—17.5 **4 Claims**

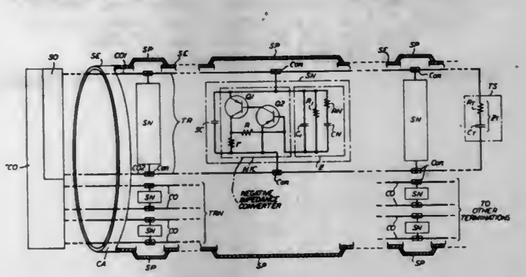


A circuit arrangement for a telegraph storage exchange installation wherein incoming messages are stored in an input storage unit at a predetermined speed and further including means within the input storage unit to convert the received messages to an increased speed corresponding to the speed of the intraexchange. The input storage unit consists of a receiving portion and a transmitting portion separate from one another but being connectable to one another such that the transmitting portion is operated as a centralized speed converter.

3,439,120
LOW-LOSS, LOW-DISTORTION TRANSMISSION LINES

Richard C. Levine, Plainfield, N.J., assignor to Bell Telephone Laboratories, Incorporated, Berkeley Heights, N.J., a corporation of New York

Filed May 1, 1967, Ser. No. 635,126
Int. Cl. H01b *11/16*
U.S. Cl. 178—45 **13 Claims**

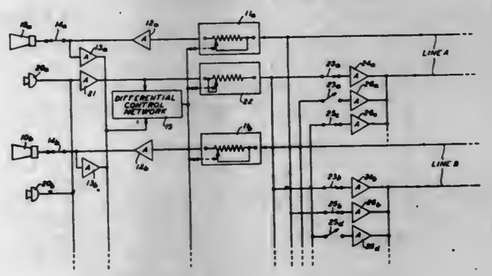


Low-distortion, low-loss transmission is achieved by terminating a transmission line, whose distributed parameters are a per-unit-length series impedance z, and a per-unit-length shunt admittance y, with a terminating impedance Z_T equal to $z\nu/j\omega$ where ν is a convenient wave propagation speed, and by shunting the line at substantially equal distances x, with respective admittances Y_N each equal to $[z/Z_T^2 - y]x$.

3,439,121
MULTIPLE CHANNEL LOUD-SPEAKING TELEPHONE

Doren Mitchell, Martinsville, N.J., assignor to Bell Telephone Laboratories, Incorporated, New York, N.Y., a corporation of New York

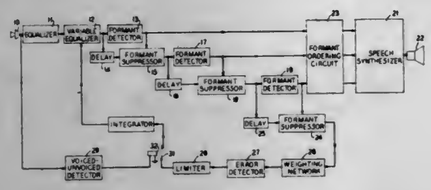
Filed Sept. 30, 1965, Ser. No. 491,619
Int. Cl. H04m *1/00*
U.S. Cl. 179—1 **7 Claims**



The normal use of several loud-speaking telephone circuits at one location permits the local subscriber to converse with each of several distant subscribers, but makes it difficult for the distant subscribers to converse with one another; only acoustic coupling is available. In accordance with this invention, distant subscribers to such a conference are interconnected. Each loudspeaker at the conference location responds to one selected distant subscriber only, but conference microphones are connected to selected different distant subscribers. By utilizing only one loudspeaker per channel, the conference location subscriber may keep the distant conversants separate and identify them in accordance with the placement of the

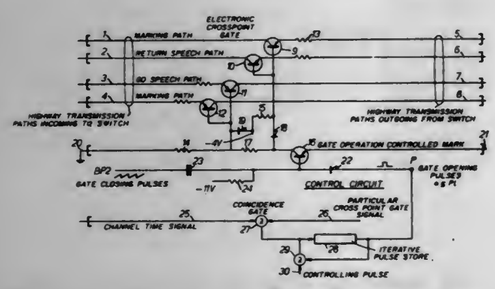
associate loudspeaker in the room. Provision is made for selectively "cutting-out" one or more interconnections and for avoiding singing.

3,439,122
SPEECH ANALYSIS SYSTEM
Cecil H. Coker, Berkeley Heights, N.J., assignor to Bell Telephone Laboratories, Incorporated, Berkeley Heights, N.J., a corporation of New York
Filed June 15, 1966, Ser. No. 557,756
Int. Cl. H04m 11/06; G01r 23/16
U.S. Cl. 179—1 6 Claims



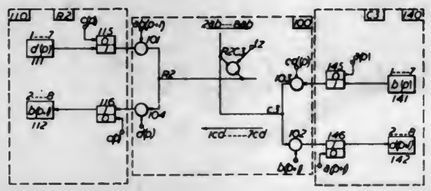
In a formant detector wherein formants are sequentially detected and then suppressed, a variable equalizer is used to alter the frequency spectrum of the incoming wave in response to an error signal which is derived by averaging the difference between the spectrum of the actual incoming signal and that of a desired optimum spectrum.

3,439,123
TIME DIVISION MULTIPLEX TELECOMMUNICATION SWITCHING SYSTEMS
Thomas Harold Flowers, Mill Hill, London, England, assignor to Her Majesty's Postmaster General, London, England
Original application May 31, 1962, Ser. No. 199,043, now Patent No. 3,213,202, dated Oct. 19, 1965. Divided and this application Feb. 4, 1965, Ser. No. 430,386
Claims priority, application Great Britain, June 1, 1961, 19,846/61
Int. Cl. H04j 3/08; H03k 17/62
U.S. Cl. 179—15 4 Claims



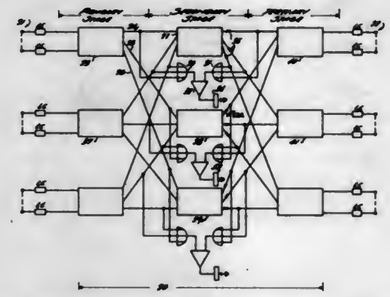
A switching matrix for a telecommunication system, the matrix comprising a number of electronic crosspoint gates. Each gate has an individual control circuit for opening and closing the gate, the circuit including a pulse source for charging a capacitor to a specified potential at which the gate conducts, and a source of sawtooth pulses also connected to the capacitor, the slope of the sawtooth pulses determining the rate of discharge of the capacitor while the instant of reversal of the sawtooth pulses determines the time instant at which the gate shuts.

3,439,124
PCM SWITCHING MATRIX
Jacques Georges Dupieux and Alfred Pirotte, Paris, France, assignors to International Standard Electric Corporation, New York, N.Y., a corporation of Delaware
Continuation of application Ser. No. 233,473, Oct. 26, 1962. This application Mar. 3, 1966, Ser. No. 540,782
Claims priority, application France, Nov. 8, 1961, 878,270
Int. Cl. H04j 3/06
U.S. Cl. 179—15 5 Claims



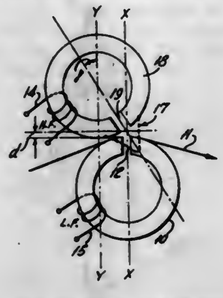
The invention provides a time controlled bidirectional gating matrix for PCM switching systems. Each matrix controlling time slot is sub-divided into four basic time slots. The first basic time slot provides an opportunity for quiescence to the established after one gate opens. The second basic time slot provides an open channel for transmission of a pulse in a first direction. The third time slot provides another opportunity for quiescence to be established after a gate operation. The fourth basic time slot provides an open channel for a pulse to be transmitted in an opposite direction. This enables a transmission of pulses wtihout deterioration of pulse wave shapes.

3,439,125
SELF-SEEKING GLASS REED RELAY MATRIX SELECTION SYSTEM
Guenter Joachim Boehm, Emerson, N.J., assignor to International Telephone and Telegraph Corporation, a corporation of Maryland
Filed June 11, 1965, Ser. No. 463,224
Int. Cl. H04m 3/00; H04q 1/18
U.S. Cl. 179—18 17 Claims



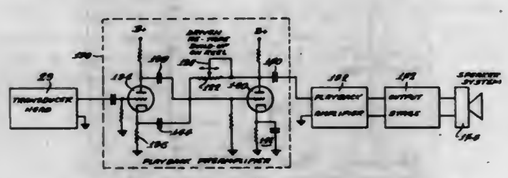
Self-seeking path selecting circuitry using glass reed relay crosspoints in end-marked multi-stage matrices having "AND" circuitry at the center stage. The network requires a double wound glass reed relay at each crosspoint of the matrices with one winding being used for fanning out the end-marking and the other winding being used for maintaining and holding the path.

3,439,126
RECORDING AND BIASING HEAD ASSEMBLY FOR MAGNETIC TAPE RECORDERS
Katsuya Atsumi, Tokyo, Japan, assignor to Akai Electric Company, Limited, Tokyo, Japan
Continuation of application Ser. No. 178,678, Mar. 9, 1962. This application May 6, 1966, Ser. No. 548,202
Int. Cl. G11b 5/48
U.S. Cl. 179—100.2 7 Claims



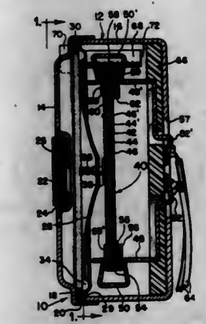
1. A magnetic tape recorder comprising in combination:
(1) a low frequency recording magnet including a magnetic recording gap,
(2) a recording tape arranged to move across said gap in contact with said magnet, and
(3) a high-frequency biasing magnet having a biasing gap of relatively greater width than and spaced from said recording gap, said biasing magnet adapted to produce, upon excitation, a high-frequency biasing field having leading and trailing regions of predetermined length effective upon said tape ahead of and following, respectively, said recording gap in respect to the traveling direction of said tape, and said field having a frequency in relation to the tape speed, to cause a predetermined number of magnetic flux alternations to act upon said tape while passing through said field.
(4) said recording and biasing magnets spaced by a distance and arranged, in respect to an aligned position of said gaps, with the axis of said biasing gap displaced parallel in a direction opposite to the traveling direction of said tape and with said biasing magnet being rotated in the displacing direction, thereby to substantially reduce the length of the trailing region of said field effective upon said tape.

3,439,127
MAGNETIC TAPE APPARATUS WITH EQUALIZATION COMPENSATING MEANS
Morton L. Weigel, Bloomington, Ind., assignor to Sarkes Tarzian, Inc., Bloomington, Ind., a corporation of Indiana
Filed July 22, 1965, Ser. No. 473,921
Int. Cl. G11b 5/78
U.S. Cl. 179—100.2 9 Claims



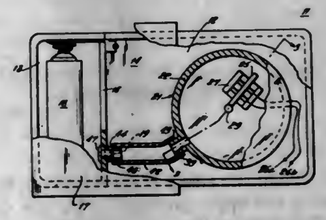
A magnetic tape cartridge playing mechanism is provided whereby a number of individual magnetic tape cartridges may be played in rapid succession. The playing time of each cartridge is substantially extended by providing means for automatically measuring the amount of tape wound on the reel during each playing cycle of the mechanism and employing said measuring means to provide compensation electrically for the change in speed of the tape.

3,439,128
MINIATURE CERAMIC MICROPHONE
Ilyitch J. Sobel, Niles, and Witalij Didyk, Chicago, Ill., assignors to Zenith Radio Corporation, Chicago, Ill., a corporation of Delaware
Filed May 16, 1966, Ser. No. 550,295
Int. Cl. H04r 17/02, 25/00
U.S. Cl. 179—107 4 Claims



1. A miniature microphone for use in hearing aids and the like comprising:
a housing having a sound wave admitting aperture;
a diaphragm peripherally secured to said housing adjacent the aperture;
a bimorph element secured intermediate its ends to said diaphragm, said element comprising a pair of oppositely polarized ceramic wafers having first and second electrodes on each of the respective outer faces of said wafers and a third electrode between and contacting both of the inner faces of said wafers; and
a pair of electrically conductive supports disposed at the ends of said element for supporting the latter, one of said supports electrically contacting said first and second electrodes and insulated from the third electrode and the other of said supports electrically contacting said third electrode and insulated from the first and second electrodes, said supports having a pair of output terminals formed thereon and extending through said housing.

3,439,129
ACOUSTIC FREQUENCY RESPONSE ADJUSTMENT
William F. Knauert, Yonkers, and Martin Molloy, Ossining, N.Y., assignors to Sonotone Corporation, Elmsford, N.Y., a corporation of New York
Filed Jan. 28, 1966, Ser. No. 523,618
Int. Cl. H04r 25/00, 1/22
U.S. Cl. 179—107 6 Claims



A hearing aid device with microphone in an inaccessible location. A vent tube connects the microphone with

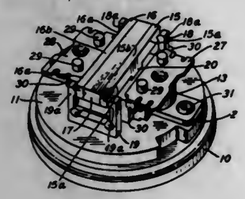
one wall. Any of a plurality of vent plugs can be connected at an accessible location to the vent tube to modify the low frequency response of the microphone.

3,439,130

CENTRAL ARMATURE TELEPHONE RECEIVER

Albert J. Chase and Karl E. Hammer, Indianapolis, Ind., assignors to Bell Telephone Laboratories, Incorporated, New York, N.Y., a corporation of New York

Filed Jan. 28, 1966, Ser. No. 523,585
Int. Cl. H04r 13/02
U.S. Cl. 179—114 7 Claims



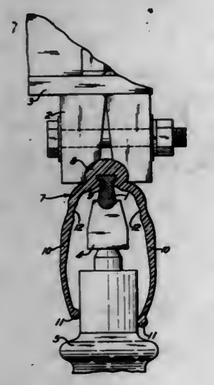
Increased magnetic circuit efficiency is realized in a central armature telephone receiver through an improved magnet, pole-piece and support structure. Arms perpendicularly mounted on the back of the receiver frame contact each of the four outer side surfaces of the pole pieces at their extreme ends. The arms elsewhere effect a clearance with the pole pieces. The pole piece and magnet bottom likewise are spaced from the receiver frame and the arms.

3,439,131

TROLLEY CONDUCTOR GUARD

Donald R. Ross, Jr., Bridgeville, Pa., assignor to U-S Electric Manufacturing Company, Pittsburgh, Pa., a partnership

Filed Mar. 30, 1967, Ser. No. 627,210
Int. Cl. B60m 1/04, 1/16
U.S. Cl. 191—25 4 Claims



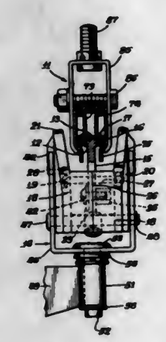
A trolley conductor guard is provided with longitudinal grooves along the upper portions of its side walls to increase the flexibility of the walls. Also, the lower portions of the walls may be reduced in thickness for the same purpose.

3,439,132

INSULATED ELECTRICAL CONDUCTOR SYSTEM

Charles H. Weber, Mayville, Wis., assignor to Maysteel Products Corp., Milwaukee, Wis., a corporation of Wisconsin

Filed Apr. 3, 1967, Ser. No. 627,798
Int. Cl. B60l 5/08; B60m 1/04
U.S. Cl. 191—35 10 Claims



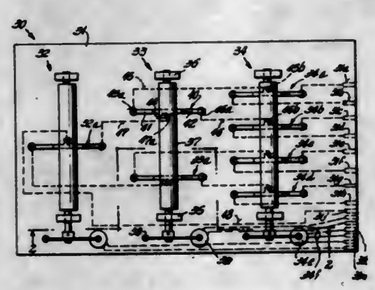
System transmitting electric energy to mobile equipment, such as cranes and hoists, with translationally movable collector brush guided only by metal conductor bar channel to prevent wear and breakage of insulation; T-connectors between conductor bar sections for selective connections of power feed; complete surface contact between concave top wall of conductor bar channel and upper convex edge of brush; brush holder comprising separable identical halves with two screws for securing same together to clampingly engage the brush therebetween and a third screw for conductively securing lead connector to brush, so brush may be changed after merely loosening three screws and without disconnecting lead connector from brush holder; a yoke tiltably mounting brush holder and pivoted on vertical axis with ball thrust bearing on one end of laminated steel arm, latter secured near other end to mounting bracket by horizontal pivot having nylon bushings, and spring interconnectig other end of arm and mounting bracket to urge brush holder upwardly.

3,439,133

INTERCONNECTED RELAY STATIONS

Angelo Vaccaro, Port Washington, and Harold F. E. Dixon, Douglaston, N.Y., assignors to Columbia Controls Research Corporation, Glen Cove, N.Y., a corporation of New York

Filed Sept. 18, 1967, Ser. No. 668,320
Int. Cl. H01h 9/24
U.S. Cl. 200—1 14 Claims



A plurality of interconnected relay stations with each station having at least a movable pole member engageable with a contact member with one of the members be-

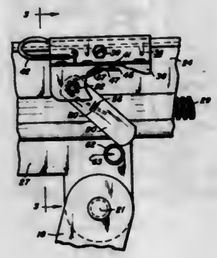
ing formed to include a flexible strip of conducting material and the other a segment of electrical conducting material and in which the contact member of one relay station is connected to be engaged by the pole member of the other by an integral extension of the contact member.

3,439,134

SWITCH WITH OVER-TRAVEL ACTUATOR

Alvin J. Carli, Sebring, Ohio, assignor to Consolidated Electronics Industries Corp., a corporation of Delaware

Filed Mar. 28, 1966, Ser. No. 538,051
Int. Cl. H01h 3/16
U.S. Cl. 200—47 3 Claims



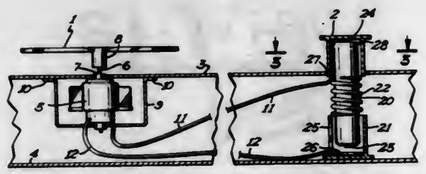
A switch is disclosed which is simple and reliable and constructed of few parts. A lever is moved in a first direction and stresses a wire-like spring which in turn has another portion deflecting a leaf spring carrying a switch contact. Considerable over-travel of the lever is permitted by deflection of the wire-like spring without appreciably further stressing the leaf spring. The lever may be moved in the opposite direction without actuating the switch.

3,439,135

ELECTRIC SWITCH ASSEMBLY FOR MOTORIZED GAMES OR THE LIKE

Phalon J. Berg, 5 E. 91st St., Bloomington, Minn. 55420

Filed Oct. 9, 1967, Ser. No. 673,755
Int. Cl. H01h 35/00
U.S. Cl. 200—52 10 Claims



This invention is a switch assembly for motorized, battery-operated games in which a battery is an integral part of the switch assembly and the battery is easily replaceable.

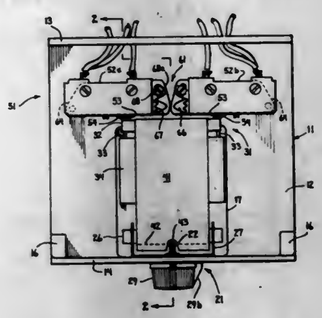
3,439,136

HUMIDISTAT

Robert M. Anderson, 1071 E. 54th St., Indianapolis, Ind. 46220

Filed Oct. 26, 1966, Ser. No. 589,726
Int. Cl. H01h 35/42
U.S. Cl. 200—61.06 7 Claims

An electromechanical humidistat in which a hygroscopic element is coupled to a selector and a tensioning bar. Elongation of the hygroscopic element permits the bar to move to operate a pair of switches. An adjustable



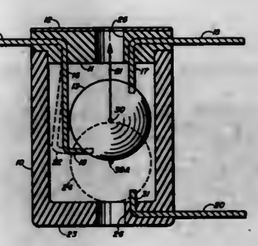
dead band is provided by staggering the operating points of the two switches.

3,439,137

ACCELERATION-ACTUATED SWITCH

James W. Green, Scottsdale, and Fred Krahulec, Phoenix, Ariz., assignors to Motorola, Inc., Franklin Park, Ill., a corporation of Illinois

Filed Aug. 18, 1967, Ser. No. 661,578
Int. Cl. H01h 35/02, 35/06
U.S. Cl. 200—61.45 5 Claims



An electrical switch having a conductive sphere releasably held between two spring-wire contacts. One of the contacts has a flange extending toward and engaging the conductive sphere. The one contact extends axially in the direction of movement and provides an acceleration threshold for movement of the ball away from the other contact. A third contact may be provided to make a single-pole double-throw acceleration actuated switch.

3,439,138

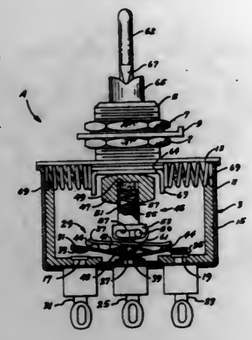
SELF-CENTERING ELECTRICAL SWITCH

John A. Braun, Attleboro, Mass., assignor to Texas Instruments Incorporated, Dallas, Tex., a corporation of Delaware

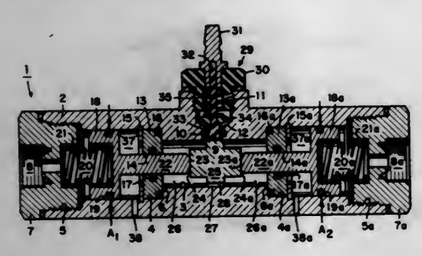
Filed Dec. 30, 1966, Ser. No. 606,371
Int. Cl. H01h 21/00, 21/22
U.S. Cl. 200—67 3 Claims

A switch wherein the actuator returns to a center position while maintaining engagement of one of a pair of movable and fixed contacts for performing a memory function of indicating which set of contacts in a momentary switch was last actuated. The movable contacts are carried by a pivoted contact arm for engagement with the fixed contacts. The actuator is provided with a lost-motion

mechanism by mounting a contact arm-engaging roller on an axle for rotating and sliding movement in a pair of elongate slots formed in the lower end of the actuator. A pair of springs return the actuator to a center position.



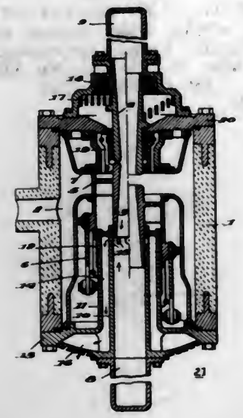
3,439,139
CONTROL VALVE
Raymond F. Stelzer, Bel Nor, Mo., assignor to Wagner Electric Corporation, Newark, N.J., a corporation of Delaware
Filed July 18, 1967, Ser. No. 654,234
Int. Cl. H01h *35/38*
U.S. Cl. 200—82 **11 Claims**



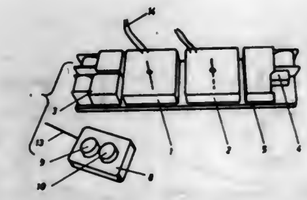
A control valve for energizing a driver warning circuit upon the failure of one of the separate fluid pressures supplied thereto from a split system type master cylinder, and damping means in said control valve for obviating actuation thereof to energize said circuit upon the occurrence of transient differentials between the separately supplied fluid pressures.

3,439,140
PRESSURE GAS OPERATED SWITCH WITH CLOSED GAS CIRCUIT
Egbertus Adrianus Frowein, Arnhem, Netherlands, assignor to Aktiengesellschaft Brown, Boveri & Cie, Baden, Switzerland, a joint-stock company
Filed July 19, 1966, Ser. No. 566,311
Claims priority, application Switzerland, July 28, 1965, 10,543/65
Int. Cl. H01h *33/82*
U.S. Cl. 200—148 **8 Claims**

1. In an electrical circuit breaker of the gas-blast type, the combination comprising means establishing a high pressure chamber containing a pressurized gas and within which are located a pair of axially aligned hollow nozzled shaped contact studs, said contact studs being mounted for relative movement longitudinally of one another to cause their nozzle ends to become engaged and disengaged, a gas collection tube for each of said contact studs, each said tube being closed at one end and having the opposite end thereof connected with the end of the corresponding contact stud opposite the nozzle shaped end thereof, disengagement of said contact studs effecting a flow of pressurized gas from said high pressure chamber into and through said contact studs into said tubes for temporary collection therein, and means establishing a communication between the interior of said gas collection tubes and a low pressure gas chamber only when said contact studs are re-engaged to permit flow of the collected gas from said collection tubes into said low pressure chamber.



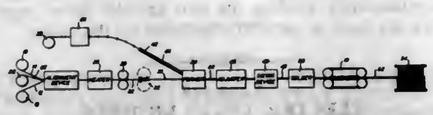
3,439,141
CONTROL UNIT FOR WASHING MACHINES
Walter Holzer, Drosteweg 19, Meersburg (Bodensee), Germany
Filed Apr. 19, 1967, Ser. No. 634,033
Claims priority, application Germany, Apr. 19, 1966, H 59,156
Int. Cl. H01h *9/02, 7/08;* **H02b** *1/08*
U.S. Cl. 200—168 **4 Claims**



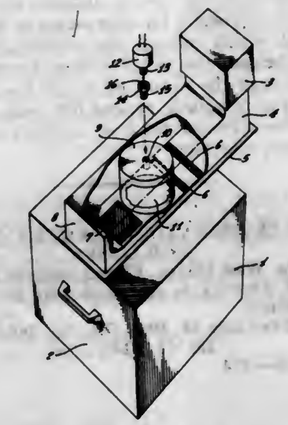
A control unit for a washing machine in which the programme and/or selector switch can be remotely controlled by a separate switching circuit.

3,439,142
CABLE MANUFACTURING
Thomas J. McGean, East Orange, and Daniel Nathanson, Elizabeth, N.J., assignors to Bell Telephone Laboratories, Incorporated, Murray Hill, N.J., a corporation of New York
Original application June 9, 1966, Ser. No. 556,486. Divided and this application May 10, 1968, Ser. No. 736,901
Int. Cl. B23k *13/02, 1/16*
U.S. Cl. 219—9.5 **3 Claims**

Apparatus and method whereby a longitudinal seam on a corrugated outer conductor is closed with a flexible solder joint by having rollers impart two different radii to the conductor edges adjacent the joint so that they can be intimately overlapped, and having other rollers tilt the overlap into a substantially vertical orientation. An inductor coil preheats the area of the overlap. A feeder completes the joint by feeding a flux-cored solder wire to a peripheral point above the upwardly directed opening of the heated overlap while a capstan moves the cable longitudinally past the solder. The combined gravitational and capillary effects at the overlap draw the liquid flux and solder into overlap space. This produces a flexible joint without flux flowing into the cable interior and adversely affecting the electrical characteristics.

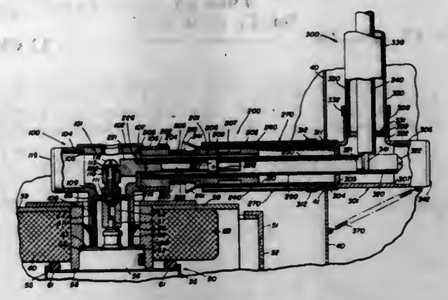


3,439,143
MICROWAVE OVEN HAVING A MODE STIRRER LOCATED WITHIN THE WAVEGUIDE
Robert L. Cougeule, San Carlos, Calif., assignor to Litton Precision Products, Inc., Palo Alto, Calif., a corporation of Delaware
Filed Dec. 8, 1966, Ser. No. 600,082
Int. Cl. H05b *9/06*
U.S. Cl. 219—10.55 **12 Claims**



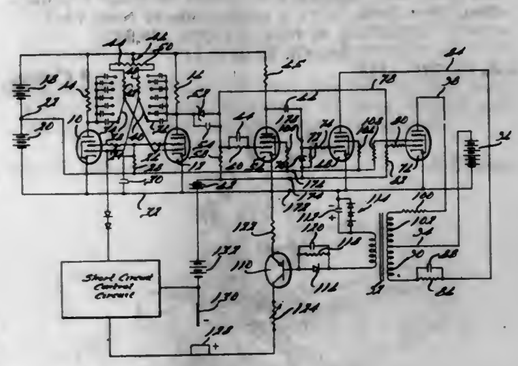
A microwave oven includes a source of microwave energy, an oven cavity and a waveguide which connects the source to the cavity. The waveguide has a short circuited end remote from the source end and includes at least one microwave passage for feeding microwave energy into the oven cavity. This first microwave passage is spaced from the short circuited waveguide end. Located within the waveguide and between the passage and short circuited end is an elongated strip of conductive material. This elongated strip reflects microwave energy. An axis of rotation is provided and the reflective strip is supported, spaced from and substantially non-coplanar with that axis of rotation or "off-axis."

3,439,144
ELECTRONIC OVEN
James M. Boswell, Jr., Louis H. Fitzmayer, and Richard V. Prucha, Louisville, Ky., assignors to General Electric Company, a corporation of New York
Filed June 29, 1967, Ser. No. 649,993
Int. Cl. H05b *9/06*
U.S. Cl. 219—10.55 **18 Claims**



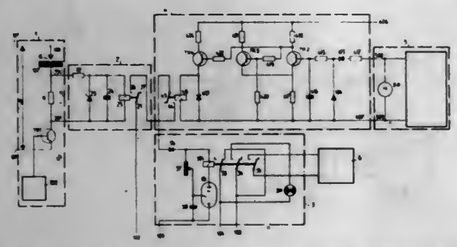
There is disclosed an electronic oven comprising a liner defining a cooking cavity, an ultra-high frequency generator, and a coaxial transmission line interconnecting the generator and the cooking cavity, the line including a choke joint providing D.C. insulation between the generator and the cooking cavity, an impedance transformation, means for disconnecting the transmission line, a choke filter for the third and higher harmonics of the generator frequency to attenuate radiation thereof from the choke joint and to provide high attenuation thereof, thereby substantially to prevent transmission of the third harmonic and multiples thereof along the transmission line.

3,439,145
ELECTRICAL DISCHARGE MACHINING POWER SUPPLY CIRCUIT
Kurt H. Sennowitz, Royal Oak, Mich., assignor, by mesne assignments, to Elox Inc., Troy, Mich., a corporation of Delaware
Filed Mar. 4, 1966, Ser. No. 531,856
Int. Cl. B23k *9/10*
U.S. Cl. 219—69 **8 Claims**



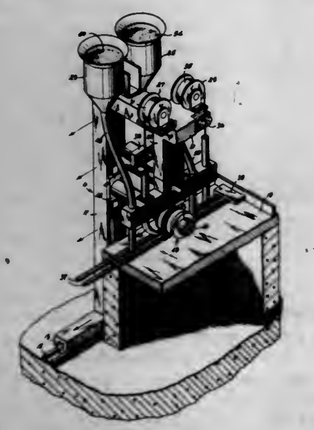
A gap short circuit system for an electrical discharge machining power supply in which machining pulses are provided by a switch at predetermined frequency and on-off time. The system includes a network for sensing abnormal gap condition, a means for providing substantially lower and variable frequency cut-off pulses to the switch in response to such condition and a means for directly varying the time duration of the cut-off pulses relative to the off time of the machining pulses.

3,439,146
PROTECTIVE SYSTEM FOR ELECTRO-EROSION METALWORKING
Werner Ullmann and Franco Donati, Locarno, Switzerland, assignors to A.G. fur Industrielle Elektronik AGIE Losone bei Locarno, Losone-Locarno, Switzerland, a Swiss corporation
Filed June 27, 1966, Ser. No. 560,503
Claims priority, application Switzerland, July 15, 1965, 9,968/65
Int. Cl. B23k 9/10
U.S. Cl. 219—69 13 Claims



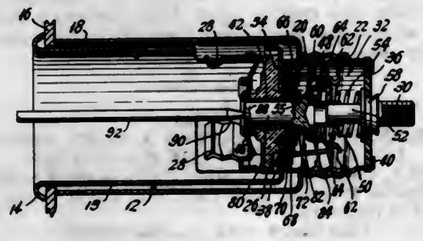
1. In combination with an electro-erosion metalworking machine having a pulse generator and a reversible electrode feed arrangement, a protective device for interrupting arcs in the work gap defined by the electrode and workpiece of the erosion circuit, said protective device comprising means responding to current changes at the work gap, means responding only to one direction of driving of said electrode feed arrangement, and means for receiving signals from said current change-responding means and said means responding only to one direction of driving of said reversible electrode feed arrangement, said signal receiving means only being actuated upon simultaneous presence of signals from both said current change-responding means and said means responding only to one direction of driving of said reversible electrode feed arrangement and only after a predetermined time.

3,439,147
METHOD OF AND APPARATUS FOR ARC WELDING TUBULAR MEMBERS TO FORM AN INTEGRAL PANEL
Frederick J. Winsor, Fanwood, and Stephen J. Resko, Carteret, N.J., assignors to Foster Wheeler Corporation, New York, N.Y., a corporation of New York
Filed Aug. 8, 1966, Ser. No. 570,852
Int. Cl. B23k 9/12
U.S. Cl. 219—125 9 Claims



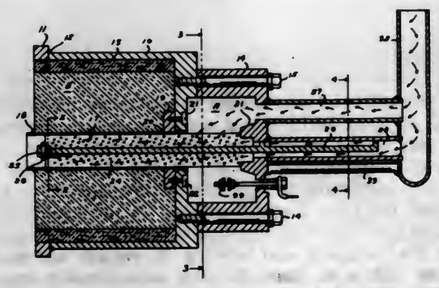
A method and apparatus for welding together two tubes continuously and in parallel alignment, for forming a panel for use in a vapor generator, having a carriage supporting a roller adapted to roll along the top surface of said two tubes, the roller having two parallel tube grooves about its periphery adapted to fit on said two tubes for directing said two tubes in parallel alignment, said roller further including a wire guide groove, centrally located about the periphery of said roller and extending parallel to the two parallel tube grooves for receiving the wire and for guiding said wire in parallel alignment with said two parallel tubes. The carriage also supporting welding means for continuously welding the two parallel tubes together as they are held in parallel alignment by the roller.

3,439,148
ELECTRIC CIGAR LIGHTER
Laurence G. Horwitt, New Haven, Conn., assignor to Casco Products Corporation, Bridgeport, Conn., a corporation of Connecticut
Filed Nov. 1, 1966, Ser. No. 591,213
Int. Cl. F23q 7/14
U.S. Cl. 219—265 10 Claims



An electrical cigar lighter having a circuit breaker comprising a housing, means for attaching the housing on the rear end of the igniting unit receptacle, the housing having a movable circuit-closing member which is engageable by heat responsive latching means to hold the circuit closed and which releases the circuit-closing member when overheated, the circuit-closing member being resettable through the means by which the housing is attached to the receptacle against the tension of a spring which conducts the current from an input terminal to the circuit-closing member.

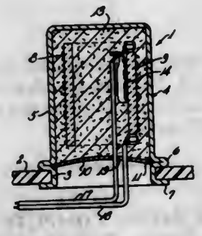
3,439,149
HIGH TEMPERATURE ELECTRIC HEATER FOR GASES
Ralph Prete, West Haven, Conn., assignor to the United States of America as represented by the Secretary of the Air Force
Filed July 26, 1966, Ser. No. 568,065
Int. Cl. F24h 3/04
U.S. Cl. 219—374 2 Claims



An electric heater assembly capable of raising the temperature of a non-oxidizing gas, such as hydrogen, to a level on the order of 2500° C. includes a cylindrical

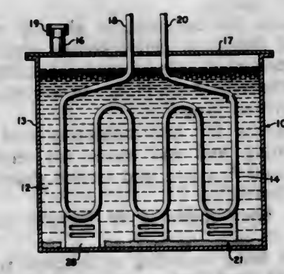
molybdenum shell through which the gas to be heated flows. A plurality of closely spaced molybdenum electrical resistance heating wires are spirally wound transverse to the cylindrical axis of the shell and are supported by a plurality of spaced, longitudinally extending boron nitride vanes, thereby providing a large heating area to the gas. Gas is introduced into the shell through a manifold assembly attached to one end thereof. A casing surrounds the shell and the space between the casing and shell is filled with thermal insulation.

3,439,150
HEATING DEVICE HAVING A SPECIALLY POSITIONED CONTROL THERMOSTAT THEREIN
Alton R. Wells, 4573 W. Trade Winds Ave., Lauderdale-by-the-Sea, Fla. 33308, and Robert M. Wells, 4371 Ira Road, Akron, Ohio 44308
Filed Aug. 30, 1966, Ser. No. 576,045
Int. Cl. H05b 3/06
U.S. Cl. 219—523 6 Claims



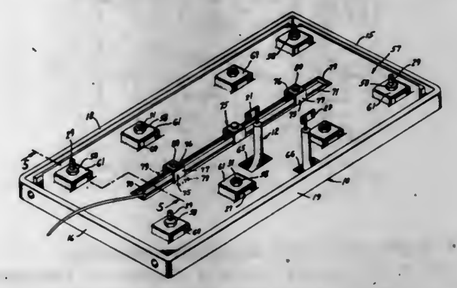
The heating device includes an electrical heater means comprising a cylindrically shaped metal enclosure having one closed end, a hollow insulation core within the metal enclosure and a resistance coil carried by the outer surface of the core. A thermostat is operatively positioned against the inner surface of the insulating core and means operatively connect the thermostat in series with the resistance coil for control of power supply thereto. Insulation embedment means are used to position the insulation core and thermostat within the metal enclosure.

3,439,151
APPARATUS FOR STORING HEAT
Matthew Mekjean, Niagara Falls, N.Y., assignor to Hooker Chemical Corporation, Niagara Falls, N.Y., a corporation of New York
Continuation-in-part of application Ser. No. 366,471, May 11, 1964. This application Nov. 20, 1967, Ser. No. 684,179
Int. Cl. H05b 3/06, 3/50
U.S. Cl. 219—530 8 Claims



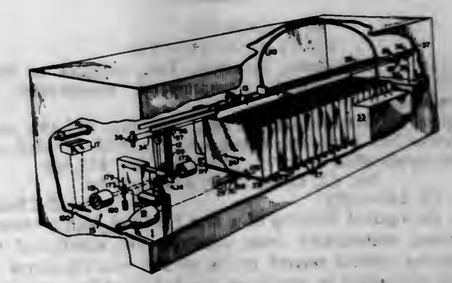
Electric resistance heaters comprising a resistor sheathed with a heat conductive metal or metal alloy are provided with elongations or protrusions which extend from the heater to the vessel wall which contains a heat storage material. The extensions of the heater sheathing serve to conduct heat from the heater. Good heat conduction serves to more uniformly heat the heat storage material and the vessel walls. Furthermore, the extensions from the heater sheathing serve, in a preferred embodiment, the dual role of conducting heat to the vessel bottom wall through any precipitate of by-product sludge and protecting the heating element from burning out due to the insulating effect of the sludge.

3,439,152
ELECTRIC SURFACE HEATING ASSEMBLY
Anthony J. Kloska, Chicago Heights, Ill., assignor to General Electric Company, a corporation of New York
Filed Aug. 11, 1967, Ser. No. 659,939
Int. Cl. H05b 3/06
U.S. Cl. 219—536 12 Claims



An electric surface heating assembly includes a griddle or hot plate having a plurality of projections depending from its bottom surface configured to releasably captivate bolts which receive nuts to secure a clamping plate against a heating element for sandwiching the heating element between the clamping plate and the griddle. The bolts are installed and removed relative to the projections by lateral movement thereof into and out of side opening passages formed in the projections.

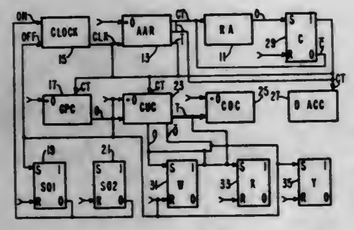
3,439,153
OPTICAL DATA LINE COUNTER
Frank A. Litz, San Jose, and John J. Lynott, Los Gatos, Calif., assignors to International Business Machines Corporation, New York, N.Y., a corporation of New York
Original application Jan. 12, 1959, Ser. No. 786,406, now Patent No. 3,149,529, dated Sept. 22, 1964. Divided and this application July 16, 1964, Ser. No. 383,059
Int. Cl. G06k 7/00; G01n 21/30
U.S. Cl. 235—61.11 3 Claims



A system for counting the number of lines previously optically recorded in a preselected frame on a length of film which includes a slotted disk which is rotated in synchronism with the movement of the length of film through

an optical station to cause a beam of light to scan across the optically recorded lines in each frame. A photocell is in optical association with the beam of light which is modulated by the optical lines and a gating means is provided which can be set such that pulses from the photocell will be passed during the scanning of only a selected one of the frames.

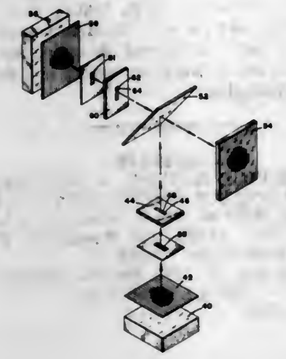
3,439,154
RADIX RECONVERSION APPARATUS
Frederick C. Becker, Dearborn Heights, Mich., assignor to Burroughs Corporation, Detroit, Mich., a corporation of Michigan
Filed Feb. 9, 1966, Ser. No. 526,155
Int. Cl. G06f 5/02
U.S. Cl. 235—155 10 Claims



1. Radix reconversion apparatus comprising:
a first accumulator having a plurality of sequentially addressable stages each storing a digital value in a first radix,
a pair of buffer memories each operating in a second radix and intercoupled for the transfer of the contents of one of the memories to the other,
said first buffer memory having an input and a radix carry output both coupled to the first accumulator,
said second buffer memory having an input and a zero count carry output,
a second accumulator operating in a third radix and having an input and a radix carry output both coupled to a single stage of the first accumulator,
pulse generating, counting, and steering means coupled to the inputs of the buffer memories and the second accumulator and also coupled to the output of the first buffer memory and the second accumulator and advancing them all to an output status and coupling the outputs of the first buffer memory and the second accumulator to the first accumulator, and
said means having a generating control input coupled to the output of the second buffer memory and terminating reconversion upon receipt of a zero count carry output.

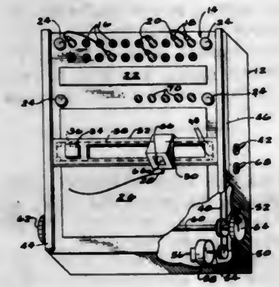
3,439,155
FILTERING SYSTEM
Warren A. Alexander, Houston, Tex., assignor to Esso Production Research Company, a corporation of Delaware
Original application May 1, 1963, Ser. No. 277,192, now Patent No. 3,284,248, dated Aug. 31, 1965. Divided and this application Mar. 29, 1965, Ser. No. 443,569
Int. Cl. G06g 7/19; G06f 15/34
U.S. Cl. 235—181 2 Claims

In the optical filtering of a first function with a second function, undesirable cross products are eliminated by preparing optical record traces of the two functions in which variations in amplitude are indicated by variations in light transmissivity along a time-related axis, preparing negatives of each of the two optical records, optically convolving the records to obtain a first convoluted record by optically multiplying each increment of one with the entirety of the other, and summing the products so obtained in variable light transmissivity form, repeating the process for the negatives formed as described above, and



optically adding the two convoluted records to obtain a final filtered record. There is also described a process for using the above technique to perform a frequency analysis of a time-related function.

3,439,156
ANALOG COMPUTER
Paul A. Dennis, 2810 Tennyson Place, Hermosa Beach, Calif. 90254
Filed Apr. 29, 1963, Ser. No. 276,567
Int. Cl. G06g 7/18
U.S. Cl. 235—183 3 Claims



1. An electrical computing system comprising:
means for representing mathematical quantities by first electrical signals,
plural means for functionally altering manipulating electrical signals to derive second electrical signals representative of values mathematically related to said mathematical quantities in accordance with a predetermined program;
program means for interconnecting said means for manipulating, and said means for representing, to transfer said first and said second electrical signals;
a plotting board;
a carriage body mounted to traverse said plotting board;
an indicator body, including an indicator for said plotting board, and a meter means for manifesting a selected one of said electrical signals, said indicator body being mounted to traverse said carriage;
motive means for driving one of said bodies at a predetermined rate of speed; and

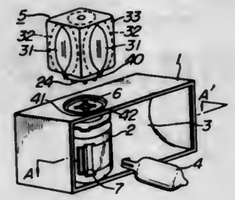
manually controllable means for driving the other of said bodies in accordance with indications of said meter means, whereby to plot variations in said one of said electrical signals over an independent time interval.

3,439,157
POINT LIGHT SOURCE
Walter E. Myles, Alexandria, Va., assignor to Singer-General Precision, Inc., Binghamton, N.Y., a corporation of Delaware
Filed Feb. 11, 1966, Ser. No. 526,858
Int. Cl. G02b 5/14
U.S. Cl. 240—1 23 Claims



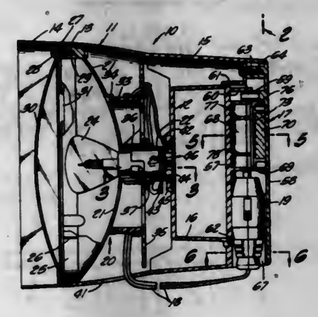
A light conducting cylinder is polished to reduce the losses due to imperfections in its circumference. One end of the cylinder is tapered at an angle such that the critical angle is not exceeded to prevent loss of light through the taper until the end of the cylinder is the desired diameter. A light diffusing material such as finely divided aluminum oxide suspended in a frozen transparent substance such as water glass is mounted on the small diameter end of the cylinder. This device gathers light through a large area and radiates it through a small area to increase the radiation intensity.

3,439,158
FLASH LIGHTING APPARATUS FOR PHOTOGRAPHY
Yasunori Sawada, Osaka, Japan, assignor to West Electric Co., Ltd., Osaka, Japan, a corporation of Japan
Filed Nov. 21, 1966, Ser. No. 595,791
Claims priority, application Japan, Nov. 24, 1965, 40/73,075, 40/73,076, 40/73,077, 40/73,078, 40/73,079, 40/73,080
Int. Cl. G03b 15/05
U.S. Cl. 240—1.3 5 Claims



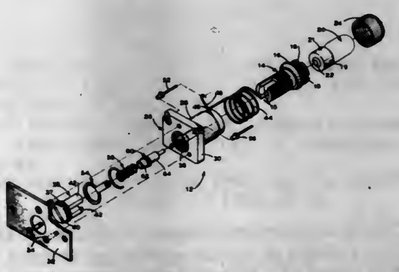
1. A flash lighting apparatus for photography comprising a box-shaped casing having an open end; a reflecting plate disposed in said opening; a first flash lighting section disposed in said opening, said first flash lighting section including a socket structure rotatably disposed in said opening and having on its outer peripheral face a socket for mounting thereon a single-flashing photoflash lamp; and a second flash lighting section disposed on one side face of said casing, said second flash lighting section including a rotary mounting structure having a socket for mounting thereon a flash cube and arranged to be rotated to a plurality of predetermined angular positions in an intermittent fashion.

3,439,159
AUXILIARY LIGHT UNIT
John W. McRoskey and Leonard H. McRoskey, Los Angeles, Calif., assignors to Republic Tool & Manufacturing Corp., a corporation of California
Filed Nov. 9, 1966, Ser. No. 593,175
Int. Cl. B60q 1/56
U.S. Cl. 240—8.18 4 Claims



An auxiliary light unit having a shell-like outer casing with a forward brim defining an opening for projection of light, an inner rotatably supported casing unit within the outer casing which has an extension abutting said brim, a curved wall providing a reflector, and a winding reel extending from the back side of the reflector wall. The inner casing unit being rotatable by means of the wall extension to manually wind an electrical cord on the reel, this cord being connected to a lamp at the center of the reflector wall. A hollow handle is supported on the rear of the outer casing so as to extend transversely in spaced relation, this handle having an end opening to releasably receive and stow a connection fitting of the electrical cord, the handle also being provided with a magnet permitting removable attachment of the light to a metal surface.

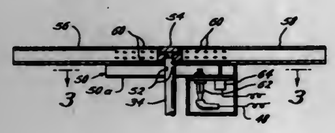
3,439,160
LAMP FOCUSING MECHANISM
Joseph R. Andreaggi, Short Hills, N.J., assignor to Weston Instruments, Inc., Newark, N.J., a corporation of Delaware
Filed May 2, 1966, Ser. No. 546,685
Int. Cl. F21v 19/02
U.S. Cl. 240—44.2 7 Claims



A lamp focusing mechanism is described which provides three-dimensional adjustment of a lamp filament. Use is made of a hollow lamp-supporting socket and a socket adjustment mechanism. Part of the socket exterior sur-

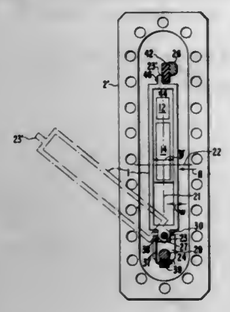
face threadedly engages a stationary housing and this part also includes a slotted portion which receives and is rotated by, a portion of the socket adjustment mechanism. The socket is spring-loaded against rotation by an electrically conductive coil spring which also serves to provide a conductive path between the socket, and one lamp contact in electrical contact with the socket, and a first pin-like terminal which has one end mounted on the housing and a free end which projects externally of the housing. Mounted for axial movement in the socket is a spring-loaded contact which provides a second conductive path between a second lamp contact and a second pin-like terminal similarly to the first terminal.

3,439,161
HEATER
Lorin A. McElwee, Roy E. Cordray, and George J. Greene, Jr., Shreveport, La., assignors to UGC Instruments, Inc., Houston, Tex., a corporation of Delaware
Filed Sept. 16, 1966, Ser. No. 579,926
Int. Cl. E01b *7/24*
U.S. Cl. 246—428 **18 Claims**



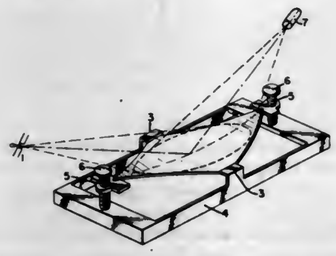
A heater adapted for heating a railroad track switch having a plurality of axially aligned spaced apart burner tubes, means delivering fuel to one of the burner tubes, the tubes defining aspirators for admitting air therein and ignition means to ignite the fuel air mixture delivered to the burner tubes so that combustion takes place within the tubes and at the open spaces between the tubes.

3,439,162
PIVOTABLE MOUNT FOR ELECTRIC FIELD ELECTRODES OF A CYCLOIDAL MASS SPECTROMETER
Raymond A. Erickson, San Jose, Calif., assignor to Varian Associates, Palo Alto, Calif., a corporation of California
Filed Mar. 24, 1966, Ser. No. 537,188
Int. Cl. B01d *59/44*
U.S. Cl. 250—41.9 **8 Claims**



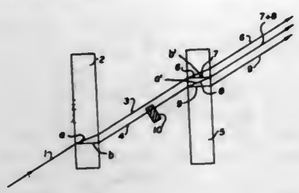
A cycloidal mass spectrometer is disclosed. The spectrometer includes an evacuated envelope disposed between the pole pieces of a powerful electromagnet and containing an array of axially aligned parallel elongated ring-shaped electrodes for producing a region of electric field at right angles to the D.C. magnetic field produced by the magnet. An ion source is contained within the envelope for forming and projecting a stream of ions to be analyzed into the region of crossed electric and magnetic fields for mass analysis of the ions. The envelope includes a demountable flange having an electrode support structure for the rings projecting therefrom. The ring electrodes are pivotably mounted from the support structure such that separate ones of the ring electrodes are pivotable out of the array of electrodes for maintenance and pivotable back into an operating position in the array without loss of alignment.

3,439,163
X-RAY CRYSTAL MONOCHROMATOR WITH A REFLECTING SURFACE THAT CONFORMS TO PART OF A LOGARITHMIC SPIRAL
Wilhelmus Karel de Jongh, Emmasingel, Eindhoven, Netherlands, assignor to North American Philips Company, Inc., New York, N.Y., a corporation of Delaware
Filed Sept. 3, 1965, Ser. No. 484,907
Claims priority, application Netherlands, Sept. 10, 1964, 6410514
Int. Cl. G01n *23/20, 23/04, 21/34*
U.S. Cl. 250—51.5 **4 Claims**



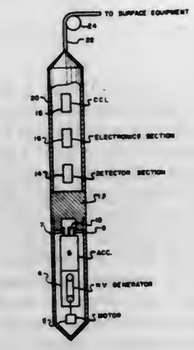
A crystal monochromator for diffracting X-rays which is in the form of an elongated strip bent so that its surface is part of a logarithmic spiral. The elongated strip may be a single crystal, or flexible carrier material such as sheet steel laminated with substances which reflect X-rays.

3,439,164
METHOD OF OBTAINING X-RAY INTERFERENCE PATTERNS
Nathan Spielberg, Hartsdale, and Joshua Ladell, Monsey, N.Y., assignors to North American Philips Company, Inc., New York, N.Y., a corporation of Delaware
Filed Sept. 8, 1967, Ser. No. 666,280
Int. Cl. G01n *23/20;* **H01j** *37/20*
U.S. Cl. 250—51.5 **3 Claims**



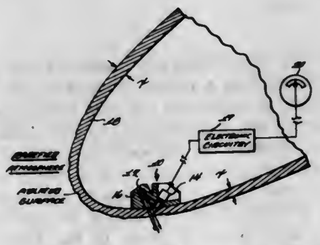
X-ray interference patterns are obtained using two parallel perfect crystals of the same thicknes which exhibit the Borrmann effect. The crystals are oriented so that a monochromatic X-ray beam incident on the first crystal is simultaneously diffracted from two independent sets of planes in the crystal. The two forward diffracted beams which are parallel but displaced from each other are incident upon the second crystal. The Borrman effect then gives rise to three parallel but displaced forward diffracted beams from the second crystal. The central forward diffracted beam from the second crystal results from a coherent recombination of the two displaced incident beams. The relative phase shift effected by placing a phase shifter in the path of one of the beams incident upon the second crystal is monitored by a change in intensity in the central forward diffracted beam coming from the second crystal.

3,439,165
RADIOACTIVE WELL LOGGING SYSTEM HAVING A MULTIPLE CONDUCTOR CABLE
Eric C. Hopkinson and Arthur H. Youmans, Houston, Tex., assignors to Dresser Industries, Inc., Dallas, Tex., a corporation of Delaware
Filed Jan. 6, 1965, Ser. No. 423,811
Int. Cl. G01t *1/20*
U.S. Cl. 250—71.5 **6 Claims**



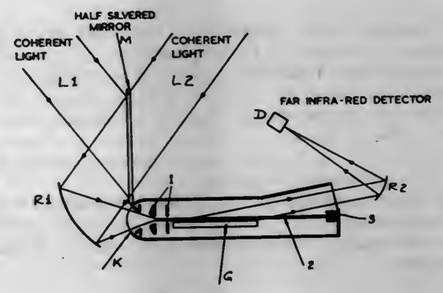
A pulsed D-T accelerator is housed with a gamma ray detector within a logging tool, the detector being gated in synchronism with the pulsation of the accelerator. The source-detector spacing maximizes desirable gamma ray reception and minimizes undesirable radiation detection. The discriminator setting of the detector is set within a range of 1.9–2.4 mev. to further eliminate undesirable radiation detection. Neutron shielding, a mixture of boron-10 and epoxy resin, is arranged about the detector and instrument housing. An armored seven conductor cable, having its center conductor arranged to carry the logging detector output signal, connects the logging tool to the surface electronics.

3,439,166
MEASURING ABLATION SHIELD THICKNESS
Henry R. Chope, Columbus, Ohio, assignor to The Industrial Nucleonics Corporation, a corporation of Ohio
Filed Nov. 4, 1964, Ser. No. 408,955
Int. Cl. G01t *1/16;* **H01j** *39/12, 35/00*
U.S. Cl. 250—83.3 **11 Claims**



For measuring the thickness of the nose section or outer skin or wall of a space vehicle during re-entry one or more nucleonics sensing devices are provided on the nose section of the vehicle. Two approaches are described. One approach uses a penetrating radiation source and detects the backscattered radiation from the outer skin or wall. Various simple or compound radiation sources can be used in this first method. Among those described and generically or specifically claimed are (1) a gamma radiating source, (2) a beta excited X-ray source, and (3) a novel compound beta-bremsstrahlung X-ray source.

3,439,167
INFRARED RADIATION SOURCE UTILIZING TWO BEAMS OF COHERENT RADIATION AND A DISCHARGE TUBE HAVING A METALLIC GRATING THEREIN
Alan John Fox, Horley, Surrey, and Norman William White Smith, Reigate, Surrey, England, assignors to North American Philips Company, Inc., New York, N.Y., a corporation of Delaware
Filed Jan. 25, 1965, Ser. No. 427,548
Claims priority, application Great Britain, Jan. 24, 1964, 3,172/64
Int. Cl. H01j *39/12, 35/00, 37/00*
U.S. Cl. 250—84 **9 Claims**



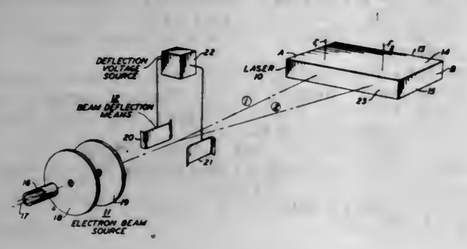
A source of infrared radiation employing an electron discharge tube having a photoemissive cathode and means to form elecerons emitted by the cathode into a laminar beam of electrons is disclosed. A metallic-grating is disposed so that the laminar beam of electrons travels along the surface thereof in a direction perpendicular to the grooves in the grating. Two coherent beams of electromagnetic radiation are applied to the cathode which produces a spatially coherent electron beam modulated at the difference frequency of the coherent beams of electromagnetic radiation. The modulated electron beam interacts with the grating producing infrared radiation which can be detected by a detector positioned at the correct viewing angle to intercept this radiation.

3,439,168
IDENTIFIABLE SYNTHETIC POLYMERIC MATERIALS CONTAINING GOLD, INDIUM AND/OR LANTHANUM
Charles H. Lindsley, Asheville, N.C., assignor to American Enka Corporation, Enka, N.C., a corporation of Delaware
No Drawing. Filed Aug. 10, 1964, Ser. No. 388,671
Int. Cl. G21h *5/02;* **H01j** *39/26*
U.S. Cl. 250—106 **5 Claims**

Identifying a manufactured organic plastic product as to its origin of manufacture comprising including in polymeric material from which such products are made a trace amount of a metal selected from the group consisting of gold, indium and lanthanum, said amount being less than 1 part by weight per million parts by weight of the organic polymeric material but yet in amounts

sufficient to provide a measurable amount of radioactivity after neutron activation.

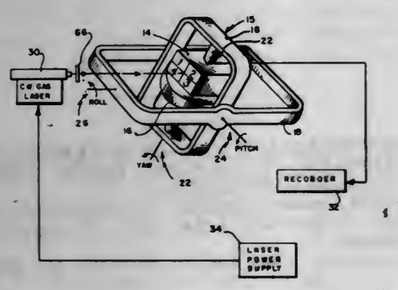
3,439,169
TUNABLE SOLID STATE LASER
William T. Lynch, Summit, N.J., assignor to Bell Telephone Laboratories, Incorporated, New York, N.Y., a corporation of New York
Filed Feb. 11, 1965, Ser. No. 431,864
Int. Cl. H04b 9/00
U.S. Cl. 250—199 10 Claims



A tunable, beam-pumped, solid state laser whose lasing frequency is controlled by the positioning of an impinging pumping beam. Tunability is achieved by grading the composition of the laser material over its lengths. As the pumping beam position is changed, a different portion of the sample is excited and caused to lase at a particular frequency that is characteristic of the composition at the portion of the material excited.

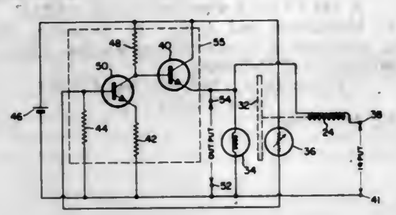
Various embodiments are disclosed including a tunable monochromatic light source, a tunable local oscillator for a heterodyne mixer-detector and a variable frequency amplifier.

3,439,170
INERTIAL PLATFORM STABILIZATION EMPLOYING A LASER BEAM
Peter V. Zagone, Alamogordo, N. Mex., Jack E. Hesse, Jr., East Hartford, Conn., and Richard P. Jones, Alamogordo, N. Mex., assignors to the United States of America as represented by the Secretary of the Air Force
Filed Mar. 17, 1967, Ser. No. 624,678
Int. Cl. G01j 1/20
U.S. Cl. 250—203 3 Claims



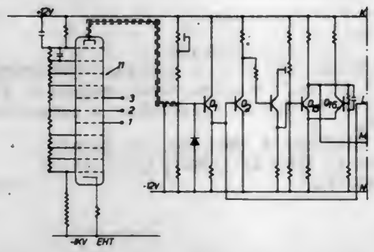
Four light sensors comprising wedge shaped transparent prisms each having a silicon voltaic cell attached, are mounted on an inertial platform capable of rotation in roll, pitch and yaw. Their interception of a laser beam from a single stationary collimated plane polarized light source is used as a reference for measuring attitude.

3,439,171
PHOTOELECTRIC MEMORY DEVICE IN WHICH THE CURRENT THROUGH THE SOURCE IS INDICATIVE OF THE REMEMBERED SIGNAL
William D. MacGeorge, Doylestown, Pa., assignor to Honeywell Inc., Minneapolis, Minn., a corporation of Delaware
Filed Oct. 20, 1965, Ser. No. 498,429
Int. Cl. G01j 1/32
U.S. Cl. 250—205 6 Claims



A memory device is shown having a coil and shutter arranged for rotational movement within a magnetic field. An input signal is applied through the coil to a light source which illuminates a photoelectric cell. The shutter is arranged between the light and photoelectric cell for varying the amount of illumination upon the photoelectric cell when a current is flowing through the coil. The output of the photoelectric cell is applied through an amplifier to the light source for balancing the potential across the light against the input signal potential and thus stopping the current flow within the coil. The output of the memory device is generated across the light source and retained by the light, shutter, photocell, and amplifier during the absence of the input signal.

3,439,172
AUTOMATIC GAIN SYSTEM FOR A PHOTOMULTIPLIER TUBE
Thomas Henry Chapman, Sanderstead, Surrey, England, assignor to Gunson's Sortex Limited, London, England, a corporation of Great Britain
Filed Jan. 30, 1967, Ser. No. 612,528
Claims priority, application Great Britain, Feb. 8, 1966, 5,525/66
Int. Cl. H01j 39/12; H03k 1/12
U.S. Cl. 250—207 12 Claims



A system for controlling automatically the gain of a circuit which receives a pulsed waveform, the pulses of which may vary in amplitude and may have signals superimposed thereon due, for example, to light reflected from objects to be scanned. A capacitor is charged with said pulses and superimposed signals and a switch is actuated automatically during each excursion of said pulsed waveform in a predetermined direction to discharge said capacitor at least partially prior to the arrival of the next superimposed signal. The voltage across said capacitor is compared with a reference voltage to produce a gain control voltage which is used to control the gain of the

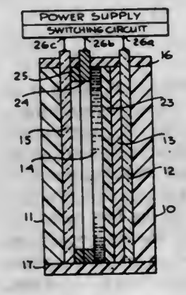
circuit so that on receipt of each pulse the circuit gain is increased to and maintained at a substantially constant high value during the presence of a signal and is amplitude variations of the pulses on which the signals are superimposed are substantially eliminated.

3,439,173
MOTION TRANSLATOR AND SELF-SYNCHRONOUS SYSTEM USING SAME
Louis Walter Davies, Roseville, near Sydney, New South Wales, Australia, assignor to Amalgamated Wireless (Australasia) Limited, Sydney, New South Wales, Australia
Filed Aug. 30, 1966, Ser. No. 576,087
Claims priority, application Australia, Sept. 10, 1965, 63,868/65
Int. Cl. H01j 39/12
U.S. Cl. 250—212 22 Claims



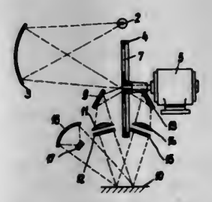
A motion translator comprising a photo-sensitive semiconductor device having an axis of rotation, at least three electrical contacts symmetrically disposed about said axis of rotation, and a single source of electromagnetic radiation adapted to excite said photo-sensitive device are disclosed. The source of radiation is provided with means to constrain said radiation into a beam impinging on a part of said semiconductor device. Means which vary the angular position of said beam about the axis of rotation relative to the arrangement of the electrical contacts are provided. The electrical contacts may be ohmic contacts or rectifying junctions. The relative magnitude of voltages developed between the electrical contacts provide an indication of the angular position of the beam relative to the axis. Self-synchronized systems using two or more of the translators are also disclosed.

3,439,174
ELECTROLYTIC IMAGE TRANSDUCER
Alvin A. Snaper, 9722 Casaba, Chatsworth, Calif. 91311
Filed Mar. 7, 1966, Ser. No. 532,210
Int. Cl. H01j 31/50
U.S. Cl. 250—213 3 Claims



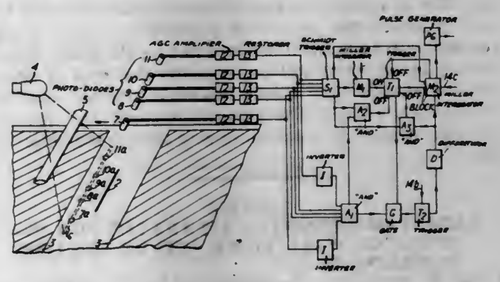
The present invention is an image-forming mechanism in which a light image is transformed or converted to a semi-permanent type of image, semi-permanent in the sense that the same image area can be used on successive occasions with each image being retained thereon as long as is necessary or desired. The mechanism is based on an electrolytic process and is constructed in a laminar or sandwich arrangement of several layers among which are included a transparent substrate, a transparent electrode, a transparent photoconductor, an electrolyte layer and a metallic anode. The light image is transformed by the deposition of a corresponding metallic image on the photoconductive layer.

3,439,175
MEASURING DEVICE FOR MEASURING A LAYER OF LIQUID ON A SURFACE
Reiner Kammuller, Delft, Netherlands, and Burkhardt Wirz, Munich, Germany, assignors to Roland Offsetmaschinenfabrik Faber & Schleicher AG, Offenbach am Main, Germany, a company of Germany
Filed May 26, 1965, Ser. No. 458,969
Claims priority, application Germany, May 29, 1964, R 37,986
Int. Cl. G01n 21/26, 21/30
U.S. Cl. 250—218 15 Claims



A device which measures the thickness of a layer of water on a surface area of a printing plate by sequentially directing a train of measuring light pulses and a train of reference light pulses having a wave length different from that of the measuring pulses upon the surface area to be supervised, and comparing the ratio of the measuring pulses and of the reference pulses as reflected by the layer of water.

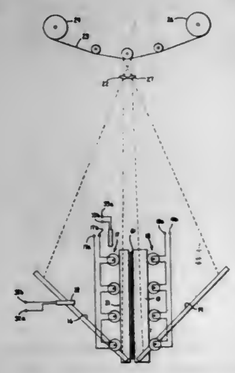
3,439,176
PHOTOELECTRIC REGISTER CONTROL OF PRESSES FOR PRINTING, FOLDING OR CUTTING WEBS
Edward T. Astley, Daniel L. King, and Daniel Gold, London, England, assignors to Crosfield Electronics Limited, London, England, a British company
Filed Feb. 21, 1966, Ser. No. 536,513
Claims priority, application Great Britain, Feb. 25, 1965, 8,188/65
Int. Cl. G01n 21/30
U.S. Cl. 250—219 11 Claims



In the register control of preprinted webs, to permit a single transverse register mark located between adjacent print areas to be distinguished from marks within the print areas, the unit for sensing the mark consists of a number of light-sensitive elements arranged so that they

view transversely spaced points in the plane of the web. A logic circuit ensures that a register pulse is generated only when those elements in the path of the mark indicate a clear space, a mark and a clear space, in that order and during the same period elements outside the path of the mark continuously indicate a clear space.

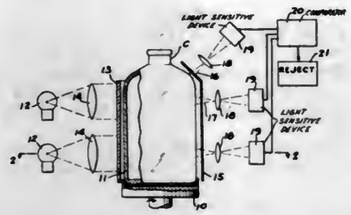
3,439,177
RADIATION-SENSITIVE CONTROL FOR PHOTOGRAPHIC REPRODUCING DEVICE
Elwood C. Rogers, Jr., Indianapolis, Ind., assignor to Fotomatic Corporation, Indianapolis, Ind., a corporation of Indiana
Filed Aug. 5, 1966, Ser. No. 570,660
Int. Cl. G01n *21/30*
U.S. Cl. 250—219 **10 Claims**



1. A continuous flow photographic reproducing device comprising, a document transport means for feeding documents in timed sequence along a predetermined path for photographing at a photograph station, a light source adapted when energized to illuminate said documents for photographing and to project light upon the increment of said path just ahead of said photograph station and upon the portion of said path extending through said photograph station, a first photoelectric cell adapted to collect light energy impinging upon a document just prior to photographing and when in said path increment, a second photoelectric cell adapted to receive light energy directly from said light source independently of light impingement on the document, a source of electrical power for energizing said light source, a fast-response control circuit network for controlling the level of energization of said light source by said power source in response to the variation in effectiveness of an input signal provided by said photoelectric cells, said photoelectric cells being coupled with said circuit network to vary the effectiveness of said input signal and consequently the level of energization of said light source inversely with the level of illumination of said first photoelectric cell and directly with the level of illumination of said second photoelectric cell.

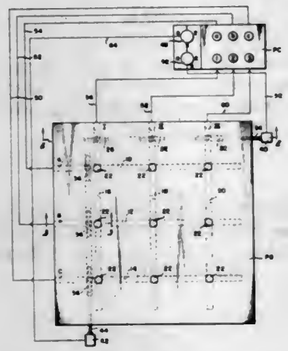
3,439,178
RADIATION-SENSITIVE APPARATUS FOR INSPECTING WALL THICKNESS OF HOLLOW CONTAINERS
Hans R. Rottmann, Poughkeepsie, N.Y., assignor to Owens-Illinois, Inc., a corporation of Ohio
Filed Feb. 8, 1965, Ser. No. 430,796
Int. Cl. H01j *39/12*
U.S. Cl. 250—222 **5 Claims**

The disclosure herein comprises a method and apparatus for inspecting hollow containers for wall thickness and distribution of material through the wall including a method and apparatus for diffusely illuminating the container through an exterior surface of the wall and inspecting a diametrically opposed portion of the container for variations in transmission therethrough. When



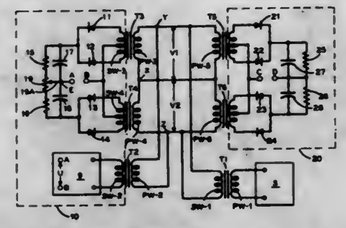
the transmission through the opposed portion of the wall varies, this can be utilized to record the varying thickness or to compare the thickness with a predetermined standard and cause a reject signal if the thickness varies from the predetermined standard.

3,439,179
LIGHT-RESPONSIVE CROSSBAR SWITCH HAVING VARIABLE INTENSITY CONTROL
Bernard Edward Shlesinger, Jr., 3906 Bruce Lane, Annandale, Va. 22003
Continuation-in-part of application Ser. No. 413,903, Nov. 25, 1964, now Patent No. 3,360,657, dated Dec. 26, 1967. This application Oct. 27, 1967, Ser. No. 678,585
Int. Cl. H01j *39/12*
U.S. Cl. 250—227 **17 Claims**



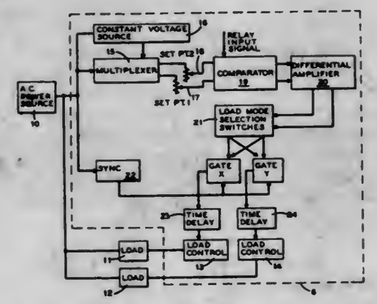
A cross bar switch comprising a panel board; a first series of light or wave transmitting or signal carrying members positioned in the panel board in parallel spaced relation to each other; a second series of light or wave transmitting or signal carrying members positioned in the panel board in parallel spaced relation to each other and in crossed relation to the first series of members to form a grid arrangement having spaced intersections; a separate light, wave, or signal transmitting source for each of said transmitting or signal carrying members; means for selectively operating each of said sources; the spaced sections in the zone thereof each having located therein a light or wave or signal sensitive element sensitive to the combined light or wave or signal only; whereby the electrical components will be operated depending upon their electrical operating level.

3,439,180
INSULATING QUADRIPOLES
Roger Charbonnier, Meudon, Hauts-de-Seine, France, assignor to Societe d'Instrumentation Schlumberger, Paris, France, a corporation of France
Filed Jan. 17, 1967, Ser. No. 609,874
Int. Cl. H02j *3/26*
U.S. Cl. 307—17 **3 Claims**



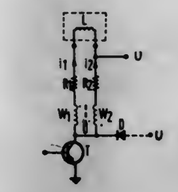
An insulating quadripole is provided which includes a voltage supply transformer interposed between a source of square-wave voltages and two identical groups of circuits each comprising two coupling transformers, the primaries of which are connected in series to the terminals of the secondary of the said supply transformer. The primaries are joined at a common terminal and the secondary of each coupling transformer has a center tap and is associated with a pair of diodes for full-wave rectification of the current through each secondary transformer. Each pair of diodes is connected to a load resistor and a filter capacitor, the polarities of the two pairs of diodes in the same group being opposite to one another. One terminal of a pair of input or output terminals of the quadripole is defined by the junction of the center taps of the secondaries of the coupling transformers of one group and the other terminal is defined by the junction point of the two resistors and the two capacitors of the said one group.

3,439,181
DUAL SET POINT SOLID STATE RELAY
Peter Goltiandis, Union, and Austin T. Kelly, Morristown, N.J., assignors to Weston Instruments, Inc., Newark, N.J., a corporation of Delaware
Filed Mar. 10, 1967, Ser. No. 622,235
Int. Cl. H02j *3/14*
U.S. Cl. 307—38 **9 Claims**



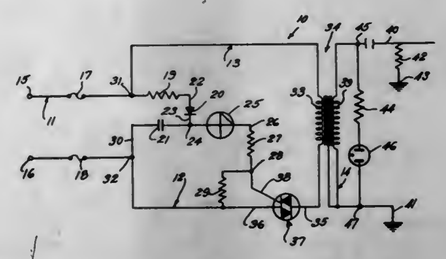
A dual set point solid state relay for controlling the application of load power to at least two loads. The relay alternately samples each set point for alternate sampling intervals and alternately compares the amplitude of an input signal to each set point signal. A different one of a pair of control devices is partially enabled during each alternate sampling interval and is fully enabled when the input signal undergoes an amplitude transition about one of the set point signals. Each control device, when fully enabled, operates to connect an associated load to a source of load power.

3,439,182
SWITCHING ARRANGEMENT FOR THE CURRENT FEED OF AN INDUCTIVE LOAD
Peter Elsner, Munich, Germany, assignor to Siemens Aktiengesellschaft, a corporation of Germany
Filed Sept. 7, 1965, Ser. No. 485,515
Claims priority, application Germany, Sept. 10, 1964, S 93,072
Int. Cl. H01f *27/42, 35/00*
U.S. Cl. 307—104 **4 Claims**



A circuit arrangement for rapidly reversing the current direction in an inductive load as, for example, a writing head of a magnetic recorder and which utilizes a transformer connected in circuit with a load and a switch to obtain very rapid switching in the inductive load.

3,439,183
SOLID STATE FENCE CONTROLLER
Leonard L. Hurst, Jr., Albert Lea, Minn., assignor to International Electric Fence Co., Inc., Albert Lea, Minn., a corporation of Washington
Filed Mar. 16, 1966, Ser. No. 534,787
Int. Cl. H01h *47/18*
U.S. Cl. 307—132 **6 Claims**

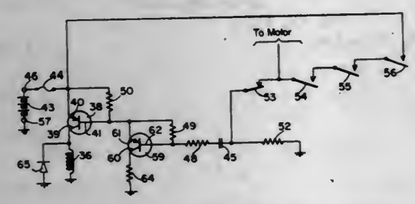


A solid state fence charger which has a bidirectional switching means in the input circuit and which has a control circuit for the bidirectional switching means which is in parallel with the input circuit and has an RC charging circuit and unidirectional element and which is discharged through a second unidirectional element which provides a gating circuit for the bidirectional switch. This circuit provides a safety feature in that the main switch will not be energized upon an electrical failure and thus the output circuit will be de-energized.

3,439,184
TAPE PLAYER CARTRIDGE EJECTOR CIRCUIT
Nicholas T. Neapolitakis, Chicago, Ill., assignor to Motorola, Inc., Franklin Park, Ill., a corporation of Illinois
Filed Nov. 14, 1967, Ser. No. 682,922
Int. Cl. H01h *7/00, 43/32, 47/32*
U.S. Cl. 307—141 **6 Claims**

A tape cartridge ejector mechanism for a tape player has a circuit for energizing a solenoid coil including a capacitor. A first terminal of the capacitor is coupled to

one terminal of the power supply through a first resistance and the second terminal of the capacitor is coupled to the same power supply terminal through a series of switches. The second terminal of the capacitor is also coupled to the other terminal of the power supply through a second resistance means. With the switches closed the voltage



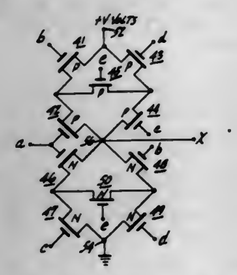
across the capacitor is substantially zero. Opening of any switch causes a momentary charging current to flow until the capacitor is fully charged. Transistors are coupled to portions of the first resistance and the charging current therethrough biases the transistors to conduction. The conducting transistors provide an energizing current to the solenoid coil.

3,439,185

LOGIC CIRCUITS EMPLOYING FIELD-EFFECT TRANSISTORS

John James Gibson, Princeton, N.J., assignor to Radio Corporation of America, a corporation of Delaware

Filed Jan. 11, 1966, Ser. No. 519,942
Int. Cl. H03k *19/08*
U.S. Cl. 307—205 **8 Claims**



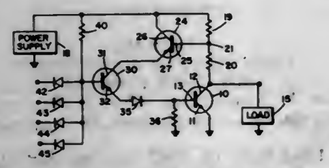
Field-effect transistors arranged in a bridge, one arm of which is capable of conducting current in either direction. These bridge circuits are useful as flip-flops, NOR gates and other logic circuits.

3,439,186

DIODE TRANSISTOR LOGIC CIRCUIT HAVING IMPROVED TURN-ON DRIVE

Walter C. Seelbach, Scottsdale, Ariz., assignor to Motorola, Inc., Franklin Park, Ill., a corporation of Illinois

Filed Oct. 18, 1965, Ser. No. 497,292
Int. Cl. H03k *19/36, 19/34, 19/40*
U.S. Cl. 307—214 **10 Claims**



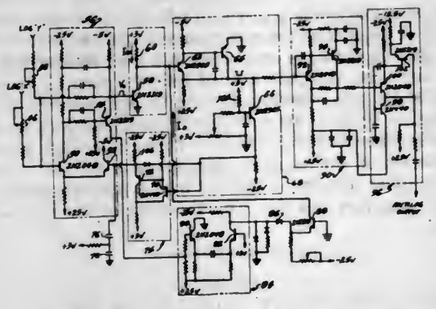
A diode tranistor logic circuit including a control semiconductor device interconnected between an input circuit and an output semiconductor device. The control semiconductor device is responsive to a predetermined binary input signal condition at the input circuit for controlling the conductive state of the output semiconductor device. Impedance means are connected between a power supply terminal and the output semiconductor device, and a node within the impedance means exists at one or the other of two discrete bias potentials. A feedback semiconductor device interconnects the impedance means and the control semiconductor device and is responsive to one of the two bias potentials at the node to provide turn-on drive current through the control semiconductor device to the output semiconductor device. When the output semiconductor device is driven into saturation and the current flow through the impedance means drops the bias potential at the node to the other of its two discrete values, the feedback semiconductor device is biased substantially nonconducting.

3,439,187

ANTILOGARITHMIC FUNCTION GENERATOR

Michael G. Strauss, Downers Grove, Ill., assignor to the United States of America as represented by the United States Atomic Energy Commission

Filed Aug. 2, 1966, Ser. No. 569,759
Int. Cl. G06g *7/12, 7/26*
U.S. Cl. 307—229 **6 Claims**



1. An antilogarithmic function generator for an input logarithmic pulse comprising a first triode transistor having an electrically grounded emitter, means for applying said input logarithmic pulse to the base of said transistor, the output of said transistor being taken from the collector thereof to provide a signal proportional to the antilogarithm of said input pulse, means for generating a quiescent reference first current, means for applying said first current to the collector of said transistor, means for generating a reference second current equal to the quiescent value of said first current, means for generating a signal proportional to a difference in value between said first and second currents, means responsive to said generated signal for regulating in the absence of said input logarithmic pulse the value of said first current, means for generating a third current equal to the quiescent value of said first current, and means for applying said third current to the collector of said transistor in the presence of said input logarithmic pulse.

3,439,188

METHOD FOR TREATING TITANIUM

Wayne H. Glover, Robert K. Southworth, David E. Rasmussen, William J. Unterberg, and Max Louden, Indianapolis, Ind., assignors to The Buehler Corporation, Indianapolis, Ind., a corporation of Indiana

No Drawing. Filed Mar. 8, 1965, Ser. No. 438,104
Int. Cl. C23b *5/52, 5/18*
U.S. Cl. 204—37 **3 Claims**

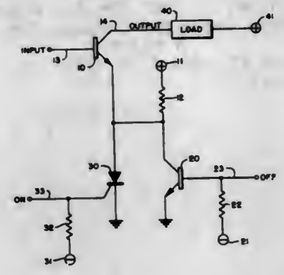
A process for treating titanium to make it more workable which comprises solvent cleaning the titanium workpiece, mechanically cleaning the workpiece to remove surface oxides and nitrides, copper plating with ultrasonic agitation, and heating to temperatures of 1650–1725° C., in a reducing atmosphere, followed by quenching the workpiece when it has cooled to ambient temperature.

3,439,189

GATED SWITCHING CIRCUIT COMPRISING PARALLEL COMBINATION OF LATCHING AND SHUNT SWITCHES SERIES-CONNECTED WITH INPUT-OUTPUT CONTROL MEANS

Richard E. Petry, Chicago, Ill., assignor to Teletype Corporation, Skokie, Ill., a corporation of Delaware

Filed Dec. 28, 1965, Ser. No. 517,001
Int. Cl. H03k *17/02, 17/56*
U.S. Cl. 307—252 **8 Claims**



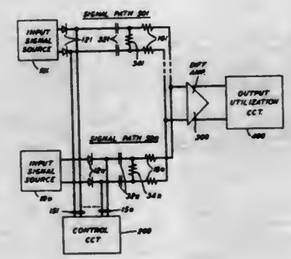
A gated switching circuit including a first transistor having a signal input connected to its base and a signal output connected to its collector; a source of bias potential connected to the emitter of the first transistor for normally rendering the first transistor nonconductive; a silicon controlled rectifier connected to the emitter of the first transistor for selectively connecting the emitter to ground thereby rendering the first transistor conductive and thus making the signal output responsive to the signal input, and a second transistor for selectively shunting the silicon controlled rectifier to ground thereby rendering the first transistor nonconductive by disabling the silicon controlled rectifier.

3,439,190

LOW-LEVEL SIGNAL SWITCHING ARRANGEMENTS

David Friedman, Howell Township, Monmouth County, N.J., assignor to Bell Telephone Laboratories, Incorporated, New York, N.Y., a corporation of New York

Filed Jan. 20, 1966, Ser. No. 521,880
Int. Cl. H03k *17/74*
U.S. Cl. 307—259 **8 Claims**



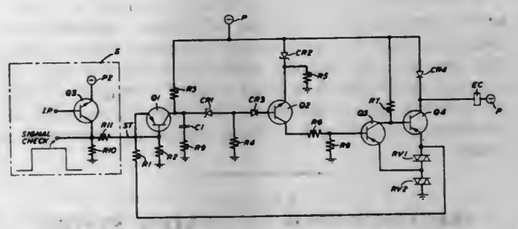
The effects of switching transients on low level signals are minimized in a diode switching arrangement by connecting the signal path to a difference amplifier through coupling capacitors interconnected by an impedance that is low in value relative to the common mode input impedance of the amplifier. In operation the capacitors register difference potentials proportional to any differences in the electrical characteristics of the diode switching elements, causing switching transients to appear as common mode signals to the amplifier and to be rejected.

3,439,191

TIMING CIRCUIT

George T. Kraemer, Warren Township, Somerset County, N.J., assignor to Bell Telephone Laboratories, Incorporated, New York, N.Y., a corporation of New York

Filed Dec. 28, 1965, Ser. No. 516,866
Int. Cl. H03k *17/26, 17/28*
U.S. Cl. 307—293 **5 Claims**



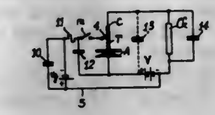
A timing circuit for introducing a time delay between an input signal and an output signal therefrom, utilizes a Zener diode to make the timing interval independent of variations in the voltage level of the power source. Further, the characteristics of the particular Zener diode control the duration of the timing interval.

3,439,192

CONTROL CIRCUITS FOR FIELD-EFFECT BIPOLAR SWITCHING DEVICES

Stanislas Teszner, Paris, France, assignor to Societe de Constructions Electro-Mecaniques Jeumont-Schneider, Paris, France

Filed May 19, 1965, Ser. No 457,129
Claims priority, application France, May 27, 1964, 975,762
Int. Cl. H03k *3/26, 19/08, 23/08*
U.S. Cl. 307—304 **5 Claims**

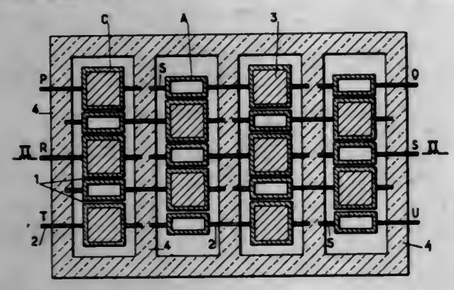


Novel control circuits for field-effect bipolar switching devices operating on the principle of bipolar conductance modulation by electrical field-effect. The modulation operation requires fast extraction of minority carriers in view of rapid extension of the depletion layer.

3,439,193
NUCLEAR REACTOR WITH THERMIONIC CONVERTER ARRAY

Andre Marc Bensussan, Paris, France, assignor to CSF—Compagnie Generale de Telegraphie Sans Fil, Paris, France

Filed Jan. 5, 1965, Ser. No. 423,441
Claims priority, application France, Jan. 7, 1964, 959,521
Int. Cl. H02n *11/00*
U.S. Cl. 310—4 3 Claims

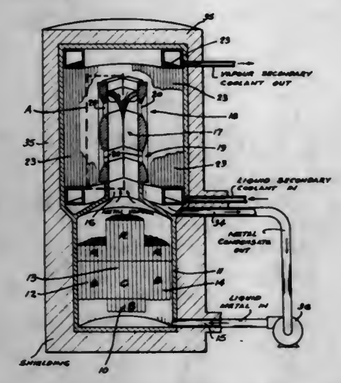


A thermionic converter providing a number of hollow anode elements and a number of cathode elements containing nuclear fuel and having electron emissive areas, said anode and cathode elements being arranged in columns and rows in a checkerboard arrangement with the columns being surrounded by dielectric material, all the elements in every row being electrically connected in series.

3,439,194
ELECTRIC POWER GENERATING SYSTEM

Ronald I. Hodge, Deep River, Ontario, Canada, assignor to Atomic Energy of Canada Limited, Ottawa, Ontario, Canada, a corporation of Canada

Filed Feb. 19, 1965, Ser. No. 434,074
Int. Cl. H02k *45/00*
U.S. Cl. 310—11 9 Claims

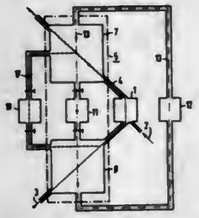


1. A system for generating electric power comprising:
(a) a fast nuclear reactor having a coolant cycle with an intake of liquid alkali metal and an output of said metal in vapor form,
(b) a magnetohydrodynamic generator connected to receive said vapor at a first pressure, said generator including
(i) nozzle means,
(ii) means for passing said vapor through and beyond said nozzle means as an expanding stream,
(iii) a condenser downstream of said nozzle means for condensing said vapor while extracting heat therefrom and maintaining a second pressure lower than said first pressure,
(iv) means providing a magnetic field in a direction transverse to said stream,
(v) and electrodes spaced apart from each other in the direction extending transversely of both said stream and said field,
(c) and means for returning said condensed vapor to the intake of said coolant field,
(d) said generator being located adjacent said reactor with said expanding stream exposed to gamma radiation from said reactor to raise the degree of ionization of said stream above its thermal equilibrium value.

3,439,195
METHOD AND APPARATUS FOR RECOVERING SEEDING MATERIAL USED WITH MHD GENERATORS

Werner Rummel, Erlangen, Germany, assignor to Siemens Aktiengesellschaft, a corporation of Germany

Filed July 19, 1965, Ser. No. 472,989
Claims priority, application Germany, July 28, 1964, S 92,299
Int. Cl. H02k *7/00*; G21d *7/02*
U.S. Cl. 310—11 13 Claims

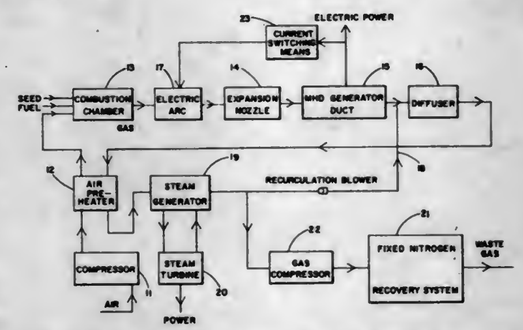


MHD generator installation includes discharge vessel receiving gaseous combustion products from the generator for contacting and heating a liquid heat-exchange medium having at one zone of the discharge vessel a temperature just below the boiling point of seeding material used in the generator, supply vessel for combustion air located upstream of the generator, the air being contacted by the heated medium and having at a predetermined zone of the supply vessel a temperature higher than the seeding material boiling point, and conduits for continuously passing heat-exchanging medium from the aforementioned discharge vessel zone to the aforementioned vessel zone.

3,439,196
METHOD OF SUPPLYING ELECTRIC POWER AND THERMAL FIXATION OF NITROGEN

Finn A. Hals, Lexington, Mass., assignor to Avco Corporation, Cincinnati, Ohio, a corporation of Delaware

Filed Sept. 29, 1965, Ser. No. 491,189
Int. Cl. H02k *45/00*; G21d *7/02*
U.S. Cl. 310—11 5 Claims

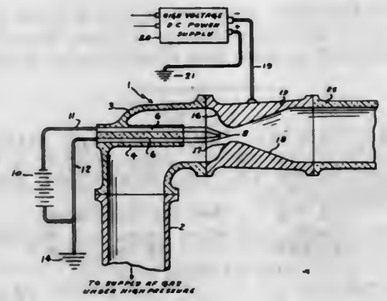


There is disclosed a method of producing electrical power and nitric oxide in a magnetohydrodynamic generator environment wherein excess oxygen for combustion is provided during off-peak periods whereby maximum generator efficiency is provided during peak power periods and this efficiency is decreased during off-peak periods to permit maximum production of nitric oxide.

3,439,197
GENERATION OF IONS IN HIGH PRESSURE HIGH VELOCITY GAS STREAM

Hans J. P. Von Ohain, Dayton, Ohio, Frank L. Wattendorf, Paris, France, and Maurice O. Lawson, Dayton, Ohio, assignors to the United States of America as represented by the Secretary of the Air Force

Filed Feb. 16, 1967, Ser. No. 617,771
Int. Cl. H02k *45/00*; G21d *7/02*
U.S. Cl. 310—11 3 Claims

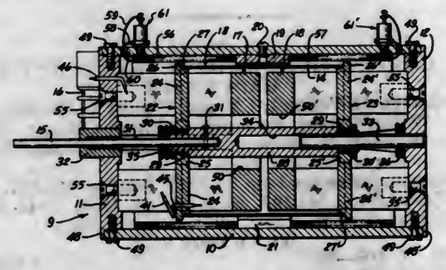


In electro-fluid-dynamic power conversion apparatus, limits of pressure and density of the ion transport gas are reached where the desirable corona discharge for generating ions breaks down into a spark or plasma type discharge. To avoid this condition, the gas duct is constructed to include an electrically conducting expansion nozzle, charged to a high electrical potential and also serving as an attractor electrode. A corona generating electrode is positioned adjacent the throat of the expansion nozzle and is heated to a high temperature. In the boundary layer in the immediate vicinity of the corona electrode, due to the high temperature, there exists a zone of relatively low gas density and correspondingly low breakdown field strength. An abundant stream of unipolar ions can then be pulled into the gas stream from the heated corona electrode by the attractor electrode potential and be swept downstream in the jet discharge of the expansion nozzle.

3,439,198
ELECTRICAL ACTUATOR HAVING A MECHANICAL OUTPUT

Robert H. Lee, 2820 Terraza Place, Fullerton, Calif. 92632

Filed Dec. 27, 1965, Ser. No. 516,371
Int. Cl. H02k *41/02*
U.S. Cl. 310—13 5 Claims

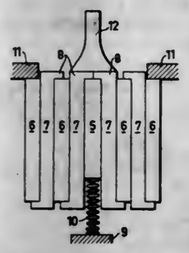


The present disclosure is related to an electrically responsive actuator for producing a mechanical movement. The actuator includes a pair of oppositely disposed permanent cylindrical magnets terminating in spaced relation. The magnets are secured to end caps of a cylindrical housing to form a magnetic frame. A flux concentrating ring is mounted within the central portion of the housing to concentrate the flux within the air gap immediately adjacent the inner ends of the permanent magnets. A coil is supported at the opposite ends by similar spider end members carried by a central supporting rod or shaft assembly.

3,439,199
MAGNETOSTRICTIVE UNIT

Gunnar M. Bergstrand, Gokvagen 75, Nasbypark, Sweden, and Per-Arne Tove, Ringvagen 36, Uppsala, Sweden

Filed May 23, 1966, Ser. No. 552,263
Claims priority, application Sweden, May 26, 1965, 6,930/65
Int. Cl. H02h *11/00*
U.S. Cl. 310—26 3 Claims

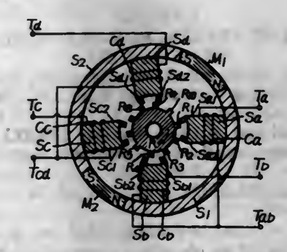


A mangetostrictive unit to perform a limited force transmitting stroke when subjected to the influence of a magnetic field. A plurality of magnetostrictive rods possessing opposite magnetostrictive characteristics are arranged parallel to each other side by side in at least one row in such a way that two adjacent rods have opposite characteristics. Every other rod in each row has a hook at each end and the hooks project in different transverse directions to engage the end surfaces of adjacent rods, whereby the rods form a continuous chain transmitting forces in the longitudinal direction of the rods. The free end of the first rod in each row rests on a stationary support, while the free end of the last rod in each row acts upon a movable member.

3,439,200
REVERSIBLE STEPPING MOTOR WITH BRAKING COILS AND BIASING PERMANENT MAGNETS

Bunjiro Saito and Tateo Suga, Tokyo, Japan, assignors to Kabushikikaisha Yokagawa Denki Seisakusho Yokogawa Electric Works, Ltd., Tokyo, Japan, a corporation of Japan

Filed Dec. 13, 1966, Ser. No. 601,456
Claims priority, application Japan, Jan. 18, 1966, 41/2,736
Int. Cl. H02k *37/00*
U.S. Cl. 310—49 2 Claims



1. A step motor comprising a rotor core having a plurality of poles spaced apart at substantially equiangular intervals, stator cores of an integral multiple of 4 having

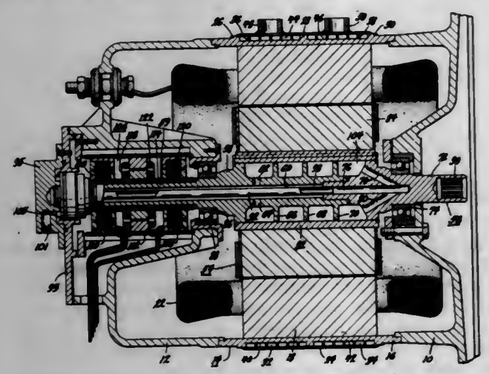
poles spaced apart an angular distance substantially equal to the distance between the adjacent poles of the rotor core, permanent magnets energizing the stator cores, two groups of exciting coils would on the stator cores for normal and reverse rotation of the step motor, each group including two pairs of exciting coils, and means for exciting the two pairs of exciting coils of one group alternately, a magnetic flux produced by the permanent magnets in the stator cores being reduced by the excitation of the exciting coils to rotate the rotor core, and the two pairs of exciting coils of the other group being short-circuited for braking of the rotor core, whereby the rotor is driven step by step according to the operation of the means.

3,439,201

COOLING ARRANGEMENT FOR DYNAMOELECTRIC MACHINES

Irving M. Levy and James E. Whelan, Dayton, Ohio, assignors to General Motors Corporation, Detroit, Mich., a corporation of Delaware

Filed Oct. 6, 1965, Ser. No. 493,436
Int. Cl. H02k *9/19*
U.S. Cl. 310—52 **9 Claims**



This invention relates to cooling arrangements for cooling the rotor and the stator of an induction motor. The rotor assembly of the induction motor includes a shaft having a bore that contains a pipe. The space between the bore and the pipe forms an annular passage which feeds a chamber located within the rotor of the induction motor. The outer portion of the rotor shaft is formed with radially extending ribs forming annular chambers that are connected with the pipe and with the annular passage. Cooling medium for the machine is circulated in contact with the exterior of the stator core through two sets of passages which are respectively connected with an inlet and an outlet and which are connected by a cross passage. The two passages extend circumferentially entirely about the stator core and cooling medium flows in opposite direction through the passages.

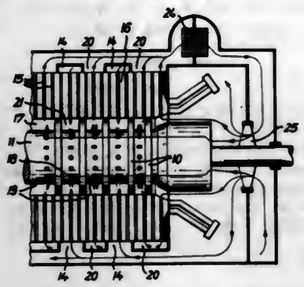
3,439,202

COOLING SYSTEM FOR ELECTRICAL GENERATORS

Karl Wanke, Mulheim (Ruhr), Germany, assignor to Licentia Patent-Verwaltungs G.m.b.H., Frankfurt am Main, Germany

Filed Apr. 6, 1967, Ser. No. 629,023
Claims priority, application Germany, Apr. 7, 1966, L 53,298
Int. Cl. H02k *9/00, 1/32, 3/24*
U.S. Cl. 310—52 **6 Claims**

A plurality of non-conducting rings are provided encircling the rotor of an electrical generator in the air gap between the rotor and stator thereof to divide the air gap into a plurality of axially spaced coolant sectors for a gas cooling system. The rings are, e.g., formed by winding a strip of plastic impregnated fiber glass gauze around the rotor to form a multi-layer ring of non-conductive mate-



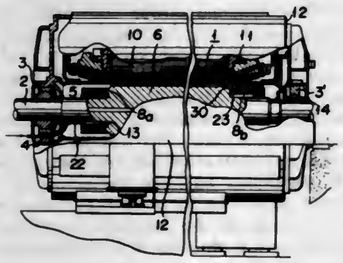
rial. The fiber glass gauze can be placed under tension during the winding operation to prestress the individual layers of the ring along their circumferential dimension.

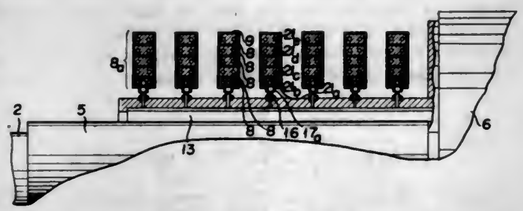
3,439,203

ROTOR OF AN ELECTRICAL ROTARY MACHINE

Hisao Koizumi, Kawasaki-shi, Japan, assignor to Tokyo Shibaura Electric Co., Ltd., Kawasaki-shi, Japan, a corporation of Japan

Filed Aug. 24, 1966, Ser. No. 574,607
Claims priority, application Japan, Aug. 31, 1965, 40/52,975; Oct. 5, 1965, 40/60,547
Int. Cl. H02k *9/19*
U.S. Cl. 310—54 **10 Claims**





A cooled rotor assembly wherein a free space is formed between the coolant supply nozzles and the rotor windings, thus enabling the hydraulic pressure to be lowered.

3,439,204

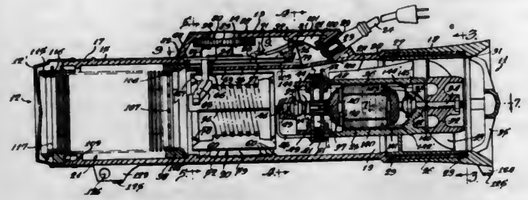
COMBINATION MOTOR-BLOWER UNIT FOR HAIR DRYER

George M. Ponczek, Chicago, Worthy L. Chambers, Wilmette, and Frederick J. Ritter, Chicago, Ill., assignors to Sunbeam Corporation, Chicago, Ill., a corporation of Illinois

Original application June 23, 1965, Ser. No. 466,307, now Patent No. 3,261,107, dated July 19, 1966. Divided and this application May 5, 1966, Ser. No. 547,807
Int. Cl. H02k *9/06*
U.S. Cl. 310—58 **4 Claims**

A hair dryer comprising a tubular casing of a size which can be hand grasped. A compact motor-blower unit is

housed at one end of the tubular casing and at the other end a collapsible hose storage chamber is formed. Sandwiched between the two ends is a heater unit. The motor and its two bearings are supported in the tubular casing



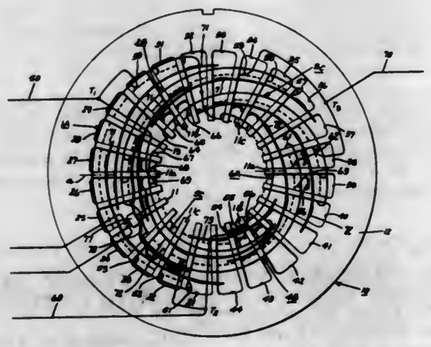
in such a manner to provide good air circulation through the casing for cooling purposes. A control switch assembly is provided on the casing for controlling the motor and heater.

3,439,205

MULTIPHASE ALTERNATING CURRENT DYNAMOELECTRIC MACHINE STATOR WINDING AND METHOD OF DISPOSING THE WINDING IN SLOTS OF THE STATOR

Jack A. Houtman, Holland, Mich., assignor to General Electric Company, a corporation of New York

Filed Mar. 28, 1966, Ser. No. 537,961
Int. Cl. H02k *17/12*
U.S. Cl. 310—180 **10 Claims**



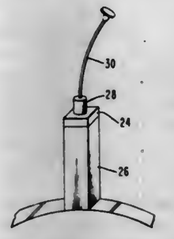
1. In a multiphase induction electric motor, a stator comprising a primary core member having end faces, a yoke section and a number of teeth sections forming coil accommodating slots and a bore; a plurality of winding phases displaced in phase from one another carried by said core; each of said winding phases including at least two pole groups each formed by at least two coils having predetermined numbers of electrical conductor turns; said coils each having first and second conductor side portions accommodated in some of said slots and end turn portions, joining said first and second side portions together, projecting beyond said core end faces; one of said winding phases including one pole group in which the end turn portions thereof are originally positioned radially next to the bore and another pole group in which the end turn portions thereof are originally positioned radially next to the yoke section; and end turn portions in all of the pole groups of at least one of the remaining winding phases of said plurality extending at least partially between end turn portions of adjacent pole groups, whereby potential engagement of end turn portions of different pole groups adjacent the bore is minimized.

3,439,206

BRUSH FOR ELECTRICAL DEVICES

Richard T. Grannells, 120 Standish Place, Mamaroneck, N.Y. 10543

Filed Aug. 31, 1965, Ser. No. 484,039
Int. Cl. H02h *13/00*; H01r *39/18*
U.S. Cl. 310—247 **3 Claims**



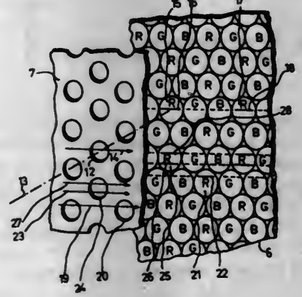
An electrical brush having a non-abrasive insulating portion a predetermined distance from the working end of the brush. The brush is connected to its power through or around the insulation such that when the brush wears down the connection rapidly burns away leaving only the insulation contacting the moving surface.

3,439,207

COLOR TUBE WITH SHADOW MASK APERTURES AND COLOR DOTS RELATED TO PERMIT USE IN SYSTEMS HAVING DIFFERENT NUMBERS OF SCANNING LINES

Piet Gerard Joseph Barten, Emmasingel, Eindhoven, Netherlands, assignor to North American Philips Company Inc., New York, N.Y., a corporation of Delaware

Filed July 7, 1967, Ser. No. 651,917
Claims priority, application Netherlands, July 9, 1966, 6609667
Int. Cl. H01j *29/32*
U.S. Cl. 313—92 **3 Claims**



A cathode-ray tube for reproducing color television images adapted for use with systems employing different line frequencies in which the lines of phosphors on the display screen and the apertures on the color selection electrode have a variable spacing.

3,439,208

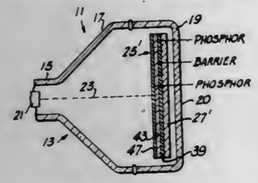
MULTICOLOR DISPLAY SCREEN DISTINGUISHING BETWEEN FIXED AND MOVING OBJECTS

Anthony V. Gallaro, Auburn, N.Y., and Bryce W. Van Noy, Bradford County, Pa., assignors to Sylvania Electric Products Inc., a corporation of Delaware

Continuation of application Ser. No. 500,085, Oct. 21, 1965. This application Nov. 21, 1967, Ser. No. 689,227
Int. Cl. H01j *29/18*
U.S. Cl. 313—92 **1 Claim**

A luminescent screen for a cathode ray tube, and a method for making the same, to provide a display of color indicia relating to fixed and moving objects in a

surveillance system employing a specific rate of scan. An inner layer of a UV excitable long persistence phosphor, having visible radiant energy emission, is disposed on a screen supporting surface. A filter layer is heat formed thereover to provide a barrier to the passage of cathode rays therethrough. Disposed on the filter layer,



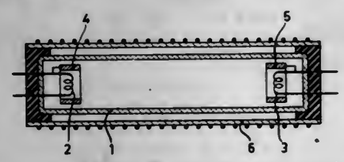
in proximal relationship to the cathode ray source, is an outer screen layer comprising a mixture of two electron responsive phosphors, one having short persistence and radiant energy emission in the UV region of the spectrum and the other having medium persistence and visible radiant energy emission.

3,439,209

POSITIVE COLUMN GAS DISCHARGE LAMP EMPLOYING AN ALLOY OF TWO METALS WITH IMPEDANCE-FREE TERMINAL CONNECTIONS

Gerardus Josephus Marie Ahsmann, Hans Joachim Gustav Meyer, and Jan Willem van der Laarse, Emmasingel, Eindhoven, Netherlands, assignors to North American Philips Company, Inc., New York, N.Y., a corporation of Delaware

Filed Aug. 15, 1966, Ser. No. 572,513
Claims priority, application Netherlands, Aug. 28, 1965, 6511266
Int. Cl. H01j *17/20*
U.S. Cl. 313—229 **6 Claims**



A positive-column gas-discharge lamp is disclosed which employs a rare gas at a pressure of 0.1 to 10 torr and an alloy of two metals having different ionization potentials. Substantially impedance-free connections to an energy source are provided and the lamp is operated at a wall temperature at which at least 20% of the metal having the lower ionization potential is ionized at the place of the positive column in each cross-sectional area of the lamp where the positive column is located while the density of the other metal has a value favorable to the radiation generation.

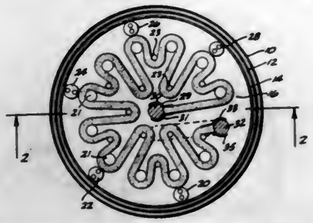
3,439,210

THERMIONIC EMISSION CATHODE HAVING REDUCED FRONTAL AREA AND ENLARGED EMISSION AREA FOR ION BOMBARDMENT ENVIRONMENT

Hayden E. Gallagher and Wolfgang Knauer, Malibu, Calif., assignors to Hughes Aircraft Company, Culver City, Calif., a corporation of Delaware

Filed Jan. 3, 1966, Ser. No. 518,246
Int. Cl. H01j *1/20*
U.S. Cl. 313—337 **6 Claims**

The thermionic emission cathode has an open face with emission material deposited upon a thin substrate which is fairly wide. The substrate and emission material are arranged normal to the open face with the thin edge of the emission material on the substrate directed toward the open face. It is sinuously arranged in the cathode structure between shielding walls thereof with adjacent portions of the emission material spaced sufficiently far apart that the plasma sheath can enter therebetween. Thus, the narrow edge faces the open face of the cathode for



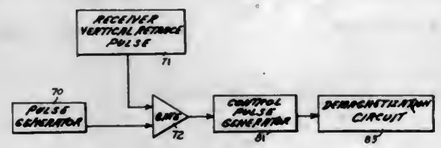
limited ion bombardment, but the entire side surface of the emission material is accessible to the plasma sheath for emission.

3,439,211

PERIODIC DEMAGNETIZATION OF COLOR CATHODE RAY TUBE ABOARD MOVING VEHICLE

Pierre Cassagne, Jean Besse, and Jean Finet, Asnieres, France, assignors to Compagnie Francaise de Television, a corporation of France

Filed Feb. 16, 1967, Ser. No. 616,697
Claims priority, application France, Feb. 25, 1966, 51,136; Jan. 26, 1967, 92,641
Int. Cl. H01j *29/98*; H01f *13/00*
U.S. Cl. 315—8 **3 Claims**



In order to insure proper demagnetization of metal parts included in a color television picture tube, especially aboard a moving vehicle, there is provided an automatic device for starting the demagnetization process, at periodic time intervals.

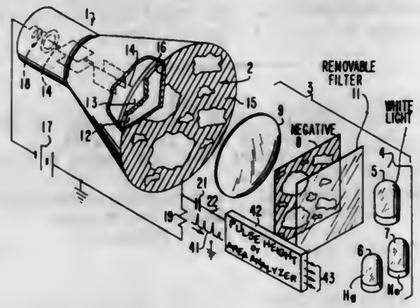
3,439,212

SPOT COUNTER EMPLOYING A VIDICON TUBE HAVING A PICKUP SCREEN WITH DIFFERENT SPECTRAL SENSITIVITIES

Joseph Feinstein, Menlo Park, Calif., assignor to Varian Associates, Palo Alto, Calif., a corporation of California

Filed Dec. 1, 1967, Ser. No. 687,284
Int. Cl. H01j *31/38*
U.S. Cl. 315—10 **11 Claims**

A spot counter method and apparatus is disclosed employing a vidicon tube. The vidicon tube has a pickup screen formed by a first photoconductive layer, hereinafter referred to as the outside layer, facing a source of optical radiant energy for illumination of a spot pattern to be counted with an overlaying second or inside photoconductive layer facing the scanning electron beam of the vidicon tube. The two photoconductive layers of the pickup screen have different spectral sensitivities. The inside photoconductive layer facing the electron beam is scanned by the beam to uniformly charge it. The pickup screen is then illuminated with optical radiant energy containing the spot image pattern to be counted. The optical energy is selected to be within the optical spectral range to render both photoconductive layers conductive in a spot pattern corresponding to the spot pattern to be counted. This causes the charge to be drained from the inside layer of the screen through both photoconductive layers in a pattern conforming to the spot image pattern to be counted. The spectral range of the spot pattern illumination is then altered to cause the outside photoconductive layer to be rendered nonconductive while the inside layer is maintained conductive in accordance with the spot pattern. The scanning electron beam of the vidicon tube is then caused to scan the inside photoconductive layer. When the beam first encounters any portion of a conductive spot in the inside photoconductive layer all portions of that spot are immediately charged to the same potential as the non-spot background portions of the charge pattern on the inside layer. The charging displacement current for charging the spot is detected to produce a spot output count signal. The counted spot is thereby eradicated such that it is not again counted by



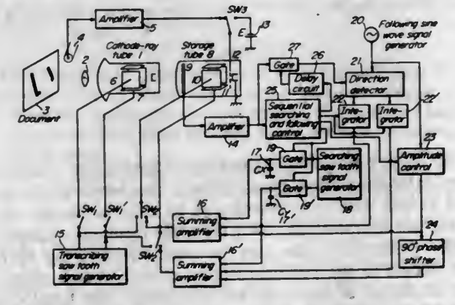
the scanning electron beam. In this manner, false counts from the spots in the pattern are avoided, independent of spot shape. The spectral range of the spot pattern illumination applied to the pickup screen may be altered by inserting an optical filter or by employing two sources of optical radiation for illuminating the pattern. In the latter case, by turning off one of the sources having a spectral range different from the other source, the spectral range of the illumination is changed. Photoconductive materials having substantially different spectral responses are typically characterized by one of the photoconductive materials having a bandgap energy substantially greater than the bandgap energy of the other photoconductive material.

3,439,213

APPARATUS FOR THE AUTOMATIC SCANNING OF LINE-STRUCTURED PATTERNS

Nobuhiko Sezaki, Yokohama, Hiroshi Katagiri, Kawasaki-shi, and Toyohisa Kaneko, Tokyo, Japan, assignors to Matsushita Electric Industrial Co., Ltd., Osaka, Japan, a corporation of Japan

Filed Nov. 29, 1965, Ser. No. 510,272
Claims priority, application Japan, Dec. 4, 1964, 40/69,760; June 21, 1965, 40/37,261, 40/37,262; Nov. 4, 1965, 40/68,004
Int. Cl. H01j *31/48*
U.S. Cl. 315—11 **6 Claims**



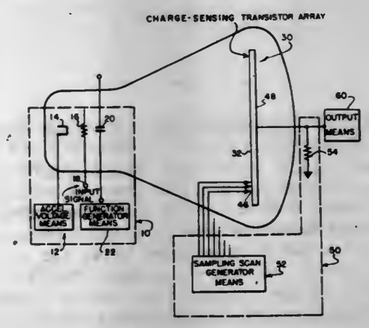
An automatic pattern following apparatus in which an image of the pattern is first transcribed onto an electrical image storage tube and then scanned by flying spot scanning until the scanning spot encounters a part of the pattern which is then followed by the scanning spot, thereby erasing the parts of the pattern already scanned, up to the end of the part of the pattern, whereupon the next part of the pattern is searched thereby making it possible to completely follow the whole pattern, each part of which is followed only once.

3,439,214

BEAM-JUNCTION SCAN CONVERTER

Louis J. Kabell, Palo Alto, Calif., assignor to Fairchild Camera and Instrument Corporation, Syosset, N.Y., a corporation of Delaware

Filed Mar. 4, 1968, Ser. No. 710,298
Int. Cl. H01j *31/48*
U.S. Cl. 315—11 **7 Claims**



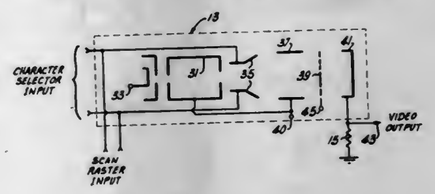
This invention provides a semiconductor means for converting a transient electrical signal into a spatial varying charge pattern that may be converted to a time varying signal on an expanded time base independent of that of the input signal. Specifically, an array of charge sensing transistors or similar devices operated in the storage mode are scanned by a stream of charged particles, with the flux thereof modified by an input signal. Read-out of the charge sensing device is accomplished by an electrical sampling means.

3,439,215

MONOSCOPE CATHODE RAY TUBE

Kurt H. Brenner, Jr., Seneca Falls, N.Y., assignor to Sylvania Electric Products Inc., a corporation of Delaware

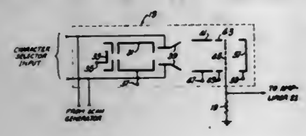
Filed May 1, 1967, Ser. No. 634,994
Int. Cl. H01j *29/41*
U.S. Cl. 315—12 **3 Claims**



A new monoscope tube wherein a character stencil is positioned between an electron gun and a signal plate. The video output signal is taken from the signal plate rather than the character stencil so that neither the signal plate nor the character stencil are susceptible to degradation from the electron beam in normal use. Since it is not necessary to use stencil material having controlled

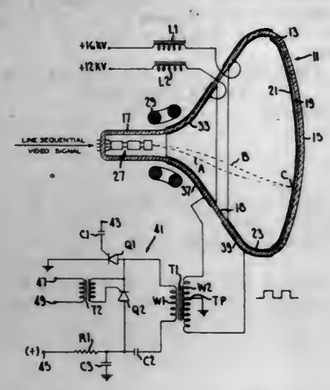
secondary electron emission properties, the fabrication of the character stencil is greatly simplified resulting in a more economical monoscope tube.

3,439,216
MONOSCOPE CATHODE RAY TUBE
Kurt H. Brenner, Jr., Seneca Falls, N.Y., and Oscar Abram Drake, Fort Wayne, Ind., assignors to Sylvania Electric Products Inc., a corporation of Delaware
Filed May 1, 1967, Ser. No. 634,995
Int. Cl. H01j 29/41
U.S. Cl. 315—12 4 Claims



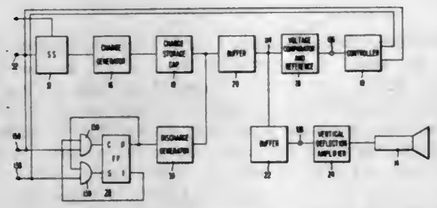
An improved monoscope tube wherein a character stencil is positioned between an electron gun and a secondary emitter, and a collector band is positioned between the electron gun and the character stencil. The character stencil surface and the secondary emitter surface have high secondary electron emission rates. As the electrons from the electron beam strike the character stencil, secondary electrons are emitted from the stencil and collected by the collector band thereby driving the character stencil positive. The electrons from the electron beam passing through the voids in the character stencil strike the secondary emitter causing secondary electrons to be emitted from the character stencil. The latter secondary electrons are collected by the character stencil, driving the stencil negative.

3,439,217
COLOR DISPLAY SYSTEM
Samuel R. Shortes, Dallas, Tex., assignor to Texas Instruments Incorporated, Dallas, Tex., a corporation of Delaware
Filed May 31, 1966, Ser. No. 553,947
Int. Cl. H01j 29/56
U.S. Cl. 315—14 5 Claims



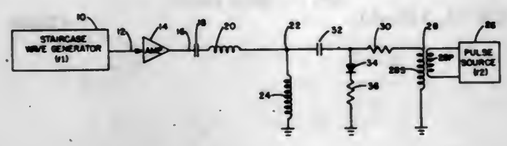
This specification discloses a color display system, characterized by a screen including phosphors which emit light of different colors when struck by electrons of different energies and including an electron permeable conductive film, a single electron gun for emitting a beam of electrons toward the screen, field generating means for deflecting the beam of electrons in a scanning raster, a generally annular electrode concentric with the gun and axially displaced therefrom toward the screen and into the region of the field produced by the field generating means, means for applying D.C. bias voltage to the screen and to the electrode to accelerate the electrons emitted from the gun toward the screen, and means for applying a first time varying voltage of a first phase to the annular electrode, in response to a first triggering signal, and for simultaneously applying a second time varying voltage of opposite phase to the conductive film of the screen and for reversing the phases of the first time varying voltage and the second time varying voltage in response to a second triggering signal.

3,439,218
CONTROL CIRCUIT FOR CAUSING MOVEMENT OF A CATHODE RAY TUBE DISPLAY
Stanley J. Savinese, Ridley Park, and Gilbert B. Gerhart, Plymouth Meeting, Pa., assignors to Burroughs Corporation, Detroit, Mich., a corporation of Michigan
Filed Sept. 30, 1966, Ser. No. 583,319
Int. Cl. H01j 29/70; H03k 4/02
U.S. Cl. 315—18 9 Claims



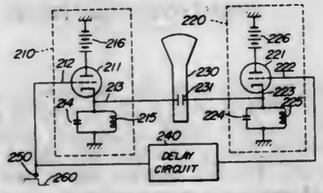
A control circuit for moving an otherwise stationary display on a cathode ray tube. A capacitor is charged periodically to generate increments of voltage each corresponding to a display frame. Each increment of voltage is used to effect a stepwise deflection of the cathode beam so as to cause the stationary display to move.

3,439,219
BEAM CONTROL CIRCUIT
Carl Greenblum, Stamford, Conn., assignor to The Bunker-Ramo Corporation, Stamford, Conn., a corporation of Delaware
Filed Mar. 6, 1967, Ser. No. 626,910
Int. Cl. H01j 29/70
U.S. Cl. 315—26 13 Claims



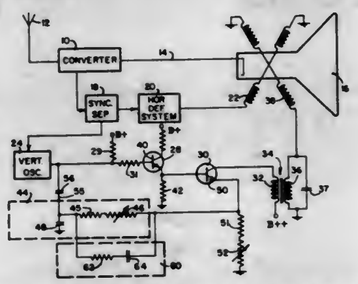
A circuit for effecting desired movement of an electromagnetically-controlled beam where the beam is to be moved in one direction in response to simultaneously applied signals operating in vastly different frequency ranges. A single deflection yoke may be used by coupling each of the signals to the yoke through a circuit, which circuit passes a signal of the applied frequency but blocks a signal of the other frequency. The coupling circuit for the high frequency input includes means for smoothing transitions to eliminate instability.

3,439,220
SINUSOIDAL TIME BASE SYSTEMS
Hiroshi Katagiri and Suyoshi Konno, Kawasaki-shi, Japan, assignors to Matsushita Electric Industrial Co., Ltd., Osaka, Japan, a corporation of Japan
Filed Nov. 20, 1967, Ser. No. 684,343
Claims priority, application Japan, Dec. 2, 1966, 41/79,466
Int. Cl. H01j 29/70
U.S. Cl. 315—26 9 Claims



A time axis sweep system for generating sweep voltages to be applied to the deflection plates of an ultra wide bandwidth cathode ray tube. A pair of resonant circuits are alternately triggered so as to be in phase opposition, thereby developing a pair of balanced sinusoidal sweep voltages without the use of an inverter or amplifiers.

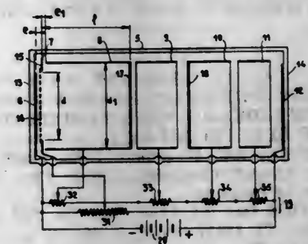
3,439,221
DEFLECTION SYSTEM WITH LINEARITY CORRECTION NETWORK
William Eric Drummond, Stanford, Calif., assignor to Motorola, Inc., Franklin Park, Ill., a corporation of Illinois
Filed Mar. 22, 1967, Ser. No. 625,221
Int. Cl. H01j 29/70
U.S. Cl. 315—27 10 Claims



A sawtooth wave is applied to an amplifier circuit and a positive feedback circuit converts a portion of the amplified output into a parabolic wave to add to the sawtooth wave. Low frequency components of the parabolic sawtooth signal are attenuated, and higher frequency components are passed, by another positive feedback circuit to develop a current waveform through the deflection yoke to provide linear sawtooth scan of the cathode ray beam.

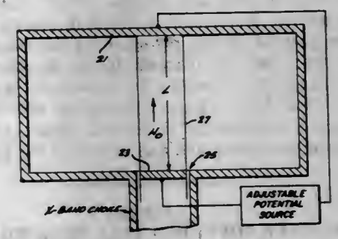
3,439,222
ELECTRONIC ZOOM IMAGE INTENSIFIER TUBE
Bertrand M. Driard and Lucien Francis Guyot, Paris, France, assignors to Compagnie Francaise Thomson-Houston-Hotchkiss Brandt, Paris, France, a corporation of France
Filed July 13, 1966, Ser. No. 564,930
Claims priority, application France, July 19, 1965, 25,148
Int. Cl. H01j 29/56
U.S. Cl. 315—31 9 Claims

To provide for variable magnification (electronic zoom), an image intensifier tube has a flat mesh electrode located spaced from the emissive cathode by a distance less than $\frac{1}{20}$, and preferably by a distance of between $\frac{1}{30}$ and $\frac{1}{40}$ of the effective diameter of the tube, the mesh electrode being provided with a potential which is adjustable, in accordance with desired magnification, over a wide range of value higher than the voltage applied to an annular electrode located opposite the mesh electrode



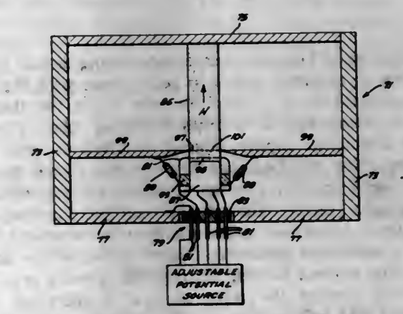
(with respect to the cathode) and likewise closely spaced therefrom, so that an electron lens will be formed at the side of the mesh away from the cathode and bounded towards the cathode by a flat equipotential transverse to the optical axis of the tube.

3,439,223
ELECTRON INJECTION PLASMA VARIABLE REACTANCE DEVICE
Yasuo Wada, Canoga Park, Calif., assignor to Hughes Aircraft Company, Culver City, Calif., a corporation of Delaware
Filed Oct. 24, 1966, Ser. No. 589,066
Int. Cl. H01j 7/46, 19/80
U.S. Cl. 315—39 12 Claims



Plasma is produced in a waveguide for presenting variable reactance to radio frequency energy transmitted along the waveguide. The plasma is electron injected and is variable to present variable reactance to the RF energy.

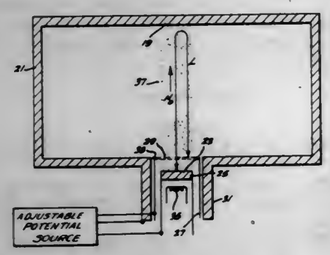
3,439,224
ELECTRON INJECTION PLASMA VARIABLE REACTANCE DEVICE
Ronald C. Knechtli, Woodland Hills, and Yasuo Wada, Canoga Park, Calif., assignors to Hughes Aircraft Company, Culver City, Calif., a corporation of Delaware
Filed Oct. 24, 1966, Ser. No. 589,102
Int. Cl. H01j 7/06, 7/46, 19/80
U.S. Cl. 315—39 5 Claims



Plasma is controlled in a waveguide to present variable

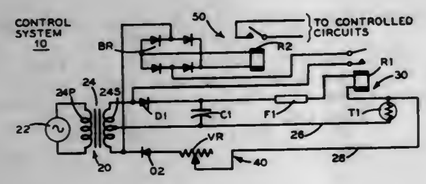
reactance to radio frequency energy in the guide. Plasma is provided by containing a gaseous medium in the waveguide and injecting electrons into the gaseous medium so that the gas becomes an ionized plasma. Control of plasma density is exercised by means of a grid control, to control reactance.

3,439,225
ELECTRON INJECTION PLASMA VARIABLE REACTANCE DEVICE WITH PERFORATED ANODE IN THE ELECTRON PATH
Ronald C. Knechtli, Woodland Hills, Calif., assignor to Hughes Aircraft Company, Culver City, Calif., a corporation of Delaware
Filed Oct. 24, 1966, Ser. No. 589,119
Int. Cl. H01j *19/80, 7/46;* **H01p** *1/00*
U.S. Cl. 315—39 **10 Claims**



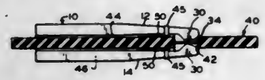
The electron injection plasma device injects electrons into a gas in a waveguide so that plasma is created, with the plasma density determining the reactance of the plasma with respect to radio frequency electromagnetic energy transmitted through the waveguide. The device includes a perforated anode arranged so that the electrons are injected through the perforated anode, reflect off the far wall of the waveguide and return to the anode.

3,439,226
FAIL-SAFE DIFFERENTIAL TEMPERATURE CONTROL SYSTEM
Norman A. Forbes, Louisville, Ky., assignor to American Standard Inc., a corporation of Delaware
Filed May 12, 1966, Ser. No. 549,722
Int. Cl. H02h *5/04*
U.S. Cl. 317—41 **5 Claims**



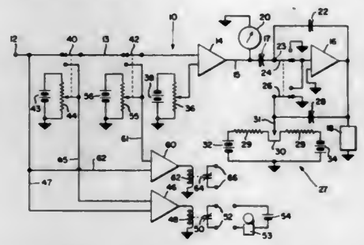
Discloses a fail-safe thermistor sensing circuit for controlling an external circuit in accordance with the changing temperature of a medium into which the thermistor may be immersed. It includes a sensing relay, a rectifier-filter circuit to supply filtered rectified current to the sensing relay winding, another rectifier circuit to supply to the sensing relay winding a pulsing current which is to be additive to the filtered and rectified current, and a thermistor immersed in the medium to be sensed to provide a change in resistance dependent upon the temperature. The current flowing through the sensing relay winding will operate the relay at one temperature of the medium and release the relay at another such temperature of the medium.

3,439,227
PLASTIC MOUNTING CLIP FOR ELECTRICAL CIRCUIT COMPONENT
Ross W. Gifford, Portland, Oreg., assignor to Tektronix, Inc., Beaverton, Oreg., a corporation of Oregon
Filed Sept. 6, 1966, Ser. No. 577,329
Int. Cl. H02b *1/04;* **H01r** *13/54*
U.S. Cl. 317—101 **11 Claims**



A mounting apparatus for electrical circuit components is described in which a clip member of plastic material having diodes or other components mounted thereon is employed to removably attach such diodes to a printed circuit board. The clip member has a pair of resilient gripping elements which are normally biased closed to hold the printed circuit board therebetween and are provided with cam portions for opening such elements during insertion and removal. A diode is mounted on each gripping element for movement therewith so that the leads of such diode make and break connections with contacts on the printed circuit board when the clip member is inserted into and removed from a mounting slot provided in such board.

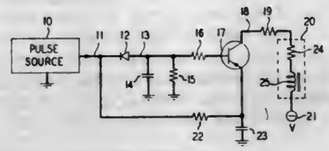
3,439,228
MONITORING DEVICE
Joseph Gormley, Philadelphia, Pa., assignor to Honeywell Inc., Minneapolis, Minn., a corporation of Delaware
Filed Oct. 21, 1966, Ser. No. 588,526
Int. Cl. H01h *47/32;* **G01r** *1/02;* **G08b** *21/00*
U.S. Cl. 317—148.5 **13 Claims**



A monitoring device is shown having a first amplifier to which an indicator and a load are connected and a second amplifier to which an alarm is connected. The first amplifier receives an input signal and a first generated reference signal, while the second amplifier receives the input signal and a second generated reference signal. The first generated reference signal is adjustable to a point at which it is desired to provide an alarm, as indicated by the indicator. The second generated reference signal is then adjusted to the indicated alarm point. In operation, the second amplifier provides an alarm signal when the input signal monitored thereby reaches the established alarm point.

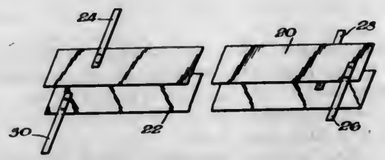
3,439,229
PULSE DRIVEN CIRCUIT FOR ACTIVATING AN ELECTROMAGNETIC DEVICE
James F. Ingle, Fair Haven, N.J., assignor to Bell Telephone Laboratories, Incorporated, Murray Hill, N.J., a corporation of New York
Filed Dec. 28, 1966, Ser. No. 605,402
Int. Cl. H01h *47/22, 47/32*
U.S. Cl. 317—148.5 **6 Claims**

A circuit for energizing an electromagnetic device utilizing a single transistor. A pulse source, which also provides an extraneous D.C. residual voltage, is connected through a diode to the base electrode of the transistor, and is also connected to the emitter electrode through a low pass filter to provide the emitter electrode



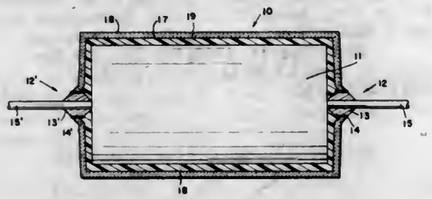
with a potential equal to the D.C. residual voltage of the pulse source. Hence, the base-emitter junction of the transistor is forward biased only by the voltage pulse and not by the extraneous D.C. residual voltage.

3,439,230
ELECTROLYTIC CAPACITOR AND FILTER NETWORK
Kermit N. Lambert, Williamstown, and Richard C. Peterson, North Adams, Mass., assignors to Sprague Electric Company, North Adams, Mass., a corporation of Massachusetts
Filed Aug. 25, 1965, Ser. No. 482,506
Int. Cl. H01g *9/00, 1/16, 1/00*
U.S. Cl. 317—230 **2 Claims**



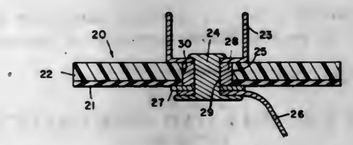
A pair of input terminals connected to respective electrodes of the capacitance section extend from one end of the capacitor and a pair of output terminals connected to the respective electrodes extend from the other end to provide a capacitive unit having lowered impedance and inductance.

3,439,231
HERMETICALLY ENCAPSULATED ELECTRONIC DEVICE
James M. Booe, Indianapolis, Ind., assignor to P. R. Mallory & Co., Inc., Indianapolis, Ind., a corporation of Delaware
Filed Feb. 13, 1967, Ser. No. 615,485
Int. Cl. H01g *1/02, 9/10*
U.S. Cl. 317—230 **12 Claims**



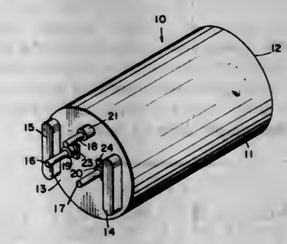
The present invention relates generally to encapsulants for electronic components, and more particularly, to hermetic encapsulating means for resistors, integrated circuits, electrostatic and electrolytic capacitors, thin film circuits, ceramic circuits, coils, batteries, combinations thereof, and the like including an inner plastic sheath and bonded layers of alloyed or unalloyed metals. The layers of metal include an inner layer and an outer layer that are atomically bonded by fusion. The fused metal layer will "wet" and fill any holes in the inner metal layer and bridge any small gap or gaps between the inner layer and the terminal insulators thereby providing a hermetic enclosure.

3,439,232
CAPACITOR TERMINAL CONNECTION
Mark Van Buskirk and Larry I. Bland, Indianapolis, Ind., assignors to P. R. Mallory & Co., Inc., Indianapolis, Ind., a corporation of Delaware
Filed Nov. 30, 1966, Ser. No. 597,981
Int. Cl. H01g *9/04*
U.S. Cl. 317—230 **7 Claims**



A bushing is positioned in an aperture formed in the end closure of a capacitor, the closure having a sandwich construction of plastic and rubber. This permits an efficient electrical-mechanical fit between a rivet extending through the aperture so as to electrically connect an electrical terminal to an internal lead of the capacitor.

3,439,233
CAPACITOR HAVING INTEGRAL STANDOFFS
Jerry Braiman and Edwin W. Shieh, Indianapolis, Ind., assignors to P. R. Mallory & Co., Inc., Indianapolis, Ind., a corporation of Delaware
Filed Nov. 28, 1966, Ser. No. 597,261
Int. Cl. H01g *9/04, 9/08*
U.S. Cl. 317—230 **10 Claims**

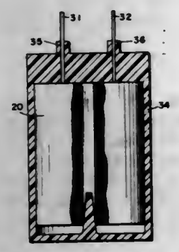


An electrical capacitor including integral formations circumscribing and sealing each of the terminal wires projecting from an end of a casing encapsulating the capacitor. A plurality of standoff means are integrally formed with the one end of the casing and extend beyond the formations. The standoff means abut a mounting panel whereby the end of the capacitor casing is retained in spaced, substantially parallel relationship with the panel so that the formations are spaced from the panel.

3,439,234
SELF-VENTING HOUSING FOR CAPACITORS
Jerry Braiman and Edwin W. Shieh, Indianapolis, Ind., assignors to P. R. Mallory & Co., Inc., Indianapolis Ind., a corporation of Delaware
Filed Dec. 5, 1966, Ser. No. 599,086
Int. Cl. H01g *9/12*
U.S. Cl. 317—230 **10 Claims**

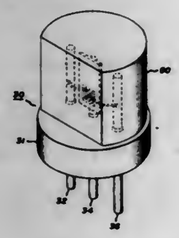
An electrolytic capacitor cartridge and a sleeve cooperate to define an unoccupied place. An open end of the sleeve is closed by a disc. The sleeve and the disc cooper-

ate to define a recess which is filled with a mass of plastic material. The sleeve, the disc and the mass of plastic



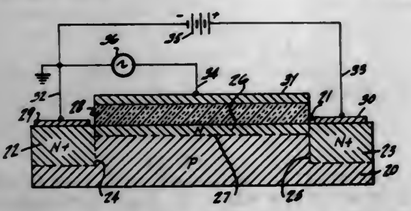
material provide a housing which is permeable to gases which may be evolved during operation of the capacitor.

3,439,235
EPOXY ENCAPSULATED SEMICONDUCTOR DEVICE
Robert H. Lanzl, Baldwinsville, and Harold R. Lee, Auburn, N.Y., assignors to General Electric Company, a corporation of New York
Filed Nov. 14, 1966, Ser. No. 593,899
Int. Cl. H01l *1/02, 3/00, 5/00*
U.S. Cl. 317—234 **5 Claims**



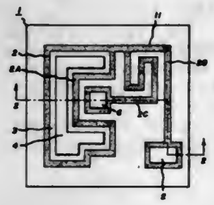
A semiconductor device comprising a body of semiconductor material; metallic contacts on said body; metallic leads electrically connected to said contacts; a filled epoxy platform header through which said leads extend, and a filled epoxy encapsulant surrounding and enclosing said semiconductor body and a portion of said leads and contiguous with one major face of said header.

3,439,236
INSULATED-GATE FIELD-EFFECT TRANSISTOR WITH CRITICAL BULK CHARACTERISTICS FOR USE AS AN OSCILLATOR COMPONENT
Adolph Blicher, North Plainfield, NJ., assignor to Radio Corporation of America, a corporation of Delaware
Filed Dec. 9, 1965, Ser. No. 512,635
Int. Cl. H01l *11/14*
U.S. Cl. 317—235 **12 Claims**



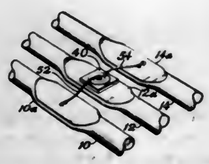
A device is provided comprising a body of a material selected from the group consisting of GaAs, InP, $GaAs_{1-x}P_x$, where x is less than one. Immediately adjacent one body surface are two N^+ regions separated by an N type region. Two ohmic electrodes are attached to the two N^+ regions respectively, and a potential is applied between these two electrodes sufficient to maintain an electric field of about 3600 volts per centimeter in the N type region. Means such as an insulated-gate control electrode are provided over the N type region to vary the concentration of electrons in the N type region so that the product of the electron concentration per $cm.^3$ in the N type region times the length in centimeters of the N type region may be varied from a value above about 10^{11} per $cm.^2$, when oscillations will occur, to a value below about 10^{11} per $cm.^2$, when oscillations will cease.

3,439,237
ANALOGUE UNIJUNCTION DEVICE
Tage P. Sylvan, Liverpool, N.Y., assignor to General Electric Company, a corporation of New York
Filed Oct. 31, 1966, Ser. No. 590,818
Int. Cl. H01l *9/12*
U.S. Cl. 317—235 **9 Claims**



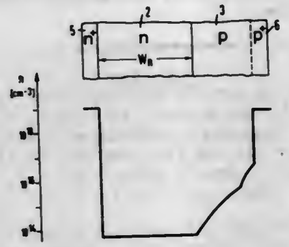
1. An analogue unijunction transistor comprising,
(a) a four layer semiconductor device, adjacent layers being doped with opposite type impurities,
(b) an emitter electrode connected to a first end layer of said four layer device,
(c) a first resistance, the ends of which are respectively connected to two layers of said four layer device, said two layers being of an impurity type opposite that of said first end layer,
(d) a second resistance, one end of which is connected to the common point between said first resistance and the internal layer to which said first resistance is connected,
(e) a base one electrode connected to the end of said first resistance opposite from said common point, and
(f) a base two electrode connected to the end of said second resistance opposite from said common point.

3,439,238
SEMICONDUCTOR DEVICES AND PROCESS FOR EMBEDDING SAME IN PLASTIC
Robert O. Birchler, Richardson, and E. R. Williams, Jr., Dallas, Tex., assignors to Texas Instruments Incorporated, Dallas, Tex., a corporation of Delaware
Filed Dec. 16, 1963, Ser. No. 331,006
Int. Cl. H01l *1/10, 1/14, 5/02*
U.S. Cl. 317—235 **18 Claims**



A semiconductor device is disclosed in which a plurality of generally parallel conductors are provided, at least one of which has a key portion thereon. A semiconductor wafer is coupled to the key portion while means are provided for coupling the other conductors to the semiconductor wafer. An integrally molded mass of insulation material embeds the semiconductor wafer, and the key portion, as well as the means connecting the conductors to the semiconductor wafer.

3,439,239
SEMICONDUCTOR RECTIFIER DIODE FOR POWER CURRENT WITH A PARTICULAR DOPING
Adolf Herlet, Pretzfeld, and Hubert Patalong, Ebermannstadt, Germany, assignors to Siemens Aktiengesellschaft, Erlangen, Germany
Filed June 14, 1966, Ser. No. 557,515
Claims priority, application Germany, June 15, 1965, S 97,625
Int. Cl. H01l *11/06, 15/00;* **H03k** *19/08*
U.S. Cl. 317—235 **5 Claims**



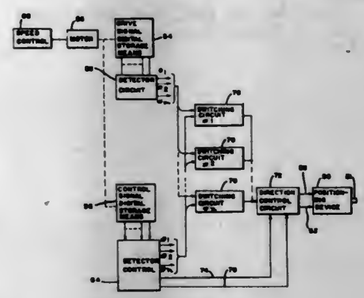
The invention concerns a semiconductor power rectifier with a monocrystalline, flat silicon body, having a first outer layer of a given conductivity type and a second outer layer of opposite conductivity type, both layers having doping concentrations higher than $10^{17}/cm.^3$. Two inside layers with lower doping concentrations are between said outer layers, one first inside layer of the same conductivity type as its adjacent outer layer and a second inside layer of the same conductivity type as its adjacent outer layer and with a p-n junction between the two inside layers. The invention is characterized by the fact that the first inside layer is almost uniformly doped with a doping concentration of 3×10^{13} to 10^{14} atoms/$cm.^3$, the second inside layer is 30 to 70μ thick with a doping concentration which rises almost exponential from the p-n junction to the outside, in such a way that in a distance of from 7 to 13μ from the p-n junction to the outer layer, the doping concentration increases by e or 2.7. This affords an improved mode of operation and increases the operational safety, that is the allowed voltage applied, insofar as it may reduce the danger to the rectifier diode caused by a local increase in steepness of the backward current, due to excessive voltage in backward direction which occurs, for example, during an avalanche breakthrough.

3,439,240
SELENIUM RECTIFIER
Clarence B. Geib, Jr., Wilmington, George E. Jamison, Los Angeles, and Jack N. Scott, Torrance, Calif., assignors to International Rectifier Corporation, El Segundo, Calif., a corporation of California
Filed July 29, 1966, Ser. No. 568,519
Int. Cl. H01l *3/04*
U.S. Cl. 317—241 **3 Claims**



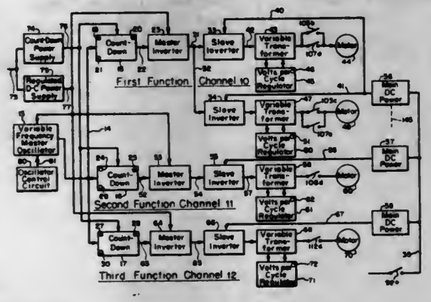
A selenium rectifier in which a thin cadmium sulfide-cadmium selenide layer and a thin lacquer layer are disposed between the counter electrode and selenium body.

3,439,241
DIGITALLY PROGRAMMED POSITION MOTOR CONTROL
Alexander E. Martens, Greece, N.Y., assignor to Bausch & Lomb Incorporated, Rochester, N.Y., a corporation of New York
Filed Dec. 29, 1965, Ser. No. 526,965
Int. Cl. H02p *1/54, 5/46, 7/74*
U.S. Cl. 318—18 **19 Claims**



A plurality of signals of different frequencies are generated and are applied to a plurality of switching circuits. Digital information is stored in a movable storage medium in a preset pattern defining a switching sequence. The digital information is detected and applied to a plurality of control circuits which actuate the switching circuits according to the switching sequence to translate trains of periodic signals. The number of periodic signals in each of the trains is determined by particular frequency being translated and time duration the switching circuits are actuated.

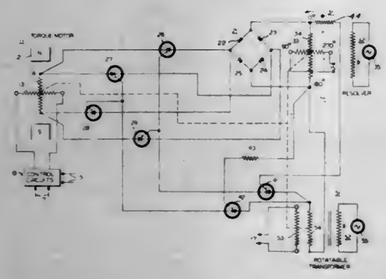
3,439,242
PLURAL MOTOR CONTROL SYSTEM WITH FREQUENCY SENSORS FOR DETERMINING WHEN PREDETERMINED MOTOR SPEED IS ATTAINED
Kurt Gasser, Orange, Calif., assignor to Borg-Warner Corporation, Chicago, Ill., a corporation of Illinois
Filed Apr. 8, 1966, Ser. No. 541,180
Int. Cl. H02p *5/46, 7/68, 7/80*
U.S. Cl. 318—66 **7 Claims**



An A-C motor control system includes a plurality of function channels for regulating the speed of the motor in each channel in accordance with the frequency of an inverter output voltage in the same channel. The inverter in each channel is triggered from a countdown unit, and all the countdown units are coupled to a variable frequency master oscillator to provide a timing reference for the entire system. An oscillator control circuit includes a motor for driving the master oscillator circuit and changing the frequency of the basic timing pulses applied to all the countdown units. Each function channel includes a frequency sensor for determining when the

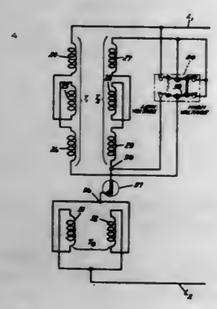
pulses passed from the countdown unit to the inverter have reached a certain frequency, thus determining when the motor in that same channel has attained a predetermined speed.

3,439,243
BRUSHLESS TORQUER
Karl Roth, Drexel Hill, Pa., assignor to Litton Precision Products, Inc., Clifton Heights, Pa., a corporation of Delaware
Filed Mar. 25, 1966, Ser. No. 537,389
Int. Cl. H02k *29/00;* **H02p** *1/00, 2/00*
U.S. Cl. 318—138 **8 Claims**



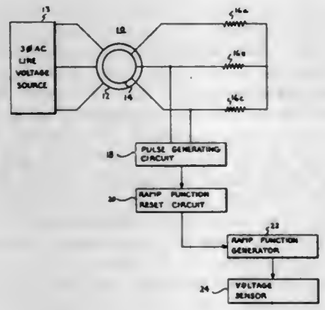
1. A brushless torquer comprising: a stator and first plurality of windings mounted upon a shaft in force reactive relationship with said stator, a first rotary inductive means having a second plurality of windings mounted upon said shaft angularly movable with respect to and in inductive relationship with a stator winding, switching means interconnecting said first and second plurality of windings for transmitting signals from said second to said first plurality of windings, and second rotary inductive means having a winding on said shaft angularly movable with respect to and inductive relationship with a second stator winding for controlling the switching means.

3,439,244
SINGLE-PHASE ALTERNATING CURRENT MULTI-VOLTAGE INDUCTION MOTOR STATOR
Joe T. Donahoo, Fort Wayne, Ind., assignor to General Electric Company, a corporation of New York
Filed Feb. 23, 1967, Ser. No. 618,170
Int. Cl. H02p *1/42;* **H02k** *17/04*
U.S. Cl. 318—220 **7 Claims**



A single-phase alternating current multi-voltage induction electric motor adapted for appliance office equipment, and other applications, is selectively operative at high and lower rated voltage levels having a voltage ratio of other than 2. First, second, and third electrical coil means, respectively formed by conductor turn pluralities are carried by coil accommodating means in a stator core to produce at least two running poles. Under the high voltage level operation, a first and second coil means are connected in series circuit relation with each other and with a third electrical coil means. For the lower rated voltage level of operation, the first and second coil means are connected in parallel circuit relation with each other but still in series circuit relation with the third electrical coil means. Under both voltage levels of operation, the conductor turns for the third coil means have the same predetermined circuit relation with one another, for instance, approximately the same number of turns connected in a pair of parallel circuit paths. This arrangement is not only economical but, in addition, is capable of minimizing the potential concentration of heat for any one of the electrical coil means and provides a generally balanced power distribution through the electrical coil means.

3,439,245
ROTOR SPEED SENSING CIRCUIT
Bennie G. Perdue, Roanoke, Va., assignor to General Electric Company, a corporation of New York
Filed Feb. 28, 1967, Ser. No. 619,335
Int. Cl. H02p *1/26*
U.S. Cl. 318—237 **8 Claims**

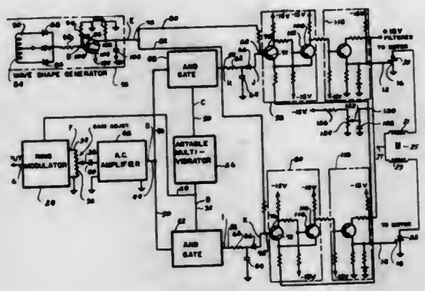


A rotor sped sensing circuit including a pulse generator which recieves a rectified input from a wound rotor in a motor and produces a pulse just prior to the end of each cycle of rectified rotor voltage. Each pulse drives a reset transistor into saturation to discharge a capacitor in a ramp function generator circuit. A voltage sensitive device responds to the capacitor voltage. Since the capacitor discharge rate is a function of rotor voltage frequency, the maximum or average magnitude of the capacitor voltage indicates rotor voltage frequency and, assuming a constant stator frequency, rotor speed.

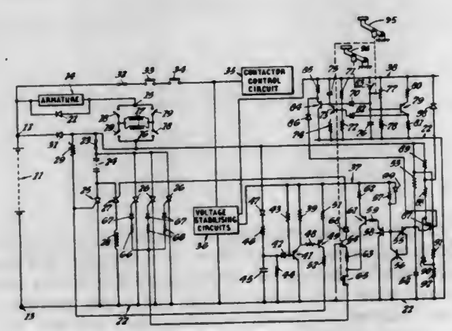
3,439,246
BI-DIRECTIONAL PROPORTIONAL SERVO MOTOR CONTROL SYSTEM
Frederick G. Moritz, Hauppauge, N.Y., assignor to Potter Instrument Company, Inc., Plainview, N.Y., a corporation of New York
Original application Aug. 14, 1963, Ser. No. 302,174, now Patent No. 3,308,307, dated Mar. 7, 1967. Divided and this application Dec. 29, 1966, Ser. No. 605,774
Int. Cl. H02p *1/22*
U.S. Cl. 318—257 **7 Claims**

The specification and drawings disclose a bi-directional proportional servo motor control system in which silicon control rectifiers (SCR's) are used to energize a servo motor with a pulsating D.C. potential. The firing angle

of the SCR's is controlled by a high-frequency pulse whose amplitude is proportional to the error signal and which is superimposed upon a sawtooth waveform to provide a time base.



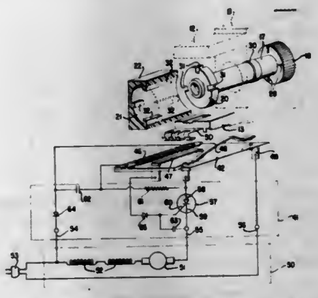
3,439,247
ELECTRICAL CONTROL SYSTEM FOR AN INDUSTRIAL TRUCK
Norman Harold George Palmer, Sutton Coldfield, England, assignor to Eaton Yale & Towne Inc., a corporation of Ohio
Filed Oct. 26, 1965, Ser. No. 505,279
Claims priority, application Great Britain, Nov. 17, 1964, 46,721/64
Int. Cl. H02p *1/22, 1/40, 3/20*
U.S. Cl. 318—258 **8 Claims**



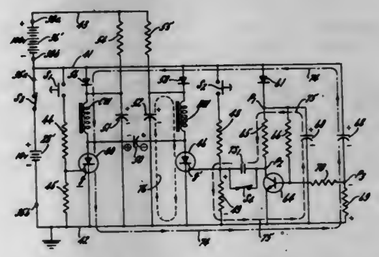
An industrial truck electrical control system including throttle and brake pedal controls. In depressing the brake pedal to slow the truck, a switch is closed which short circuits the throttle control and reduces drive motor output power, thereby avoiding opposition between the brake and drive motor forces. Upon release of the brake the short circuit is removed and the truck accelerates to the previous speed without re-operating the throttle.

3,439,248
TRIGGER-ACTUATED MOTOR SPEED CONTROL AND SWITCHING DEVICE HAVING MULTIPLE SELECTIVE POSITIONS FOR SETTING MOTOR SPEEDS
Don B. Winchester and William A. Batson, Pickens, S.C., assignors to The Singer Company, New York, N.Y., a corporation of New Jersey
Filed Jan. 4, 1966, Ser. No. 518,649
Int. Cl. H02k *27/20;* **H02p** *5/00*
U.S. Cl. 318—331 **3 Claims**

A trigger actuated motor speed control providing automatic speed regulation and also providing speed selection. A speed-responsive feedback system is utilized to automatically correct for speed changes due to load changes in combination with a finger operated element having multiple selective stop positions corresponding to predetermined speeds.



3,439,249
CONTROL FOR ACTUATING AN ELECTRIC BRAKE TO STOP A DRIVEN LOAD UPON LOSS OF ELECTRICAL POWER
Roger C. Brendemuehl, Beloit, Wis., assignor to Warner Electric Brake & Clutch Company, South Beloit, Ill., a corporation of Delaware
Filed Jan. 16, 1967, Ser. No. 609,647
Int. Cl. H02p *3/06*
U.S. Cl. 318—368 **17 Claims**

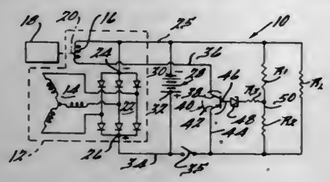


In a system where a load is driven by electrical power means, failure of the electrical power supply may permit the load to coast undesirably, and such failure removes the normal supply voltage for energizing an electric brake and for operating associated control circuitry. In the present system, energy is stored in a capacitor which can be discharged through an SCR to energize the electric brake even though the source voltage is absent. The SCR is triggered to initiate such discharge by current stored in a second capacitor and controlled by a transistor which is responsive to the presence or absence of the normal source voltage, such transistor automatically causing discharge of the second capacitor and the application of a triggering signal to the SCR whenever the source voltage disappears.

3,439,250
VOLTAGE REGULATOR
Leonard P. Gau, Birmingham, and George E. Platzer, Jr., Southfield, Mich., assignors to Chrysler Corporation, Highland Park, Mich., a corporation of Delaware
Continuation of application Ser. No. 297,264, July 24, 1963. This application Oct. 3, 1966, Ser. No. 598,539
Int. Cl. H02j *7/10*
U.S. Cl. 320—64 **15 Claims**

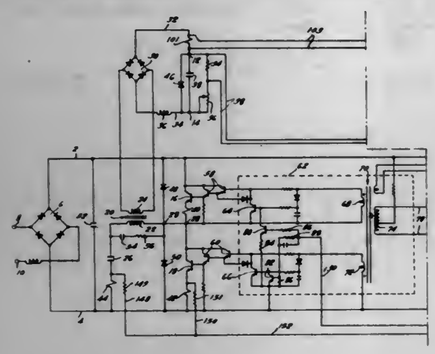
A voltage regulator for limiting the magnitude of the output voltage applied to a load, including a storage battery, by a vehicular electro-mechanical source of cur-

rent having an energizable field winding the current through which is controlled by a switching circuit comprising a transistor connected in output current control-



ling relation with the field winding and a voltage responsive circuit which includes a voltage divider connected across the load and a tunnel diode connected to the voltage divider and the control input of the transistor.

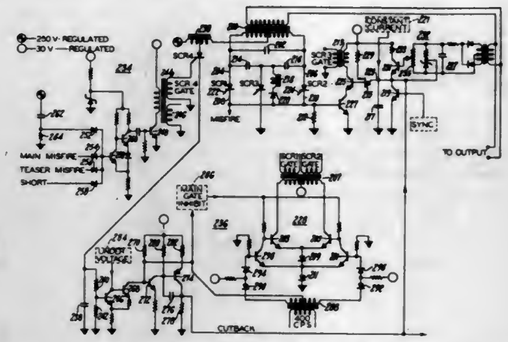
3,439,251
REGULATED POWER SUPPLY WITH SWITCHING TRANSISTORS
Johannes M. Schaefer, Wilton, Conn., assignor to Technipower Incorporated, South Norwalk, Conn., a corporation of Connecticut.
Filed Jan. 9, 1967, Ser. No. 608,193
Int. Cl. H02m *1/18, 3/22, 5/40*
U.S. Cl. 321—11 **15 Claims**



A power supply having a pair of switching transistors connected in series across the input line adapted to be alternately energized with varying on-off times as determined by one or more sensed circuit parameters, said circuit being effective to ensure that both transistors are never simultaneously on, to prevent output transients or other irregularities from causing excessive transistor switching, to balance the output of each transistor, and to provide overriding control in accordance with energizing cuurent or the like. In one embodiment a capacitor is connected in shunt with only one of the switching transistors, the other of the switching transistors having no capacitor connected thereacross.

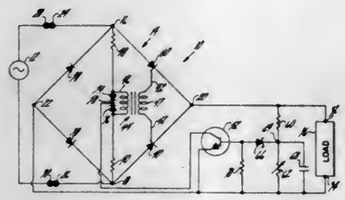
3,439,252
INVERTER STABILITY CONTROL REGULATING THE FIRING TIME OF POWER CONTROLLED RECTIFIERS
Richard L. Sikes, Suffield, and Ronald Giannamore, Wapping, Conn., assignors to United Aircraft Corporation, East Hartford, Conn., a corporation of Delaware
Continuation of application Ser. No. 522,617, Jan. 24, 1966. This application July 16, 1968, Ser. No. 752,441
Int. Cl. H02m *1/18*
U.S. Cl. 321—11 **1 Claim**

A control rectifier extinguishes a pair of power controlled rectifiers upon being fired by a trigger signal, the trigger signal being indicative of the conduction and non-conduction of the power controlled rectifiers so that



the control rectifier is prevented from firing more than once during any half cycle and only after one of either of the main power controlled rectifiers is conducting.

3,439,253
ALTERNATOR RECTIFIER AND VOLTAGE REGULATOR
Michael J. Piteo, Enfield, Conn., assignor to R. I. Phelon, Inc., East Longmeadow, Mass., a corporation of Massachusetts
Filed Apr. 5, 1967, Ser. No. 628,679
Int. Cl. H02m *7/52*
U.S. Cl. 321—18 **7 Claims**

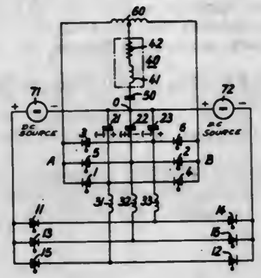


A voltage regulator-rectifier for producing a regulated voltage direct current output from an alternator includes a bridge rectifier having two arms containing diodes and two other arms containing silicon controlled rectifiers. The two silicon controlled rectifiers are switched between non-conducting and conducting states in accordance with the value of the rectifier output votlage by a gate control circuit utilizing a transformer having its secondary winding connected at its opposite ends to the gate terminals of both of the silicon controlled rectifiers so that a forward gate current applied to one silicon controlled rectifier results in a reverse gate current applied to the other. The primary winding of the transformer is connected across the rectifier input terminals and a shunt circuit controlled by the output voltage controls the conduction through the primary winding.

3,439,254
SINGLE PHASE VOLTAGE CONVERTER
Johannes Forster and Ernst Golde, Berlin, Germany, assignors to Licentia Patent-Verwaltungs-G.m.b.H., Frankfurt am Main, Germany
Filed July 7, 1966, Ser. No. 563,412
Claims priority, application Germany, July 7, 1965, L 51,062
Int. Cl. H02m *7/78;* **H03b** *5/18*
U.S. Cl. 321—45 **5 Claims**

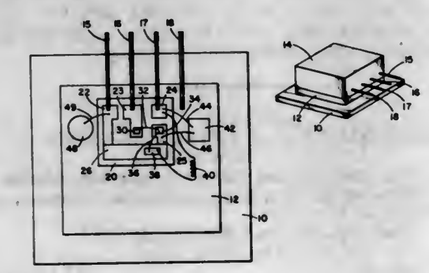
A converter for feeding single phase voltage of higher frequency to a load which operates by charging and discharging capacitors in resonant fashion. Several resonant

circuit capacitors are charged by way of choke coils and controllable current converter devices from a source of D.C. voltage tapped in its center and are also discharged



through several controllable current converter devices. The controlled current converter devices are so arranged and controlled with a phase displacement that an increased frequency is produced within the load current circuit.

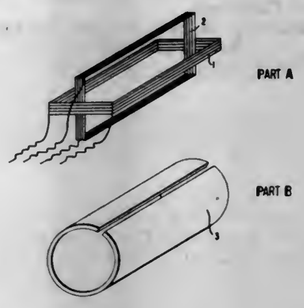
3,439,255
ENCAPSULATED SEMICONDUCTOR DEVICE INCLUDING A CERAMIC SUBSTRATE
Robert A. Carnes, New Town, Conn., and Douglas W. Taylor, Phoenix, Ariz., assignors to Motorola, Inc., Franklin Park, Ill., a corporation of Illinois
Continuation-in-part of application Ser. No. 511,090, Dec. 2, 1965. This application Feb. 1, 1968, Ser. No. 702,345
Int. Cl. H02p *9/30, 11/04*
U.S. Cl. 322—28 **11 Claims**



Low power semiconductor devices are mounted on a ceramic substrate with deposited conductors. High power semiconductor devices are mounted on a heat sink which also supports the substrate. Wires interconnect the devices. The entire assembly is plastic encapsulated with a few of the wires extending outwardly of the encapsulation.

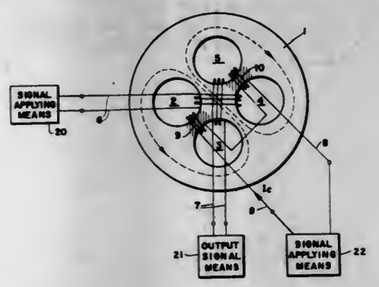
3,439,256
INDUCTIVE ANGULAR POSITION TRANSMITTER
Robert Kähne, Bad Friedrichshall, Germany, assignor to Merckle Flugzeugwerke G.m.b.H., Oedheim Württemberg, Germany
Filed Feb. 23, 1967, Ser. No. 618,163
Claims priority, application Germany, Feb. 23, 1966, M 68,491
Int. Cl. H02p *13/10*
U.S. Cl. 323—51 **7 Claims**

An inductive angular position transmitter comprised by stationary, inductively coupled primary and secondary windings positioned at right angles with respect to each other. A supply alternating voltage is fed to the primary winding. An asymmetrical eddy current element (preferably in the form of a slotted, cylindrically-shaped, aluminum tube) surrounds the primary and secondary windings and is rotatable with respect thereto by the device whose angular position is to be measured. The slotted tube causes a distortion of the magnetic field produced by the primary winding which distortion is dependent upon the angular position of the slot in the tube



relative to the winding. As a consequence a voltage is induced in the secondary winding which is dependent upon the angular position of the slotted tube and whose amplitude and phase, as compared to a reference supply alternating voltage, is an indication of the angular position.

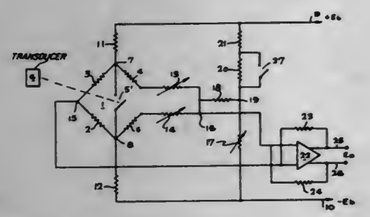
3,439,257
MAGNETIC CORE TRANSFORMER WITH AN ADJUSTABLE COUPLING FACTOR
Sigfrid Schweizerhof, Backnang, Germany, assignor to Telefunken Patentverwertungsgellschaft m.b.H., Ulm (Danube), Germany
Filed Apr. 20, 1966, Ser. No. 543,926
Claims priority, application Germany, Apr. 22, 1965, T 28,436
Int. Cl. H02p *13/12;* **H02m** *5/12*
U.S. Cl. 323—56 **10 Claims**



A magnetic core transformer, having an adjustable coupling factor which can be varied by means of a control current. The transformer has a magnetic core having four core zones made of the same material and arranged between four apertures. The core zones and the apertures are symmetrically arranged with respect to the center of the magnetic core. Also included in the transformer are an input and output winding, each penetrating two apertures which lie on diametrically opposite sides of the magnetic core center, and a control means for selectively magnetizing, up to saturation, two of the core zones that lie on diametrically opposite sides of the core center. The control means includes a control winding and means for passing an adjustable control current through the control winding, so that in the absence of control cur-

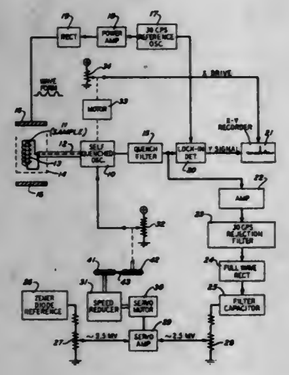
rent, there will be no inductive coupling between the input and output windings and as the control current is increased, the inductive coupling will increase.

3,439,258
CALIBRATION CIRCUIT FOR TRANSDUCERS
Andrew Van Leeuwen, Los Angeles, Calif., assignor to Statham Instruments, Inc., Los Angeles, Calif., a corporation of California
Filed Aug. 29, 1966, Ser. No. 575,649
Int. Cl. G01r 17/10
U.S. Cl. 323—75 4 Claims



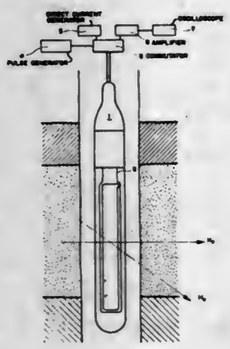
A Wheatstone resistance bridge circuit, having one or more legs modifiable by an externally-applied stimulus, has a pair of input terminals connected to a source of excitation potential and a pair of output terminals, the latter being connected to a differential amplifier with cross-feedback. A voltage divider arranged across the excitation source provides a calibration potential to an output terminal of the bridge. A further aspect of the disclosure is the provision of a calibration resistor which can be selectively interconnected between one input terminal and one output terminal and is substituted for the voltage divider.

3,439,259
WIDEBAND FEEDBACK COHERENCE CONTROL FOR SUPERREGENERATIVE OSCILLATORS
George E. Peterson, Plainfield, N.J., assignor to Bell Telephone Laboratories, Incorporated, New York, N.Y., a corporation of New York
Filed May 28, 1965, Ser. No. 459,834
Int. Cl. G01n 27/00; G01r 33/08
U.S. Cl. 324—.5 6 Claims



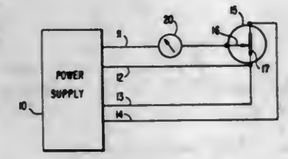
The sensitivity and coherence of regenerative oscillators are stabilized over a wideband by a feedback loop which produces a correction signal in accordance with a difference signal obtained through a comparison of the oscillator noise level with a predetermined standard.

3,439,260
WELL LOGGING BY NUCLEAR MAGNETIC DETECTION OF C^{13}
Georges J. Bene, Saint Jeoire-Faucigny, France, assignor to Institut Francais du Petrole, des Carburants et Lubrifiants, Rueil-Malmaison, Hauts-de-Seine, France
Continuation of application Ser. No. 452,312, Apr. 30, 1965. This application Feb. 26, 1968, Ser. No. 708,422
Claims priority, application France, Apr. 30, 1964, 973,177
Int. Cl. G01n 27/78; G01r 33/08
U.S. Cl. 324—.5 7 Claims



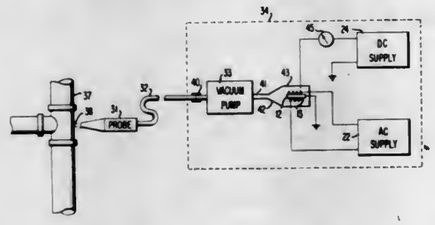
By using a nuclear magnetic technique whereby a prepolarization field is interrupted to initiate the free precession of proton spins around a constant magnetic field, and receiving the resultant free precession signal, the presence of hydrocarbon is determined by identifying very small symmetrical peaks associated with C^{13} surrounding a central peak which heretofore could not be distinguished as either hydrocarbon or water.

3,439,261
COMBUSTIBLE GAS DETECTOR USING A CORONA DISCHARGE
Jack C. Loh, Peabody, and Robert S. Norman, Marblehead, Mass., assignors to General Electric Company, a corporation of New York
Filed Sept. 30, 1966, Ser. No. 583,257
Int. Cl. G01n 27/00, 27/62
U.S. Cl. 324—33 11 Claims



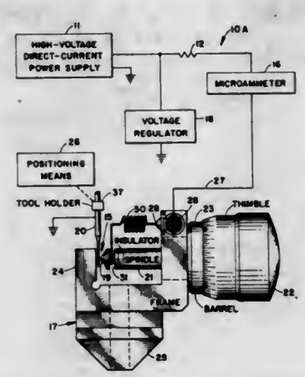
6. A hydrocarbon gas detector comprising:
(a) support means;
(b) a cathode mounted on said support means including an oxide coating of a metal taken from the group consisting of titanium and tungsten;
(c) a noble metal anode mounted on said support means having a smooth surface tip formed thereon, the surface of said tip being spaced from said cathode by a distance from 0.3 mil to 0.7 mil to define a corona discharge gap;
(d) means for heating said cathode; and
(e) power supply means connected for energizing said anode and said cathode to impress a potential across said gap which is greater than the corona start voltage of the hydrocarbon gas to be detected and less than the sparking potential of said gap, said power supply means including indicating means responsive to increased current flow across said gap when the hydrocarbon gas is passed through said gap to indicate the presence of the hydrocarbon gas.

3,439,262
ELECTRICAL VAPOR DETECTOR WITH INDIRECTLY HEATED CATHODE
John A. Roberts, Lynnfield Center, Mass., assignor to General Electric Company, a corporation of New York
Continuation of application Ser. No. 415,997, Dec. 4, 1964. This application May 13, 1968, Ser. No. 728,627
Int. Cl. G01n 27/62
U.S. Cl. 324—33 10 Claims



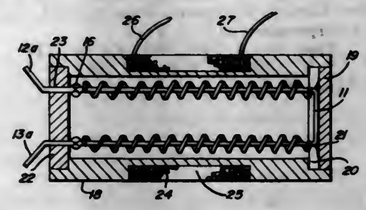
A halogen leak detector element with an indirectly heated electrode. A positive, directly heated electrode is spaced from a negative electrode to indirectly heat the negative electrode. A fixed temperature differential is maintained to optimize the detector efficiency. Improved heat transfer to the negative electrode is obtained by disposing a cylinder with an inner reflective surface about the electrodes.

3,439,263
IONIC CURRENT PROXIMITY GAGE
William A. Broyles, Jr., Dallas, Tex., assignor to LTV Aerospace Corporation, Dallas, Tex., a corporation of Delaware
Continuation-in-part of application Ser. No. 439,261, Mar. 12, 1965. This application July 3, 1968, Ser. No. 742,434
Int. Cl. G01n 27/62
U.S. Cl. 324—33 7 Claims



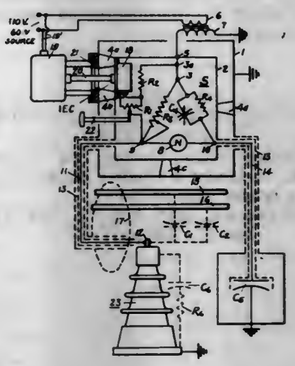
A proximity gage in which a microammeter is employed to measure the flow of DC current across an air gap in the range wherein current flow is inversely proportional to the proximity of a probe with respect to another element in the electrical circuit.

3,439,264
CORE ASSEMBLY OF PREFABRICATED PARTS FOR A MAGNETIC FIELD SENSOR
Erick O. Schonstedt, Silver Spring, Md. (1775 Wiehle Ave., Reston, Va. 22070)
Filed Aug. 14, 1967, Ser. No. 660,258
Int. Cl. G01r 33/02
U.S. Cl. 324—43 1 Claim



A core assembly of prefabricated parts for a magnetic field sensor of the flux-gate type having a prefabricated U-shaped, preferably non-magnetic, dual purpose electrical conductor and support through which an alternating excitation current is passed. The respective parallel legs of the support are encircled by helical prefabricated coils of permeable magnetic material. The wound support is enclosed in a tubular housing of insulating material around a central portion of which is peripherally wound a signal pickup winding.

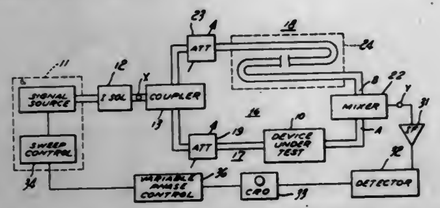
3,439,265
APPARATUS FOR SUPPRESSING INTERFERENCE CURRENTS IN A MEASURING CIRCUIT BY BYPASSING THE INTERFERENCE CURRENTS AROUND A BRANCH OF THE MEASURING CIRCUIT THROUGH THE SUPPRESSING MEANS
Albert P. Strom, 222 Castlegate Road, Forest Hills, Pa. 15221
Filed June 8, 1965, Ser. No. 462,345
Int. Cl. G01r 31/12
U.S. Cl. 324—54 6 Claims



An electrical measuring instrument for measuring various electrical values in an A.C. system with an interference suppressor device for bypassing the interfering current around a measuring branch of the metering circuit by means of a parallel high-impedance circuit which provides a voltage of the system frequency variable in magnitude and phase. The suppressor device thus causes a current to flow in the parallel high-impedance circuit equal in magnitude and in phase with the interfering current so that the spurious current is balanced out of the measuring circuit prior to energization of the electrical measuring instrument. In one arrangement an antenna located adjacent to the test specimen provides an input voltage to a linear amplifier in the interference suppressor to match the harmonics of the interfering system. Other

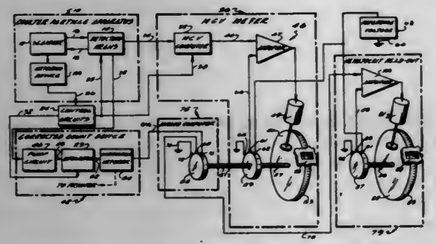
arrangements use generators driven by synchronous motors variable in magnitude and phase.

3,439,266
METHOD OF AND SYSTEM FOR HETERODYNING EMPLOYING A SINGLE SOURCE OF SIGNALS
Frederick F. Rogers, North Danville, N.H., assignor to Western Electric Company, Incorporated, New York, N.Y., a corporation of New York
Filed Oct. 1, 1965, Ser. No. 492,214
Int. Cl. G01r *27/04*
U.S. Cl. 324—58 1 Claim



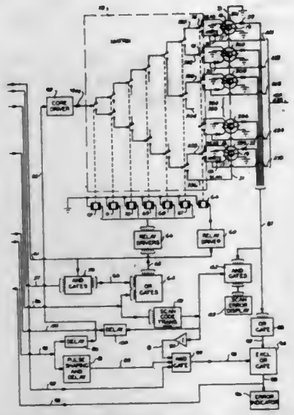
The disclosure teaches a method and means for providing a heterodyne test system employing only a single sweep source of instantaneous frequencies. The source frequencies are varied sequentially and continuously from a start to a stop frequency. The source is fed simultaneously to a plurality of transmission line branches. One branch includes the electrical device under test, and a second branch includes a delay line element. At any given instant of time, the instantaneous frequencies of the output signals from the test and delay branches are different. These output signals are heterodyned to produce a resultant intermediate frequency signal having a wave form indicative of the transmission characteristics of the device under test. In a second embodiment the system includes a reference transmission line branch fed simultaneously as above by the source of signals. The output signal from the delay branch is also mixed with the reference branch output to produce an intermediate frequency reference signal against which the first-mentioned intermediate frequency signal may be compared.

3,439,267
AUTOMATIC HEMATOCRIT MEASURING APPARATUS
Wallace H. Coulter, Miami Springs, and Walter R. Hogg, Hialeah, Fla., assignors to Coulter Electronics, Inc., Hialeah, Fla., a corporation of Illinois
Filed Oct. 20, 1965, Ser. No. 498,554
Int. Cl. G01n *27/02*
U.S. Cl. 324—71 15 Claims



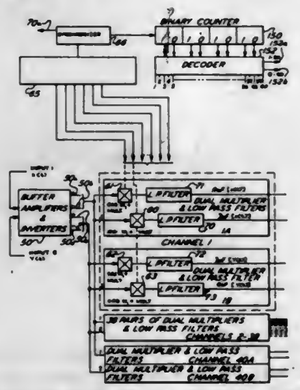
A hematocrit measuring apparatus which scans a blood sample, separately determines the mean cell volume of the whole blood sample and the count of such cells, and then computes their product as a value proportional to hematocrit. In the preferred embodiment the computed, proportional product is applied to a read-out device which is calibrated for direct reading of the hematocrit content of the sample.

3,439,268
CIRCUIT EMPLOYING MAGNETIC CORES FOR TESTING THE PRESENCE AND ABSENCE OF ELECTRICAL CONNECTIONS
Leroy C. Gregory, Greensboro, and John T. Haywood, Burlington, N.C., assignors to Western Electric Company, Incorporated, New York, N.Y., a corporation of New York
Filed June 29, 1966, Ser. No. 561,431
Int. Cl. G01r *15/12*
U.S. Cl. 324—73 3 Claims



A testing circuit for detecting wiring errors on terminal boards has separate magnetic cores, each having a write winding, a read winding and a monitor winding associated with each terminal. A pulse is applied to a selected terminal to pass current through all write windings electrically connected to the selected terminal. Next, pulses are selectively applied to read windings on all cores which are supposed to be electrically connected to the selected terminal to check for erroneous absence of an electrical connection. Finally, a pulse is applied to a scan winding serially connected through all the cores to check for the erroneous presence of an electrical connection.

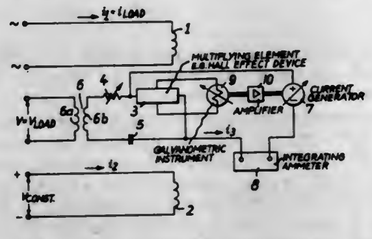
3,439,269
MULTICHANNEL ANALOG ANALYZER
Abraham M. Fuchs, Rydal, Pa., assignor to Weston Instruments, Inc., Newark, N.J., a corporation of Delaware
Filed Dec. 30, 1966, Ser. No. 606,266
Int. Cl. G01r *23/16*
U.S. Cl. 324—77 11 Claims



A power spectrum analyzer for two time varying input signals having a large plurality of channels of analysis,

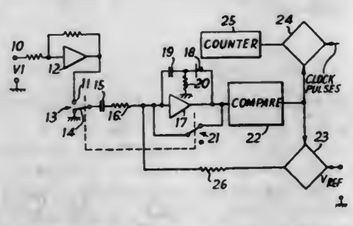
with each channel corresponding to analysis at a differing analysis frequency. Each channel provides channel output signals corresponding to the Fourier transform of the input signals at the respective analysis frequency. The remaining processing is carried on by a sampling system which computes individual values at each analysis frequency of input power spectral density of the two signals and the copower and quadrature power components of cross power spectral density.

3,439,270
ELECTRICAL DEVICE FOR INDICATING THE MATHEMATICAL PRODUCT OF TWO ELECTRICAL QUANTITIES
Georg Rehm, Notherstrasse 63, Erlangen-Bruck, Germany
Filed Apr. 5, 1966, Ser. No. 540,283
Claims priority, application Germany, Apr. 12, 1965, R 40,374
Int. Cl. G01r *7/12, 11/32*
U.S. Cl. 324—142 8 Claims



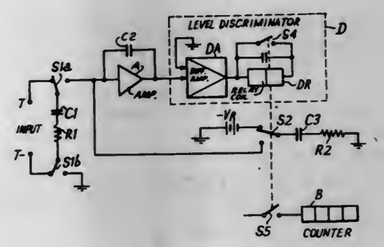
An electrical device having two alternating current inputs and two direct current inputs and arranged for producing an output which is proportional to the difference between the D.C. component of the product of the two alternating currents and the product of the two direct currents, the device further including a circuit arrangement for varying one of the direct currents so as to cause the resulting output to tend toward a value of zero, whereby the average value of the current which is varied will be proportional to the D.C. component of the product of the two alternating currents.

3,439,271
DIGITAL VOLTMETERS INCLUDING AMPLIFIER WITH CAPACITIVE FEEDBACK
Eric Metcalf and Howard Anthony Dorey, Farnborough, England, assignors to The Solartron Electronic Group Limited, Farnborough, England, a British company
Filed Apr. 21, 1965, Ser. No. 449,809
Claims priority, application Great Britain, Apr. 23, 1964, 16,922/64
Int. Cl. G01r *17/06*
U.S. Cl. 324—99 22 Claims



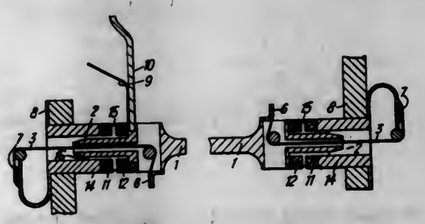
A digital voltmeter including an operational amplifier and a feedback network including a capacitor connected between the output and input of the amplifier. Circuitry is provided to feed a charge proportional to the voltage to be measured into the amplifier to charge the capacitor. A reference current circuit supplies a reference current to the amplifier during a measuring interval in which a comparator circuit connected to the output of the amplifier causes clock pulses to be counted. The reference current discharges the capacitor and the comparator terminates the counting of clock pulses when the amplifier output returns to virtual earth. Since both the measured and reference currents pass through the same amplifier, its linearity is not controlling in the accuracy of the instrument.

3,439,272
DIGITAL VOLTMETER CONTROLLED BY INCREMENTS OF ELECTRICAL CHARGE APPLIED TO A CAPACITOR FEEDBACK AMPLIFIER
Christopher E. G. Bailey and Eric Metcalf, Farnborough, England, assignors to The Solartron Electronic Group Limited, Farnborough, Hampshire, England
Filed May 28, 1965, Ser. No. 459,540
Claims priority, application Great Britain, May 27, 1964, 21,986/64
Int. Cl. G01r *15/00*
U.S. Cl. 324—111 9 Claims



The apparatus is a digital voltmeter employing an integrator for storage of an unknown signal and means to incrementally discharge the integrator to a predetrmined level. The unknown signal is applied to the integrator by first applying the unknown signal to a reactive impedance storage element and thereafter transferring the stored signal to the integrator.

3,439,273
ELECTRICAL MEASURING INSTRUMENT LIQUID DAMPING MEANS
Frederick Arthur Sills, Witham, Essex, England, assignor to Crompton Parkinson Limited, London, England, a British company
Filed May 29, 1967, Ser. No. 642,021
Claims priority, application Great Britain, June 2, 1966, 24,669/66
Int. Cl. G01r *1/14*
U.S. Cl. 324—125 6 Claims



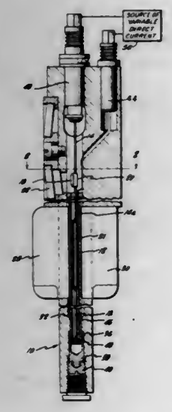
An electrical measuring instrument having a rotary moving part capable of longitudinal movement in relation to the remainder of the instrument and having a damping arrangement comprising cooperating pads of expanded polyethylene having a closed cell structure, which are fitted respectively to the moving part and to

an adjacent fixed part so as to define a gap between adjacent surfaces of the pads which contains viscous liquid held in position by surface tension.

3,439,274
LOGARITHMIC GALVANOMETER HAVING SHIFTED ZERO SIGNAL POSITION

Grant Thomas Morgan, San Gabriel, Calif., assignor to Consolidated Electrodynamics Corporation, Pasadena, Calif., a corporation of California

Filed Jan. 24, 1966, Ser. No. 522,425
Int. Cl. G01r 15/10, 5/10
U.S. Cl. 324—132 5 Claims

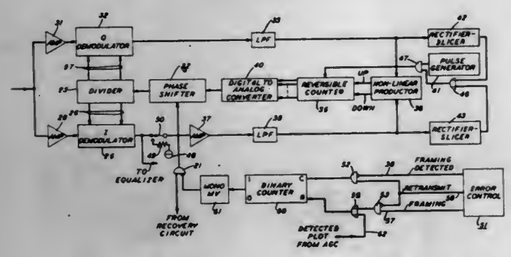


There is described a galvanometer having a logarithmic response over a wide range of angular deflection. This is accomplished by shifting the zero signal angular position of the coil in the direction it is normally rotated by an input current signal to an angle of approximately 25 degrees.

3,439,275
DEMODULATOR LOCAL FREQUENCY PHASE CONTROL CIRCUITS

Floyd K. Becker, Colts Neck, and Louis N. Holzman, Lincroft, N.J., assignors to Bell Telephone Laboratories, Incorporated, New York, N.Y., a corporation of New York

Filed May 28, 1965, Ser. No. 459,555
Int. Cl. H04b 1/68; H03c 1/52
U.S. Cl. 325—329 21 Claims

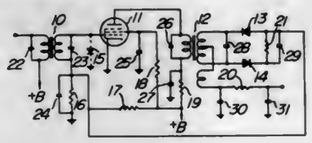


A phase locked oscillator is described in which an in phase and a quadrature carrier signal are provided by a voltage controlled oscillator. A received data signal is homodyne demodulated employing each of these locally generated carrier signals. The output signals from the demodulators are employed to generate a control signal which is applied to the voltage controlled oscillator. A circuit is included which disables changes in the control signal if the received data signal falls below a predetermined amplitude. An error detection circuit introduces a 18° phase shift if the error rate exceeds a predetermined minimum.

3,439,276
AMPLIFIER PROVIDING COMBINED LIMITER AND SQUELCH FUNCTIONS

Setsuwo Yamamoto, Yokohama, Japan, assignor to Hitachi, Ltd., Tokyo, Japan, a corporation of Japan

Filed Feb. 18, 1964, Ser. No. 345,626
Claims priority, application Japan, Feb. 22, 1963, 38/7,693
Int. Cl. H04b 1/06, 1/10, 1/16
U.S. Cl. 325—348 6 Claims

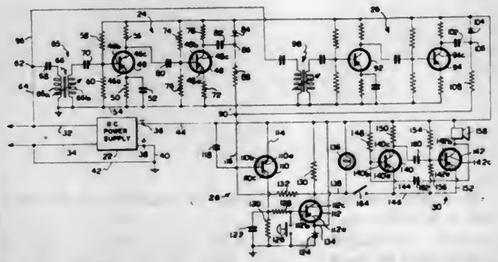


A combined limiter and squelch amplifier system in which the output electrode of an amplifier is connected to a power supply through a resistor and a bias voltage is supplied to the input electrode thereof with a polarity in such a manner that the current of the output electrode of the amplifier is increased. As a result, when the amplitude of the input signal is below a predetermined value, the output electrode current is increased by the bias voltage supplied to the input electrode and the voltage drop across the resistor is increased so as to lower the output electrode voltage thereby to make the amplification degree (gain) of the amplifier low, and the weak input signal is not passed through the amplifier. When the amplitude of the input signal is above the predetermined value, the bias voltage is cancelled by the input signal voltage, the output electrode current is decreased to increase the output electrode voltage, the input signal is amplified by the amplifier, so an amplified output signal is derived. A direct current output signal which is obtained by rectifying said amplified output signal is supplied to the input electrode so as to cancel the bias voltages, whereby the output electrode current of the amplifier is further decreased and the output amplitude of the amplifier is made constant.

3,439,277
RECEIVER APPARATUS FOR DISTINGUISHING A NARROW FREQUENCY BAND FROM A WIDE FREQUENCY BAND CONTAINING THE NARROW BAND

Joseph Schulein, P.O. Box 1825, Vancouver, Wash. 98662

Filed Dec. 27, 1965, Ser. No. 516,337
Int. Cl. H04b 1/10, 1/06
U.S. Cl. 325—474 11 Claims

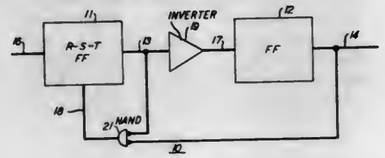


A receiver including a pair of tuned amplifiers, with one tuned to receive and amplify signals within one narrow frequency band, and the other tuned to receive and amplify signals within a different narrow frequency band. The amplifiers, on receiving signals within the respective bands to which they are tuned, produce DC voltages of opposite polarities. An output circuit compares the DC voltages produced by the two amplifiers, and generates an output signal for the receiver on the magnitude of the voltage produced by one of the amplifiers exceeding that produced by the other amplifier.

3,439,278
COUNTER CIRCUIT FOR PROVIDING A SQUARE-WAVE OUTPUT

Cecil W. Farrow, Monmouth Hills, N.J., assignor to Bell Telephone Laboratories, Incorporated, Murray Hill and Berkeley Heights, N.J., a corporation of New Jersey

Filed Jan. 24, 1967, Ser. No. 611,296
Int. Cl. H03k 21/00, 21/08; H03b 19/00
U.S. Cl. 328—41 4 Claims

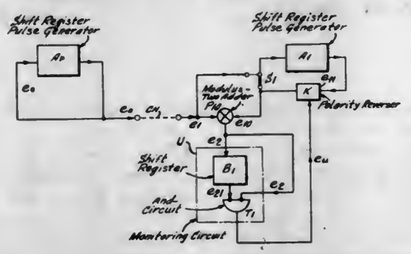


A counter circuit is described in which two integrated circuit flip-flops are coupled by an inverter. A NAND gate feeds back a signal when both flip-flops are in their "0" state to enable the counter to provide a symmetrical square-wave output having a frequency one-third the frequency of an applied square-wave signal.

3,439,279
SYNCHRONIZING SYSTEM FOR RANDOM SEQUENCE PULSE GENERATORS

Gustav Guanella, Zurich, Switzerland, assignor to Patelhold Patenverwertungs- & Elektro-Holding AG, Glarus, Switzerland

Filed Nov. 25, 1966, Ser. No. 596,894
Claims priority, application Switzerland, Nov. 26, 1965, 16,349/65
Int. Cl. H03k 1/12
U.S. Cl. 528—63 11 Claims

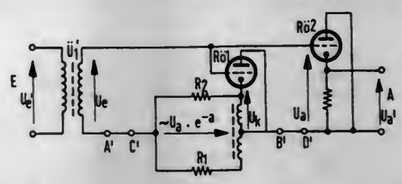


A first random sequence pulse generator of the type comprising a pulse shift register having a feedback circuit connecting a pair of higher register stages with a lower stage through a logical circuit, is synchronized with a second identical pulse generator by applying the output pulses of both generators to the inputs of a modulus-two adder, the output of which is applied to the input of an auxiliary shift register having a feedback circuit identical to said first and second generators. The input and output of the auxiliary register are connected to the inputs of an AND circuit whose output serves to control a binary state reversing device inserted in the feedback circuit of the first register.

3,439,280
CIRCUIT ARRANGEMENT FOR THE REGULATION OF DYNAMICS OF ELECTRICAL SIGNALS

Hans Hochrath, Munich, Germany, assignor to Siemens Aktiengesellschaft, Berlin and Munich, Germany, a corporation of Germany

Filed Sept. 23, 1965, Ser. No. 489,765
Claims priority, application Germany, Sept. 24, 1964, 593,332
Int. Cl. G06g 7/12; H03k 5/08; H03b 3/02
U.S. Cl. 328—142 2 Claims

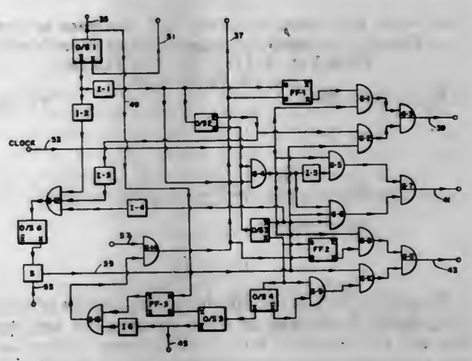


The invention is directed to a circuit arrangement for regulating the dynamics of electrical signals in such a manner as to be usable for compandor systems. The circuit arrangement includes a pair of input terminals and a pair of output terminals, and connected therebetween is a four-pole feedback-free network and a regulating network connected in such a manner as to control the dynamics of the signal passing between the input terminals and output terminals of the circuit.

3,439,281
APPARATUS FOR RANDOMLY CONTROLLING THE FLOW OF PULSES FROM A PULSE SOURCE TO A PLURALITY OF OUTPUT LINES

James F. McGuire, Hyattsville, Md., and Norman S. Babbitt, Falls Church, Va., assignors to James F. McGuire, Hyattsville, Md., Oscar C. Haertsch, Laurel, Md., Norman S. Babbitt, Falls Church, Va., and William E. Van Deusen, Jr., Seabrook, Md., as co-owners

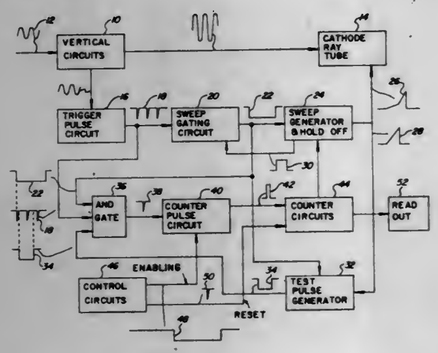
Filed Dec. 8, 1966, Ser. No. 600,241
Int. Cl. H03k 7/00
U.S. Cl. 328—153 4 Claims



In summary, this invention is an apparatus for randomly controlling the flow of pulses from a pulse source to a plurality of output lines in a chance amusement device wherein an electronic control means controls the application of pulses to a plurality of indicia control means. The indicia control means control the displaying of the indicia. The electronic control means selectively applies pulses to the indicia control means in a random manner so that indicia are randomly displayed. After a

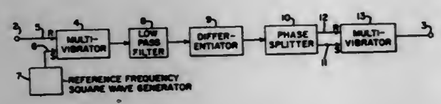
period of time the electronic control means inhibits the application of pulses to the indicia control means and the displays come to a stop.

3,439,282
TIME BASE GENERATOR WITH AUTOMATIC RATE CONTROL
Hiro Moriyasu, Portland, Oreg., assignor to Tektronix, Inc., Beaverton, Oreg., a corporation of Oregon
Filed Aug. 20, 1965, Ser. No. 481,230
Int. Cl. H03k 4/08, 5/20, 3/58
U.S. Cl. 328—185 11 Claims



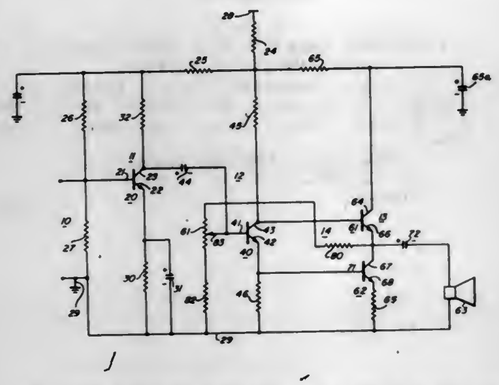
A time base generator having a circuit for charging a capacitor at a constant rate to produce a linear time base signal includes a plurality of capacitors and resistors which can be selectively inserted in the circuit to cause such signal to be produced at any one of a plurality of predetermined rates. The proper capacitor and resistor combination to provide a predetermined rate appropriate for the display by a cathode ray tube of an input signal having a repetitive waveform is automatically selected and inserted into the circuit.

3,439,283
FREQUENCY SHIFT KEYED DISCRIMINATING CIRCUITS
Gordon H. Danielson, Syracuse, N.Y., assignor to General Electric Company, a corporation of New York
Filed Feb. 4, 1966, Ser. No. 525,163
Int. Cl. H03k 9/06
U.S. Cl. 329—104 10 Claims



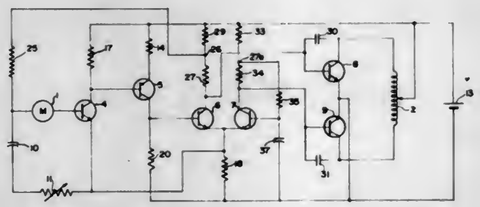
Frequency shift keyed discriminating circuits which employ digital techniques in their construction and operation and are adaptable for microelectronic fabrication. In one embodiment the received signal $f_0 \pm \Delta f$ and a local signal of f_0 are applied to a serial path including an input and output multivibrator for generating a train of varying width pulses from which is derived an output square wave-form corresponding to the modulations. A frequency selection is additionally provided in a second embodiment wherein the received and local signals are applied with different phase to parallel paths each including a multiplier for generating phase related pulse trains which are combined to provide a square waveform for an output multivibrator.

3,439,284
TRANSFORMERLESS PUSH-PULL AMPLIFIER WITH ADJUSTABLE CLASS OF OPERATION
George R. Carlson, Winnetka, Ill., assignor to Warwick Electronics Inc., a corporation of Delaware
Filed Oct. 19, 1965, Ser. No. 498,072
Int. Cl. H03f 3/26; H03g 3/30
U.S. Cl. 330—15 1 Claim



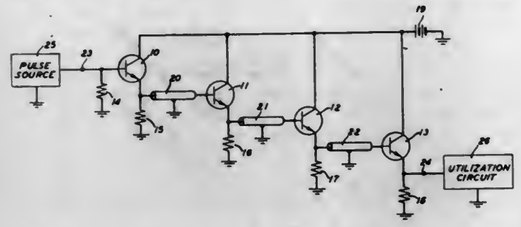
A transformerless amplifier which has a driver transistor with collector and emitter output elements and a push-pull output circuit including a pair of transistors, both of the same conductivity, wherein the pair of transistors are connected in series, emitter to collector. The base elements of the output transistors are respectively coupled to the emitter and collector loads of the driver transistor and the output is taken at the junction between the output transistors. A variable DC feedback is coupled between the output and the base of the driver transistor to stabilize the amplifier and enable the manual selection of the class of operation of the push-pull output stage.

3,439,285
STABILIZED DIRECT-COUPLED AMPLIFIER
Peter A. Mercola, Wilmette, Ill., assignor to Beltone Electronics Corporation, a corporation of Illinois
Filed Oct. 31, 1966, Ser. No. 590,714
Int. Cl. H03f 3/18, 3/26, 3/68
U.S. Cl. 330—15 5 Claims



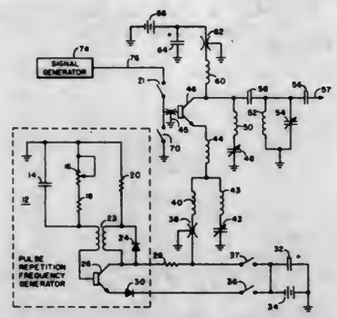
A direct-coupled transistor amplifier having a Class B, push-pull output stage driven by a phase-splitting differential amplifier. The quiescent operating points of both the output transistors and the driving transistors are stabilized by the provision of direct current degenerative feedback between the collector and base circuits of each transistor in the differential amplifier. The transistors selected for the differential amplifier have temperature characteristics similar to those of the transistors used in the push-pull output amplifier; in consequence, the operating points of the output transistors are also accurately stabilized.

3,439,286
PULSE AMPLIFIER
John M. Eubanks, Greensboro, N.C., assignor to Bell Telephone Laboratories, Incorporated, New York, N.Y., a corporation of New York
Filed July 29, 1965, Ser. No. 475,765
Int. Cl. H03f 3/60, 3/42
U.S. Cl. 330—21 12 Claims



A cascade connected multi-stage pulse amplifier, each stage of which includes a first and second transistor. The successive stages are interconnected by respective transmission line sections. The length of the transmission line section is such that the propagation time therethrough is greater than one-half of the duration of the pulses to be amplified.

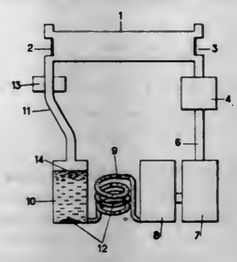
3,439,287
TRANSISTOR MICROWAVE GENERATOR WITH SECOND HARMONIC OUTPUT
Curtiss C. Krueger and Ronald C. Worley, San Diego, Calif., assignors to Ryan Aeronautical Co., San Diego, Calif.
Filed Aug. 8, 1967, Ser. No. 659,065
Int. Cl. H03b 5/24
U.S. Cl. 331—47 9 Claims



An S-Band microwave generator utilizing an RF power transistor in a grounded-base oscillator circuit. An idler circuit at the collector of the transistor determines the oscillator frequency, and a tank circuit at the collector provides the second harmonic output frequency while helping to reject from the output all other generated frequencies. A pulse generator pulses the D.C. supply voltage for the power transistor to provide a pulsed microwave output signal.

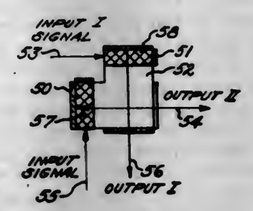
3,439,288
GAS LASER DEVICE FOR PRODUCING RADIATION IN THE 40-MICRON BAND
Jean Paul Mangin, Paris, France, assignor to CSF—Compagnie Generale de Telegraphie Sans Fil, Paris, France
Filed Mar. 18, 1964, Ser. No. 352,875
Claims priority, application France, Mar. 27, 1963, 929,390
Int. Cl. H01s 3/22
U.S. Cl. 331—94.5 17 Claims

A laser operating with hydrogen and producing infrared radiation in the 40-micron band, comprising an enclosure with mirrors forming a Perot-Fabry resonator, provided with an external circuit interconnecting the extremities thereof. The external circuit comprises means of liquefying hydrogen, further catalyzing means favoring the trans-



formation from orthohydrogen into parahydrogen, and finally reheating means for parahydrogen. The radiation is produced by transition between the second rotational energy level of the parahydrogen and the lower rotational energy level of the orthohydrogen.

3,439,289
SEMICONDUCTOR LASER COMPONENTS FOR DIGITAL LOGIC
Walter F. Kosonocky, Iselin, N.J., assignor to the United States of America as represented by the Secretary of the Air Force
Filed July 8, 1965, Ser. No. 470,650
Int. Cl. H01s 3/00; H03k 19/14
U.S. Cl. 331—94.5 1 Claim



A laser digital logic apparatus including a first and second cavity resonators sharing a common active laser emissive medium, each of the cavity resonators includes therein a saturable absorber. A first optical input signal to the first cavity resonator provides a steady output therefrom and a second optical input to the second cavity resonator results in a build-up of oscillations therein to permit a switch in the output from the first cavity resonator.

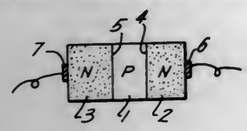
3,439,290
GUNN-EFFECT OSCILLATOR
Masaichi Shinoda, Sagamihara-shi, Japan, assignor to Fujitsu Limited, Kawasaki, Japan, a corporation of Japan
Filed May 26, 1966, Ser. No. 553,214
Claims priority, application Japan, May 27, 1965, 40/31,268
Int. Cl. H03b 7/06
U.S. Cl. 331—107 8 Claims

1. An oscillator comprising a semiconductor device having three regions and two asymmetrically conductive junctions between the intermediate region and the respective outer regions, said intermediate region being formed of III–V semiconductor compound, said device having respective terminal contacts on said outer regions; circuit means connected to 18 said contacts and having be-

tween said contacts a voltage V which at least at repetitive moments corresponds to the magnitude

$$V=qNW^2/2K$$

wherein q denotes the elementary charge, N the semiconductor impurity concentration in atoms per cm.^{3}, W



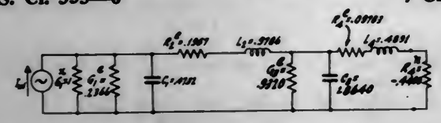
the thickness of the semiconductor region in Cm., and K the dielectric constant of the semiconductor, said voltage causing a depletion layer to be formed in said semiconductor region and to attain punched-through state, whereby a high frequency current oscillation is produced in said device.

3,439,291

LADDER NETWORK FILTERS HAVING A NEGATIVE RESISTANCE TO COMPENSATE FOR LOSSY REACTIVE COMPONENTS IN THE FILTER

Thomas G. Marshall, Princeton, N.J., assignor to Radio Corporation of America, a corporation of Delaware

Filed Mar. 30, 1966, Ser. No. 538,852
Int. Cl. H01p *5/12*
U.S. Cl. 333—6 **7 Claims**



A ladder network filter employing lossy reactive components, but having a frequency characteristic and insertion loss equivalent to that of a ladder network filter employing lossless known reactive elements, is achieved by incorporating in the terminating branch at at least one end of the filter a negative resistance of that certain particular value which results in a negative branch dissipation constant equal to the sum of the positive branch dissipation constants of all the branches which is caused by the lossy reactive elements thereof. Further, the individual value of the reactances forming each respective branch of the filter is individually determined in accordance with a matrix which is a function of the respective net dissipation constant of every particular branch of the filter, made up of all positive and negative dissipation constants components of each respective branch, and the known lossless reactances of the equivalent filter. Also covered is a filter array composed of a plurality of such filters each having one terminating branch thereof coupled to a common input terminal and utilizing a single negative resistance having the proper value to compensate for the lossiness of the reactance elements employed in the respective branches of all the respective filters making up the array, while providing a frequency characteristic for each filter making up the array equivalent to that of a corresponding ideal filter utilizing known lossless reactive elements.

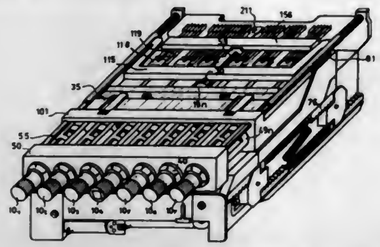
3,439,292

MULTIPLE-SELECTION PUSHBUTTON DEVICE FOR RADIO SETS HAVING VOLTAGE VARIABLE CAPACITANCE TUNING MEANS

Georges A. Henry, 19 Rue Folletiere, Draguignan, France

Filed June 5, 1967, Ser. No. 643,495
Claims priority, application France, June 3, 1966, 64,198
Int. Cl. H03j *5/32*
U.S. Cl. 334—7 **5 Claims**

Multiple selection pushbutton device for radio sets including variable capacitors and variable capacitance diodes, comprising (i) a plurality of rotatable push-buttons each having a helical potentiometer body rigidly connected thereto and a push-rod rotatively connected thereto, (ii) a plurality of mechanisms each including a slide cooperating with the potentiometer body, (iii) a capacitor actuating bar in the path of the push-rods and actuated thereby depending on their length, (iv) members provided



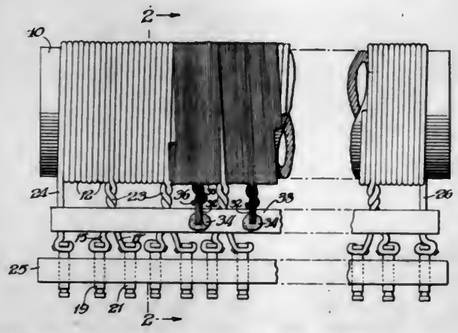
on the pushbutton mechanism extending in different radial directions for selectively actuating a frequency range, (v) change-over switches, (vi) means for feeding the helical potentiometer through the change-over switches and (vii) means for varying the length of the push-rod and the position of the slide with respect to the potentiometer body, whereby the rotation of the pushbutton simultaneously determines the length of the push-rod and the biasing voltage of the variable capacitance diodes.

3,439,293

DELAY LINE

George A. Senf, Williamstown, Mass., assignor to Sprague Electric Company, North Adams, Mass., a corporation of Massachusetts

Filed Aug. 4, 1965, Ser. No. 477,121
Int. Cl. H03h *7/30*
U.S. Cl. 333—29 **10 Claims**



A delay line with minimum phase distortion at high frequencies is provided by winding a plurality of conductive ground sections over a principal winding and in an opposite direction to that of the principal winding. Each ground section has one end electrically connected to a common ground plane conductor with the other end left unconnected.

3,439,294

COAXIAL CABLE CONNECTOR

James R. Flanagan, New Fairfield, and William M. Zerlin, Newton, Conn., assignors to Amphenol Corporation, Broadview, Ill., a corporation of Delaware

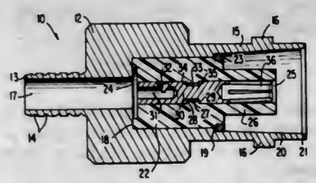
Filed May 28, 1965, Ser. No. 459,647
Int. Cl. H01r *17/18*
U.S. Cl. 333—33 **1 Claim**

1. An electrical connector for a radio frequency coaxial transmission line having an inner conductor encircled by

an annular insulating layer and a conductive shield comprising:

a metallic body member having a forward contact extension and a rearwardly extending ferrule portion, said body having a cylindrical opening extending through said ferrule portion to a larger diameter cylindrical opening coaxial therewith and extending through said contact extension,

an insulating insert which fits into said larger diameter opening, said insert having a central opening throughout its length with an annular locking shoulder extension radially extending within the central opening of the insert at a point intermediate the ends thereof, said insert also having an impedance compensating counterbore in the rearward end thereof, the diameter of said impedance compensating counterbore being greater than the diameter of the cylindrical opening through said ferrule portion, and



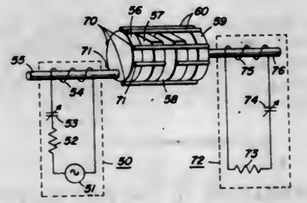
an elongated inner contact joinable with the inner conductor of a coaxial transmission line, said contact being shaped for insertion through said ferrule portion into the central opening of said insert and having an annularly grooved solid portion, said groove being dimensioned to tightly interfit with said shoulder extension to resist axial movement of said inner contact with respect to said insert thereby reducing electrical reflections and stabilizing the electrical characteristics of the connector, the annular insulating layer of the coaxial transmission line extending into said counterbore to the rearward end of said inner contact upon insertion of said inner contact through said ferrule portion into said insert.

3,439,295

MECHANICAL FILTER WITH ATTENUATION POLES ON BOTH SIDES OF PASSBAND

Donald L. Bise, Costa Mesa, Calif., assignor to Collins Radio Company, Cedar Rapids, Iowa, a corporation of Iowa

Filed June 13, 1966, Ser. No. 557,300
Int. Cl. H03f *7/04, 13/00*
U.S. Cl. 333—71 **16 Claims**



1. A mechanical filter structure comprising:

a first plurality of discs comprising first, second, third, and fourth discs arranged in the order listed in a stacked position with their axes lying along a common line and spaced apart a distance less than half the wavelength of their natural resonant frequency;

said first disc being a diameter mode type disc and said second, third, and fourth discs being circular mode type discs;

first wire-like coupling means extending along the stack of discs and secured to the perimeters thereof to hold said discs in said stacked arrangement;

said first wire-like coupling means being secured to points on the perimeter of said diameter mode disc, all having a first phase of vibration;

second wire-like bridging means secured to said first disc and said fourth disc and bridging across said second and third discs;

said second wire-like bridging means being connected to a point on the perimeter of said first disc having a phase of vibration opposite to that of said first phase of vibration;

the parameters of said discs, said first wire-like coupling means, and said second wire-like bridging means being in accordance with the expression:

$$y_\infty=\pm\sqrt{\frac{y_b^2}{2y_b-1}}$$

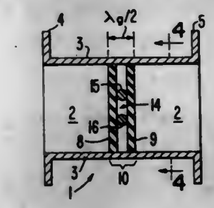
where y_∞ represents a points of infinite attenuation, y_b is as defined in the specification, and where $1>y_b>\frac{1}{2}$.

3,439,296

MICROWAVE WINDOW EMPLOYING A HALF-WAVE WINDOW STRUCTURE WITH INTERNAL INDUCTIVE MATCHING STRUCTURE

Thaddeus M. Buckley, Sunnyvale, Calif., assignor to Varian Associates, Palo Alto, Calif., a corporation of California

Filed Apr. 20, 1967, Ser. No. 632,356
Int. Cl. H01p *1/08*
U.S. Cl. 333—98 **11 Claims**



A microwave window is disclosed for use with microwave tubes and other broadband high power radio frequency devices. The window comprises a gas tight wave permeable dielectric structure sealed across a waveguide such that a pressure differential can be maintained across the window while permitting high power microwave energy to be passed therethrough without substantial reflection over a relatively broad band of frequencies. An inductive structure, such as an inductive iris or pair of inductive iris defining rods, is disposed in the midplane of the dielectric structure for broadbanding the window and for suppressing certain undesired resonant ghost modes associated with the window. The composite window structure, including the inductive and dielectric structures, is one half an electrical wavelength thick in the waveguide.

3,439,297

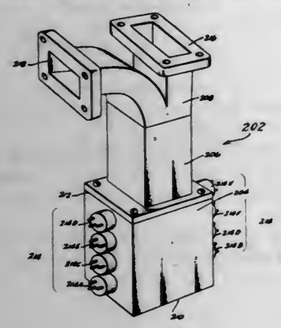
PLASMA VARIABLE REACTANCE DEVICE PHASE SHIFTER

Barry J. Forman, West Los Angeles, Ronald C. Knechtli, Woodland Hills, and Yasuo Wada, Canoga Park, Calif., assignors to Hughes Aircraft Company, Culver City, Calif., a corporation of Delaware

Filed Oct. 24, 1966, Ser. No. 589,120
Int. Cl. H01j, *19/80, 7/46;* **H01p** *1/18*
U.S. Cl. 315—39 **13 Claims**

A microwave phase shifter comprising a waveguide for RF energy and a plasma variable reactance device for presenting an electronically controllable variable react-

ance plasma column therein. In the preferred embodiments the phase shifter is of the reflection type, the

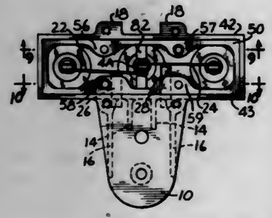


plasma column exists as a lumped reactance, and a sufficient number of plasma variable rectance devices are used to provide 360 degrees of continuous phase shift.

ERRATUM

For Class 334—7 see:
Patent No. 3,439,292

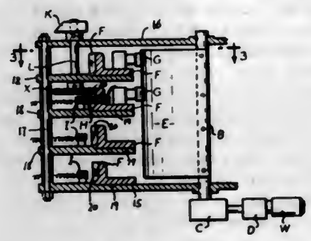
3,439,298
RADIO FREQUENCY SHIELDED SWITCH
Herbert D. Steinback, 5575 N. Lynch, Chicago, Ill. 60630
Continuation-in-part of application Ser. No. 502,680, Oct. 22, 1965. This application Sept. 2, 1966, Ser. No. 576,936
Int. Cl. H01h *53/02, 36/00*
U.S. Cl. 335—5 **5 Claims**



A radio frequency shielded switch wherein coaxially shielded connectors are mounted on a switch housing the walls of which approximate a continuance of the connector conductors and at least one longitudinal wall has a central groove that extends lengthwise thereof and lengthwise of the switch blade when the blade is in one of its two alternate positions, and the groove spans the chamber intermediate the length thereof.

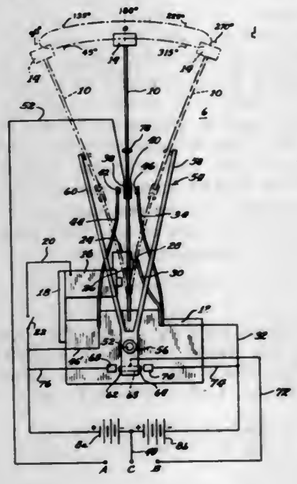
3,439,299
CYCLE SPLITTING DEVICE
Michel Sabathie, Cauderan, and Guy Foures, Bordeaux, France, assignors to Societe Anonyme des Laboratories Robert & Carriere, Paris, France, a corporation of France
Original application June 22, 1964, Ser. No. 376,983. Divided and this application Jan. 5, 1968, Ser. No. 695,902
Claims priority, application France, Sept. 11, 1963, 7,535
Int. Cl. H01h *3/00, 43/00, 51/00*
U.S. Cl. 335—74 **7 Claims**

A cycle splitting device comprising a rotating axle having a cam secured thereto for joint rotation therewith. A motor is provided for driving the rotating axle and a disc means is mounted on the axle. A plurality of circuit breakers are disposed, respectively, in the disc means peripherally spaced apart from each other and successively engaged by the cam, the separation of the circuit



breakers determining a division of cycles of operation. Means are provided for varying the relative peripheral positions of the circuit breakers for adjusting the time period divisions of a cycle.

3,439,300
MULTIPHASE VIBRATING SWITCHING DEVICE
John A. Rankin, St. Joseph, Mich., assignor to V–M Corporation, Benton Harbor, Mich., a corporation of Michigan
Filed Apr. 6, 1967, Ser. No. 628,886
Int. Cl. H01h *51/34*
U.S. Cl. 335—88 **15 Claims**

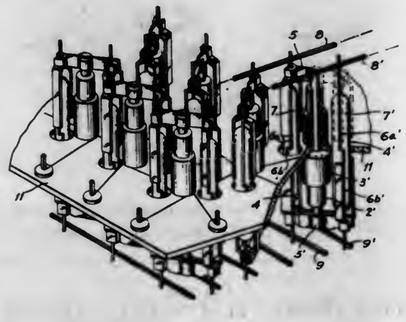


A switching device which uses a vibrating member to control a first and a second mechanical switching arrangement to convert the voltage of a direct current voltage source to multiphase alternating voltages of a highly stable frequency.

3,439,301
ELECTROMAGNETIC SWITCH MATRIX
Tetsuo Kudo and Kazuo Nakamura, Tokyo, and Teisuke Ogita and Yozo Sudo, Kawasaki-shi, Japan, assignors to Fujitsu Limited, Kawasaki, Japan, a corporation of Japan
Filed Jan. 26, 1967, Ser. No. 612,006
Claims priority, application Japan, Feb. 3, 1966, 41/6,248
Int. Cl. H01h *67/14, 1/66*
U.S. Cl. 335—112 **13 Claims**

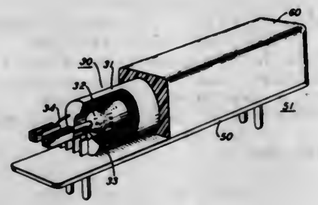
An electromagnetic switch matrix comprises a magnetic shunt plate and a plurality of electromagnetic switches. Each of the electromagnetic switches comprises

a rod-like core of magnetic material extending through and positioned in the shunt plate perpendicularly to the shunt plate and for a substantially equal length on each side of the shunt plate. The electromagnetic switches are positioned in the shunt plate in spaced relation to each other in columns and rows in a manner whereby the common planes of the switches of one of a row and



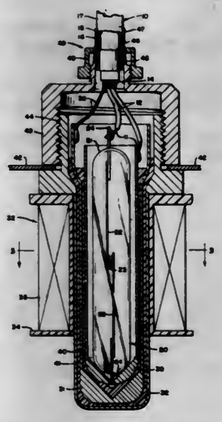
column of the switches are parallel to each other and are substantially perpendicular to the common planes of the switches of the next adjacent one of a row and column of the switches and the electromagnetic switches of the other of a row and column of the switches are perpendicular to each other and at an angle of 45° with the other of the row and column.

3,439,302
REED RELAY MOUNTING AND CONNECTOR
George E. Perreault, White Plains, N.Y., assignor to Bell Telephone Laboratories, Incorporated, New York, N.Y., a corporation of New York
Filed Nov. 27, 1962, Ser. No. 240,354
Int. Cl. H01h *51/20*
U.S. Cl. 335—154 **4 Claims**



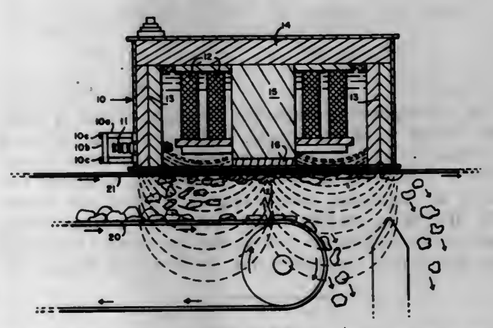
1. A relay comprising:
switching means including a coil and a switch;
support means; and
a plurality of electrically conducting terminals interconnecting said support means and said switching means, each of said terminals comprising means for locating said coil on said support means, locating means for locating said switch within said coil, said locating means including one end of a channel-shaped first member, spacing means for spacing said switch a predetermined distance away from said support means, said spacing means including one end of a second member joined to said first member means for holding said switching means against substantially all movement, and means for supporting said switch and electrically terminating said switching means.

3,439,303
RF ISOLATION RELAY
Alfred Z. Purzycki, Mount Prospect, Ill., assignor to Teletype Corporation, Skokie, Ill., a corporation of Delaware
Filed May 1, 1967, Ser. No. 635,136
Int. Cl. H01h *51/28*
U.S. Cl. 335—154 **16 Claims**



A reed switch relay for use with double-shielded cable including a first tubular shell surrounding the reed switch and providing a signal lead-out for the switch, a second tubular shell surrounding the first shell and electrically connected to the inner shield of the double-shielded cable, a third tubular shell surrounding the second shell and electrically connected to the outer shield of the cable and an electromagnetic coil positioned on the third shell for operating the switch.

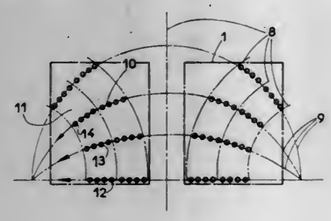
3,439,304
SUSPENSION LIFTING MAGNET
Bernhard A. Palm, Los Angeles, Calif., assignor to Buck Manufacturing Company, Los Angeles, Calif., a corporation of Delaware
Filed Aug. 21, 1967, Ser. No. 662,154
Int. Cl. H01f *7/20*
U.S. Cl. 335—291 **3 Claims**



Suspension lifting electromagnets with economically fabricated pole structure. The electromagnet is provided with a magnetic circuit having a central pole piece around which the magnetizing coil is positioned and two outer poles of the same polarity. Each of the outer poles is fabricated from a single rectangular iron plate which is cut into three trapezoidal sections. The outer sections are then joined together by welding, bolts or the like so

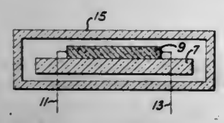
that they overlap the third. The sections are overlapped in such a way that the cross-sectional areas at different latitudes thereof presented to the magnetic field are uniform.

3,439,305
MAGNETIC COIL HAVING CONDUCTOR TURNS ARRANGED ACCORDING TO THE LINES OF FORCE OF THE MAGNETIC FIELD WHICH THE COIL CREATES
Georges Klein, Paris, France, assignor to Compagnie Generale d'Electricite, Paris, France, a corporation of France
Filed Jan. 6, 1965, Ser. No. 423,793
Claims priority, application France, Jan. 6, 1964, 959,448
Int. Cl. H01f *5/00, 27/28*
U.S. Cl. 335—299 **12 Claims**



A magnetic coil for use with a low frequency high intensity current which is made up of plural layers, each layer being wound on a support representing a tube of force of the internal magnetic field of the coil. The coil may inscribe a revolution in which any meridian plane inside a line of force of the field which the coil creates and in any point of its periphery, the magnetic field vector will be tangential to the coil.

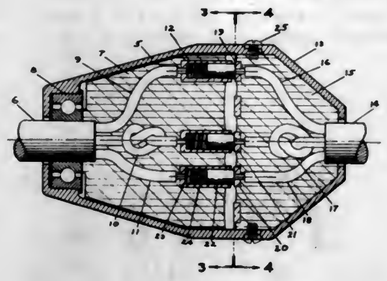
3,439,306
SELF-SUPPORTING RESISTANCE FILM
Donald G. Schimmel, Oley, Pa., assignor to Sylvania Electric Products Inc., a corporation of Delaware
Continuation of application Ser. No. 278,084, May 6, 1963. This application June 5, 1967, Ser. No. 645,541
Int. Cl. H01c *3/00*
U.S. Cl. 338—212 **4 Claims**



A self-supporting resistance film is provided in which the binder is of an organic material capable of being softened by an organic solvent and the resistance characteristic is attained by uniformly dispersing resistance particles in contacting relationship throughout the binder, the film being applied to any contoured surface configuration by wetting the binder with the solvent and while the film is still wet, contacting the film with the surface.

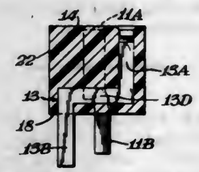
3,439,307
ELECTRICAL SWIVEL CABLE CONNECTOR
Earl Hugh Ruscher, 7655 Rome Oriskany Road, Rome, N.Y. 13440
Filed Aug. 18, 1966, Ser. No. 573,320
Int. Cl. H01r *35/00*
U.S. Cl. 339—8 **8 Claims**

A swivel connection between two multiconductor cables. Each cable has an end molded in a block of insulation, one having carbon plunger contacts, and the other contact rings to permit swiveling. One block has



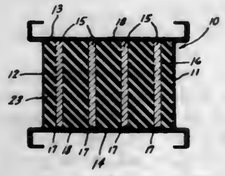
secured thereto a shell which encompasses the other block for rotation and has a bearing with the adjacent cable.

3,439,308
MALE/FEMALE ELECTRICAL ADAPTOR
Willson C. Swartout, P.O. Box 326, Newark, Del. 19711
Filed Dec. 12, 1966, Ser. No. 600,849
Int. Cl. H01r *3/06*
U.S. Cl. 339—14 **9 Claims**



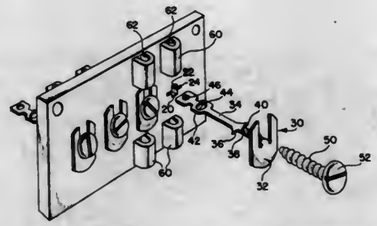
Electrical adaptor for converting between male/female connections.

3,439,309
PLUG-IN TYPE ELECTRICAL POWER DISTRIBUTION SYSTEM
Walter Giger, Jr., Wethersfield, and Frank C. Johnston, West Hartford, Conn., assignors to General Electric Company, a corporation of New York
Filed May 31, 1967, Ser. No. 642,580
Int. Cl. H01r *13/60*
U.S. Cl. 339—22 **4 Claims**



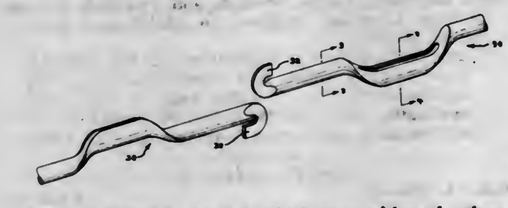
An electrical power distribution system comprising an elongated metallic duct having a plurality of spaced electrical conductors therein, the space between the individual conductors and between the conductors and the side walls of the duct being substantially completely filled with a homogeneous, non-hygroscopic, electrically insulating cellular material.

3,439,310
TERMINAL BOARD ASSEMBLY
Francis E. Ryder, Des Plaines, Ill., assignor to Illinois Tool Works Inc., Chicago, Ill., a corporation of Delaware
Filed Dec. 27, 1966, Ser. No. 604,948
Int. Cl. H01r *27/00, 9/00, 13/50*
U.S. Cl. 339—33 **9 Claims**



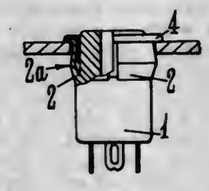
A television antenna terminal board for supporting an indoor UHF loop antenna and providing a plurality of universal terminals capable of alternatively accepting female spade-type connectors, soldered joints or strain relief fastening of a single conductor plus providing terminals for VHF twin lead cable.

3,439,311
HERMAPHRODITIC CONTACT
William Robert Evans, Hershey, Pa., assignor to AMP Incorporated, Harrisburg, Pa.
Filed May 12, 1967, Ser. No. 638,058
Int. Cl. H01r *25/00, 31/08, 29/00*
U.S. Cl. 339—47 **11 Claims**



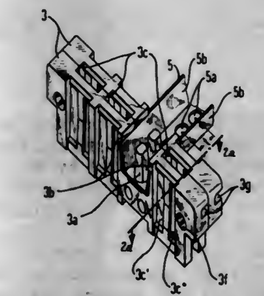
A pair of identical contacts which mate with each other, said contacts preferably being provided with housings which may also be identical.

3,439,312
WALL-MOUNTED SOCKET FOR JACK PLUG
Eric Arthur Greasley, Nottingham, England, assignor to Pressac Limited, Long Eaton, Nottingham, England
Filed Nov. 16, 1967, Ser. No. 683,655
Claims priority, application Great Britain, Nov. 21, 1966, 51,978/66
Int. Cl. H02b *1/04;* **F16l** *41/00*
U.S. Cl. 339—128 **2 Claims**



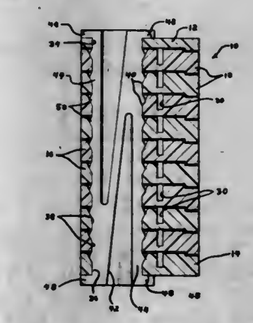
A jack plug socket intended at one end to be snapped into an opening in an instrument or like panel is provided at said end with resilient claws which contract and then spring outwardly against the edge of said opening when the socket is inserted into said opening and are prevented from contracting again by a bezel engaged in an annular space between said claws and the outer face of said end of the socket.

3,439,313
SUPPORTING AND CONTACTING STRUCTURE, ESPECIALLY FOR RELAYS, CONSTRUCTED FOR MECHANIZED AND ADJUSTMENT-FREE ASSEMBLY THEREOF
Josef Fischer, Herbert Krautwald, and Helmut Schedele, Munich, Germany, assignors to Siemens Aktiengesellschaft, Munich, Germany, a corporation of Germany
Filed Apr. 20, 1967, Ser. No. 632,410
Claims priority, application Germany, Apr. 25, 1966, S 103,396
Int. Cl. H01r *21/02, 9/00, 13/50*
U.S. Cl. 339—157 **8 Claims**



A supporting and contacting structure, particularly for relays and the like, of modular construction employing a plurality of like body members of insulating material, a mounting rail preferably of U-shape cross section, having openings therein to receive projections on the respective body members and constructed to interlock therewith to retain the same in assembled relation, adjacent body members cooperably by defining a plurality of chambers disposed in a common plane, and contact springs disposed in respective chambers provided with spring means interlocking with portions of the body members to retain the contact springs in their associated chamber.

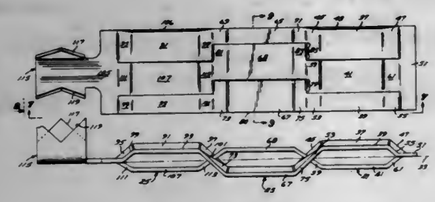
3,439,314
LAMINATE HOUSING FOR ELECTRICAL CONTACTS OR THE LIKE
Linn Stephen Lightner, Camp Hill, and Benny Morris Bennett and John Carl Asick, Harrisburg, Pa., assignors to AMP Incorporated, Harrisburg, Pa.
Filed Jan. 19, 1967, Ser. No. 610,394
Int. Cl. H01r *13/50, 9/08*
U.S. Cl. 339—208 **5 Claims**



A housing comprising plural layers of housing section. Each section is maintained in proper position, and the entire housing is maintained assembled, by a resilient

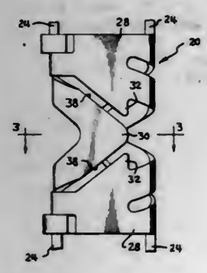
member which engages the individual layers of the housing.

3,439,315
ELECTRICAL CONTACT STRIP
Harold R. Hamel, La Palma, and Ernest W. Dietz, Torrance, Calif., assignors to Pacific Electricord Company, Gardena, Calif., a corporation of California
Filed July 17, 1967, Ser. No. 653,878
Int. Cl. H01r 13/24, 21/02
U.S. Cl. 339—242 6 Claims



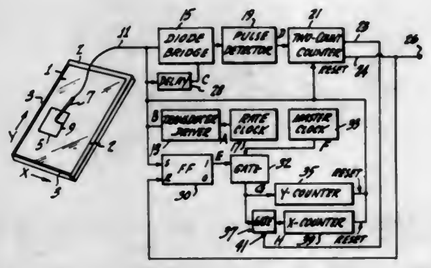
An elongated electrical contact strip for use in a cube tap, and including first and second end to end receptacles. The first receptacle is formed by first and second substantially coplanar, transversely spaced apart side portions, which are offset above the longitudinal center plane of the strip and a first center strip portion interposed between the side portions, but disposed below the center plane. The first side portion includes first and second oppositely disposed end portions, the center strip portion includes third and fourth oppositely disposed end portions, and the second side portion includes fifth and sixth oppositely disposed end portions, the first and fifth end portions being disposed at one end of the first receptacle, coplanar, and angled longitudinally outwardly and downwardly to the center plane, and the third end portion disposed at said one end and angling outwardly and upwardly to the central plane.

3,439,316
MINIATURE ELECTRICAL CONNECTOR
William Robert Evans, Hershey, Pa., assignor to AMP Incorporated, Harrisburg, Pa.
Filed Dec. 22, 1966, Ser. No. 603,854
Int. Cl. H01r 13/24, 11/20
U.S. Cl. 339—258 13 Claims



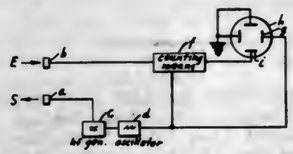
A female electrical contact having a socket passage therethrough and adapted to receive a male contact, said female contact having a strap portion at either end of the socket passage and having a pair of V-shaped spring tongues extending between the strap portions and disposed in opposed relation along the sides of the socket passage. In addition, there is disclosed a blanked strip from which the female electrical contacts described above are to be formed.

3,439,317
COORDINATE CONVERTER SYSTEM
James C. Miller, Pennington, and Charles M. Wine, Princeton, N.J., assignors to Radio Corporation of America, a corporation of Delaware
Filed Dec. 20, 1967, Ser. No. 693,693
Int. Cl. G01s 9/66
U.S. Cl. 340—1 6 Claims



A coordinate converter system having a transducer apparatus operative to send and receive acoustic signals in a tablet medium. A distance measuring system translates the time between the transmission of the signals and the reception of reflected signals into a pair of counts representative of the X and Y coordinates of the transducer position on the tablet, respectively.

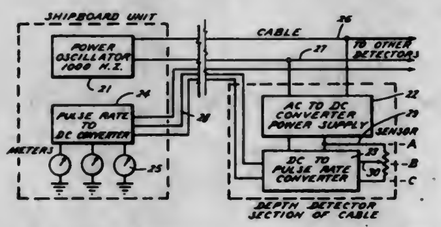
3,439,318
ECHO SOUNDING METHOD AND APPARATUS
Hans Bostroem, Farsta, Sweden, and Friedrich Howey, Bremen, Germany, assignors to Aktiebolaget Bofors, Bofors, Sweden
Continuation-in-part of application Ser. No. 460,933, June 3, 1965, which is a continuation-in-part of application Ser. No. 219,820, Aug. 23, 1962. This application Sept. 15, 1967, Ser. No. 668,140
Claims priority, application Germany, Aug. 24, 1961, A 38,179
Int. Cl. G01s 9/68
U.S. Cl. 340—3 6 Claims



The disclosure is directed to an echo sounding method and apparatus in which impulses are transmitted at the start of successive sounding periods having lengths, between successive transmitted impulses, corresponding to a sounding range which is a multiple of the selected sounding range and in which there are counted only those echo impulses received during a selected limited sound receiving portion of each sound receiving period, the portion having a length which is a fraction of that of the associated sounding period. The successive sound receiving portions are counted, and there is measured the elapsed time, at which an echo impulse, responsive to a transmitted impulse initiating a sounding period, is received in the sound receiving portion of the associated sounding period, only during sound receiving portions which are spaced, in time, at time intervals which are a multiple of a sound receiving period.

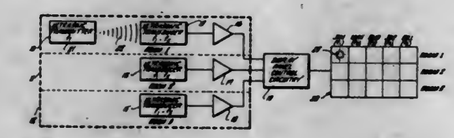
Successive sounding periods of different respective lengths are used in such a manner that periodically recurring disturbance impulses which, with equal length sounding periods, would be received during a sound receiving portion of a sounding period, are received outside the sound receiving portion. Preferably the selection of the lengths of successive sounding periods of unequal length is effected in a periodic manner.

3,439,319
MARINE SEISMIC CABLE WITH DEPTH DETECTOR SYSTEM
William A. Whitfill, Jr., Houston, Tex., assignor to Schlumberger Technology Corporation, New York, N.Y., a corporation of Texas
Filed Aug. 7, 1968, Ser. No. 750,984
Int. Cl. H04b 13/02
U.S. Cl. 340—7 6 Claims



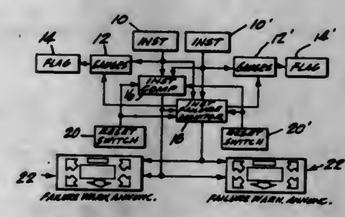
A marine seismic cable system which is adapted for towing behind a boat, employs a depth detector system operating entirely from alternating current. The cable includes electrical conductors coupled to depth sensors located at spaced points along the cable. The depth sensors and electrical means provide a D.C. current signal representative of depth which controls a pulse rate generator to provide modulated pulse rate signals for cable transmission. A shipboard power oscillator supplies alternating current energy via the cable conductors to the electrical means in the cable. Also, at the ship, the pulse rate signals are reconverted to D.C. current and displayed.

3,439,320
PERSONNEL LOCATION SYSTEM
James E. Ward, Glendora, Calif., assignor to Relton Corporation, Arcadia, Calif., a corporation of California
Filed Sept. 21, 1967, Ser. No. 669,610
Int. Cl. G01s 3/80
U.S. Cl. 340—16 7 Claims



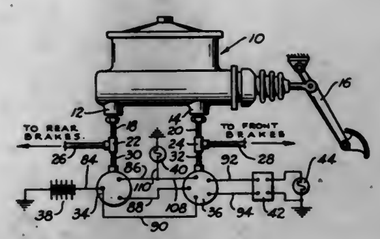
Each of a plurality of persons whose location is to be ascertained carries a transmitter that produces an ultrasonic sound signal having a unique frequency. Each room or area to be designated has an ultrasonic receiver or transducer capable of sensing any of the unique frequencies within its range. The ultrasonic transducers in the different areas are all coupled to a display panel capable of indicating the designated areas and each person to be located. When a person actuates his transmitter in one of the areas, an indication is given on the control panel of the location of this person at a designated area. Preferably, the indication is maintained until the person moves to a different area and actuates his transmitter there.

3,439,321
AIRCRAFT FLIGHT INSTRUMENT FAILURE MONITOR AND WARNING SYSTEM
Richard C. Sebern, Long Beach, Calif., assignor, by mesne assignments, to McDonnell Douglas Corporation, Santa Monica, Calif., a corporation of Maryland
Filed Sept. 20, 1965, Ser. No. 488,464
Int. Cl. G08g 5/00; G08b 21/00
U.S. Cl. 340—27 6 Claims



An aircraft flight instrument failure monitor and warning system including a monitoring device, and an annunciator operatively coupled to the monitoring device. The monitoring device includes failure detection circuits for detecting instrument failures, mode select circuit means coupled to the failure detection circuits for transmitting only those signals which affect the particular mode in which the aircraft is operating, and output circuits connected to the mode select circuit means for transmitting a signal to suggest a corrective aircraft flight procedure to the flight crew in view of each flight instrument failure and display such by means of the annunciator.

3,439,322
VEHICLE BRAKE FLUID PRESSURE MONITOR SYSTEM
Delbert J. Gardner, South Bend, Ind., assignor to Bendix Products Automotive, South Bend, Ind., a corporation of Delaware
Filed Apr. 6, 1966, Ser. No. 540,654
Int. Cl. B60q 9/00
U.S. Cl. 340—52 7 Claims



2. In combination with an electrical power source and a split master cylinder, an electrical indicating system comprising:

a first pressure responsive switch means including a set of normally open contacts and a set of normally closed contacts with a switching element for closing the open contacts and opening the closed contacts in response to a pressure from said split master cylinder;

a second pressure responsive switch means having two sets of normally open contacts and two sets of normally closed contacts with a switch element for simultaneously opening the closed contacts of each set as it closes the open contacts of each set in accordance with a second pressure developed by said master cylinder, one set of the normally closed contacts operatively connected to the set of normally closed contacts of said first pressure responsive

means and the other set of normally closed contacts being operatively connected to said normally open contacts of said first pressure responsive means;

a relay including an actuating coil and a holding coil for a magnetically sensitive switch element to control a normally open set of contacts which have one pole thereof connected to said one set of normally closed contacts of said second pressure responsive switch means; and

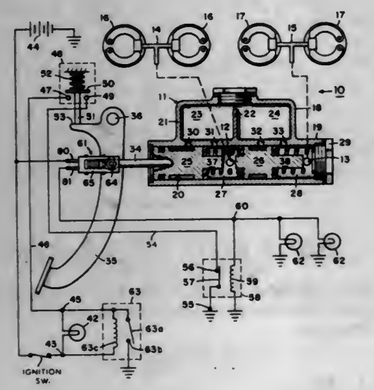
an indicating device connected to the other pole of said set of contacts in said relay to be actuated by said magnetically sensitive switch element.

3,439,323

FLUID PRESSURE FAILURE INDICATING MEANS

Raymond J. Kersting, Dellwood, Mo., assignor, by mesne assignments, to Wagner Electric Corporation, South Bend, Ind., a corporation of Delaware

Filed Oct. 12, 1966, Ser. No. 586,133
Int. Cl. B60q *1/44*; G08b *21/00*
U.S. Cl. 340—52 **9 Claims**



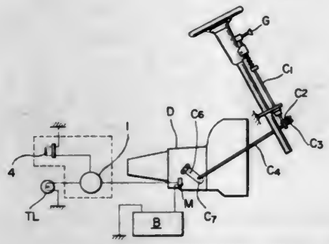
5. In combination, a fluid pressure system including fluid pressure controlled means, fluid pressure generating means connected to said controlled means, means movable in response to an applied force thereon to actuate said fluid pressure generating means to establish fluid pressure in said system for actuating said controlled means, the established fluid pressure in said system creating a reaction force on said movable means in opposition to the applied force, operator means for applying an applied force to said movable means in response to an applied force thereon, means connecting said movable means with said operator means to provide concerted movement thereof and a predetermined amount of relative movement therebetween, first switch means connected to said operator means for concerted movement therewith, said switch means including switch contact means, and resiliently urged actuating means for actuating said switch contact means between first and second switch positions, said actuating means engaging said movable means to resiliently oppose the relative movement between said said operator and movable means, said operator and movable means being relatively movable in response to the reaction force on said movable means in excess of a predetermined amount to overcome the force of said actuating means and effect actuation of said contact means from said first switch position to said second switch position, second switch means connected with said operator means and actuated in response to a predetermined amount of movement of said operator means, signal means, third switch means, means connecting said signal means and said second and third switch means in series circuit relationship between a pair of circuit terminals, voltage supply means connected across said terminals for effecting energization of said signal means, and switch control means connected with said first switch means for actuating said third switch means in response to actuation of said first switch means, said second switch means effecting energization of said signal means when actuated before the actuation of said third switch means.

3,439,324

BACKUP WARNING DEVICE FOR A VEHICLE

Seiji Kirimoto, Wakayama-ken, and Taizo Kaneko, Gunma-ken, Japan, assignors to Nikko Electric Industry Co., Ltd., Tokyo, Japan

Filed June 27, 1966, Ser. No. 560,483
Claims priority, application Japan, Sept. 13, 1965, 40/74,617
Int. Cl. B60q *1/26*
U.S. Cl. 340—70 **3 Claims**



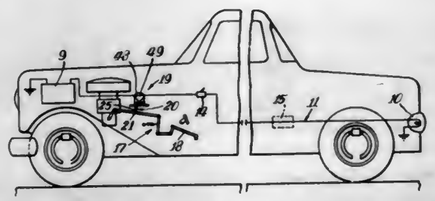
An electrical warning device actuated by gear shifting linkage when placed in reverse. The device consists of a buzzer mounted in a sealed housing, the buzzer having an actuating relay and an associated condenser mounted on a support plate in the housing. The support plate is attached to the buzzer by resilient vibration dampening straps to protect the relay and condenser against damage.

3,439,325

SIGNALLING MEANS FOR INDICATING CHANGE IN SPEED OF AN AUTOMOTIVE VEHICLE

Max Leichsenring, 4525 N. Francisco St., Chicago, Ill. 60625

Filed Feb. 21, 1968, Ser. No. 707,182
Int. Cl. B60q *1/26*; H01h *3/14*; G08b *21/00*
U.S. Cl. 340—71 **2 Claims**



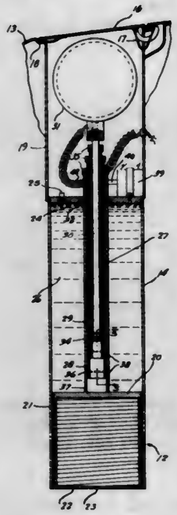
Signalling means for an accelerator controlled automotive vehicle having an electrically energizable warning signal embodying signal control means having connection with the accelerator linkage means for the accelerator, control switch means in frictional driving engagement with the signal control means for effecting opening and closing of the circuit means for the warning signal, and delay stop means for engaging the control switch means to arrest movement of the latter over a predetermined end portion of the range of movement of the accelerator linkage in power increasing direction, whereby upon predetermined movement of the accelerator linkage means in power decreasing direction in the predetermined end portion of the range of movement of the accelerator linkage, the control switch means effects closing of the circuit means energizing the warning signal.

3,439,326

VEHICLE EMERGENCY SIGNAL LIGHT

Henry F. Boudin, 165 Van's Lane, New Sarpy, La. 70078

Filed Jan. 20, 1967, Ser. No. 610,513
Int. Cl. B60g *1/00*; E01f *9/00*; G08b *5/06*
U.S. Cl. 340—87 **8 Claims**



A vehicle warning light assembly of the "pop-up" type comprising a vertical housing containing hydraulic liquid and a piston having a hollow telescopic rod portion to the top end of which a signal light is connected, with a coil spring in the bottom of the housing acting upwardly on the piston with the piston rod having an aperture through which the hydraulic liquid can enter and urge the telescopic segments upwardly under the force of the coil spring when the spring is released. The telescopic piston rod is normally retained in a retracted position in the housing by locking engagement with the end of the plunger of a release solenoid which is connected in parallel with a branch circuit including the signal lamp and a blinker switch, these being connected to the vehicle battery through a manually-operated control switch. When the control switch is closed the release solenoid is energized, allowing the coil spring to expand and elevate the light, at the same time, energizing the light through the blinker switch.

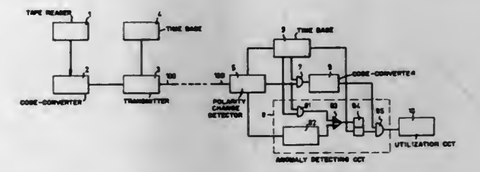
3,439,327

SYSTEMS FOR PROTECTION AGAINST ERRORS IN TRANSMISSION

Roger P. Sourgens, Bourg-la-Reine, France, assignor to Societe d'Applications Generales d'Electricite et de Mecanique, Paris, France, a company of France

Filed July 22, 1965, Ser. No. 473,968
Claims priority, application France, July 23, 1964, 982,828
Int. Cl. H04l *3/02, 15/34*; G08b *29/00*
U.S. Cl. 340—146.1 **3 Claims**

Telegraphic system with error detecting means. The transmitter station comprises a code converting unit for converting signals formed of a given number of binary code elements into signals formed of a larger number of binary code elements exhibiting a predetermined number of transitions between the zero and the one value. At the receiver station the reverse conversion is carried out. The receiver station comprises two means for checking the transmitted signals. The first counts the number of transitions. The second checks that the transitions occur at predetermined instants from the beginning of the signals and includes means for deriving short pulses from the signal transitions and means for gating said pulses within time slots centered at these predetermined instants.

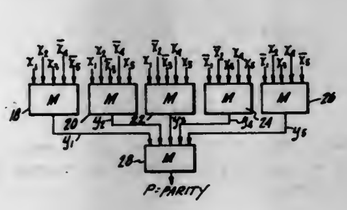


3,439,328

PARITY CIRCUITS EMPLOYING THRESHOLD GATES

Robert O. Winder, Trenton, N.J., assignor to Radio Corporation of America, a corporation of Delaware

Filed Aug. 19, 1964, Ser. No. 390,577
Int. Cl. G06f *11/10*
U.S. Cl. 340—146.1 **2 Claims**



Two levels of threshold gates, the first having n such gates and the second, a single gate. Each gate in the first level produces an output indicative of a threshold function of a different combination of m of n bits and complements of the remaining $n-m$ bits. The gate in the second level receives the signals indicative of bits produced by the gates in the first level and produces an output indicative of the parity function of the n bits.

3,439,329

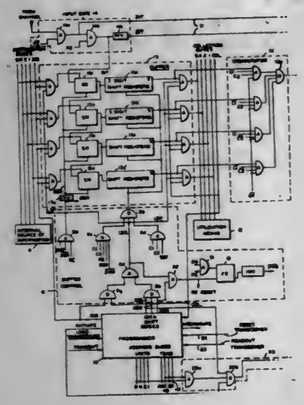
ELECTRONIC ERROR DETECTION AND MESSAGE ROUTING SYSTEM FOR A DIGITAL COMMUNICATION SYSTEM

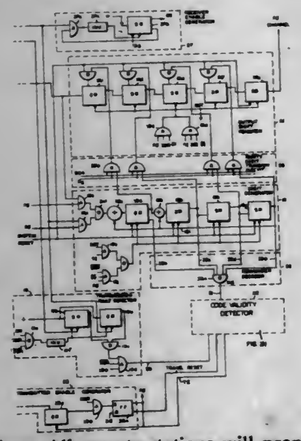
Jack D. Betz, Danver, and Glen E. Guy, Andover, Mass., assignors to General Electric Company, a corporation of New York

Filed May 5, 1965, Ser. No. 453,452
Int. Cl. G08b *29/00*; G06f *11/00*; H04b *1/00*
U.S. Cl. 340—146.1 **8 Claims**

An electronic error detection and message routing system for digital message processing. A message formed of binary bits is transmitted serially on a communication line. The message is simultaneously convolutionally processed

to form a parity digit including a plurality of parity bits. Such messages are transmitted and received by master and





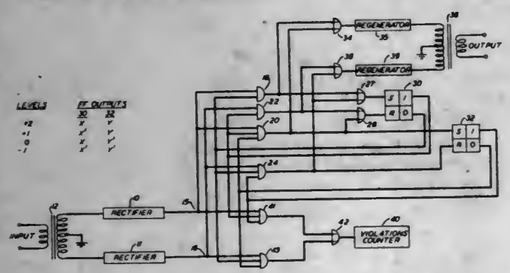
remote stations. All remote stations will properly decode an errorless message received from the master but not from other remotes.

3,439,330

ERROR DETECTION IN PAIRED SELECTED TERNARY CODE TRAINS

Jack M. Sipress, Summit, and Egils Zarins, East Orange, N.J., assignors to Bell Telephone Laboratories, Incorporated, New York, N.Y., a corporation of New York

Filed June 4, 1965, Ser. No. 461,382
Int. Cl. G08b *29/00, 25/00;* **H04l** *1/00*
U.S. Cl. 340—146.1 **6 Claims**



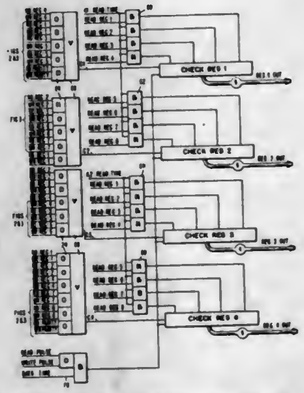
An error detection system for use in a pulse communication system employing a specially constrained code known as the paired selected ternary code. This code insures that no direct current component exists and that a long train of spaces will not be transmitted, thus facilitating the use of self-timed repeaters in a PCM system. The received code is examined by the apparatus of the invention to detect errors by monitoring the algebraic sum of the paired selected ternary signal (PST) and examining that sum for violations of the PST code. In the event that a violation is detected the output signal is altered to eliminate the violation.

3,439,331

ERROR DETECTION AND CORRECTION APPARATUS

David Trent Brown, Wappingers Falls, and Charles Harry Wolff, Poughkeepsie, N.Y., assignors to International Business Machines Corporation, Armonk, N.Y., a corporation of New York

Filed June 16, 1965, Ser. No. 464,282
Int. Cl. G08b *29/00;* **G11b** *5/00;* **G06f** *11/00*
U.S. Cl. 340—146.1 **8 Claims**



An error detection and correction circuit for locating which one of a plurality of recorded data tracks contains an error and for correcting the error. The data in the recorded channels is encoded into an *m*-element permutation code constructed from code groups comprising the plurality of channels, in accordance with a single-error-correcting/multiple-error-detecting code. This produces *m* streams of data bits, each stream corresponding to one element of the constructed code group. The streams are then fed to *m* linear feed-back shift registers having feed-back connections constructed in accordance with a cyclic redundancy code which further codes the permutation code modulo a coding polynominal. After a block of data has been processed, the shift registers contain check bits which are stored with the data. When the block of data is read, the data in the parallel tracks are again coded into the *m* element permutation code to thereby produce *m* streams of data bits which are applied to feed-back shift registers which are now used to detect a bit failure in any one of the streams of bits. Means are provided for decoding the failed check bit streams in accordance with the error-correcting premutation code to thereby identify the track or tracks in which the failure occurs.

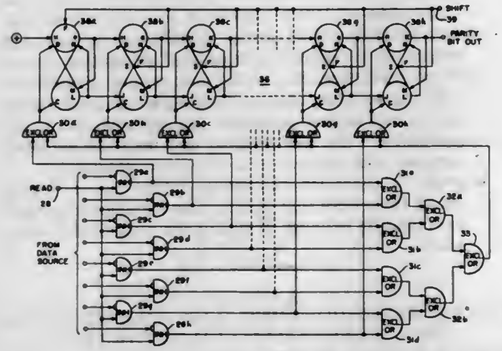
3,439,332

SPIRAL-VERTICAL PARITY GENERATING SYSTEM

Harold D. Cook, Wheaton, Ill., assignor to Teletype Corporation, Skokie, Ill., a corporation of Delaware

Filed July 6, 1965, Ser. No. 469,522
Int. Cl. G06f *11/10;* **G08b** *29/00*
U.S. Cl. 340—146.1 **8 Claims**

A parity check bit generator wherein the characters to be checked are supplied simultaneously in parallel to a plurality of modulo 2 adders and to a vertical parity bit generator. The output of the vertical parity generator is supplied as the other input to the adders, causing the output thereof to represent the modulo 2 sum of the in-



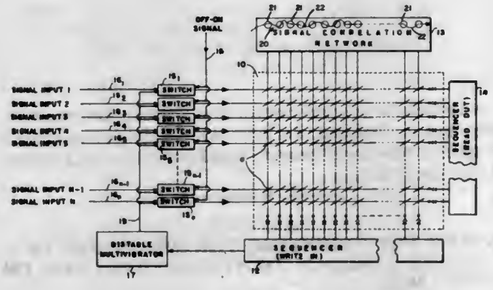
formation bit for each level of the character and the vertical parity count taken over the same character. The outputs of the adders are supplied as the input signals to a spiral parity check bit shift register, the output of which is a combination spiral-vertical parity check bit.

3,439,333

SIGNAL RECOGNITION APPARATUS HAVING IMPROVED FALSE RESPONSE REJECTION CAPABILITY AND METHOD FOR PROVIDING SAME

Daniel Blitz, Boston, Mass., assignor to Sanders Associates, Inc., Nashua, N.H., a corporation of Delaware

Filed Aug. 25, 1967, Ser. No. 663,378
Int. Cl. G08b *29/00*
U.S. Cl. 340—146.1 **16 Claims**



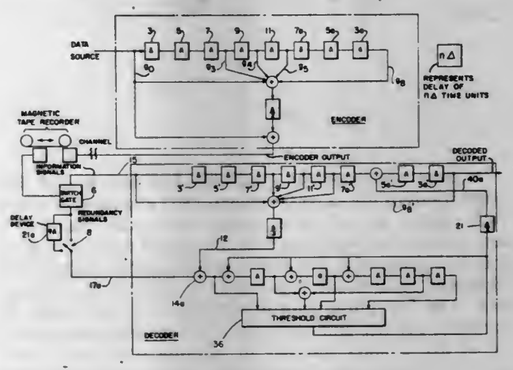
In a signal recognition system wherein samples of the signals to be recognized are stored in a magnetic core matrix to be subsequently delivered to summing networks arranged to recognize particular signals, apparatus is provided to store an artificial signal when no true signal is present, which artificial signal is characterized in that it will provide substantial cancellation in the summing networks. The artificial signal is such as to place alternate cores of each row of the storage matrix in a first state and the remaining cores of each row of the matrix in a second state.

3,439,334

PROCESSING SIGNAL INFORMATION

James Lee Massey, South Bend, Ind., assignor to Codex Corporation, Watertown, Mass., a corporation of Delaware

Original application Aug. 2, 1963, Ser. No. 299,534, Divided and this application Oct. 16, 1967, Ser. No. 675,633
Int. Cl. G08b *29/00*
U.S. Cl. 340—146.1 **8 Claims**



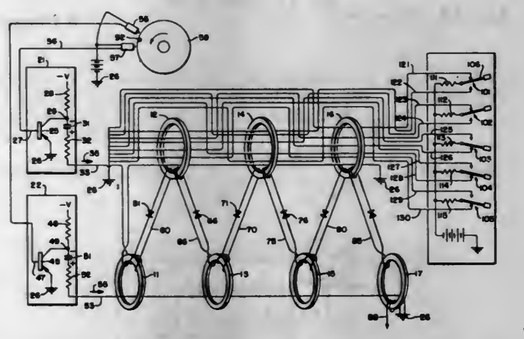
Device for correcting or detecting errors in transmission of signal information, having an information signal memory, an adder for forming redundancy signals from connections between the adder and the memory in accordance with a convolutional code, the device constructed to enable backward or forward decoding of the message.

3,439,335

SEQUENCE DETECTOR

Ransom D. Slayton, Glenview, Ill., assignor to Teletype Corporation, Skokie, Ill., a coproration of Delaware

Filed Apr. 6, 1966, Ser. No. 540,641
Int. Cl. G06f *7/02*
U.S. Cl. 340—146.2 **5 Claims**

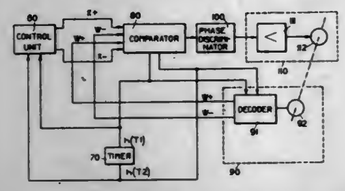


A sequence detection circuit uses a magnetic core shift register to combine the operation of detecting a sequence of predetermined permutation-coded characters with the decoding of those same characters. If the proper sequence of characters is received, a "set" condition is stepped through the register to the output stage. If the proper character in the sequence is not received at the proper time, at least one decoding wire threaded through the core associated with the desired character of the sequence carries an inhibiting current; so that the core cannot be "set" and the sequence fails.

3,439,336
DIGITAL COMPARATOR

Jaroslav Tolfl and Miloslav Martínek, Prague, Czechoslovakia, assignors to Vyzkumny ustav matematickych stroju, Prague, Czechoslovakia

Filed Sept. 29, 1965, Ser. No. 491,204
Int. Cl. G06f 7/02
U.S. Cl. 340—146.2 6 Claims

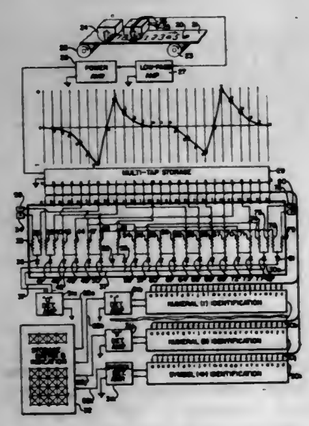


A pulse generator for producing first and second like pulse trains of the same frequency 180° displaced in phase with respect to each other supply such pulse trains to a servosystem for producing first and second command pulse trains in phase with the second and first pulse trains which represent positive and negative sense movement information. The first pulse train is supplied to a first single directional counter and is supplied to a second single directional like counter through an addition stage and a subtraction stage in series connection. The outputs of the first and second counters are supplied to a flip-flop whose output is supplied to the movement control of the servosystem. First and second feedback pulse trains are produced which are in phase with the first and second pulse trains and represent positive and negative sense deviation movement information. The first command and first feedback pulse trains are supplied to the subtraction stage and the second command and second feedback pulse trains are supplied to the addition stage.

3,439,337
CHARACTER RECOGNITION ELECTRICAL DE-CODER SYSTEM

Cebern B. Trimble, Dayton, Ohio, assignor to The National Cash Register Company, Dayton, Ohio, a corporation of Maryland

Filed Nov. 18, 1957, Ser. No. 697,230
Int. Cl. G06k 9/06
U.S. Cl. 340—146.3 6 Claims



3. Apparatus for selectively identifying a plurality of recorded characters, comprising:

means sequentially responsive to said characters for generating a sequence of electrical signals, the characteristic wave-shape of each of said signals exhibiting a plurality of positive and negative potential excursions collectively representative of a corresponding character;

storage means coupled to said generating means for sequentially receiving said signals one after the other, and for dispensing positive and negative potential samples of said excursions of each of said signals at a plurality of output points of said storage means;

and a plurality of character-identifying means, each related to a different one of said characters,

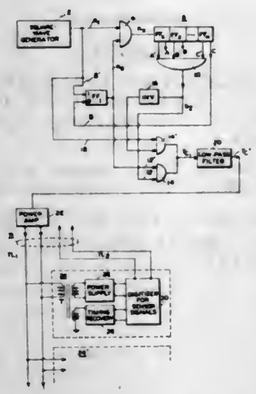
each of said character-identifying means including a collating network coupled to a different combination of selected output points of said storage means for comparing only said positive and negative potential samples with respect to a reference potential,

whereby a character-identifying output signal is produced from only that detector device associated with the collating network provided for a particular character.

3,439,338
POWER, SYNCHRONIZING AND TIMING WAVEFORM GENERATOR AND APPARATUS

Kenneth E. Perry, Wayland, Mass., assignor, by mesne assignments, to EG & G International, Inc., Bedford, Mass., a corporation of Delaware

Filed Jan. 12, 1966, Ser. No. 520,203
Int. Cl. H04g 1/18; H04m 11/04
U.S. Cl. 340—147 7 Claims



A system for remote control over distribution transmission lines is disclosed. Periodic time variations in signals of special waveform provide synchronization and timing at the remote station.

3,439,339
SYSTEM FOR VERIFYING THE OWNERSHIP OF A CREDIT CARD, AN IDENTIFICATION CARD, OR THE LIKE

Nathan R. Parks, Long Beach., N.Y., assignor of one-half to Lawrence M. Parks, Lynbrook, N.Y.

Filed Apr. 15, 1966, Ser. No. 542,942
Int. Cl. G07c 11/00
U.S. Cl. 340—149 10 Claims

1. In a system for verifying a number announced by the presenter of a credit card, an identification card and the like, which is one of a series of cards of identical dimensions having differently positioned perforations of identical dimensions within an area of identical dimensions and position on each card, the perforations of all the cards being included in a predetermined pattern of perforation positions, an optical device including a casing

whose interior is dark; a wall of said casing having a window provided with a viewing screen through which light can pass, a minutely concentrated light source within the casing, offered by an electric bulb in a circuit, directing the light emanating therefrom, onto the screen, support means associated with the casing for holding at least part of a card within the casing in a plane between the light source and the screen so that area of the card is within the casing and unobstructed; said casing having an opening to admit a card therein onto said support means, a stop for limiting the movement of the card into the casing, and a slide positioned within the casing intermediate said plane and screen, having numerals thereon in an arrangement corresponding with the perforation positions of said pattern; the ratio of the distance

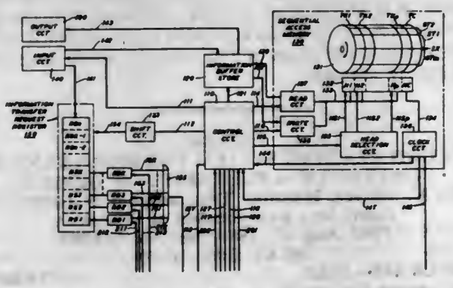


between said plane and the slide and the distance between said plane and the light source, being substantially the same as the ratio of the height of the largest of said numerals and the diameter of a perforation; said screen being at such distance from the light source that said light source has a cone of light therefrom pass through each perforation in the card respectively, through the slide and onto the screen; said light source thereby producing separately discernable spot lights on the screen; each cone of light projecting only one numeral within such spot light on the screen when a card is placed within the casing on said support means and against said stop; corresponding points on the slide and on said area of a card on the support and against the stop, being in alignment with the light source.

3,439,340
SEQUENTIAL ACCESS MEMORY SYSTEM

Lee E. Gallaher, Middletown, N.J., assignor to Bell Telephone Laboratories, Incorporated, New York, N.Y., a corporation of New York

Filed July 30, 1965, Ser. No. 476,039
Int. Cl. G11b 13/00
U.S. Cl. 340—172.5 10 Claims

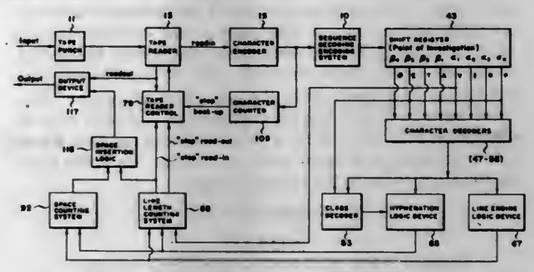


The information transfer rate of a sequential access memory system is increased by queueing random address, information transfer requests in the serial manner in which addresses in the sequential memory system occur, such that a group of requests may be processed during a single memory period. While one group of queued requests is being processed, another group is queued for subsequent processing, thereby providing an endless queue of data transfer requests.

3,439,341
HYPHENATION MACHINE

James L. Dolby, Los Altos, Calif., and Howard L. Resnikoff, Princeton, N.J., assignors to Lockheed Aircraft Corporation, Burbank, Calif.

Filed Aug. 9, 1965, Ser. No. 478,127
Int. Cl. G06f 7/08, 15/20; G06k 9/10
U.S. Cl. 340—172.5 6 Claims

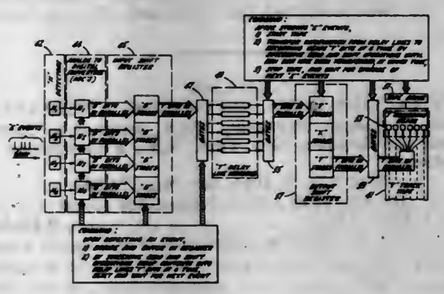


A digital device for hyphenating and justifying original textual composition into a second form of textual composition having lines of pre-selected number of words per line which is accomplished by the examination of a string of alpha, numeric and other punctuational characters taken from the original textual composition to determine whether the characters being examined define one or more of the conditions necessary for splitting, hyphenating and/or punctuation by the device. The device contains a plurality of circuits which may be termed syllabification logic circuits which define logic equations and conditions which, if satisfied by a string of characters under examination from the textual composition, will be hyphenated, justified and/or otherwise punctuated. The system provides a means for automatically determining whether it is gramatically possible to syllabify a given string of characters without the assistance of manual aids.

3,439,342
DATA ORGANIZATION SYSTEM FOR MULTIPARAMETER ANALYZERS

Henry O. Barton, Skokie, Ill., assignor, by mesne assignments, to Packard Instrument Company, Inc., Downers Grove, Ill., a corporation of Delaware

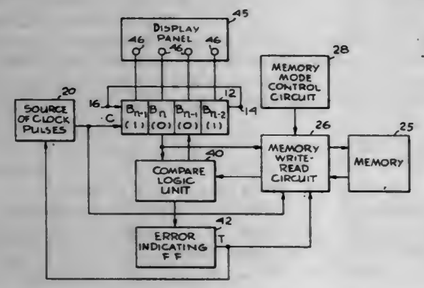
Filed May 11, 1966, Ser. No. 549,405
Int. Cl. G11b 13/00
U.S. Cl. 340—172.5 15 Claims



By means of a system featuring a set of T recirculating delay line memories, digital data representing a large number of randomly occurring multiparameter events

are recorded at regular intervals on successive lines of multi-track magnetic tape. Each of a series of E random events is detected by N parameter detectors and the output of each of the detectors is converted into B digital bits, all of which appear concurrently. The NB bits representing each event are successively fed, a T bit character at a time, into T recirculating delay line memories, each delay line receiving a single bit of each character. This process is repeated until a sufficient number of events have occurred to cause the storage in the delay line memories of a sufficient number of data bits to fill a block length of T track magnetic tape. Once this condition occurs the data is transferred from the delay line memories to the magnetic tape a T bit character at a time so that, as the tape is transported past is associated set of T recording heads, successive characters being read from the delay line memories may be concurrently recorded in successive rows thereon. The delay line memories have sufficient storage capacity so that they may accumulate data associated with subsequent random events while the data associated with past events are being transferred from them to the magnetic tape.

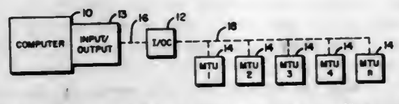
3,439,343
COMPUTER MEMORY TESTING SYSTEM
Howard L. Stahle, Tujunga, Calif., assignor to Singer-General Precision, Inc., a corporation of Delaware
Filed July 12, 1966, Ser. No. 564,603
Int. Cl. G11b *13/00*
U.S. Cl. 340—172.5 **5 Claims**



A system for automatically checking out the sequential storing of bits of data in a memory track and the reading out of stored data bits therefrom, including a circulatory multi-element shift register. The bits circulating through a selected element of the register are used to activate a write amplifier to sequentially store the bit in the memory track. Then during a read mode of operation the bits circulating through the selected element are compared bit by bit with the bits sequentially read out from the memory track. The readout operation is interrupted whenever the two compared bits represent different binary values.

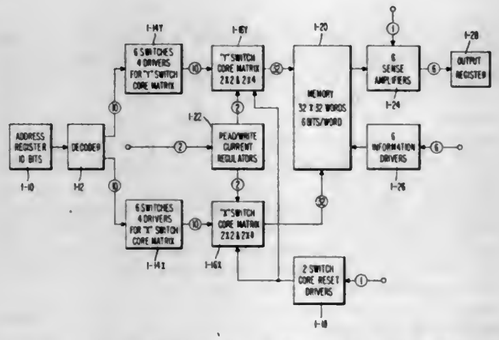
3,439,344
CONTINUOUS DATA RECORDING APPARATUS
Dennis C. Stanga, Hennepin, Minn., assignor to Sperry Rand Corporation, New York, N.Y., a corporation of Delaware
Filed Aug. 9, 1966, Ser. No. 571,309
Int. Cl. G11b *13/00, 5/00;* **G06f** *11/00*
U.S. Cl. 340—172.5 **9 Claims**

Apparatus for effecting continuous recording on a continuously running recording medium to provide matching of data transfer rates from magnetic tape, or the like, with that of a utilization device such as a Computer during conflict periods or priority interrupt intervals. A recording format of parallel recording channels or tracks, e.g., a parity track, a control track and a plurality of data tracks, is utilized. Whenever a priority interrupt occurs during a recording operation logic circuitry generates and records, in place of the data that would have been recorded except for the priority interrupt, a parity bit in the parity track, an ignore bit in the control track and a No-data code, or quene fill, in the data track. After



termination of the priority interrupt, recording of the data continues in normal fashion. Upon readout, logic circuitry interprets the ignore bit inhibiting transfer of the associated bits in the data tracks, i.e., the No-data code.

3,439,345
SMALL, LOW COST MEMORY
Edward F. Myers, East Lansdowne, and John R. Port, King of Prussia, Pa., assignors to Burroughs Corporation, Detroit, Mich., a corporation of Michigan
Filed Apr. 14, 1966, Ser. No. 542,586
Int. Cl. G06f *7/24*
U.S. Cl. 340—172.5 **15 Claims**

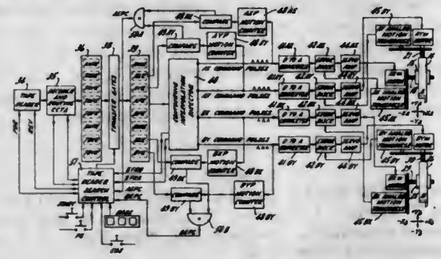


A magnetic switching core addressing organization is disclosed for use with a coincident current matrix to provide a small low cost memory. The switching core address matrix is organized in a unique manner wherein one of a plurality of switches is selectively combined with one of a plurality of drivers to activate any one of the x lines of the coincident current matrix. Simultaneously a similar selective combination is energized from among a second plurality of switches and drivers to concurrently activate any one of the y lines of the coincident current matrix. Each switching core address matrix is thus comprised of a plurality of cascade connected switches and drivers. A novel resetting apparatus is also included which resets only those cores of the memory which have been previously selected.

3,439,346
RECORD READING SYSTEM FOR SIMULTANEOUS CONTROL OF A PLURALITY OF DEVICES
John K. McGee, Houston, Tex., assignor to Giddings & Lewis Inc., a corporation of Wisconsin
Filed Aug. 17, 1966, Ser. No. 572,991
Int. Cl. G06f *11/00*
U.S. Cl. 340—172.5 **45 Claims**

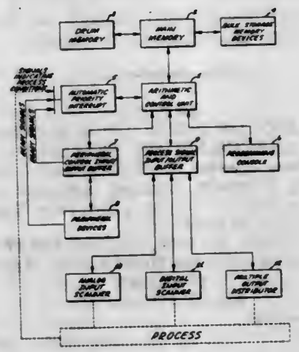
A system for reading an elongated record or tape containing randomly interspersed blocks of two or more types (A or B) of digital data into data processing apparatus so as to continuously control two or more (A and B) utilization devices such as servomechanisms, and wherein different blocks of data are sufficient to keep a utilization device busy for different periods of time. All A data blocks are used in the order of their appearance on the tape

without regard to any B data blocks; and all B data blocks are used in their order of appearance on the tape without regard to A data blocks. Apparatus signals when data of either type (A or B) is needed, and means respond thereto for starting the tape reader forwardly. As each block is sensed, means create a signal indicating whether that block contains A or B data. If the block contains the needed type of data, the signals read therefrom are accepted and the tape reader is stopped. If the sensed block, or any number of blocks, contains data of the type not needed, means cause the data signals therefrom to be rejected or ignored



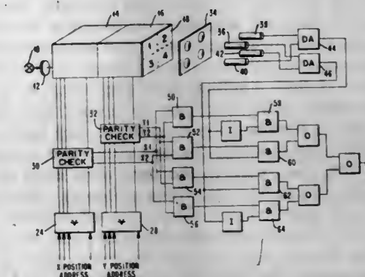
(the block is skipped) and the reader continues running until a block containing the needed type of data is found, read and accepted. Control means then stop the reader and cause it to run in a reverse direction until the beginning of the first skipped and previously unused block of data is again disposed in the tape reader. Storing and control devices cause any previously accepted block of data to be skipped even though it contains data of the type needed. Other apparatus performs auxiliary functions such as limiting the extent to which the system will search forwardly on the record.

3,439,347
SUB-WORD LENGTH ARITHMETIC APPARATUS
Larry A. Goshorn, Villa Park, Calif., and Sherril A. Harmon, Phoenix, Ariz., assignors to General Electric Company, a corporation of New York
Filed Dec. 13, 1966, Ser. No. 601,503
Int. Cl. G11b *13/00*
U.S. Cl. 340—172.5 **14 Claims**



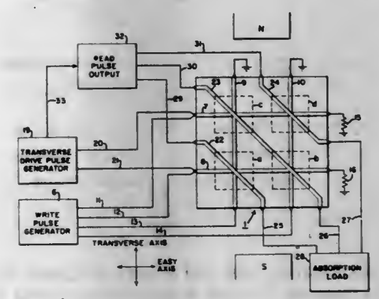
1. An information processing system including: a first binary register; means responsive to predetermined signals decoded from a word temporarily stored in said first binary register to generate a signal; second, third, and fourth binary registers; a full adder; means responsive to said signal for serially shifting said second, third, and fourth binary registers in synchronism; means responsive to said signal and to a first state of a terminal order bistable device of said second binary register for gating the information represented by the state of a first terminal order bistable device of said third register to a first input of said full adder; means responsive to said signal and to a second state of said terminal order bistable device of said second binary register for gating the information represented by the state of a terminal order bistable device of said fourth binary register to a second input of said full adder; and gating means responsive to said signal for shifting output signals from said full adder serially into a second terminal order bistable device of said third binary register.

3,439,348
ELECTROOPTICAL MEMORY
Thomas J. Harris, Poughkeepsie, N.Y., Kurt M. Kosanke, Stuttgart-Degerloch, Germany, Werner W. Kulcke, Poughkeepsie, N.Y., and Erhard Max, Sindelfingen, Germany, assignors to International Business Machines Corporation, Armonk, N.Y., a corporation of New York
Filed Jan. 14, 1966, Ser. No. 520,748
Int. Cl. G11b *11/10*
U.S. Cl. 340—173 **5 Claims**



This invention relates to information storage systems in which electrooptic techniques are utilized to digitally index the position of a beam of light, and more particularly to means for reading out of such systems.

3,439,349
CONTINUOUS THIN MAGNETIC FILM STORAGE DEVICE
Heinz Raillard, Liverpool, N.Y., and Irving W. Wolf, Palo Alto, Calif., assignors to General Electric Company, a corporation of New York
Filed Jan. 21, 1965, Ser. No. 426,810
Int. Cl. G11b *5/00;* **G11c** *11/14*
U.S. Cl. 340—174 **14 Claims**

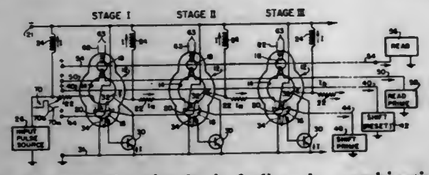


A high speed thin magnetic film storage device having information elements positioned in close proximity which remain stable over long periods of nondestructive readout operation. A bias D.C. magnetic field is applied in a direction transverse to the film's "easy" axis for establishing a rest magnetization oblique to said "easy" axis. Readout is accomplished by drive means which provide a rapid rotation of the flux through a limited angle, with the output obtained from sense means coupled to said elements and responsive to flux change therein.

3,439,350
MAGNETIC CORE COUNTER AND SHIFT REGISTER

Lawrence R. Smith, Phoenix, Ariz., assignor to Motorola, Inc., Franklin Park, Ill., a corporation of Illinois

Filed Apr. 23, 1965, Ser. No. 450,406
Int. Cl. G11b *5/00;* **G11c** *19/00, 11/02*
U.S. Cl. 340—174 **18 Claims**

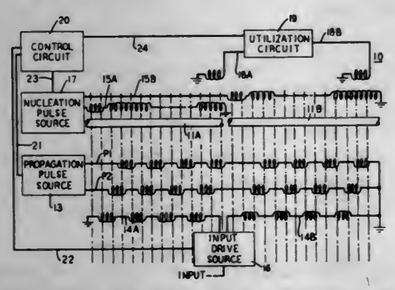


1. A magnetic circuit including in combination; a plurality of magnetic cores exhibiting essentially rectangular hysteresis loop characteristics, each of said cores having a main aperture and at least a second aperture located near the periphery of said main aperture; input circuit means for each of said cores including a first winding linking said main aperture and said second aperture, and resistor means and reactance means connected in series with said first winding, with the junction of said resistor means and said reactance means forming the input point; means applying input pulses to said input point of said input circuit means for one core; and a transfer circuit coupling each core to the next core, each of said transfer circuits including electronic switching means having output and control electrodes, a second winding linking said main aperture of said one core and connected between said output electrode and the input point of said input circuit means for the next core, and a third winding linking said second aperture of said one core and connected to the control electrode of said electronic switching means.

3,439,351
CHARACTER RECOGNIZER EMPLOYING DOMAIN WIRES

James L. Smith, Bedminster, N.J., assignor to Bell Telephone Laboratories, Incorporated, New York, N.Y., a corporation of New York

Filed Mar. 28, 1966, Ser. No. 537,755
Int. Cl. G11b *5/68*
U.S. Cl. 340—174 **7 Claims**

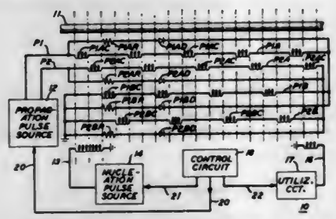


6. In combination, first and second elongated magnetic wires of a material in which a reverse magnetized domain including a domain wall is established in response to a first field in excess of a nucleation threshold and through which domain walls are advanced in response to second fields in excess of a propagation threshold and less than said nucleation threshold, means for establishing a reverse domain in a first position of each of said wires, output means coupled to each of said wires at second positions therealong spaced apart from corresponding said first positions for detecting the concurrent arrival of domain walls there, means responsive to a coded sequence of first and second input pulses for advancing said domain walls concurrently to said second positions, said last mentioned means comprising first, second, third, and fourth conductors each including a set of spaced apart couplings, said couplings of said first, second, and third conductors being interleaved along said first wire for providing step-along said second fields when pulsed in sequence, said first, second, and fourth conductors including couplings which interleave along said second wire for similarly providing step-along second fields therein, means responsive to each of said first or second input pulses for pulsing said first and second conductors in sequence, means for pulsing said third and fourth conductors in response to said first and second inputs respectively for providing coded effective second fields in said first and second wires, and means for providing said second fields at positions along said first and second wires coded to complement the effective second fields provided in response to said input code.

3,439,352
MAGNETIC WALL DOMAIN SHIFT REGISTER

Robert F. Fischer, Livingston, N.J., assignor to Bell Telephone Laboratories, Incorporated, New York, N.Y., a corporation of New York

Filed Mar. 30, 1966, Ser. No. 538,736
Int. Cl. G11b *5/00*
U.S. Cl. 340—174 **7 Claims**



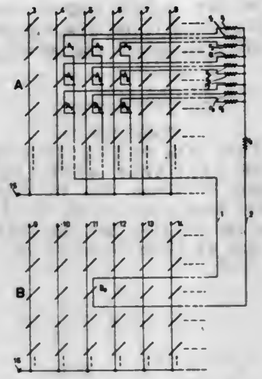
1. In a magnetic wire domain wall device a first propagation circuit comprising a conductor including a forward and a return path, each of said paths including a set of spaced apart couplings of first and second sense respectively, said couplings of said forward and return paths being coupled to interleaved and spaced apart positions along said magnetic wire, and loading means connected in parallel with each of said forward and return paths for permitting unequal currents to flow through said paths when said conductor is pulsed.

3,439,353
REDUCTION OF NOISE IN A CHARACTER RECOGNITION SYSTEM

John Anthony Weaver, Fellbridge, and David John Woollons, Horsham, England, assignors to North American Philips Company, Inc., New York, N.Y. a corporation of Delaware

Filed Apr. 22, 1966, Ser. No. 544,477
Claims priority, application Great Britain, Apr. 23, 1965, 17,234/65
Int. Cl. G11b *5/44*
U.S. Cl. 340—174 **7 Claims**

1. A device for reducing the noise content of a binary character stored in a primary storage matrix comprising a plurality of rows and columns of discrete primary bistable storage elements, each of said primary storage elements having an initial state determined by the nature of the character stored in said primary matrix, a secondary storage matrix including a plurality of rows and columns of discrete secondary bistable storage devices, a plurality of transfer conductor groups defining a plurality of submatrices within said primary storage matrix, each of said submatrices comprising a plurality of said primary storage elements and having a central primary storage element, each of said groups coupling a respective submatrix to one of said secondary storage elements of said secondary storage matrix, the state of said secondary storage element being determined by the total state of all of said primary storage elements comprising

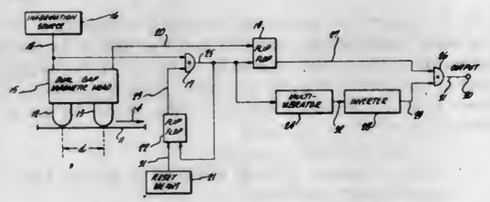


said submatrix, and means for resetting the central primary storage element of each of said submatrices in accordance with the state of each said secondary storage elements.

3,439,354
AVERAGE SPEED CHECKER FOR TAPE TRANSPORT

Michael I. Behr, South Pasadena, and Erwin A. Hauck, Arcadia, Calif., assignors to Burroughs Corporation, Detroit, Mich., a corporation of Michigan

Filed May 24, 1965, Ser. No. 458,290
Int. Cl. G11b *5/00*
U.S. Cl. 340—174.1 **5 Claims**



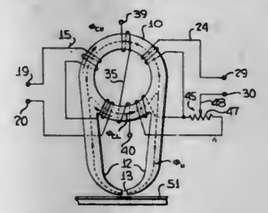
Apparatus for determining whether the average speed of a moving tape at the beginning of a write operation departs from a predetermined speed by more than an allowable amount. A first bit of a block of information being written onto the tape by a write head is sensed as it passes a read head. Circuitry is provided to set a bistable element to its first condition and to trigger a monostable multivibrator both in response to the transmission of only the first bit of a block of information and to reset the bistable element to its second condition in response to the sensing of the first bit. The period of the multivibrator is set equal to the maximum allowable time for the tape to travel between the write head and the read head and an error signal is provided whenever the multivibrator resumes its stable state prior to the resetting of the bistable element.

3,439,355
FLUX-RESPONSIVE HEAD

Charles B. Pear, Jr., Eau Gallie, Fla., assignor to Radiation Incorporated, Melbourne, Fla., a corporation of Florida

Filed Oct. 20, 1965, Ser. No. 498,612
Int. Cl. G11b *5/20, 5/24*
U.S. Cl. 340—174.1 **6 Claims**

1. Apparatus for translating magnetic signals, comprising a magnetic ring core having a substantially rectangular hysteresis loop, a pair of core extensions projecting from said ring core to form a gap and dividing said ring core into substantially equal half portions, a pair of excitation coils would in series-aiding relation about respective ones of said core half portions, a pair of detection coils differentially wound about respective ones of said core half portions, means for balancing the signal translation characteristics of said core half portions, means for applying core switching signals to said

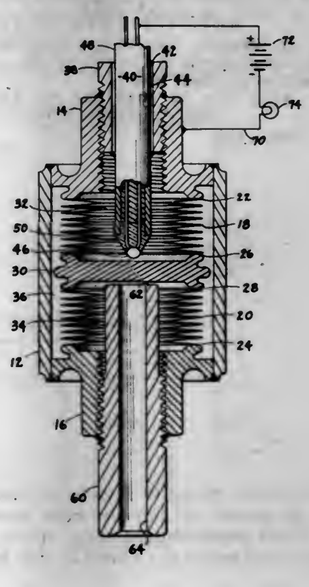


excitation coils to sequentially drive said ring core to alternately polarized states of flux saturation, said core half portions thereby switching simultaneously between said alternately polarized saturation states in the absence of magnetic signals at said gap, and deviating from simultaneous switching in the presence of magnetic signals at said gap to produce output signals on said detection coils having amplitude and polarity proportional to the amplitude and polarity respectively of said magnetic signals.

3,439,356
PRESSURE-TEMPERATURE SENSOR

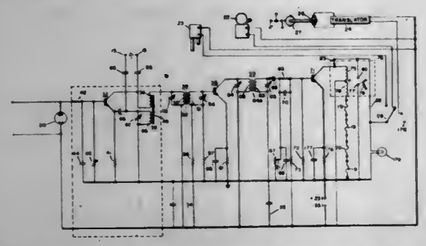
Jackson E. Kinzer, Woodland Hills, Calif., assignor to North American Rockwell Corporation, a corporation of Delaware

Filed June 14, 1965, Ser. No. 463,772
Int. Cl. G08b *21/00;* **G01k** *5/42;* **G01p** *5/46*
U.S. Cl. 340—236 **4 Claims**



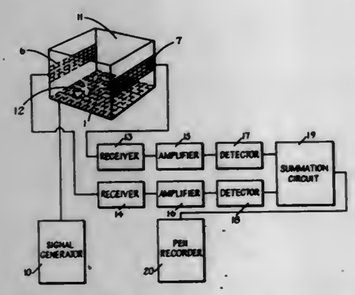
A pressure-temperature sensor having opposed bellows chambers coupled by a moveable electrical switch contact that is displaced between a fixed electrical switch contact-thermocouple junction and a cooperating physical stop spaced from the fixed switch contact.

3,439,357
DETECTION SYSTEMS
Leonidas Gil de Gibaja, 19—19 21st Drive, Long Island City, N.Y. 11105
Filed Nov. 12, 1965, Ser. No. 507,311
Int. Cl. G08b *13/26*
U.S. Cl. 340—258 **4 Claims**



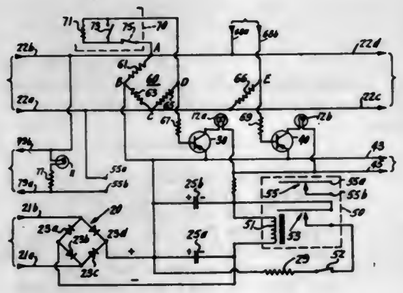
A novel circuit arrangement is disclosed for detecting the presence of intruding objects by sensing changes in electrical capacitance occurring in response to the intruding object. The circuit arrangement is such that the frequency of an oscillator is changed by capacitance variations occurring in response to the intruder to thereupon reduce the output level of a band-pass filter tuned to the normal center freqency of the oscillator. When the output level is reduced by a predetermined amount, an alarm is triggered. The novel circuit arrangement further includes means to simultaneously determine the existence of predetermined other external conditions and in this regard, a photoelectric arrangement responsive to polarized, coded light is also provided as is a novel interconnection of temperature responsive fusable links, the alarm arrangement being energized in a different manner when the temperature sensitive elements respond than would be the case when an intruder is detected.

3,439,358
ACTIVITY DETECTORS
Terence J. Salmons, Cambridge, England, assignor, by mesne assignments, to George Washington Limited, a corporation of Great Britain
Filed Nov. 30, 1965, Ser. No. 510,488
Int. Cl. G08b *13/22*
U.S. Cl. 340—258 **9 Claims**



This invention relates to devices for detecting and recording movement of animals, both human and non human, within predetermined areas. In one embodiment, the animal itself serves as a source of high frequency radiation. A plurality of receiving antennas develop signals dependent upon their proximity to the animal. A second embodiment provides for the generation of high frequency signals in the area occupied by the animal. Receiving antennas again develop variable outputs, dependent upon movement of the animal in the area. Finally, provision is made for recording movement and counting the number of movements.

3,439,359
ALARM SYSTEM FOR PREVENTING THE THEFT OF VALUABLE ARTICLES
Michael T. Sliman, 826 W. Capitol, West Sacramento, Calif. 95651
Filed Jan. 11, 1966, Ser. No. 519,880
Int. Cl. H05b *39/02, 41/14*
U.S. Cl. 340—280 **5 Claims**



1. A system for protecting normally unobserved articles such as television receivers and the like in locations accessible to the public such as hotel or motel rooms from theft or tampering wherein a remote signal is produced by removal or excessive movement of the article by an unauthorized person comprising

at least one television receiver;

a sensing resistance element disposed in at least one of said television receivers;

a master control and alarm panel remotely located from said television receivers, said master control and alarm panel including

a Wheatstone bridge circuit comprising a plurality of resistance elements which is normally in an electrically unbalanced condition unless properly electrically connected to one or more of said sensing electrical resistance elements disposed in said television receivers;

means for electrically connecting said at least one sensing resistance element to said Wheatstone bridge circuit to thereby electrically balance said Wheatstone bridge circuit, and

means responsive to an electrical imbalance signal in said Wheatstone bridge circuit for giving an alarm upon removal or excessive movement of one of said television receivers, said means responsive to an electrical imbalance in said Wheatstone bridge comprises

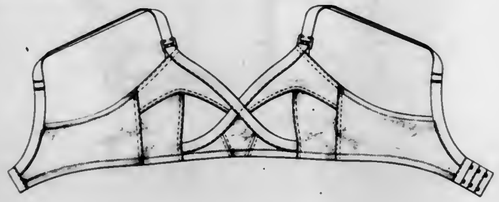
a transistor amplifier electronic switching circuit and

means responsive to said transistor switching circuit for giving an alarm.

DESIGNS

APRIL 15, 1969

213,819
BRASSIERE
Charles M. Sachs, West Englewood, N.J., assignor to International Playtex Corporation, New York, N.Y., a corporation of Delaware
Filed Dec. 7, 1966, Ser. No. 4,966
Term of patent 14 years
Int. Cl. D2— *02*
U.S. Cl. D2—24



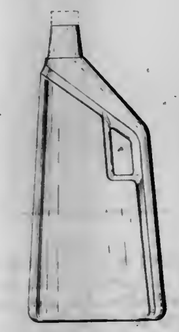
213,820
JAR
James E. Plummer, Toledo, Ohio, assignor to Owens-Illinois, Inc., Toledo, Ohio, a corporation of Ohio
Filed May 15, 1968, Ser. No. 11,952
Term of patent 14 years
Int. Cl. D9— *01*
U.S. Cl. D9—107



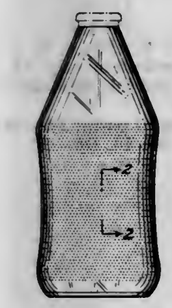
213,821
JUG
Richard L. Platte, Ann Arbor, Mich., assignor to Hoover Ball and Bearing Company, Saline, Mich., a corporation of Michigan
Filed Mar. 18, 1968, Ser. No. 11,011
Term of patent 14 years
Int. Cl. D9— *01*
U.S. Cl. D9—40



213,822
JUG
Richard L. Weckman, Perrysburg, Ohio, assignor to Owens-Illinois, Inc., Toledo, Ohio, a corporation of Ohio
Filed June 25, 1968, Ser. No. 12,494
Term of patent 14 years
Int. Cl. D9— *01*
U.S. Cl. D9—42



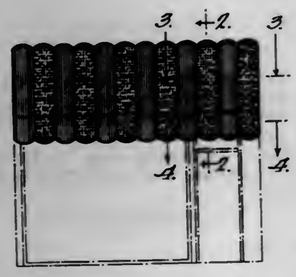
213,823
BOTTLE OR SIMILAR ARTICLE
Floyd E. Pettengill, Lancaster, Ohio, assignor to Anchor Hocking Glass Corporation, Lancaster, Ohio, a corporation of Delaware
Original design application Sept. 23, 1966, Ser. No. 4,006. Divided and this application Dec. 6, 1967, Ser. No. 9,671
Term of patent 14 years
Int. Cl. D9— *01*
U.S. Cl. D9—100



213,824
BOTTLE
Eugene R. Luedtke, Reedsburg, Wis., assignor to Hankscraft Company, Reedsburg, Wis., a corporation of Wisconsin
Filed June 20, 1968, Ser. No. 12,452
Term of patent 14 years
Int. Cl. D9—*01*
U.S. Cl. D9—129



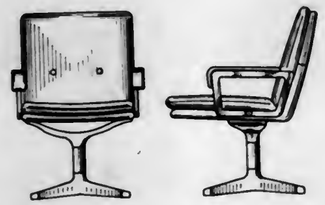
213,825
RESTAURANT FACADE OR THE LIKE
Fred Schmid, Los Angeles, Calif., assignor to Chicken Delight, Inc., Des Plaines, Ill., a corporation of Illinois
Filed May 10, 1968, Ser. No. 11,887
Term of patent 14 years
Int. Cl. D25—*02*
U.S. Cl. D13—1



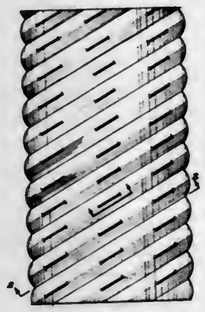
213,826
CHAIR
Alex Strassle, 9533 Kirchberg, St. Gall, Switzerland
Original design application Aug. 15, 1967, Ser. No. 8,274. Divided and this application May 7, 1968, Ser. No. 11,819
Term of patent 14 years
Int. Cl. D6—*01*
U.S. Cl. D15—1



213,827
CHAIR
Alex Strassle, 9533 Kirchberg, Saint Gall, Switzerland
Original design application Aug. 15, 1967, Ser. No. 8,274. Divided and this application May 7, 1968, Ser. No. 11,828
Term of patent 14 years
Int. Cl. D6—*01*
U.S. Cl. D15—1



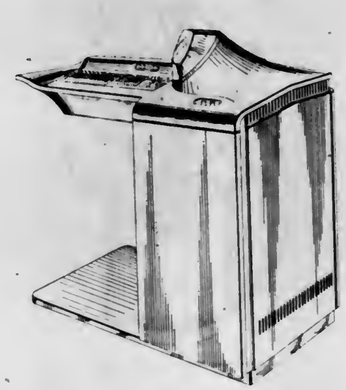
213,828
WELL CASING PIPE
Darrell N. Blake, 143 Glen, Council Bluffs, Iowa 51501
Filed Oct. 11, 1967, Ser. No. 8,960
Term of patent 14 years
Int. Cl. D25—*99*
U.S. Cl. D23—45



213,829
PADDLE FOR CENTRIFUGAL THROWER
Walter W. Wolfe, 504, Route 1, Mound, Minn. 55364, and Herbert A. Holten, 4728 Aldrich Ave., Minneapolis, Minn. 55340
Filed Mar. 6, 1968, Ser. No. 10,863
Term of patent 14 years
Int. Cl. D23—*04*
U.S. Cl. D23—165



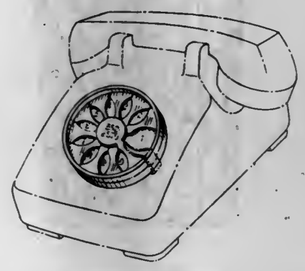
213,830
COMBINED INPUT AND OUTPUT CONSOLE FOR DATA
Mario Bellini, Milan, Italy, assignor to Ing. C. Olivetti & C., S.p.A., Ivrea, Italy, a corporation of Italy
Filed Feb. 12, 1968, Ser. No. 10,540
Term of patent 14 years
Int. Cl. D14—*02*
U.S. Cl. D26—5



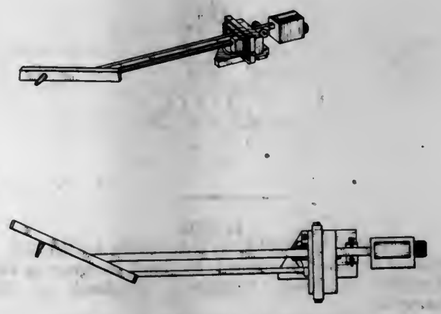
213,831
COMPUTER DATA INPUT/OUTPUT CONSOLE
Channing W. Gilson, Los Angeles, Calif., assignor to The Bunker-Ramo Corporation, Canoga Park, Calif., a corporation of Delaware
Filed June 11, 1968, Ser. No. 12,300
Term of patent 14 years
Int. Cl. D14—*02*
U.S. Cl. D26—5



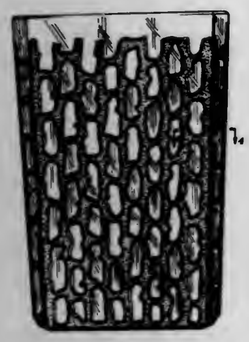
213,832
TELEPHONE DIAL WHEEL OR SIMILAR ARTICLE
David W. Hagelbarger, Morris Township, Morris County, N.J., assignor to Bell Telephone Laboratories, Incorporated, New York, N.Y., a corporation of New York
Original design application Oct. 23, 1965, Ser. No. 87,879, now Patent No. 209,670, dated Dec. 26, 1967. Divided and this application Dec. 21, 1967, Ser. No. 12,195
Term of patent 14 years
Int. Cl. D14—*03*
U.S. Cl. D26—14



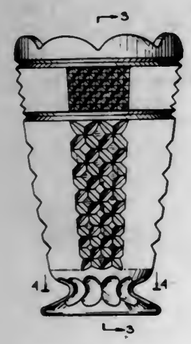
213,833
RECORD PLAYER TONE ARM OR SIMILAR ARTICLE
Donald F. Kaminski, Du Page County, Ill., assignor to Warwick Electronics Inc., Chicago, Ill., a corporation of Delaware
Filed June 10, 1968, Ser. No. 12,273
Term of patent 14 years
Int. Cl. D14—*01*
U.S. Cl. D26—14



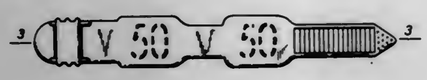
213,834
VASE OR SIMILAR ARTICLE
Frank J. Benes, Lancaster, Ohio, assignor to Anchor Hocking Glass Corporation, Lancaster, Ohio, a corporation of Delaware
Original design application May 26, 1967, Ser. No. 7,275. Divided and this application Jan. 12, 1968, Ser. No. 10,150
Term of patent 14 years
Int. Cl. D11—*02*
U.S. Cl. D29—28



213,835
VASE OR SIMILAR ARTICLE
Frank J. Benes, Lancaster, Ohio, assignor to Anchor Hocking Glass Corporation, Lancaster, Ohio, a corporation of Delaware
Filed Apr. 30, 1968, Ser. No. 11,703
Term of patent 14 years
Int. Cl. D11—*02*
U.S. Cl. D29—28



213,836
ANKLE MARKER STRAP FOR ANIMALS
Cuthbert Brierley, Nettlebed, England, assignor to Dalton Supplies Limited, Nettlebed, England, a British company
Filed Oct. 21, 1966, Ser. No. 4,368
Claims priority, application Great Britain Sept. 22, 1966
Term of patent 14 years
Int. Cl. D30—*99*
U.S. Cl. D30—43



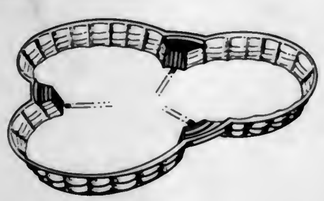
213,837
RECEPTACLE FOR A ROLL OF TOILET TISSUE
Elmer H. Davis, 1000 Urlin Ave., Columbus, Ohio 43212
Filed Dec. 5, 1967, Ser. No. 9,638
Term of patent 14 years
Int. Cl. D6—*01*
U.S. Cl. D33—31



213,838
GOLF PUTTER
Raymond O. McAllister, 3901 SE. 8th St., Oklahoma City, Okla. 73115
Filed Mar. 24, 1967, Ser. No. 6,377
Term of patent 14 years
Int. Cl. D21—*03*
U.S. Cl. D34—5



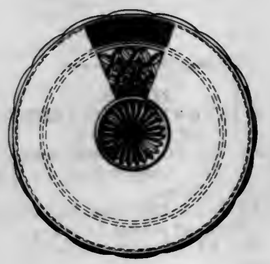
213,839
POOL OR THE LIKE
Joseph Diemond, 66 Hickory Hill Road, Simsbury, Conn. 06070, and Leonard E. Greenberg, 57 Moutain Farms Road, West Hartford, Conn. 06117
Filed Jan. 10, 1968, Ser. No. 10,111
Term of patent 14 years
Int. Cl. D21—*03*
U.S. Cl. D34—5



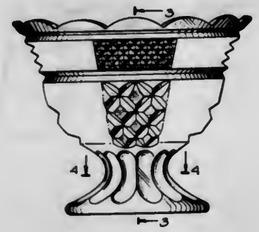
213,840
TRAY OR SIMILAR ARTICLE
Frank J. Benes, Lancaster, Ohio, assignor to Anchor Hocking Glass Corporation, Lancaster, Ohio, a corporation of Delaware
Original design application May 31, 1967, Ser. No. 7,309, now Patent No. 212,023, dated Aug. 20, 1968. Divided and this application Jan. 30, 1968, Ser. No. 10,360
Term of patent 14 years
Int. Cl. D7—*01*
U.S. Cl. D36—2



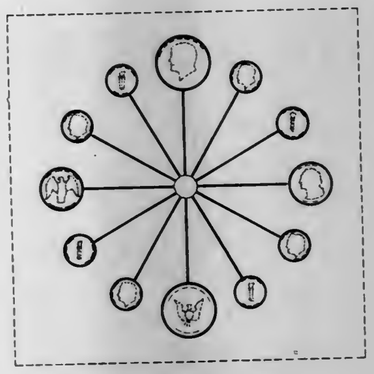
213,841
BOWL OR SIMILAR ARTICLE
Frank J. Benes, Lancaster, Ohio, assignor to Anchor Hocking Glass Corporation, Lancaster, Ohio, a corporation of Delaware
Original design application May 31, 1967, Ser. No. 7,309, now Patent No. 212,023, dated Aug. 20, 1968. Divided and this application Jan. 30, 1968, Ser. No. 10,361
Term of patent 14 years
Int. Cl. D7—*01*
U.S. Cl. D36—2



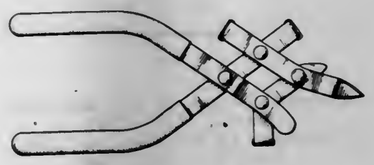
213,842
FOOTED BOWL OR SIMILAR ARTICLE
Frank J. Benes, Lancaster, Ohio, assignor to Anchor Hocking Glass Corporation, Lancaster, Ohio, a corporation of Delaware
Original design application May 31, 1967, Ser. No. 7,309, now Patent No. 212,023, dated Aug. 20, 1968. Divided and this application Jan. 30, 1968, Ser. No. 10,362
Term of patent 14 years
Int. Cl. D7—*01*
U.S. Cl. D36—2



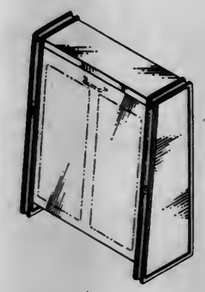
213,843
CLOCK FACE
Marion K. Summers, W. Commerce St., Brownstown, Ind. 47220
Filed Apr. 8, 1966, Ser. No. 1,816
Term of patent 14 years
Int. Cl. D10—*06*
U.S. Cl. D42—7



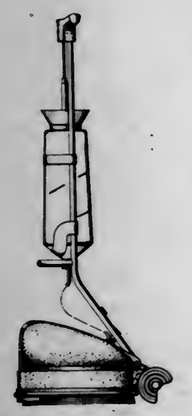
213,844
COMBINED CAN OPENER AND CLOSURE REMOVER FOR BOTTLES AND JARS
Winfield R. MacKeeby, 501 Dorset Road, Devon, Pa. 19333
Filed Apr. 25, 1968, Ser. No. 11,612
Term of patent 14 years
Int. Cl. D8—*02*
U.S. Cl. D44—29



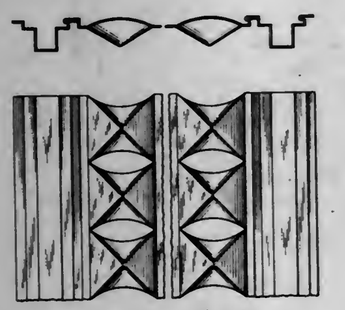
213,845
CLOTHES HAMPER
Salvatore Roggio, Jr., Philadelphia, Pa., and Robert S. Roggio, Delran, N.J., assignors to Lehman Specialty Company, Philadelphia, Pa., a corporation of Pennsylvania
Filed Apr. 29, 1968, Ser. No. 11,660
Term of patent 14 years
Int. Cl. D7—*06*
U.S. Cl. D49—8.2



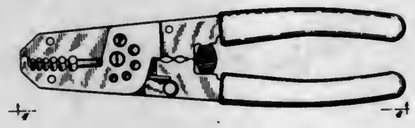
213,846
RUG SHAMPOOER
Jerrold L. Kingsley, San Francisco, Calif., assignor to American Home Products Corporation, New York, N.Y., a corporation of Delaware
Filed Dec. 14, 1967, Ser. No. 9,773
Term of patent 14 years
Int. Cl. D7—*06*
U.S. Cl. D49—14



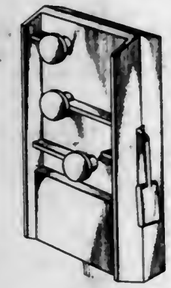
213,847
GRILLE
Edward C. Hallock, 86 Woodland Ave., Summit, N.J. 07901
Filed July 11, 1967, Ser. No. 7,764
Term of patent 14 years
Int. Cl. D25—*01*; D5—*03*
U.S. Cl. D54—2



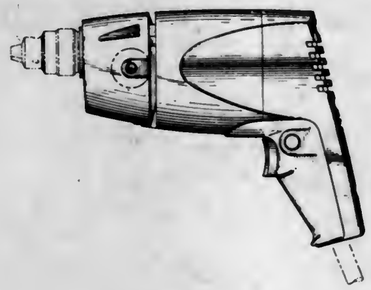
213,848
ELECTRICIAN'S TOOL
Eugene D. Hindenburg, Sycamore, Ill., assignor to Holub Industries, Inc., a corporation of Illinois
Filed Mar. 26, 1968, Ser. No. 11,144
Term of patent 14 years
Int. Cl. D8—*02*
U.S. Cl. D54—13



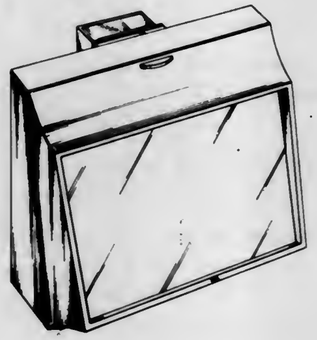
213,849
CLAMP FOR INTRAVENOUS FEEDING TUBES OR THE LIKE
Stephens N. Sato, San Diego, Calif., assignor, by mesne assignments, to Ivac Corporation, La Jolla, Calif., a corporation of California
Filed July 12, 1968, Ser. No. 12,727
Term of patent 14 years
Int. Cl. D8—*02*; D24—*02*
U.S. Cl. D54—13



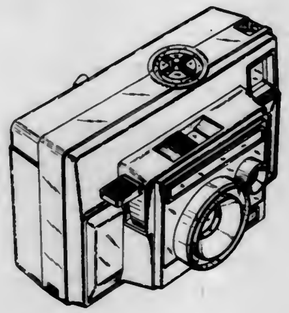
213,850
HAND DRILL
Melvin H. Boldt, Glenview, Ill., assignor to G. W. Murphy Industries, Inc., Houston, Tex., a corporation of Texas
Filed Apr. 23, 1968, Ser. No. 11,587
Term of patent 14 years
Int. Cl. D8—*02*
U.S. Cl. D54—14



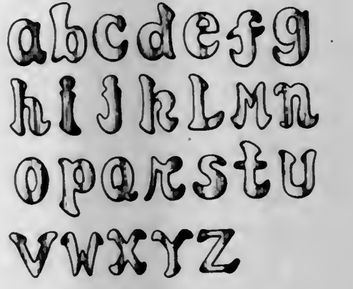
213,851
MICROFILM REAR PROJECTION VIEWER OR SIMILAR ARTICLE
William E. Karow, Los Angeles, and Lewis E. Simpson, Wilmington, Calif., assignors, by mesne assignments, to Leon Schwartz, Beverly Hills, Calif.
Filed Aug. 14, 1967, Ser. No. 8,247
Term of patent 14 years
Int. Cl. D16—*04*
U.S. Cl. D61—1



213,852
PHOTOGRAPHIC CAMERA OR SIMILAR ARTICLE
Richard J. Olson, Pittsford, N.Y., assignor to Eastman Kodak Company, Rochester, N.Y., a corporation of New Jersey
Filed Mar. 29, 1968, Ser. No. 11,193
Term of patent 14 years
Int. Cl. D16—*01*
U.S. Cl. D61—1



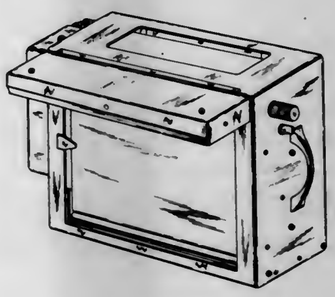
213,853
ALPHABET FONT
Brook A. Aquilino, Cranston, R.I., assignor to Da Vinci Creations, Inc., Providence, R.I., a corporation of Rhode Island
Filed Apr. 22, 1968, Ser. No. 11,569
Term of patent 14 years
Int. Cl. D18—*04*
U.S. Cl. D64—12



213,854
TIRE VALVE COVER
Selden T. Williams, Middlebury, Conn., assignor to Scovill Manufacturing Company, Waterbury, Conn., a corporation of Connecticut
Filed July 5, 1968, Ser. No. 12,633
Term of patent 14 years
Int. Cl. D12—*14*
U.S. Cl. D90—20



213,855
PROMPTING MACHINE
Alvin Eisenberg, 6104 Little Neck Parkway, Little Neck, N.Y.
Filed Jan. 4, 1968, Ser. No. 10,053
Term of patent 14 years
Int. Cl. D19—*08*
U.S. Cl. D96—9



LIST OF DEFENSIVE PUBLICATIONS

APPLICANTS TO WHOM

DEFENSIVE PUBLICATIONS WERE ISSUED ON THE 15TH DAY OF APRIL, 1969

"Published at the request of the applicant or owner in accordance with the Notice of April 11, 1968, 849 O.G. 1221. Identification is by serial number of the application."

Boielle, John H. Colour proofing process. 755,382, 4–15–69, Cl. 96—29.

Buckson, Gerald I., J. A. Masino, and S. V. Williams, to E. I. du Pont de Nemours and Co. Apparatus for detecting discoloration in a cylindrical yarn package by observing changes in reflectivity on the ends of the package. 706,017, 4–15–69, Cl. 356—196.

Cole, Paul M., to E. I. du Pont de Nemours and Co. Apparatus for deregistering crimps in a longitudinally moving tow. 718,440, 4–15–69, Cl. 19—65.

Craig, William D.: *See*—
Patterson, James W., and Craig. 781,088.

Du Pont de Nemours, E. I., and Co.: *See*—
Buckson, Gerald I., Masino, and Williams. 706,017.
Cole, Paul M. 718,440.
Logthetis, Anestis L. 743,029.
Peters, Robert J. 753,132.

Ekiner, Okan, and E. P. Gomnet, Jr. Process for measuring polymer content. 665,767, 4–15–69, Cl. 260—80.78.

Erb, Louis F., to Hercules, Inc. Control of processing problems related to additives by composite extrusion. 765,985, 4–15–69, Cl. 264—171.

Herd, Harold H.: *See*—
Harper, John S., Herd, and Pole. 697,792.

Ford Motor Co.: *See*—
Patterson, James W., and Craig. 781,088.

Gomnet, Edward P., Jr.: *See*—
Ekiner, Okan, and Gomnet. 665,767.

Hall, Homer J.: *See*—
Long, Robert B., Solomon, and Hall. 700,489.

Harper, John S., H. H. Herd, and R. V. Pole, to International Business Machines Corp. Method of making white light holograms. 697,792, 4–15–69, Cl. 96—27.

Hercules, Inc.: *See*—
Erb, Louis F. 765,985.

International Business Machines Corp.: *See*—
Harper, John S., Herd, and Pole. 697,792.

Kirby, Frederic B. Preparation of phthalic acids by slow oxidation. 707,405, 4–15–69, Cl. 260—524.

Logthetis, Anestis L., to E. I. du Pont de Nemours and Co. Ethylenically unsaturated hydrocarbon polymers treated with boron compounds. 743,029, 4–15–69, Cl. 260—80.78.

Long, Robert B., H. J. Solomon, and H. J. Hall. Contacting oil shale or shale oil with a solvent to produce material suitable for hydrofining. 700,489, 4–15–69, Cl. 208—11.

Masino, John A.: *See*—
Buckson, Gerald I., Masino, and Williams. 706,017.

Patterson, James W., and W. D. Craig, to Ford Motor Co. Yarn tensioning device. 781,088, 4–15–69, Cl. 242—153.

Peters, Robert J., to E. I. du Pont de Nemours and Co. Apparatus and process for simultaneous crimping of two tows. 753,132, 4–15–69, Cl. 28—1.

Pole, Robert V.: *See*—
Harper, John S., Herd, and Pole. 697,792.

Sloan, Cephas H.: *See*—
Touey, George P., and Sloan. 775,574.

Touey, George P., and C. H. Sloan. Elasticized tobacco smoke filter. 775,574, 4–15–69, Cl. 131—267.

Solomon, Herman J.: *See*—
Long, Robert B., Solomon, and Hall. 700,489.

Williams, Stanley V.: *See*—
Buckson, Gerald I., Masino, and Williams. 706,017.

LIST OF REISSUE PATENTEES

TO WHOM

PATENTS WERE ISSUED ON THE 15TH DAY OF APRIL, 1969

NOTE.—Arranged in accordance with the first significant character or word of the name (in accordance with city and telephone directory practice).

Beatty, James R., P. W. Karper, and A. E. Juve, deceased (by E. Juve, executrix), to The B. F. Goodrich Co. Viscurometer.
Re. 26,562, 4–15–69, Cl. 73—101.

Goodrich, B. F., Co., The: *See*—
Beatty, James R., Karper, and Juve. Re. 26,562.

Karper, Paul W.: *See*—
Beatty, James R., Karper, and Juve. Re. 26,562.

Kossoy, Michael W.: *See*—
Poarch, Arthur E., and Kossoy. Re. 26,561.

Meredith, Diven. Mass transfer unit using spaced flexible materials, and method of construction. Re. 26,560, 4–15–69, Cl. 261—30.

Moore, Francis J., to Schlage Lock Co. Simplified construction for door latch operating mechanism. Re. 26,564, 4–15–69, Cl. 292—167.

Poarch, Arthur E., and M. W. Kossoy, to Western Dairy Products Inc. Method of making meat curing salt compositions. Re. 26,561, 4–15–69, Cl. 99—222.

Schlage Lock Co.: *See*—
Moore, Francis J. Re. 26,564.

Seuthe, Eberhard. Device to produce steam for mobile and stationary toys. Re. 26,563, 4–15–69, Cl. 46—9.

Western Dairy Products Inc.: *See*—
Poarch, Arthur E., and Kossoy. Re. 26,561.

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American Home Products Corp.: *See*—
Kingsley, Jerrold L. 213,846.

Anchor Hocking Glass Corp.: *See*—
Benes, Frank J. 213,834.
Benes, Frank J. 213,835.
Benes, Frank J. 213,840.
Benes, Frank J. 213,841.
Benes, Frank J. 213,842.
Pettengill, Floyd E. 213,823.

Aquilino, Brook A., to DaVinci Creations, Inc. Alphabet font. 213,853, 4–15–69, Cl. D64—12.

Bell Telephone Laboratories, Inc.: *See*—
Hagelbarger, David W. 213,832.

Bellini, Mario, to Ing. C. Olivetti & C., S.p.A. Combined input and out-put console for data. 213,830, 4–15–69, Cl. D26—5.

Benes, Frank J., to Anchor Hocking Glass Corp. Vase or similar article. 213,834, 4–15–69, Cl. D29—28.

Benes, Frank J., to Anchor Hocking Glass Corp. Vase or similar article. 213,835, 4–15–69, Cl. D29—28.

Benes, Frank J., to Anchor Hocking Glass Corp. Tray or similar article. 213,840, 4–15–69, Cl. D36—2.

Benes, Frank J., to Anchor Hocking Glass Corp. Bowl or similar article. 213,841, 4–15–69, Cl. D36—2.

Benes, Frank J., to Anchor Hocking Glass Corp. Footed bowl or similar article. 213,842, 4–15–69, Cl. D36—2.

Blake, Darrell N. Well casing pipe. 213,828, 4–15–69, Cl. D23—45.

Boldt, Melvin H., to G. W. Murphy Industries, Inc. Hand drill. 213,850, 4–15–69, Cl. D54—14.

Brierley, Cuthbert, to Dalton Supplies Ltd. Ankle marker strap for animals. 213,836, 4–15–69, Cl. D30—43.

Bunker-Ramo Corp., The: *See*—
Gilson, Channing W. 213,831.

Chicken Delight, Inc.: *See*—
Schmid, Fred. 213,825.

Dalton Supplies Ltd.: *See*—
Brierley, Cuthbert. 213,836.

DaVinci Creations, Inc.: *See*—
Aquilino, Brook A. 213,853.

Davis, Elmer H. Receptacle for a roll of toilet tissue. 213,837, 4–15–69, Cl. D33—31.

Diemond, Joseph, and L. E. Greenberg. Pool or the like. 213,839, 4–15–69, Cl. D34—5.

Eisenberg, Alvin. Prompting machine. 213,855, 4–15–69, Cl. D96—9.

Gilson, Channing W., to The Bunker-Ramo Corp. Computer data input/output console. 213,831, 4–15–69, Cl. D26—5.

Greenberg, Leonard E.: *See*—
Diemond, Joseph, and Greenberg. 213,839.

Hagelbarger, David W., to Bell Telephone Laboratories, Inc. Telephone dial wheel or similar article. 213,832, 4–15–69, Cl. D26—14.
Hallock, Edward C. Grille. 213,847, 4–15–69, Cl. D54—2.
Hankscraft Co.: *See*—
Luedtke, Eugene R. 213,824.
Hindenburg, Eugene D., to Holub Industries, Inc. Electrician's tool. 213,848, 4–15–69, Cl. D54—13.
Holten, Herbert A.: *See*—
Wolfe, Walter W., and Holten. 213,829.
Holub Industries, Inc.: *See*—
Hindenburg, Eugene D. 213,848.
Hoover Ball and Bearing Co.: *See*—
Platte, Richard L. 213,821.
International Playtex Corp.: *See*—
Sachs, Charles M. 213,819.
Ivac Corp.: *See*—
Sato, Stephens N. 213,849.
Kaminski, Donald F., to Wawwick Electronics, Inc. Record player tone arm or similar article. 213,833, 4–15–69, Cl. D26—14.
Karow, William E., and L. E. Simpson, to L. Schwartz. Microfilm rear projection viewer or similar article. 213,851, 4–15–69, Cl. D61—1.
Kingsley, Jerrold L., to American Home Products Corp. Rug shampooer. 213,846, 4–15–69, Cl. D49—14.
Lehman Specialty Co.: *See*—
Roggio, Salvatore, Jr., and R. S. Roggio. 213,845.
Luedtke, Eugene R., to Hankscraft Co. Bottle. 213,824, 4–15–69, Cl. D9—129.
MacKeeby, Winfield R. Combined can opener and closure remover for bottles and jars. 213,844, 4–15–69, Cl. D44—29.
McAllister, Raymond O. Golf putter. 213,838, 4–15–69, Cl. D34—5.
Murphy, G. W., Industries, Inc.: *See*—
Boldt, Melvin H. 213,850.
Olivetti, Ing. C., & C., S.p.A.: *See*—
Bellini, Mario. 213,830.
Olson, Richard J. Photographic camera or similar article. 213,852, 4–15–69, Cl. D61—1.
Owens-Illinois, Inc.: *See*—
Plummer, James E. 213,820.
Weckman, Richard L. 213,822.
Pettengill, Floyd E., to Anchor Hocking Glass Corp. Bottle or similar article. 213,823, 4–15–69, Cl. D9—100.
Platte, Richard L., to Hoover Ball and Bearing Co. Jug. 213,821, 4–15–69, Cl. D9—40.
Plummer, James E., to Owens-Illinois, Inc. Jar. 213,820, 4–15–69, Cl. D9—107.
Roggio, Robert S.: *See*—
Roggio, Salvatore, Jr., and R. S. Roggio. 213,845.
Roggio, Salvatore, Jr., and R. S. Roggio, to Lehman Specialty Co. Clothes hamper. 213,845, 4–15–69, Cl. D49—8.2.
Sachs, Charles M., to International Playtex Corp. Brassiere. 213,819, 4–15–69, Cl. D2—24.
Sato, Stephens N., to Ivac Corp. Clamp for intravenous feeding tubes or the like. 213,849, 4–15–69, Cl. D54—13.
Schmid, Fred, to Chicken Delight, Inc. Restaurant facade or the like. 213,825, 4–15–69, Cl. D13—1.
Schwartz, Leon: *See*—
Karow, William E., and Simpson. 213,851.
Scovill Mfg. Co.: *See*—
Williams, Selden T. 213,854.
Simpson, Lewis E.: *See*—
Karow, William E., and Simpson. 213,851.
Strassle, Alex. Chair. 213,826, 4–15–69, Cl. D15—1.
Strassle, Alex. Chair. 213,827, 4–15–69, Cl. D15—1.
Summers, Marion K. Clock face. 213,843, 4–15–69, Cl. D42—7.
Wawwick Electronics, Inc.: *See*—
Kaminski, Donald F. 213,833.
Weckman, Richard L., to Owens-Illinois, Inc. Jug. 213,822, 4–15–69, Cl. D9—42.
Williams, Selden T., to Scovill Mfg. Co. Tire valve cover. 213,854, 4–15–69, Cl. D90—20.
Wolfe, Walter W., and H. A. Holten. Paddle for centrifugal thrower. 213,829, 4–15–69, Cl. D23—165.

LIST OF PATENTEES

TO WHOM

PATENTS WERE ISSUED ON THE 15TH DAY OF APRIL, 1969

NOTE.—Arranged in accordance with the first significant character or word of the name (in accordance with city and telephone directory practice).

Aberle, Richard H., and Lucas, Robert H., to American Metal Climax, Inc.Process for making high-strength, wettable aluminum foil. 3,438,228, 04-15-69, Cl. 072-042.
ACF (Amsterdam Chemie Farmacie) N.V.:*See*—
Van Der Meer, Samuel, and Pouwels, Hendrik, 3,439,069.
Achler, Howard S., and Kaufmann, Harold, to Kaufmann Tool and Engineering Corp.Rolling machine. 3,438,232, 04-15-69, Cl. 072-166.
Adair, James Richard, to United Engineering and Foundry Company. Roll changing device for rolling mills. 3,438,234, 04-15-69, Cl. 072-238.
Adamek, Stephen, and Wood, Bertie B. J., to Dunlop Company Limited, The. Episulfide-modified epoxide polymer compositions and method of preparation. 3,439,062, 04-15-69, Cl. 260-830.
Aerts, Josef, to Glaverbel S.A.Measuring method and apparatus. 3,438,518, 04-15-69, Cl. 214-018.2
Agfa-Gevaert Aktiengesellschaft:*See*—
Wagner, Karl, 3,438,314.
A.G. fur industrielle Elektronik AGIE Losone bei Locarno:*See*—
Ullmann, Werner, and Donati, Franco, 3,439,146.
Ahlenius, Gosta, to Trima AB. Differential piston control system. 3,438,300, 04-15-69, Cl. 091-436.
Ahlert, Richard H.:*See*—
Milch, Alfred, Lalak, Joseph J., and Ahlert, Richard H. 3,438,118.
Ahsmann, Gerardus Josephus Marie, Meyer, Hans Jachim Gustav, and Van der Laarse, Jan Willem, to North American Philips Co., Inc.Positive column gas discharge lamp employing an alloy of two metals with impedance-free terminal connections. 3,439,209, 04-15-69, Cl. 313-229.
Airotec, Inc.:*See*—
Royston, Charlie A., Jr., 3,438,167.
Air Reduction Company:*See*—
Hawkins, Raymond L., and Davidowich, George, 3,438,808.
Air Reduction Company, Inc.:*See*—
Wallace, Dean R., 3,438,530.
Akai Electric Company, Limited:*See*—
Atsumi, Katsuya, 3,439,126.
Aktiebolaget Bofors:*See*—
Bostroem, Hans, and Howey, Friedrich, 3,439,318.
Aktiebolaget Svenska Flaktfabriken:*See*—
Steinholtz, Gosta, and Aronsson, Bo, 3,438,588.
Aktiengesellschaft Brown, Boveri & Cie:*See*—
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Bode, Helmut, and Brinkman, Rudolf, to Leybold-Heraeus GmbH & Co. KG,. Two stage vacuum pump. 3,438,570, 04-15-69, Cl. 230-158.

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Brokke, Mervin E., Lukes, George E., deceased (by Hazzard, John, administrator), and Jarneklev, Duane R., to Stauffer Chemical Company. Complex addition products of phosphorus pentafluroide and substituted nitriles. 3,438,983, 04-15-69, Cl. 260-247.

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Brown, Arthur E., to Ingersoll-Rand Company. Valve housing. 3,438,390, 04-15-69, Cl. 137-512.1

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Brown, Thomas L., and Vance, Paul E., to Belden Corporation. Cable with molded strain relief and method of making same. 3,439,112, 04-15-69, Cl. 174-153.

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Burniski, Anthony J., and Mitchell, Calvin, to Prince Gardner Company, Inc.French purse. 3,438,415, 04-15-69, Cl. 150-035.

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Calton, Marion R., to Caterpillar Tractor Co.Friction welding apparatus with shearing tool for removing flash formed during welding. 3,438,569, , Cl. 228-013.

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Chamberlain, Ralph Joseph, and Nagy, Daniel Elmer, to American Cyanamid Company. Storage-stable cyanamide-starch and method for the manufacture thereof. 3,438,970, 04-15-69, Cl. 260-233.3

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Chen, Richard J., and Gold, Nicholas, to Polaroid Corporation. Apparatus for laminating and cutting including a pair of rollers with cutting edges. 3,438,835, 04-15-69, Cl. 156-522.

Cherkas, Max A., and Martin, Ellwood T., Jr., to Merck & Co., Inc.Medicated hard candy. 3,439,089, 04-15-69, Cl. 424-078.

Cherney, Seymour, Klein, Martin G., and Eisenberg, Morris, to Electrochimica Corporation. Rechargeable alkaline cell. 3,438,812, 04-15-69, Cl. 136-006.

Chester, Carroll W.Side view mirror. 3,438,281, 04-15-69, Cl. 074-501.

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Honnen, Lewis R., and Anderson, Robert Gordon, 3,438,757.
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Chezaud, Jean Claude:*See*—
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Chibaeff, Vadim G., to Lummus Company, The. Storage vessel. 3,438,532, 04-15-69, Cl. 220-001.

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Chow, Alfred W., to Smith Kline & French Laboratories. Bicyclo [3.2.1] octane amines as anti-influenza agents. 3,439,101, 04-15-69, Cl. 424-325.

Chow, Alfred W., to Smith Kline & French Laboratories. Preventing influenza infection with aminobicyclo [3.2.2]-nonanes. 3,439,102, 04-15-69, Cl. 424-325.

Christen, Gilbert Paul, and Ruaud, Michel, to Rhone-Poulenc S.A.Polymerization of vinyl chloride in the presence of cycloolefines as chain-transfer agents. 3,438,954, 04-15-69, Cl. 260-092.8

Christensen, Don C., to Phillips Petroleum Company. Process for the polymerization of olefin monomers. 3,438,952, 04-15-69, Cl. 260-083.7

Christie, Samuel H., to Shell Oil Company. Process for curing polyepoxides and resulting products. 3,438,937, 04-15-69, Cl. 260-047.

Christofferson, Carl Edward. Convector type heat exchanger. 3,438,437, 04-15-69, Cl. 166-057.

Chrysler Corporation:*See*—
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Gau, Leonard P., and Platzer, George E.Jr., 3,439,250.

Churchill, Charles, and Company Limited:*See*—
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Church, Robert Fitz Randolph, Kende, Andrew Steven, and Weiss, Martin Joseph, to American Cyanamid Company. 2,2-and 3,3-hydrazi-steroids of the androstane and pregnane series. 3,438,973, 04-15-69, Cl. 260-239.5

Church, Robert J., to Du Pont de Nemours, E. I., and Company. Stable fertilizer ammoniating solution and method of making said solution. 3,438,764, 04-15-69, Cl. 071-030.

Ciba Limited:*See*—
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Luescher, Rene, 3,438,354.
Reich, Ernst, and Rickenbacher, Hans Rudolf, 3,439,003.
Rhyner, Paul, and Artz, Klaus, 3,438,967.
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Claff, Clarence Lloyd. Fluid habitat or bath system for marine biological studies. 3,438,356, 04-15-69, Cl. 119-001.

Clark, Charles Alfred, and Berry, Roy David, to International Nickel Company, Inc., The. Brazing alloy of improved workability containing nickel and palladium. 3,438,770, 04-15-69, Cl. 075-134.

Clark, Sidney B., to Tee-Pak, Inc.Dyeing of cellulose casing. 3,438,071, 04-15-69, Cl. 008-158.

Clayton Corporation:*See*—
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Cleaver-Brooks Company:*See*—
Gething, Frank, 3,438,719.

Cleaver, Denis, to British Titan Products Company Limited. Oxides. 3,438,720, 04-15-69, Cl. 023-001.

Clement, Richard B.:*See*—
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Clinton, William P., Mahlmann, James, and Ponzoni, George B.Freeze-drying of granular coffee extract. 3,438,784, 04-15-69, Cl. 099-071.

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Clyborne, Willis D., and Clyborne, Harry E.Ignition system. 3,438,362, 04-15-69, Cl. 123-146.5

Coburn, Mathias M., to Du Pont de Nemours, E. I., and Company. Hot-melt bookbinding adhesives modified with a reaction product of hexafluoroacetone. 3,438,921, 04-15-69, Cl. 260-027.

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Cohen, Saul M., and Derby, Marshall J., to Monsanto Company. Laminates of styrene-acrylonitrile and polyurethane. 3,438,846, 04-15-69, Cl. 161-165.

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Cohn, Joseph, and Cohn, Eugene 3,438,106.

Cohn, Florence:*See*—
Cohn, Joseph, and Cohn, Eugene 3,438,106.

Cohn, Joseph, deceased (by Cohn, Florence, executrix), and Cohn, Eugene, to Conpax Corporation,. Method of producing shrink-free knitted fabric having characteristics of elastic restorability. 3,438,106, 04-15-69, Cl. 028-074.

Coker, Cecil H., to Bell Telephone Laboratories, Incorporated. Speech analysis system. 3,439,122, 04-15-69, Cl. 179-001.

Collingwood, George H., to Allied Chemical Corporation. Non-torque bulk yarn and process of forming same. 3,438,190, 04-15-69, Cl. 057-140.

Collins, Henry R., Jr., to Phillips Petroleum Company. Sampling system. 3,438,261, 04-15-69, Cl. 073-421.5

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Collins, Samuel C., to Five Hundred Incorporated,. Expansion engine for cryogenic refrigerators and liquefiers and apparatus embodying the same. 3,438,220, 04-15-69, Cl. 062-402.

Collura, Peter C., Desmond, John D., Venditti, Arthur P., and Lesinski, Theodore S., to Container Corporation of America. Package with tear strip. 3,438,563, 04-15-69, Cl. 229-014.

Coln, Aaron G.:*See*—
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Commissariat a l'Energie Atomique:*See*—
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Connors, Joseph B.Girdle type undergarments with separable leg portions. 3,438,377, 04-15-69, Cl. 128-528.

Connor, William G., Wright, Donald F., and Dove, Douglas J. A., to Inter Store Transfer Specialists Inc.Container. 3,438,562, 04-15-69, Cl. 229-014.

Conpax Corporation, :*See*—
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Conrad, Martin B.Anchor-packer. 3,438,438, 04-15-69, Cl. 166-221.

Consolidated Electrodynamics Corporation:*See*—
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Contensou, Pierre L., Delattre, Michel M., and Gay, Michel J., to Office National d'Etudes et de Recherches Aerospatiales.Micro-accelerometer. 3,438,267, 04-15-69, Cl. 073-517.

Continental Aviation & Engineering Corporation:*See*—
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Continental Oil Company:*See*—
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Cook, Samuel Pinckney, to Shell Oil Company. Spatial filtering system utilizing reflection optics. 3,438,693, 04-15-69, Cl. 350-162.

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Coulter, Wallace H., and Hogg, Walter R., to Coulter Electronics, Inc.Automatic hematocrit measuring apparatus. 3,439,267, 04-15-69, Cl. 324-071.

Council, Bill E., and Woods, Warren W., to Continental Oil Company. Lubricant composition and method of using same. 3,438,896, 04-15-69, Cl. 252-012.

Cousserans, Gilbert, and Amanrich, Robert, to Office National Industriel de L'Azote.Extraction of wet process phosphoric acid using organic sulfoxides. 3,438,746, 04-15-69, Cl. 023-312.

Cowal, Alexander R., Sams, Gary L., and Sollie, William H.Device for operating switches. 3,438,662, 04-15-69, Cl. 287-104.

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Crowe, Jack, and Wallis, Kenneth Arthur. Methods of shaping metal tubing and apparatus used therefor. 3,438,238, 04-15-60, Cl. 072-369.

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Davidson, Edmund B., to Esso Research and Engineering Company. Alkylated derivatives of vinyl aromatic copolymers. 3,438,950, 04-15-69, Cl. 260-078.4

Davies, James W., and Carow, Walter M., to Singer-General Precision, Inc.Two-axis accelerometer. 3,438,265, 04-15-69, Cl. 073-516.

Davies, Louis Walter, to Amalgamated Wireless (Australasia) Limited. Motion translator and self-synchronous system using same. 3,439,173, 04-15-69, Cl. 250-212.

Davis, Arnold Rogers, to American Cyanamid Company. Use of chlorinated melamines in curing of polyurethanes. 3,438,916, 04-15-69, Cl. 260-018.

Davis, Dearl Keith, Hendrix, Warren P., and Orr, Clyde, Jr.Particle classifier. 3,438,264, 04-15-69, Cl. 073-432.

Davis, Stanley M., to American Cyanamid Company. Battery cell depolarizers. 3,438,813, 04-15-69, Cl. 136-083.

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de Coye de Castelet, Gaetan, to Regie Nationale des Usines Renault. Reference devices for tools of cutting, stamping and swaging presses. 3,439,086, 04-15-69, Cl. 264-219.

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Diggins, Thomas, Carini, Alexander, and Boynton, Kenneth. Two liquid measuring devices. 3,438,386, 04-15-69, Cl. 137-154.

Di Lemme, Philip. Window lock. 3,438,153, 04-15-69, Cl. 049-451.

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Dreyer, Siegfried, Harde, Rudolf, Jansing, Walter, Kalkoffen, Friedel, Mausbeck, Hans, and Schnittker, Werner. Heat exchanger system. 3,438,431, 04-15-69, Cl. 165-134.

Driard, Bertrand M., and Guyot, Lucien Francis, to Compagnie Francaise Thomson-Houston-Hotchkiss-Brandt. Electronic zoom image intensifier tube. 3,439,222, 04-15-69, Cl. 315-031.

Drummond, William Eric, to Motorola, Inc.Deflection system with linearity correction network. 3,439,221, 04-15-69, Cl. 315-027.

Dubble, Roger D., and Alten, Edward H., to Anchor Hocking Glass Corporation. Method and means for vapor coating. 3,438,803, 04-15-69, Cl. 117-106.

Duepree, Hans Werner, to Elco-Kunststoffe A Elges & Co.Unit construction component. 3,438,164, 04-15-69, Cl. 052-282.

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Hayashi, Yoshiki, and Oido, Hikofumi, to Matsushita Electric Industrial Co., Ltd.Flexible transparent electrophotographic film and method of development of said film. 3,438,773, 04-15-69, Cl. 096-001.5

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Heredy, Laszlo A., McKenzie, Donald E., and Yosim, Samuel J., to North American Rockwell Corporation. Removal of sulfur oxides from flue gas. 3,438,722, 04-15-69, Cl. 023-002.

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Hertoghe, Leo C., and Hertoghe, Adrienne F.Safety feather attachment for child's vehicle. 3,438,651, 04-15-69, Cl. 280-289.

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Matsui, Yoshiya, to Canon Camera Kabushiki Kaisha. High speed catadioptric optical system of cassegrain type. 3,438,695, 04-15-69, Cl. 350-201.

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McCabe, Harold E, to Teleflex, Incorporated. Remote control assembly. 3,438,280, 04-15-69, Cl. 074-501.

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McElwee, Lorin A., Cordray, Roy E., and Greene, George J., Jr., to UGC Instruments, Inc.Heater. 3,439,161, 04-15-69, Cl. 246-428.

McGean, Thomas J., and Nathanson, Daniel, to Bell Telephone Laboratories, Incorporated. Cable manufacturing. 3,439,142, 04-15-69, Cl. 219-009.5

McGee, John K., to Giddings & Lewis, Inc.Record reading system for simultaneous control of a plurality of devices. 3,439,346, 04-15-69, Cl. 340-172.5

McGinnis, Robert W., and Moore, Robert G., Jr., to Bendix Corporation, The. Fuel control apparatus including a pneumatic all speed governor for controlling the operation of a combustion engine. 3,438,199, 04-15-69, Cl. 060-039.28

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McLoy, Frederic C., and Knowles, Edwin C., to Texaco, Inc.Amine-hydrocarbyl acid-orthophosphate-zinc halide complexes. 3,439,011, 04-15-69, Cl. 260-429.9

McMillan, James O., and Kaplan, Robert W.Shopping cart mounted ash receptacle. 3,438,644, 04-15-69, Cl. 280-033.99

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Meade, Ross C., and Sanders, Charles J., to Paper Converting Machine Company, Inc.Magnetic printing plate hold down means. 3,438,324, 04-15-69, Cl. 101-378.

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Howard, Ronald A., Kellar, Arnold A., and Meers, Joseph T. 3,439,073.

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Meister, Werner, 1/2 to Ing. A., S.A., and 1/2 to Buss A.G.Process for the continuous xanthating of alkali cellulose. 3,438,969, 04-15-69, Cl. 260-216.

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Morris, Earl L.Vandalproof, concealed anchor for plumbing fixture. 3,438,065, 04-15-69, Cl. 004-191.

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CLASSIFICATION OF PATENTS

ISSUED APRIL 15, 1969

NOTE.—First number, class; second number, subclass; third number, patent number

2— 6	3,438,060	29—183.5	3,438,755	58— 1	3,438,195	74—435	3,438,278	105—197	3,438,339	139—122	3,438,402
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288	3,438,066	450	3,438,117		3,438,201	766	3,438,284	107— 69	3,438,341	141— 20	3,438,408
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14— 14	3,438,076	30—180	3,438,129	72.3 :	3,438,213	62	3,438,291	117— 12	3,438,797	151— 37	3,438,416
15— 21	3,438,077	235	3,438,130	62— 3	3,438,214	82— 14	3,438,292	47	3,438,798		3,438,417
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327	3,438,081	143	3,438,134	218	3,438,218	299	3,438,296	106	3,438,802	73	3,438,825
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139	3,438,083	34— 72	3,438,136	64— 14	3,438,221	267	3,438,297	123	3,438,804	128	3,438,827
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4	3,438,089	105	3,438,138	65— 30	3,438,760	85— 41	3,438,299	144	3,438,806	235	3,438,829
5	3,438,085	158	3,438,139	99	3,438,761	50	3,438,300	154	3,438,807	300	3,438,830
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8	3,438,087	35— 10.2	3,439,105	165	3,438,763	84	3,438,302	212	3,438,809	401	3,438,832
14	3,438,088	22	3,438,141	66— 1	3,438,223	89— 1.818	3,438,303	213	3,438,810	502	3,438,833
18	3,438,090	37—195	3,438,142	117	3,438,224	37.5	3,438,304	118— 19	3,438,353	515	3,438,834
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2	3,438,721	216	3,438,145	72— 42	3,438,228	172	3,438,789	32	3,438,359	237	3,438,422
	3,438,722	47— 33	3,438,146	53	3,438,229	93— 63	3,438,310	90	3,438,360	331	3,438,423
22	3,438,723	48—174	3,438,758	56	3,438,230	94— 1.5	3,438,311	99	3,438,361	161— 5	3,438,838
56	3,438,724	196	3,438,759	160	3,438,231	13	3,438,312	146.5	3,438,362	22	3,438,839
106	3,438,725	49— .7	3,438,147	166	3,438,232	95— 10	3,438,313	126— 9	3,438,363	38	3,438,840
149	3,438,726	13	3,438,148	219	3,438,233	11	3,438,314	25	3,438,364	47	3,438,841
181	3,438,727	176	3,438,149	238	3,438,234		3,438,766	128— 1.2	3,438,365	77	3,438,842
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209.1	3,438,731	451	3,438,153	310	3,438,237	96— 1	3,438,772	130	3,438,369		3,438,846
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	3,438,737	104	3,438,159		3,438,243	33	3,438,778	349	3,438,375	164	3,438,853
232	3,438,738	122	3,438,160	37.9	3,438,244	84	3,438,779	528	3,438,376	303	3,438,852
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277	3,438,741	198	3,438,163		3,438,247		3,438,782	17	3,438,379	150	3,438,425
285	3,438,220	282	3,438,164	61.2	3,438,248	4	3,438,783	232	3,438,380	282	3,438,426
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315	3,438,747	748	3,438,170	204	3,438,253	182	3,438,790	86	3,438,814	138	3,438,432
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123	3,438,097	379	3,438,176	398	3,438,259		3,438,320	137— 78	3,438,383	121	3,438,438
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28— 1	3,438,101	126	3,438,180		3,438,263	378	3,438,324	315	3,438,387	303	3,438,442
28	3,438,102	354	3,438,181	432	3,438,264	102— 24	3,438,325	375	3,438,388		3,438,443
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51 : 3,439,245	53 : 3,438,847	54 : 3,438,540	55 : 3,438,335	55 : 3,438,672	55 : 3,438,826
53 : 3,438,254	3,438,959	55 : 3,438,084	3,438,471	3,438,702	3,438,843
3,438,358	3,438,960	3,438,088	3,438,530	3,438,703	3,438,852
3,438,562	3,439,277	3,438,180	3,438,584	3,438,719	3,438,903
3,438,597	54 : 3,438,475	3,438,295	3,438,585	3,438,788	3,439,132
3,438,623	3,438,539	3,438,324	3,438,609	3,438,791	3,439,249
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Design Patents

6 : 213,825	9 : 213,854	26 : 213,821	36 : 213,852	39 : 213,835	40 : 213,838
213,831	17 : 213,833	27 : 213,829	213,855	213,837	42 : 213,844
213,846	213,848	34 : 213,819	39 : 213,822	213,840	213,845
213,849	213,850	213,832	213,823	213,841	44 : 213,853
213,851	18 : 213,843	213,847	213,834	213,842	55 : 213,824
9 : 213,839	19 : 213,828				

U.S. DEPARTMENT OF COMMERCE
OFFICIAL GAZETTE of the UNITED STATES PATENT OFFICE
April 15, 1969 Volume 861 Number 3

TRADEMARKS

NOTICES

Notice of Daylight Saving Time

The Patent Office will operate on Daylight Saving Time from April 27, 1969 through October 26, 1969.

Trademark Suits

Notices under 15 U.S.C. 1116; Trademark Act of July 5, 1946

Reg. No. 143,357 (PURITAN AND DESIGN), Greenebaum Brothers & Company, Boys' blouses made of cotton, silk and flannel, and the like; **Reg. No. 177,983**, same, Puritan Knitting Mills, Sweaters, scarfs, bathing suits, bathing shirts, and bathing trunks; **Reg. No. 402,751** (PURITAN), The Puritan Sportswear Corp., Boys' shirts, pajamas, sports wear comprising knitted and woven polo shirts, sport jackets, and slack set ensembles comprising a pair of trousers and inner-and-outer shirt, blouses and underwear; **Reg. No. 402,752** (PURITAN AND DESIGN), same; **Reg. No. 433,407** (PURITAN KNITTING MILLS CO. AND DESIGN), same, Sweaters, scarfs, bathing suits, bathing shirts, and bathing trunks; **Reg. No. 587,494** (PURITAN SPORTSWEAR THE CHOICE OF ALL AMERICANS), The Puritan Knitting Mills, Inc., Garments for wear by men, Women, and children—namely, sweaters, bathing suits, bathing shirts, and bathing trunks; **Reg. No. 704,001** (VIVA FREDDI! BRAVO PURITAN!), The Puritan Sportswear Corp., Sport shirts, swim trunks and beach coats; **Reg. No. 707,832** (PURITAN MATES AND DESIGN), same, Girls' and ladies', boys' and men's shirts, walk shorts, swimwear, vests, sweaters, shirts, blouses and jackets; **Reg. No. 727,738** (PRINCESS PURITAN), same, Girls' and ladies' shirts, walk shorts, swim wear, vests, and knitted sweaters; **Reg. No. 727,739** (LADY PURITAN), same; **Reg. No. 173,864** (PURITAN AND DESIGN), same, Men's and boys' sweaters, sport shirts, swimwear, knit shirts, jackets, shorts, slacks, walk shorts, vests, filed Feb. 24, 1964, D.C., S.D.N.Y., Doc. 64–C–575, *The Puritan Sportswear Corporation* v. *Puritan Fashions Corporation et ano.* Consent judgment, plaintiff and the defendants are permanently enjoined as indicated, Dec. 18, 1968.

Reg. No. 173,864. (See Reg. No. 143,357.)

Reg. No. 177,983. (See Reg. No. 143,357.)

Reg. No. 297,827 (DEBUTANTE), Daggett & Ramsdell, Inc., Face powder, preparations for treating the skin, and toilet, cleansing, vanishing, and cold creams; **Reg. No. 506,568**, same, Face powder, preparations for treating the skin, toilet, cleansing, vanishing and cold creams; beauty lotions; skin freshener; deodorant cologne; rouge, and lipstick; **Reg. No. 738,349** (DEBUTANTE DE VERSAILLES), same, Perfume and toilet water; **Reg. No. 848,336**, same, Perfume sprays, filed Oct. 14, 1968, D.C., S.D.N.Y., Doc. 68–C–4030, *Daggett & Ramsdell International Corp. et ano.* v. *Henri Bendel, Inc.* Defendant ordered to deliver to plaintiff for destruction all

CONDITION OF TRADEMARK APPLICATIONS AS OF FEBRUARY 28, 1969

Total number of applications awaiting action [excluding renewals and Sec. 12(c)]	16,090
Date of oldest new application	January 23, 1968
Date of oldest amended application (filing date)	June 4, 1963

C. M. WENDT, Director, Trademark Examining Operation

TRADEMARK EXAMINING DIVISIONS, EXAMINERS AND TRADEMARK CLASSES UNDER EXAMINATION	Oldest Application: New	Oldest Application: Amended
(I) L. J. BETTENDORF, Classes 2, 3, 4, 5, 7, 9, 10, 11, 27, 28, 30, 32, 33, 37, 38, 39, 40, 41, 42, 43, 50; Certification Marks, Classes A and B	6-24-68	6-4 -63
(II) F. H. WETHERBEE, Classes 1, 6, 15, 18, 45, 46, 47, 48, 49, 51, 52; Collective Membership Mark, Class 200	5-13-68	3-4 -66
(III) P. S. BALL, Classes 19, 21, 23, 26, 31, 34, 35, 36	6-19-68	1-21-66
(IV) M. E. ABRAMSON, Classes 8, 12, 13, 14, 16, 17, 20, 22, 24, 25, 29, 44; Service Marks, Classes 100, 101, 102, 103, 104, 105, 106, and 107	1-23-68	3-18-66
Renewals (All Classes)	1-3 -69	----------
Sec. 12(c) Publications (All Classes)	1-16-69	----------

Applications filed during the month of February 1969—2,344

Registrations Issued ---------- 212—No. 868,080 to No. 868,291
Renewals Issued ---------- 100

The TRADEMARK SECTION of the OFFICIAL GAZETTE, issued weekly, is mailed under the direction of the Superintendent of Documents, Government Printing Office, Washington, D.C. 20402 to whom all subscriptions should be made payable and all communications addressed; subscription price $20.50 per annum, foreign mailing $5.75 additional; single copies, 40 cents each.

PRINTED COPIES OF TRADEMARK REGISTRATIONS are furnished by the Patent Office for 20 cents each. Address orders to the Commissioner of Patents, Washington, D.C. 20231.

cartons, etc., in its possession which bear the trademark "Debutantes Versailles," Jan. 21, 1969.

Reg. No. 399,390 (HELI-COIL), Heli-Coil Corporation, Spark plug bushings; **Reg. No. 419,109**, same, Tools, apparatus and machines for use in connection with screw connections and their parts—namely, screw-thread-tapping tools, coiling machines for wire thread inserts, tools for inserting and extracting wire thread bushings, staking tools for securing thread bushings in boss members; **Reg. No. 419,476**, same, Screw connections and parts of screw connections—namely, screws, bolts, studs, nuts, thread inserts and thread bushings for use in drilled or threaded holes; **Reg. No. 514,560**, same, Gages for use in screw connections with or without wire thread—namely, screw thread gages and flush gages; **Reg. No. 516,681**, same, Tools, apparatus and machines for use in connection with screw connections and their parts—namely, screw-thread-tapping tools, coiling machines for wire thread inserts, tools for inserting and extracting wire thread bushings, staking tools for securing thread bushings in boss members; **Reg. No. 707,397**, same, Self-locking wire fasteners, screw locks, and self-locking nuts; **Reg. No. 759,898**, same, Screw thread inserts loaded in plastic strips for magazine feeding, filed Jan. 2, 1969, D.C., S.D.N.Y., Doc. 69–C–1, *Heli-Coil Corp.* v. *Columbia Nut & Bolt Corp.*

Reg. No. 402,751. (See Reg. No. 143,357.)
Reg. No. 402,752. (See Reg. No. 143,357.)
Reg. No. 419,109. (See Reg. No. 399,390.)
Reg. No. 419,476. (See Reg. No. 399,390.)
Reg. No. 433,407. (See Reg. No. 143,357.)
Reg. No. 506,568. (See Reg. No. 297,827.)
Reg. No. 514,560. (See Reg. No. 399,390.)
Reg. No. 516,681. (See Reg. No. 399,390.)
Reg. No. 587,494. (See Reg. No. 143,357.)
Reg. No. 704,001. (See Reg. No. 143,357.)
Reg. No. 707,397. (See Reg. No. 399,390.)
Reg. No. 707,832. (See Reg. No. 143,357.)
Reg. No. 727,738. (See Reg. No. 143,357.)
Reg. No. 727,739. (See Reg. No. 143,357.)
Reg. No. 738,349. (See Reg. No. 297,827.)
Reg. No. 759,898. (See Reg. No. 399,390.)
Reg. No. 848,336. (See Reg. No. 297,827.)

MARKS PUBLISHED FOR OPPOSITION

SECTION 1

The following marks are published in compliance with section 12(a) of the Trademark Act of 1946. Application for the registration of these marks in more than one class has been filed as provided in section 30 of said act as amended by Public Law 772, 87th Congress, approved Oct. 9, 1962, 76 Stat. 769. Opposition under section 13 may be filed within thirty days of this publication. See Rules 2.101 to 2.105.

A separate fee of twenty-five dollars for each class opposed must accompany the opposition.

[NOTE: For publication of marks presented in applications for registration in one class, see section 2.]

SN 244,638. The Country School Drive-In Restaurants, Inc., Lyons, Ill. Filed May 2, 1966.



Class 46—Foods and Ingredients of Foods

For Batter and Breading for Cooking Chicken, Animal and Vegetable Cooking and Food Oils, Salt, Sugar, Ketchup, Pickles, Mustard, Hot Chocolate, and Food Toppings of a Flavored Syrup (Int. Cls. 29 and 30).

Class 100—Miscellaneous

For Drive-In Restaurant Services (Int. Cl. 42).

First use on or about Oct. 16, 1964.

SN 244,640. The Country School Drive-In Restaurants, Inc., Lyons, Ill. Filed May 2, 1966.

COUNTRY SCHOOL

Class 46—Foods and Ingredients of Foods

For Batter and Breading for Cooking Chicken, Animal and Vegetable Cooking and Food Oils, Salt, Sugar, Ketchup, Pickles, Mustard, Hot Chocolate, and Food Toppings of a Flavored Syrup (Int. Cls. 29 and 30).

Class 100—Miscellaneous

For Drive-In Restaurant Services (Int. Cl. 42).

First use on or about Oct. 16, 1964.

SN 285,482. Monarch Watch Corporation, New York, N.Y. Filed Nov. 24, 1967.

BRAVADOS

Class 27—Horological Instruments

For Wrist Watches (Int. Cl. 14).

Class 28—Jewelry and Precious-Metal Ware

For Bands and Bracelets (Int. Cl. 14).

First use Aug. 1, 1967.

SN 288,050. Hakeyama Textile Co., Ltd., Higashi-ku, Osaka, Japan. Filed Jan. 4, 1968.

DRACAENA

Owner of Japanese Reg. No. 625,819, dated Oct. 4, 1963.

Class 32—Furniture and Upholstery

For Pillows and Cushions (Int. Cl. 20).

Class 39—Clothing

For Sack Coats, Dress Suits, Working Clothes, Trousers, Jackets, Dresses, Suits, Skirts, Sweaters, Shirts, Blouses, Collars, Cuffs; Underwear, Coats, Nightgowns, Pajamas, Negligees, Stockings, Gloves, Mufflers, Scarfs, Neckties, Hats, and Handkerchiefs; and Indoor Footwear (Int. Cl. 25).

Class 42—Knitted, Netted, and Textile Fabrics, and Substitutes Therefor

For Towels, Mattress Protectors, Bed Spreads, Pillow Coverings, Bed Sheets, and Blankets (Int. Cl. 24).

SN 288,422. Joel E. Austin, d.b.a. Joel E. Austin and Company, Alice, Tex. Filed Jan. 9, 1968.



Class 101—Advertising and Business

For Real Estate Brokerage and Management (Int. Cl. 35).

Class 102—Insurance and Financial

For Insurance Brokerage and Mortgage Loan Brokerage (Int. Cl. 36).

First use on or about Apr. 25, 1967.

SN 303,560. Faberge, Inc., New York, N.Y. Filed July 25, 1968.



The mark consists of the letter "F" stylized in simulation of a non-translatable Japanese character.

Class 29—Brooms, Brushes, and Dusters

For Bath Brushes (Int. Cl. 21).
First use September 1967.

Class 51—Cosmetics and Toilet Preparations

For Colognes, Bath Oil, Moisture Balm, Bubbling Bath Preparation, and Bath Powder (Int. Cl. 3).
First use May 1967.

Class 52—Detergents and Soaps

For Bath Soap and Kits Containing Soap and Disposable Towel and Soap Dish (Int. Cl. 3).
First use August 1967.

SN 305,362. Accuray Products Incorporated, Wallington, N.J. Filed Aug. 19, 1968.

ACCURAY

Class 21—Electrical Apparatus, Machines, and Supplies

For Flashlight; and Combination Flashlight, Whistle, and Keyring (Int. Cl. 9).
First use March 1966.

Class 37—Paper and Stationery

For Pens (Int. Cl. 16).
N.J. Filed Aug. 19, 1968.

SN 305,363. Accuray Products Incorporated, Wallington, N.J. Aug. 19, 1968.



Class 21—Electrical Apparatus, Machines, and Supplies

For Flashlight; and Combination Flashlight, Whistle, and Keyring (Int. Cl. 9).
First use March 1966.

Class 37—Paper and Stationery

For Pens (Int. Cl. 16).
First use January 1966.

SN 308,652. Toyo Rayon Co., Ltd., Chuo-ku, Tokyo, Japan. Filed Oct. 2, 1968.

TORAY

Owner of Japanese Reg. Nos. 517,198, dated Mar. 25, 1958 and 701,989, dated Mar. 22, 1966.

Class 1—Raw or Partly Prepared Materials

For Synthetic Leather (Int. Cl. 18).

Class 39—Clothing

For Shoes (Int. Cl. 25).

SECTION 2

The following marks are published in compliance with section 12(a) of the Trademark Act of 1946. Opposition under section 13 may be filed within thirty days of publication. See Rules 2.101 to 2.105.

A fee of twenty-five dollars must accompany the opposition.

[NOTE: For publication of marks presented in a combined application for registration in more than one class, see section 1.]

Class 1—Raw or Partly Prepared Materials

SN 297,567. George O. Jenkins Company, Bridgewater, Mass. Filed May 7, 1968.

FORMFLEX

For Thermoplastic-Impregnated Fiberboard, in Sheet Form, for Use in Making Counters, Shanks, and Box Toes for Shoes, and for Making Other Molded Fiber Articles (Int. Cl. 17).
First use Mar. 6, 1968.

SN 297,681. George O. Jenkins Company, Bridgewater, Mass. Filed May 8, 1968.

LEFAJET

Owner of Reg. Nos. 608,520, 619,706, and 619,707.
For Rubber-Bonded Leatherboard, in Sheet Form, Used for Making Midsoles and Heels for Shoes, and for Other Cut Leatherboard Applications (Int. Cl. 18).
First use Jan. 17, 1968.

SN 306,352. Crown Zellerbach Corporation, San Francisco, Calif. Filed Aug. 30, 1968.



Owner of Reg. Nos. 593,901, 711,427, and others.
For Wood Pulp (Int. Cl. 1).
First use on or about Feb. 12, 1968.

SN 306,742. Southern Pine Superior Stud Corp., New York, N.Y. Filed Sept. 6, 1968.

CAREFRE

For Pine Bark for Use as a Landscaping Cover and Gardening Mulch and Soil Conditioner; and for Use as a Cushioning Material in Children's Play Areas (Int. Cl. 1).
First use Feb. 22, 1968.

Class 2—Receptacles

SN 292,858. Mattel, Inc., Hawthorne, Calif. Filed Mar. 11, 1968.

ROOM-MATES

For Stamp Boxes, Letter Boxes, Card Boxes, Paper Clip Boxes, and Wastebaskets (Int. Cls. 16 and 21).
First use Jan. 13, 1968.

SN 297,273. Chancellor Industries, Incorporated, San Jose, Calif. Filed May 3, 1968.

SAFTPAK

For Safety Closure Cap and Container, Sold as a Unit (Int. Cl. 20).
First use Dec. 20, 1966.

SN 301,751. Insulex Limited, London, England. Filed July 1, 1968.

INSULEX

Owner of British Reg. No. 819,317, dated Apr. 11, 1961.
For Plastic Ice Bowls, Tumblers, Jugs, Cups and Saucers, Snack Trays, Food Jars, Mugs, Butter Dishes and Serving Dishes, Teapots, and Flasks (Int. Cl. 21).

SN 309,120. Tower Packaging Company, Wheeling, Ill. Filed Oct. 7, 1968.

TIE-LON

For Plastic Bags (Int. Cl. 20).
First use Sept. 16, 1968.

SN 309,741. Best Quality Plastics, Inc., Denver, Colo. Filed Oct. 16, 1968.

NESTO

For Box-Type Containers and Especially Box-Type Nesting Containers (Int. Cl. 20).
First use on or about July 1, 1966.

Class 3—Baggage, Animal Equipments, Portfolios, and Pocketbooks

SN 293,489. The Duray Company, Inc., Brooklyn, N.Y. Filed Mar. 18, 1968.

"DURAY TAKE ALONGS"

For Cosmetic Bags, Travel Bags, Travel Kits, Curler Bags, and Tote Bags, Sold Empty (Int. Cl. 18).
First use Jan. 15, 1968.

SN 295,102. Brumley-Donaldson Company, Huntington Park, Calif. Filed Apr. 8, 1968.



The term "Horse Shoes" and the representation of a horse shoe are disclaimed apart from the mark as shown. Owner of Reg. No. 836,514.
For Horse Shoes (Int. Cl. 6).
First use Oct. 10, 1962.

SN 298,822. Glencraft Products, Inc., Portland, Maine. Filed May 22, 1968.

SPEECHMASTER

For Portable Lectern in the Nature of a Portfolio (Int. Cl. 18).
First use at least as early as Feb. 24, 1955.

SN 309,629. Sternco Industries, Inc., Harrison, N.J. Filed Oct. 14, 1968.

DELTA

Owner of Reg. Nos. 775,176 and 790,562.
For Dog Whistle (Int. Cl. 9).
First use June 11, 1968.

Class 4—Abrasives and Polishing Materials

SN 271,022. American Cyanamid Company, Wayne, N.J. Filed May 9, 1967.

OVERLAY

For Cleaning and Waxing Preparation for Floors (Int. Cl. 3).
First use Apr. 26, 1967.

Class 5—Adhesives

SN 296,248. Standard Oil Company, Flemington, N.J. Filed Apr. 23, 1968.

EDCO

For Adhesives in Semi-Solid and Liquid Form, Sold as Such for Industrial Use (Int. Cl. 1).
First use Nov. 13, 1967.

SN 308,343. Chicago Adhesive Products Co., Chicago, Ill. Filed Sept. 27, 1968.

CHAPCO

For Waterproof, Latex Emulsion and Alcohol Base Adhesive for Use With Floor Coverings (Int. Cl. 1).
First use in 1954.

SN 310,351. The National Cash Register Company, Dayton, Ohio. Filed Oct. 23, 1968.

NCR

Owner of Reg. Nos. 148,174, 842,856, and others.
For Adhesive for Cementing the Edges of Collated Sheets of Coated Paper To Produce Individual Sets of Sheets of Coated Paper (Int. Cl. 1).
First use Oct. 15, 1968.

Class 6—Chemicals and Chemical Compositions

SN 302,039. The Murphy Chemical Company, Limited, Wheathampstead, near St. Albans, England. Filed July 5, 1968.

TAMOX

Owner of British Reg. No. 916,274, dated Oct. 24, 1967.
For Insecticides, Fungicides, Herbicides, and Rodenticides (Int. Cl. 5).

SN 302,061. Eli Lilly and Company, Indianapolis, Ind. Filed July 5, 1968.

BROFENE

For Insecticide (Int. Cl. 5).
First use May 24, 1968.

SN 302,500. Gulf Oil Corporation, Pittsburgh, Pa. Filed July 11, 1968.

OUTFOX

For Post-Emergence Herbicide (Int. Cl. 5).
First use May 28, 1968.

SN 303,676. Houston Pearless Corporation, Los Angeles, Calif. Filed July 26, 1968.

WCS

For Water Conservation and Water Purification Chemicals Utilized in Conjunction With Photographic Film Processors (Int. Cl. 1).
First use July 22, 1965.

SN 305,272. Farmers Regional Cooperative, Fort Dodge, Iowa. Filed Aug. 16, 1968.

Felco

Owner of Reg. Nos. 600,806, 713,347, and others.
For Seed Inoculants, Soil and Grain Fumigants, Fungicides, Insecticides, Herbicides, and Disinfectants; and Liquified Petroleum Gas (Int. Cl. 5).
First use at least as early as Feb. 1, 1968; April 1950 as to "Felco."

Class 10—Fertilizers

SN 308,275. Collier Carbon and Chemical Corporation, Los Angeles, Calif. Filed Sept. 26, 1968.

BREA

Owner of Reg. Nos. 585,148, 603,175, and 784,246.
For Fertilizers (Int. Cl. 1).
First use April 1953.

SN 314,139. Diamond Shamrock Corporation, Cleveland, Ohio. Filed Dec. 11, 1968.

LUSH LAWN

For Fertilizer (Int. Cl. 1).
First use Apr. 1, 1962.

Class 12—Construction Materials

SN 275,789. G. Q. Russell, d.b.a. Aluminum Specialties, St. Petersburg, Fla. Filed July 11, 1967.

PROTEK-O-WEATHER

For Sliding and Lift-Out Vinyl Panels Used in Enclosing Porches and Other Rooms in a House or Other Building (Int. Cl. 19).
First use Feb. 21, 1965.

SN 298,738. Masonite Corporation, Chicago, Ill. Filed May 21, 1968.

VELVETEX

Owner of Reg. No. 406,025.
For Construction Board—Namely, a Plastic Surface Finished Fiber Board, Composite Board, Particleboard, Hardboard, and Synthetic Lumber or Artificial Lumber for Various Construction Purposes (Int. Cl. 19).
First use Jan. 18, 1941.

SN 302,423. Richard Kithil, d.b.a. The Vexocave Company, Richland, Mich. Filed July 10, 1968.

VEXOCAVE

For Window Panes (Int. Cl. 19).
First use June 4, 1968.

SN 302,424. Richard Kithil, d.b.a. The Vexocave Company, Richland, Mich. Filed July 10, 1968.

CAVOVEX

For Window Panes (Int. Cl. 19).
First use June 4, 1968.

SN 303,766. Paul Bunyan Lumber Company, Anderson, Calif. Filed July 29, 1968.

PAUL BUNYAN

"Paul Bunyan" is the name of a mythological character known in the lumber industry. Owner of Reg. No. 290,330.
For Lumber (Int. Cl. 19).
First use about Aug. 7, 1915.

SN 307,120. The Mogul Corporation, Chagrin Falls, Ohio. Filed Sept. 11, 1968.

HORNEBLENDE

For Water, Damp, and Leakproof Coating of an Adhesive Cement Nature, and a Primer of an Adhesive Cement Nature (Int. Cl. 19).
First use Oct. 18, 1915.

Class 13—Hardware and Plumbing and Steam-Fitting Supplies

SN 273,688. Ric-Wil, Incorporated, Barberton, Ohio. Filed June 12, 1967.

UTILIDOR

For Prefabricated Conduits Used in Underground Services and Adapted for Uses With Piping, Traps and Valves, Expansion Devices, Air Conditioning Ducts, Pneumatic Tubes, Air Lines, Electrical and Communication Distribution Systems, Conveyor Systems, and Pedestrian Passageways (Int. Cl. 6).
First use at least as early as Apr. 30, 1950.

Class 15—Oils and Greases

SN 285,351. Silicone Lubrications Limited, High Wycombe, England. Filed Nov. 21, 1967.

LUBYSIL

For Silicone Lubricants for Use in Internal Combustion Engines and Transmission Units for Automobiles, Motorcycles, Trucks, Tractors, Boats, Diesel Engines, Gear Boxes, Axles, Pumps, Lawn Mowers, Locks, Fasteners, Farm Machinery, Metalworking Machinery, and Other Types of Machinery (Int. Cl. 4).
First use June 1962; in commerce January 1964.

Class 16—Protective and Decorative Coatings

SN 267,744. The Flecto Company, Inc., Oakland, Calif. Filed Mar. 28, 1967.

FLECTO SEAMLESS

Exclusive use of the word "Seamless" is disclaimed apart from the mark as shown. Owner of Reg. No. 755,336.
For Clear Laminated Plastic Surfacing Composition for Application to Flooring (Int. Cl. 2).
First use Jan. 10, 1967.

SN 277,657. Gare Ceramic Supply Co., Inc., Haverhill, Mass. Filed Aug. 7, 1967.

GARE

For Ceramic Materials—Namely, Unfired Ceramic Stains (Int. Cl. 2).
First use 1955.

SN 286,390. Switzer Brothers, Inc., Cleveland, Ohio. Filed Dec. 6, 1967.

AURORA PINK

The term "Pink" is disclaimed apart from the mark as shown.
For Paints, Lacquers, Silk Screen Paints or Colors, and Water Colors (Int. Cl. 2).
First use prior to January 1947.

SN 303,308. Hotopp Paint & Varnish Co., Jersey City, N.J. Filed July 22, 1968.

DURA

Owner of Reg. No. 850,088.
For Paints (Int. Cl. 2).
First use 1885.

SN 307,587. The Proko Company, Dallas, Tex. Filed Sept. 17, 1968.

TRIKO-PLEX

Owner of Reg. Nos. 641,995 and 642,211.
For Paint (Int. Cl. 2).
First use Sept. 23, 1967.

SN 309,452. W. R. Grace & Co., Cambridge, Mass. Filed Oct. 11, 1968.

DUOCREX

Owner of Reg. No. 756,314.
For Liquid Composition for Sealing Interior Wood and Concrete Floors (Int. Cl. 2).
First use in 1946.

Class 17—Tobacco Products

SN 295,342. Lane Limited, New York, N.Y. Filed Apr. 10, 1968.

GOLD SHAG

The term "Shag" is disclaimed apart from the mark as shown.
For Smoking Tobacco (Int. Cl. 34).
First use March 1968.

SN 301,679. Philip Morris Incorporated, New York, N.Y. Filed July 1, 1968.

PAN AM

For Filter Cigarettes (Int. Cl. 34).
First use June 14, 1968.

SN 303,487. R. J. Reynolds Tobacco Company, Winston-Salem, N.C. Filed July 24, 1968.

REYNOLDS' NATURAL LEAF

For Chewing Tobacco (Int. Cl. 34).
First use at least as early as Apr. 17, 1906.

SN 306,859. Philip Morris Incorporated. New York, N.Y. Filed Sept. 9, 1968.



The drawing is lined for the colors red, green, olive green, and gold. Applicant disclaims the words "20 Class A Cigarettes" and the word "Filter" apart from the mark as shown. Owner of Reg. No. 667,036.
For Cigarettes (Int. Cl. 34).
First use Aug. 20, 1968.

Class 18—Medicines and Pharmaceutical Preparations

SN 278,457. Agway, Inc., De Witt, N.Y. Filed Aug. 17, 1967.

MASTICORT

For Drug Used for the Treatment of Bovine Mastitis (Int. Cl. 5).
First use Aug. 29, 1966.
Subj. to Intf. with SN 281,542.

SN 280,297. Behringwerke Aktiengesellschaft, Marburg (Lahn), Germany. Filed Sept. 14, 1967.

FRACTIVAC

Owner of German Reg. No. 811,552, dated June 13, 1964.
For Measles Vaccine (Int. Cl. 5).

SN 281,104. Owen Laboratories, Inc., Dallas, Tex. Filed Sept. 25, 1967.

Drii

For Pharmaceutical Preparation for Oily Skin (Int. Cl. 5).
First use Sept. 12, 1967.

SN 281,542. Beebe Laboratories, Inc., St. Paul, Minn. Filed Oct. 2, 1967.

KORTA-MAST

For Mastitis Ointment of Veterinary Use (Int. Cl. 5).
First use May 1963.
Subj. to Intf. with SN 278,457.

SN 282,614. Oak Ridge Pharmaceuticals, Inc., Columbia, S.C. Filed Oct. 16, 1967.

PRIORBARB

For Medicinal Preparation With Sedative Action To Allay Anxiety and Emotional Stresses (Int. Cl. 5).
First use Oct. 5, 1965.

SN 282,758. Aloe 99, Inc., Alice, Tex. Filed Oct. 18, 1967.

Aloe 99

No claim is made to the word "Aloe" apart from the mark as shown, without waiving any common law rights therein.
For Preparation for Treatment of Minor Burns, Cuts, Chafing, Abrasions, Skin Irritations, Diaper Rash, and Non-Poisonous Insect Bites (Int. Cl. 5).
First use June 15, 1964.

SN 282,980. Chattanooga Pharmacal Co., Chattanooga, Tenn. Filed Oct. 20, 1967.

MYOSSAGE

For Medicated Lotion for Body Massage in Physical Therapy (Int. Cl. 5).
First use Sept. 14, 1967.

SN 291,443. Takeda Chemical Industries, Ltd., Higashi-ku, Osaka, Japan. Filed Feb. 19, 1968.

NICHOLIN

Owner of Japanese Reg. No. 508,414, dated Oct. 7, 1957.
For Pharmaceutical Preparations for Treatment of Nucleotides or Nucleosides for Human Use (Int. Cl. 5).

SN 291,725. Fenaire, Incorporated, North Miami Beach, Fla. Filed Feb. 23, 1968.

MM-100

For Anesthetic Skin Cream (Int. Cl. 5).
First use Oct. 1, 1959.

SN 292,280. Metro International Distributors, Inc., Union City, N.J. Filed Mar. 1, 1968.

SAN RAFAEL

For Vitamin Tonic (Int. Cl. 5).
First use Mar. 23, 1967.

SN 293,572. The Purdue Frederick Company, Yonkers, N.Y. Filed Mar. 18, 1968.

VETADINE

For Veterinary Antiseptic Germicide Preparation (Int. Cl. 5).
First use Feb. 15, 1968.

SN 294,057. Fred Klee, Santa Ana, Calif. Filed Mar. 25, 1968.

ENZIGEST

For Food Supplement, Replacing in Palatable Form Certain Enzymes Destroyed in Heat Preparation of Food (Int. Cl. 5).
First use Feb. 21, 1968.

SN 294,428. Smith, Miller & Patch, Inc., New York, N.Y. Filed Mar. 28, 1968.

CATARASE

For Alpha-Chymotrypsin Preparation Administered Inter-Ocularly in Eye Surgery (Int. Cl. 5).
First use Mar. 21, 1968.

SN 297,770. Evsco Pharmaceutical Co., Oceanside, N.Y. Filed May 9, 1968.

DUMOVAC

For Allergenic Extract in a Repository Vehicle for Veterinary Use (Int. Cl. 5).
First use May 26, 1967.

SN 297,771. Evsco Pharmaceutical Co., Oceanside, N.Y. Filed May 9, 1968.

TREEVAC

For Allergenic Extract in a Repository Vehicle for Veterinary Use (Int. Cl. 5).
First use May 26, 1967.

SN 297,772. Evsco Pharmaceutical Co., Oceanside, N.Y. Filed May 9, 1968.

RAGVAC

For Allergenic Extract in a Repository Vehicle for Veterinary Use (Int. Cl. 5).
First use May 26, 1967.

SN 297,773. Evsco Pharmaceutical Co., Oceanside, N.Y. Filed May 9, 1968.

INHALVAC

For Allergenic Extract in a Repository Vehicle for Veterinary Use (Int. Cl. 5).
First use May 26, 1967.

SN 297,774. Avsco Pharmaceutical Co., Oceanside, N.Y. Filed May 9, 1968.

GRASSVAC

For Allergenic Extract in a Repository Vehicle for Veterinary Use (Int. Cl. 5).
First use May 26, 1967.

SN 297,776. Evsco Pharmaceutical Co., Oceanside, N.Y. Filed May 9, 1968.

WEEDVAC

For Allergenic Extract in a Repository Vehicle for Veterinary Use (Int. Cl. 5).
First use May 26, 1967.

SN 297,845. Commercial Solvents Corporation, New York, N.Y. Filed May 10, 1968.

RALGRO

For Zearalanol, an Anabolic Agent for Use in Livestock and Poultry To Increase the Rate of Weight Gain and Improve Feed Efficiency (Int. Cl. 5).
First use Apr. 29, 1968.

SN 300,562. Colgate-Palmolive Company, New York, N.Y. Filed June 17, 1968.

ELSYL

For Nasal Decongestant (Int. Cl. 5).
First use May 15, 1968.

SN 300,894. Bristol-Myers Company, New York, N.Y. Filed June 20, 1968.

DATRINOL

For Analgesic (Int. Cl. 5).
First use May 14, 1968.

SN 300,899. Bristol-Myers Company, New York, N.Y. Filed June 20, 1968.

DAYTRINOL

For Analgesic (Int. Cl. 5).
First use May 14, 1968.

SN 300,900. Bristol-Myers Company, New York, N.Y. Filed June 20, 1968.

DATATRIN

For Analgesic (Int. Cl. 5).
First use May 14, 1968.

SN 300,950. Merck & Co., Inc., Rahway, N.J. Filed June 20, 1968.

MODURIDE

Owner of Reg. No. 837,801.
For Diuretic Preparation (Int. Cl. 5).
First use May 25, 1968.

SN 300,988. Thayer-Knomark, Inc., Springfield Gardens, N.Y. Filed June 20, 1968.

ONROUTE

For Medication for the Prevention and Treatment of Motion Sickness (Int. Cl. 5).
First use May 8, 1968.

SN 301,149. Allergan Pharmaceuticals, Santa Ana, Calif. Filed June 24, 1968.

FLUROFORTE

For Ophthalmic Preparation (Int. Cl. 5).
First use Mar. 15, 1968.

SN 301,262. Sherman Laboratories, Inc., Detroit, Mich. Filed June 24, 1968.

SHERVESS

For Effervescent Theophylline Preparation (Int. Cl. 5).
First use Apr. 19, 1968.

SN 301,278. Tilden-Yates Laboratories, Inc., Worcester, Mass. Filed June 24, 1968.

HARVATRATE

For Antispasmodic Medicinal Preparation Used in the Treatment of Spastic Colon, Pylorospasm, Biliary and Renal Colic, Dysmenorrhea, Peptic Ulcer, Bronchial Asthmas, and Pyloric Stenosis of Infants (Int. Cl. 5).
First use Feb. 1, 1947.

SN 301,359. Rowell Laboratories, Inc., Baudette, Minn. Filed June 25, 1968.

GOURMASE

For Digestive Enzymes (Int. Cl. 5).
First use May 21, 1968.

SN 301,798. Glynn A. Beard, Denver, Colo. Filed June 24, 1968.

FIRON

For Medicinal Tablets Containing Ferrous Fumarate (Int. Cl. 5).
First use on or about Jan. 15, 1958.

SN 302,567. Parke, Davis & Company, Detroit, Mich. Filed July 12, 1968.

VANPAR

For Anthelmintic Preparation (Int. Cl. 5).
First use on or before June 5, 1968.

SN 303,584. Swiss Cerum and Vaccine Institute and Institute for the Research of Infectious Diseases, Bern, Switzerland. Filed July 25, 1968.

BERNA SB Products

The term "Products" is disclaimed apart from the mark as shown. Owner of Swiss Reg. No. 215,771, dated Feb. 10, 1966.
For Vaccines, Sera, Antispasmodics, Antitussives, Hemorrhoidal Suppositories, and Mucosal Antiflammatory Preparation (Int. Cl. 5).

SN 306,036. Parke, Davis & Company, Detroit, Mich. Filed Aug. 27, 1968.

AMCILL-S

For Anti-Infective Preparation (Int. Cl. 5).
First use on or before Aug. 26, 1968.

SN 307,938. Rucker Pharmacal Co., Inc., Shreveport, La. Filed Sept. 23, 1968.

RUC-NĒĒ

For Prenatal Heamtinic (Int. Cl. 5).
First use Aug. 28, 1958.

SN 307,939. Rucker Pharmacal Co., Inc., Shreveport, La. Filed Sept. 23, 1968.

RU-K-MYCIN

For Antidiarrhea Preparation Containing Neomycin, Kaolin, and Pectin, With Belladonna Alkaloids (Int. Cl. 5).
First use July 16, 1958.

SN 307,940. Rucker Pharmacal Co., Inc., Shreveport, La. Filed Sept. 23, 1968.

TWIN-K

For Potassium Elixir for Human Consumption (Int. Cl. 5).
First use July 1, 1964.

SN 307,949. Rucker Pharmacal Co., Inc., Shreveport, La. Filed Sept. 23, 1968.

SU-TON

For Tonic for Use as a Geriatric Nutritional Supplement and Cerebral Stimulant (Int. Cl. 5).
First use July 9, 1958.

SN 309,429. Roycemore, Inc., Brooklyn, N.Y. Filed Oct. 11, 1968.

DEMURE

Owner of Reg. No. 570,368.
For Feminine Hygiene Spray Deodorant (Int. Cl. 5).
First use Aug. 27, 1968.

Class 19—Vehicles

SN 277,977. Bangor Punta Operations, Inc., New York, N.Y. Filed June 13, 1968.

ULRICHSEN

For Boats and Yachts (Int. Cl. 12).
First use at least as early as Nov. 30, 1945.

SN 277,978. Bangor Punta Operations, Inc., New York, N.Y. Filed June 13, 1968.

LUHRS

For Boats and Yachts (Int. Cl. 12).
First use at least as early as Sept. 30, 1955.

SN 309,980. O. F. Mossberg & Sons, Inc., North Haven, Conn. Filed Oct. 18, 1968.



For Sail Boats (Int. Cl. 12).
First use on or about July 12, 1968.

SN 309,981. O. F. Mossberg & Sons, Inc., North Haven, Conn. Filed Oct. 18, 1968.

Mossberg MALLARD

For Sail Boats (Int. Cl. 12).
First use on or about Sept. 5, 1968.

Class 21—Electrical Apparatus, Machines, and Supplies

SN 282,997. Garrett Tubular Products, Inc., Garrett, Ind. Filed Oct. 20, 1967.

ELECTRI-POLE

For Table Leg With Electrical Outlet (Int. Cl. 9).
First use Sept. 26, 1967.

SN 285,195. Buchler Instruments, Inc., Fort Lee, N.J. Filed Nov. 20, 1967.

FRACTO PHORATOR

For Automatic Electrophoretic-Fraction Separator for the Electrophoresis of Biological Compounds and Other Substances Tending To Migrate Under the Action of an Electric Field (Int. Cl. 9).
First use Oct. 10, 1967.

SN 287,660. Mid-Eastern Industries, Inc., Springfield, N.J. Filed Dec. 27, 1967.

BARON

For Musical Sound Amplifiers (Int. Cl. 9).
First use Nov. 20, 1967.

SN 287,729. Electronics Diversified, Inc., Portland, Oreg. Filed Dec. 28, 1967.



THE SCRIMMER

The design appearing as part of the mark is a composite made up of the letters "E" and "D."
For Solid State Control Apparatus for Dimming Incandescent Light Systems (Int. Cl. 11).
First use Nov. 9, 1967.

SN 287,842. Thrust, Incorporated, New York, N.Y. Filed Dec. 29, 1967.

MULTIACTUATOR

For Electromagnetic Linear Actuator (Int. Cl. 9).
First use Oct. 10, 1967.

SN 287,954. Robroy Industries, Inc., Verona, Pa. Filed Jan. 2, 1968.



For Metallic Conduits and Fittings, Plastic Coated Metallic Conduits and Fittings, and Plastic Conduits and Fittings for Electrical Conductors (Int. Cl. 9).
First use about Apr. 15, 1967.

SN 288,105. Methode Electronics, Inc., Chicago, Ill. Filed Jan. 4, 1968.

UNI-PAC

For Integrated Circuit Sockets (Int. Cl. 9).
First use August 1967.

SN 288,324. International Rectifier Corporation, Los Angeles, Calif. Filed Jan. 8, 1968.

LOGIC-TRIAC

For Semiconductors (Int. Cl. 9).
First use Sept. 19, 1967.

SN 288,532. Oshino Electric Lamp Works, Ltd., Shinagawa-ku, Tokyo, Japan. Filed Jan. 10, 1968.

Paloma Light

Applicant disclaims rights in the word "Light" except as specifically used in the mark as shown.
For Miniature Electric Lamps—Namely, Decorative Christmas Lights (Int. Cl. 28).
First use Oct. 23, 1965; in commerce Dec. 19, 1965.

SN 288,848. Neisner Brothers, Inc., Rochester, N.Y. Filed Jan. 15, 1968.

ANDREW LEWIS

"Andrew Lewis" is a fictitious name and does not refer to any particular individual either living or dead.
For Electrical Supplies—Namely, Plugs and Outlets, Switches and Connections, Cord and Extension Cords, Sockets, Wallplates, Fuses, Electrical Tape, Bulbs, Incandescent and Fluorescent Receptacles, and Parts Therefor (Int. Cls. 9 and 11).
First use June 1, 1960.

SN 289,069. American West Products Co., Inc., d.b.a. American West Products Co., Los Angeles, Calif. Filed Jan. 18, 1968.

CARGUARD

For Electric Alarm System for Automobiles (Int. Cl. 9).
First use June 28, 1967.

SN 289,626. Simplex Wire and Cable Company, Cambridge, Mass. Filed Jan. 25, 1968.

TEMPRITE

For Magnet Electrical Wire Insulated With Polytetrafluoroethylene (Int. Cl. 9).
First use Oct. 20, 1967.

SN 289,629. Simplex Wire and Cable Company, Cambridge, Mass. Filed Jan. 25, 1968.

TEMPBRAID

For Ribbon Electric Cable Assemblies (Int. Cl. 9).
First use Nov. 13, 1967.

SN 292,391. Christopher G. Lippincott, Jr., d.b.a. Polaris Battery Company, Huntington Beach, Calif. Filed Mar. 4, 1968.

POLARIS

For Electrical Storage Batteries, Primarily for Automotive Use (Int. Cl. 9).
First use on or about Jan. 18, 1968.

SN 299,174. Robert J. Thomas, d.b.a. R. J. Thomas and Company, Dearborn, Mich. Filed May 27, 1968.



For Portable Electric Nut Roaster for Domestic Use (Int. Cl. 11).
First use Feb. 1, 1966.

SN 300,201. Jerrold Electronics Corporation, Philadelphia, Pa. Filed June 11, 1968.

DYNA ROTOR

Applicant disclaims the word "Rotor" apart from the mark as a whole.
For Antenna Rotators (Int. Cl. 9).
First use May 16, 1968.

SN 304,713. Simplex Wire and Cable Company, Cambridge, Mass. Filed Aug. 8, 1968.

COMPU-LEAD

For Coaxial Cable (Int. Cl. 9).
First use June 12, 1968.

SN 305,380. Ross Electronics Corporation, Chicago, Ill. Filed Aug. 19, 1968.

WAKE-O-MATIC

For Clock Radios (Int. Cl. 9).
First use July 18, 1968.

SN 313,666. United Air Specialists, Inc., Cleveland, Ohio. Filed Dec. 5, 1968.

SMOG-HOG

For Electronic Air Cleaners (Int. Cl. 11).
First use July 26, 1968.

Class 22 — Games, Toys, and Sporting Goods

SN 268,160. Cossman & Levine, Inc., Los Angeles, Calif. Filed Apr. 3, 1967.



For Toys—Namely, Ant Vivaria (Int. Cl. 28).
First use Aug. 17, 1964.

SN 302,754. Pedigo Pork Rind Company, Inc., Bowling Green, Ky. Filed July 15, 1968.

JAW-BREAKER

For Fish Bait (Int. Cl. 28).
First use on or about June 3, 1968.
Subj. to Intf. with SN 299,887.

SN 305,889. Mattel, Inc., Hawthorne, Calif. Filed Aug. 26, 1968.

BUGGYROOPS

For Make and Play Toy Kit Comprising a Cake Base (Support), Plastic Cake Supports, Molds and Mixing Spoon Utensils, and Candy, Cake and Frosting Mixes (Int. Cl. 28).
First use Feb. 13, 1968.

SN 305,891. Mattel, Inc., Hawthorne, Calif. Filed Aug. 26, 1968.

BABY FUN

No claim of exclusive right is made to "Baby" for the goods recited.
For Dolls, Doll Accessories, and Doll Clothing (Int. Cl. 28).
First use July 31, 1968.

SN 313,654. Mattel, Inc., Hawthorne, Calif. Filed Dec. 5, 1968.

ROSEMARY

For Dolls, Doll Clothing, and Doll Accessories (Int. Cl. 28).
First use Aug. 23, 1968.

SN 313,655. Mattel, Inc., Hawthorne, Calif. Filed Dec. 5, 1968.

TERESA

For Dolls, Doll Clothing, and Doll Accessories (Int. Cl. 28).
First use Aug. 23, 1968.

Class 23 — Cutlery, Machinery, and Tools, and Parts Thereof

SN 268,047. Industrial Truck Attachment Corporation, Los Altos, Calif. Filed Mar. 31, 1967.

ITA

For Attachments for Fork Lift Type Trucks Which Connect in Association With the Fork Lift Mechanism of the Truck To Provide for Additional Flexibility and Utilization of the Truck (Int. Cl. 7).
First use Aug. 29, 1966.

SN 268,048. Industrial Truck Attachment Corporation, Los Altos, Calif. Filed Mar. 31, 1967.



For Attachments for Fork Lift Type Trucks Which Connect in Association With the Fork Lift Mechanism of the Truck To Provide for Additional Flexibility and Utilization of the Truck (Int. Cl. 7).
First use Aug. 29, 1966.

SN 279,062. Norris Industries, Inc., Los Angeles, Calif., assignee of The Fyr-Fyter Company, Newark, N.J. Filed Aug. 25, 1967.

RangeGuard

For Fire Protection System for Use in Connection With Exhaust Hoods and Other Cooking Apparatus (Int. Cl. 9).
First use Apr. 11, 1967.

SN 280,404. Emuge-Werk Richard Glimpel Fabrik fur Prazisionswerkzeuge vormals Moschkau & Glimpel, Lauf, Germany. Filed Sept. 15, 1967.

EMUGE

Owner of German Reg. No. 386,550, dated May 19, 1928.
For Cutting and Clamping Tools—Namely, Screw Taps, Threading Dies, Milling-Cutters, Reamers, Drill Chucks, and Spring Loaded Taper Sleeves (Int. Cl. 7).

SN 282,849. Wood Brothers Mfg. Co., Oregon, Ill. Filed Oct. 18, 1967.

CULTATILLER

For Tractor-Drawn Rotary Tillers (Int. Cl. 7).
First use Sept. 20, 1967.

SN 283,251. Vermont American Corporation, Louisville, Ky., assignee of Hopkins Manufacturing Corporation, Emporia, Kans. Filed Oct. 24, 1967.

PRO-FILE

For Hand Operated Auto Body Files (Int. Cl. 8).
First use in 1962.

SN 284,955. Custom Power Washer, Inc., Ashland, Ohio, assignee of Water Supplies, Inc., Ashland, Ohio. Filed Nov. 15, 1967.

REVERS-O-MATIC

For Coin-Operated Car Wash Installations (Int. Cl. 9).
First use Sept. 6, 1967.

SN 288,805. General Fire Extinguisher Corporation, Northbrook, Ill. Filed Jan. 15, 1968.

DECO COVER

Applicant disclaims the word "Cover" apart from the mark as shown without sacrificing any common law rights.
For Fire Extinguisher Covers (Int. Cl. 9).
First use Jan. 9, 1968.

SN 292,527. Ames Crosta Mills & Company Limited, Heywood, England. Filed Feb. 14, 1968.

SIMPLEX

For Aerating Cone for Aerating Liquids in Sewage, Industrial Waste or Liquid Purification Treatment (Int. Cl. 11).
First use at least as early as April 1926; in commerce Dec. 19, 1967.

SN 295,769. Sandrik Dolne Hamre, Narodny Podnik, Dolne Hamre, Czechoslovakia. Filed Apr. 16, 1968.



The words "Superior" and "Stainless," and the representation of razor blades are disclaimed apart from the mark as shown. Owner of Czechoslovak Reg. No. 157,309, dated Apr. 25, 1967.
For Razor Blades (Int. Cl. 8).

SN 295,811. Dri Mark Products, Inc., Mount Vernon, N.Y. Filed Apr. 17, 1968.

dm

Owner of Reg. Nos. 729,143, 770,823, and others.
For Staplers and Cutting Devices—Namely, Hand-Held Knives With Retractable and Replaceable Blades (Int. Cl. 16).
First use December 1965.

SN 298,383. Delsteel, Incorporated, Wilmington, Del., by change of name from Delaware Tool Steel Corporation, Wilmington, Del. Filed May 17, 1968.

PNEU-KUT

Owner of Reg. No. 826,839.
For Chisel for Use in Pneumatic Hammer Devices (Int. Cl. 7).
First use May 10, 1968.

SN 300,044. J. K. Smit & Sons, Inc., Murray Hill, N.J. Filed June 10, 1968.

STA-KOOL

For Diamond Tools for Wheel Truing (Int. Cl. 7).
First use Sept. 3, 1935.

SN 302,360. Big Joe Manufacturing Co., Lincolnwood, Ill. Filed July 10, 1968.

BIG JOE

For Material Handling Equipment—Namely, Lift Trucks, Pallet Trucks; Stock Selector Trucks; Lift Truck Platforms, Drum Handling and Ram and Boom Attachments; and Parts Thereof (Int. Cl. 12).
First use at least as early as May 1, 1951.

SN 303,944. J. M. Voith Gesellschaft mit beschrankter Haftung, Heidenheim, Germany. Filed July 30, 1968.

HYDROFORMER

Owner of German Reg. No. 841,975, dated Jan. 31, 1968.
For Machines for Producing Web-Shaped Material, Fiber Floss and Fiber Mats of Natural and Synthetic Fibers, and Textile Materials (Int. Cl. 7).

SN 304,422. Young Fire Equipment Corporation, Lancaster, N.Y. Filed Aug. 5, 1968.

CRUSADER

For Fire-Fighting Vehicles (Int. Cl. 9).
First use Sept. 3, 1967.

SN 304,674. Crompton & Knowles Corporation, Worcester, Mass. Filed Aug. 8, 1968.

OFS

For Looms and Loom Parts (Int. Cl. 7).
First use Sept. 26, 1965.

SN 304,704. Oneida Ltd., Oneida, N.Y. Filed Aug. 8, 1968.

CHARMION

Owner of Reg. No. 501,348.
For Stainless Steel Flatware (Int. Cl. 8).
First use Apr. 23, 1968.

Class 26—Measuring and Scientific Appliances

SN 240,039. Tempflow Manufacturing Company, Inc., Prairie Grove, Ark. Filed Mar. 2, 1966.

Tempflow

For Selective Temperature Water Dispensing Systems—Namely, Automatic Temperature and Pressure Controls for Water Heaters, and Parts Thereof (Int. Cl. 9).
First use May 1961.

SN 250,954. General Electric Company, East Cleveland, Ohio. Filed July 25, 1966.

JET-B.O.P.

Applicant disclaims the letter "B.O.P." apart from the mark as shown. Owner of Reg. No. 747,253.
For Thermocouples (Int. Cl. 9).
First use Dec. 8, 1964.

SN 257,992. Albert Simon, Inc., New York, N.Y. Filed Nov. 4, 1966.

U.S. COIN-A-COPY

Applicant disclaims any rights in the notation "U.S." separate and apart from the use thereof in the mark as shown.
For Coin-Operated Photostating Machine (Int. Cl. 9).
First use Oct. 21, 1966.

SN 260,278. Schaevitz M.C.D., Philadelphia, Pa. Filed Dec. 7, 1966.

TRANSI-SCOPE

For Portable Oscilloscopes (Int. Cl. 9).
First use Sept. 22, 1966.

SN 264,997. Wein Products, Inc., Los Angeles, Calif. Filed Feb. 17, 1967.

CRONOSCOPE

For Flashing Light Source for Photographic Use (Int. Cl. 11).
First use February 1967.

SN 281,854. Albert Schacht KG, Ulm (Danube), Germany. Filed Oct. 5, 1967.

TRAVETAR

Owner of German Reg. No. 668,319, dated Dec. 16, 1954.
For Photo, Projection, and Enlarging Lenses, Sun Shields and Filters (Int. Cl. 9).
First use July 1, 1956; in commerce Mar. 1, 1957.

SN 283,970. Atlantic Semiconductor, Asbury Park, N.J. Filed Nov. 2, 1967.

MINICOMP

For Miniature Silicon Rectifier Assemblies (Int. Cl. 9).
First use Oct. 20, 1967.

SN 284,918. Ipco Hospital Supply Corporation, New York, N.Y. Filed Nov. 15, 1967.

"STANDARD" Y-B-C

For Laboratory Equipment—Namely, Yellow Backed Blood Pipettes (Int. Cl. 9).
First use Oct. 1, 1954.

SN 285,611. York Instrument Corp., New York, N.Y. Filed Nov. 24, 1967.

JET PIPET

Applicant disclaims the word "Pipet" apart from the mark shown.
For Dispensers of Predetermined Volumes of Fluids (Int. Cl. 9).
First use Oct. 13, 1967.

SN 287,793. U.S. Industries, Inc., New York, N.Y., assignee of Big Dutchman, Inc., Zeeland, Mich. Filed Dec. 29, 1967.

BIG DUTCHMAN/BARKER

For Egg Processing Apparatus—Namely, a Combination Unit for Candling, Grading and Packing Eggs, and Components Thereof (Int. Cl. 9).
First use on or about Feb. 1, 1965.

SN 289,032. Dr. Peter Pogacar, Neckarstaden, Heidelberg, Germany. Filed Jan. 17, 1968.

CALOREX

Owner of German Reg. No. 800,591, dated Feb. 12, 1965.
For Tubular Heat Exchangers Consisting of Elastic Material for Laboratory Use (Int. Cl. 11).

SN 289,083. Coulter Electronics, Inc., Hialeah, Fla. Filed Jan. 18, 1968.

Owner of Reg. Nos. 679,591, 709,046, and 723,572.
For Kit for Making Platelet Concentration Determinations Using an Electronic Particle Analyzing Instrument of Coulter Type and Sold as Such (Int. Cl. 9).
First use Dec. 7, 1966.

SN 289,335. Pro-Gramo, Inc., Pleasantville, N.Y. Filed Jan. 22, 1968.

PRO-GRAMO

For Optical-Electronic Visual-Audio Teaching and Display Apparatus, Comprising a Visual Slide Projector, an Audio Reproducer, and an Optical-Electronic Programming Device and Circuits Interconnecting the Projector and the Reproducer (Int. Cl. 9).
First use Mar. 15, 1967.

SN 289,388. Eastman Kodak Company, Rochester, N.Y. Filed Jan. 23, 1968.

OPEN ME FIRST

For Photographic Cameras, Sensitized Photographic Film; and Photographic Outfits—Namely, a Camera and Photographic Accessories Therefor (Int. Cls. 1 and 9).
First use 1957.

SN 289,424. Ripley Company, Inc., Middletown, Conn. Filed Jan. 23, 1968.

mrs 2000

For Fluid, Gas and Electric Meters, Recorders and Processing Equipment Such as Electronic Translators, Portable Electronic Recorders, Portable Visual Reading Devices and Other Metering Equipment Used To Measure the Flow of Measurable Commodities Such as Gases, Liquids, and Electricity (Int. Cl. 9).
First use Dec. 19, 1967, on gas meters and recording equipment.

SN 291,563. Sealectro Corporation, Mamaroneck, N.Y. Filed Feb. 21, 1968.

SEALECTROCARD

Owner of Reg. Nos. 750,058, 750,060, and 830,118.
For Static Card Reader for Punched Cards as Peripheral Equipment for Data Processing Systems (Int. Cl. 9).
First use Jan. 15, 1968.

SN 292,721. Justin J. Shapiro, d.b.a. Labindustries, Berkeley, Calif. Filed Mar. 7, 1968.

STAT-FILTER

Applicant disclaims the word "Filter" separate and apart from the mark as shown.
For Laboratory Filtration Systems (Int. Cl. 9).
First use Jan. 24, 1968.

SN 293,681. Ardel Instrument Co., Inc., Jamaica, N.Y. Filed Mar. 20, 1968.

KINAMATIC

For Optical Construction Modules for Adjustable Assembly Into Optical Apparatus for Supporting and Orienting Mirrors, Lenses, and Other Optical Components (Int. Cl. 9).
First use Feb. 14, 1968.

SN 294,087. Spiratone, Inc., Flushing, N.Y. Filed Mar. 25, 1968.

MINILITE

For Photographic Accessories—Namely, Unit With Numerous Small Units Which When Fired Produce Numerous Small Flashes Which Produces Sufficient Light, This Unit Being Synchronized to the Shutter Speed of the Camera (Int. Cl. 9).
First use Aug. 15, 1967.

SN 295,499. Bach Auricon, Inc., Los Angeles, Calif. Filed Apr. 12, 1968.

FLEXSOUND

For Photographic and Sound-Recording Apparatus—Namely, Cameras With Optical Recording Galvanometers and Magnetic Sound-Recording Units, Cameras With Reflex-Shutter Optics (Int. Cl. 9).
First use prior to Apr. 7, 1967.

SN 296,044. Reutlinger-Losenhausen Maschinenbau G.m.b.H., Darmstadt, Germany. Filed Apr. 19, 1968.

RELOG

Priority claimed under Sec. 44(d) on German application filed Oct. 21, 1967; Reg. No. 842,162, dated Feb. 6, 1968.
For Balancing Machines (Int. Cl. 9).

SN 297,619. United Sunglass and Optical Industries, Inc., New York, N.Y. Filed May 7, 1968.

SABRA

For Sunglasses (Int. Cl. 9).
First use Jan. 12, 1968.

SN 297,716. Tecnifax Corp., Holyoke, Mass. Filed May 8, 1968.

DAIRO

For Image Duplicating Film (Int. Cl. 1).
First use Apr. 11, 1968.

SN 298,111. Datatype Corporation, Miami, Fla. Filed May 14, 1968.

DATATALLY

For Electronic Computers (Int. Cl. 9).
First use Jan. 25, 1968.

SN 298,322. Dynamics Research Corporation, Stoneham, Mass. Filed May 16, 1968.

THEODOSYN

For Electro-Optical Encoders for Shaft-Angle Indication and Electronic Circuitry for Decoding the Output Signals Therefrom (Int. Cl. 9).
First use on or prior to Dec. 31, 1963.

SN 298,371. Udico Corporation, Los Angeles, Calif. Filed May 16, 1968.

UDICO

Owner of Reg. No. 737,813.
For On-Off Appliance Timers (Int. Cl. 9).
First use prior to Jan. 1, 1968.

SN 298,596. Hamilton Manufacturing Company, Two Rivers, Wis. Filed May 20, 1968.

HAMILTON

Owner of Reg. Nos. 398,431, 801,856, and others.
For Drafting Room Equipment for Industrial, Architectural, and School Use—Namely, Drafting Tables, Engineers' Desks, Filing Cabinets for Drawings, Filing Trays for Drawings, Filing Drawers for Drawings, Drafting Chairs and Stools, Drawing Boards, Lighted Tracing and Opaquing Tables, Portable Lighted Tracing and Opaquing Boards, and Roll Tracing Files (Int. Cl. 16).
First use 1915.

SN 299,864. Riso Kagaku Kogyo Kabushiki Kaisha, Tokyo, Japan. Filed June 6, 1968.

RISO

Owner of Japanese Reg. No. 743,086, dated May 31, 1967.
For Office Machine Equipment—Namely, Stencil Cutting Machines (Int. Cl. 16).

SN 299,865. Riso Kagaku Kogyo Kabushiki Kaisha, Tokyo, Japan. Filed June 6, 1968.

RISOFAX

Owner of Japanese Reg. No. 743,087, dated May 31, 1967.
For Office Machine Equipment—Namely, Stencil Cutting Machines (Int. Cl. 16).

SN 300,726. National Instrument Laboratories, Inc., Rockville, Md. Filed June 18, 1968.

TITRAGAR

For Laboratory Equipment for Carrying Out Immunodiffusion (Int. Cl. 9).
First use Apr. 25, 1965.

SN 301,247. Paragon Electric Company, Inc., Two Rivers, Wis. Filed June 24, 1968.

D-FROST-O-MATIC

Owner of Reg. No. 557,541.
For Electrically Operated Controls, and Parts Thereof, Having Time Oriented Operation To Control a Flow of Current to Electrical Equipment (Int. Cl. 9).
First use July 7, 1949.

SN 302,638. The Rank Organisation Limited, London, England. Filed July 12, 1968.

MONITAL

For Lenses (Int. Cl. 9).
First use Oct. 1, 1967; in commerce Mar. 12, 1968.

SN 303,371. Waters Associates Inc., Framingham, Mass. Filed July 22, 1968.

ALC

For Chromatographs (Int. Cl. 9).
First use Feb. 27, 1968.

SN 303,449. Robertson Photo-Mechanix, Inc., Des Plaines, Ill. Filed July 23, 1968.

IMAGIC

Owner of Reg. No. 844,547.
For Exposure Controls for Graphic Arts Cameras (Int. Cl. 9).
First use July 10, 1968.

SN 305,037. Coquar, Inc., Wilmington, Del. Filed Aug. 13, 1968.

COQUAR

For Lenses (Int. Cl. 9).
First use Aug. 28, 1967.

SN 305,313. The Cincinnati Milling Machine Co., Cincinnati, Ohio. Filed Aug. 16, 1968.

CINCINNATI

Owner of Reg. Nos. 612,130, 792,897, and others.
For Numerical Control Equipment for Machine Tools (Int. Cl. 9).
First use prior to January 1963.

SN 305,483. The Ohmart Corporation, Cincinnati, Ohio. Filed Aug. 19, 1968.

PREFCOAT

For Gages for Measuring Coating Weights (Int. Cl. 9).
First use May 31, 1968.

SN 305,745. The Leal Agency, Inc., Flushing, N.Y. Filed Aug. 22, 1968.

THE COMPUCAPPER

For Calculator for Competitive Events (Int. Cl. 9).
First use Aug. 4, 1968.

SN 305,796. American Instrument Company, Inc., Silver Spring, Md. Filed Aug. 23, 1968.

MAGNE-GAGE

The word "Gage" is disclaimed apart from the mark as shown.
For Magnetic Measuring Gages for Determining the Thickness of Coatings (Int. Cl. 9).
First use May 1, 1938.

SN 305,997. Texas Instruments Incorporated, Dallas, Tex. Filed Aug. 26, 1968.

function/riter

Owner of Reg. Nos. 660,542, 768,420, and others.
For Industrial Graphic Recording Instruments (Int. Cl. 9).
First use on or about Sept. 11, 1967.

SN 307,248. The Superior Electric Company, Bristol, Conn. Filed Sept. 12, 1968.



Owner of Reg. Nos. 663,060 and 781,695.
For Tape Readers, and Temperature Controls (Int. Cl. 9).
First use Sept. 12, 1955.

SN 307,249. The Superior Electric Company, Bristol, Conn. Filed Sept. 12, 1968.

SLO-SYN

Owner of Reg. Nos. 685,066 and 777,758.
For Tape Readers (Int. Cl. 9).
First use Dec. 1, 1958.

SN 310,125. Nu-Vision Optical Studio, Inc., Flint, Mich. Filed Oct. 21, 1968.

LITE TAMER

For Photochromic Lenses for Eyeglasses (Int. Cl. 9).
First use July 18, 1968.

Class 29—Brooms, Brushes, and Dusters

SN 287,262. Algemene Kunstzijde Unie N.V., Arnhem, Netherlands. Filed Dec. 20, 1967.

DRYLENKA

Owner of Dutch Reg. No. 162,698, dated Mar. 21, 1967.
For Synthetic Sponges and Chamois for Cleaning and Polishing Purposes (Int. Cl. 21).

SN 293,834. James T. Kerns, Fort Wayne, Ind. Filed Mar. 21, 1968.

GROOVY

For Brushes (Int. Cl. 21).
First use Feb. 1, 1968.

SN 298,782. Robert E. Allen, d.b.a. Gun Club Sportswear, Des Moines, Iowa. Filed May 22, 1968.

dex-kleen

For Gun Wiping Cloths (Int. Cl. 21).
First use at least as early as Aug. 15, 1938.

SN 305,163. South Eastern Cordage Co., Cleveland, Ohio. Filed Aug. 14, 1968.

SECO SOUTHERN QUEEN

Owner of Reg. Nos. 670,467, 689,093, and 777,654.
For Mop Heads (Int. Cl. 21).
First use July 10, 1968.

SN 310,285. Norton Company, Watervliet, N.Y. Filed Oct. 23, 1968.

BEAR-TEX

Owner of Reg. Nos. 704,454, 704,594, and others.
For Floor Brushes (Int. Cl. 21).
First use July 1968.

Class 31—Filters and Refrigerators

SN 288,859. Sybron Corporation, Rochester, N.Y., by change of name from Ritter Pfaudler Corporation, Rochester, N.Y. Filed Jan. 15, 1968.

DCG

For Rotary, Self-Cleaning Gravity Filter Used in Dewatering Sanitary and Industrial Waste Sludges (Int. Cl. 11).
First use Sept. 2, 1965.

SN 289,354. Super Freeze Company, Burbank, Calif. Filed Jan. 22, 1968.

TINY MART

The word "Mart" is disclaimed apart from the mark as shown.
For Self-Service One-Piece Refrigerated Cooler-Freezer Merchandizer for Display and Vending of Food Products at Gasoline Service Stations, Trailer Parks, Motels, Beach Areas, Camps, Parks, etc. (Int. Cl. 11).
First use on or about Mar. 15, 1965.

SN 295,353. Microtron Corporation, Charlotte, N.C. Filed Apr. 10, 1968.

HOM PAC

For Air Filters for Heating and Air Conditioning Systems and the Like (Int. Cl. 11).
First use Mar. 18, 1968.

SN 297,372. Bio-Rad Laboratories, Richmond, Calif. Filed May 6, 1968.

BIO-GLAS

Owner of Reg. Nos. 720,802, 802,053, and 802,054.
For Porous Glass for Chromatography (Int. Cl. 11).
First use Apr. 22, 1966.

SN 298,977. United Air Filter Company, Charlotte, N.C. Filed May 23, 1968.

UAF

For Air Filters for Heating and Air Conditioning (Int. Cl. 11).
First use Apr. 19, 1968.

SN 306,282. Sweden Freezer Manufacturing Co., d.b.a. Swedette Freezer Co., Seattle, Wash. Filed Aug. 29, 1968.

SWEDETTE

Owner of Reg. No. 656,135.
For Ice Cream Freezer (Int. Cl. 11).
First use July 24, 1968.

Class 32 — Furniture and Upholstery

SN 309,490. The Sturgis Company, Sturgis, Mich. Filed Oct. 11, 1968.

STURGIS

Owner of Reg. Nos. 579,074, 769,531, and 803,877.
For Chairs, Settees, Tables, Benches, and Parts Therefor (Int. Cl. 20).
First use Feb. 22, 1968.

SN 310,708. Tearless Products, Inc., Atlanta, Ga. Filed Oct. 28, 1968.

TEARLESS

For Shampoo Chairs (Int. Cl. 20).
First use on or about May 14, 1968.

SN 311,476. Flexsteel Industries, Incorporated, d.b.a. Brunswick Converters, Dubuque, Iowa. Filed Nov. 6, 1968.

CHARISMA

For Upholstered Furniture (Int. Cl. 20).
First use June 17, 1968.

Class 34 — Heating, Lighting, and Ventilating Apparatus

SN 289,716. Raypak Company, Inc., El Monte, Calif. Filed Jan. 26, 1968.

AIR-X-LIFELONG

For Hot Water Heating Systems and Tanks Therefor, Sold as a Unit, for Use in Domestic, Commercial, and Industrial Installations (Int. Cl. 11).
First use 1964.

SN 294,266. Dunham-Bush, Inc., West Hartford, Conn. Filed Mar. 27, 1968.

COLD-CRAFT

For Freeze Drying Units and Desiccator Units, and Parts Thereof, for Use in the Fields of Food, Biology, Chemistry, and Medicine (Int. Cl. 11).
First use December 1963.

SN 294,402. Maxon Premix Burner Company, Inc., Muncie, Ind. Filed Mar. 28, 1968.

OVENPAK

For Gas Burner Assemblies (Int. Cl. 11).
First use May 5, 1967.

SN 298,127. Kabel- und Metallwerke Gutehoffnungshutte Aktiengesellschaft, Hanover, Germany. Filed May 14, 1968.

OSNAWELD

Owner of German Reg. No. 826,751, dated Nov. 28, 1966.
For Welding Materials—Namely, Copper, Copper Alloys, Aluminum, Aluminum Alloys, in the Form of Welding Rods and Wires for Use in Gas and Other Types of Welding Operations; Brazing Alloys, and Welding Electrodes (Int. Cls. 6 and 9).

SN 306,265. The McKay Machine Company, Youngstown, Ohio. Filed Aug. 29, 1968.

ADAPTAMATIC

For Electric Welding Machines and Controls Therefor (Int. Cl. 7).
First use Apr. 12, 1967.

SN 306,510. Precipitator Corporation of America, Newton, Mass. Filed Sept. 3, 1968.

MICRONAIRE

Owner of Reg. Nos. 714,618 and 746,607.
For Humidifiers and Air Conditioners, Portable and Central (Int. Cl. 11).
First use May 19, 1966.

SN 306,767. General Environment Corp., Glendale, Calif. Filed Sept. 6, 1968.

norflex

For Flexible Ducting for Air Conditioning and Heating Systems (Int. Cl. 11).
First use Mar. 5, 1968.

Class 35 — Belting, Hose, Machinery Packing, and Nonmetallic Tires

SN 300,083. Jointine Products Company Limited, Lincoln, England. Filed June 10, 1968.

CORBEX

Owner of British Reg. No. 820,487, dated May 5, 1961.
For Jointing (Packing) Materials (Int. Cl. 17).

SN 302,008. Bridgestone Tire Company Limited, Chuo-ku, Tokyo, Japan. Filed July 5, 1968.

FAST GRIP

For All Kinds of Rubber Tires and Tubes for Automobiles, Autobicycles, or Any Other Vehicles (Int. Cl. 12).
First use Feb. 1, 1963; in commerce Feb. 1, 1963.

Class 36 — Musical Instruments and Supplies

SN 283,696. Ode Records, Inc., Bel Air, Calif. Filed Oct. 30, 1967.

ODE

For Phonograph Records and Pre-Recorded Magnetic Tape (Int. Cl. 9).
First use Apr. 14, 1967.

SN 293,176. Electro Learner Corporation, Wilmington, Del., assignee of Arthur R. Schmoyer, Potomac Falls, Md. Filed Mar. 13, 1968.

Prompt-A-Kee

For Instructional Organ Keyboard Overlay With a Chart of Key Designations Thereon (Int. Cl. 15).
First use Sept. 24, 1967.

SN 309,250. General Electric Company, Schenectady, N.Y. Filed Oct. 9, 1968.

GENERAL ELECTRIC

For Phonographs, Combination Phonograph and Film Strip Viewer; Phonograph Records and Associated Film Strips With Accompanying Jackets; Tape Recorders, Tape Players, and Accessories Therefor; Magnetic Tape and Prerecorded Magnetic Tape; Electric Guitars; and Electric Chord Organs (Int. Cl. 9).
First use at least as early as 1935.

SN 310,908. Alfred Donald McHan, d.b.a. Laurel Music Studios, Bryson City, N.C. Filed Oct. 30, 1968.

LAUREL

For Phonograph Records (Int. Cl. 9).
First use June 1, 1965.

SN 315,507. Whippany Electronics, Inc., Fairfield, N.J. Filed Dec. 31, 1968.

MELO-SONIC

For Electronic Organ (Int. Cl. 15).
First use Sept. 18, 1968.

Class 38 — Prints and Publications

SN 281,417. Calway Industries, Inc., San Francisco, Calif. Filed Sept. 29, 1967.

URBAN WEST

For Bi-Monthly Magazine (Int. Cl. 16).
First use Sept. 7, 1967.

SN 285,074. Team-Mates Associates, Newhall, Calif. Filed Nov. 16, 1967.

TEAM-MATES

For Educational Materials—Namely, Printed Instructional Books and Booklets and Work Sheets for Use in Connection Therewith (Int. Cl. 16).
First use Feb. 8, 1967.

SN 285,132. Harper & Row, Publishers, Incorporated, New York, N.Y. Filed Nov. 17, 1967.

InvestiGuide

For Textbooks Dealing With Science (Int. Cl. 16).
First use Aug. 1, 1967.

SN 286,353. Don Kracke, d.b.a. Rickie Tickie Stickies, Palos Verdes Peninsula, Calif. Filed Dec. 6, 1967.

RICKIE TICKIE

For Adhesive Decorative Decalcomania-Like Designs (Int. Cl. 16).
First use Aug. 13, 1967.

SN 292,899. Dun & Bradstreet, Inc., New York, N.Y. Filed Mar. 11, 1968.

TRINC'S

For Directory Relating to the Trucking Industry (Int. Cl. 16).
First use in or about 1954.

SN 295,092. All Hours Greeting Cards, Thetford, Vt. Filed S.R. Apr. 8, 1968; Am. P.R. Jan. 29, 1969.

ALL HOURS

For Greeting Cards (Int. Cl. 16).
First use July 15, 1966.

SN 295,546. Multimedia, Inc., Greenville, S.C. Filed Apr. 12, 1968.

THE ASHEVILLE CITIZEN

For Newspaper (Int. Cl. 16).
First use Jan. 1, 1968.

SN 295,547. Multimedia, Inc., Greenville, S.C. Filed Apr. 12, 1968.

GREENVILLE PIEDMONT

For Newspaper (Int. Cl. 16).
First use Mar. 22, 1937.

SN 295,548. Multimedia, Inc., Greenville, S.C. Filed Apr. 12, 1968.

ASHEVILLE CITIZEN-TIMES

For Newspaper (Int. Cl. 16).
First use Jan. 1, 1968.

SN 295,549. Multimedia, Inc., Greenville, S.C. Filed Apr. 12, 1968.

THE ASHEVILLE TIMES

For Newspaper (Int. Cl. 16).
First use Jan. 1, 1968.

SN 295,550. Multimedia, Inc., Greenville, S.C. Filed Apr. 12, 1968.

The Greenville News

For Newspaper (Int. Cl. 16).
First use Oct. 26, 1920.

SN 295,867. West Virginia Pulp and Paper Company, New York, N.Y. Filed Apr. 17, 1968.

YOU AND I

For Series of Pamphlets (Int. Cl. 16).
First use Oct. 20, 1967.

SN 297,769. Dr. F. Charles Evans, La Jolla, Calif. Filed May 9, 1968.

Penny Wise PRESS

For Newspaper Specializing in Advertising (Int. Cl. 16).
First use May 1, 1968.

SN 298,411. Big Farmer, Inc., Chicago, Ill. Filed May 17, 1968.

BIG FARMER

For Periodical Magazine (Int. Cl. 16).
First use Sept. 15, 1964.

SN 300,163. Alpha Kappa Psi Fraternity, Indianapolis, Ind. Filed June 11, 1968.

THE DIARY OF ALPHA KAPPA PSI

Owner of Reg. No. 520,989.
For Magazine Published Periodically (Int. Cl. 16).
First use November 1928.

SN 302,371. Agence France-Presse, New York, N.Y. Filed July 10, 1968.

"PHOTO A.F.P."

The word "Photo" is disclaimed apart from the mark as shown.
For Photographs for Distribution to News Media (Int. Cl. 16).
First use June 1, 1945.

SN 304,794. Raymond L. Hanson, San Francisco, Calif. Filed Aug. 9, 1968.

THE LEGAL VIEW

For General Advice on Charitable Giving in the Form of a Magazine Column (Int. Cl. 16).
First use on or about Dec. 1, 1960.

SN 306,514. Royal Inns of America, Inc., La Mesa, Calif. Filed Sept. 3, 1968.

THE ROYAL INNTERCOM

For Newsletter, a Periodical Issued Quarterly (Int. Cl. 16).
First use June 1968.

SN 306,535. Edwin K. Williams & Co., Santa Barbara, Calif. Filed Sept. 3, 1968.

EKW SINCE 1938

Owner of Reg. No. 787,188.
For Bookkeeping and Business Maangement Forms (Int. Cl. 16).
First use Aug. 16, 1968.

SN 307,284. Tau Kappa Epsilon Fraternity, Indianapolis, Ind. Filed Sept. 13, 1968.

THE TEKE

For Magazine (Int. Cl. 16).
First use at least as early as Jan. 10, 1908.

SN 309,254. Gibson Greeting Cards, Inc., Cincinnati, Ohio. Filed Oct. 9, 1968.

TISSUE ARTISTRY

For Greeting Cards (Int. Cl. 16).
First use August 1968.

SN 309,921. United Feature Syndicate, Inc., New York, N.Y. Filed Oct. 17, 1968.

EB AND FLO

For Comic Feature for Newspapers and the Like (Int. Cl. 16).
First use at least as early as Jan. 16, 1967.

SN 309,929. The Bureau of National Affairs, Inc., Washington, D.C. Filed Oct. 18, 1968.

USPQ

Owner of Reg. No. 433,751.
For Periodically Issued Reports Containing Legal Decisions and Related Information (Int. Cl. 16).
First use in 1935.

SN 310,535. Billboard Publications, Inc., Cincinnati, Ohio. Filed Oct. 25, 1968.

STEREO

For Magazine (Int. Cl. 16).
First use in or about September 1959.

SN 312,672. Goodway, Inc., Philadelphia, Pa. Filed Nov. 20, 1968.

black beauty

For Magazine Published Periodically (Int. Cl. 16).
First use Oct. 8, 1968.

SN 312,800. Norcross, Inc., New York, N.Y. Filed Nov. 21, 1968.

DAISIES DO TELL

For Greeting Cards (Int. Cl. 16).
First use Oct. 4, 1968.

SN 314,039. Sylvia Zedlar, New York, N.Y. Filed Dec. 10, 1968.

PROJECT VENTURE

For Booklet or Pamphlets (Int. Cl. 16).
First use Dec. 3, 1968.

Class 39 — Clothing

SN 249,001. Hagee (London) Limited, d.b.a. Cecil Gee, London, England. Filed June 27, 1966.

Cecil Gee

Priority claimed under Sec. 44(d) on British Reg. No. 893,840, dated Apr. 28, 1966. "Cecil Gee" is the name of a living individual whose consent is of record.
For Men's and Boys' Suits, Sport Jackets, Trousers, Raincoats, Overcoats, Suede and Leather Jackets and Coats, Shirts, Sweaters, Scarves, Ties, Socks, Shoes, Pajamas, and Dressing Gowns (Int. Cl. 25).

SN 253,015. Coast Empire, Inc., Charlotte, N.C. Filed Aug. 24, 1966.

Cherié

For Ladies' Nylon Hosiery (Int. Cl. 25).
First use August 1953.

SN 284,075. Bangor Punta Operations, Inc., New York, N.Y. Filed June 13, 1968.

OFBDAY

For Shoes (Int. Cl. 25).
First use July 22, 1963.

SN 284,607. Cardinal Shoe Corporation, Lawrence, Mass. Filed Nov. 13, 1967.

CARDINAL

For Women's Shoes Made in Whole or in Part of Leather (Int. Cl. 25).
First use on or before Oct. 1, 1962.

SN 285,306. The Best Manufacturing Corporation, Menlo, Ga. Filed Nov. 21, 1967.

Best

Applicant disclaims the pictorial representation of the goods apart from the stylized representation as shown.
For Industrial Work Gloves (Int. Cl. 25).
First use 1947.

SN 285,726. Charles Dobbs, Ltd., New York, N.Y. Filed Nov. 28, 1967.

Roberto Corsi*

The name "Roberto Corsi" is fanciful.
For Men's Sport Shirts (Int. Cl. 25).
First use Aug. 16, 1967.

SN 286,561. Spartans Industries, Inc., New York, N.Y. Filed Dec. 8, 1967.

SIMPATICO

Owner of Reg. No. 708,123.
For Ladies' Hosiery, Tights, Leotards, Stretch Pants, and Pants (Int. Cl. 25).
First use Mar. 21, 1967.

SN 287,801. Colorado Knitting Mills, Inc., Denver, Colo. Filed Dec. 29, 1967.

RIVA

The Italian word "Riva" means "right bank of a river or seashore" when translated into English.
For Sweaters, Hats, Parkas, Skirts, Slacks, Scarfs, and Gloves (Int. Cl. 25).
First use Aug. 2, 1967.

SN 290,244. Barco of California, Gardena, Calif. Filed Feb. 5, 1968.

BARCO

Owner of Reg. No. 573,305.
For Uniforms, Smocks, Shifts, and Dresses for Professional Women Such as Nurses, Research Workers, Pharmacists, Cosmetologists, and Medical Assistants (Int. Cl. 25).
First use on or about Apr. 28, 1930.

SN 290,756. Sally Shops, Inc., Los Angeles, Calif. Filed Feb. 9, 1968.

BRIDES WORLD

For Brides' Gowns, Bridesmaids' Dresses, Mother of the Bride Dresses, and Veils (Int. Cl. 25).
First use May 1, 1967.

SN 291,268. Jon Michael, Inc., Clinton, N.J. Filed Feb. 16, 1968.

SWEATER SHACK

The word "Sweater" is disclaimed apart from the mark as shown.
For Men's, Women's, and Children's Sweaters, Jackets, Suits, Coats, Slacks, Shirts, Socks, Hats, Lingerie, and Belts (Int. Cl. 25).
First use Feb. 3, 1967.

SN 292,500. Rosenau Brothers, Inc., Philadelphia, Pa. Filed Mar. 5, 1968.

SOIL FOIL

For Soil Release Finish With Which Children's Dresses, Suits, Jumpers, Skirts, Slacks, Playsuits, Shorts, Shirts, Bathing Suits, and Shifts Have Been Treated (Int. Cl. 25).
First use Jan. 3, 1968.

SN 293,580. Renzo Company, Inc., Chicago, Ill. Filed Mar. 18, 1968.

RENZO

For Knitted Infants' and Toddlers' Wear, Comprising: Booty-Sets, Diaper Sets, Dresses, Suits, and Coats, All for Infants; and Suits for Toddlers (Int. Cl. 25).
First use July 1965.

SN 293,581. Renzo Company, Inc., Chicago, Ill. Filed Mar. 18, 1968.

Renzo

For Knitted Infants' and Toddlers' Wear, Comprising: Booty-Sets, Diaper Sets, Dresses, Suits, and Coats, All for Infants; and Suits for Toddlers (Int. Cl. 25).
First use July 1965.

SN 295,313. Comptoir de l'Industrie Textile de France, Paris, France. Filed Apr. 10, 1968.

DJOB

Owner of French Reg. No. 724,314, dated Dec. 15, 1966.
For Aprons, Blouses, Shirtwaists, Shifts, and Dresses (Int. Cl. 25).

SN 297,315. Pandora Knitwear, Inc., New York, N.Y. Filed May 3, 1968.

PANDORA

Owner of Reg. Nos. 501,607, 660,149, and 715,121.
For Sportswear—Namely, Skirts, Slacks, Jumpers, Bermudas, Shorts, Blazers, Jackets, Kilts, Culottes, Dresses, Pant-Dresses, Capri Pants, Cotton Knit Tops, Shifts, Jamaicas, Swimsuits, and Swimsuit Cover-Ups (Int. Cl. 25).
First use October 1959.

SN 299,197. Atlas Underwear Corporation, Piqua, Ohio. Filed May 28, 1968.

SKI SKINS

For Men's Winter Underwear (Int. Cl. 25).
First use May 21, 1968.

SN 299,245. Miami Footwear Corporation, Miami, Fla. Filed May 28, 1968.

JACK ROGERS

The name "Jack Rogers" is fictitious. Owner of Reg. No. 702,289.
For Shoes (Int. Cl. 25).
First use 1951.

SN 299,447. Farmington Industries, Inc., St. Louis, Mo. Filed May 31, 1968.

TUBBINS

MACHINE WASHABLE BABY SHOES OF MIRACLE SANTEL

The words "Machine Washable Baby Shoes" are disclaimed.
For Infants' Shoes (Int. Cl. 25).
First use on or about May 1, 1968.

SN 299,918. Modern Bridal Shoppe, Inc., Philadelphia, Pa. Filed June 7, 1968.

Bridal Council of America

Applicant disclaims the word "Bridal" apart from the mark as shown.
For Brides' and Bridesmaids' Gowns; and Ladies' Formal Dresses (Int. Cl. 25).
First use Apr. 9, 1965.

SN 299,939. Robert Bruce, Inc., Philadelphia, Pa. Filed June 7, 1968.

SPEEDWAY FASHIONS

Applicant disclaims the word "Fashions" apart from the mark as shown.
For Men's and Boys' Knit Shirts, Sweaters, and Jackets (Int. Cl. 25).
First use March 1968.

SN 300,534. McCrory Corporation, New York, N.Y. Filed June 17, 1968.

The Rowes Shop

For Children's Wearing Apparel—Namely, Boys' Ready-Made and Custom Made Coats, Jackets, Suits, Slacks, Shorts, Vests, Neckwear, Rainwear, Swim Wear, Headwear, Footwear, Sweaters, Shirts, Pajamas, Hosiery, and Gloves; Girls' Ready-Made and Custom Made Dresses, Coats, Footwear, Jackets, Shirts, Sweaters, Slacks, Shorts, Vests, Blouses, Kilts, Rainwear, Neckwear, Swim Wear, Hosiery, and Gloves; and Infants' and Toddlers' Ready-Made and Custom Made Clothing in the Categories Listed Above for Both Boys and Girls (Int. Cl. 25).
First use August 1967.

SN 300,561. Cluett, Peabody & Co., Inc., New York, N.Y. Filed June 17, 1968.

JIMI

Owner of Reg. No. 849,478.
For Women's Shirts and Dresses (Int. Cl. 25).
First use June 6, 1968.

SN 301,269. Starlight Trading Inc., New York, N.Y. Filed June 24, 1968.

Golden Warrior

For Men's and Boys' Shirts, Slacks, Raincoats, and Pajamas (Int. Cl. 25).
First use at least as early as Apr. 15, 1968.

SN 302,869. J. P. Stevens & Co., Inc., New York, N.Y. Filed July 16, 1968.

Stevens
Fine Fabrics Made in America Since 1813

Applicant does not claim exclusive right to use of the words "Fine Fabrics," "Made in America," or "Since 1813" apart from the mark as shown. Owner of Reg. Nos. 84,763, 738,296, and others.
For Hosiery (Int. Cl. 25).
First use May 13, 1968.

SN 310,616. S. L. Gilbert Company, Inc., New York, N.Y. Filed Oct. 28, 1968.

Gilbert

Owner of Reg. Nos. 428,330, 826,923, and others.
For Men's Hose (Int. Cl. 25).
First use Dec. 5, 1945.

SN 311,448. Seasport, Inc., Uncasville, Conn. Filed Nov. 6, 1968.

SEASPORT

For Tennis Apparel, Beachwear, Gymwear, Jackets, Sweat Shirts, Knit Shirts, and Sweaters (Int. Cl. 25).
First use Aug. 19, 1968.

SN 312,154. Haymaker Sports, Inc., New York, N.Y. Filed Nov. 14, 1968.

RAINSHIRT

Owner of Reg. No. 740,423.
For Ladies' Long Waterproof Pull-Over in the Nature of an Outer Garment Simulating a Shirt but Extending Close to the Wearer's Knees (Int. Cl. 25).
First use July 10, 1959.

Class 42—Knitted, Netted, and Textile Fabrics, and Substitutes Therefor

SN 294,529. F. Schumacher & Co., New York, N.Y. Filed Mar. 29, 1968.

CHROMASCOPE

For Sample Books of Textile Fabrics (Int. Cl. 24).
First use November 1955.

SN 297,103. Teenform, Inc., New York, N.Y. Filed May 1, 1968.

LOUNGERIE

For Fabrics in the Piece of Cotton, Rayon, Spandex, and Synthetic Fibers for Making Into Lingerie, Sleepwear, Foundation Garments, and the Like (Int. Cl. 24).
First use Mar. 26, 1968.

SN 297,177. Degen Fabrics Corp., New York, N.Y. Filed May 2, 1968.

Poli*Star

For Textile Fabrics of Cotton, Silk, and Synthetic Fibres (Int. Cl. 24).
First use Mar. 22, 1968.

SN 298,002. Henry Glass & Co., New York, N.Y. Filed May 13, 1968.

HONEYCORD

For Textile Fabrics in the Piece of Cotton, Wool, Silk, and Synthetic Fibres, or Blends of Natural Fibres and Synthetic Fibres or Combinations Thereof for Making Women's Sportswear, Dresses and Blouses, and for Upholstery and Drapery Purposes (Int. Cl. 24).
First use Apr. 30, 1968.

SN 309,168. French River Mills, Inc., New York, N.Y. Filed Oct. 8, 1968.

FRENCH RIVER MILLS

No claim is made to the word "Mills" apart from the mark as shown.
For Piece Goods of Natural and Synthetic Fibers Particularly Adapted for Use in Making Articles of Wearing Apparel for Men and Women, Particularly Overcoats, Jackets, Trousers, Skirts, and Suits (Int. Cl. 24).
First use 1957.

SN 311,734. E. T. Barwick Industries, Inc., Chamblee, Ga. Filed Nov. 12, 1968.

ALPHA

For Carpets (Int. Cl. 27).
First use Dec. 4, 1967.

SN 311,735. E. T. Barwick Industries, Inc., Chamblee, Ga. Filed Nov. 12, 1968.

THREE CROWNS

For Carpets (Int. Cl. 27).
First use May 19, 1966.

SN 311,736. E. T. Barwick Industries, Inc., Chamblee, Ga. Filed Nov. 12, 1968.

DYNATUFT

For Carpets (Int. Cl. 27).
First use Dec. 28, 1967.

SN 311,738. E. T. Barwick Industries, Inc., Chamblee, Ga. Filed Nov. 12, 1968.

AROUND TOWN

For Carpets (Int. Cl. 27).
First use Apr. 28, 1966.

SN 311,740. E. T. Barwick Industries, Inc., Chamblee, Ga. Filed Nov. 12, 1968.

CAFE

For Carpets (Int. Cl. 27).
First use Nov. 22, 1967.

SN 311,741. E. T. Barwick Industries, Inc., Chamblee, Ga. Filed Nov. 12, 1968.

FABREGE

For Carpets (Int. Cl. 27).
First use Dec. 29, 1967.

SN 311,744. E. T. Barwick Industries, Inc., Chamblee, Ga. Filed Nov. 12, 1968.

HIGH REGARD

For Carpets (Int. Cl. 27).
First use May 5, 1968.

SN 311,747. E. T. Barwick Industries, Inc., Chamblee, Ga. Filed Nov. 12, 1968.

PENFIELD

For Carpets (Int. Cl. 27).
First use Sept. 15, 1964.

SN 311,748. E. T. Barwick Industries, Inc., Chamblee, Ga. Filed Nov. 12, 1968.

ORAN

For Carpets (Int. Cl. 27).
First use June 5, 1968.

SN 311,753. E. T. Barwick Industries, Inc., Chamblee, Ga. Filed Nov. 12, 1968.

VENETTA

For Carpets (Int. Cl. 27).
First use Oct. 19, 1966.

SN 311,760. E. T. Barwick Industries, Inc., Chamblee, Ga. Filed Nov. 12, 1968.

FASHION VIEW

For Carpets (Int. Cl. 27).
First use Nov. 3, 1966.

SN 311,762. E. T. Barwick Industries, Inc., Chamblee, Ga. Filed Nov. 12, 1968.

POLYPOINT

For Carpets (Int. Cl. 27).
First use Oct. 27, 1965.

SN 311,763. E. T. Barwick Industries, Inc., Chamblee, Ga. Filed Nov. 12, 1968.

BOCA RATON

For Carpets (Int. Cl. 27).
First use Dec. 7, 1966.

SN 312,091. E. T. Barwick Industries, Inc., Chamblee, Ga. Filed Nov. 14, 1968.

MARQUISETTE

For Carpets (Int. Cl. 27).
First use Jan. 25, 1967.

SN 312,093. E. T. Barwick Industries, Inc., Chamblee, Ga. Filed Nov. 14, 1968.

BOURBON STREET

For Carpets (Int. Cl. 27).
First use Nov. 22, 1966.

Class 44—Dental, Medical, and Surgical Appliances

SN 272,996. Bentley Laboratories, Santa Ana, Calif. Filed June 5, 1967.

TEMPTROL

For Disposable Blood Oxygenator (Int. Cl. 10).
First use May 16, 1966.

SN 279,872. Sterile Plastics Corporation, Buffalo, N.Y. Filed Sept. 7, 1967.



The drawing is lined for the color blue, but no claim is made to color as part of the mark. The words "Sterile Plastics" are disclaimed apart from the mark as shown.
For Disposable Hospital Tray-Packs, Urological Collection Units, Prep Razor Tray-Packs, Urethral Catheterization Tray-Packs, Small Vein Infusion Sets, Feeding Tubes, Suture Removal Tray-Packs, Colon Tubes and Flush Tubes, Urinary Drainage Tubes, Solution Administration and Transfer Sets, and Custom Procedure Tray-Packs and Devices (Int. Cl. 10).
First use June 12, 1967.

SN 283,826. Sunbeam Corporation, Chicago, Ill. Filed Oct. 31, 1967.

SUNBEAM

Owner of Reg. Nos. 665,821 and 771,963.
For Portable Oral Spray Apparatus Utilizing a Pulsed Jet of Water for Treatment of Teeth and Gums (Int. Cl. 10).
First use Oct. 5, 1967.

SN 285,275. Verlam Distributors, Inc., d.b.a. Jack Frost Laboratories, Fort Lauderdale, Fla. Filed Nov. 20, 1967.



For Instant Heat Pack Primarily for Medical Purposes (Int. Cl. 5).
First use on or about Feb. 1, 1963.

SN 286,242. Becton, Dickinson and Company, East Rutherford, N.J. Filed Dec. 5, 1967.

CLEAREX

For Medical Grade Vinyl Tubing (Int. Cl. 10).
First use Mar. 14, 1964.

SN 286,498. Becton, Dickinson and Company, East Rutherford, N.J. Filed Dec. 8, 1967.

ACE

Owner of Reg. Nos. 507,884, 731,906, and others.
For Limb Holders for Immobilized Patients in the Nature of Padded Straps (Int. Cl. 10).
First use Sept. 8, 1967.

SN 287,066. Clifford L. Hutson, d.b.a. Glenco Research Company, Glendale, Calif. Filed Dec. 18, 1967.

VENT-O-VAC

Owner of Reg. No. 750,931.
For Dental Instruments—Namely, Disposable Oral Evacuator Tips and Sleeves (Int. Cl. 10).
First use Oct. 14, 1967.

SN 290,039. Willy Rüsch, Rommelshausen, Germany. Filed Jan. 31, 1968.



Priority claimed under Sec. 44(d) on German application filed Aug. 3, 1967; Reg. No. 839,856, dated Dec. 5, 1967.
For Elastic Medical Instruments Made of Rubber—Namely, Sleeve-Protecting Cuffs, Trusses, Feces-Retaining Devices, Damming or Retaining Bandages, Urinals, Ice Bags, Air Cushions, Emesis Basins, Water Cushions, Ball Syringes, Pressure Bulbs, Air Douches; Catheters (Int. Cl. 10).

SN 294,887. Helena Rubinstein, Inc., New York, N.Y. Filed Apr. 4, 1968.

PAT-A-GLOW

For Electro-Vibrator for the Skin (Int. Cl. 10).
First use Jan. 15, 1968.

SN 296,370. Pennsalt Chemicals Corporation, Philadelphia, Pa. Filed Apr. 5, 1968.

CONVAIR

For Mobile Dental Unit (Int. Cl. 10).
First use Oct. 13, 1967.

SN 298,942. Keenan Industries Limited, Owen Sound, Ontario, Canada. Filed May 23, 1968.

KAYBEE

For Tooth Picks (Int. Cl. 21).
First use at least Feb. 10, 1916; in commerce Mar. 15, 1968.

SN 301,906. Becton, Dickinson and Company, East Rutherford, N.J. Filed July 3, 1968.

GRAVLEE JET WASHER

"Gravlee" identifies "Dr. Leland C. Gravlee," a living individual whose consent is of record. Applicant disclaims the term "Washer" apart from the mark as shown.
For Intra-Uterine Washing Device for Endometrial Cytology (Int. Cl. 10).
First use on or about Oct. 26, 1964.

SN 303,510. Daron Products, Inc., Margate City, N.J. Filed July 24, 1968.

DAPAWAY

For Disposable Dappen and Mixing Dish Insert (Int. Cl. 5).
First use Feb. 20, 1968.

SN 305,423. Eagle Druggists Supply Co., Inc., New York, N.Y. Filed Aug. 19, 1968.

AQUA-JELL

Owner of Reg. No. 631,864.
For Teethers and Teething Rings (Int. Cl. 10).
First use July 21, 1964.

SN 306,266. National Alloy Development Corporation, New York, N.Y. Filed Aug. 29, 1968.

DIAM-A-STONE

For Dental Grinding Tools and Parts (Int. Cl. 10).
First use July 6, 1966.

SN 306,427. The Collison Surgical Engineering Company, d.b.a. Collison, Baltimore, Md. Filed Sept. 3, 1968.



The words "Surgical Products" and the representation of a surgical screw are disclaimed apart from the mark as shown. Owner of Reg. No. 607,779.
For Surgical Screws, Bone Plates, Surgical Application Instruments, Artificial Femoral Heads, Bone Nails, Bone Staples, Bone Drills, Countersinks, Wrenches, Nail and Staple Driver Extractors, Tendon Strippers, Probes, Adjusting Washers, Reamers, and Tool Racks (Int. Cl. 10).
First use Feb. 7, 1951.

SN 306,444. Ortho International Services, Inc., Wilmington, Del. Filed Sept. 3, 1968.

OIS

For Metal and Plastic Components and Adhesives for Use in Orthodontic and General Dental Appliances, and for Use in the Fabrication of Such Appliances (Int. Cl. 5).
First use April 1966.

SN 310,593. Scientific Research Development Co., Salt Lake City, Utah. Filed Oct. 25, 1968.

OLYMPUS ORAL CLEAN

Applicant disclaims the words "Oral" and "Clean" apart from the mark as shown. Owner of Reg. No. 804,790.
For Water-Pulsed Oral Cleansing Device (Int. Cl. 10).
First use Sept. 19, 1968.

SN 311,866. The Grand Union Company, East Paterson, N.J. Filed Nov. 12, 1968.

GRAND UNION

Owner of Reg. Nos. 422,568, 775,955, and 817,567.
For Cotton Swabs (Int. Cl. 5).
First use Oct. 3, 1968.

SN 312,054. Medic Made, Inc., Minneapolis, Minn. Filed Nov. 13, 1968.

POLY-TRACT

For Surgical Retractors for Retracting a Portion of the Body Adjacent a Surgical Incision (Int. Cl. 10).
First use Apr. 23, 1968.

SN 312,652. Beiersdorf AG, Hamburg, Germany. Filed Nov. 20, 1968.

HANSAPLAST

For Wound Dressings (Int. Cl. 5).
First use Oct. 31, 1928; in commerce Oct. 31, 1928.

SN 312,653. Beiersdorf AG, Hamburg, Germany. Filed Nov. 20, 1968.

HANDYPLAST

For Wound Dressings (Int. Cl. 5).
First use Sept. 1, 1968; in commerce Sept. 1, 1968.

SN 312,749. CMP Industries, Inc., Albany, N.Y. Filed Nov. 21, 1968.

TICON

Owner of Reg. Nos. 314,859, 731,899, and others.
For Alloy for Dental Crown and Bridge Work (Int. Cl. 5).
First use Mar. 3, 1960.

SN 312,750. CMP Industries, Inc., Albany, N.Y. Filed Nov. 21, 1968.

PRONTO

For Pourable Acrylic Resin Composition Used in Making Dentures (Int. Cl. 5).
First use August 1962.

Class 46—Foods and Ingredients of Foods

SN 270,082. Quincy Produce Co., Inc., Quincy, Wash. Filed Apr. 26, 1967.



The drawing is lined for the colors red and yellow, however, no claim is made to color.
For Fresh Potatoes (Int. Cl. 31).
First use June 1955.

SN 271,666. Mary Elizabeth Vorisek, Miami Springs, Fla. Filed May 16, 1967.

SEE SALT

Applicant makes no claim to exclusive use of the word "Salt" apart from the mark shown.
For Table Salt (Int. Cl. 30).
First use Nov. 15, 1964.

SN 274,483. The Almar Packing Company, New Haven, Conn. Filed June 22, 1967.

ALMAR'S

For Frozen and Refrigerated Roast Beef, Corned Beef, and Pastrami (Int. Cl. 29).
First use July 1, 1957.

SN 278,202. Ed. Messmer, Frankfurt am Main, Germany. Filed Aug. 14, 1967.

MESSMER

Owner of U.S. Reg. No. 726,077.
For Tea, Herb Tea; Products of Tea and Herb Tea—Namely, Prepared Mixtures of Tea and Herb Tea Packed in Immersible Bags Made of Tin and Plastic, All Above for Nutrition, Consumption, and Dietetic Purposes (Int. Cl. 30).
First use 1892; in commerce 1959.

SN 280,932. Cache Valley Dairy Association, Smithfield, Utah. Filed Sept. 22, 1967.

CACHE VALLEY

For Natural Swiss Cheese, Cheddar Cheese, Monterey Jack Cheese, and Butter (Int. Cl. 29).
First use Jan. 2, 1947.

SN 282,547. Clover Farm Stores Corporation, Cleveland, Ohio. Filed Oct. 16, 1967.

CLOVER FARM

Owner of Reg. Nos. 170,847, 666,114, and others.
For Fresh, Frozen and Smoked Meats; Fresh and Frozen Dressed Poultry; Fresh, Frozen and Canned Fish and Canned Meats (Int. Cl. 29).
First use January 1953.

SN 283,761. Bemis Enterprises, Incorporated, College Park, Md. Filed Oct. 31, 1967.



For Processed Meat Products (Int. Cl. 29).
First use Oct. 17, 1967.

SN 283,762. Bemis Enterprises, Incorporated, College Park, Md. Filed Oct. 31, 1967.

PRIME RIBBON

For Processed Meat Products (Int. Cl. 29).
First use Oct. 17, 1967.

SN 284,291. Burger King Restaurants, Inc., Miami, Fla. Filed Nov. 7, 1967.

WHALER

For Sandwiches (Int. Cl. 29).
First use in or about February 1967.

SN 285,116. Corn Products Company, New York, N.Y. Filed Nov. 17, 1967.

TASTY FRY

Applicant disclaims the word "Tasty" apart from the mark as shown. Owner of Reg. No. 771,980.
For Seasoned Coating Mix for Use on Poultry, Meats, and Seafood (Int. Cl. 30).
First use at least as early as Dec. 22, 1966.

SN 286,908. Creative Foods International, Universal City, Calif. Filed Dec. 14, 1967.

CREATIVE

For Combination Salt and Pepper Food Seasoning (Int. Cl. 30).
First use Aug. 11, 1967.

SN 287,295. H. P. Hood & Sons, Inc., d.b.a. H. P. Hood & Sons, Boston, Mass. Filed Dec. 20, 1967.

COFFEE GLO

For Non-Dairy Coffee Whitener (Int. Cl. 29).
First use Feb. 14, 1966.
Subj. to Intf. with SN 296,305.

SN 287,970. Target Stores, Inc., Minneapolis, Minn. Filed Jan. 2, 1968.

TARGET

Owner of Reg. Nos. 845,193 and 845,615.
For Fluid Milk, Fresh Eggs, Butter, Cottage Cheese, Prepackaged Fresh Fruit and Vegetables, Peanut Butter, Desiccated Coconut, Prepackaged Fresh Fowl and Meats, Fruit Jams and Preserves (Int. Cls. 29 and 31).
First use on or about Oct. 13, 1966.

SN 289,584. General Foods Corporation, White Plains, N.Y. Filed Jan. 25, 1968.

CHICKEN BAKE

The word "Chicken" is disclaimed apart from the mark as a whole.
For Seasoned Coating Mix for Chicken (Int. Cl. 30).
First use Dec. 28, 1967.

SN 289,881. Cumberland Packing Corp., Brooklyn, N.Y. Filed Jan. 30, 1968.

NU-SALT

Owner of Reg. No. 744,268.
For Sodium Free Salt Substitute (Int. Cl. 5).
First use Oct. 20, 1961.

SN 294,035. The Magic Pan Creperie, San Francisco, Calif. Filed Mar. 25, 1968.

THE MAGIC PAN

For Crepe Mixes (Int. Cl. 30).
First use on or about July 1, 1965.

SN 294,285. D. J. Introvigne & Son, Inc., West Springfield, Mass. Filed Mar. 27, 1968.



The mark does not identify or refer to any particular individual, living or dead.
For Grated Cheese and Seasoned Bread Crumbs (Int. Cls. 29 and 30).
First use Mar. 11, 1968.

SN 294,970. Patco Products, Inc., Moonachie, N.J. Filed Apr. 4, 1968.

FRIENDLY

For Wild Bird Food (Int. Cl. 31).
First use Jan. 4, 1955.

SN 295,049. National Biscuit Company, New York, N.Y. Filed Apr. 5, 1968.

MR. CINNA MON

Applicant disclaims the words "Cinna Mon" apart from the mark as shown.
For Breakfast Cereal (Int. Cl. 30).
First use Mar. 11, 1968.

SN 295,783. Mrs. Weinberg's Food Products Corp., Bronx, N.Y. Filed Apr. 16, 1968.

MRS. WEINBERG'S

Owner of Reg. No. 746,011.
For Frozen, Prepared Chopped Liver (Int. Cl. 29).
First use January 1956.

SN 295,858. Arthur A. Stilwell & Co., New York, N.Y. Filed Apr. 17, 1968.

STILWELL

For Food Flavorings and Food Beverage Flavorings in Liquid, Solid, and Powder Form (Int. Cl. 30).
First use 1932.

SN 295,984. Watson's Quality Turkey Products, Inc., Blackwood, N.J. Filed Apr. 18, 1968.

GOLD 'N' FANCY

No claim is made to the word "Fancy" apart from the mark as shown.
For Cooked and Frozen Turkey (Int. Cl. 29).
First use during September 1967.

SN 296,009. Continental Coffee Company, Chicago, Ill. Filed Apr. 19, 1968.

JELLITE

For Gel-Type Dessert Containing Fruit (Int. Cl. 30).
First use on or about Mar. 27, 1968.

SN 296,029. The Larsen Company, Green Bay, Wis. Filed Apr. 19, 1968.

Freshlike

Owner of Reg. Nos. 583,802 and 700,259.
For Canned and Frozen Vegetables (Int. Cl. 29).
First use Mar. 25, 1968; May 9, 1934, in a different form.

SN 296,130. El Capitan Products, Inc., Lancaster, Pa. Filed Apr. 22, 1968.

EL CAPITAN

Owner of Reg. Nos. 107,062 and 643,340.
For Coffee, Bread Crumbs, and Roasted Peanuts (Int. Cls. 29 and 30).
First use Nov. 9, 1915.

SN 296,569. James W. Paisley, d.b.a. Paisley Farm, Mentor, Ohio. Filed Apr. 25, 1968.

OPEN KETTLE

For Pickled Fruits and Vegetables, Jams, Jellies, and Marmalades, Soups, Spanish Rice, Macaroni and Cheese, Noodles and Tuna (Int. Cl. 29).
First use Apr. 3, 1968.

SN 297,514. Allied Mills, Inc., Chicago, Ill. Filed May 7, 1968.

INTER-PHASE LAYER

The word "Layer" is disclaimed.
For Poultry Feed (Int. Cl. 31).
First use Apr. 18, 1968.

SN 297,588. Ore-Ida Foods, Inc., Ontario, Oreg. Filed May 7, 1968.

TATER TIME

Applicant disclaims the word "Tater" apart from the mark as shown. Owner of Reg. Nos. 668,762, 760,083, and others.
For Frozen French Fries (Int. Cl. 29).
First use Feb. 9, 1968.

SN 297,870. Maryland Chicken Processors, Inc., Snow Hill, Md. Filed May 10, 1968.

BUDDY BOY

Owner of Reg. No. 771,993.
For Poultry Products—Namely, Fresh and Frozen Whole Young Chickens, Chicken Parts, Roasters, and Turkeys, and Fresh Eggs (Int. Cl. 29).
First use on or about May 13, 1963.

SN 298,309. Atalanta Trading Corp., New York, N.Y. Filed May 16, 1968.

CONGA

Owner of Reg. No. 553,430.
For Meat Products—Namely, Cooked Ham, Luncheon Meat, Pork Shoulder Picnic, and Salami Sausage (Int. Cl. 29).
First use July 27, 1948.

SN 299,506. Usen Products Company, Woburn, Mass. Filed May 31, 1968.

WHOL-E-MACKEREL

Applicant disclaims the word "Mackerel" apart from the mark as shown.
For Cat Food (Int. Cl. 31).
First use May 16, 1968.

SN 299,507. Usen Products Company, Woburn, Mass. Filed May 31, 1968.

à la cat

Applicant disclaims the word "Cat" apart from the mark as shown.
For Cat Food (Int. Cl. 31).
First use Nov. 9, 1964.

SN 299,508. Usen Products Company, Woburn, Mass. Filed May 31, 1968.

HOLY MACKEREL

Applicant disclaims the word "Mackerel" apart from the mark as shown.
For Cat Food (Int. Cl. 31).
First use May 16, 1968.

SN 299,927. American Home Products Corporation, New York, N.Y. Filed June 7, 1968.

BEEFAROLI

Owner of Reg. Nos. 640,120, 813,555, and others.
For Canned Combination of Meatballs and Noodles in Sauce (Int. Cl. 30).
First use May 24, 1968.

SN 299,928. American Home Products Corporation, New York, N.Y. Filed June 7, 1968.

BURGERONI

Owner of Reg. Nos. 640,120, 813,555, and others.
For Canned Combination of Macaroni and Meat (Int. Cl. 30).
First use May 24, 1968.

SN 299,929. American Home Products Corporation, New York, N.Y. Filed June 7, 1968.

HOT DOGARONI

Owner of Reg. Nos. 640,120, 813,555, and others.
For Canned Combination of Frankfurters and Spaghetti in Sauce (Int. Cl. 30).
First use May 24, 1968.

SN 299,933. American Home Products Corporation, New York, N.Y. Filed June 7, 1968.

SAUSARONI

Owner of Reg. Nos. 640,120, 813,555, and others.
For Canned Combination of Beef and Spaghetti in Sauce (Int. Cl. 30).
First use May 24, 1968.

SN 299,934. American Home Products Corporation, New York, N.Y. Filed June 7, 1968.

TUNA-A-GETTI

Owner of Reg. Nos. 771,565, 836,389, and 859,036.
For Canned Combination of Tuna Fish and Spaghetti in Sauce (Int. Cl. 30).
First use May 24, 1968.

SN 299,973. Frito-Lay, Inc., Dallas, Tex. Filed June 7, 1968.

INTERMISSION

For Snack Foods—Namely, Popped Corn, Potato Chips, and Corn Chips (Int. Cls. 29 and 30).
First use May 22, 1967.

SN 301,039. Chock Full O' Nuts Corporation, New York, N.Y. Filed June 21, 1968.

CHOCK FULL O' NUTS

The word "Nuts" is disclaimed apart from the mark as shown. Owner of Reg. Nos. 580,454 and 784,094.
For Shelled Nuts, Plain, Salted, Candy-Covered, and Unshelled Nuts (Int. Cls. 29, 30 and 31).
First use December 1922.

SN 301,187. Birdsey Flour Mills, Macon, Ga. Filed June 24, 1968.

MONEY SAVER

For Flour and Feeds for Poultry, Swine, Cattle, Horses, Rabbits, and Dogs (Int. Cls. 30 and 31).
First use September 1922.

SN 301,232. Italian Pantry, Inc., Lebanon, Pa. Filed June 24, 1968.

ITALIAN PANTRY

Applicant disclaims the word "Italian" except as shown in the mark and retains all common law rights to the use of said word.
For Alimentary Pastes (Int. Cl. 30).
First use 1963.

SN 301,702. Burger Family, Inc., Santa Monica, Calif. Filed July 1, 1968.

THE BURGER FAMILY

No claim is made to the word "Burger" apart from the mark as shown. The drawing is lined for the color orange. Owner of Reg. No. 741,366.
For Sandwiches (Int. Cl. 29).
First use on or before Mar. 21, 1968.

SN 305,583. Winn-Dixie Stores, Inc., Jacksonville, Fla. Filed Aug. 20, 1968.

THRIFTY MAID

Owner of Reg. Nos. 626,317, 767,937, and others.
For Sugar and Canned Vegetables (Int. Cls. 29 and 30).
First use Aug. 26, 1953.

SN 305,791. The Quaker Oats Company, Chicago, Ill. Filed Aug. 23, 1968.

PUSS'n BOOTS

VARIETY DINNER

Applicant disclaims the words "Variety Dinner" separate and apart from the mark shown. Owner of Reg. Nos. 322,305, 760,112, and others.
For Cat Food (Int. Cl. 31).
First use June 30, 1968.

SN 306,103. W. J. Deal, d.b.a. W. J. Deal Ranch, Mendota, Calif. Filed Aug. 28, 1968.

MENDOTA CHAMP

Without waiver of its common law rights, applicant disclaims the word "Mendota" apart from the association shown. Owner of Reg. No. 764,380.
For Fresh Melons (Int. Cl. 31).
First use July 16, 1968.

SN 307,810. Ralston Purina Company, St. Louis, Mo. Filed Sept. 20, 1968.

PURINA TENDER VITTLES

The word "Tender" is disclaimed apart from the mark as shown, but no common law rights are waived thereto. Owner of Reg. Nos. 61,064, 848,406, and others.
For Canned Cat Food (Int. Cl. 31).
First use July 24, 1968.

SN 308,175. Richard I. Topus, Great Neck, N.Y. Filed Sept. 23, 1968.

DIET KITCHENS

For Meatless Spaghetti Sauce (Int. Cl. 30).
First use at least as early as Sept. 10, 1968.

SN 308,417. H. E. Butt Grocery Company, d.b.a. H.E.B. Food Stores, Corpus Christi, Tex. Filed Sept. 30, 1968.



Owner of Reg. No. 807,336.
For Ice Cream; Sherbet; and Frozen Bakery Goods—Namely, Pies, Cakes, Bread, Danish Pastries, French Pastries, Pie Shells, and Donuts (Int. Cl. 30).
First use Aug. 5, 1968.

SN 308,656. Golden Emblem, Inc., Fort Wayne, Ind. Filed Oct. 2, 1968.



The drawing is lined for the color yellow.
For Potato Chips (Int. Cl. 29).
First use July 1, 1957.

SN 308,955. Kahan & Lessin Co., d.b.a. Natural Brands Co., Los Angeles, Calif. Filed Oct. 7, 1968.



Applicant disclaims the words "Natural Foods" apart from the mark as shown. Owner of Reg. No. 756,990.
For Honey; Nut Butters; Cooking and Salad Oils; Macaroni; Spaghetti; Noodles; Nuts; Nut Meats; Sunflower Seeds for Food Purposes; Pumpkin Seeds for Food Purposes; Dried Fruits; Raisins; Dried Figs; and Sea Salt (Int. Cls. 29 and 30).
First use Aug. 10, 1962.

SN 309,341. R. J. Reynolds Foods, Inc., New York, N.Y. Filed Oct. 10, 1968.

DIGGITY-DIP

For Snack Foods—Namely, Corn Chips (Int. Cl. 30).
First use July 2, 1968.

SN 312,863. Tee-Pee Olives, Inc., New York, N.Y. Filed Nov. 22, 1968.

TEE-PEE

For Olives (Int. Cl. 29).
First use June 4, 1968.

SN 313,150. Potter-McCune Company, McKeesport, Pa. Filed Nov. 27, 1968.

MASTER BAKER

Owner of Reg. Nos. 637,805 and 841,331.
For Bread and Buns (Int. Cl. 30).
First use Nov. 12, 1968.

Class 48—Malt Beverages and Liquors

SN 299,475. Olympia Brewing Company, Olympia, Wash. Filed May 31, 1968.

SOF-TWIST

For Closure Which Is Marketed as a Component of a Bottle of Beer (Int .Cl. 20).
First use May 16, 1968.

Class 49—Distilled Alcoholic Liquors

SN 301,621. Haas Brothers, d.b.a. Rocky Springs Company, San Francisco, Calif. Filed June 28, 1968.

LUDMILA

For Vodka (Int. Cl. 33).
First use Sept. 1, 1960.

Class 50—Merchandise Not Otherwise Classified

SN 268,875. Elastic Stop Nut Corporation of America, Union, N.J. Filed Apr. 11, 1967.

REFLEXCEL

For Plastic Reflex Light Reflectors (Int. Cl. 11).
First use Mar. 30, 1967.

SN 274,003. The S. D. Syndicate Limited, London, England. Filed June 15, 1967.

NEG-JETPLATE

Owner of U.S. Reg. No. 691,805.
For Negative Presensitized Zinc Sheets for Use in Engraving (Int. Cl. 16).
First use May 1966; in commerce April 1967.

SN 287,638. Display Manufacturers Incorporated, Philadelphia, Pa. Filed Dec. 27, 1967.

DMI

For Three-Dimensional Advertising Displays, Heavy Duty Advertising Displays; Point of Sale Advertising Pieces, and Advertising Exhibits (Int. Cl. 20).
First use Dec. 14, 1967.

SN 294,270. IDL, Incorporated, Pittsburgh, Pa. Filed Mar. 27, 1968.



For Customer-Oriented Line of Advertising Displays of a Self-Supporting Type Making Use of Card Stock (Int. Cl. 20).
First use Apr. 15, 1967.

SN 298,452. Robert A. Kramer, d.b.a. Kramer Designs, Royal Oak, Mich. Filed May 17, 1968.

SPECTRABOARD

For Plastic Surfaced Wall Boards for Imprinting, Drawing, Writing, or Painting Thereon With Temporary and/or Permanent Ink Using Felt Marking Pens, for Use as Bulletin Boards, Art Boards, Writing Boards, and as Motion Picture or Slide Projection Screens (Int. Cl. 20).
First use Oct. 14, 1967.

SN 298,716. Fleming-Potter Company, Inc., Peoria, Ill. Filed May 21, 1968.



The words "Capsules and Closures" are disclaimed apart from the mark as shown.
For Secondary Closures Including Capsules and Wire Hoods for Containers, and Primary Closures Including Caps, Corks, Plastic Corks, and Bottle Stoppers (Int. Cl. 20).
First use Apr. 1, 1968.

SN 298,718. Fleming-Potter Company, Inc., Peoria, Ill. Filed May 21, 1968.

CLOSEAL

For Secondary Closures Including Capsules and Wire Hoods for Containers, and Primary Closures Including Caps, Corks, Plastic Corks, and Bottle Stoppers (Int. Cl. 20).
First use Apr. 1, 1968.

SN 301,902. Arnel Industries, Inc., Addison, Ill. Filed July 3, 1968.

SNAPS

For Valve Protecting Caps for Aerosol Type Containers (Int. Cl. 20).
First use on or about May 17, 1968.

SN 305,265. Zapata Industries, Inc., New York, N.Y. Filed Aug. 15, 1968.

TWISTER

For Enclosure Caps for Containers, Such as Bottles and Jars (Int. Cl. 20).
First use on or about May 2, 1968.

SN 307,870. Transign, Inc., Pontiac, Mich. Filed Sept. 20, 1968.

TRANSIGN

For Bus and Railroad Car Destination Signs (Int. Cl. 20).
First use April 1967.

SN 308,664. Tackmer Corporation, Palo Alto, Calif. Filed Oct. 2, 1968.



For Self-Adhesive Display Panel (Int. Cl. 20).
First use May 9, 1968; Oct. 16, 1967, in another form.

Class 51—Cosmetics and Toilet Preparations

SN 276,007. Dorian Fragrances, Ltd., New York, N.Y. Filed July 14, 1967.

EXQUISE

For Perfumes (Int. Cl. 3).
First use Apr. 5, 1967.

SN 283,559. Phillips-Van Heusen Corporation, d.b.a. Van Heusen, New York, N.Y. Filed Oct. 27, 1967.

PASSPORT 360

Owner of Reg. No. 783,686.
For Personal Deodorant, Before and After Shave Lotions, Foam, Cologne, Toilet Water, and Perfume (Int. Cls. 3 and 5).
First use May 25, 1966.

SN 297,191. Richard Hudnut, Morris Plains, N.J. Filed May 2, 1968.

FACE ART

Applicant disclaims the word "Face" apart from the mark as shown.
For Fluid Foundation Make-Up (Int. Cl. 3).
First use Apr. 26, 1968.

SN 297,796. Pat Palmer Products Corp., New York, N.Y. Filed May 9, 1968.

SEA CREAM

The word "Cream" is disclaimed apart from the mark as shown.
For Face Cream (Int. Cl. 3).
First use May 6, 1968.

SN 300,770. Foremost-McKesson, Inc., d.b.a. Norcliff Laboratories, New York, N.Y. Filed June 17, 1968.

ORAWHITE

Owner of Reg. Nos. 246,008, 765,643, and others.
For Denture Cleanser (Int. Cl. 3).
First use at least as early as June 11, 1968.

SN 304,858. El Ruth Cosmetics and Products, Inc., Reno, Nev. Filed Aug. 12, 1968.



For Facial Cleansing Creams, Freshener Lotions, Moisturizer, Make-Up Base Lotion, Rouge, Cosmetic Blemish Preparation, Eye Shadow, Facial Powder, Eyebrow Pencil, Mascara, and Lipstick (Int. Cl. 3).
First use Feb. 26, 1968.

SN 310,198. Avon Products, Inc., New York, N.Y. Filed Oct. 22, 1968.

BRONZE AND BEAUTIFUL

Applicant disclaims the word "Bronze" apart from the mark as shown.
For Bronzer and Foundation Makeup (Int. Cl. 3).
First use Sept. 12, 1968.
Subj. to Intf. with SN 307,490.

SN 310,389. Colgate-Palmolive Company, New York, N.Y. Filed Oct. 24, 1968.

STRONGER THAN

For Mouthwash (Int. Cl. 3).
First use June 26, 1968.

SN 314,029. Chas. Pfizer & Co., Inc., New York, N.Y. Filed Dec. 10, 1968.

THAT CERTAIN FEELING

For Skin Cream (Int. Cl. 3).
First use Oct. 4, 1968.

SN 314,032. Chas. Pfizer & Co., Inc., New York, N.Y. Filed Dec. 10, 1968.

REAL SUN

For Suntanning Preparation (Int. Cl. 3).
First use Oct. 4, 1968.

Class 52—Detergents and Soaps

SN 311,773. Colgate-Palmolive Company, New York, N.Y. Filed Nov. 12, 1968.

HELP

Owner of Reg. Nos. 650,240, 439,859, and 798,481.
For Hair Shampoo (Int. Cl. 3).
First use Oct. 24, 1968.

SN 311,774. Colgate-Palmolive Company, New York, N.Y. Filed Nov. 12, 1968.

HE'S YOURS

For Hair Shampoo (Int. Cl. 3).
First use Oct. 24, 1968.

SN 311,775. Colgate-Palmolive Company, New York, N.Y. Filed Nov. 12, 1968.

SABAR

For Toilet Soap (Int. Cl. 3).
First use Oct. 22, 1968.

SN 311,878. Colgate-Palmolive Company, New York, N.Y. Filed Nov. 13, 1968.

P-300

For Toilet Soap (Int. Cl. 3).
First use Oct. 22, 1968.

SN 312,389. Lanvin-Charles of the Ritz, Inc., New York, N.Y. Filed Nov. 18, 1968.

RITUAL

Owner of Reg. Nos. 423,853 and 822,548.
For Bath Soap (Int. Cl. 3).
First use Oct. 15, 1968.

SERVICE MARKS

Class 101—Advertising and Business

SN 256,289. Martin H. Levitt, Cleveland, Ohio. Filed Oct. 12, 1966.



For Retail Store Services Specializing in New and Antique Weapons and Retail Weapon Equipment (Int. Cl. 35).
First use Sept. 1, 1965.

SN 259,099. Glendinning Companies, Inc., Westport, Conn. Filed Nov. 21, 1966.

MONEY LETTERS

Applicant disclaims the word "Letters" apart from the mark as shown.
For Promoting the Sale of Goods and/or Services of Others Through the Distribution of Printed Materials and Advertising Designed for Promotional Contests (Int. Cl. 35).
First use on or about May 17, 1966.

SN 271,730. David H. Selley, d.b.a. Lost & Found, Los Angeles, Calif. Filed May 17, 1967.



The drawing is lined for the color red, but no claim is made to color. The words "Lost & Found" are disclaimed separate and apart from the mark as shown.
For Registering Personal Goods of Others So That, If Lost, the Finder Need Only Refer to Applicant's Name and Address and Telephone Number for Instructions To Return the Lost Goods (Int. Cl. 35).
First use Dec. 30, 1966.

SN 272,764. Van Dyke, Inc., Seattle, Wash. Filed May 31, 1967.

VANCOLOR

For Preparation of Advertising Material for Various Products of Others; Editorial Service for Newspapers; Preparation of Photographic Negatives, Lithographic Negatives, and Letterpress Mats for Publishers (Int. Cl. 35).
First use July 1, 1965.

SN 279,473. Glendinning Companies, Inc., Westport, Conn. Filed Aug. 31, 1967.

SPORT OF KINGS

For Promoting the Sale of Goods and/or Services of Others Through the Distribution of Printed Materials and Advertising Designs for Promotional Games (Int. Cl. 35).
First use Aug. 11, 1967.

SN 280,972. Rozinsky's Incorporated, Hartford, Conn. Filed Sept. 22, 1967.

L.I.P.

For Retail Mail Order Department Store Services (Int. Cl. 35).
First use at least as early as June 1967.

SN 281,292. J & H International Corporation, Chicago, Ill. Filed Sept. 27, 1967.



For Sales Promotion for Retail Establishments Through the Organization, Offering and Distribution of Promotional Games and the Like Utilizing Promotional Literature, Prize Slips, Game Cards, and Like Material, to the Public at the Participating Establishments (Int. Cl. 35).
First use June 21, 1967.

SN 283,217. Bell & Howell Photo Sales Company, Chicago, Ill. Filed Oct. 24, 1967.

CompServ

For Complimentary Telephone Service Making Available Personalized Answers to Questions in the Field of Photographic Equipment (Int. Cl. 35).
First use as early as Sept. 5, 1967.

SN 283,218. Bell & Howell Photo Sales Company, Chicago, Ill. Filed Oct. 24, 1967.



For Complimentary Telephone Service Making Available Personalized Answers to Questions in the Field of Photographic Equipment (Int. Cl. 35).
First use as early as Sept. 5, 1967.

SN 287,213. United Data Centers, Inc., New York, N.Y. Filed Dec. 19, 1967.

UDC

For Commercial Data Processing Services—Namely, Data Preparation, Tabulating, Computer Processing, Problem Definition, Systems Analysis, Programming, and Documentation, Which Services Are Provided by Computer Centers Located in Different Areas (Int. Cl. 35).
First use Aug. 1, 1967.

SN 293,333. Where in D.C., Washington, D.C. Filed Mar. 14, 1968.



For Supplying Information to and Aiding in the Relocation of Executive Personnel and Their Families (Int. Cl. 35).
First use Dec. 20, 1967.

SN 294,461. Brandon Applied Systems, Inc., New York, N.Y. Filed Mar. 29, 1968.

BRANDON APPLIED SYSTEMS, INC.

For Computer Program Development for Others and Preparation of Operation Manual Therefor (Int. Cl. 35).
First use March 1964.

SN 294,462. Brandon Applied Systems, Inc., New York, N.Y. Filed Mar. 29, 1968.



BRANDON APPLIED SYSTEMS, INC.

The design feature of the mark is the letter "b," and speckling is not intended to indicate color.
For Computer Program Development for Others and Preparation of Operation Manual Therefor (Int. Cl. 35).
First use March 1964.

SN 295,089. Adams, Martin & Nelson, Inc., Minneapolis, Minn. Filed Apr. 8, 1968.

LMC

For Promoting the Sale of the Goods and Services of Others Through the Use of Discount Merchandise Coupons Issued to the Purchaser of Such Goods or Services (Int. Cl. 35).
First use Oct. 9, 1967.

SN 297,136. Commonwealth Trading Corporation, Newton, Mass. Filed May 2, 1968.

HIT OR MISS

For Retail Clothing Store Services (Int. Cl. 35).
First use Apr. 1, 1965.

SN 301,374. Uni/Search, Inc., Hartford, Conn. Filed June 25, 1968.

uni/search

For Personnel Recruiting and Placement Services (Int. Cl. 35).
First use on or about Apr. 15, 1968.

SN 303,309. Household Finance Corporation, Chicago, Ill. Filed July 22, 1968.

HFC ORBIT

Owner of Reg. Nos. 827,347, 827,348, and 852,772.
For Collecting, Storing, and Processing Statistical Data Furnished by Another and Calculating, Recording, and Transmitting Resulting Statistical Data Desired by Such Other (Int. Cl. 35).
First use July 10, 1968.

SN 306,403. Steak n Shake, Inc., Bloomington, Ill. Filed Aug. 30, 1968.

STEAK N SHAKE

Owner of Reg. Nos. 609,979, 843,430, and others.
For Technical Assistance in the Establishment and Operations of Restaurants (Int. Cl. 35).
First use 1934.

SN 308,428. Office Talent, Inc., New York, N.Y. Filed Sept. 30, 1968.

Office Talent

The word "Office" is disclaimed apart from the mark as shown.
For Employment Services—Namely, Providing Secretaries, Typists, Stenos, Clerks, Keypunch Operators, Switchboard Operators, Receptionists, Bank Tellers, Business Machine Operators, and Other White Collar Employees on a Permanent or Temporary Basis (Int. Cl. 35).
First use at least as early as May 13, 1968; May 1967 in a different form.

Class 102 — Insurance and Financial

SN 262,435. New Jersey Life Insurance Company, Newark, N.J. Filed Jan. 12, 1967.

NEW JERSEY LIFE

The words "New Jersey Life" are disclaimed apart from the mark as shown.
For Insurance Underwriting Services (Int. Cl. 36).
First use Aug. 12, 1964.

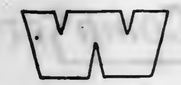
SN 279,853. Perera Express Company, Inc., New York, N.Y. Filed Sept. 7, 1967.



Applicant disclaims the words "Express Company" and does not claim any exclusive right in the surname "Perera" apart from the association shown in the drawing.
For Issuance and Redemption of Travelers' Checks (Int. Cl. 36).
First use on or about Apr. 1, 1964.

SN 289,551. Wilshire Insurance Company, Los Angeles, Calif. Filed S.R. Jan. 24, 1968; Am. P.R. Jan. 29, 1969.

WILCO PREMIUM
PAYMENT PLAN



The following words and/or design elements are disclaimed apart from the mark as a whole: "Premium Payment Plan."
For Underwriting Automobile Insurance (Int. Cl. 36).
First use Jan. 1, 1967.

SN 289,681. The Indiana National Bank of Indianapolis, Indianapolis, Ind. Filed Jan. 26, 1968.

PASSPORT SAVINGS

Applicant makes no claim to the word "Savings" apart from the mark as shown.
For Savings Account Banking Services (Int. Cl. 36).
First use Dec. 27, 1967.

Class 103 — Construction and Repair

SN 267,793. Ashland Oil & Refining Company, Ashland, Ky. Filed Mar. 29, 1967.

Ashland

The drawing is lined for red and blue. Owner of Reg. Nos. 558,675, 675,457, and others.
For Automobile Service Station Services (Int. Cl. 37).
First use Dec. 9, 1966.

SN 289,852. Herman Winston, Baltimore, Md. Filed Jan. 29, 1968.

ULTIMA

For Dry Cleaning Service (Int. Cl. 37).
First use January 1967.

SN 292,799. Malsbary Manufacturing Company, Oakland, Calif. Filed Mar. 8, 1968.

FOLLOW CHARLIE

The drawing is lined for brown, blue, yellow, pink, and green.
For Washing and Cleaning of Automotive Vehicles (Int. Cl. 37).
First use Nov. 3, 1967.

SN 300,049. Associated Baby Services, Inc., New York, N.Y. Filed June 10, 1968.

DIAGARD

For Diaper Services (Int. Cl. 37).
First use May 15, 1968.

Class 105 — Transportation and Storage

SN 297,595. Bangor Punta Operations, Inc., New York, N.Y., assignee of Rent-A-Cruise, Inc., d.b.a. Rent-A-Cruise of America, Inc., Florence, Ala. Filed May 7, 1968.

RENT-A-CRUISE OF AMERICA

For Boat and Yacht Rental Services (Int. Cl. 39).
First use Sept. 22, 1967.

SN 297,696. Open Road International, Inc., St. Louis, Mo. Filed May 8, 1968.

euRoad

For Arranging, Planning and Organizing of Travel Tours, Including Transportation, Accommodations, and the Like (Int. Cl. 39).
First use October 1967.

SN 300,124. Simmons Group Journeys, Inc., New York, N.Y. Filed June 10, 1968.

A SUNNY HAPPENING

For Planning, Arranging, Managing, and Conducting Travel Tours (Int. Cl. 39).
First use May 6, 1968.

Class 106 — Material Treatment

SN 276,829. Gordon Fickes, d.b.a. Cavalier Color, Niles, Mich. Filed July 26, 1967.



Applicant disclaims the word "Color" apart from the mark as shown.
For Finishing Photographic Prints (Int. Cl. 40).
First use Apr. 11, 1966.

SN 298,930. Faster-Form Corporation, New Hartford, N.Y. Filed May 23, 1968.

LIFESAKE

For Treating Real Flowers So As To Preserve Them in Life-Like Form (Int. Cl. 40).
First use Feb. 28, 1968.

Class 107 — Education and Entertainment

SN 278,773. Action Records Inc., San Mateo, Calif. Filed Aug. 22, 1967.

ACTION

For Making Recordings for Others (Int. Cl. 41).
First use February 1963.
Subj. to Intf. with SN 249,927.

SN 313,368. Boston Professional Hockey Association, Inc., Boston, Mass. Filed Dec. 2, 1968.



For Professional Ice Hockey Contests (Int. Cl. 41).
First use in 1948.

SN 313,369. Boston Professional Hockey Association, Inc., Boston, Mass. Filed Dec. 2, 1968.

BRUINS

For Professional Ice Hockey Contests (Int. Cl. 41).
First use not later than 1928.

COLLECTIVE MEMBERSHIP MARKS

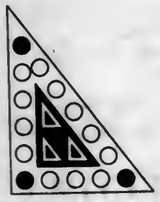
Class 200

SN 288,483. Acacia Fraternity Incorporated, Evanston, Ill. Filed Jan. 10, 1968.

ACACIA

For Indicating Membership in Applicant.
First use 1904.

SN 289,461. Acacia Fraternity Incorporated, Evanston, Ill. Filed Jan. 24, 1968.



For Indicating Membership in Applicant.
First use 1904.

TRADEMARK REGISTRATIONS ISSUED

PRINCIPAL REGISTER

Class 1 — Raw or Partly Prepared Materials

868,080. MODO. Mo och Domsjo Aktiebolag. MULTIPLE CLASS (Classes 1, 5, 6, 12, and 37). SN 251,855. Pub. 1-28-69. Filed 8-8-66.

868,081. EPSAN. Copolymer Rubber & Chemical Corporation. SN 276,820. Pub. 1-28-69. Filed 7-26-67.

868,082. MISCELLANEOUS DESIGN. Brown Company. MULTIPLE CLASS (Classes 1, 12, and 39). SN 287,851. Pub. 1-28-69. Filed 1-2-68.

868,083. CYCOLAC. Borg-Warner Corporation. SN 293,798. Pub. 1-28-69. Filed 3-21-68.

868,084. MISCELLANEOUS DESIGN. B. L. Cobia, Inc. SN 294,596. Pub. 1-28-69. Filed 4-1-68.

Class 2 — Receptades

868,085. GEI-FEN AND DESIGN. Ontarioville Metal Products Co. MULTIPLE CLASS (Classes 2 and 32). SN 284,392. Pub. 1-28-69. Filed 11-8-67.

Class 4 — Abrasives and Polishing Materials

868,086. DUSTBANE. Dustbane Enterprises Limited. MULTIPLE CLASS (Classes 4, 21, aud 52). SN 285,616. Pub. 1-28-69. Filed 11-27-67.

Class 5 — Adhesives

868,080. (See Class 1 for this trademark.)

Class 6 — Chemicals and Chemical Compositions

868,080. (See Class 1 for this trademark.)

868,087. KLEEN WALK. United Co-Operatives, Inc. SN 274,907. Pub. 1-28-69. Filed 6-27-67.

868,088. TAMED IODINE AND DESIGN. West Chemical Products, Inc. SN 289,738. Pub. 1-28-69. Filed 1-26-68.

868,089. CHEMTROL. Milchem Incorporated. SN 293,397. Pub. 1-28-69. Filed 3-15-68.

868,090. AMC (DESIGN). Activated Metals & Chemicals, Inc. SN 296,933. Pub. 1-28-69. Filed 4-30-68.

868,091. KLEENLITE. Demert & Dougherty, Inc. SN 297,045. Pub. 1-28-69. Filed 5-1-68.

868,092. ST REGIS. St. Regis Paper Company. SN 297,093. Pub. 1-28-69. Filed 5-1-68.

868,093. STURGE. John & E. Sturge Limited. SN 297,223. Pub. 1-28-69. Filed 5-2-68.

868,094. DIAZO-TEL. Chas. Pfizer & Co., Inc. SN 309,145. Pub. 1-28-69. Filed 10-8-68.

Class 8 — Smokers' Articles, Not Including Tobacco Products

868,095. OLDENKOTT. Henric's Oldenkott Senior & Comp. SN 282,800. Pub. 1-28-69. Filed 10-18-67.

Class 12 — Construction Materials

868,080. (See Class 1 for this trademark.)

868,082. (See Class 1 for this trademark.)

868,096. SYLRO. Sylro Products Corp. SN 265,748. Pub. 1-28-69. Filed 3-1-67.

868,097. ATCO. American Tar Company. SN 272,462. Pub. 1-28-69. Filed 5-26-67.

868,098. POXY-PUTTY. West Products Corp. SN 273,335. Pub. 1-28-69. Filed 6-7-67.

868,099. MACLAR. Morgan Adhesives Company. SN 276,338. Pub. 1-28-69. Filed 7-19-67.

868,100. BUILDER MART. Builder Marts of America, Inc. MULTIPLE CLASS (Classes 12, 13, 16, 21, 23, and 35). SN 280,907. Pub. 1-28-69. Filed 9-22-67.

868,101. GLAS-SPAN AND DESIGN. Ray J. Pennington & Sons. SN 291,283. Pub. 1-28-69. Filed 2-16-68.

868,102. ANIL JOLLY BOARD AND DESIGN. Anil Canada Limited. SN 292,752. Pub. 1-28-69. Filed 3-8-68.

868,103. NEW-YORK WELDED WIRE FABRIC AND DESIGN. New York Wire Mills Corp. SN 293,735. Pub. 1-28-69. Filed 3-20-68.

868,104. MOR-LIFE. Construction Research Corporation. SN 297,277. Pub. 1-28-69. Filed 5-3-68.

Class 13 — Hardware and Plumbing and Steam-Fitting Supplies

868,100. (See Class 12 for this trademark.)

868,105. JANITROL. Midland-Ross Corporation. MULTIPLE CLASS (Classes 13 and 34). SN 274,381. Pub. 1-28-69. Filed 6-21-67.

868,106. WEST AND W DESIGN. West Chemical Products, Inc. SN 280,281. Pub. 1-28-69. Filed 9-13-67.

868,107. AIC. Air Industries Corporation. SN 289,250. Pub. 1-28-69. Filed 1-22-68.

868,108. AIC AND EAGLE DESIGN. Air Industries Corporation. SN 289,251. Pub. 1-28-69. Filed 1-22-68.

868,109. DIAL-A-PORT. Cascade Industries, Inc. SN 294,371. Pub. 1-28-69. Filed 3-28-68.

868,110. HOLO-TORC. Veeder Industries, Incorporated, d.b.a. Holo-Krome Company. SN 295,478. Pub. 1-28-69. Filed 4-11-68.

868,111. HEPA-ANCHOR AND DESIGN. Henry A. Patnaude. SN 298,348. Pub. 1-28-69. Filed 5-16-68.

868,112. CYCHEM. American Cyanamid Company. SN 298,395. Pub. 1-28-69. Filed 5-17-68.

868,113. AMERACE. Amerace Corporation. SN 301,303. Pub. 1-28-69. Filed 6-25-68.

868,114. MIRACLE ORIFICE. Acorn Engineering Company. SN 305,293. Pub. 1-28-69. Filed 8-16-68.

868,115. CYFLEX. American Cyanamid Company. SN 306,623. Pub. 1-28-69. Filed 9-5-68.

868,116. INSULOOP. Tyton Corporation of America. SN 306,826. Pub. 1-28-69. Filed 9-6-68.

868,117. CONCENTRIC CIRCLES (DESIGN). MSL Industries, Inc. SN 309,648. Pub. 1-28-69. Filed 10-15-68.

Class 14 — Metals and Metal Castings and Forgings

868,118. MISCELLANEOUS DESIGN. R.M.B. Alloys (Proprietary) Limited. SN 271,287. Pub. 1–28–69. Filed 5–11–67.

868,119. ADMIRAL STEEL CORPORATION AND DESIGN. Admiral Steel Corporation. SN 280,755. Pub. 1–28–69. Filed 9–20–67.

868,120. HIDUREL. Langley Alloys Limited. SN 286,156. Pub. 1–28–69. Filed 12–4–67.

868,121. HIDURAX. Langley Alloys Limited. SN 286,158. Pub. 1–28–69. Filed 12–4–67.

868,122. LECTRASEAL. United Glass Limited. SN 290,779. Pub. 1–28–69. Filed 2–9–68.

Class 16 — Protective and Decorative Coatings

868,100. (See Class 12 for this trademark.)

Class 17 — Tobacco Products

868,123. DUNHILL VIRGINIA FILTER AND DESIGN. Alfred Dunhill Limited. SN 263,340. Pub. 1–28–69. Filed 1–26–67.

868,124. DUNHILL ETC. AND DESIGN. Alfred Dunhill Limited. SN 301,724. Pub. 1–28–69. Filed 7–1–68.

868,125. WEE WILLEM. N.V. Willem II Sigarenfabrieken V.H. H. Kersten & Co. SN 307,219. Pub. 1–28–69. Filed 9–12–68.

868,126. SANTA FE AND FEMALE DESIGN. Universal Cigar Corporation. SN 307,719. Pub. 1–28–69. Filed 9–19–68.

Class 18 — Medicines and Pharmaceutical Preparations

868,127. HYCAL. Beecham Group Limited, d.b.a. Beecham Food & Drink Division. SN 265,487. Pub. 1–28–69. Filed 2–27–67.

868,128. METHACIDE. Warren-Teed Pharmaceuticals Inc. SN 276,973. Pub. 1–28–69. Filed 7–27–67.

868,129. GRAMCLOX. Beecham Inc., by merger from Beecham Products Inc. SN 284,578. Pub. 1–28–69. Filed 11–13–67.

868,130. AMPURE. Beecham Inc., by merger from Beecham Products Inc. SN 284,581. Pub. 1–28–69. Filed 11–13–67.

868,131. ECONOPEN. Bristol-Myers Company. SN 286,089. Pub. 1–28–69. Filed 12–4–67.

868,132. NARINE. Dooner Laboratories Inc., SN 286,109. Pub. 1–28–69. Filed 12–4–67.

Class 19 — Vehicles

868,133. TORK LIFT AND DESIGN. James F. Mann, d.b.a. Tork Lift Sales and Manufacturing Co. SN 281,590. Pub. 1–28–69. Filed 10–2–67.

868,134. BIRD. Fredrick G. Schweser, d.b.a. Bird Engineering. SN 283,281. Pub. 1–28–69. Filed 10–24–67.

868,135. LADDER CHIEF. "Automatic" Sprinkler Corporation of America, d.b.a. American LaFrance. SN 305,603. Pub. 1–28–69. Filed 8–21–68.

Class 20 — Linoleum and Oiled Cloth

868,136. MAIN LINE. Multicolor Corporation. SN 294,642. Pub. 1–28–69. Filed 4–1–68.

868,137. LA PAZ. American Biltrite Rubber Co., Inc. SN 308,451. Pub. 1–28–69. Filed 9–30–68.

Class 21 — Electrical Apparatus, Machines, and Supplies

868,086. (See Class 4 for this trademark.)

868,100. (See Class 12 for this trademark.)

868,138. PARAX. Wanlass Electric Co. SN 281,408. Pub. 1–28–69. Filed 9–28–67.

868,139. MEX MIX. Motores y Aparatos Electricos, S.A. de C.V. SN 284,388. Pub. 1–28–69. Filed 11–8–67.

868,140. "HINGE LOCK." Avnet, Inc., assignee of Carol Wire & Cable Corp. SN 285,199. Pub. 1–28–69. Filed 11–20–67.

868,141. MAGIC-TOUCH. Rival Manufacturing Company. SN 290,331. Pub. 1–28–69. Filed 2–5–68.

868,142. MIL-LITE. Genisco Technology Corporation. SN 291,261. Pub. 1–28–69. Filed 2–16–68.

868,143. MISCELLANEOUS DESIGN. Repco Products Corporation. SN 292,016. Pub. 1–28–69. Filed 2–27–68.

868,144. 2 PLUS 2. Ledex, Inc. SN 296,969. Pub. 1–28–69. Filed 4–30–68.

868,145. REVCO. Robert B. Myers. SN 309,205. Pub. 1–28–69. Filed 10–9–68.

Class 22 — Games, Toys, and Sporting Goods

868,146. TUGITE. William Thomlinson Limited. SN 290,423. Pub. 1–28–69. Filed 2–6–68.

868,147. INNER-GREASED POCKET AND DESIGN. King Athletic Goods Company. SN 300,399. Pub. 1–28–69. Filed 6–14–68.

868,148. SWEETHEART STORYBOOK KIDDLES. Mattel, Inc. SN 300,404. Pub. 1–28–69. Filed 6–14–68.

868,149. CHERRY BLOSSOM. Mattel, Inc. SN 308,966. Pub. 1–28–69. Filed 10–7–68.

868,150. SPACE SPOOFS. Mattel, Inc. SN 308,967. Pub. 1–28–69. Filed 10–7–68.

868,151. MOON ZOOMER. Mattel, Inc. SN 308,969. Pub. 1–28–69. Filed 10–7–68.

868,152. BLUEY-BLOOPER. Mattel, Inc. SN 308,981. Pub. 1–28–69. Filed 10–7–68.

868,153. JABBER-JAWS. Mattel, Inc. SN 308,982. Pub. 1–28–69. Filed 10–7–68.

Class 23 — Cutlery, Machinery, and Tools, and Parts Thereof

868,100. (See Class 12 for this trademark.)

868,154. RECKNA. Firma Alfred Recknagel. MULTIPLE CLASS (Classes 23, 40, 44, and 51). SN 277,995. Pub. 1–28–69. Filed 8–10–67.

868,155. SAFE FLIGHT. Safe Flight Instrument Corporation. MULTIPLE CLASS (Classes 23 and 26). SN 278,037. Pub. 1–28–69. Filed 8–10–67.

868,156. KELLEY. Crutcher-Rolfs-Cummings, Inc. SN 279,930. Pub. 1–28–69. Filed 9–8–67.

868,157. SHOP-IN-A-BOX. Lumaside, Inc. SN 291,165. Pub. 1–28–69. Filed 2–15–68.

868,158. HEINICKE. Heinicke Instruments Company. MULTIPLE CLASS (Classes 23, 34, and 52). SN 293,336. Pub. 1–28–69. Filed 3–15–68.

868,159. VANE-FLO. International Telephone and Telegraph Corporation. SN 295,530. Pub. 1–28–69. Filed 4–12–68.

868,160. PANTO-DRESS. George J. De Falco, d.b.a. A & G Engineering. SN 295,623. Pub. 1–28–69. Filed 4–15–68.

868,161. BABY FACE. Philip Morris Incorporated, d.b.a. American Safety Razor Company. SN 308,577. Pub. 1–28–69. Filed 10–1–68.

Class 26 — Measuring and Scientific Appliances

868,155. (See Class 23 for this trademark.)

868,162. PAVELLE. The Pavelle Corporation. SN 274,234. Pub. 1–28–69. Filed 6–19–67.

868,163. MEG-O-METER. Millipore Corporation. SN 278,986. Pub. 1–28–69. Filed 8–24–67.

868,164. QUINDAC. Quandar Electronics, Inc. SN 278,991. Pub. 1–28–69. Filed 8–24–67.

868,165. U-STORE. Honeywell Inc. SN 279,829. Pub. 1–28–69. Filed 9–7–67.

868,166. BURROUGHS. Burroughs Corporation. SN 289,078. Pub. 1–28–69. Filed 1–18–68.

868,167. HELMET-AIR. Seymour Manufacturing Co. SN 298,155. Pub. 1–28–69. Filed 5–14–68.

868,168. TSM. Technicon Corporation. SN 298,264. Pub. 1–28–69. Filed 5–15–68.

868,169. PIXIE. Weston Instruments, Inc. SN 298,276. Pub. 1–28–69. Filed 5–15–68.

868,170. IS (DESIGN). International-Stanley Corporation. SN 298,939. Pub. 1–28–69. Filed 5–23–68.

868,171. SHARP. Hayakawa Electric Co., Ltd. SN 300,590. Pub. 1–28–69. Filed 6–17–68.

868,172. RED SNAP'R. North Central Plastics, Inc. SN 309,782. Pub. 1–28–69. Filed 10–16–68.

868,173. RIVIERA EYE-CYCLES. Riviera Trading Corp. SN 309,789. Pub. 1–28–69. Filed 10–16–68.

868,174. SERVICESTAT. Beamco, Inc. SN 310,274. Pub. 1–28–69. Filed 10–23–68.

Class 29 — Brooms, Brushes, and Dusters

868,175. SCRUB-ALL. Sorenson Research Corporation. SN 302,979. Pub. 1–28–69. Filed 7–17–68.

868,176. KLEEN KOR. Los Angeles Brush Mfg. Corp. SN 309,594. Pub. 1–28–69. Filed 10–14–68.

Class 30 — Crockery, Earthenware, and Porcelain

868,177. UNICORN AND DESIGN. United Import Corporation. SN 265,362. Pub. 1–28–69. Filed 2–28–67.

Class 31 — Filters and Refrigerators

868,178. MYCOM. Mayekawa U.S.A., Inc. SN 289,315. Pub. 1–28–69. Filed 1–22–68.

Class 32 — Furniture and Upholstery

868,085. (See Class 2 for this trademark.)

868,179. CUBE CHAIR AND DESIGN. Directional Industries, Incorporated. SN 281,873. Pub. 1–28–69. Filed 10–5–67.

868,180. BY ARTURO AND DESIGN. Los Angeles Frame Co., Inc. SN 290,739. Pub. 1–28–69. Filed 2–9–68.

868,181. WESCO ETC. AND DESIGN. Western Manufacturing Company. SN 291,799. Pub. 1–28–69. Filed 2–23–68.

Class 34 — Heating, Lighting, and Ventilating Apparatus

868,105. (See Class 13 for this trademark.)

868,158. (See Class 23 for this trademark.)

868,182. QUIET-SLIDE. Edwards Engineering Company. SN 272,714. Pub. 1–28–69. Filed 5–31–67.

868,183. DIDIER AND DESIGN. Didier-Werke A.G. SN 286,106. Pub. 1–28–69. Filed 12–4–67.

868,184. STEELGRIP. Alpha Metals, Inc. SN 286,982. Pub. 1–28–69. Filed 12–15–67.

868,185. ELECTRA. American Standard Inc. SN 303,758. Pub. 1–28–69. Filed 7–29–68.

Class 35 — Belting, Hose, Machinery Packing, and Nonmetallic Tires

868,100. (See Class 12 for this trademark.)

868,186. REMASEAL. Otto Gruber, d.b.a. Stahlgruber, Otto Gruber & Co. SN 276,320. Pub. 1–28–69. Filed 7–19–67.

868,187. STING-RAY. Schwinn Bicycle Company. SN 282,399. Pub. 1–28–69. Filed 10–12–67.

868,188. HEAVY DUTY MOVER. The Kelly-Springfield Tire Company. SN 296,429. Pub. 1–28–69. Filed 4–24–68.

868,189. CORDOVAN HARVEST KING. Cordovan Associates, Inc. SN 300,068. Pub. 1–28–69. Filed 6–10–68.

868,190. MULTI-MILE HARVEST KING. Cordovan Associates, Inc. SN 300,069. Pub. 1–28–69. Filed 6–10–68.

868,191. GTU. Greene, Tweed & Co., Inc. SN 301,525. Pub. 1–28–69. Filed 6–27–68.

868,192. DUCTALL. Air Reduction Company, Incorporated. SN 302,373. Pub. 1–28–69. Filed 7–10–68.

Class 36 — Musical Instruments and Supplies

868,193. MISCELLANEOUS DESIGN. Sieber & McIntyre, Inc. MULTIPLE CLASS (Classes 36 and 38). SN 252,780. Pub. 1–28–69. Filed 8–22–66.

868,194. BOSENDORFER. The Jasper Corporation. SN 289,806. Pub. 1–28–69. Filed 1–29–68.

868,195. ORGAN SCOPE AND DESIGN. Electro Learner Corporation, assignee of Arthur R. Schmoyer. SN 293,175. Pub. 1–28–69. Filed 3–13–68.

868,196. COUNTRY ARTISTS RECORDS AND DESIGN. James S. Foster, d.b.a. Country Artists Records. SN 294,611. Pub. 1–28–69. Filed 4–1–68.

868,197. VOLT. Paramount Pictures Corporation. SN 309,084. Pub. 1–28–69. Filed 10–7–68.

868,198. STAX. Paramount Pictures Corporation. SN 309,085. Pub. 1–28–69. Filed 10–7–68.

868,199. EN 7. Grundig Werke GmbH. SN 310,775. Pub. 1–28–69. Filed 10–29–68.

868,200. POWER. Synthetic Plastics Company. SN 310,936. Pub. 1–28–69. Filed 10–30–68.

Class 37—Paper and Stationery

868,080. (See Class 1 for this trademark.)

868,201. MB (DESIGN). Martin-Brower Corporation. SN 268,969. Pub. 1-28-69. Filed 4-12-67.

868,202. SIMPSON LEE IPR PAPERS. Simpson Lee Paper Company. SN 269,931. Pub. 1-28-69. Filed 4-24-67.

868,203. HAMMERMILL SAVINGS BOND. Hammermill Paper Company. SN 274,514. Pub. 1-28-69. Filed 6-22-67.

868,204. NORTHWEST PEDIGREED PAPERS ALWAYS MAKE GOOD PRINTING BETTER. The Northwest Paper Company. SN 278,234. Pub. 1-28-69. Filed 8-14-67.

868,205. BAND-A-MATIC. Tee-Pak, Inc. SN 288,141. Pub. 1-28-69. Filed 1-4-68.

868,206. KWIKSERT. Johnson & Quin, Inc. SN 291,406. Pub. 1-28-69. Filed 2-19-68.

868,207. K AND DESIGN. Kruger Tissue Mills, Inc. SN 291,408. Pub. 1-28-69. Filed 2-19-68.

868,208. LABEL'OPES. No-Lik Products, Incorporated. SN 299,860. Pub. 1-28-69. Filed 6-6-68.

868,209. TIP-TOE. Kleer-Vu Industries, Inc. SN 304,546. Pub. 1-28-69. Filed 8-7-68.

868,210. RCOAT. Arbco, Inc. SN 305,179. Pub. 1-28-69. Filed 8-15-68.

868,211. ACCUFORM AND DESIGN. J-L Forms Co. SN 308,741. Pub. 1-28-69. Filed 10-3-68.

Class 38—Prints and Publications

868,193. (See Class 36 for this trademark.)

868,212. SIMPLIFIED SAFETY. Insurance Company of North America. SN 261,374. Pub. 1-28-69. Filed 12-23-66.

868,213. SNEEKIES. Fleer Corp., by change of name from Frank H. Fleer Corporation. SN 277,650. Pub. 1-28-69. Filed 8-7-67.

868,214. DINO-GUARD. Sinclair Oil Corporation, by merger from Sinclair Refining Company. SN 279,006. Pub. 1-28-69. Filed 8-24-67.

868,215. TRAVELOGRAPHY. Travelography, Inc. SN 279,693. Pub. 1-28-69. Filed 9-5-67.

868,216. JAPANESE CHARACTERS. Sokagakkai Religious Corporation. SN 280,731. Pub. 1-28-69. Filed 9-19-67.

868,217. JAPANESE CHARACTERS. Sokagakkai Religious Corporation. SN 283,937. Pub. 1-28-69. Filed 11-1-67.

868,218. MDN AND DESIGN. The William/Lawrence Corporation. SN 287,473. Pub. 1-28-69. Filed 12-22-67.

868,219. SOUTHERN SCENE. Southern Airways, Inc. SN 288,359. Pub. 1-28-69. Filed 1-8-68.

868,220. SOUND EFFECT. Norcross, Inc. SN 292,120. Pub. 1-28-69. Filed 2-28-68.

868,221. SOLUTIONS. Gelman Instrument Company. SN 297,057. Pub. 1-28-69. Filed 5-1-68.

868,222. BETTY AND ME. Close-Up, Inc. SN 297,842. Pub. 1-28-69. Filed 5-10-68.

868,223. WILLIAM BRUSHWELL REPORTS:. Harold Wittcoff. SN 303,557. Pub. 1-28-69. Filed 7-24-68.

868,224. CHICKEN DELIGHT NEWS. Chicken Delight, Inc. SN 303,593. Pub. 1-28-69. Filed 7-25-68.

Class 39—Clothing

868,082. (See Class 1 for this trademark.)

868,225. THE AVENGERS. ABC Television Films Limited, assignee of A.B.C. Television Limited. SN 252,152. Pub. 5-9-67. Filed 8-11-66.

868,226. SURREY AND DESIGN. Tex-Sun Glove Company. SN 279,235. Pub. 7-30-68. Filed 8-28-67.

868,227. BEACH MATES AND DESIGN. Beach Mates of California, Inc. SN 295,702. Pub. 8-20-68. Filed 4-16-68.

Class 40—Fancy Goods, Furnishings, and Notions

868,154. (See Class 23 for this trademark.)

Class 44—Dental, Medical, and Surgical Appliances

868,154. (See Class 23 for this trademark.)

Class 45—Soft Drinks and Carbonated Waters

868,228. QUEEN'S AND DESIGN. Queen's AG. SN 246,366. Pub. 1-28-69. Filed 5-23-66.

868,229. HINCKLEY & SCHMITT. Hinckley & Schmitt. SN 293,516. Pub. 1-28-69. Filed 3-18-68.

Class 46—Foods and Ingredients of Foods

868,230. QUEEN MILK. American Dairy Queen Corporation, assignee of Samuel J. Temperato, d.b.a. Dairy Queen of Greater St. Louis. SN 251,017. Pub. 1-28-69. Filed 7-25-66.

868,231. ROMANROSE. Hyakuichi Kitamura. SN 261,930. Pub. 1-28-69. Filed 1-4-67.

868,232. MEIJI. Meiji Seika Kaisha, Ltd. SN 266,772. Pub. 1-28-69. Filed 3-15-67.

868,233. CLOVER MEADOW. Meadow Maid, Incorporated. SN 283,139. Pub. 1-28-69. Filed 10-23-67.

868,234. CRAZY FRUIT. Philadelphia Chewing Gum Corporation. SN 292,007. Pub. 1-28-69. Filed 2-27-68.

868,235. GENEPESCA ETC. AND DESIGN. Genepesca Soc. p. Az. SN 292,573. Pub. 1-28-69. Filed 3-6-68.

868,236. DINNER KING. Green Bay Canning Corporation. SN 292,689. Pub. 1-28-69. Filed 3-7-68.

Class 49—Distilled Alcoholic Liquors

868,237. POLMOS WISNIOWKA CHERRY CORDIAL AND DESIGN. Przedsiebiorstwo Handly Zagranicznego "Agros." SN 292,290. Pub. 1-28-69. Filed 3-1-68.

Class 51—Cosmetics and Toilet Preparations

868,154. (See Class 23 for this trademark.)

868,238. WHITE STAG. White Stag Manufacturing Co., assignee of L'Adorn, Inc. SN 167,635. Pub. 8-13-68. Filed 4-26-63.

868,239. SABLE MIST. Notsniw Inc. SN 278,522. Pub. 1-28-69. Filed 8-17-67.

868,240. POSITIVELY. Trebor. SN 278,540. Pub. 1-28-69. Filed 8-17-67.

868,241. SYNTHIC-ADRAGA. Marcel Jean-Marie Bleriot. SN 280,961. Pub. 1-28-69. Filed 9-22-67.

868,242. GOLDEN ROD. Clairol Incorporated. SN 281,768. Pub. 1-28-69. Filed 10-4-67.

868,243. LUSTER GLO. Studio Girl-Hollywood, Inc., d.b.a. Studio Girl. SN 285,771. Pub. 9-3-68. Filed 11-28-67.

868,244. DUKE. Johnson Publishing Company, Inc. MULTIPLE CLASS (Classes 51 and 52). SN 288,525. Pub. 1-28-69. Filed 1-10-68.

868,245. PHIX. Sales Affiliates, Inc. SN 292,968. Pub. 1-28-69. Filed 3-11-68.

868,246. EXCITE-MINT! Alberto-Culver Company. SN 294,111. Pub. 1-28-69. Filed 3-26-68.

868,247. IT'S ME. Clairol Incorporated. SN 294,374. Pub. 1-28-69. Filed 3-28-68.

868,248. THE LOOKIT. Richard Hudnut. SN 294,395. Pub. 1-28-69. Filed 3-28-68.

868,249. ASPENGLOW. Bonne Bell, Inc. SN 294,576. Pub. 1-28-69. Filed 4-1-68.

868,250. ELAN. The Wella Corporation. SN 295,270. Pub. 1-28-69. Filed 4-9-68.

868,251. DRI-DERM. Helene Curtis Industries, Inc. SN 296,661. Pub. 1-28-69. Filed 4-26-68.

868,252. SYN-DE-KIT. Helene Curtis Industries, Inc. SN 296,666. Pub. 1-28-69. Filed 4-26-68.

868,253. LOVE SHELLS. Helene Curtis Industries, Inc. SN 296,669. Pub. 1-28-69. Filed 4-26-68.

868,254. POCKETFUL OF POSIES. Avon Products, Inc. SN 297,948. Pub. 1-28-69. Filed 5-13-68.

868,255. EXCITE-MINT. Alberto-Culver Company. SN 302,184. Pub. 1-28-69. Filed 7-8-68.

868,256. HYDRO-TABS. The Hydro Dent Company. SN 309,646. Pub. 1-28-69. Filed 10-15-68.

Class 52—Detergents and Soaps

868,086. (See Class 4 for this trademark.)

868,158. (See Class 23 for this trademark.)

868,244. (See Class 51 for this trademark.)

868,257. POCKETFUL OF POSIES. Avon Products, Inc. SN 297,947. Pub. 1-28-69. Filed 5-13-68.

868,258. WHITE COLLAR. Samuel L. Shaw, d.b.a. New Horizons. SN 300,008. Pub. 1-28-69. Filed 6-6-68.

868,259. SKLAR KLEEN. J. Sklar Mfg. Co., Inc. SN 304,192. Pub. 1-28-69. Filed 8-2-68.

868,260. COUNT-MINUS. Anderson Chemical Company. SN 310,182. Pub. 1-28-69. Filed 10-22-68.

Service Marks

Class 100—Miscellaneous

868,261. A. H. ROBINS AND DESIGN. A. H. Robins Company, Incorporated. SN 257,917. Pub. 1-28-69. Filed 11-4-66.

868,262. KETTLE. Restaurant Management Consultants and Analysts Inc., d.b.a. Kettle Restaurants, Inc. SN 272,097. Pub. 1-28-69. Filed 5-22-67.

868,263. MISCELLANEOUS DESIGN. R & R Industries, Inc., by change of name from R & R Elevator Co., Inc. MULTIPLE CLASS (Classes 100 and 103). SN 273,342. Pub. 1-28-69. Filed 6-8-67.

868,264. GSC GERHART AND DESIGN. Gerhart Scale Corporation. MULTIPLE CLASS (Classes 100 and 103). SN 274,614. Pub. 1-28-69. Filed 6-23-67.

868,265. HOSPITAL HELPING HANDS. Hospital Helping Hands International, Inc. SN 284,086. Pub. 1-28-69. Filed 11-3-67.

868,266. AHRA AMERICAN HOT ROD ASSOCIATION AND DESIGN. American Hot Rod Association, Incorporated. SN 284,436. Pub. 1-28-69. Filed 11-9-67.

868,267. HORNETTE. Horne's Enterprises, Inc. SN 290,610. Pub. 1-28-69. Filed 2-8-68.

868,268. HARRY M'S BAR. Harry M. Stevens, Inc. SN 305,351. Pub. 1-28-69. Filed 8-16-68.

868,269. SKINNY STORES. Irsin Restaurant Corporation, assignee of Irving Sinowitz, d.b.a. Skinny Stores. SN 305,381. Pub. 1-28-69. Filed 8-19-68.

868,270. MR. SMORGASBORD. Westminster Little Banquet, Inc. SN 307,071. Pub. 1-28-69. Filed 9-11-68.

868,271. REPRESENTATION OF TORCH. General Research Corporation. SN 308,655. Pub. 1-28-69. Filed 10-2-68.

868,272. YANKEE DOODLE DANDY AND DESIGN. Yankee Doodle House, Inc. SN 308,857. Pub. 1-28-69. Filed 10-4-68.

Class 101—Advertising and Business

868,273. ADPLAN ASSOCIATES. Credithrift Financial Management Corporation, d.b.a. Adplan V. Associates, by change of name from Interstate Management Corporation. SN 259,249. Pub. 1-28-69. Filed 11-22-66.

868,274. NIEDO. Niedermeyer-Martin Company. SN 278,152. Pub. 1-28-69. Filed 8-14-67.

868,275. FOTOMAT. Fotomat Corporation. SN 300,524. Pub. 1-28-69. Filed 6-17-68.

Class 102—Insurance and Financial

868,276. MEMBER FIRST CHARGE PLAN AND DESIGN. First National Bank of Huntsville, Alabama. SN 274,964. Pub. 1-28-69. Filed 6-28-67.

868,277. REAP. Renyx, Field & Co., Inc. SN 281,821. Pub. 1-28-69. Filed 10-4-67.

868,278. DIRECT LINE. Hardware Mutual Casualty Company. SN 284,909. Pub. 1-28-69. Filed 11-15-67.

868,279. AMERICARE. American Republic Insurance Company. SN 291,129. Pub. 1-28-69. Filed 2-15-68.

Class 103—Construction and Repair

868,263. (See Class 100 for this trademark.)

868,264. (See Class 100 for this trademark.)

Class 105—Transportation and Storage

868,280. A CLASS ABOVE FIRST. KMK Airlines, Inc. SN 306,847. Pub. 1-28-69. Filed 9-9-68.

Class 107—Education and Entertainment

868,281. SIERRAS. Duward E. Yeargin, d.b.a. Sierras. SN 271,000. Pub. 1-28-69. Filed 5-8-67.

SUPPLEMENTAL REGISTER

These registrations are not subject to opposition.

Class 6—Chemicals and Chemical Compositions

868,282. Long Island Swimming Pool Service Co. Inc., Bethpage, N.Y. SN 283,260. Filed P.R. 10–24–67; Am. S.R. 12–26–68.

IRON-RID

For Preparation To Prevent the Iron and/or Magnesium in Water From Darkening or Turning the Water Brown in the Presence of Chlorine for Use in Swimming Pools (Int. Cl. 1).
First use May 9, 1952.

Class 19—Vehides

868,283. Auto-Kool, Inc., Lawton, Okla. SN 266,495. Filed P.R. 3–13–67; Am. S.R. 1–8–69.

AUTO-KOOL

For Automobile Air-Conditioners (Int. Cl. 11).
First use Feb. 3, 1965.

Class 21—Electrical Apparatus, Machines, and Supplies

868,284. Lutron Electronics Company, Inc., Emmaus, Pa. SN 269,192. Filed P.R. 4–14–67; Am. S.R. 1–10–69.

FANDIAL

For Speed Control for Electric Motors (Int. Cl. 9).
First use Feb. 3, 1967.

Class 46—Foods and Ingredients of Foods

868,285. Costa Ice Cream Company, Woodbridge, N.J. SN 266,005. Filed 7–30–68.



For Ice Cream (Int. Cl. 30).
First use Jan. 10, 1967.

868,286. Volpi-Fruna S.A. Industrial Comercial Financiera e Inmobiliaria, Buenos Aires, Argentina. SN 272,969. Filed P.R. 6–2–67; Am. S.R. 6–7–68.

VOLPI

Owner of Argentine Reg. No. 575,316, dated July 11, 1966.
For Candies (Int. Cl. 30).

Class 47—Wines

868,287. Productora y Difusora de Grandes Vinos Argentinos, Proviar, Sociedad Anonima Industrial y Commercial, Buenos Aires, Argentina. SN 278,608. Filed P.R. 8–18–67; Am. S.R. 12–30–68.

CUVÉE MONTOUR

For Champagne and Vermouth (Int. Cl. 33).
First use June 26, 1967; in commerce June 26, 1967.

Class 50—Merchandise Not Otherwise Classified

868,288. Bernardin, Inc., Evansville, Ind. SN 253,276. Filed P.R. 8–29–66; Am. S.R. 9–6–68.

EASY TWIST

For Container Caps (Int. Cl. 6).
First use Feb. 20, 1963.

Class 51—Cosmetics and Toilet Preparations

868,289. Gruppo Industriale Giuseppe Visconti di Modrone S.p.A., Milan, Italy. SN 265,419. Filed P.R. 2–24–67; Am. S.R. 12–18–68.

ACQUA DI COLONIA FRESCA

The trademark "Acqua Di Colonia Fresca" translated into English means "fresh eau de cologne."
For Perfumery (Int. Cl. 3).
First use during 1960; in commerce during 1961.

868,290. Richard Hudnut, Morris Plains, N.J. SN 283,930. Filed P.R. 11–1–67; Am. S.R. 1–13–69.

CHRISTMAS LIGHTS

For Lipstick (Int. Cl. 3).
First use Oct. 24, 1967.

868,291. John H. Breck, Inc., Wayne, N.J. SN 288,187. Filed P.R. 1–5–68; Am. S.R. 1–17–69.

HONEYTONE

For Hair Coloring Preparation (Int. Cl. 3).
First use Dec. 12, 1967.

TRADEMARK REGISTRATIONS RENEWED

68,845. SSW (MONOGRAM). Cl. 44 (Int. Cls. 5 and 10). 4–28–08.
73,476. HEATHER DEW. Cl. 49 (Int. Cl. 33). 4–20–09.
248,037. CHIFONESE. Cl. 39 (Int. Cl. 25). 10–16–28.
248,414. RIMACO. Cl. 16 (Int. Cl. 2). 10–23–28.
250,000. "JACK SPRAT" AND DESIGN. Cl. 46 (Int. Cls. 29, 30, 31, and 32). 11–27–28.
251,201. ALLIGATOR. Cl. 39 (Int. Cl. 25). 1–1–29.
252,174. V KOTE. Cl. 39 (Int. Cl. 25). 1–29–29.
252,182. MERTHIOLATE. Cl. 18 (Int. Cl. 5). 1–29–29.
252,350. "SEVEN UP." Cl. 45 (Int. Cl. 32). 2–5–29.
252,553. "RED SEAL" AND DESIGN. Cl. 6 (Int. Cls. 1 and 3). 2–12–29.
253,607. BEST-FLEX. Cl. 39 (Int. Cl. 25). 3–5–29.
253,968. CHUKKER. Cl. 39 (Int. Cl. 25). 3–12–29.
254,389. TEXTONE. Cl. 16 (Int. Cl. 2). 3–26–29.
254,653. TEXOLITE. Cl. 16 (Int. Cl. 2). 3–26–29.
254,976. "TRANSPORT" AND SHIELD DESIGN. Cl. 15 (Int. Cl. 4). 4–2–29.
255,262. TRAVIATA. Cl. 42 (Int. Cl. 24). 4–16–29.
256,496. SKEE-BALL. Cl. 22 (Int. Cl. 28). 5–21–29.
258,030. MANSCO. Cl. 39 (Int. Cl. 25). 6–25–29.
441,037. GOLD BEAR AND DESIGN. Cl. 6 (Int. Cl. 5). 10–19–48.
441,839. ALPHALIN. Cl. 18 (Int. Cl. 5). 1–18–49.
441,917. IMPERVO. Cl. 38 (Int. Cl. 16). 1–25–49.
442,061. FERRIS. Cl. 46 (Int. Cl. 29). 2–8–49.
442,146. QUAKER. Cl. 46 (Int. Cls. 29, 30, and 32). 3–1–49.
442,333. CROWN RUSSE. Cl. 49 (Int. Cl. 33). 3–24–49.
442,480. P-A-D. Cl. 18 (Int. Cl. 5). 4–12–49.
442,528. PORTA-GRILL. Cl. 34 (Int. Cl. 11). 4–26–49.
442,636. COLUMBIAN. Cl. 2 (Int. Cl. 16). 5–3–49.
442,724. CAPITOL. Cl. 39 (Int. Cl. 25). 5–24–49.
443,055. S AND DESIGN. Cl. 26 (Int. Cl. 11). 7–12–49.
502,240. QUEEN GUINEVERE. Cl. 46 (Int. Cl. 30). 9–21–48.
502,936. FARRINGTON. Cl. 2 (Int. Cls. 6 and 21). 10–12–48.
505,372. A & P. Cl. 46 (Int. Cl. 29). 1–4–49.
505,430. BRIGHT SAIL. Cl. 6 (Int. Cls. 1 and 3). 1–4–49.
505,492. DREADNAUGHT. Cl. 42 (Int. Cl. 24). 1–4–49.
505,493. GREAT MALLARD AND DESIGN. Cl. 42 (Int. Cl. 24). 1–4–49.
505,510. LAMCOTE. Cl. 106 (Int. Cl. 40). 1–4–49.
505,918. LAHER AND DESIGN. Cl. 21 (Int. Cl. 9). 1–25–49.
505,924. SOFTRESS. Cl. 52 (Int. Cl. 3). 1–25–49.
505,951. JUICE KING. Cl. 23 (Int. Cl. 7). 1–25–49.
506,049. PEE-WEE A. Cl. 45 (Int. Cl. 32). 1–25–49.
506,072. LODGE. Cl. 21 (Int. Cl. 7). 1–25–49.
506,086. CAPRISTORS. Cl. 21 (Int. Cl. 9). 1–25–49.
506,180. HI-HAT. Cl. 39 (Int. Cl. 25). 2–1–49.
506,181. BROWNIE. Cl. 39 (Int. Cl. 25). 2–1–49.
506,182. BLIZZARD. Cl. 39 (Int. Cl. 25). 2–1–49.
506,183. SNOFLAKE. Cl. 39 (Int. Cl. 25). 2–1–49.
506,203. FRIVOL. Cl. 39 (Int. Cl. 25). 2–1–49.
506,481. MORNING GLORY AND DESIGN. Cl. 51 (Int. Cl. 3). 2–8–49.
506,584. BOIS DE BOULOGNE. Cl. 52 (Int. Cl. 3). 2–8–49.
506,611. THEOBA. Cl. 18 (Int. Cl. 5). 2–15–49.
506,626. NALCITE. Cl. 6 (Int. Cl. 1). 2–15–49.
506,637. CARMACIN. Cl. 18 (Int. Cl. 5). 2–15–49.
506,638. DIGINUTIN. Cl. 18 (Int. Cl. 5). 2–15–49.
506,756. WOODBURY. Cl. 51 (Int. Cl. 3). 2–15–49.
506,896. MANHATTAN AND DESIGN. Cl. 4 (Int. Cl. 21). 2–22–49.
506,902. G.B.C. Cl. 37 (Int. Cl. 16). 2–22–49.
506,952. DOLOPHINE. Cl. 18 (Int. Cl. 5). 2–22–49.
507,149. JACK FROST. Cl. 39 (Int. Cl. 25). 3–1–49.
507,150. ARMOR. Cl. 39 (Int. Cl. 25). 3–1–49.
507,224. THREE SPIRES AND DESIGN. Cl. 39 (Int. Cl. 25). 3–1–49.
508,057. BANG-UP. Cl. 39 (Int. Cl. 25). 3–29–49.
508,058. WHIZ BANG. Cl. 39 (Int. Cl. 25). 3–29–49.
508,059. OLD RELIABLE. Cl. 39 (Int. Cl. 25). 3–29–49.
508,240. DANWEAR. Cl. 42 (Int. Cl. 24). 4–5–49.
508,622. SANTOCURE. Cl. 6 (Int. Cl. 17). 4–12–49.
508,707. PHOTO-PLATIN. Cl. 38 (Int. Cl. 16). 4–19–49.
508,805. MCCORD. Cl. 35 (Int. Cl. 17). 4–19–49.
508,904. GERMAIN'S. Cl. 1 (Int. Cl. 31). 4–26–49.
508,933. SPENCER. Cl. 44 (Int. Cl. 10). 4–26–49.
508,985. SUPERIOR 70 AND LIGHTHOUSE DESIGN. Cl. 51 (Int. Cl. 3). 4–26–49.
509,060. ORTHOXINE. Cl. 18 (Int. Cl. 5). 4–26–49.
509,242. FLO SCOPE. Cl. 26 (Int. Cl. 9). 5–3–49.
509,356. TOE SAVER. Cl. 39 (Int. Cl. 25). 5–3–49.
509,384. SCHLITZ AND DESIGN. Cl. 48 (Int. Cl. 32). 5–3–49.
509,663. GOLD MEDAL ETC. AND DESIGN. Cl. 18 (Int. Cl. 5). 5–10–49.
509,676. BLUE BUNNY AND DESIGN. Cl. 46 (Int. Cl. 29). 5–10–49.
509,870. ROYAL. Cl. 21 (Int. Cl. 9). 5–17–49.
509,964. DANTUFF. Cl. 42 (Int. Cl. 24). 5–17–49.
510,044. SPIRCO. Cl. 16 (Int. Cl. 3). 5–24–49.
510,079. DRAKE AND DESIGN. Cl. 16 (Int. Cl. 2). 5–24–49.
510,383. PURITAN AND DESIGN. Cl. 1 (Int. Cl. 31). 5–31–49.
510,448. SKROOT. Cl. 52 (Int. Cl. 3). 5–31–49.
510,512. ANALYTICAL REAGENTS LABEL. Cl. 6 (Int. Cls. 1 and 6). 6–7–49.
510,549. LOKTAB. Cl. 23 (Int. Cl. 7). 6–7–49.
510,572. K-D. Cl. 23 (Int. Cls. 7 and 8). 6–7–49.
510,697. JERGENS. Cl. 52 (Int. Cl. 3). 6–7–49.
510,760. HAMIKLEEN. Cl. 52 (Int. Cl. 3). 6–7–49.
510,765. SNOAP. Cl. 52 (Int. Cl. 3). 6–7–49.
510,917. HEIL. Cl. 23 (Int. Cl. 7). 6–14–49.
511,213. DIAMOND. Cl. 46 (Int. Cls. 29 and 31). 6–21–49.
511,616. HEIRLOOM. Cl. 27 (Int. Cl. 14). 6–28–49.
511,664. KELLOGG. Cl. 27 (Int. Cl. 14). 6–28–49.
511,665. ROCKLAND. Cl. 27 (Int. Cl. 14). 6–28–49.
511,712. Z-C. Cl. 6 (Int. Cl. 5). 6–28–49.
511,879. MONOGRAM. Cl. 27 (Int. Cl. 14). 7–5–49.
511,880. TRAIN TIMER. Cl. 27 (Int. Cl. 14). 7–5–49.
512,087. HERMAN. Cl. 23 (Int. Cl. 7). 7–12–49.
512,485. STA-KON. Cl. 21 (Int. Cl. 9). 7–19–49.
512,486. TUBELETS. Cl. 21 (Int. Cl. 9). 7–19–49.
512,487. HINJON. Cl. 21 (Int. Cl. 9). 7–19–49.

TRADEMARK REGISTRATIONS CANCELED

Section 8

The following trademarks issued Feb. 26, 1963

745,604. HICK-RE-Q. Cl. 1.
745,607. NORTH WOODS. Cl. 1.
745,608. LI AND DESIGN. Cl. 2.
745,610. SAFETY-THERM AND DESIGN. Cl. 2.
745,612. BOTCAN. Cl. 2.
745,613. THE SHOE-SPIN. Cl. 2.
745,615. TED WILLIAMS. Cls. 3 and 9.
745,617. BIG KERNEL. Cl. 3.
745,618. MAGNA-LITE. Cl. 3.
745,627. TREPSAN. Cl. 6.
745,628. TREPON. Cl. 6.
745,629. C-N-C. Cl. 6.
745,631. ALIPAR. Cl. 6.
745,635. WEL-FIN. Cl. 6.
745,639. CONOCO AND DESIGN. Cl. 6.
745,642. ORIANA. Cl. 6.
745,644. LADY CLAIR. Cl. 7.
745,649. NUTRAMIN. Cl. 10.
745,652. UNISTEEL. Cl. 12.
745,655. PRESD-PAN. Cl. 12.
745,660. PIPCO AND DESIGN. Cl. 13.
745,666. UNISTEEL. Cl. 13.
745,667. GABRIEL. Cl. 13.
745,669. MR. TUFF AND DESIGN. Cl. 13.
745,670. EXCALIBUR. Cl. 13.

745,671. CORRODUR. Cl. 14.
745,673. ZIRCOMAG. Cl. 14.
745,677. STA. Cl. 16.
745,679. MIRAFINISH. Cl. 16.
745,680. CLEARLINE. Cl. 16.
745,681. ORIANA. Cl. 16.
745,683. GOURMET. Cl. 17.
745,689. AVILA. Cl. 17.
745,691. POLIDASE-S. Cl. 18.
745,692. HEPIVIN. Cl. 18.
745,693. RAUTRATE. Cl. 18.
745,696. DATE-A-VITE. Cl. 18.
745,697. TACINE. Cl. 18.
745,700. CITROEAZE AND DESIGN. Cl. 18.
745,701. CITROAIRE. Cl. 18.
745,716. TELAFLO. Cl. 19.
745,718. SKY-LIFT. Cl. 19.
745,720. DINE-A-PHONE. Cl. 21.
745,722. MAGNETRIP. Cl. 21.
745,727. SONOSEAL. Cl. 21.
745,728. PAP. Cl. 21.
745,731. LE MARC. Cl. 21.
745,739. MICROKEEP. Cl. 21.
745,745. WEEDLESS WONDER AND DESIGN. Cl. 22.
745,746. WONDER CLUB. Cl. 22.
745,747. LITTLE GLAMOUR PUSS. Cl. 22.
745,748. BROKER. Cl. 22.
745,749. TWISTER. Cl. 22.
745,751. BOWL RITE AND DESIGN. Cl. 22.
745,752. FIREBIRD. Cl. 22.
745,754. TOPPLE CHAIRS. Cl. 22.
745,757. CONSTRUCTION. Cl. 22.
745,761. GLORIA. Cl. 23.
745,763. NI-ARB. Cl. 23.
745,773. ACE. Cl. 23.
745,777. BOOK-O-MAT. Cl. 23.
745,780. WORKBENCH. Cl. 23.
745,781. PRECIWEITZ. Cl. 23.
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745,999. BLOAT-PAC. Cl. 18.
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746,027. SLENDER FORM FIGURE STUDIOS. Cl. 100.
746,028. COORDINATED COMMUNICATIONS. Cl. 101.
746,036. "G" PROCESS. Cl. 106.

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507,130. STAR DESIGN. Cl. 42. 3–1–49. North Star Woolen Mill Company. Chatham Manufacturing Company, Elkin, N.C. Amended: In the statement, column 1, lines 8 through 10, the description of goods is deleted and *blankets* is inserted, and the drawing is amended to appear:



563,160. THE PREP PARADE. Cl. 38. 8–19–52. The Oklahoma Publishing Company, Oklahoma City, Okla. Corrected: In the certificate, line 6, "Oklahoma" should be deleted and *Delaware* should be inserted and in the statement, column 1, line 3, "Oklahoma" first occurrence should be deleted and *Delaware* should be inserted.

563,161. THE SLUSH PIT. Cl. 38. 8–19–52. The Oklahoma Publishing Company, Oklahoma City, Okla. Corrected: In the certificate, line 6, "Oklahoma" should be deleted and *Delaware* should be inserted and in the statement, column 1, line 3, "Oklahoma" first occurrence should be deleted and *Delaware* should be inserted.

563,162. THE SMOKING ROOM. Cl. 38. 8–19–52. The Oklahoma Publishing Company, Oklahoma City, Okla. Corrected: In the certificate, line 6, "Oklahoma" should be deleted and *Delaware* should be inserted and in the statement, column 1, line 3, "Oklahoma" first occurrence should be deleted and *Delaware* should be inserted.

620,463. EVEREST & JENNINGS. Cl. 44. 1–31–56. Everest & Jennings, Inc., Los Angeles, Calif. Amended to appear:

EVEREST & JENNINGS

643,886. SOCKS. Cl. 21. 4–9–57. The Thomas & Betts Co., Elizabeth, N.J. Corrected: In the statement, column 1, line 1, ", Inc." should be deleted.

646,071. SHURE STAKE. Cl. 23. 5–28–57. The Thomas & Betts Co., Elizabeth, N.J. Corrected: In the statement, column 1, line 1, ", Inc." should be deleted.

646,446. SHURE SQUEEZER. Cl. 23. 6–4–57. The Thomas & Betts Co., Elizabeth, N.J. Corrected: In the statement, column 1, line 1, ", Inc." should be deleted.

690,914. OLD FORGE. Cl. 37. 1–5–60. P. H. Glatfelter Co., Spring Grove, Pa. Amended: In the statement, column 2, line 4, after "paper)", *made substantially of 100% chemical wood pulp* is inserted.

744,668. GOLFMASTER. Cl. 19. 2–5–63. Toro Manufacturing Corporation, Minneapolis, Minn. Amended: In the statement, column 2, lines 1 and 2, "turf tractors and" is deleted.

756,354. CONNECTO-BLOK. Cl. 21. 9–10–63. The Thomas & Betts Co., Elizabeth, N.J. Corrected: In the statement, column 1, line 1, ", Incorporated" should be deleted.

763,384. AQUA-MARINE. Cl. 21. 1–21–64. Aqua-Marine Mfg. Ltd., Toronto, Canada. Amended: In the statement, column 2, line 2, "switches and" is deleted.

768,694. WIRE-DIAL. Cl. 23. 4–28–64. The Thomas & Betts Co., Elizabeth, N.J. Corrected: In the statement, column 1, line 1, ", Incorporated" should be deleted.

776,915. COLOR-COUPLER AND DESIGN. Cl. 21. 9–15–64. Winegard Company, Inc., Burlington, Iowa. Corrected: In the statement, column 1, line 1, "Television Accessories Mfg." should be deleted and *Company* should be inserted.

847,999. COLORGRAPHICS AND C DESIGN. Cl. 101. 4–23–68. The Oklahoma Publishing Company, Oklahoma City, Okla. Corrected: In the statement, column 1, line 1, "Oklahoma" second occurrence should be deleted and *Delaware* should be inserted.

849,978. NP. Cl. 101. 5–28–68. The Oklahoma Publishing Company, Oklahoma City, Okla. Corrected: In the statement, column 1, line 1, "Oklahoma" second occurrence should be deleted and *Delaware* should be inserted.

849,979. NP NATIONAL PACKAGING COMPANY. Cl. 101. 5–28–68. The Oklahoma Publishing Company, Oklahoma City, Okla. Corrected: In the statement, column 1, line 1, "Oklahoma" second occurrence should be deleted and *Delaware* should be inserted.

851,937. ROMANCES. Cl. 38. 7–2–68. Publicaciones Latino Americanas, Ltd., Nassau, Bahamas. Amended to appear:

ROMANCES

854,527. VITAMINDE. Cl. 18. 8–13–68. Flint River Mills, Inc., Tallahassee, Fla. Amended: In the statement, column 2, lines 1 through 4, the description of goods is deleted and *vitamin and mineral supplement for dry feed for livestock, poultry, and deer* is inserted.

854,657. CHERRIE. Cl. 39. 8–13–68. C. W. Anderson Hosiery Company. Coast Empire, Inc., Charlotte, N.C. Amended to appear:

Cherié

858,956. BUFFALO. Cl. 35. 10–22–68. N.V. Rubberfabriek Vredestein, The Hague, Netherlands. Corrected: In the statement, column 1, line 1, "Veredestein" should be deleted and *Vredestein* should be inserted.

863,753. FELCO-BOND. Cl. 5. 1–21–69. Felt Products Mfg. Co., Skokie, Ill. Corrected: In the statement, column 1, line 1, "Illinois" should be deleted and *Delaware* should be inserted.

864,230. COLIVER. Cl. 26. 1–28–69. Hach Chemical Company, assignee of Hach Chemical Company, Ames, Iowa. Corrected: In the heading "Ser. No. 291,609" should be deleted and *Ser. No. 291,069* should be inserted.

864,274. CARCO. Cl. 37. 1–28–69. Carco, Incorporated, Detroit, Mich. Corrected: The heading should be deleted and *Ser. No. 270,224 filed Apr. 28, 1967* should be inserted.

864,275. TEX-RITE AND DESIGN. Cl. 37. 1–28–69. Carco, Incorporated, doing business as Tex-Rite Products Co., Detroit, Mich. Corrected: The heading should be deleted and *Ser. No. 270,225, filed Apr. 28, 1967* should be inserted.

865,025. PANKLETS BY MARY GREY. Cl. 39. 2–18–69. Grey Hosiery Mills, doing business as Mary Grey Hosiery Mills, Bristol, Va. Corrected: In the statement, column 1, line 1, "Hosier" should be deleted and *Hosiery* should be inserted.

INDEX OF REGISTRANTS

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(Registered ; Renewed ; Canceled ; Amended, Disclaimed, Corrected, etc. ; New Certificates ; 12c Publications.)

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A.B.C. Television Ltd. : *See*—
ABC Television Films Ltd.
A & G Engineering : *See*—
DeFalco, George J.
Acorn Engineering Co., City of Industry, Calif. 868,114, pub. 1–28–69. Cl. 13.
Activated Metals & Chemicals, Inc., Sevierville, Tenn. 868,090, pub. 1–28–69. Cl. 6.
Addressograph-Multigraph Corp., Cleveland, Ohio. 510,549, ren. 4–15–69. Cl. 23.
Admiral Steel Corp., Chicago, Ill. 868,119, pub. 1–28–69. Cl. 14.
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Alberto-Culver Co., Melrose Park, Ill. 868,246, pub. 1–28–69. Cl. 51.
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Alpha Metals, Inc., Jersey City, N.J. 868,184, pub. 1–28–69. Cl. 34.
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American Biltrite Rubber Co., Inc., Trenton, N.J. 868,137, pub. 1–28–69. Cl. 20.
American Cyanamid Co., Wayne, N.J. 868,112, pub. 1–28–69. Cl. 13.
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American Dairy Queen Corp., Minneapolis, Minn., from Samuel J. Temperato, d.b.a. Dairy Queen of Greater St. Louis, St. Louis, Mo. 868,230, pub. 1–28–69. Cl. 46.
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American Safety Razor Co. : *See*—
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Anil Canada Ltd., Halifax, Nova Scotia, Canada. 868,102, pub. 1–28–69. Cl. 12.
Anker-Phoenix Nahmaschinen A.G., Bielefeld, Germany. 745,761, canc. Cl. 23.
Aqua-Marine Mfg. Ltd., Toronto, Canada. 763,384. Am. 7(d). Cl. 21.
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Beamco, Inc., Mountain View, Calif. 868,174, pub. 1–28–69. Cl. 26.
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Blanchard Importing & Distributing Co., Inc., Boston, Mass. 746,022, canc. Cl. 49.
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Bonne Bell, Inc., Lakewood, Ohio. 868,249, pub. 1–28–69. Cl. 51.
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Borg-Warner Corp., Chicago, Ill. 868,083, pub. 1–28–69. Cl. 1.
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Clairol Inc., New York, N.Y. 868,242, pub. 1–28–69. Cl. 51.
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Cleinman & Sons, Inc., Providence, R.I. 745,747, canc. Cl. 22.
Close-Up, Inc., New York, N.Y. 868,222, pub. 1–28–69. Cl. 38.
Cobia, B. L., Inc., Winter Garden, Fla. 868,084, pub. 1–28–69. Cl. 1.
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Construction Research Corp., Chicago, Ill. 868,104, pub. 1–28–69. Cl. 12.
Continental Oil Co., Ponca City, Okla. 745,639, canc. Cl. 6.
Copolymer Rubber & Chemical Corp., Baton Rouge, La. 868,081, pub. 1–28–69. Cl. 1.
Cordovan Associates, Inc., Dayton, Ohio. 868,189–90, pub. 1–28–69. Cl. 35.
Costa Ice Cream Co., Woodbridge, N.J. 868,285. Cl. 46.

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Foster, James S.
Credithrift Financial Management Corp., from Interstate Management Corp., Evansville, Ind. 868,273, pub. 1–28–69. Cl. 101.
Crutcher-Rolfs-Cummings, Inc., Houston, Tex. 868,156, pub. 1–28–69. Cl. 23.
Curtis, Helene, Industries, Inc., Chicago, Ill. 868,251–3, pub. 1–28–69. Cl. 51.
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Davies Nitrate Co., Inc., New York, N.Y. 745,649, canc. Cl. 10.
Dazey Enterprises, Inc., St. Louis, Mo. 745,800, canc. Cl. 38.
De Falco, George J., d.b.a. A & G Engineering, Irwindale, Calif. 868,160, pub. 1–28–69. Cl. 23.
Demert & Dougherty, Inc., Chicago, Ill. 868,091, pub. 1–28–69. Cl. 6.
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Di-Noc Chemical Arts, Inc., Cleveland, Ohio. 745,816–7, canc. Cl. 26.
Directional Industries, Inc., New York, N.Y. 868,179, pub. 1–28–69. Cl. 32.
Dooner Laboratories Inc., Haverhill, Mass. 868,132, pub. 1–28–69. Cl. 18.
Dorn & Kirschner Band Instrument Co., Inc., Newark, N.J. 745,849, canc. Cl. 36.
Drake Paint Co., Chicago, Ill. 510,079, ren. 4–15–69. Cl. 16.
Drexel Enterprises, Inc., High Point, N.C. 745,831, canc. Cl. 32.
Druxman, Hersh I., d.b.a. Northwest Jewelers, Seattle, Wash. 745,826, canc. Cl. 28.
Dumont, J. P., Drug Corp., New York, N.Y. 745,998, canc. Cl. 18.
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Eastman Kodak Co., Rochester, N.Y. 745,819, canc. Cl. 26.
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Edwards Engineering Corp., Pompton Plains, N.J. 868,182, pub. 1–28–69. Cl. 34.
Electro Learner Corp., Wilmington, Del., from Arthur R. Schmoyer, Potomac Falls, Md. 868,195, pub. 1–28–69. Cl. 36.
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Foster, James S., d.b.a. Country Artists Records, Tampa, Fla. 868,196, pub. 1–28–69. Cl. 36.
Fotomat Corp., La Jolla, Calif. 868,275, pub. 1–28–69. Cl. 101.
Fruitvale Canning Co., Oakland, Calif. 509,676, ren. 4–15–69. Cl. 46.
Gabriel Co., The, Cleveland, Ohio. 745,667, canc. Cl. 13.
Gelman Instrument Co., Ann Arbor, Mich. 868,221, pub. 1–28–69. Cl. 38.
Genepesca Soc. p. Az., Rome, Italy. 868,235, pub. 1–28–69. Cl. 46.
General Battery & Ceramic Corp.: *See*—
Royal Battery Corp.
General Binding Corp., Northbrook, Ill. 506,902, ren. 4–15–69. Cl. 37.
General Research Corp., Goleta, Calif. 868,271, pub. 1–28–69. Cl. 100.
General Mills, Inc., Minneapolis, Minn. 745,631, canc. Cl. 6.
Genisco Technology Corp., Compton, Calif. 868,142, pub. 1–28–69. Cl. 21.
Georgian Baby Products Co., Inc., New York, N.Y. 745,865, canc. Cl. 39.
Gerhart Scale Corp., South River, N.J. 868,264, pub. 1–28–69. Multiple Class (Classes 100 and 103).
Germain Seed & Plant Co., to Germain's, Inc., Los Angeles, Calif. 508,904, ren. 4–15–69. Cl. 1.
Germain's, Inc.: *See*—
Germain Seed & Plant Co.
Gilbert, S. L., Co., Inc., New York, N.Y. 507,224, ren. 4–15–69. Cl. 39.
Glatfelter, P. H., Co., Spring Grove, Pa. 690,914. Am. 7(d). Cl. 37.
Gold Medal Haarlem Oil Co.: *See*—
Gold Medal Haarlem Oil Corp.
Gold Medal Haarlem Oil Corp., to Forall Drug Co., Inc., d.b.a. Gold Medal Haarlem Oil Co., Jersey City, N.J. 509,663, ren. 4–15–69. Cl. 18.
Good Luck Glove Co., Carbondale, Ill. 506,180–3, ren. 4–15–69. Cl. 39.
Good Luck Glove Co., Carbondale, Ill. 507,149–50, ren. 4–15–69. Cl. 39.
Goodall Rubber Co., to Goodall Rubber Co., Trenton, N.J. 509,356, ren. 4–15–69. Cl. 39.
Gotham Knitting Mills, Inc., New York, N.Y. 745,868, canc. Cl. 39.
Great Atlantic & Pacific Tea Co., The, to The Great Atlantic & Pacific Tea Co., Inc., New York, N.Y. 505,372, ren. 4–15–69. Cl. 46.
Great Atlantic & Pacific Tea Co., The, to The Great Atlantic & Pacific Tea Co., Inc., New York, N.Y. 505,430, ren. 4–15–69. Cl. 6.
Great Atlantic & Pacific Tea Co., Inc., The: *See*—
Great Atlantic & Pacific Tea Co., The.
Green Bay Canning Corp., Green Bay, Wis. 868,236, pub. 1–28–69. Cl. 46.
Greene, Tweed & Co., Inc., North Wales, Pa. 868,191, pub. 1–28–69. Cl. 35.
Grey Hosiery Mills, d.b.a. Mary Grey Hosiery Mills, Bristol, Va. 865,025, cor. Cl. 39.
Gruber, Otto, d.b.a. Stahlgruber, Otto Gruber & Co., Munich, Germany. 868,186, pub. 1–28–69. Cl. 35.
Grundig Werke G.m.b.H., Fuerth, Bayern, Germany. 868,199, pub. 1–28–69. Cl. 36.
Gruppo Industriale Giuseppe Visconti Di Modrone S.p.A., Milan, Italy. 868,289. Cl. 51.
Haas-Miller Corp., to Harry Miller Corp., Philadelphia, Pa. 510,760, ren. 4–15–69. Cl. 52.
Hach Chemical Co., from Hach Chemical Co., Ames, Iowa. 864,230, cor. Cl. 26.
Hammermill Paper Co., Erie, Pa. 868,203, pub. 1–28–69. Cl. 37.
Hancock Iron Works, Inc.: *See*—
Meco, Inc.
Hardware Mutual Casualty Co., Stevens Point, Wis. 868,278, pub. 1–28–69. Cl. 102.
Hayakawa Electric Co., Ltd., Osaka, Japan. 868,171, pub. 1–28–69. Cl. 26.
Heil Co., The, Milwaukee, Wis. 510,917, ren. 4–15–69. Cl. 23.
Heinicke Instruments Co., Hollywood, Fla. 868,158, pub. 1–28–69. Multiple Class (Classes 23, 34, and 52).
Helene of Hollywood, Inc., Los Angeles, Calif. 745,956, canc. Cl. 51.
Henric's Oldenkott Senior & Comp., Rees, Rhine, Germany. 868,095, pub. 1–28–69. Cl. 8.
Herman Pneumatic Machine Co., Pittsburgh, Pa. 512,087, ren. 4–15–69. Cl. 23.
Hick-Re-Q Chips, Inc., Elsberry, Mo. 745,604, canc. Cl. 1.
Hill Bros. Chemical Co., City of Industry, Calif. 745,612, canc. Cl. 2.
Hinckley & Schmitt, Chicago, Ill. 868,229, pub. 1–28–69. Cl. 45.
Holo-Krome Co.: *See*—
Veeder Industries, Inc.
Honeywell Inc., Minneapolis, Minn. 868,165, pub. 1–28–69. Cl. 26.
Horne's Enterprises, Inc., Detroit, Mich. 868,267, pub. 1–28–69. Cl. 100.
Horwitz, Jeff: *See*—
Jeffco Games, Inc.
Hospital Helping Hands International, Inc., Chicago, Ill. 868,265, pub. 1–28–69. Cl. 100.
Howdy Co., The, to The Seven Up Co., St. Louis, Mo. 252,350, ren. 4–15–69. Cl. 45.
Hudnut, Richard, Morris Plains, N.J. 868,248, pub. 1–28–69. Cl. 51.
Hudnut, Richard, Morris Plains, N.J. 868,290. Cl. 51.
Hyder, Wanda H., Miami, Fla. 745,884, canc. Cl. 40.
Hydro Dent Co., The, Los Angeles, Calif. 868,256, pub. 1–28–69. Cl. 51.
Hysan Products Co., Chicago, Ill. 510,448, ren. 4–15–69. Cl. 52.
Hysan Products Co., Chicago, Ill. 510,765, ren. 4–15–69. Cl. 52.
Ilford, Ltd., Ilford, Essex, England. 745,799, canc. Cl. 26.
Indianapolis Glove Co., to Indianapolis Glove Co., Inc., Indianapolis, Ind. 508,057–9, ren. 4–15–69. Cl. 39.
Indianapolis Glove Co., Inc.: *See*—
Indianapolis Glove Co.
Inland Steel Products Co., Milwaukee, Wis. 745,679, canc. Cl. 16.
Insurance Co. of North America, Philadelphia, Pa. 868,212, pub. 1–28–69. Cl. 38.
Interchemical Corp.: *See*—
Rinshed-Mason Co.
International Stereotypers & Electrotypers Union of North America, Boston, Mass. 745,989, canc. Cl. A.

International Telephone & Telegraph Corp., New York, N.Y. 868,159. Cl. 23.
International Ultrasonics, Inc., Cranford, N.J. 745,727, canc. Cl. 21.
International-Stanley Corp., Omaha, Nebr. 868,170, pub. 1–28–69. Cl. 26.
Interstate Management Corp.: *See*—
Credithrift Financial Management Corp.
Irsin Restaurant Corp., from I. Sinowitz, d.b.a. Skinny Stores, New York, N.Y. 868,269, pub. 1–28–69. Cl. 100.
J-L Forms Co., Omaha, Nebr. 868,211, pub. 1–28–69. Cl. 37.
Jasper Corp., The, Jasper, Ind. 868,194, pub. 1–28–69. Cl. 36.
Jeffco Games, Inc., from J. Horwitz, Winnetka, Ill. 746,002, canc. Cl. 22.
Jeffers Electronics, Inc., Dubois, Pa., to Air Reduction Co., Inc., New York, N.Y. 506,086, ren. 4–15–69. Cl. 21.
Jergens, Andrew, Co., The: *See*—
Woodbury, John H., Inc.
Jergens, Andrew, Co., The, Cincinnati, Ohio. 505,924, ren. 4–15–69. Cl. 52.
Jergens, Andrew, Co., The, Cincinnati, Ohio. 506,481, ren. 4–15–69. Cl. 51.
Jergens, Andrew, Co., The, Cincinnati, Ohio. 510,697, ren. 4–15–69. Cl. 52.
Johnson Publishing Co., Inc., Chicago, Ill. 868,244, pub. 1–28–69. Multiple Class (Classes 51 and 52).
Johnson & Quin, Inc., Chicago, Ill. 868,206, pub. 1–28–69. Cl. 37.
K-D Mfg. Co., Lancaster, Pa. 510,572, ren. 4–15–69. Cl. 23.
KMK Airlines, Inc., Washington, D.C. 868,280, pub. 1–28–69. Cl. 105.
Kahn, David, Inc., North Bergen, N.J. 746,006, canc. Cl. 37.
Kay Musical Instrument Co., Chicago, Ill. 745,848, canc. Cl. 36.
Kellogg Co., Battle Creek, Mich. 746,014, canc. Cl. 46.
Kelly-Springfield Tire Co., The, Cumberland, Md. 868,188, pub. 1–28–69. Cl. 35.
Kent, Elizabeth, Cosmetics Inc., New York, N.Y. 745,961, canc. Cl. 51.
Kettle Restaurants, Inc.: *See*—
Restaurant Management Consultants & Analysts Inc.
King Athletic Goods Co., Philadelphia, Pa. 868,147, pub. 1–28–69. Cl. 22.
Kitamura, Hyakuichi, Osaka, Japan. 868,231, pub. 1–28–69. Cl. 46.
Kleer-Vu Industries, Inc., New York, N.Y. 868,209, pub. 1–28–69. Cl. 37.
Kono Mfg. Co., Inc., Woodside, N.Y. 745,796–8, canc. Cl. 26.
Kruger Tissue Mills, Inc., Bondsville, Mass. 868,207, pub. 1–28–69. Cl. 37.
L'Adorn, Inc.: *See*—
White Stag Mfg. Co.
Lafayette Radio Electronics Corp., Jamaica, N.Y. 745,787, canc. Cl. 26.
Laher Spring & Electric Car Corp.: *See*—
Laher Spring & Tire Corp.
Laher Spring & Tire Corp., to Laher Spring & Electric Car Corp., Oakland, Calif. 505,918, ren. 4–15–69. Cl. 21.
Lamar, Heber C., Indianapolis, Ind. 745,745, canc. Cl. 22.
Langley Alloys Ltd., Langley, Slough, Buckinghamshire, England. 868,120–1, pub. 1–28–69. Cl. 14.
Le Beau Products, Ferndale, Mich. 745,669, canc. Cl. 13.
Ledex, Inc., Dayton, Ohio. 868,144, pub. 1–28–69. Cl. 21.
Lee & Cady, to Vlasic Foods Co., Detroit, Mich. 442,146, ren. 4–15–69. Cl. 46.
Legge, Walter G., Co., Inc., New York, N.Y. 510,044, ren. 4–15–69. Cl. 16.
Les Parfums Chypron S.A.: *See*—
Les Parfums De Dana, Inc.
Les Parfums De Dana, Inc., New York, N.Y., to Les Parfums Chypron S.A., Bois-Colombes (Seine), France. 506,584, ren. 4–15–69. Cl. 52.
Lilly, Eli, & Co., Indianapolis, Ind. 252,182, ren. 4–15–69. Cl. 18.
Lilly, Eli, & Co., Indianapolis, Ind. 441,839, ren. 4–15–69. Cl. 18.
Lilly, Eli, & Co., Indianapolis, Ind. 506,952, ren. 4–15–69. Cl. 18.
Lodge Plugs Ltd., Rugby, England, to Smiths Industries Ltd., London, England. 506,072, ren. 4–15–69. Cl. 21.
Loma Industries, Ft. Worth, Tex. 745,608, canc. Cl. 2.
London Records, Inc., New York, N.Y. 745,843, canc. Cl. 36.
Long Island Swimming Pool Service Co. Inc., Bethpage, N.Y. 868,282. Cl. 6.
Loomtogs, Inc., New York, N.Y. 745,871, canc. Cl. 39.
Los Angeles Brush Mfg. Corp., Los Angeles, Calif. 868,176, pub. 1–28–69. Cl. 29.
Los Angeles Frame Co., Inc., Los Angeles, Calif. 868,180, pub. 1–28–69. Cl. 32.
Lumaside, Inc., Milwaukee, Wis. 868,157, pub. 1–28–69. Cl. 23.
Lutron Electronics Co., Inc., Emmaus, Pa. 868,284. Cl. 21.
MSL Industries, Inc., Chicago, Ill. 868,117, pub. 1–28–69. Cl. 13.
Mallinckrodt Chemical Works, St. Louis, Mo. 510,512, ren. 4–15–69. Cl. 6.
Manhattan Industries, Inc.: *See*—
Manhattan Shirt Co., The.
Manhattan Shirt Co., The, to Manhattan Industries, Inc., New York, N.Y. 258,030, ren. 4–15–69. Cl. 39.
Mann, James F., d.b.a. Tork Lift Sales & Mfg. Co., Tacoma, Wash. 868,133, pub. 1–28–69. Cl. 19.
Mar-Tay, Inc., Orlando, Fla. 745,700–1, canc. Cl. 18.
Martin, J. B., Co., Norwich, Conn. 255,262, ren. 4–15–69. Cl. 42.
Martin-Brower Corp., Chicago, Ill. 868,201, pub. 1–28–69. Cl. 37.
Martin-Marietta Corp., Cleveland, Ohio. 745,677, canc. Cl. 16.
Masonite Corp., Chicago, Ill. 745,655, canc. Cl. 12.
Mattel, Inc., Hawthorne, Calif. 868,148–53, pub. 1–28–69. Cl. 22.
Mayekawa U.S.A., Inc., Los Angeles, Calif. 868,178, pub. 1–28–69. Cl. 31.
McCord Corp., Detroit, Mich. 508,805, ren. 4–15–69. Cl. 35.
McCrory Corp.: *See*—
Best & Co.
Meadow Maid, Inc., Santa Ana, Calif. 868,233, pub. 1–28–69. Cl. 46.
Meco, Inc., Galveston, Ind., to Hancock Iron Works, Inc., Pontiac, Mich. 442,528, ren. 4–15–69. Cl. 34.
Meiji Seika Kaisha, Ltd., Tokyo, Japan. 868,232, pub. 1–28–69. Cl. 46.
Mele Mfg. Co., Inc.: *See*—
Farrington Mfg. Co.
Mercury Record Productions, Inc., Chicago, Ill. 745,850, canc. Cl. 36.
Mercury Ring Corp., New York, N.Y. 745,824, canc. Cl. 28.
Midland-Ross Corp., Toledo, Ohio. 868,105, pub. 1–28–69. Multiple Class (Classes 13 and 34).
Mid-States Shoe Co., Milwaukee, Wis. 745,880, canc. Cl. 39.
Milchem Inc., Houston, Tex. 868,089, pub. 1–28–69. Cl. 6.
Miller, Harry, Corp.: *See*—
Haas-Miller Corp.
Millipore Corp., Bedford, Mass. 868,163, pub. 1–28–69. Cl. 26.
Mr. Real Estate, Inc., Sarasota, Fla. 745,979, canc. Cl. 102.
Mitchell Brothers Ltd., Glasgow, Scotland. 73,476, ren. 4–15–69. Cl. 49.
Monsanto Chemical Co., to Monsanto Co., St. Louis, Mo. 508,622, ren. 4–15–69. Cl. 6.
Monsanto Co.: *See*—
Monsanto Chemical Co.
Mo och Domsjo Aktiebolag, Ornskoldsvik, Sweden. 868,080, pub. 1–28–69. Multiple Class (Classes 1, 5, 6, 12, and 37).
Morgan Adhesives Co., Stow, Ohio. 868,099, pub. 1–28–69. Cl. 12.
Morris, Philip, Inc., New York, N.Y. 745,689, canc. Cl. 17.
Morris, Philip, Inc., d.b.a. American Safety Razor Co., New York, N.Y. 868,161, pub. 1–28–69. Cl. 23.
Motel Management, Inc., Detroit, Mich. 745,973, canc. Cl. 100.
Motores y Apparatos Electricos, S.A., Mexico City, Mexico. 868,139, pub. 1–28–69. Cl. 21.
Multicolor Corp., Florence, Mass. 868,136, pub. 1–28–69. Cl. 20.
Musco Corp., Amarillo, Tex. 745,844–5, canc. Cl. 36.
Myers, Robert B., Whittier, Calif. 868,145, pub. 1–28–69. Cl. 21.
N.V. Electronische Apparatenfabriek "Qualitex," Enschede, Netherlands. 745,898, canc. Cl. 43.
N.V. Rubberfabriek Vredestein, The Hague, Netherlands. 858,956, cor. Cl. 35.
N.V. Willem II Sigarenfabrieken v.h. H. Kersten & Co., Valkenswaard, Netherlands. 868,125, pub. 1–28–69. Cl. 17.
Nalco Chemical Co.: *See*—
National Aluminate Corp.
National Aluminate Corp., to Nalco Chemical Co., Chicago, Ill. 506,626, ren. 4–15–69. Cl. 6.
National Die Casting Co., Chicago, Ill. 505,951, ren. 4–15–69. Cl. 23.
National Skee-Ball Co., Inc., Coney Island, N.Y., to Philadelphia Toboggan Co., Philadelphia, Pa. 256,496, ren. 4–15–69. Cl. 22.
Navarre, Lamonte G., d.b.a. Airguide Publications, Long Beach, Calif. 746,007, canc. Cl. 38.
New Horizons: *See*—
Shaw, Samuel L.
New York Wire Mills Corp., Tonawanda, N.Y. 868,103, pub. 1–28–69. Cl. 12.
Ni-Arb Co., Inc., The, El Monte, Calif. 745,763, canc. Cl. 23.
Niedermeyer-Martin Co., Portland, Oreg. 868,274, pub. 1–28–69. Cl. 101.
No-Lik Products, Inc., Framingham, Mass. 868,208, pub. 1–28–69. Cl. 37.
Norcross, Inc., New York, N.Y. 868,220, pub. 1–28–69. Cl. 38.
North Central Plastics, Inc., Ellendale, Minn. 868,172, pub. 1–28–69. Cl. 26.
North Star Woolen Mill Co., to Chatham Mfg. Co., Elkin, N.C. 507,130. Am. 7(d). Cl. 42.
Northwest Jewelers: *See*—
Druxman, Hersh I.
Northwest Paper Co., The, Cloquet, Minn. 868,204, pub. 1–28–69. Cl. 37.
Notsniw Inc., Detroit, Mich. 868,239, pub. 1–28–69. Cl. 51.
Noyes & Co., Inc., Providence, R.I. 746,028, canc. Cl. 101.
Nussbaum, Vernon and Dinette Nussbaum, d.b.a. American Date Gardens, Brea, from Venus Foods, Los Angeles, Calif. 745,910, canc. Cl. 46.
Oklahoma Publishing Co., The, Oklahoma City, Okla. 563,160–2, cor. Cl. 38.
Oklahoma Publishing Co., The, Oklahoma City, Okla. 847,999, cor. Cl. 101.
Oklahoma Publishing Co., The, Oklahoma City, Okla. 849,978–9, cor. Cl. 101.
Ontarioville Metal Products Co., Ontarioville, Ill. 868,085, pub. 1–28–69. Multiple Class (Classes 2 and 32).
Optical Development Corp., Chicago, Ill. 745,809, canc. Cl. 26.
Oriental Enterprises Inc., Taipei, Taiwan. 745,642, canc. Cl. 6.
Oriental Enterprises Inc., Taipei, Taiwan. 745,681, canc. Cl. 16.
Pacific Automation Products, Inc., Glendale, Calif. 745,728, canc. Cl. 21.

Paramount Pictures Corp., New York, N.Y. 868,197–8, pub. 1–28–69. Cl. 36.
Patnaude, Henry A., Sacramento, Calif. 868,111, pub. 1–28–69. Cl. 13.
Pavelle Corp., The, New York, N.Y. 868,162, pub. 1–28–69. Cl. 26.
Pell Pharmaceuticals, Inc., Bala Cynwyd, Pa. 745,696, canc. Cl. 18.
Peninsular Pest Control Service, Inc., Jacksonville, Fla. 745,985, canc. Cl. 103.
Pennington, Ray J., & Sons, St. Louis, Mo. 868,101, pub. 1–28–69. Cl. 12.
Pennsalt Chemicals Corp.: *See*—
Ford, J. B., Co., The.
White, S. S., Dental Mfg. Co., The.
Pennzoil Co., The, to Pennzoil United, Inc., Oil City, Pa. 254,976, ren. 4–15–69. Cl. 15.
Pennzoil United, Inc.: *See*—
Pennzoil Co., The.
Peppermint Co., The, Philadelphia, Pa. 745,749, canc. Cl. 22.
Pfizer, Chas., & Co., Inc., New York, N.Y. 868,094, pub. 1–28–69. Cl. 6.
Philadelphia Chewing Gum Corp., Havertown, Pa. 868,234, pub. 1–28–69. Cl. 46.
Philadelphia Toboggan Co.: *See*—
National Skee-Ball Co., Inc.
Pioneer Parachute Co., Inc., Manchester, Conn. 745,718, canc. Cl. 19.
Pittsburgh Pipe & Coupling Co., Allison Park, Pa. 745,660, canc. Cl. 13.
Precision Castparts Corp., Portland, Oreg. 746,036, canc. Cl. 100.
Prince Mills, Inc., New York, N.Y. 745,892, canc. Cl. 42.
Productora y Difusora de Grandes Vinos Argentinos, Proviar, Sociedad Anonima Industrial y Commercial, Buenos Aires, Argentina. 868,287. Cl. 47.
Przedsiebiorstwo Handlu Zagranicznego "Agros," Warsaw, Poland. 868,237, pub. 1–28–69. Cl. 49.
Publicaciones Latino Americanas, Ltd., Nassau, Bahamas. 851,937. Am. 7(d). Cl. 38.
Puerto Rico Distillers, Inc.: *See*—
Puerto Rico Distilling Co.
Puerto Rico Distilling Co., to Puerto Rico Distillers, Inc., Arecibo, Puerto Rico. 508,985, ren. 4–15–69. Cl. 51.
Puritan Knitting Mills, Inc., Philadelphia, to The Puritan Sportswear Corp., Altoona, Pa. 252,174, ren. 4–15–69. Cl. 39.
Puritan Sportswear Corp., The: *See*—
Puritan Knitting Mills, Inc.
Quandar Electronics, Inc., Springfield, N.J. 868,164, pub. 1–28–69. Cl. 26.
Queen's AG, Zurich, Switzerland. 868,228, pub. 1–28–69. Cl. 45.
R.M.B. Alloys (Proprietary) Ltd., Johannesburg, Transvaal, Republic of South Africa. 868,118, pub. 1–28–69. Cl. 14.
R & R Elevator Co., Inc.: *See*—
R & R Industries, Inc.
R & R Industries, Inc., from R & R Elevator Co., Inc., Minneapolis, Minn. 868,263, pub. 1–28–69. Multiple Class (Classes 100 and 103).
Radiation Instrument Development Laboratory, Inc., Melrose Park, Ill. 745,811, canc. Cl. 26.
Raybestos-Manhattan, Inc., Passaic, N.J. 506,896, ren. 4–15–69. Cl. 4.
Recknagel, Alfred, Firma, Langenfeld/Rheinland, Germany. 868,154, pub. 1–28–69. Multiple Class (Classes 23, 40, 44, and 51).
Renyx, Field & Co., Inc., Englewood, N.J. 868,277, pub. 1–28–69. Cl. 102.
Repco Products Corp., Philadelphia, Pa. 868,143, pub. 1–28–69. Cl. 21.
Restaurant Management Consultants & Analysts Inc., d.b.a. Kettle Restaurants, Inc., Houston, Tex. 868,262, pub. 1–28–69. Cl. 100.
Retlaw Corp., Sheboygan, Wis. 745,670, canc. Cl. 13.
Richards, William E., d.b.a. William E. Richards Co., Washington, D.C. 745,855, canc. Cl. 37.
Richards, William E., Co.: *See*—
Richards, William E.
Rinshed-Mason Co., Detroit, Mich., to Interchemical Corp., New York, N.Y. 248,414, ren. 4–15–69. Cl. 16.
Riteway Health Studios, Los Angeles, Calif. 746,027, canc. Cl. 100.
Rival Mfg. Co., Kansas City, Mo. 868,141, pub. 1–28–69. Cl. 21.
Riviera Trading Corp., New York, N.Y. 868,173, pub. 1–28–69. Cl. 26.
Robins, A. H., Co., Inc., Richmond, Va. 868,261, pub. 1–28–69. Cl. 100.
Rochester Soda Water Co., Inc., Rochester, N.Y. 506,049, ren. 4–15–69. Cl. 45.
Romine Enterprises, Inc., Fort Wayne, Ind. 745,978, canc. Cl. 101.
Rosenstein Bros., Paterson, N.J. 745,893, canc. Cl. 42.
Royal Battery Corp., Paterson, N.J., to General Battery & Ceramic Corp., Reading, Pa. 509,870, ren. 4–15–69. Cl. 21.
Rubinstein, Helena, Inc., New York, N.Y. 746,024, canc. Cl. 51.
Safe Flight Instrument Corp., White Plains, N.Y. 868,155, pub. 1–28–69. Multiple Class (Classes 23 and 26).
St. Clair Specialty Mfg. Co., Inc., Bellwood, Ill. 745,644, canc. Cl. 7.
St. Regis Paper Co., New York, N.Y. 868,092, pub. 1–28–69. Cl. 6.
Sales Affiliates, Inc., New York, N.Y. 868,245, pub. 1–28–69. Cl. 51.
Sales Producers Associates, Inc.: *See*—
Western Grocer Co.
Sands, Taylor & Wood Co., Cambridge, Mass. 502,240, ren. 4–15–69. Cl. 46.
Schaub, William R., Mt. Prospect, Ill. 745,757, canc. Cl. 22.
Schlitz, Jos., Brewing Co., Milwaukee, Wis. 509,384, ren. 4–15–69. Cl. 48.
Schmoyer, Arthur R.: *See*—
Electro Learner Corp.
Schwarz Bioresearch, Inc., Mount Vernon, N.Y. 745,691, canc. Cl. 18.
Schweser, Fredrick G., d.b.a. Bird Engineering, Fremont, Nebr. 868,134, pub. 1–28–69. Cl. 19.
Schwinn Bicycle Co., Chicago, Ill. 868,187, pub. 1–28–69. Cl. 35.
Scott Plastics Co., Palmetto, Fla. 746,023, canc. Cl. 50.
Seagram, Joseph E., & Sons, Inc.: *See*—
Bohemian Distributing Co.
Seal Sac, Inc., New York, N.Y. 745,613, canc. Cl. 2.
Sears, Roebuck & Co., Chicago, Ill. 745,615, canc. Multiple Class (Classes 3 and 9).
Selas Corp. of America, Dresher, Pa. 443,055, ren. 4–15–69. Cl. 26.
Selas Corp. of America, Dresher, Pa. 509,242, ren. 4–15–69. Cl. 26.
Seven Up Co., The: *See*—
Howdy Co., The.
Sewell Mfg. Co., Bremen, Ga. 442,724, ren. 4–15–69. Cl. 39.
Seymour Mfg. Co., Seymour, Ind. 868,167, pub. 1–28–69. Cl. 26.
Shakespeare Co., Kalamazoo, Mich. 745,746, canc. Cl. 22.
Shaw, Samuel L., d.b.a. New Horizons, Albuquerque, New Mexico. 868,258, pub. 1–28–69. Cl. 52.
Sherman Poultry Industries, Gardena, Calif. 745,914, canc. Cl. 46.
Sieber & McIntyre, Inc., Chicago, Ill. 868,193, pub. 1–28–69. Multiple Class (Classes 36 and 38).
Sierras: *See*—
Yeargin, Duward E.
Silk City Industries, Inc., Paterson, N.J. 745,887, canc. Cl. 42.
Simpson Lee Paper Co., Kalamazoo, Mich. 868,202, pub. 1–28–69. Cl. 37.
Sinclair Oil Corp., from Sinclair Refining Co., New York, N.Y. 868,214, pub. 1–28–69. Cl. 38.
Sinclair Refining Co.: *See*—
Sinclair Oil Corp.
Sinowitz, Irving: *See*—
Irsin Restaurant Corp.
Skinny Stores: *See*—
Irsin Restaurant Corp.
Sklar, J., Mfg. Co., Inc., Long Island City, N.Y. 868,259, pub. 1–28–69. Cl. 52.
Smiths Industries Ltd.: *See*—
Lodge Plugs Ltd.
Societe d'Electro-Chimie, d'Electro-Metallurgie et des Acieries Electriques d'Ugine, Paris, France. 745,673, canc. Cl. 14.
Sokagakkai Religious Corp., Shinjuku-ku, Tokyo, Japan. 868,216–17, pub. 1–28–69. Cl. 38.
Sorenson Research Corp., Salt Lake City, Utah. 868,175, pub. 1–28–69. Cl. 29.
Southern Airways, Inc., Atlanta, Ga. 868,219, pub. 1–28–69. Cl. 38.
Southern California Plastic Co., Glendale, Calif. 745,610, canc. Cl. 2.
Spencer-Murray Corp., Swarthmore, Pa. 745,748, canc. Cl. 22.
Sphar & Co., Winchester, Ky. 510,383, ren. 4–15–69. Cl. 1.
Stahlgruber, Otto Gruber & Co.: *See*—
Gruber, Otto.
Stahl-Meyer, Inc., New York, N.Y., to F. A. Ferris & Co., Inc., New Haven, Conn. 442,061, ren. 4–15–69. Cl. 46.
Sterling Automotive Mfg. Co., Inc., Elk Grove Village, Ill. 745,810, canc. Cl. 26.
Stevens, Harry M., Inc., New York, N.Y. 868,268, pub. 1–28–69. Cl. 100.
Stimson Lens Laboratories: *See*—
Stimson, Noel O.
Stimson, Noel O., d.b.a. Stimson Lens Laboratories, Los Angeles, Calif. 746,003, canc. Cl. 26.
Stresen-Reuter, Fred'k A., Inc., Bensenville, Ill. 745,629, canc. Cl. 6.
Studio Girl: *See*—
Studio Girl-Hollywood, Inc.
Studio Girl-Hollywood, Inc., d.b.a. Studio Girl, Chicago, Ill. 868,243, pub. 9–3–68. Cl. 51.
Sturge, John & E., Ltd., Birmingham, England. 868,093, pub. 1–28–69. Cl. 6.
Suarez & Co. Inc., New York, N.Y. 745,888, canc. Cl. 42.
Super Add-A-Matic Corp., Brighton, Mass. 745,790, canc. Cl. 26.
Sutherland Macklem, Inc., Stamford, Conn. 745,802, canc. Cl. 26.
Swenson, Lloyd L., Atherton, Calif. 745,780, canc. Cl. 23.
Swenson, Lloyd L., Atherton, Calif. 745,882, canc. Cl. 39.
Swift & Co., Chicago, Ill. 441,037, ren. 4–15–69. Cl. 6.
Syiro Products Corp., Merrick, N.Y. 868,096, pub. 1–28–69. Cl. 12.
Synthetic Plastics Co., Newark, N.J. 868,200, pub. 1–28–69. Cl. 36.
Tassette, Inc., Stamford, Conn. 745,697, canc. Cl. 18.
Tavin Knitting Mills, Inc., Brooklyn, N.Y. 745,807, canc. Cl. 39.
Technicon Corp., Ardsley, N.Y. 868,168, pub. 1–28–69. Cl. 26.
Tee-Pak, Inc., Chicago, Ill. 868,205, pub. 1–28–69. Cl. 37.
Teich, Curt, & Co., Chicago, Ill. 508,707, ren. 4–15–69. Cl. 38.
Teletray Electronic Systems, Inc., Silver Spring, Md. 745,720, canc. Cl. 21.

Temperato, Samuel J.: *See*—
American Dairy Queen Corp.
Terlin Sales Co.: *See*—
Terlin Sales Co., Inc.
Terlin Sales Co., Inc., d.b.a. Terlin Sales Co., Stockton, Calif. 745,904–5, canc. Cl. 45.
Tex-Sun Glove Co., Corsicana, Tex. 868,226, pub. 7–30–68. Cl. 39.
Thomas & Betts Co., The, Elizabeth, N.J. 512,485–7, ren. 4–15–69. Cl. 21.
Thomas & Betts Co., The, Elizabeth, N.J. 646,071, cor. Cl. 23.
Thomas & Betts Co., The, Elizabeth, N.J. 646,446, cor. Cl. 23.
Thomas & Betts Co., The, Elizabeth, N.J. 643,886, cor. Cl. 21.
Thomas & Betts Co., The, Elizabeth, N.J. 756,354, cor. Cl. 21.
Thomas & Betts Co., The, Elizabeth, N.J. 768,694, cor. Cl. 23.
Thomlinson, William, Ltd., Partick, Glasgow, Scotland. 868,146, pub. 1–28–69. Cl. 22.
Thompson Ramo Wooldridge Inc., Canoga Park, Calif. 745,800, canc. Cl. 26.
Tobin Packing Co., Inc., Rochester, N.Y. 745,933, canc. Cl. 46.
Tork Lift Sales & Mfg. Co.: *See*—
Mann, James F.
Toro Mfg. Corp., Minneapolis, Minn. 744,668–9. Am. 7(d). Cl. 19.
Tracer, Nettie, d.b.a. Nettie Tracer Cosmetics, New York, N.Y. 745,958, canc. Cl. 51.
Tracer, Nettie, Cosmetics: *See*—
Tracer, Nettie.
Travelography, Inc., San Angelo, Tex. 868,215, pub. 1–28–69. Cl. 38.
Trebor, Detroit, Mich. 868,240, pub. 1–28–69. Cl. 51.
Treplow Chemical Co., Paterson, N.J. 745,627–8, canc. Cl. 6.
Trojan Luggage Co., Inc., Memphis, Tenn. 745,618, canc. Cl. 3.
Tyton Corp. of America, Metuchen, N.J. 868,116, pub. 1–28–69. Cl. 13.
United Co-Operatives, Inc., Alliance, Ohio. 868,087, pub. 1–28–69. Cl. 6.
United Glass Ltd., Middlesex, England. 868,122, pub. 1–28–69. Cl. 14.
United Import Corp., Cleveland, Ohio. 868,177, pub. 1–28–69. Cl. 30.
United Steel Companies Ltd., The, Broomhill, Sheffield, England. 745,652, canc. Cl. 12.
United Steel Companies Ltd., The, Broomhill, Sheffield, England. 745,666, canc. Cl. 13.
United States Envelope Co., Springfield, Mass. 442,636, ren. 4–15–69. Cl. 2.
United States Gypsum Co., to United States Gypsum Co., Chicago, Ill. 254,389, ren. 4–15–69. Cl. 16.
United States Gypsum Co., to United States Gypsum Co., Chicago, Ill. 254,653, ren. 4–15–69. Cl. 16.
Universal Cigar Corp., New York, N.Y. 868,126, pub. 1–28–69. Cl. 17.
Universal Dampers Ltd., Shirley, Birmingham, England. 745,716, canc. Cl. 19.
Upjohn Co., The, to The Upjohn Co., Kalamazoo, Mich. 442,480, ren. 4–15–69. Cl. 18.
Upjohn Co., The, to The Upjohn Co., Kalamazoo, Mich. 509,060, ren. 4–15–69. Cl. 18.
Utica Mutual Insurance Co., Utica, N.Y. 745,981, canc. Cl. 102.
Van Raalte Co., Inc., New York, N.Y. 506,203, ren. 4–15–69. Cl. 39.
Veeder Industries, Inc., d.b.a. Holo-Krome Co., West Hartford, Conn. 868,110, pub. 1–28–69. Cl. 13.
Vereniging "International Fashion Council," Amsterdam, Netherlands. 745,861, canc. Cl. 39.
Vereniging "International Fashion Council," Amsterdam, Netherlands. 745,885, canc. Cl. 42.
Verticals, Inc., New York, N.Y. 745,830, canc. Cl. 32.
Vet-A-Mix, Inc., Shenandoah, Iowa. 745,999, canc. Cl. 18.
Vlasic Foods Co.: *See*—
Lee & Cady.
Volpi-Fruna S.A. Industrial Commercial Financiera e Inmobiliaria, Buenos Aires, Argentina. 868,286. Cl. 46.
Wanlass Electric Co., Santa Ana, Calif. 868,138, pub. 1–28–69. Cl. 21.
Ward, John D., Inc., Kansas City, Mo. 746,009, canc. Cl. 46.
Warren-Teed Pharmaceuticals Inc., Columbus, Ohio. 868,128, pub. 1–28–69. Cl. 18.
Wella Corp., The, Englewood, N.J. 868,250, pub. 1–28–69. Cl. 51.
Wellman Combing Co., Johnsonville, S.C. 745,635, canc. Cl. 6.
West Chemical Products, Inc., Long Island City, N.Y. 745,991, canc. Cl. 1.
West Chemical Products, Inc., Long Island City, N.Y. 868,088, pub. 1–28–69. Cl. 6.
West Chemical Products, Inc., Long Island City, N.Y. 868,106, pub. 1–28–69. Cl. 13.
West Products Corp., Newark, N.J. 868,098, pub. 1–28–69. Cl. 12.
Western Grocer Co., Marshalltown, Iowa, to Sales Producers Associates, Inc., Kansas City, Kans. 250,000, ren. 4–15–69. Cl. 46.
Western Mfg. Co., Aurora, Ill. 868,181, pub. 1–28–69. Cl. 32.
Westminster Little Banquet, Inc., Westminster, Colo. 868,270, pub. 1–28–69. Cl. 100.
Weston Instruments, Inc., Newark, N.J. 868,169, pub. 1–28–69. Cl. 26.
White, S. S., Dental Mfg. Co., The, to Pennsalt Chemicals Corp., Philadelphia, Pa. 68,845, ren. 4–15–69. Cl. 44.
White Stag Mfg. Co., Portland, Oreg., from L'Adorn, Inc., Great Neck, N.Y. 868,238, pub. 8–13–68. Cl. 51.
William/Lawrence Corp., The, Sierra Madre, Calif. 868,218, pub. 1–28–69. Cl. 38.
Williams Electronic Mfg. Corp., Chicago, Ill. 745,777, canc. Cl. 23.
Winegard Co., Inc., Burlington, Iowa. 776,915, cor. Cl. 21.
Wittcoff, Harold, Minneapolis, Minn. 868,223, pub. 1–28–69. Cl. 38.
Woerner, Philip E., d.b.a. Woerner Wood Products, Indianapolis, Ind. 745,828, canc. Cl. 32.
Woerner Wood Products: *See*—
Woerner, Philip E.
Woodbury, John H., Inc., to The Andrew Jergens Co., Cincinnati, Ohio. 506,756, ren. 4–15–69. Cl. 51.
Yankee Doodle House, Inc., Elmhurst, Ill. 868,272, pub. 1–28–69. Cl. 100.
Yeargin, Duward E., d.b.a. Sierras, Greenville, S.C. 868,281, pub. 1–28–69. Cl. 107.
Young, George, & Co., Chicago, Ill. 746,001, canc. Cl. 22.
Z-Ann Cosmetics Co.: *See*—
Zilles, Annabel B.
Zeigler Products Co., Evanston, Ill. 745,918, canc. Cl. 46.
Zilles, Annabel B., d.b.a. Z-Ann Cosmetics Co., Toledo, Ohio. 745,949, canc. Cl. 51.
Zinsco Electrical Products, Los Angeles, Calif. 745,722, canc. Cl. 21.

U.S. GOVERNMENT PRINTING OFFICE: 0—1969

U.S. DEPARTMENT OF COMMERCE
OFFICIAL GAZETTE of the UNITED STATES PATENT OFFICE
April 22, 1969 Volume 861 Number 4

PATENTS

NOTICES

Board of Appeals Decisions Rendered in the Month of March 1969

Examiner affirmed	126
Examiner affirmed in part	22
Examiner reversed	24
Total	172

Final Rejection—First Action

The claims of a new application may be finally rejected in the first Office action in those situations where (1) the new application is a continuing application of, or a substitute for, an earlier application, and (2) all claims of the new application (a) are drawn to the same invention claimed in the earlier application, and (b) would have been properly finally rejected on the art of record in the next Office action if they had been entered in the earlier application. A first action final rejection in a continuation-in-part application is not proper where any claim includes subject matter not present in the parent case.

RICHARD A. WAHL,
Assistant Commissioner.

Mar. 20, 1969.

Appeal Hearings

The practice of permitting oral arguments by Primary Examiners in appeals, announced for a trial period in the OFFICIAL GAZETTE of Oct. 22, 1968 (855 O.G. 827), is hereby made permanent.

RICHARD A. WAHL,
Assistant Commissioner.

Mar. 27, 1969.

Concur:
E. L. REYNOLDS,
First Assistant Commissioner.

Dedications

2,911,783.—*Konrad Gotzfried,* Augsburg-Goggingen, Germany. PROCESS AND APPARATUS FOR SPINNING A YARN. Patent dated Nov. 10, 1959. Dedication filed Mar. 11, 1969, by the inventor.

Hereby dedicates to the Public the remaining term of said patent.

2,928,228.—*Konrad Gotzfried,* Augsburg-Goggingen, Germany. PNEUMATIC SPINNING DEVICE. Patent dated Mar. 15, 1960. Dedication filed Mar. 11, 1969, by the inventor.

Hereby dedicates to the Public the remaining term of said patent.

Certificates of Correction for the Week of Apr. 22, 1969

Plt. 2,792	3,355,971	3,366,376
Re. 26,352	3,356,078	3,366,501
D. 209,261	3,356,092	3,366,699
D. 211,379	3,356,674	3,366,804
3,252,490	3,356,849	3,366,814
3,291,911	3,357,949	3,366,921
3,317,942	3,358,600	3,367,038
3,325,262	3,358,978	3,367,070
3,330,190	3,359,191	3,367,505
3,333,030	3,360,507	3,367,717
3,334,100	3,361,578	3,367,886
3,340,297	3,361,601	3,367,896
3,341,317	3,361,696	3,367,981
3,342,717	3,362,964	3,368,638
3,342,786	3,363,409	3,368,788
3,345,207	3,363,756	3,368,820
3,345,257	3,364,743	3,368,869
3,346,325	3,366,022	3,368,964
3,347,193	3,366,118	3,369,123
3,349,311	3,366,174	3,369,173
3,350,343	3,366,363	3,369,493
3,351,362		3,370,298

Patents Available for Licensing or Sale

3,145,992. GAME APPARATUS. Emerson G. Hawn, 1200 Bronson St., Watertown, N.Y., 18601.

3,384,140. PLASTIC GARDEN HOSE REEL. Jack Brothers, 34 St. Mary Drive, Succasunna, N.J., 07876.

3,402,954. DEVICE FOR FASTENING BODIES IN THE SHAPE OF SQUARE PRISMS AND PROVIDED AT OPPOSITE SIDE FACES RESPECTIVELY WITH GROOVES AND RIDGES ON A PLATE OR THE LIKE. Hans Simon. Correspondence to: Michael S. Striker, 360 Lexington Ave., New York, N.Y., 10017.

3,405,907. VENTURI ARRANGEMENT. Lutz T. Kayser. Correspondence to: Michael S. Striker, 360 Lexington Ave., New York, N.Y., 10017.

3,415,402. CONTAINER. Robert L. Webber, Winslow's Motel, 734 W. Grand River, Okemos, Mich., 48864.

3,421,613. RESILIENT TUBULAR CONVEYOR. Curtis J. Sadek, 7145 Dry Creek Road, Rio Linda, Calif., 95673.

3,421,800. TOILET PAPER DISPENSER. Everette V. Brown, 3326 Avenue M, Fort Worth, Tex., 76150.

3,426,627. APPARATUS FOR GUIDING WORKPIECES IN MATERIAL REMOVING MACHINES. Th. Kieserling & Albrecht, Solingen, Germany. Correspondence to: Michael S. Striker, 360 Lexington, Ave., New York, N.Y., 10017.

3,428,103. INSULATED CONTAINER FOR PIZZA PIES. Jean L. Walsh, 94—26 Van Wyck Expressway, Richmond Hill, N.Y., 11418.

3,428,183. GUTTER GUARD. Joseph J. Bristow, 88 N. Edgewood Ave., La Grange, Ill., 60525.

3,428,353. APPARATUS FOR TRAPPING AND RETRIEVING. Robert R. St. Jean, 27 Foster Circle, Andover, Mass., 01810.

3,430,380. TRIGGER FOR A SPRING TYPE MOUSE TRAP. Rte. 1, Box 17, Riner, Va., 24149.

New Applications Received During January 1969

Patents	7383
Designs	419
Plant Patents	15
Reissues	26
Total	7843

Issue—April 22, 1969

Patents	1300—	No. 3,439,360 to No.	3,440,659, incl.
Designs	85—	No. 213,856 to No.	213,940, incl.
Plant Patents	2—	No. 2,880 to No.	2,881, incl.
Total	1387		

The following 3 patents are offered by Carol L. Hunerlach, 9749 Telegraph Road, Seabrook, Md., 20801.

3,157,905. CLOSURE ASSEMBLY WITH MOVABLE FLUID APPLICATOR.

3,282,230. PORTABLE SURFACE.

3,318,631. AUTOMOTIVE SIGNAL DEVICE.

Eastman Kodak Company announces that, in accordance with its policy, nonexclusive licenses upon reasonable terms are available to responsible domestic applicants (under the circumstances prevailing at the time) under the following patent.

Applications for license may be addressed to the Director, Patent Department, Eastman Kodak Company, 343 State St., Rochester, N.Y., 14650.

3,071,055. PHOTOELECTRIC EXPOSURE CONTROL IN CAMERA.

The Radio Corporation of America offers to grant nonexclusive licenses on reasonable terms and conditions under the following 26 patents.

Inquiries respecting licenses should be addressed to: Radio Corporation of America, Staff Vice President, Domestic Licensing, 30 Rockefeller Plaza, New York, N.Y., 10020.

3,426,210. CONTROL CIRCUIT FOR AUTOMATICALLY QUANTIZING SIGNALS AT DESIRED LEVELS.

3,426,220. HEAT-SENSITIVE SEAL FOR THERMIONIC CONVERTERS.

3,426,235. PICKUP DEVICE.

3,426,344. CHARACTER GENERATOR FOR SIMULTANEOUS DISPLAY OF SEPARATE CHARACTER PATTERNS ON A PLURALITY OF DISPLAY DEVICES.

3,427,453. SYSTEM FOR SWITCHING THE ATTITUDE REFERENCE OF A SATELLITE FROM A FIRST CELESTIAL BODY TO A SECOND CELESTIAL BODY.

3,427,460. BEAM-OF-LIGHT TRANSISTOR UTILIZING P–N JUNCTIONS WHICH ARE NON-ABRUPT AND NON-TUNNELING WITH A BASE REGION OF DEGENERATE MATERIAL.

3,427,509. ASYMMETRICAL TRIGGERING DIODE COMPOSED OF THREE OPPOSITE CONDUCTIVITY REGIONS.

3,427,511. HIGH FREQUENCY TRANSISTOR STRUCTURE WITH TWO-CONDUCTIVITY EMITTERS.

3,427,514. MOS TETRODE.

3,427,515. HIGH VOLTAGE SEMICONDUCTOR TRANSISTOR.

3,427,631. LIGHT BEAM RECORDER USING VIBRATED LENS SYSTEM.

3,428,452. PHOTOCONDUCTIVE COMPOSITIONS AND ELECTROPHOTOGRAPHIC RECORDING ELEMENTS MADE THEREFROM.

3,428,845. LIGHT-EMITTING SEMICONDUCTOR HAVING RELATIVELY HEAVY OUTER LAYERS FOR HEAT-SINKING.

3,428,854. TEMPERATURE COMPENSATION OF DEFLECTION CIRCUITS.

3,428,855. TRANSISTOR DEFLECTION CONTROL ARRANGEMENTS.

3,428,857. STEP-RECOVERY DAMPER DIODE FOR RETRACE DRIVEN HORIZONTAL DEFLECTION CIRCUITS.

3,428,885. VOLTAGE REGULATED POWER SUPPLY INCLUDING A BREAKDOWN DEVICE AND MEANS TENDING TO KEEP THE CURRENT FLOW THERETHROUGH CONSTANT.

3,428,900. DISTRIBUTED FEEDBACK FREQUENCY COMPRESSION IN FREQUENCY MODULATION RECEPTION.

3,429,030. METHOD OF FABRICATING SEMICONDUCTOR DEVICES.

3,429,033. METHOD OF SECURING A ROD TO A SUPPORTING STRUCTURE.

3,430,071. LOGIC CIRCUIT.

3,430,075. HIGHLY STABLE PULSE GENERATOR.

3,430,110. MONOLITHIC INTEGRATED CIRCUITS WITH A PLURALITY OF ISOLATION ZONES.

3,430,154. CIRCUIT FOR STABILIZING THE DC OUTPUT VOLTAGE OF A GAIN CONTROLLED AMPLIFIER STAGE IN A DIRECT COUPLED INTEGRATED CIRCUIT SIGNAL TRANSLATING SYSTEM.

3,430,155. INTEGRATED CIRCUIT BIASING ARRANGEMENT FOR SUPPLYING V_{be} BIAS VOLTAGES.

3,430,207. VECTOR DISPLAY SYSTEM.

General Electric Company is prepared to grant nonexclusive licenses under the following 8 patents upon reasonable terms to domestic manufacturers.

Applications for license under the following 3 patents may be addressed to: Patent Counsel-New Businesses Development Operations, General Electric Company, 1 River Road, Schenectady, N.Y., 12305.

3,350,008. FLUID AMPLIFIER SHIFT REGISTER CIRCUIT.

3,350,009. FLUID AMPLIFIER SERIAL DIGITAL ADDER LOGIC CIRCUIT.

3,350,010. FLUID AMPLIFIER SERIAL DIGITAL COMPLEMENTER LOGIC CIRCUIT.

Applications for license under the following 5 patents may be addressed to: Patent Counsel, Appliance and Television Group, General Electric Company, Appliance Park, Louisville, Ky., 40225.

3,275,143. FILTER WITH CLEANING MEANS.

3,285,040. AGITATOR FOR FABRIC CLEANING MACHINE.

3,336,142. METHOD AND APPARATUS FOR MELTING FROZEN LIQUIDS.

3,375,678. HYDRAULIC ICEMAKER.

3,423,013. ROTARY COMPRESSOR.

Patent Withdrawn From Register

General Electric Company hereby withdraws the following patent from the Register of Patents Available for Licensing or Sale. The patent was listed as being available, in the OFFICIAL GAZETTE as indicated below:

3,334,965. PROCESS FOR PRODUCING ALUMINA WHISKERS. Nov. 19, 1968.

PATENT EXAMINING CORPS

R. A. WAHL, Assistant Commissioner

CONDITION OF PATENT APPLICATIONS AS OF APRIL 7, 1969

PATENT EXAMINING GROUPS	Actual Filing Date of Oldest New Case Awaiting Action
*Denotes oldest new application.	
CHEMICAL EXAMINING GROUPS	
GENERAL CHEMISTRY AND PETROLEUM CHEMISTRY, GROUP 110—M. STERMAN, Director. Inorganic Compounds; Inorganic Compositions; Organo-Metal and Organo-Metalloid Chemistry; Metallurgy; Metal Stock; Electro Chemistry; Batteries; Hydrocarbons; Mineral Oil Technology; Lubricating Compositions; Gaseous Compositions; Fuel and Igniting Devices.	2-21-67
GENERAL ORGANIC CHEMISTRY, GROUP 120—I. MARCUS, Director. Heterocyclic; Amides; Alkaloids; Azo; Sulfur; Misc. Esters; Carbohydrates; Herbicides; Poisons; Medicines; Cosmetics; Steroids; Oxo and Oxy; Quinones; Acids; Carboxylic Acid Esters; Acid Anhydrides; Acid Halides.	7-26-66
HIGH POLYMER CHEMISTRY, PLASTICS AND MOLDING; GROUP 140—L. J. BERCOVITZ, Director. Synthetic Resins; Rubber; Proteins; Macromolecular Carbohydrates; Mixed Synthetic Resin Compositions; Synthetic Resins With Natural Polymers and Resins; Natural Resins; Reclaiming; Pore-Forming; Compositions (Part) e.g.: Coating; Molding; Ink; Adhesive and Abrading Compositions; Molding, Shaping, and Treating Processes.	1-10-67
COATING AND LAMINATING, BLEACHING, DYEING AND PHOTOGRAPHY, GROUP 160—M. STERMAN, Acting Director. Coating; Processes and Misc. Products; Laminating Methods and Apparatus; Stock Materials; Adhesive Bonding; Special Chemical Manufactures; Special Utility Compositions; Bleaching; Dyeing and Photography.	*5-31-66
SPECIALIZED CHEMICAL INDUSTRIES AND CHEMICAL ENGINEERING, GROUP 170—W. B. KNIGHT, Director. Fertilizers; Foods; Fermentation; Analytical Chemistry; Reactors; Sugar and Starch; Paper Making; Glass Manufacture; Gas; Heating and Illuminating; Cleaning Processes; Liquid Purification; Distillation; Preserving; Liquid and Solid Separation; Gas and Liquid Contact Apparatus; Refrigeration; Concentrative Evaporators; Mineral Oils Apparatus; Misc. Physical Processes.	12-30-66
ELECTRICAL EXAMINING GROUPS	
INDUSTRIAL ELECTRONICS AND RELATED ELEMENTS, GROUP 210—W. S. COLE, Director. Generation and Utilization; General Applications; Conversion and Distribution; Heating and Related Art Conductors; Switches; Miscellaneous.	5-02-67
SECURITY, GROUP 220—S. BOYD, Director. Ordnance, Firearms and Ammunition; Radar, Underwater Signalling, Directional Radio, Torpedoes, Seismic Exploring, Radio-Active Batteries; Nuclear Reactors, Powder Metallurgy, Rocket Fuels; Radio-Active Material.	8-09-66
INFORMATION TRANSMISSION, STORAGE AND RETRIEVAL, GROUP 230—S. BOYD, Acting Director. Communications; Multiplexing Techniques; Facsimile; Data Processing, Computation and Conversion; Storage Devices and Related Arts.	*3-21-66
ELECTRONIC COMPONENT SYSTEMS AND DEVICES, GROUP 250—W. L. CARLSON, Director. Semi-Conductor and Space Discharge Systems and Devices; Electronic Component Circuits; Wave Transmission Lines and Networks; Optics; Radiant Energy; Measuring.	1-24-67
PHYSICS, GROUP 280—R. L. EVANS, Director. Photography; Sound and Lighting; Indicators and Optics; Measuring and Testing; Geometrical Instruments.	5-24-67
DESIGNS, GROUP 290—S. BOYD, Director. Industrial Arts; Household, Personal and Fine Arts.	6-04-68
MECHANICAL EXAMINING GROUPS	
HANDLING AND TRANSPORTING MEDIA, GROUP 310—A. BERLIN, Director. Conveyors; Hoists; Elevators; Article Handling Implements; Store Service; Sheet and Web Feeding; Dispensing; Fluid Sprinkling; Fire Extinguishers; Coin Handling; Check Controlled Apparatus; Classifying and Assorting Solids; Boats; Ships; Aeronautics; Motor and Land Vehicles and Appurtenances; Railways and Railway Equipment; Brakes; Rigid Flexible and Special Receptacles and Packages.	8-29-67
MATERIAL SHAPING, ARTICLE MANUFACTURING, TOOLS, GROUP 320—N. BERGER, Director. Manufacturing Processes, Assembling, Combined Machines, Special Article Making; Metal Deforming; Sheet Metal and Wire Working; Metal Fusion—Bonding, Metal Founding; Metallurgical Apparatus; Plastics Working Apparatus; Plastic Block and Earthenware Apparatus; Machine Tools for Shaping or Dividing; Work and Tool Holders Woodworking; Tools; Cutlery; Jacks.	*4-12-67
AMUSEMENT, HUSBANDRY, PERSONAL TREATMENT, INFORMATION, GROUP 330—A. RUEGG, Director. Amusement and Exercising Devices; Projectors; Animal and Plant Husbandry; Butchering; Earth Working and Excavating; Fishing, etc.; Tobacco; Artificial Body Members; Dentistry; Jewelry; Surgery; Toiletry; Printing; Typewriters; Stationery; Information Dissemination.	4-27-67
HEAT AND POWER ENGINEERING, GROUP 340—C. F. GAREAU, Director. Power Plants; Combustion Engines; Fluid Motors; Pumps; Turbines; Heat Generation and Exchange; Refrigeration; Ventilation; Drying; Vaporizing; Temperature and Humidity Regulation; Machine Elements; Power Transmission.	2-05-68
FIXED CONSTRUCTIONS, SUPPORTS, AND HARDWARE, GROUP 350—T. J. HICKEY, Director. Joints; Fasteners; Rod, Pipe and Electrical Connectors; Miscellaneous Hardware; Locks; Building Structures; Closure Operators; Bridges; Closures; Earth Engineering; Drilling; Mining; Furniture; Receptacles; Supports; Cabinet Structures.	11-20-67
TEXTILES, CLEANING AND FLUID HANDLING, GROUP 360—F. H. BRONAUGH, Director. Fluid Handling, including Valves; Conduits; Filling Receptacles; Lubrication; Joint Packing; Bathroom Fixtures; Centrifugal Separators; Cleaning; Coating; Pressing; Agitating; Foods; Textiles; Apparel and Shoes and their Manufacture; Sewing Machines; Winding and Reeling.	8-28-67

Total number of pending applications (excluding Designs)	185,789
Total number of Design applications pending	3,157

Expiration of patents: The patents within the range of numbers indicated below expire during April 1969, except those which may have expired earlier due to shortened terms under the provisions of Public Law 690, 79th Congress, approved August 8, 1946 (60 Stat. 940) and Public Law 619, 83rd Congress, approved August 23, 1954 (68 Stat. 764), or which may have had their terms curtailed by disclaimer under the provisions of 35 U.S.C. 253. Other patents, issued after the dates of the range of numbers indicated below, may have expired before the full term of 17 years for the same reasons, or have lapsed under the provisions of 35 U.S.C. 151.

Patents	Numbers 2,590,833 to 2,595,213, inclusive
Plant Patents	Numbers 1,061 to 1,090, inclusive

DECISIONS IN PATENT AND TRADEMARK CASES

U.S. Court of Customs and Patent Appeals

IN RE GRAHAM FEE AND WILLIAM E. PORTZ

No. 7984. Decided June 27, 1968

[55 CCPA 1297; 397 F.2d 329; 158 USPQ 277]

1. DESIGN—DRAWING—COMPLETE DISCLOSURE—RULE 152.

"It is obvious that the two views in the present application leave in doubt the degree and distribution of the curvature of the upper surface of the base. Those characteristics might be the same as in FIGS. 3 and 4 of the patent, or quite different so far as FIGS. 1 and 2 are concerned. The drawing thus does not comply with the requirement of Rule 152 that the application 'contain a sufficient number of views to constitute a complete disclosure of the appearance of the article.'"

2. SAME—RULE 152.

"As recognized by this court in *In re Rubinfield*, 47 CCPA 701, 270 F.2d 391, 123 USPQ 210 (1959), the rules of the Patent Office have the force and effect of law unless they are inconsistent with the provisions of the statutes. Here appellants have made no contention that Rule 152 is inconsistent with 35 U.S.C. 112 or any other section of the statute, and no reason for our so holding is apparent from the record before us."

3. SAME—DOUBLE PATENTING—EFFECT OF DOTTED LINES AND DOMINANT FEATURE CLAUSE

"We also think that the double patenting rejection is proper. Appellants contend that the showing of the ball and tee portion of the article in dotted lines with a 'dominant feature' clause in the patent specification limits the design claimed there to the base portion of the illustrated sprinkler. However, as the Examiner noted, both the application claim and the patent claim are directed to an 'ornamental design for a lawn sprinkler.' The patent claim is not directed to the ornamental design for a *base for* a lawn sprinkler. It seems to us impossible to have a 'lawn sprinkler' sans the ball and tee features which constitute the sprinkler head or operating portion of the sprinkler. Appellants here are claiming the same lawn sprinkler that is claimed in their patent."

AFFIRMED.

J. H. Slough for appellants.

Joseph Schimmel (*Jere W. Sears*, of counsel) for the Commissioner of Patents.

Before WORLEY, *Chief Judge*, and Judges RICH, SMITH, ALMOND and KIRKPATRICK [1]

WORLEY, *Chief Judge*, delivered the opinion of the court.

Fee and Portz appeal from the decision of the Board of Appeals affirming the Examiner's rejection of their application for an ornamental design for a lawn sprinkler.[2]

[1] Senior District Judge, Eastern District of Pennsylvania, sitting by designation.
[2] Serial No. D. 72,404, filed November 6, 1962.

The sole figures of the drawing are FIGS. 1 and 2:[3]

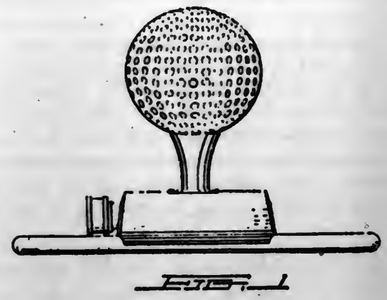


FIG. 1

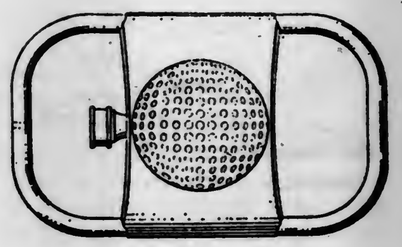


FIG. 2

The single claim reads:

1. The ornamental design for a lawn sprinkler, substantially as shown and described.

The claim stands rejected on two grounds. One is double patenting on the premise that appellants are attempting to claim the same lawn sprinkler combination that is the subject matter of their previously issued design patent.[4] The other rejection is that the application lacks a sufficient disclosure.

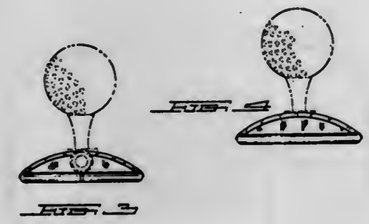
Considering the latter rejection, the Examiner stated that "it is not seen that the application satisfies the requirements of 35 U.S.C. 112,[5] Rule 152[6] and MPEP 1503.2[7] which require that an application disclose the claimed design in such a manner as to enable a person skilled in the art to make and use the same." He further held that the two views shown were not sufficient to constitute a complete dis-

[3] The specification states that the dominant features of the design reside in the portions shown in solid lines.
[4] No. D. 198,357, issued June 2, 1964.
[5] § 112. Specification
The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same, and shall set forth the best mode contemplated by the inventor of carrying out his invention.
* * * * * * *
[6] Rule 152. Drawing. The design must be represented by a drawing made in conformity with the rules laid down for drawings of mechanical inventions *and must contain a sufficient number of views to constitute a complete disclosure of the appearance of the article.* Appropriate surface shading must be used to show the character or contour of the surfaces represented. [Emphasis supplied.]
[7] MPEP 1503.02 refers to the identified section of the Manual of Patent Examining Procedure. That section provides instructions for applying Rule 152 and appears not to require any specific consideration here.

closure of the appearance of the article. In affirming the rejection the Board stated:

> Under the facts of the present case, it appears to us that the Examiner is justified in requiring further illustration to determine the contours of significant parts of the article. While we would accept the omission of a bottom view as equivalent to admission of the unimportance of such detail to the appearance of the article, we share the Examiner's view that the two views presented leave in doubt the shape of the arcuate bridge portion supporting the tee and ball features. Neither the thickness nor degree and distribution of curvature of the upper surface thereof is made evident in the present drawings. Comparison to Patent D. 198,357 suggests that a circular arc is representative of this bridge surface but the shading in FIGURES 1 and 2 of the drawing of the present application would support other curved distribution of the crowned areas of this part. * * *

The Board's reference to Patent D. 198,357 was occasioned by the drawing of that patent including, in addition to figures corresponding to application FIGS. 1 and 2, the following end views: [8]



[1] It is obvious that the two views in the present application leave in doubt the degree and distribution of the curvature of the upper surface of the base. Those characteristics might be the same as in FIGS. 3 and 4 of the patent, or quite different so far as FIGS. 1 and 2 are concerned. The drawing thus does not comply with the requirement of Rule 152 that the application "contain a sufficient number of views to constitute a complete disclosure of the appearance of the article."

[2] As recognized by this court in *In re Rubinfield*, 47 CCPA 701, 270 F.2d 391, 123 USPQ 210 (1959), the Rules of the Patent Office have the force and effect of law unless they are inconsistent with the provisions of the statutes. Here appellants have made no contention that Rule 152 is inconsistent with 35 U.S.C. 112 or any other section of the statute,[9] and no reason for our so holding is apparent from the record before us.

[8] The patent also shows a bottom view not reproduced here. The patent differs from the application essentially, apart from the additional views, in the sprinkler portions consisting of the ball-like head (ball), the pedestal for the head (tee) and the hose coupling being shown in broken lines, with the dominant features of the design designated as shown in solid lines.

[9] Appellants' entire argument on the rejection is the following paragraph from their brief:

> As stated by the Board of Appeals, the Examiner's rejection of the claim on the ground of insufficient disclosure was based on an alleged absence of a showing of the front, rear and bottom of the article. Appellants, it is believed, have adequately disclosed the design in the figures of drawing, FIGURE 1 being a side view and FIGURE 2 being a top view of the invention. It would appear that the disclosure to a person skilled in the art would enable such person to make and use the same and constitutes a complete disclosure of the appearance of the article. The Board conceded that * * * a bottom view as required by the Examiner was unnecessary * * * but held the two views presented leave in doubt the shape of the arcuate bridge portion supporting the tee and ball features and held neither the thickness nor degree and distribution of curvature of the upper surface thereof is evident. The Board compared the design with Patent No. D. 198,357 but Board felt "the shading in FIGURES 1 and 2 would support other curved distribution of the crowned areas of this part." The question thus appears, how can a showing Design Patent No. 198,357 anticipate a design which the Board states could involve another contour? The drawings are the best evidence of what is shown. They appear, in appellants' view, to present a complete disclosure according to the design of the claim. Other shading would appear if the design involved further shaping.

It is not without significance regarding sufficiency of disclosure that the base portion is a so-called "dominant feature" of the design in the present application as well as in appellants' patent, and that additional views which make the total appearance of the article clear were included in the latter.

[3] We also think that the double patenting rejection is proper. Appellants contend that the showing of the ball and tee portion of the article in dotted lines with a "dominant feature" clause in the patent specification limits the design claimed there to the base portion of the illustrated sprinkler. However, as the Examiner noted, both the application claim and the patent claim are directed to an "ornamental design for a lawn sprinkler." The patent claim is not directed to the ornamental design for a *base for* a lawn sprinkler. It seems to us impossible to have a "lawn sprinkler" sans the ball and tee features which constitute the sprinkler head or operating portion of the sprinkler. Appellants here are claiming the same lawn sprinkler that is claimed in their patent.

The decision is affirmed.

AFFIRMED.

RICH, *J.*, concurring, with whom SMITH, *J.*, joins.

This case had been decided by the Board of Appeals before our opinion in *In re Blum*, 54 CCPA 1231, 374 F.2d 904, 153 USPQ 177 (1967), was handed down. We there discussed the confusion created as to what is claimed by the use of the "dominant feature" statement of the type which appears in this application as well as in the appellants' patent. We also discussed the obscure significance of broken lines and the deficiencies of MPEP 1503.02.

The instant case further illustrates the need for tightening up the requirements with respect to what is said and what is shown in design patent applications and for greater clarity in the Manual of Patent Examining Procedure.

For myself, I rest affirmance solely on the failure to comply with 35 U.S.C. 112. I am unable to say whether the same design is being claimed in the application and in the patent, or an obvious variant, because, due to the dotted lines and the "dominant feature" clause in the patent, I am not sure what is claimed therein. I think the attempt was to claim the base alone, without the ball and tee, but who would know? Here, perhaps, the attempt is to claim the ball and tee in combination with the base. There is uncertainty of description. Again we have a "dominant feature" clause, which appears to be meaningless because the drawings contain no dotted or broken lines.

Since I cannot subscribe, moreover, to the double patenting rejection as stated by either the Examiner or the Board, which involved prior art not mentioned by the majority in a kind of obviousness-type double patenting rejection, I express no opinion on that rejection.

PATENT SUITS

Notices under 35 U.S.C. 290; Patent Act of 1952

2,486,759. (See 2,888,787.)

2,486,760. (See 2,888,787.)

2,486,761. (See 2,888,787.)

2,525,910, B. Kasoff, SANITARY NAPKIN, **filed** Mar. 7, 1968, D.C.N.J. (Newark), Doc. 216–68, *Bertha Kasoff* v. *Johnson & Johnson.* Stipulation and order of dismissal, Dec. 30, 1968.

2,531,999, L. Wallerstein, MANUFACTURE OF CRYSTALLINE DEXTROSE, **filed** Sept. 17, 1962, D.C., N.D. Ill. (Chicago), Doc. 62c1757, *Baxter Laboratories, Inc.* v. *Corn Products Company.* Judgment of District Court entered on May 11, 1967, is hereby reversed, cause remanded to the District Court for further appropriate proceedings consistent with the opinion, Dec. 19, 1968.

2,546,059. (See 2,888,787.)

2,761,503, A. P. Kruger, MECHANISM FOR PROGRESSIVELY SEVERING TAPE, **filed** May 19, 1967, D.C., N.D. Ill. (Chicago), Doc. 67c846, *Minnesota Mining and Manufacturing Co.* v. *Better Packages, Inc. and A. D. Smith.* On stipulation cause dismissed, Feb. 2, 1968.

2,779,374, C. E. Clark, GOLF CLUB COVER; **D. 179,591,** same, **filed** Feb. 8, 1967, D.C., N.D. Ill. (Chicago), Doc. 67c216, *Clarence E. Clark* v. *Castle Sporting Goods, Inc., doing business as Maurice Sporting Goods, and Distributors, Inc.* Notice of dismissal by plaintiff pursuant to Rule 41(a)(1)(ii) FRCP, Apr. 27, 1969.

2,787,210, F. H. Shepard, Jr., HAMMER IMPELLING MEANS IN HIGH SPEED PRINTERS, **filed** Apr. 7, 1965, D.C., S.D.N.Y., Doc. 65–C–1029, *Francis H. Shepard, Jr.* v. *International Business Machines Corp.* Filed consent and order of discontinuance, Dec. 23, 1968.

2,800,104, Cameron and Hopkins, Jr., RADIO CONTROLLED ELECTRIC CUTANEOUS SIGNAL TYPE ANIMAL OBEDIENCE DEVICE, **filed** Aug. 16, 1968, D.C., S.D. Tex. (Houston), Doc. 68–H–712–CA, *Robert C. Cameron* v. *Thomas Doss, doing business as Sensitronix.* Dismissed without prejudice, Jan. 14, 1969.

2,835,521. (See Re. 24,765.)

2,835,248. (See Re. 24,765.)

2,888,787, C. E. Cloud, METHOD AND APPARATUS FOR VACUUM PACKING IN PLASTIC; **2,486,761,** F. B. Pfeiffer, METHOD AND APPARATUS FOR WORKING SHEET MATERIAL; **2,486,760,** same, METHOD OF PACKAGING; **2,486,759,** same, PACKAGING METHODS AND APPARATUS; **2,546,059,** W. S. Cloud, METHOD AND APPARATUS FOR PREPARING AND USING SHEET MATERIAL FOR PACKAGING PURPOSES, **filed** Sept. 26, 1960, D.C., N.D. Ill. (Chicago), Doc. 60c1516, *William S. Cloud et al. of Cloud-Curtiss Development Corp.* v. *Standard Packaging Corp.* Filed defendant's notice of appeal, Jan. 25, 1965. Filed mandates (2) U.S.C.A. Judgment of U.S.D.C. entered Jan. 4, 1965, is affirmed in part and reversed in part, and cause is remanded to the District Court for further proceedings, Jan. 5, 1967. The parties having arrived at a settlement it is hereby stipulated that the above cause is dismissed with prejudice and without costs, Oct. 30, 1967.

2,906,627, Payton and Schuetze, METHOD OF HEAT SHRINKING WRAPPERS ON FOOD, **filed** May 5, 1966, D.C., S.D.N.Y., Doc. 66–C–1298, *Beseler Corp.* v. *Great Lakes Stamp & Mfg. Co., Inc.* Consent judgment, complaint and counterclaim is dismissed with prejudice, Dec. 6, 1968.

2,913,386, L. C. Clark, Jr., ELECTROCHEMICAL DEVICE FOR CHEMICAL ANALYSIS, **filed** Nov. 29, 1965, D.C., W.D. Tex. (San Antonio), Doc. 3633, *Beckman Instruments, Inc. and Leland C. Clark, Jr.* v. *Chemtronics, Inc. and J. Ryan Neville.* Judgment, plaintiffs' patent valid and defendants' patent valid; defendants do not infringe plaintiffs' patent, Dec. 27, 1968.

2,934,061, I. A. Speelman, SPHYGMOMANOMETERS, **filed** Mar. 20, 1967, D.C., N.D. Ill. (Chicago), Doc. 67c435, *Propper Manufacturing Company, Inc.* v. *J. D. Marshall Company.* Plaintiff's notice of dismissal under Rule 41(a)(1)(ii) FRCP, Sept. 5, 1967.

2,948,871, T. L. Craige, MINIATURE INDUCTIVE DEVICES, **filed** Dec. 4, 1968, D.C., S.D.N.Y., Doc. 68–C–4817, *TRW Inc.* v. *Pico Electronics, Inc. et ano.*

2,953,354, E. B. Williams, DRILL BIT, **filed** Jan. 17, 1969, D.C., N.D. Tex. (Dallas), Doc. CA–3–2957–A, *Williams Bit & Tool Co. (Edward B. Williams III, Joseph W. Williams and David B. Williams)* v. *American Coldset Corporation.*

2,954,907, H. R. Bird, DRAPERY PLEATING MACHINE, **filed** Dec. 27, 1967, D.C., S.D. Ohio (Cincinnati), Doc. 6610, *Harold R. Bird, doing business as Vanbar Co.* v. *Zimmerman Fur Institute Inc., and Max X. Zimmerman and Evelyn Zimmerman.* Consent judgment, Patent No. 2,954,907 is valid. Defendants have infringed. Counterclaim dismissed with prejudice, Jan. 2, 1969.

2,956,073, Whetstone and Harman, INSECTICIDALLY ACTIVE ESTERS OF PHOSPHORUS ACIDS AND PREPARATION OF THE SAME, **filed** Dec. 9, 1968, D.C., E.D.N.Y. (Brooklyn), Doc. 68–C–1246, *Shell Oil Co.* v. *Jack Sonbert* et al. **Same, filed** Dec. 11, 1968, D.C., N.D. Pa. (Scranton), Doc. 68–490–C, *Shell Oil Company* v. *Aeroseal Corporation.* **Same, filed** Dec. 12, 1968, D.C. N.J. (Newark), Doc. C–1320–68, *Shell Oil Company* v. *Carlstadt Chemical Co., Inc. and Dynachem Industries, Inc.*

2,956,342, A. Eisele, PRECISION CONCENTRICITY GAUGE; **2,998,656,** J. P. St. Amour, HOLE LOCATION GAUGE, **filed** Oct. 11, 1966, D.C., E.D. Mich. (Detroit), Doc. 29070, *Andrew Eisele, doing business as Zero Internal Gauge Company* v. *John P. St. Amour.* Judgment, all claims of St. Amour, 2,998,656 are valid; claims 3 and 4 infringed; judgment entered for defendant on counterclaim; plaintiff's complaint dismissed with prejudice and plaintiff is enjoined from further infringement, Jan. 6, 1969.

2,962,837, J. H. Lemelson, TOY GUN CONTAINING RICOCHET NOISE MECHANISM, **filed** Dec. 9, 1968, D.C., S.D.N.Y,. Doc. 68–C–4890, *Jerome H. Lemelson* v. *Ideal Toy Corporation.*

2,983,601, Fletcher and Kells, FERROUS ALLOYS AND ARTICLES MADE THEREFROM, **filed** Aug. 21, 1964, D.C., N.D. Ohio (Cleveland), Doc. C–64–567, *Latrobe Steel Co.* v. *Atlas Steel Company, Ltd.* Consent judgment, Dec. 17, 1968.

2,998,611, W. E. Schuessler, CUFFED CAP AND FACE HOOD AND METHOD OF FORMING, **filed** Nov. 2, 1967, D.C., N.D. Ill. (Chicago), Doc. 67c1907, *Schuessler Knitting Foundation* v. *American Needle and Novelty Co.* Plaintiff is owner of Patent No. 2,998,611, Dec. 19, 1968. Claim 1 valid; defendant enjoined from infringement, Dec. 19, 1968.

2,998,656. (See 2,956,342.)

3,014,256, Derrickson and Pape, STRAP CONNECTOR, **filed** May 18, 1964, D.C., E.D. Pa. (Philadelphia), Doc. CA–35797, *FMC Corporation* v. *American Manufacturing Company, Inc.* Consent judgment in favor of the plaintiff, Apr. 5, 1967.

3,031,833, G. M. Nelson, BEET TOPPING MACHINE, **filed** Dec. 5, 1968. D.C. Idaho (Boise), Doc. C–1–68–100, *George M. Nelson* v. *Oppel Harvester, Inc.*

3,045,102, P. J. Fessenden, COLD TERMINAL RESISTANCE WIRE, **filed** Dec. 11, 1968, D.C., N.D. Tenn. (Nashville), Doc. 5242–C, *Springfield Wire, Inc.* v. *Emerson Electric Company and Edwin L. Wiegand Company.*

3,052,540, H. G. Greig, DYE SENSITIZATION OF ELECTROPHOTOGRAPHIC MATERIALS, **filed** Dec. 31, 1968, D.C. N.H. (Concord), Doc. 2948, *Nashua Corporation* v. *Radio Corporation of America.*

Re. 24,765, C. S. White, LOW FRICTION FABRIC MATERIAL; **2,835,248,** same, MOLDED BEARING HAVING LOW FRICTION MATING SURFACES; **2,835,521,** same, BALL JOINT BEARING STRUCTURE, **filed** Dec. 9, 1968, D.C., C.D. Calif. (Los Angeles), Doc. 68–2027–F, *Kahr Bearing Corporation* v. *Lear Siegler, Inc.*

D. 179,591. (See 2,779,374.)

DEFENSIVE PUBLICATIONS

PUBLISHED APRIL 22, 1969

Published at the request of the applicant or owner in accordance with Notice of Apr. 11, 1968, 849 O.G. 1221. The abstracts are identified by serial number of the applications and arranged in chronological order. The heading of each abstract of application published herein indicates the number of pages of specification, including claims and sheets of drawing contained in the application as originally filed. The files of these applications are available to the public for inspection and reproduction may be purchased for 30 cents a sheet.

Applications published under the Defensive Publication Program have not been examined as to the merits of alleged invention. The Patent Office makes no assertion as to the novelty of the disclosed subject matter.

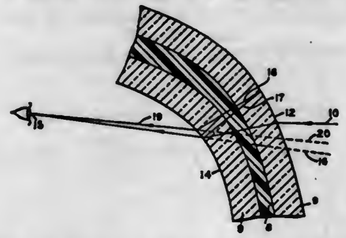
739,939
LAMINATED GLASS ASSEMBLY WITH TAPERED INNER LAYER

Howard V. Christensen, Dearborn, Mich., assignor to Ford Motor Company, Dearborn, Mich., a corporation of Delaware

Continuation of application Ser. No. 485,199, Sept. 7, 1965. This application June 6, 1968. Published Apr. 22, 1969

Class 350—319

2 Sheets Drawing. 8 Pages Specification



In order to correct double vision characteristics of curved windshields constructed of two sheets of glass, each sheet having a uniform thickness, a tapered or wedged vinyl inner layer is positioned therebetween during a laminating operation. The vinyl inner layer is thicker at the top of the windshield than at the bottom. In a preferred windshield construction, the inner layer had a thickness of .035 inch at the top and .015 inch at the bottom of the windshield which was 26 inches wide. The amount of wedge to be placed in the layer of vinyl depends both on the angle of installation of the windshield and the radius of curvature of the windshield. These factors are correlated graphically for windshields having different radius of curvature. The graphical illustration shows that for a 60-inch curvature a wedge angle of three to five minutes is sufficient to eliminate the double vision characteristics whereas a wedge angle of one to three minutes is sufficient to eliminate double vision characteristics for a 150-inch radius of curvature windshield.

563,097
PHOTOTROPIC ANTHRAQUINONE CONTAINING COMPOSITIONS

Gordon C. Newland and William H. Moore, both of P.O. Box 511, Kingsport, Tenn. 37662

Filed July 6, 1966. Published Apr. 22, 1969

Int. Cl. G03c *1/72;* G02b *5/20*

U.S. Cl. 252—300

No Drawing. 10 Pages Specification

Phototropic compositions comprising a thermoplastic resin such as a polyolefin, a polyvinyl halide or acetal, a polyacrylic resin, a cellulose ester or poly(vinyl ester), a polyester, or a polycarbonate containing about 0.001 to about 10 weight percent (preferably below about 5 weight percent) of certain selected anthraquinones, for example, anthraquinone, 1,5 - diphenoxyanthraquinone, 1,6 - diphenoxyanthraquinone and 1,5 - bis - (p - methoxyphenoxy) - anthraquinone.

764,909
FOAM COMPOSITIONS FOR GASKETS

George B. Feild, New Castle, Del., assignor to Hercules Incorporated, Wilmington, Del., a corporation of Delaware

Continuation-in-part of application Ser. No. 600,034, Dec. 8, 1966. This application Oct. 3, 1968. Published Apr. 22, 1969

Class 260—2.5

No Drawing. 14 Pages Specification

Gaskets made of foamed polypropylene overcome the deficiencies of cork, rubber and polyethylene gaskets and provide outstanding heat and solvent resistance. The small, uniform cells of these foams are almost completely closed with no interconnecting voids. This structure is essential for a gasket to prevent permeation of gases or liquids. Characteristically, the foams are those wherein at least about 80% of the cells are closed and have average diameters less than about 0.030 inch. Also, the foams are characterized by densities of from 0.5 lb./cu. ft. to about 10 lbs./cu. ft.

In preparing the foamed gasketing material, any stereoregular polypropylene and blends thereof with elastomeric hydrocarbon polymers such as polyisobutylene and ethylene-propylene copolymer rubbers can be used. The foams are produced by heating a mixture of the polypropylene, a blowing agent and an azido cross-linking agent to a temperature above the softening point of the composition and sufficient to release the gas from the blowing agent and to effect reaction of the azido compound with the polypropylene. The blowing agents used are well known. The cross-linking agents are poly(sulfonazides) or poly(azidoformates), in amounts from 0.01% to 5% by weight based on polymer.

788,993
SYNERGISTIC STABILIZERS FOR POLYOLEFINS

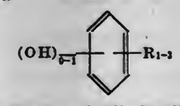
John W. Tamblyn, Kingsport, Tenn. (P.O. Box 92, Jonas Ridge, N.C. 28641), and Gordon C. Newland, P.O. Box 511, Kingsport, Tenn. 37662

Continuation of application Ser. No. 601,311, Dec. 13, 1966. This application Dec. 26, 1968. Published Apr. 22, 1969

Class 260—886

No Drawing. 17 Pages Specification

Organic materials, and particularly polyolefins, may be stabilized against the degradative effects of ultra-violet light by a synergistic combination of a 2-hydroxybenzophenone compound and a compound selected from the group consisting of long chain alkanes, long chain alicyclic monoolefins, cycloalkenes, cycloalkanes, naphthalene, citral, linalool, indene, polystyrene, and a compound of the general formula



wherein R is H, alkyl cycloalkyl, alkylphenyl, alkenylphenyl, or alkynylphenyl. Some of these materials provide end products having a pleasant scent or microbiocidal properties.

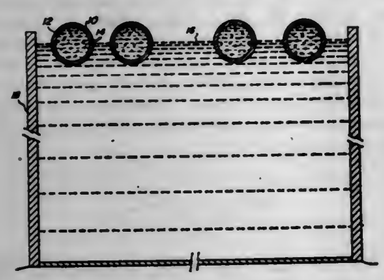
775,578
MODIFIED POLYETHYLENE
Marion O. Brunson, % Tennessee Eastman Co., P.O. Box 511, Kingsport, Tenn. 37662
Continuation of application Ser. No. 603,108, Dec. 20, 1966. This application Oct. 31, 1968. Published Apr. 22, 1969
Class 260—29.6
No Drawing. 16 Pages Specification

A process for finishing textile fabrics which comprises contacting a textile fabric with an aqueous dispersion of an emulsifiable low molecular weight modified polyethylene composition, having a saponification number of at least 6, a melt viscosity of about .1 to .5. The modified polyethylene composition is obtained by reacting a low molecular weight crystallizable polyethylene having an inherent viscosity of about .1 to about .5 with unsaturated polycarboxylic acids, unsaturated polycarboxylic acid anhydrides or unsaturated polycarboxylic acid esters at a temperature of 200 to 400° C. The aqueous dispersion contains about 20 to about 45% by weight solids. These dispersions are diluted to a solution containing 2 weight percent modified polyethylene and about 25 weight percent of a permanent press thermosetting resin is added to this solution. This solution is then padded onto a textile fabric to obtain a 70 percent wet pick up and then air dried. The textile fabric can then be hot pressed to impart a permanent press to garments prepared therefrom.

649,025
CURTAIN COATING PROCESS
Donald Eliseo Gonzalez, Newark, N.J., assignor to Eastman Kodak Company, Rochester, N.Y., a corporation of New Jersey
Filed June 26, 1967. Published Apr. 22, 1969
Class 99—169
No Drawing. 12 Pages Specification

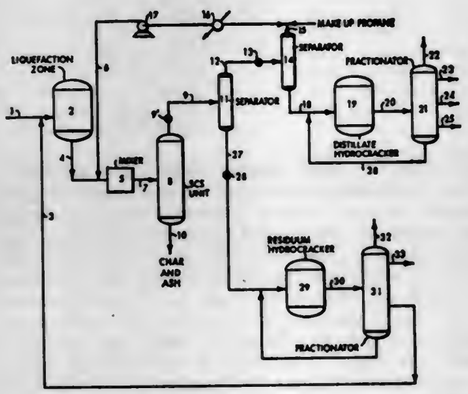
Process for curtain coating substrates or articles to prepare coated substrates or packaged articles employing a curtain coating composition having a melt viscosity at 375° F. of 10,000–125,000 cp. and comprising (a) 75–100 percent of an ethylene/vinyl acetate copolymer (55–95 percent ethylene/5–45 percent vinyl acetate) having a melt index of 66–825 g./10 min.; (b) 0–25 percent of a paraffin wax melting at 95°–160° F.; and (c) 0–20 percent of a mineral oil.

685,682
MICROENCAPSULATED FIRE EXTINGUISHING AGENT
George P. Gross, 900 Tice Place, Westfield, N.J. 07090, Walter A. Herbst, 93 Clark Place, Union, N.J. 07083, and Anthony Lagani, Jr., 600 Broad St., Newark, N.J. 07102
Filed Nov. 24, 1967. Published Apr. 22, 1969
Class 169—4
2 Sheets Drawing. 12 Pages Specification



Microcapsules are adapted to contain a liquid or foam-producing fire-extinguishing agent and to release such agent when subjected to temperatures in a predetermined range. The microcapsules comprise a liquid fire-extinguishing agent such as carbon tetrachloride contained in a thin, hydrocarbon-impervious envelope which is rupturable by heat and/or pressure at a predetermined temperature range (e.g., 250°–450° F.) so as to release the fire-extinguishing agent in the event of a fire. In one embodiment, the microcapsules are comprised of a spherical outer polymeric (e.g., a copolymer of styrene and divinyl benzene) casing having enclosed therein water and entrapped air or inert gas such as nitrogen or carbon dioxide. In the preferred embodiment, the microcapsules have a density which is equal to or less than that of gasoline and which are added to fuel storage tanks, the tanks of racing cars, airplanes, etc., in order to provide both a fire-blanket and evaporaton-barrier for said fuel.

700,485
PROCESS FOR MAKING LIQUID FUELS FROM COAL
Charles E. Hemminger, 31 Fair Hill Road, Westfield, N.J. 07090, and Seymour Stahl, 135 Windsor Way, Berkeley Heights, N.J. 07922
Filed Jan. 25, 1968. Published Apr. 22, 1969
Class 208—10
2 Sheets Drawing. 11 Pages Specification

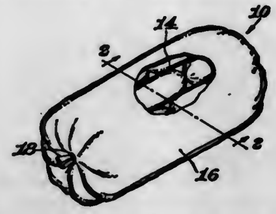


This disclosure relates to a process for making liquid fuels from coal comprising liquefaction of ground coal in a slurry, solvent treatment of the liquefaction effluent at supercritical conditions and subsequent refining of the liquid. Optimum conditions for the unique supercritical separation step will depend upon the critical temperature of the solvent and the molecular type distribution of the feed. Temperatures may range from 220–500° F. and pressures may range from 750–5000 p.s.i.a. Suitable solvents include ethane, propane, butane, pentane, hexane, ethylene, propylene, butylene, halogenated light hydrocarbons, CO_2, ammonia, SO_2, etc. An essentially solid raffinate phase and an essentially liquid extract phase suitable for hydrocracking are recovered from the supercritical separation step.

705,283
TEXTILE LUBRICANTS FOR SHAPED CONDENSATION POLYMERS
Hugh Thomas Patterson, Greenville, and Harold James Elliott Segrave, Kinston, N.C., assignors to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware
Filed Feb. 14, 1968. Published Apr. 22, 1969
Class 8—115.5
No Drawing. 12 Pages Specification

Condensation polymer fibers or films are lubricated with a mixture of about 2 to 16 percent by weight of an isocyanate-modified polydimethylsiloxane and the remainder being polydimethylsiloxane. The polydimethylsiloxanes used for preparing the lubricant are known as silicone oils. In spandex fibers the best results are obtained with polydimethylsiloxanes of viscosities of up to 1,000 centipoise at 25° C. Other fibers which may be so lubricated include nylons, polyesters, and polyacrylonitriles. Segmented copolymers of the spandex type which have reactive sites on their surface form chemical bonds with the isocyanate groups in the lubricant, thus effecting good adhesion of the lubricant to the fiber. The described lubricant provides excellent frictional characteristics without fiber yellowing.

742,410
MASTER SHIPPING AND STORAGE CONTAINER FOR PREPACKED MEAT PRODUCTS
Oliver R. Titchenal, 396 Crossbrook, Berea, Ohio 44017, James J. Bader, 2312 Belaire, Midland, Mich. 48640, and Wallis I. Hoyle, 849 Hemlock St., Sleepy Hollow, Dundee, Ill. 60118
Filed July 3, 1968. Published Apr. 22, 1969
Class 99—174
1 Sheet Drawing. 10 Pages Specification



Individual quantities of fresh meat are separately prepackaged in breathable films in the form, for example, of chub packs or film overwrapped trays or plastic film coatings. A plurality of such packs are then inserted in a gas-tight shipping and storage container formed of a film which is substantially impermeable to oxygen penetration over extended periods of time, i.e., for several days. When it is desired to finally display a prepackaged meat for sale to the ultimate consumer, the individual packs are removed from the shipping and storage container, and the breathable film forming the skin of such packs is exposed to the atmosphere. Air penetrating through the breathable film blooms the meat to a desirable and saleable bright red color. The use of the shipping and storage container thus permits the shelf life of the meat product to be considerably extended.

788,071
PHOTOGRAPHIC MATERIALS STABILIZED WITH BENZENE SELENINIC ACID AND TETRAAZAINDENE ANTIFOGGANTS
William Farrell Smith and Dorothy Johnson Beavers, both of Kodak Park Division, Rochester, N.Y. 14650
Filed Dec. 30, 1968. Published Apr. 22, 1969
Class 96—109
No Drawing. 13 Pages Specification

Photographic silver halide emulsions are stabilized against fog with (1) a benzene seleninic acid antifoggant, e.g., benzene seleninic acid salt or free acid and (2) a 4-hydroxy-6-alkyl-1,3,3a,7-tetraazaindene antifoggant, e.g., 4-hydroxy-6-methyl-1,3,3a,7-tetraazaindene. Enhanced activity is obtained when the photographic emulsions or elements disclosed also contain a development modifier which is:

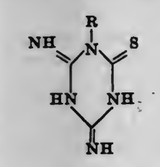
(1) a substantially non-vulcanizable linear polymer containing at least three linear thioether atoms and having a molecular weight of at least about 250,
(2) an onium salt comprising a quaternary ammonium, quaternary phosphonium or ternary sulfonium salt group, or
(3) an alkylene oxide polymer.

Suitable development modifiers include linear condensation products of diols such as 3-thiapentane-1,5-diol with dibasic acids such as glutaric acid, 7,18-diaza-6,19-dioxotetracosane - 1,24 - bis(pyridinium perchlorate) and oleyl ether polyethylene oxide.

Silver halide emulsions and elements stabilized as described can be chemically sensitized, e.g., with noble metal sensitizers alone or in combination with sulfur or selenium sensitizers. They can contain spectral sensitizers, incorporated color-forming couplers, incorporated developing agents, other antifoggants, hardeners, plasticizers, vinyl polymers, coating aids, and other suitable photographic addenda, such as described in U.S. Patent 3,297,446 (columns 4–9).

788,076
HEXAHYDRO - 4,6 - DIIMINO-S-TRIAZINE-2-THIONE DERIVATIVES AS ANTIFOGGANTS FOR PHOTOGRAPHIC MATERIALS
Norman Wayne Kalenda and Dorothy Johnson Beavers, both of Kodak Park Division, Rochester, N.Y. 14650
Filed Dec. 30, 1968. Published Apr. 22, 1969
Class 96—109
No Drawing. 8 Pages Specification

Photographic silver halide emulsions are stabilized against fog with hexahydro - 4,6 - diimino - s - triazine - 2-thione derivatives having the formula:



where R is alkyl or aryl, e.g., methyl, ethyl, butyl, phenyl and the like. Examples are 1-n-butylhexahydro-4,6-diimino-s-triazine-2-thione, hexahydro-4,6-diimino-1-methyl-s-triazine - 2-thione, hexahydro-4,6-diimino-1-phenyl-s-triazine-2-thione.

Silver halide emulsions and elements stabilized as described can be chemically sensitized, e.g., with noble metal sensitizers alone or in combination with sulfur or selenium sensitizers. They can contain spectral sensitizers, incorporated color-forming couplers, incorporated developing agents, other antifoggants, hardeners, plasticizers, coatings aids, vinyl polymers and other suitable photographic addenda such as described in U.S. Patent 3,297,446 of Dunn issued Jan. 10, 1967 (columns 4–9).

PLANT PATENTS

GRANTED APRIL 22, 1969

Illustrations for plant patents are usually in color and therefore it is not practicable to reproduce the drawing.

2,880

APRICOT TREE

Frederic W. Anderson, Merced, Calif., assignor to Reedley Nursery, Inc., Reedley, Calif., a corporation

Filed Sept. 11, 1967, Ser. No. 667,013

U.S. Cl. Plt.—39 1 Claim

A cultivar of apricot tree which is a regular and very productive bearer of an unusually early ripening, freestone fruit having commercially desirable characteristics.

2,881

ROSE PLANT

John W. Patterson, 6518 Kernel, Houston, Tex. 77017

Filed Mar. 3, 1967, Ser. No. 620,549

U.S. Cl. Plt.—21 1 Claim

1. A new and distinct variety of rose plant of the hybrid tea class, substantially as herein shown and described, characterized particularly as to novelty by the combination of good growing and flower producing habits, relatively large flowers which are borne on strong stems, good flower form, good flower fragrance, better than average disease resistance, attractive dark red color corresponding to Garnet Lake, and good keeping qualities of the flowers as cut flowers.

PATENTS

GRANTED APRIL 22, 1969

GENERAL AND MECHANICAL

3,439,360

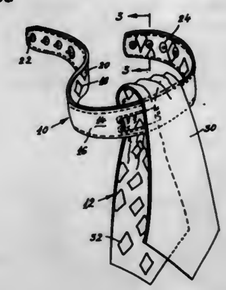
REVERSIBLE AND ADJUSTABLE NECKWEAR AND HOLDERS THEREFOR

Moe M. Grubman, Regal Park, N.Y. (104 W. 29th St., New York, N.Y. 10001)

Filed Aug. 9, 1965, Ser. No. 478,087

Int. Cl. A41d *23/00, 25/04, 25/16*

U.S. Cl. 2—155 4 Claims



A reversible collar for holding an article of neckwear so as not to become displaced on the collar. The collar has an annular body of fabric with a slot or slots formed midway the ends thereof and variously arranged, for receiving the neckwear. The ends of the collar have snap fastening elements, each element having a male part and a female part to permit reversal of the collar.

3,439,361

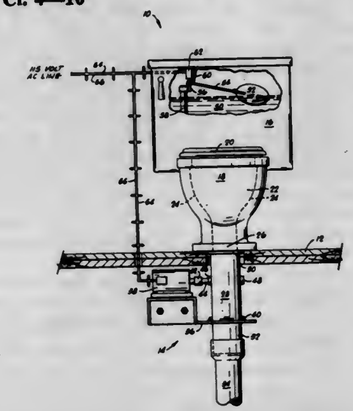
SEWAGE COMMINUTING DEVICE

Archie E. Moore, 1814 S. Hays, Enid, Okla. 73701

Filed May 11, 1967, Ser. No. 637,658

Int. Cl. E03d *1/00, 3/00, 5/00, 11/11*

U.S. Cl. 4—10 13 Claims



An apparatus for combination with conventional toilet facilities which apparatus receives sewage and refuse from the toilet and reduces it to a more fluid material for introduction into sewage disposal lines. The apparatus is a generally cylindrical enclosure which can be connected between a toilet sewage outlet and disposal pipe and which includes a pulverizing mechanism therein which is actuatable in response to flushing of the toilet.

3,439,362

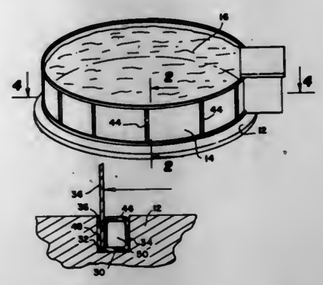
SWIMMING POOL CONSTRUCTION

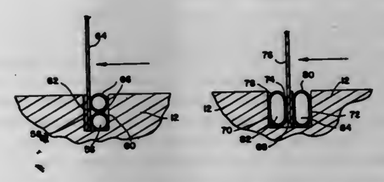
Adam D. Goettl, 4960 E. Palomino Road, Phoenix, Ariz. 85018

Filed July 10, 1967, Ser. No. 652,350

Int. Cl. E04 *3/16*

U.S. Cl. 4—172 11 Claims





A swimming pool construction comprising a base having endless ledge means, and a wall assembly on the base adjacent the ledge means, and surrounding a swimming pool area, and adapted to contain water therein; and an inflated seal between the ledge means and the wall assembly to prevent leakage from said area.

3,439,363

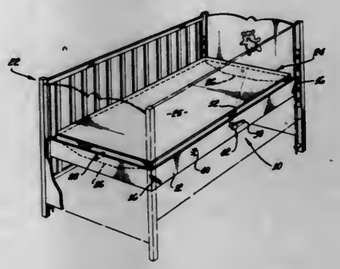
ROCKING BED

Thomas Meeks, Compton, Calif., assignor to Ross M. Miller, Jr., Compton, Calif.

Filed May 29, 1967, Ser. No. 642,078

Int. Cl. A47d *9/02, 9/04, 9/00*

U.S. Cl. 5—109 2 Claims

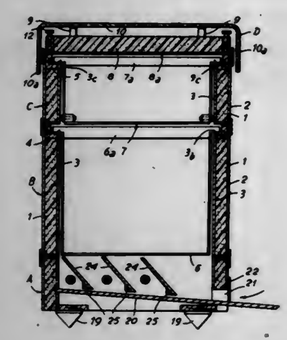


A rocking bed with a frame within which a cradle with rocker members at each end is mounted with means for producing a rocking motion of the cradle.

3,439,364
LAMINATED BEEHIVE AND FRAME SUPPORT THEREIN

Giovanni Paoletti, Via E. Rubieri 5, Florence, Italy

Filed Mar. 11, 1966, Ser. No. 533,621
Claims priority, application Italy, Mar. 16, 1965, 1,890/65
Int. Cl. A01k 47/02, 47/04
U.S. Cl. 6—2 4 Claims

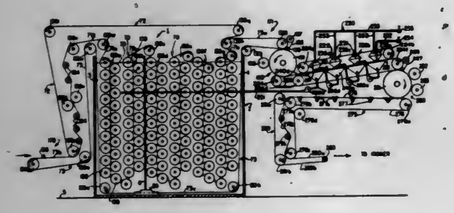


A multi-section beehive is disclosed as including walls formed of synthetic heat insulating material, each wall comprising an inner synthetic resin layer, an outer synthetic layer and a synthetic resin filler between the two layers. The upper edges of the side walls of two of the sections are formed as bevelled edges to support cross bars suspending frames, each cross bar having a pair of longitudinally spaced downwardly opening triangular notches arranged to engage over the bevelled edges of a pair of opposite walls, both the bevelled edges and the notches being of right triangle form and the apex angle of the notches being somewhat larger than the apex angle of the bevelled edges. Pressure exerting means are provided to separate the sections and to remove a roof or top closure even though parts may be adhered together by propolisation.

3,439,365
CONTINUOUS WASHING METHOD AND APPARATUS

Erwin B. Bahnsen, Hinsdale, Ill., assignor to Steiner American Corporation, Salt Lake City, Utah, a corporation of Nevada

Filed Oct. 21, 1965, Ser. No. 499,137
Int. Cl. D06c 1/00; D06f 29/02
U.S. Cl. 8—151 24 Claims

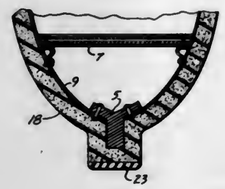


A method and an apparatus for washing, rinsing and drying soiled fabric articles, wherein the articles are washed by transporting them on a foraminous belt along a sinuous path through a soil loosening alkaline solution and then through a soil removing detergent solution all while subjecting elemental portions of the fabric to cycloidal motion at a repetition rate of four hundred cycles per minute and a maximum displacement of one-quarter inch, and wherein the articles are rinsed by forcing a mixture of water and gas repeatedly through the articles in a counter-current manner while the articles are transported along an upwardly inclined path, and wherein the articles are dried by subjecting them successively to radiant heat and blasts of warm air while the articles are transported along a horizontal path.

3,439,366
BOAT CONSTRUCTION

William R. Matthews, Spokane, Wash., assignor to The Microlite Corporation, Spokane, Wash., a corporation of Washington

Filed Nov. 20, 1967, Ser. No. 684,143
Int. Cl. B63b 3/00, 5/24; B44c 1/00
U.S. Cl. 9—6 6 Claims



A boat is built of an inner structural shell to which the deck and keel and all inner structural parts such as bulkheads, partition and floors are fixed. Outer reinforcing ribs are formed over the inner shell. These outer ribs are made up of laminations of monofilament tape where the filaments are glass fiber, the laminations being secured together by an epoxy resin of suitable formulation. These outer ribs are mechanically secured to the shell by fasteners such as rivets, screws or bolts.

The inner structural shell from deck to keel is completely encased in and bonded to a buoyancy provided shell made up of micro-sized hollow balls of glass mixed in a suitable epoxy resin and its catalyst which is compatible with the resin used in the outer ribs. The thickness of the outer shell is more than sufficient to provide buoyancy to float the completed boat in water with the parts fixed therein. In constructing the boat, the inner shell may be built upside down and the outer shell composition then be laid on as a trowelable mix or the inner shell may be located in an outer mold and the buoyancy composition may be poured in between the mold and inner shell and then cured in place.

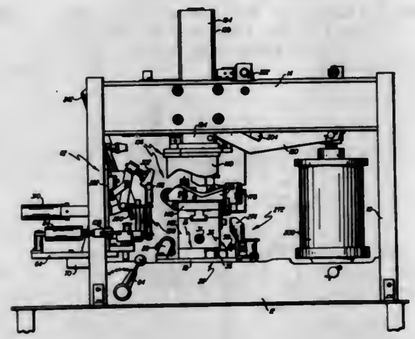
An outer skin may then be formed over the outer shell composition using known materials such as one or more finishing coats of known surfacing materials such as epoxy resin paint.

3,439,367
TEMPORARILY SECURING A SHOE SOLE TO A SHOE FORM

Michael M. Becka, Cambridge, and Allen C. Harriman, Brockton, Mass., assignors to Jacob S. Kamborian, West Newton, Mass.

Filed Jan. 18, 1967, Ser. No. 610,097
Int. Cl. A43d 11/00
U.S. Cl. 12—142 61 Claims

The disclosure is concerned with a method and apparatus for locating a molded insole on a last bottom and then temporarily and adhesively attaching the insole to the last bottom. The apparatus includes a molding device that is adapted to overmold the insole to an exaggerated contour so as to disrupt its fiber continuity to render it less elastic. A locating device serves to locate the insole

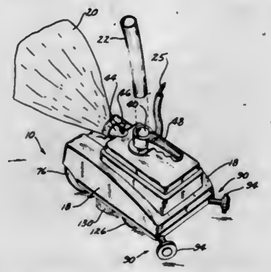


in registry on the last bottom and a pressing device then presses the insole into flush adhesion against the last bottom, an adhesive applying device having been operative earlier to apply adhesive at the facing surfaces of the last and insole.

3,439,368
SWIMMING POOL CLEANER

Robert R. Myers, 904 NE. 2nd St., Boca Raton, Fla. 33432

Filed Jan. 3, 1967, Ser. No. 606,663
Int. Cl. E04h 3/20; A47l 5/00
U.S. Cl. 15—1.7 14 Claims

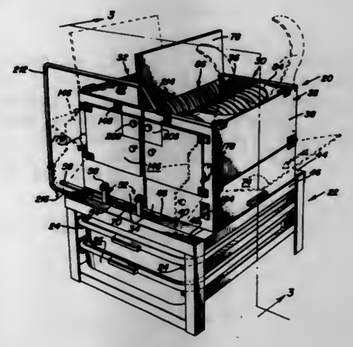


A machine for cleaning the bottom and the surface of swimming pools wherein the machine is movable along the bottom and is provided with a guidance control system which will change the direction of travel a predetermined amount as the machine encounters obstructions to the side or front such as the sidewalls of the pool. The machine may be of a crawler type and has a transmission for automatically controlling the forward and reverse rotation of the drive wheels whereby one or both drive wheels may be operating in the same direction at the same time. Sensing means for actuating the transmission are provided and are adjustable to assure that the machine will clean the maximum area of the pool but prevent it from being overturned.

3,439,369
MEAT CLEANING APPARATUS

Herman F. Russell, 13900 Cherrylawn St., Detroit, Mich. 48238

Continuation-in-part of application Ser. No. 659,397, Aug. 9, 1967. This application Jan. 15, 1968, Ser. No. 704,971
Int. Cl. A22b 17/00; B08b 1/02; A46b 13/02
U.S. Cl. 15—3.17 41 Claims

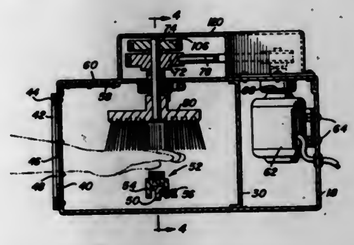


A meat cleaning machine which incorporates a pair of horizontally oriented oppositely rotating wire-like gripping rollers which vertically move a cut of meat therebetween with the meat, during the vertical movement thereof, being cleaned by means of a pair of oppositely rotating brushes located within and operatively engaging the meat through the gripping rollers. Each of the brushes is mounted for lateral adjustment so as to vary the amount of projection through the corresponding wire-like gripping roller. One of the gripping rollers, and the associated brush, is resiliently biased toward the other gripping roller and brush so as to accommodate cuts of meat of various thicknesses while maintaining a positive grip thereon.

3,439,370
HAND WASHING MACHINE

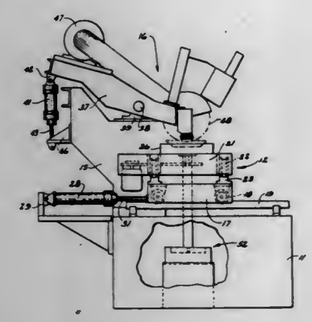
Thomas G. McLaughlin, R.D. 1, Box 80–B, Drums, Pa. 18222

Filed Apr. 17, 1967, Ser. No. 631,228
Int. Cl. B08b 1/04, 3/04
U.S. Cl. 15—4 10 Claims



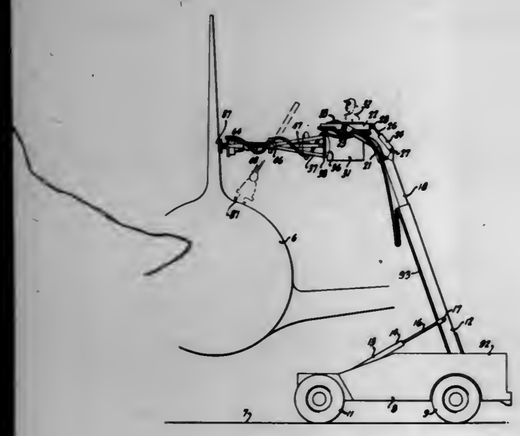
A hand washing machine defined by a housing having an access opening formed in one wall thereof and in which powered movable brush means is disposed, the access opening in the housing being positioned relative to the powered brush means in a manner such that a person's hand may be readily inserted into the housing through the access opening and engaged with the powered brushes and the machine including means for discharging soap and water within the housing in a manner operative to apply soap and water to the hand of a user of the machine.

3,439,371
BRUSHING OR POLISHING MACHINE
Paul Kraft, Geislingen an der Steige, Germany, assignor to Wurttembergische Metallwarenfabrik, Geislingen an der Steige, Germany, a corporation of Germany
Continuation-in-part of application Ser. No. 541,186, Apr. 8, 1966. This application Jan. 2, 1968, Ser. No. 695,035
Int. Cl. A46b *13/02*; B24b *17/00*
U.S. Cl. 15—21 12 Claims



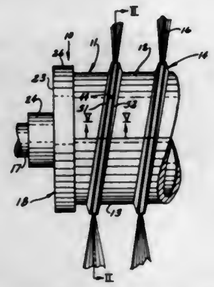
A polishing and brushing machine having a cross-slide arrangement adapted to receive workpieces thereon for moving same relative to a polishing wheel. The movement of the workpiece is automatically controlled by means of a template mounted on the machine frame, which template coacts with a switching stylus mounted on the cross slide for controlling the movement thereof. The template permits selective polishing of the entire workpiece or of the edge areas.

3,439,372
AIRPLANE WASHING DEVICE
Donald C. Collier, Walnut Creek, Calif., assignor to The Rucker Company, a corporation
Filed July 10, 1967, Ser. No. 652,307
Int. Cl. B60s *3/06*; A47l *11/283*; B24b *23/00*
U.S. Cl. 15—21 7 Claims



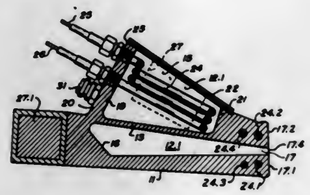
A device for washing airplanes has a vehicle carrying washing supplies and a rotatable turntable orientable to various positions and carrying an operator's station and controls for an extensible boom on which a rotary power driven scrubbing brush is mounted. The brush mounting permits the brush to be variously oriented and includes means for maintaining a selected brush pressure against the surface being washed.

3,439,373
BRUSH STRUCTURE
Gaylord J. Clark, P.O. Box 216, Coloma, Mich. 49038
Filed Dec. 26, 1967, Ser. No. 693,428
Int. Cl. A46b *7/10*; A46d *1/00*
U.S. Cl. 15—182 4 Claims



A rotary brush construction comprised of an elongated, channel-shaped member wrapped around a cylindrical core and rigidly secured thereto to form a plurality of closely spaced, spiral flights in which the brush elements are firmly seated. The core and the flights of the channel-shaped member are cut along a diametrical plane including the central axis of the core, so that the core halves can be separated for quick removal from a shaft upon which they are mounted by a pair of end bells.

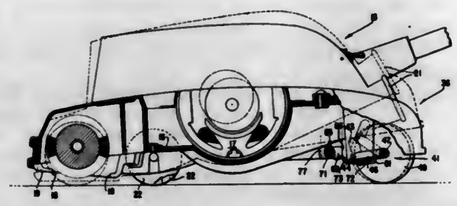
3,439,374
STEAM AND VACUUM NOZZLE
William H. Wisdom, 9806 Van Dyke Drive, Dallas, Tex. 75218
Filed Mar. 11, 1968, Ser. No. 712,123
Int. Cl. A47l *7/00*
U.S. Cl. 15—321 11 Claims



Cleaning head assembly to be used with a common wet vacuum and source of cleaning solution, a steam generating means integral with the head discharging a long narrow spray of steam and solution, and a heated vacuum nozzle passing over the sprayed material, with independent heating means of lips of the nozzle.

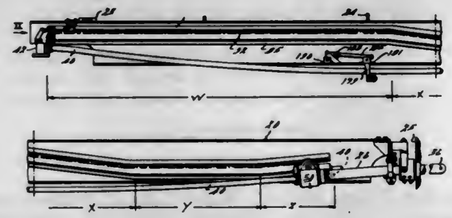
3,439,375
VACUUM CLEANER WITH NOZZLE HEIGHT ADJUSTING MECHANISM
Joseph R. Eades, Liberty, S.C., assignor to The Singer Company, New York, N.Y., a corporation of New Jersey
Filed May 9, 1966, Ser. No. 548,586
Int. Cl. A47l *5/34*
U.S. Cl. 15—354 1 Claim

A mechanism for controlling the height adjustment of a vacuum cleaner nozzle comprising an offset rear wheel axle cooperating with a cam projection carried by an elevation control lever pivotally carried by the chassis of the vacuum cleaner, wherein the cam engages a portion



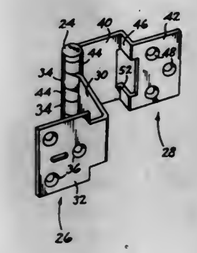
of the axle for turning it thereby adjusting the height of the nozzle of the vacuum cleaner.

3,439,376
LONG RETRACTING SOOT BLOWER
John E. Nelson and John R. Saltz, Lancaster, Ohio, assignors to Diamond Power Specialty Corporation, Lancaster, Ohio, a corporation of Ohio
Filed Sept. 9, 1965, Ser. No. 486,121
Int. Cl. F23j *3/02*
U.S. Cl. 15—317 13 Claims



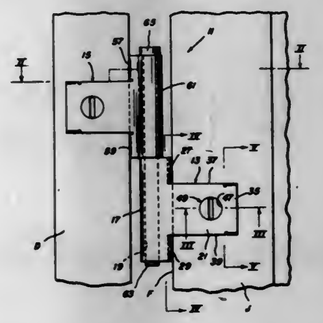
The lance tube of a long retracting soot blower is supported in a straight box beam of rectangular cross section between a front roller assembly and a traveling motor-driven carriage at the rear of the lance tube. The carriage has drive pinions which walk along racks secured to the inner sidewalls of the beam, the racks and supporting rails parallel thereto and which are also secured to the inner sidewalls of the beam being so contoured as to displace the carriage and the rear end of the lance tube connected thereto vertically downwardly with relation to the front roller assembly, as the lance tube is projected, and vice versa, to an extent which offsets the tendency of the free end of the lance tube to sag under the force of gravity as it is projected into the boiler. The carriage is driven through transmission means which includes irreversible pitch gearing, so that the lance tube cannot be projected by the pressure of the blowing medium. The lance tube is slidably overfitted upon a stationary feed tube which at its forward end is supported only by its interfitted engagement with the lance tube. In order to prevent sagging of the lance tube and feed tube when the lance tube is retracted, and also prevent undue sagging of the feed tube when the lance tube is projected, an intermediate supporting roller assembly is provided which is vertically shiftable to two different supporting positions. During projecting movement of the lance tube the carriage, upon reaching such intermediate position, displaces the intermediate support to a lowered position and as the carriage and the lance continue forwardly toward the fully projected position, downward sagging of the now exposed feed tube is limited by the intermediate support rollers in their lowered position. Such lowered supporting position permits a desirable but limited degree of sagging of the feed tube and maintains alignment of the forward portion of the feed tube with the stuffing box and lance tube. When the lance and carriage are retracted, the carriage, after passing the intermediate support position, shifts the intermediate support assembly to a higher supporting position wherein it supports the lance tube, and thereby also the feed tube contained therein, in a straight position. The driving pinions and supporting rollers of the carriage are all coaxial, permitting the carriage and the attached end of the lance tube to rock about a transverse axis.

3,439,377
SEMICONCEALED CABINET DOOR HINGE
Allan A. Bucholz, Gig Harbor, Wash., assignor to Tacoma Millwork Supply Company, Tacoma, Wash., a corporation of Washington
Filed June 10, 1965, Ser. No. 462,910
Int. Cl. E05d *3/02*
U.S. Cl. 16—135 1 Claim



A door hinge has a cabinet-mounted leaf offset intermediate its ends and a door-mounted leaf bent intermediate its ends at right angles, the two leaves being hinged together at one end. The hinge projects beyond the front face of the door. The intermediate offset portion of the cabinet-mounted leaf is notched to receive the right angle portion of the door-mounted leaf.

3,439,378
HINGE
James W. Ennis, Memphis, Tenn., assignor to Cole Manufacturing Company, Memphis, Tenn.
Filed July 5, 1966, Ser. No. 562,775
Int. Cl. E05d *5/06*
U.S. Cl. 16—159 6 Claims



A hinge for use on doors and the like which includes a pair of hinge portions and means for pivotally holding the hinge portions together. The hinge portions are substantially alike and each includes a plate portion having an aperture through which is adapted to extend a single primary attaching means in the form of a drive screw. A pair of flanges are attached to the plate portion for engaging the face of one of the members to which the

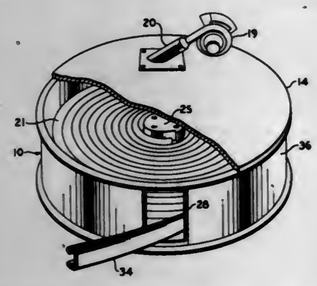
hinge is adapted to be attached. The flanges serve to guide the hinge portion when attaching same and after attachment prevents pivoting movement of the plate portion about the attaching means. A pair of prongs are fixedly attached to the plate portion and extend in a plane which is substantially perpendicular to the axis about which the hinge pivots and perpendicular to the plane of the flanges.

3,439,379

THERMOPLASTIC INSTALLATION APPARATUS

Richard H. Graf, Hauppauge, N.Y., assignor to Hooker Chemical Corporation, Niagara Falls, N.Y., a corporation of New York

Filed Oct. 24, 1965, Ser. No. 504,337
Int. Cl. B29b 3/00; F27b 9/28
U.S. Cl. 18—1 6 Claims



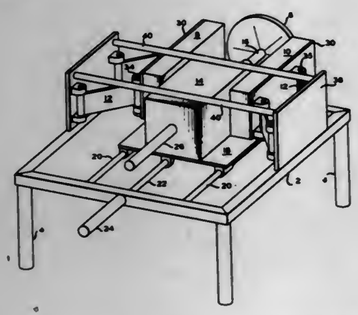
There is provided an apparatus for dispensing coiled thermoplastic material in a condition suitable for installation on a support which comprises in combination a housing, a rotatable holding means within said housing, bearing means rotatably mounting said holding means within said housing, an aperture in said housing, and heating means disposed in said housing so as to provide heat throughout said housing. In a preferred embodiment an elongated flexible sleeve is attached to the housing at the aperture.

3,439,380

APPARATUS FOR BLOW MOLDING BIAXIALLY ORIENTED ARTICLES

Charles L. Seefluth, Bartlesville, Okla., assignor to Phillips Petroleum Company, a corporation of Delaware

Filed Nov. 7, 1966, Ser. No. 592,503
Int. Cl. B29c 5/06
U.S. Cl. 18—5 9 Claims



1. An apparatus for molding a biaxially oriented article comprising:

(a) mold cavity means separable into at least two parts,

(b) means to actuate movement of said separable mold cavity means toward and away from each other,

(c) gripping means for gripping one end of a tubular parison,

(d) actuating means for said gripping means to reciprocate said gripping means along a line parallel to a plane of separation of said mold parts and parallel to a longitudinal axis of the mold cavity,

(e) said gripping means being actuated into and out of a mold cavity area, said actuating means also causing said gripping means to clamp around said parison,

(f) a stretching rod extending through said gripping means, one end of said rod adapted to seat against a parison which is pinched off in the pinch-off area and to force said parison against a fixed surface to thereby provide an improved seal in the pinch-off area of said parison,

(1) said stretch rod adapted to move axially from an extended position in which said one end is seated against said fixed surface to a retracted position in which said one end is adjacent said gripping means,

(2) actuating means for said stretch rod at a second end thereof,

(g) spacing means on said stretch rod between said actuating means and said gripping means to limit the extent to which gripping means can be pulled away from said one end of said stretch rod thereby determining the amount of longitudinal stretching given to said parison,

(h) support means for holding said gripping means, said gripping actuating means, said stretch rod and said stretch rod actuating means,

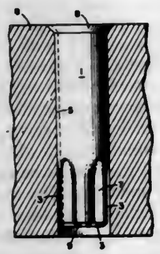
(1) an actuating means for said support means to reciprocate the same along said line parallel to the plane of separation of said mold halves.

3,439,381

SPINNERET

Hermanus Plomp, Rijswijk, South Holland, Netherlands, assignor to Algemene Kunstzijde Unie, N.V., Arnhem, Netherlands, a corporation of the Netherlands

Filed Dec. 7, 1966, Ser. No. 599,796
Claims priority, application Netherlands, Dec. 10, 1965, 6516064
Int. Cl. D01d 5/00
U.S. Cl. 18—8 9 Claims



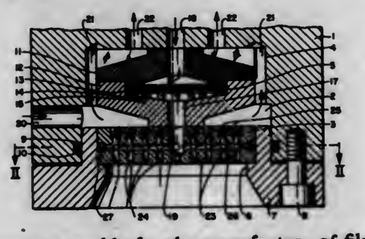
Spinneret structure is provided for the manufacture of profiled filaments of dumbbell, Y-shaped or star-shaped cross sections by the extrusion of synthetic masses, in which a profiled spinning channel is afforded consisting of a thin-walled tube the outlet zone of which is profiled both internally and externally and which is preferably supported in a bore of the spinneret only along strips of its circumferential surface. The thin-walled tube is formed by squeezing the outward end thereof in a special tool provided with jaws that are movable with great accuracy in a truly radial direction, the number of jaws corresponding to the number of desired indentations between the arms of the cross section of the thin-walled tube, the jaws being smoothly rounded in order that the transition from the non-profiled portion of the thin-walled tube to the profiled portion thereof shall be gradual.

3,439,382

SPINNERET ASSEMBLY FOR SPINNING HIGHLY VISCOUS POLYMERIC SUBSTANCES

Robert Sluijters, Arnhem, Netherlands, assignor to American Enka Corporation, Enka, N.C., a corporation of Delaware

Filed Dec. 23, 1966, Ser. No. 604,293
Claims priority, application Netherlands, Jan. 4, 1966, 6600025
Int. Cl. D01d 1/00
U.S. Cl. 18—8 3 Claims



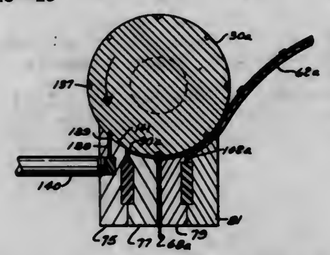
A spinneret assembly for the manufacture of filaments, fibers and yarns is provided with more effective means for spinning highly viscous polymers and comprises a main polymer inlet surrounded by a heating chamber in fluid flow communication with a plurality of shape imparting orifices in a spinneret plate; the orifices in the plate are connected to the main inlet by a plurality of connecting conduits or bores of lesser diameter than the said main polymer inlet and the conduits extend throughout the plate substantially parallel to its face.

3,439,383

APPARATUS FOR MAKING ORNAMENTED TAPE PRODUCT

Sylvester Martin Meltinger, Toledo, Ohio, assignor to Stauffer Chemical Company, New York, N.Y., a corporation of Delaware

Filed Mar. 21, 1966, Ser. No. 536,161
Int. Cl. B28d 3/02; B29f 3/012, 3/10
U.S. Cl. 18—13 2 Claims



Extrusion apparatus of the type adapted to the fabrication of a plastic coated web material, the apparatus being characterized in that means are provided for applying a distinguishing mark to at least one surface of the coated web.

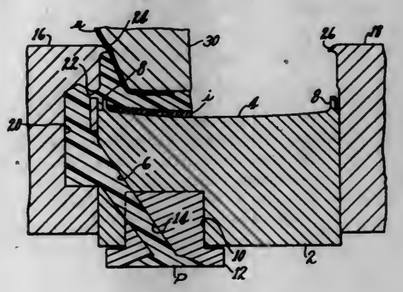
3,439,384

MOLDING WITH TREAD INSERTS

William P. Crossen, Magnolia, and Walter W. Yarrison, Beverly, Mass., assignors to USM Corporation, Flemington, N.J., a corporation of New Jersey

Filed Aug. 30, 1966, Ser. No. 576,117
Int. Cl. B29d 3/00
U.S. Cl. 18—36 4 Claims

A mold assembly for the injection molding of a footwear sole having a tread insert, the assembly including a bottom mold member having means upstanding from its mold cavity surface for engaging peripheral portions of the insert to position and retain the insert during the sole molding operation.

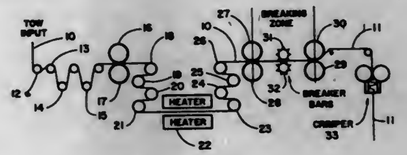


3,439,385

TOW SPREADING AND WIDTH CONTROL DEVICE

Thomas G. Weathers, Jr., Shelby, N.C., assignor to Celanese Corporation, New York, N.Y., a corporation of Delaware

Filed July 5, 1966, Ser. No. 562,858
Int. Cl. D01g 1/00
U.S. Cl. 19—.35 1 Claim



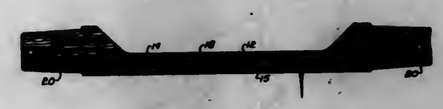
An apparatus and method for controlling the width of continuous filament tow being fed to a continuous filament to staple conversion apparatus to thereby more uniformly control the width and thickness of the tow in the conversion apparatus.

3,439,386

PLASTIC FALLER BAR

Andrew A. Spisak, Cleveland, Ohio, assignor to The Warner & Swasey Company, Cleveland, Ohio, a corporation of Ohio

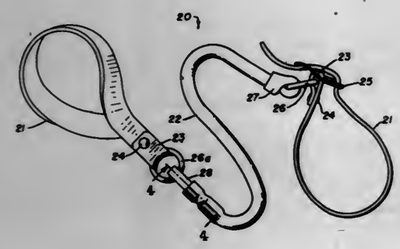
Filed Apr. 4, 1966, Ser. No. 539,865
Int. Cl. D01g 19/10
U.S. Cl. 19—129 10 Claims



The faller bar comprises a solid plastic gill bar connected at each end to metal drive members which are operatively connected to a screw device to move the faller bar in the gill box. The gill bar is constructed of high impact plastic material having elongated strands of reinforcing fibrous material such as fiber glass extending lengthwise therethrough to strengthen the bar while permitting deflection thereof during operation. The gills are likewise embedded in the plastic faller bar by various

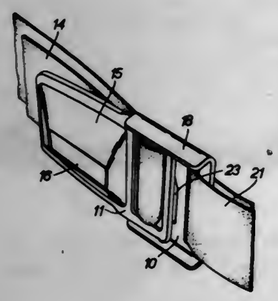
connecting arrangements. The ends of the faller bar are so constructed and arranged to mate with the drive members to provide a wedging engagement therebetween to resist bending forces applied thereto during the combing action. The driving members are locked to the ends of the gill bar by pin members which can be readily removed to permit the gill bar to be replaced.

3,439,387
LEG STABILIZER FOR SKIERS
Dave F. Churches, Rte. 1, Box 509, Golden, Colo. 80401
Filed Oct. 26, 1967, Ser. No. 678,238
Int. Cl. A63c *11/00*
U.S. Cl. 24—73 **5 Claims**



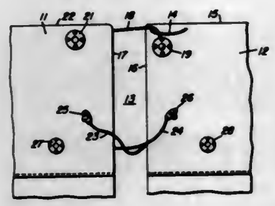
A leg stabilizer for assisting a skier to hold his feet together while skiing, wherein the stabilizer disclosed includes a pair of straps adapted to be buckled about the skiers ankles, an elastic tubular snub between the straps, permanently connected to one strap and connected to the other strap by a frictional break-away consisting of a finger which is threaded into the end of the tubular snub.

3,439,388
BUCKLES FOR SAFETY STRAPS AND HARNESSES
Thomas V. Barlow, Chichester, England, assignor to Wingard Limited, Sussex, England, a British company
Filed May 26, 1967, Ser. No. 641,672
Claims priority, application Great Britain, June 22, 1966, 27,794/66
Int. Cl. A44b *11/18, 11/25*
U.S. Cl. 24—197 **4 Claims**



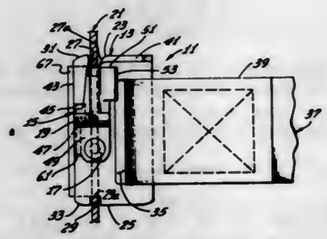
In a readily releasable buckle for a safety belt or harness of the kind in which a tongue is passed through an opening in a frame an asymmetric or transversely offset hump or projection is provided on one face of the tongue and the opening in the frame is of such an outline that the tongue can be passed through the frame only when it is correctly oriented with respect to the frame and only in one direction.

3,439,389
GARMENT FASTENER
Alicia Sherman, 45 E. 55th St., New York, N.Y. 10022
Filed Oct. 12, 1966, Ser. No. 586,297
Int. Cl. A44b *19/00, 17/00*
U.S. Cl. 24—201 **1 Claim**



A fastening for disengageably interconnecting opposite sides of an opening in a garment, which fastening comprises a loop, or the like, secured to the inner side of the garment adjacent one edge of the opening, a cord, ribbon, or the like, provided at one end with a snap fastener and having the other end secured to the outer side of the garment adjacent the opposite edge of the opening, and a further snap fastener means secured to the inner side of the garment adjacent the opposite edge and level with the loop or the like, the arrangement being such that in use the edges of the opening can be brought together or interconnected by threading the one end of the cord or ribbon through the loop from the outer side of the garment inwards, then drawing the one end back behind the other end and engaging the snap fastener provided thereon with the further snap fastener on the inner side of the garment.

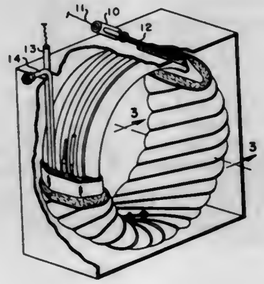
3,439,390
SNAPHOOK DEVICE
Ernest Prete, Jr., Woodland Hills, Calif., assignor, by mesne assignments, to Tridair Industries, Redondo Beach, Calif.
Filed Dec. 19, 1966, Ser. No. 602,871
Int. Cl. A44b *19/00, 17/00;* **A44c** *5/18*
U.S. Cl. 24—201 **9 Claims**



This disclosure describes a fastener of the type which is particularly adapted for securing a strap or similar member to an anchor member having an opening therein. The fastener includes a body member having generally opposed notches therein for receiving portions of the rim

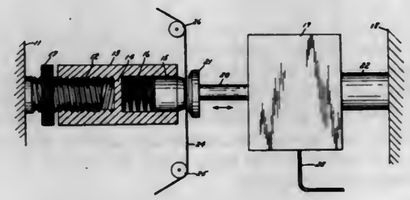
of the opening in the anchor member. Keeper means are movably mounted on the body member so that the keeper can be moved to a locking position in which it reduces the effective depth of at least one of the notches whereby the fastener is connected to the anchor member.

3,439,391
APPARATUS AND METHOD FOR EDGECRIMPING AND/OR HEAT TREATING YARN
Bainard M. De Vore, James E. Fowler, and William P. Warthen, Spartanburg, S.C., assignors to Deering Milliken Research Corporation, Spartanburg, S.C., a corporation of Delaware
Filed Sept. 20, 1965, Ser. No. 488,590
Int. Cl. D02g *1/08, 3/00;* **D02j** *13/00*
U.S. Cl. 28—1 **12 Claims**



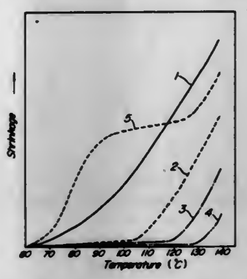
Apparatus and method is disclosed for development of crimped thermoplastic yarn including heating thereof within a channel disposed in a plurality of loop coils within a heating zone while simultaneously passing a stream of gas through said zone to preheat same and utilizing the gas to positively overfeed the yarn to and through the channel.

3,439,392
METHOD AND APPARATUS FOR TEXTURIZING SYNTHETIC THERMOPLASTIC YARNS
Robert Francis McNab, Jr., Greensboro, N.C., assignor to J. P. Stevens & Co., Inc., New York, N.Y., a corporation of Delaware
Filed Oct. 8, 1965, Ser. No. 494,068
Int. Cl. D02g *3/00;* **B22b** *31/02*
U.S. Cl. 28—1 **10 Claims**



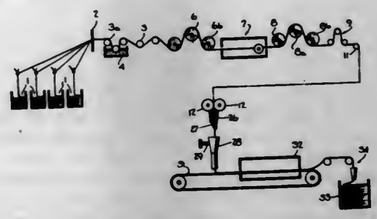
The disclosure deals with apparatus and process for texturizing synthetic thermoplastic yarns by subjecting the yarns to mechanical vibration in the ultrasonic range and thereby stabilizing or setting the yarns after they have been twisted, crimped or the like. Means are provided for varying the pressure on said yarns so as to impart sufficient vibration to the yarns in order to alter substantially the physical state of said yarns and to impart specific substantially permanent crimp configuration thereto.

3,439,393
METHOD FOR PRODUCING BULKY YARNS
Yoshiaki Murono, Fuji-shi, Japan, assignor to Asahi Kasei Kogyo Kabushiki Kaisha, Osaka, Japan, a corporation of Japan
Filed Mar. 30, 1966, Ser. No. 538,683
Claims priority, application Japan, Apr. 1, 1965, 40/18,652
Int. Cl. D04h *1/50*
U.S. Cl. 28—72 **7 Claims**



A method for producing a high bulk yarn by spinning high shrinking synthetic fibers having a shrinkage of less than 5% of its original length in hot water of from 95° C. to 105° C. and a shrinkage of from 8% to 35% of its original length with steam of from 115° C. to 140° C. with low shrinking fibers having a shrinkage of less than 10% of its original length with steam at 130° C., and subjecting the thus obtained yarn, or an article produced therefrom, to a bulking treatment.

3,439,394
PROCESS FOR MAKING A SPLITTABLE CRIMPED TOW
Jack N. Gray, Shelby, and George A. Watson, Charlotte, N.C., assignors to Celanese Corporation, a corporation of Delaware
Filed July 13, 1964, Ser. No. 382,017
Int. Cl. D04h *17/12*
U.S. Cl. 28—72 **9 Claims**

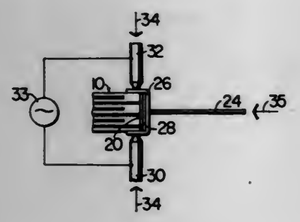


A process for producing a splittable crimped tow by passing a plurality of parallel tow bands, wherein the cohesion between the filaments of such bands is greater than the cohesion between the bands, into a crimping zone and crimping the filaments of the bands together in a manner such as to produce crimps in registry with ridges and troughs of registered crimps extending across the unitary tow ribbon.

3,439,395
METHOD OF ATTACHING LEADS TO ELECTRICAL COMPONENTS
Stewart A. Claypoole, Painted Post, and Martin M. Mertsoc, Corning, N.Y., assignors to Corning Glass Works, Corning, N.Y., a corporation of New York
Filed Nov. 5, 1965, Ser. No. 506,510
Int. Cl. H01g *13/00;* **H01r** *43/00*
U.S. Cl. 29—25.42 **6 Claims**

A method of attaching a lead to an electrical component, such as an electrical capacitor, by first applying a

metallic coating to the end of the component, then applying a conductive fusible material to the back of a U-shaped terminal on a wire lead, and finally simultaneously bonding the fusible material to the terminal and the conductive coating by passing current through the terminal to produce heat.



3,439,396

FEED THROUGH CAPACITOR RING

Francis X. Maida, Hampton, Va., assignor to Maida Development Company, Hampton, Va., a corporation of New Jersey

Filed May 18, 1966, Ser. No. 551,138

Int. Cl. H01g 13/00

U.S. Cl. 29—25.42 8 Claims



A method of mounting a conductive ring or flange around a central portion of a feed through capacitor is disclosed. The ring is positioned around the center portion of a ceramic tube, whereupon the ring is deformed or crimped into contact with the tube in order to grip it. The ring is then soldered to the tube for the purpose of ensuring an adequate electrical connection. The feed through capacitor is thus capable of being passed through an opening in a metal shield or partition and mounted thereon by virtue of the ring.

3,439,397

SYSTEM OF MAKING FIBROUS-FILLED FURNITURE SEAT AND BACK CUSHION ELEMENTS

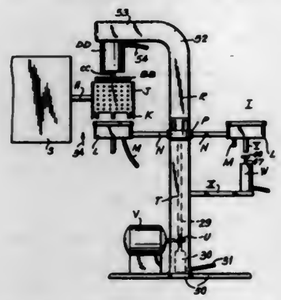
Martin A. Marshak, Searington, N.Y.
(101—12 84th St., Ozone Park, N.Y. 11416)

Filed Nov. 2, 1966, Ser. No. 591,630

Int. Cl. B68g 7/00; A47c 7/00

U.S. Cl. 29—91 7 Claims

The disclosure relates to the manufacture of fibrous-filled furniture seat and back cushion elements involving suction expansion of the flexible cover and sides into a container, applying a filling cylinder to said container and then blowing fibrous filling material into the filling cylinder to fill the container and comprising fibrous filling material in the container, whereby the seat and back cushion elements are formed.



3,439,398

HELICALLY NICKED BROACH

Arnold J. Zawacki, Detroit, and Eric W. Jacobson, Birmingham, Mich., assignors to Colonial Broach & Machine Company, Warren, Mich., a corporation of Delaware

Filed Feb. 23, 1966, Ser. No. 529,493

Int. Cl. B23p 15/42; B26d 1/04

U.S. Cl. 29—95.1 1 Claim



A cylindrical broach for cutting helical splines on the interior of a hollow annular workpiece and having a first portion with helical rows of cutting teeth having a substantially constant width but of increasing height from the front end to the rear end of the first portion, and a second portion with helical rows of cutting teeth of substantially constant height but of increasing width from the front end to the rear end of the second portion. The body of the broach has means for turning the broach on the helix angle of the teeth when the broach is advanced through the workpiece.

3,439,399

METHOD OF MAINTAINING A CYLINDER ASSEMBLY ROUND

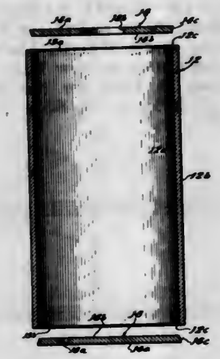
Elmer J. Strang and Floyd R. Swanson, Jr., Fort Dodge, Iowa, assignors to The Coats Company Inc., a corporation of Iowa

Filed Apr. 7, 1966, Ser. No. 540,994

Int. Cl. B23p 15/10

U.S. Cl. 29—156.4 2 Claims

The method of maintaining cylinder tubing of a piston and cylinder device round by means of forming the opposed cylinder heads with tapered peripheries, the inner portion of the head being slightly undersize with respect to the minimum diametral dimension of the cylinder tubing and the outer portion of the cylinder heads being slightly oversize with respect to the maximum diametral deviation of the cylinder tubing, and inserting the cylinder heads into opposite ends of the tubing with the undersize portion inserted first, and securing the cylinder heads to the tubing.



3,439,400

METHOD OF MAKING TAPERED SPRING LEAF

Nelson R. Brownyer, Birmingham, Mich., assignor to North American Rockwell Corporation, a corporation of Delaware

Filed Aug. 22, 1966, Ser. No. 574,193

Int. Cl. B21f 35/00; B60g 11/02; F16f 1/18

U.S. Cl. 29—173 5 Claims



A method of making a vehicle spring beam comprising forming a steel beam of constant width from end to end and a relatively thick center portion from which the opposite ends taper toward the ends in decreasing cross section, and laterally compressing the beam center portion to reduce the width of the beam at that region while retaining the beam width in the remainder of the beam and to displace metal to materially increase the thickness of the center portion. Opposed trunnions are provided at the thickened center sections as by forming a bore transversely through the beam at the thickened center section and fixedly mounting a trunnion in the bore.

3,439,401

DOOR FRAME SETTING JIG

Elmer F. Girardin, Box 325, Pleasant and Filmore E., Preston, Minn. 55965

Filed Dec. 2, 1966, Ser. No. 598,725

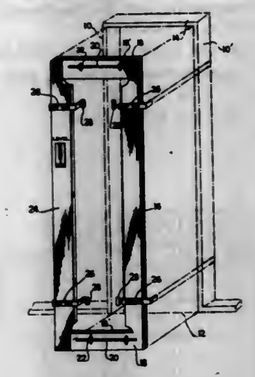
Int. Cl. B23p 19/00, 17/00

U.S. Cl. 29—200 4 Claims

1. A door frame setting jig adapted for use with a door recovery opening defined by first and second parallel vertical spaced apart studs resting on a horizontal floor and joined by a horizontal header, said jig comprising:

(a) a first vertical elongated member adapted for detachable engagement with one of said studs;

(b) a second vertical elongated member adapted for detachable engagement with the other stud; and



(c) upper and lower horizontal extensions secured respectively at the upper and lower ends of the second member and extending toward the first member, the upper extension being alignable with the header, the lower extension being alignable with the floor, each extension being adjustable in length.

3,439,402

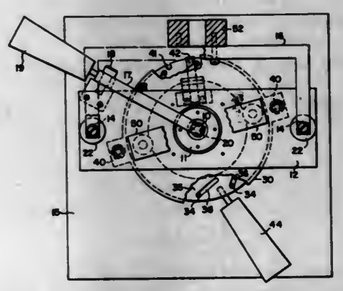
APPARATUS FOR COMBING COMPONENT LEADS

Leslie S. F. Chin, Baltimore, Md., and Carl L. Grayson, Tucson, Ariz., assignors to Westinghouse Electric Corporation, Pittsburgh, Pa., a corporation of Pennsylvania

Filed Aug. 22, 1966, Ser. No. 574,073

Int. Cl. D01g 19/00; B21f 1/02

U.S. Cl. 29—203 4 Claims



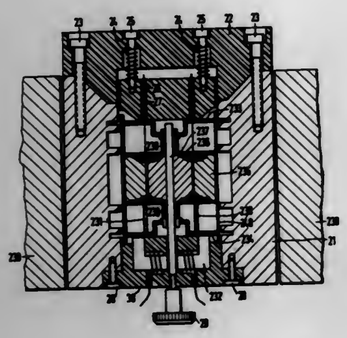
Apparatus for combing leads is provided including a combing plate having a plurality of spring-loaded fingers disposed in a plane perpendicular to the direction of the component leads. The combing plate is actuated by an adjacent camming plate that is free to rotate and has a plurality of slots for tracking pins extending from the fingers in the combing plate so rotation of the camming plate determines the extent of motion of the fingers. The packaged component is moved with respect to the combing fingers so that they pass through the leads, down their length, combing and aligning them. When the combing operation has been completed and the leads have begun to enter separate openings in a test socket, the mechanism is released so the fingers are withdrawn from the leads.

3,439,403

MAGNETOFORM METHOD ASSEMBLY DEVICE

Hans Joachim Lippmann, Boxdorf, Erhard Prölss, Katzwang, and Horst Schenk, Erlangen, Germany, assignors to Siemens Aktiengesellschaft, Berlin-Siemensstadt, Germany, a corporation of Germany

Filed June 20, 1966, Ser. No. 558,866
Claims priority, application Germany, July 13, 1965, S 98,152
Int. Cl. H02k *15/00*
U.S. Cl. 29—205 4 Claims



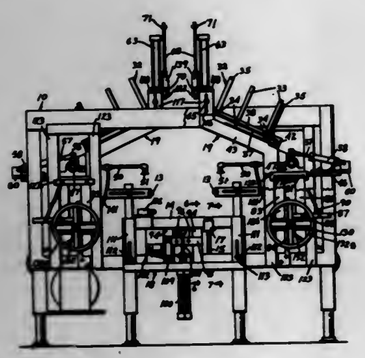
Device for adjusting the axial play and operative air gap in a magnetoform method of assembling electric motors includes a removable jig of insulating material formed with bores for air gap needles and disposed against one end of a metallic hollow cylinder acting as field concentrator, and there is disposed against the other end of the cylinder, a ribbed bearing plate holder of insulating material for supporting a motor stator, and screw means extending through the holder and operative for adjustably moving the rotor shaft of the motor.

3,439,404

TAG ATTACHING APPARATUS

Reinhold A. Pearson, E. 304 2nd Ave., Spokane, Wash. 99202

Filed Aug. 2, 1966, Ser. No. 569,647
Int. Cl. B23p *19/04*
U.S. Cl. 29—208 9 Claims



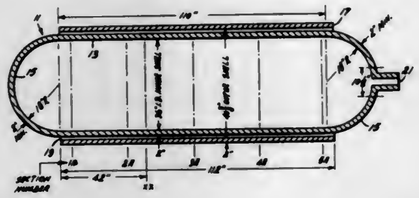
An apparatus for attaching a tag about the neck of a bottle. Tags in the form of a sheet are stored within a hopper above the individual bottles. A suction cup movably adheres to each tag and positions the tag upwardly adjacent to the bottle neck. A tubular member is then forced downwardly over the bottle to cause the tag to encircle the bottle neck.

3,439,405

METHOD OF VESSEL FABRICATION

Irwin Berman, Bronx, N.Y., and David H. Pai, Metuchen, N.J., assignors to Foster Wheeler Corporation, Livingston, N.J., a corporation of New York

Filed Nov. 25, 1966, Ser. No. 596,865
Int. Cl. B23p *11/02*; B23q *17/00*
U.S. Cl. 29—407 6 Claims



1. A method of fabricating a two-layer pressure vessel:
forming an inner shell, said inner shell being a complete enclosure with an opening therein;
forming an outer shell about said inner shell, the inside of said outer shell being slightly larger than the outside of said inner shell;
determining a tentative internal pressure level for application to the inside of the inner shell to expand both the inner shell and the outer shell;
applying a fluid medium to the inside of the inner shell through the opening therein to increase gradually the pressure up to the selected tentative inner pressure, thereby expanding both the inner vessel and the outer vessel;
removing the fluid medium to decrease the pressure within the inner vessel thereby contracting both the inner vessel and the outer vessel;
observing the longitudinal strain on the ouside of the outer shell in relation to the decreasing pressure to determine if their ratio remains constant thereby determining presence of reverse sliding;
reapplying the fluid medium to the inside of the inner shell through the opening therein to increase gradually the pressure up to the selected tentative inner pressure;
further increasing the pressure a slight amount over the tentative inner pressure;
removing again the fluid medium to decrease the pressure within the inner vessel thereby contracting both the inner vessel and the outer vessel; and
observing again the longitudinal strain on the outside of the outer shell in relation to the decreasing pressure to determine if their ratio remains constant thereby determining the presence of reverse sliding.

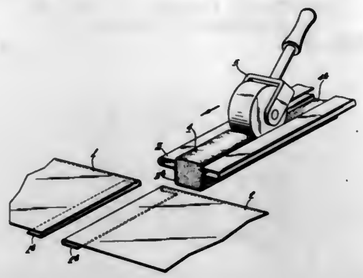
3,439,406

METHOD OF SEALING GUIDE JOINTS

Sven Wallin, Taby, Sweden, assignor to Aktiebolaget Svenska Flaktfabriken, Stockholm, Sweden

Filed Dec. 12, 1966, Ser. No. 601,035
Claims priority, application Sweden, Dec. 14, 1965, 16,205/65
Int. Cl. B23p *11/02*; F16j *15/00*
U.S. Cl. 29—450 2 Claims

For joining surface elements, a guide rail is provided with a sealing element which comprises a foam plastic strip easily compressible to a substantial degree and impregnated with an asphalt preparation or the like to make it slowly re-expansible which strip immediately prior to the joining of the surface elements is flattened by being pressed against the back of the guide rail whereafter the



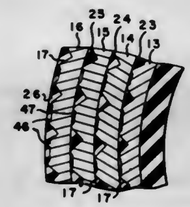
guide rail is assembled to the elements before the foam plastic starts to re-expand and to return to its original shape, and thereby sealingly to fill the space between said surface elements and the guide rail.

3,439,407

METHOD OF MAKING AN OIL SEAL

George D. Rhoads, Redwood City, and Robert N. Haynie, Los Altos, Calif., assignors to Federal-Mogul Corp., a corporation of Michigan

Original application June 8, 1964, Ser. No. 373,212, now Patent No. 3,346,265, dated Oct. 10, 1967. Divided and this application Nov. 7, 1966, Ser. No. 611,490
Int. Cl. B23p *19/04, 15/08*; B21d *39/00*
U.S. Cl. 29—455 5 Claims



1. A method of making a large-diameter radial-lip type of rotary shaft seal, comprising the steps of:
providing laterally extending recesses in a strip of metal,
cutting a series of lengths from said strips of gradually increasing length,
coiling said strips into a series of cylinders nested concentrically and substantially in contact with each other and with said recesses extending axially thereof, and
molding an elastomeric sealing element to said coiled strips while providing elastomer in said recesses between strips.

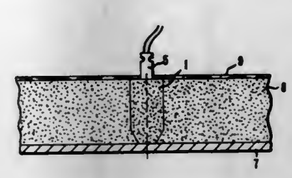
3,439,408

PROCESS FOR INITIATING EXPLOSIVE AND CHARGE THEREFOR

Oswald R. Bergmann, Cherry Hill Township, N.J., Joseph Buchwald, Media, Pa., and George R. Cowan, Woodbury, N.J., assignors to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware

Filed June 29, 1967, Ser. No. 649,887
Int. Cl. B23k *21/00*
U.S. Cl. 29—470.1 2 Claims

Improvement in the explosion bonding of metals which comprises initiating the layer of explosive used therefor interiorly throughout its thickness in such a manner that the metal parts to be bonded are driven together under bonding conditions in the area of initiation until the attainment of steady-state collision conditions, with little or no damage to the metals; and an explosive primer particularly useful for effecting such improvement.

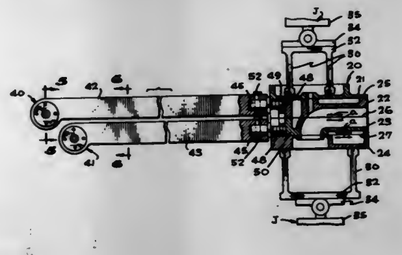


3,439,409

APPARATUS FOR ACCOMPLISHING SONIC FUSION WELDING AND THE LIKE INVOLVING VARIABLE IMPEDANCE LOAD FACTORS

Albert G. Bodine, Jr., Los Angeles, Calif. (7877 Woodley Ave., Van Nuys, Calif. 91406)

Filed Mar. 24, 1966, Ser. No. 537,163
Int. Cl. B23k *27/00*
U.S. Cl. 29—470.3 5 Claims



Parts to be welded together are supported with the surfaces to be joined in contact with one another. A resonator member is coupled to each of the parts and an orbiting mass oscillator is connected to each of said resonator members. The orbiting mass oscillators are driven at frequencies such as to cause resonant elastic vibration of the associated resonator members slightly below the peak resonant frequencies for each. The sonic energy is transmitted to the surfaces to be joined, generating heat at such surfaces thereby fusing the parts together.

3,439,410

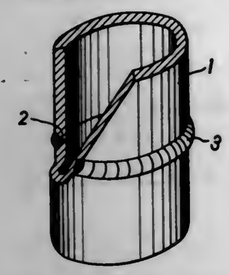
METHOD OF BRAZING CARBONACEOUS MATERIALS AND BRAZING CARBONACEOUS MATERIALS WITH METAL AND BRAZING MATERIAL THEREOF

Yoshio Ando, Tokyo, Tadato Fujimura, Naka-gun, Ibaraki, and Tadayoshi Tanaka and Yoshihiko Inoue, Tokyo, Japan, assignors to Japan Atomic Energy Research Institute, Tokyo, Japan, an atomic energy research institute (special corporation) of Japan

Filed June 22, 1964, Ser. No. 376,880
Claims priority, application Japan, Sept. 26, 1963, 38/51,286, 38/51,287
Int. Cl. B23k *1/04, 31/02*
U.S. Cl. 29—472.7 1 Claim

1. A method of brazing carbonaceous materials which comprises forming a V-shaped recess between a plurality of carbonaceous material articles to be joined together, putting a certain quantity of metallic titanium at bottom

of said recess, fusing and welding said titanium by heating from a suitable heat source to form the first layer of



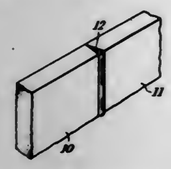
brazing for prevention for leakage of corrosive fluid, and then welding iron-nickel brazing alloy material thereon to form the second brazing layer.

3,439,411

JOINING OF DISPERSION STRENGTHENED LEAD

Arnold Lloyd, London, and Exeter Robert Newson, Chester, England, assignors, by mesne assignments, to St. Joseph Lead Company, New York, N.Y., a corporation of New York

Filed July 20, 1966, Ser. No. 566,601
Int. Cl. B23k *31/02*
U.S. Cl. 29—499 2 Claims



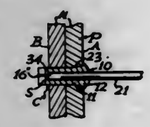
A method of joining dispersion strengthened lead by application of a molten lead antimony alloy containing 3 to 11% by weight of antimony and the balance consisting of lead.

3,439,412

METHOD OF INSTALLING A FASTENER

Thomas W. Jackson, Atlanta, Ga., assignor to Georgia Tech Research Institute of Technology, Atlanta, Ga., a corporation of Georgia

Filed Mar. 21, 1966, Ser. No. 535,841
Int. Cl. B21d *39/00;* B23p *11/00;* F16b *13/04*
U.S. Cl. 29—509 3 Claims



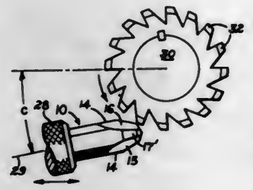
A method for installing fasteners having a head and a shank with a passage extending through the head and into the shank of the fastener. The passage terminates in the shank at a distance substantially equal to the thickness of the workpiece in which the fastener is installed. The fastener is inserted through the workpiece and a tool is inserted through the head and into the passage. The fastener is prevented from rotating while the tool is rotated and urged against the end of the passage. This causes the end of the shank extending beyond the workpiece to become plastic because of frictional heat whereupon the tool is forced through the shank and head to expand the extending end of the shank and lock the fastener in the workpiece.

3,439,413

METHOD FOR PRODUCING DRIVING TOOLS FOR RECESSED HEAD FASTENERS

George B. Stillwagon, Jr., Dayton, Ohio, assignor to Gardner-Denver Company, Dayton, Ohio, a corporation of Delaware

Filed Dec. 2, 1966, Ser. No. 598,744
Int. Cl. B23p *13/04;* B23g *9/00*
U.S. Cl. 29—558 4 Claims



A driving bit of the type having drive wings and intermediate ridges for driving fasteners having similarly formed recesses is made by straddle milling to form in the bit stock the approximate face angles of each of the drive wings and to form the adjacent surfaces of each of the adjacent ridges, followed by the sizing of the driving end of the bit to the finished dimensions.

3,439,414

METHOD FOR MAKING SEMICONDUCTOR STRUCTURE WITH LAYERS OF PRESELECTED RESISTIVITY AND CONDUCTIVITY TYPE

William L. Price, Scottsdale, Ariz., assignor to Motorola, Inc., Franklin Park, Ill., a corporation of Illinois

Filed Jan. 3, 1967, Ser. No. 606,729
Int. Cl. H01l *5/00, 7/36*
U.S. Cl. 29—580 5 Claims



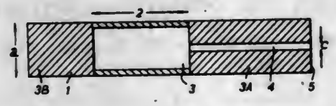
An improved semiconductor structure having an isolated region of semiconductor material with predetermined electrical properties and a novel method for fabricating this structure utilizing epitaxial deposition and selective removal of material in a fewer number of steps and with improved control. The final structure has a smooth, flat face with the region protected by an electrically insulative layer.

3,439,415

TRANSITIONAL COUPLING WAVEGUIDES

Leslie Charles Stannard, Essex, England, assignor to The Marconi Company Limited, London, England, a British company

Filed Nov. 28, 1966, Ser. No. 597,262
Claims priority, application Great Britain, Jan. 4, 1967, 234/66
Int. Cl. H01p *11/00, 1/00;* H01q *13/00*
U.S. Cl. 29—600 2 Claims



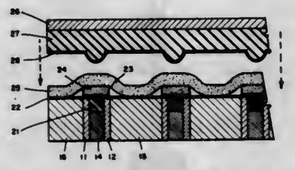
A transitional coupling waveguide is produced by cutting away two opposite sidewalls of a length of waveguide and bending the unremoved sidewalls to form a smoothly tapered structure.

3,439,416

METHOD AND APPARATUS FOR FABRICATING AN ARRAY OF DISCRETE ELEMENTS

Stephen Yando, Huntington, N.Y., assignor to General Telephone and Electronics Laboratories, Inc., a corporation of Delaware

Filed Feb. 3, 1966, Ser. No. 524,718
Int. Cl. H05k *3/00;* B41m *3/08*
U.S. Cl. 29—625 10 Claims



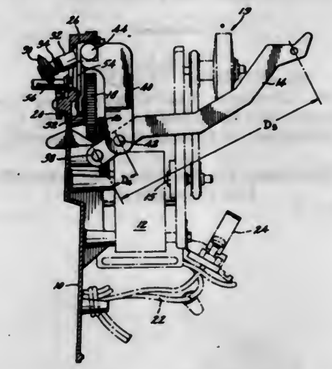
A method of fabricating a planar array of magnetically coated discrete elements. In accordance with the method, the elements are placed on the surface of a matrix containing a plurality of pairs of spaced oppositely poled magnets disposed in a non-magnetic base. The matrix is vibrated causing the elements to move to desired positions on the surface thereof. An electrically non-conductive bonding agent is placed between the oriented elements, and an electrically conductive layer is deposited on the exposed surfaces of the elements and bonding agent. The array is completed by removel of the matrix.

3,439,417

CAN OPENER

Alfred E. De Mott and Ronald E. Miller, Fort Smith, Ark., assignors to General Electric Company, a corporation of New York

Filed Mar. 17, 1967, Ser. No. 623,880
Int. Cl. B67b *7/38*
U.S. Cl. 30—4 9 Claims



A can opener which is preferably power operated with a unique linkage mechanism that permits side loading of the cans and right angle actuating structure at the opposite side for a stable and visible construction.

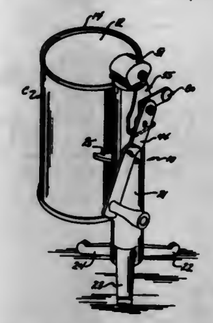
3,439,418

CAN OPENER WITH MECHANISM FOR AUTOMATICALLY MOVING THE CUTTER BETWEEN A CUTTING AND RELEASE POSITION IN RESPONSE TO OPERATION OF THE CRANK

Louis Myers, 2410 Auburn St., Rockford, Ill. 61103

Filed Jan. 29, 1968, Ser. No. 701,291
Int. Cl. B67b *7/32*
U.S. Cl. 30—3.5 7 Claims

The can opener includes a support, a drive wheel mounted on the support, and a crank for rotating the drive wheel. A four-sided cutter, which is spring urged to an upper or released position, is provided for severing the end wall of a can. Mechanism is provided for automatically moving the cutter between a cutting position and the release position in response to rotation of the crank.

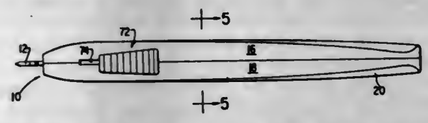


3,439,419

KNIFE WITH SLIDABLE BLADE SHEATHED AND SELECTIVELY CLAMPABLE IN HANDLE

Jack Fairchild Fleming, Boonton, N.J., assignor to Sterling Plastics Company, Mountainside, N.J., a corporation of New Jersey

Filed Dec. 1, 1967, Ser. No. 687,311
Int. Cl. B26b *1/08*
U.S. Cl. 30—162 3 Claims



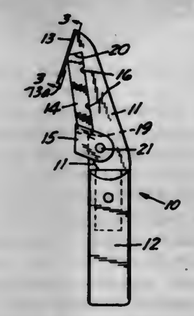
A knife handle slidably housing a replaceable pointed cutting blade is constituted by mating molded plastic members joined together to form a blade slideway open at one end of the handle and holding a finger operable clamping member movable to release the blade for free sliding movement to clamp the blade in either a cutting position or a stored position inside the handle. The blade is made in multiple segments to be broken off to form new cutting points.

3,439,420

KNIFE

Robert L. Erickson, 1360 E. 4th St., St. Paul, Minn. 55106

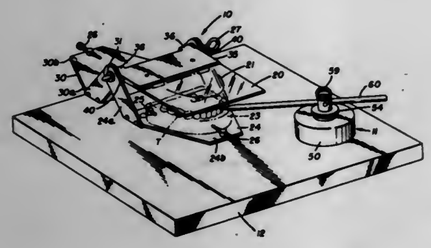
Filed May 12, 1967, Ser. No. 638,055
Int. Cl. B26b *29/02, 3/08*
U.S. Cl. 30—294 8 Claims



A knife for cutting one or more layers of sheet material simultaneously has a thin shoe which supports the material while a thin blade does the cutting. The blade

is removably mounted at an acute angle to the shoe in a plane perpendicular thereto and held by a supporting body which terminates in a handle.

3,439,421
METHOD OF MAKING ORTHODONTIC APPLIANCES
Thomas E. Perkowski, 1310 N. Wooster Ave., Dover, Ohio 44622
Filed Jan. 9, 1967, Ser. No. 614,381
Int. Cl. A61c 7/00
U.S. Cl. 32—14 2 Claims



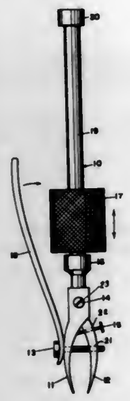
An indirect method of fabricating bands and appliances for corrective orthodontic situations. An impression casting of the patient's mouth is separated and rearranged on the articulator beneath a preselected arch form diagram that has resulted from earlier diagnoses. Bands are formed on the separated individual dies and the brackets are then applied to the casting by a bracket positioning gauge that moves across the surface table supporting the articulator so as to be parallel to the occlusal plane. Treatment wires are then preformed for engagement with the band brackets. These wires are then used to complete the orthodontic treatment.

3,439,422
AIR TOOL
Roland E. Doeden, Ohio Rte. 18, Hicksville, Ohio, 43526, and Richard E. Noonan, R.R. 3, Bryan, Ohio 43506
Filed May 22, 1963, Ser. No. 282,460
Int. Cl. A61c 11/00
U.S. Cl. 32—27 11 Claims



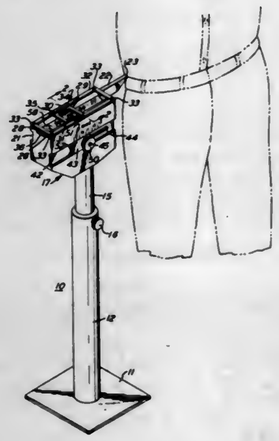
1. An air tool comprising an elongated cylindrical housing, a vane-type air motor in said housing, said air motor including a rotor extending axially of said housing and radially extending vanes mounted in said rotor, said rotor being confined within an eccentric bore, means operative to secure a tool or the like to said rotor, a selector ring rotatably mounted on said housing, air stem means mounted coaxially in said housing and connected to said selector ring for rotation therewith, means communicating the interior of said stem means with a source of air under pressure, and passage means interconnecting the interior of said stem means and said eccentric bore for supplying air under pressure to said eccentric bore selectively on opposite sides of a plane passing through the center of said rotor and bore to selectively change the direction of rotation of said motor.

3,439,423
SELF-SEATING ROOT FORCEPS
Wallace J. Sedwick, 1019 Conewango Ave., Warren, Pa. 16365
Filed Aug. 28, 1967, Ser. No. 663,770
Int. Cl. A61c 3/14
U.S. Cl. 32—62 5 Claims



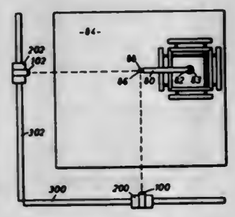
The present invention involves a root forceps and elevators for use as a dental instrument. The forceps has a first beak attached to a stem. The first beak is curved and terminates in a point that is adapted to slide down the side of a tooth. An impact device is slidably supported on the stem and it will impact on the beak to drive the point of the beak along a tooth root. A second beak is pivotally connected to the first beak, and a bolt extends through the two beaks to force them together and lock them to the root of a tooth after the beak points have been driven into place.

3,439,424
MEASURING APPARATUS
Irving L. W. Gloninger, Bala Cynwyd, and Lawrence P. W. Belmont, Sr., Philadelphia, Pa. (both % Irving L. Wilson Company, 1 Highland Ave., Bala Cynwyd, Pa. 19004)
Filed June 12, 1967, Ser. No. 645,382
Int. Cl. A41h 1/04
U.S. Cl. 33—8 5 Claims



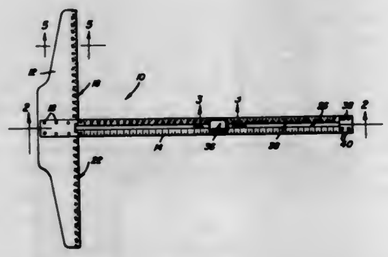
Measuring apparatus for determining, by locating a gage arm at the upper margin of the trousers, the inseam dimension of the trousers, with provisions for compensation for the distance of the lower margin or bottom of the cuff from the floor and for the rise of the trousers, a direct reading of the proper inseam dimension being available.

3,439,425
SELF-LAYING ENDLESS TRACKS AND TRANSPORTERS FITTED THEREWITH
Brian C. Doxey, Welwyn, and Robert E. Miller, Hatfield, England, assignors to The British Oxygen Company Limited, a British company
Filed Apr. 10, 1967, Ser. No. 629,650
Claims priority, application Great Britain, Apr. 19, 1966, 17,116/66
Int. Cl. B43l 13/10; B62d 55/08, 55/00
U.S. Cl. 33—23 9 Claims



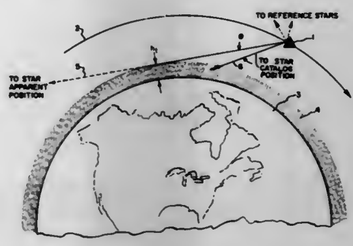
A tractor for transporting articles, for example a flame cutting torch, over a surface upon which the tractor runs, has two pairs of endless tracks, one pair being at right angles to the other pair. Each track carries rollers or the like whose axes of rotation are parallel to the direction of movement of the associated endless track. This permits omnidirectional movement of the tractor in the plane of the surface. A system of guidance and a construction of track link and of an endless track are also disclosed.

3,439,426
GLASS-CUTTING TOOL
Robert D. Wilson, 1040 N. Juniper, Coquille, Oreg. 97423
Filed Mar. 29, 1967, Ser. No. 626,806
Int. Cl. B26b 27/00
U.S. Cl. 33—32 2 Claims



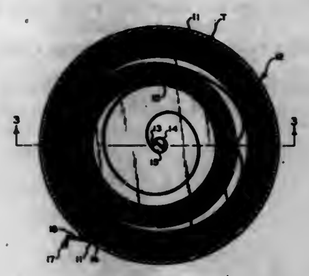
A glass-cutting tool of a T-square configuration having a cutter head carried by and slidable longitudinally along the tongue portion of the T-square to facilitate cutting or scoring the upper surface of a sheet of glass placed therebeneath which cut is made at right angles to one edge of the sheet of glass contiguous with the head portion of the T-square and wherein the head and tongue portions are graduated to facilitate simultaneously measuring and cutting the glass.

3,439,427
METHOD FOR NAVIGATING A SPACE VEHICLE
Kenneth P. Gow, Whittier, Calif., assignor to North American Rockwell Corporation, a corporation of Delaware
Filed Mar. 17, 1965, Ser. No. 441,000
Int. Cl. A41h 1/00; A42c 3/06; G01c 21/00
U.S. Cl. 33—61 6 Claims



Sighting from a space vehicle, the difference between the apparent direction of a known star sighted through the atmosphere of a planet and its known direction in a stellar reference system established inertially or obtained by concurrent direct star sighting is measured. This value, taking the refractive index to be a regular and predictable function of height in the upper atmosphere, yields by computation the height at which the sighting direction at the vehicle cleared the planet's surface. A series of such operations provides sufficient data for computation of the orbital path or ballistic trajectory of the vehicle.

3,439,428
PLASTIC MEASURING TAPES AND METHODS OF MAKING SUCH TAPES
Charles Zelnick, Saginaw, Mich., assignor, by mesne assignments, to Cooper Industries, Inc., Houston, Tex., a corporation of Ohio
Continuation-in-part of application Ser. No. 178,181, Mar. 7, 1962. This application Nov. 20, 1964, Ser. No. 412,816
Int. Cl. B01b 3/10; B29c 17/02
U.S. Cl. 33—137 11 Claims

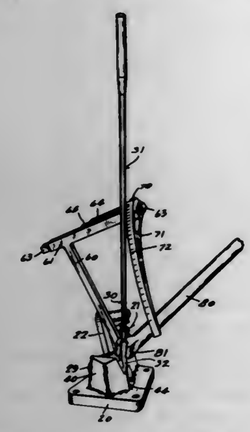


1. A method of making a measuring tape in which a tapeline is withdrawable from an opening in a tape casing comprising: coiling a first portion of the length of an elongated, narrow, thermoplastic plastic film strip in the thickness range of about .008–.020 of an inch in planar convolution and heat setting it so that the said portion when free will form a coil spring having substantially adjacent engaging convolutions in a substantially common plane; providing dimension marks for the remaining portion of the strip; winding the said first portion into a coil in a direction opposite to the direction of wind said first portion will take when unrestrained; and securing the free end of said first portion within a tape casing with a part of the printed portion in position to extend out the opening in the tape casing.

3,439,429
GOLF CLUB INDICATOR AND STRAIGHTENING MACHINE

Raul D. Sundstrom, Green Bay, Wis., assignor to Van-L, Ltd., Green Bay, Wis., a corporation of Wisconsin

Continuation of application Ser. No. 468,027, June 29, 1965. This application Oct. 16, 1967, Ser. No. 675,715
Int. Cl. G01b 5/00
U.S. Cl. 33—174 22 Claims

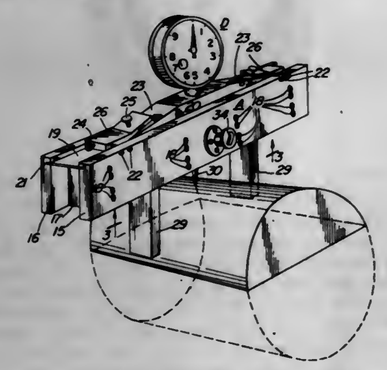


A hydraulic clamping device secures the head of a golf club against a reference plane engaging the striking face of the club head, two reference points engaging the sole of the club and one reference point engaging the hosel of the club at a point closely adjacent to the sole to leave the hosel free for corrective bending. A bracket extending upwardly from the clamp carries a fixed scale and a relatively movable indicator carrying a second scale angularly related to the first. The path of movement of the indicator and second scale are such as to carry the second scale into contact with the club shaft, the point of engagement indicating a reading on the second scale, and the indicator indicating a reading on the first scale.

3,439,430
ARC-MEASURING GAUGE FOR USE WITH CYLINDRICAL OBJECTS

Charles F. Harris, 2717 Hampton Court, Chicago, Ill. 60614

Filed June 8, 1966, Ser. No. 556,190
Int. Cl. G01b 3/24
U.S. Cl. 33—178 3 Claims

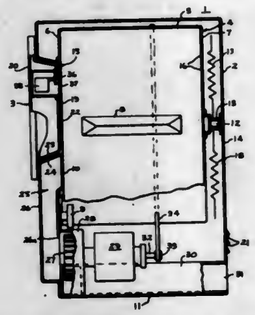


An arc-measuring gauge having a primary support mounting three spaced parallel stems two of which stems are reciprocably supported on the frame and respectively embracing oppositely-threaded portions of a rotative shaft element at opposite sides of the axially-shiftable intermediate stem, the shaft element being oppositely rotatable on the frame for simultaneously varying the equidistant spacing of the two legs relative to the stem including adjustable means for fixedly centering the third stem on the frame.

3,439,431
MICROWAVE DRYER CONTROL CIRCUIT

Donald S. Heidtmann, Louisville, Ky., assignor to General Electric Company, a corporation of New York

Filed Dec. 15, 1967, Ser. No. 691,032
Int. Cl. F26b 3/34
U.S. Cl. 34—1 10 Claims

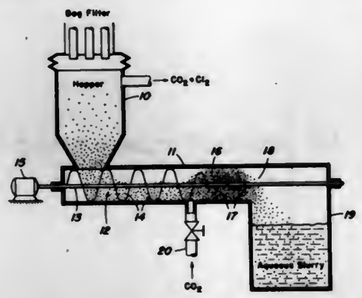


In a dryer of the type having means providing a signal responsive to the pattern of reflection of high frequency electromagnetic waves emitted into the drying chamber, a control including timing means to terminate operation of the dryer, an R-C charging circuit connected to the timing means to energize the timing means in response to a predetermined charge on the capacitor and a transistor, having its collector-emitter path connected across the capacitor and its base coupled to the signal means to dissipate the charge whenever the signal indicates wet items in the dryer.

3,439,432
METHOD AND MEANS FOR PURGING PULVERULENT MATERIALS OF OCCLUDED GASES

Arthur A. Bellinger, Willingboro, and George W. Doyle, Middletown, N.J., assignors to National Lead Company, New York, N.Y., a corporation of New Jersey

Filed Nov. 2, 1967, Ser. No. 680,242
Int. Cl. F26b 17/18
U.S. Cl. 34—36 6 Claims

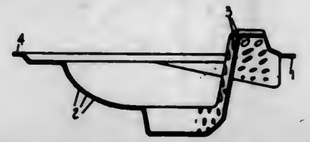


The invention relates in general to improved method and means for purging vapor phase titanium dioxide pigment of occluded gases wherein the screw conveyor tube used to transport the pigment from the filter-hopper to the slurry tank of a sealed pigment-collecting system is provided with a plug-seal in combination with a stream of inert purging gas flowing countercurrent to the movement of titanium dioxide through said conveyor tube.

3,439,433
METHOD OF DRYING A MOULDED CERAMIC ARTICLE ON A FORM

Frans D. Claessens and Theodore F. Hein, Maastricht, Netherlands, assignors to N.V. Koninklijke Sphinx-Ceramique v/h Petrus Regout, Maastricht, Netherlands, a Dutch limited-liability company

Filed Nov. 7, 1966, Ser. No. 592,447
Claims priority, application Netherlands, Nov. 26, 1965, 6515375
Int. Cl. F26b 25/00
U.S. Cl. 34—103 1 Claim

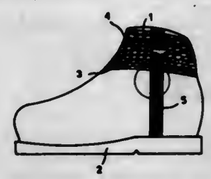


Ceramic products dried while being supported by a perforated support formed of nonporous material and being shaped closely to conform to the contours of the ceramic product.

3,439,434
SKI SHOE

Giorgio Tangorra, Milan, Italy, assignor to Superga S.p.A., Turin, Italy

Filed Oct. 23, 1967, Ser. No. 677,231
Claims priority, application Italy, Mar. 22, 1967, 51,020/67
Int. Cl. A43b
U.S. Cl. 36—2.5 15 Claims



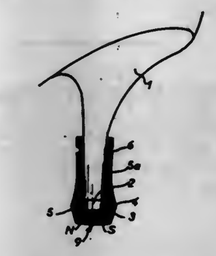
The present invention relates to ski shoes and has for its object the provision of a ski shoe which exhibits the desired degree of rigidity across the shoe without the hitherto experienced lack of flexibility along the shoe, this end being achieved by the provision in a shoe according to the invention of at least one layer of cord fabric at the region of the upper which lies above the upper region adapted to cover the ankle bone of a wearer, and the provision also of reinforcement structures in the form of non-extensible tapes which extend generally in the direction of the height of the upper and over the said ankle bone region. Where there are a plurality of cord fabric layers at the top of the shoe upper it is possible to sandwich the tapes therebetween. Various constructions for the cord fabric layers are given by way of example and it is generally preferred to have at least one said layer with the cords thereof parallel to the plane of the shoe sole.

3,439,435
HEEL PROTECTOR

Pierre André Gaston Fredon, 27 Rue Deparcieux, Paris 75, France

Filed May 23, 1966, Ser. No. 552,225
Claims priority, application France, May 26, 1965, 18,557; Apr. 22, 1966, 58,778
Int. Cl. A43c 13/00
U.S. Cl. 36—72 12 Claims

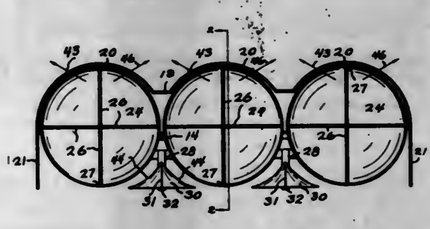
A stiletto-type heel equipped with a tip of magnetic material is combined with a protector which comprises a permanent magnet adapted to adhere to the lower surface of the tip and a cap integral with the base and surrounding at least the lower part of the heel. This protector prevents the heel from damaging the surfaces walked on while it protects the heel itself and facilitates walking on uneven surfaces.



3,439,436
SNOW PLOW

Rowland McCleerey, Lyons, Nebr. 68038

Filed Oct. 1, 1965, Ser. No. 492,077
Int. Cl. E01h 5/09, 5/07
U.S. Cl. 37—43 2 Claims

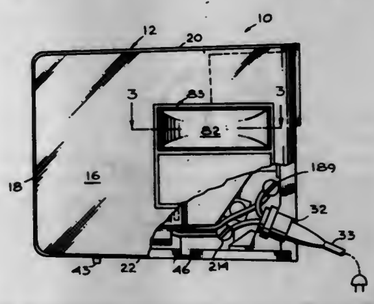


A snow plow adapted for rapid movement down a highway and having a plurality of concave impellers mounted in front of a carrying vehicle. The impellers are reversibly driven to cause the snow to be thrown in a selected direction and carry guards for the protection of their surroundings.

3,439,437
STEAMING AND PRESSING DEVICE

Donald L. McFarland, Long Beach, and Glen Robinson, Pasadena, Calif., assignors, by mesne assignments, to Westinghouse Electric Corporation, Pittsburgh, Pa., a corporation of California

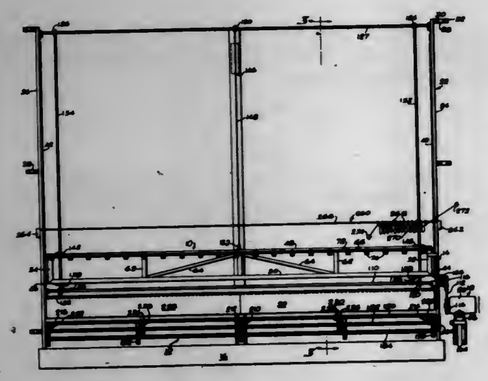
Filed July 13, 1966, Ser. No. 564,782
Int. Cl. D06f 75/14
U.S. Cl. 38—71 33 Claims



A hand held device suitable for steaming and dry pressing fabrics to remove wrinkles therefrom and form creases therein. The device includes a pair of spaced heat insulating panels. Opposed heating plates are sup-

ported between the panels for movement toward and away from one another. Heating means are associated with at least one of the plates and selectively acuatable steam generating means are provided for directing steam between the plates.

3,439,438
DRAPERY MANUFACTURING DEVICE
Michael E. Tuskos, Miami, Fla.
(2507 Saratoga Drive, Louisville, Ky. 40205)
Filed June 7, 1966, Ser. No. 555,763
Int. Cl. D06f *81/00*
U.S. Cl. 38—104 17 Claims



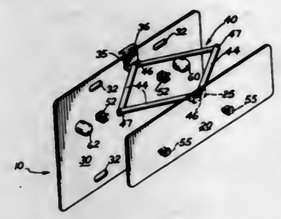
A drapery manufacturing device comprising a vertical frame with a track, a trolley with means to connect along one edge of a drapery panel so that the trolley may be raised to lift the drape and suspend it in a vertically hanging plane beneath the trolley, drive means to move a trolley with respect to a reference means beneath the trolley including a transversely extending catch shelf over which the drapery falls when raised so that when the proper height has been obtained, a crease may be placed across the lower end of the drape which is horizontal and which defines the bottom edge of the drape.

3,439,439
DECORATIVE BUTTON ASSEMBLY
Raleigh B. Stimson, Box 507, West Yellowstone, Mont. 59758
Filed Sept. 6, 1966, Ser. No. 577,340
Int. Cl. A44c *3/00*
U.S. Cl. 40—1.5 1 Claim



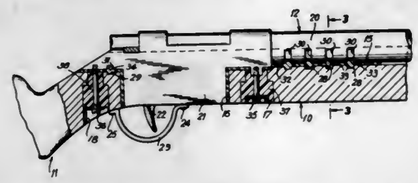
A decorative button assembly capable of being removably supported in a buttonhole of a garment by means of a wire clip, which assembly when so disposed serves to hold a coin in such a manner that the desired face thereof is exposed to view.

3,439,440
EXTENSIBLE LICENSE PLATE HOLDER
Richard W. Klekamp, 1144 Monroe St., Springfield, Ill. 62704
Filed Sept. 26, 1966, Ser. No. 581,844
Int. Cl. G09f *7/20, 7/00, 7/10*
U.S. Cl. 40—209 10 Claims



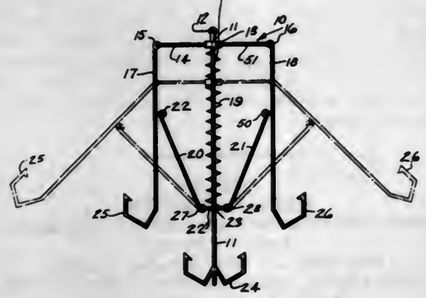
A license plate holder anchored to a vehicle by a lazy tongs and accessible by extension thereof. A friction catch secures the holder at a display disposition with the tongs collapsed. A resilient bumper between the anchor and license plate absorbs vibration and prevents rattling.

3,439,441
MOUNTING OF GUN BARREL AND ACTION ASSEMBLY IN GUN STOCK
Charles F. Lawley, R.D. 5, Shavertown, Pa. 18708
Filed July 3, 1967, Ser. No. 650,710
Int. Cl. F41c *23/00*
U.S. Cl. 42—75 6 Claims



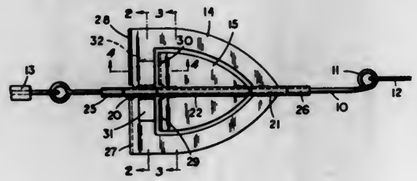
This invention is concerned essentially with a small-arms construction including a stock and a barreled action, wherein a bed of resilient material is interposed between the barreled action and stock.

3,439,442
SPRING ACTIVATED FISH HOOKS
Jerry F. Burch, 798 N. Buckner Road, Dallas, Tex. 75218
Filed May 23, 1966, Ser. No. 552,276
Int. Cl. A01k *83/02*
U.S. Cl. 43—36 5 Claims



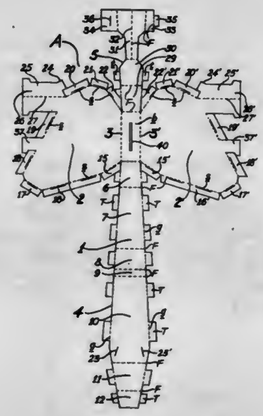
A fishing device having hooks pivotally and slidably connected to a central rod member and which extends laterally outward in response to a pulling force exerted on the device by a fish. Spring means is included for biasing the hooks to a normally inward position and additional hooks may be provided at the end of the fixed central rod member.

3,439,443
FISHING LURE HAVING TWO MAGNETICALLY INFLUENCED SPINNERS
Emory L. Welmer, Orondo, Wash. 98843
Filed Sept. 11, 1967, Ser. No. 666,641
Int. Cl. A01 *85/04;* A01k *85/00*
U.S. Cl. 43—42.12 5 Claims



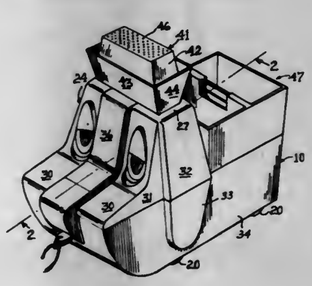
Composed of two flat spinner members, one larger than the other, both mounted on the same rod and both having vanes which make them spin in opposite directions in the water. The smaller spinner member spins within an opening in the larger spinner member and one of the spinner members has permanently magnetized parts which attract the other spinner member and make the spinning movement of the spinners non-uniform and unsteady.

3,439,444
DIE-CUT FORM
George L. V. Smith, 1116 Washington, Alton, Ill. 62002
Filed Mar. 4, 1966, Ser. No. 531,839
Int. Cl. A63h *33/16, 33/30;* A45c *1/12*
U.S. Cl. 46—1 6 Claims



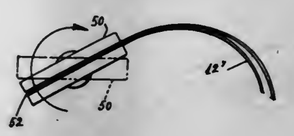
A foldable amusement device for simulation of animals and the like when in folded condition, comprising a single flat blank of bendable sheet material having an elongated central strip and a pair of symmetrical body portions projecting laterally therefrom, with fold lines at the juncture of said body portions and said central strip. The central strip is of such length as to extend entirely about the periphery of the body portion when the device is folded and co-operating components are provided on the central strip and body portion for interengagement to stabilize the formed device.

3,439,445
TAKE-APART PULL TOY
Sidney A. Tarrson, 777 S. Tripp St., Chicago, Ill. 60624
Filed Jan. 15, 1968, Ser. No. 697,961
Int. Cl. A63h *33/06*
U.S. Cl. 46—17 6 Claims



A pull toy having individual take-apart structural members which separately provide related toys that can be used individually or in conjunction with the remaining structural members, each structural member having cooperative surfaces by which they are joined and secured together, and which when arranged into an integral toy complement each other to produce a novel overall appearance.

3,439,446
CHILDREN'S STREAMER TOY
José Alonso, 23–24 Cambridge Road, Fair Lawn, N.J. 07410
Filed Dec. 19, 1966, Ser. No. 602,618
Int. Cl. A63h *1/32, 5/00*
U.S. Cl. 46—51 4 Claims



1. A streamer toy comprising a shaped body having a sloted portion and a plurality of juxtaposed elongated flexible plastic streamers having one of their ends secured in the sloted portion of the body and the other of their ends free, and means associated with the body for manipulating said streamers, the shaped body is in the form of a rectangular wooden block with the slot therein intersecting one end and the sides thereof, the streamers pivotally anchored in said slot, and wherein said manipulating means includes an elongated handle swivelly secured at one end to the solid end of the block whereby upon manual movement of the block up and down, the block swivels and the streamers assume snake-like formations and loops.

3,439,447

MASK WITH NOISE-MAKING DEVICE

Joseph Green, 54 Prospect Ave., Hewlett, N.Y. 11557

Filed Apr. 17, 1968, Ser. No. 729,864
Int. Cl. A63h 5/00
U.S. Cl. 46—175 2 Claims



A mask of resilient plastic shaped to conceal at least the mouth portion of the wearer's face includes a rearwardly directed tubular extension having an inwardly directed flange at its back end and depressions spaced forwardly from the flange to be gripped by the wearer's lips when the tubular extension is received in the wearer's mouth, whereby to hold the mask in front of the wearer's face, and a noise-making device, for example, a membrane stretched across a ring, is held in the tubular extension against the flange of the latter by the aforementioned depressions so as to be orally operable by the wearer of the mask.

3,439,448

STRING MONORAIL

John W. Ryan, Los Angeles, and Albert Baginski, Torrance, Calif., assignors to Mattel, Inc., Hawthorne, Calif., a corporation of California

Filed Feb. 8, 1967, Ser. No. 614,584
Int. Cl. A63h 29/22, 30/00, 31/00
U.S. Cl. 46—243 10 Claims



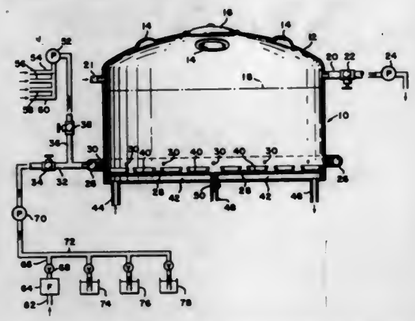
A three-wheeled toy vehicle may be driven over a suitable surface by an electric motor having output shafts engaging the outer periphery of the rear wheels while the vehicle is steered by a child-user manipulating a string attached to the single front wheel. Alternatively, the vehicle may be driven on an elevated string forming a rail engageable by a pulley on the vehicle. The pulley is driven through a gear train including a pinion gear affixed to one of the output shafts. Upon elevation of the vehicle the rear wheels drop out of driving engagement with the output shafts.

3,439,449

APPARATUS AND METHOD FOR CULTURING AND PROPAGATING MARINE ALGAE

Walter Huff, West Vancouver, British Columbia, Canada, assignor, by mesne assignments, to Sea-Chem Industries Ltd., Vancouver, British Columbia, Canada, a corporation of the Province of British Columbia

Filed Jan. 11, 1967, Ser. No. 608,570
Int. Cl. A01g 7/00, 31/00
U.S. Cl. 47—1.4 16 Claims



This invention relates to the cultivation of algae, and the harvest of same is carried out through the separation of algae from a culture media by evaporation of the latter.

3,439,450

POROUS BLOCK FOR CONSERVING SOIL MOISTURE

Sterling J. Richards, Riverside, Calif., assignor to The Regents of the University of California, a corporation of California

Filed Apr. 8, 1965, Ser. No. 446,611
Int. Cl. A01g 7/00; B32b 5/00, 19/00
U.S. Cl. 47—9 9 Claims

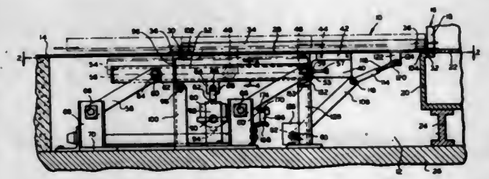
A mulch or ground cover is provided in the form of a rigid, porous block which allows irrigation water to easily reach the ground to water plants but at the same time effects conservation of water, retards evaporation from the soil, provides weed control, and other advantages of the usual types of mulch. Pore sizes in the mulch block are in a range to allow water to pass through the block but to retard loss of water either as a liquid by capillary action or as a vapor passing upwardly through the pores. Pore size may be regulated by selection of the sizes of the aggregates used. Practical advantages are permanence and low ultimate cost.

3,439,451

BRIDGING APPARATUS

Richard R. Jung, Battle Creek, Mich., assignor to Clark Equipment Company, a corporation of Michigan

Filed Apr. 20, 1967, Ser. No. 632,342
Int. Cl. E06b 11/00; E05d 15/10; E05f 11/38, 11/00
U.S. Cl. 49—33 7 Claims



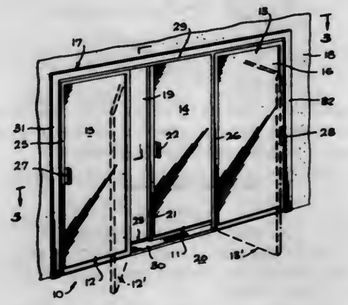
An apparatus for use in selectively bridging a cavity and the like including a cover plate supported for movement from a cavity bridging position to a first position spaced from the bridging position by a first actuator, and being horizontally movable to uncover the cavity thrrough a second actuator controlled to effect such horizontal movement only after the cover plate has been moved to the first position.

3,439,452

MIRRORED DOOR APPARATUS

Oscar Kain, Los Angeles, Calif.
(15001 Oxnard St., Van Nuys, Calif. 91401)

Filed Mar. 8, 1968, Ser. No. 716,259
Int. Cl. E06b 3/00, 3/01, 3/26, 3/58, 3/32, 5/00, 8/00
U.S. Cl. 49—143 17 Claims



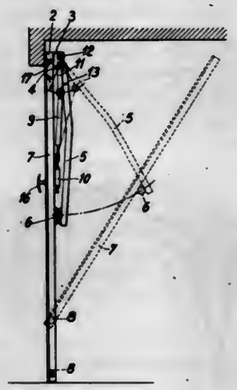
A mirrored door apparatus for enclosing a space. The apparatus comprises right and left mirrored doors adapted to pivot respectively about spaced vertical axes and to enclose the end regions of the space. A central mirrored door, selectively slidably positionable between the spaced vertical axes, encloses the central region of the space. When the pivotable doors are swung open and the sliding door positioned between them, the doors together form three-sided vanity mirrors, the side mirrors of which are independently angularly adjustable.

3,439,453

TIPPING DOORS

Jean Avril, Joigny, Yonne, France, assignor to Vallourec, Societe Anonyme, Paris, France, a French company

Filed Dec. 29, 1966, Ser. No. 605,894
Claims priority, application France, Jan. 11, 1966, 45,496
Int. Cl. E05d 15/40
U.S. Cl. 49—204 3 Claims



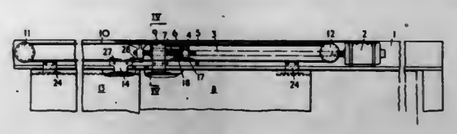
Tipping doors arrangement in which a lower portion by the uprights of its frame and the door is carried, at a point adjacent its transverse axis of symmetry, by arms pivoted at points lying in the vicinity of the upper portion of its uprights. It is balanced by resilient means bearing with one end against said uprights and with the opposite end against said arms; the bearing point on said arms is displaced during the door opening movement in order gradually to increase the length of the lever receiving at its end the resilient forces exerting their counter-balancing action.

3,439,454

POWER-OPERATED SLIDING DOOR GEAR

Henry Jackson Stretton, Stoke Poges, England, assignor to G. D. Peters & Co. (Engineering) Limited, Slough, Buckinghamshire, England, a British company

Filed Mar. 17, 1967, Ser. No. 624,019
Claims priority, application Great Britain, Apr. 21, 1966, 17,554/66
Int. Cl. E05p 11/34, 11/40
U.S. Cl. 49—362 3 Claims



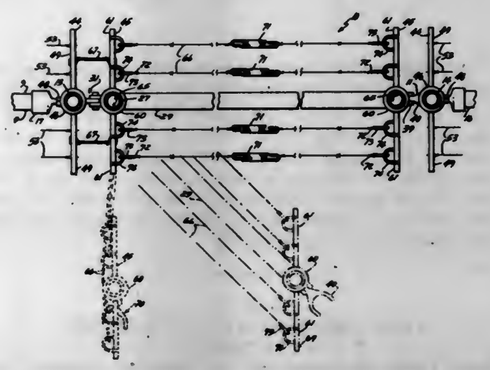
A power-operated sliding door gear which incorporates a lead screw and travelling nut, a spring-loaded trigger pivoted on the nut, two pawls pivoted on a carriage connected to a door, and an electromagnet for holding the pawls in a position in which they can be engaged by the trigger. If power fails the pawls drop clear of the trigger and the door can be manually opened; if the door sticks the trigger overrides the pawls.

3,439,455

FENCE STRUCTURE

Francis L. Ford, 1110 Raymond Ave., Fort Pierce, Fla. 33450

Filed Nov. 2, 1967, Ser. No. 680,121
Int. Cl. E06f 11/00
U.S. Cl. 49—381 5 Claims



The disclosure relates to fence structures and has to do with arm type barbed wire supports for fence posts and gate structures. Heretofore and use of arm type wire supports on gates has been precluded by the presence of the laterally extending arms of the wire support that is mounted on the gate post. When a similar arm support structure is used on a gate, the arms collide as the gate is opened because of the close proximity in the fence structure.

The arm type wire supports for the gate shown in the disclosure are mounted in the gate in a manner such that

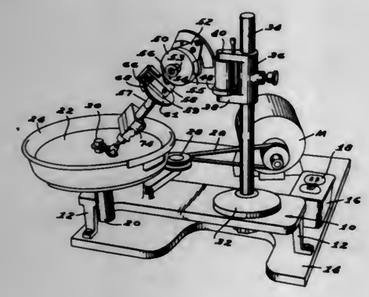
the arms remain parallel to the laterally extending arms of the wire support on the gate post as the gate is being moved between open and closed positions. The arrangement provided is one wherein the wire supports which are mounted in the gate are relatively pivotally movable with respect to the supporting gate frame and wherein the wire support in the gate which is adjacent the gate post is so located in the gate structure and so connected to the gate post as to remain substantially immobile with respect to the fence post as the gate is swung between open and closed positions therefor. The laterally offset wires in the gate are connected to the arms of the support therein in a parallelogram type arrangement with the arms and which keeps the wire supporting arms in parallel as the gate is caused to pivot during use. Springs are provided in the connecting wires on the gate structure to permit distortion of the wire lengths and a ring type connection involving annular segments fixed to the arms is used to enable the wires to pivot with respect to the supports in the parallelogram type arrangement.

3,439,456

FACETING MACHINE

Roy W. Bailey, 23517 Little Mack, St. Clair Shores, Mich. 48080

Filed Jan. 21, 1966, Ser. No. 522,204
Int. Cl. B24b *7/00, 9/00, 19/00*
U.S. Cl. 51—125 **6 Claims**



A combination stone mount and abrasive surface for cutting facets on gems and more particularly for processing a gem in an oval or marquise shape which includes a pivoted dop holding spindle mounted on a mast for disposition at an angle to a grinding surface and means on the spindle for shifting the axis of the dop relative to the axis of the spindle wherein an oval movement can be obtained at the holding end of the dop to achieve the desired shape and facet positioning.

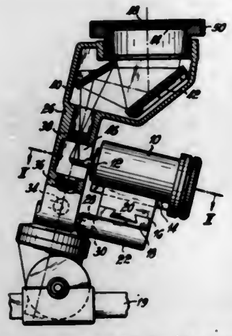
3,439,457

TOOL GRINDER WITH INSPECTION ATTACHMENT

Kurt Zwick, deceased, late of Munich, Germany by Margaretha Zwick, heiress, Munich, Germany, assignor to Feinmechanik Weilheim G.m.b.H., Weilheim, Germany

Continuation-in-part of application Ser. No. 313,823, Oct. 4, 1963. This application Oct. 30, 1967, Ser. No. 683,079
Claims priority, application Germany, Oct. 5, 1962, F 37,978
Int. Cl. B24b *49/12*
U.S. Cl. 51—165 **7 Claims**

A grinder for cutting tools whose tool holder is mounted on the grinder frame by a swivel also carrying a releasably mounted projector. The tool holder is movable on the swivel in a plane perpendicular to the optical axis of the projector so that angles and radii of the tool



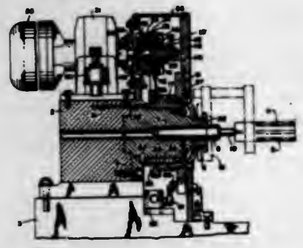
can be accurately measured in its projected image when the tool holder is swung away from the grinding wheel on the swivel, and the projector is installed.

3,439,458

INDEXING FIXTURE

Milton L. Benjamin and David D. Walker, Chagrin Falls, Ohio, assignors to Erickson Tool Company, Solon, Ohio, a corporation of Ohio

Filed May 19, 1966, Ser. No. 551,358
Int. Cl. B24b *41/06*
U.S. Cl. 51—216 **9 Claims**



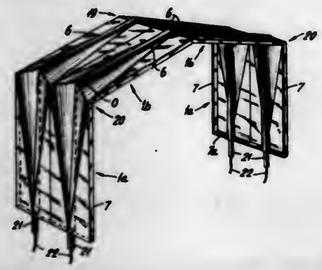
An indexing fixture having a work engaging spindle fixed to the housing against rotation, and an index plate mounted for rotation about the spindle.

3,439,459

CONSTRUCTION ELEMENT

Wilhelm Johannes Silberkuhl, Moorenstrasse 26, Essen, Germany

Filed Nov. 28, 1966, Ser. No. 597,460
Claims priority, application Germany, Nov. 27, 1965, S 100,684; Apr. 28, 1966, S 103,472; July 1, 1966, S 104,563, S 104,564
Int. Cl. E04b *7/12, 7/02*
U.S. Cl. 52—18 **16 Claims**



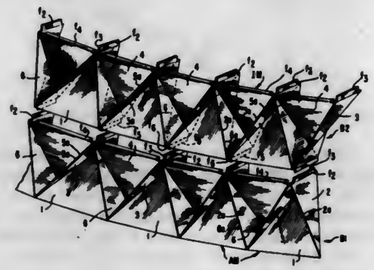
The invention provides, as a stress-resistant construction element for walls, ceiling and the like, a general rectangular panel of pleated sheet metal or other rigid sheet material whose pleats define a central gable portion in the form of a three-sided pyramid or, preferably, a pair of such gable portions with confronting bases; each base has the shape of an isosceles triangle whose vertex forms a peak rising from the plane of a pair of mutually coplanar webs consisting integral lateral extensions of the two flanges of a gable portion. The planes of the webs of a symmetrically pleated panel may include an obtuse angle with each other. Furthermore, a tubular reinforcing rib may extend along the longitudinal median of the panel or each half thereof, thus from the top of the respective pyramid to the vertex of its base, and may be integrally formed with the adjoining webs and gable portion from a flat strip of sheet material.

3,439,460

GEODESIC DOME STRUCTURE

Howard B. Allen, 334 1st Ave., Charles Town, W. Va. 25414

Filed July 14, 1967, Ser. No. 653,553
Int. Cl. E04b *1/32, 7/08*
U.S. Cl. 52—81 **44 Claims**



A geodesic dome of generally part-spherical form includes a belt structure comprising an annular succession of adjacent face-linked tetrahedral modules formed of sheet material. In a horizontal succession of modules there are alternate modules having triangular faces and intervening modules having triangular faces, two faces of each alternate module being in face-to-face contact respectively with two faces of intervening modules on opposite sides of the included alternate module. Adjacent modules are connected, inter alia, along lines extending along radii of the sphere, thus providing ribs of trusses extending spirally generally from base to top of the modular structure. One half of the trusses are spiralled in one direction, and the other half are spiralled in the opposite direction. All trusses together provide a scissors type truss system resistant to twisting forces.

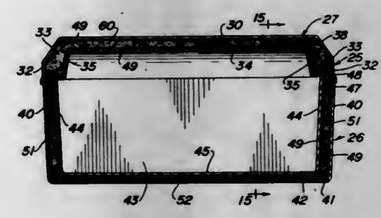
3,439,461

BURIAL VAULTS

Wesley M. Chandler and Paul F. Heuser, St. Paul, and Bernard T. Juba, White Bear Lakes, Minn., assignors to Wilbert, Inc., Broadview, Ill., a corporation of Illinois

Continuation-in-part of application Ser. No. 513,397, Dec. 13, 1965. This application Apr. 1, 1968, Ser. No. 717,517
Int. Cl. E04h *13/00*
U.S. Cl. 52—139 **9 Claims**

A composite wall burial vault is provided, which includes a concrete wall component and a plastic resinous liner component which may be pre-formed or formed by the wet lay up methods, or otherwise. The plastic resinous liner component is coated with a strong wet, tacky adhesive bonding agent and the concrete wall component is formed by placing a wet mix flowable concrete on the wet, tacky adhesive bonding coating while the latter is



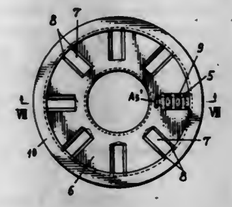
in a wet, tacky condition and the wet, tacky adhesive bonding coating and the wet mix flowable concrete are intermingled at their bonding surface. The wet mix concrete and the wet, tacky adhesive bonding coating are then cured, in situ, to effect an integral bond between the plastic resinous liner component and the concrete wall component of the composite wall burial vault structure.

3,439,462

ANCHORING DEVICE OF STEEL WIRE FOR PRESTRESSED CONCRETE

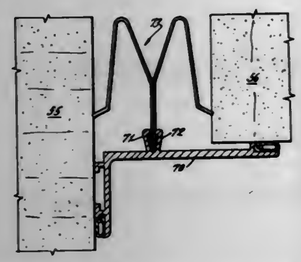
Motohiko Suzuki, 1–276 Soshigaya, Setagaya-ku, Tokyo, Japan; Osamu Kohriyama, 2–328–3 Midorimachi, Koganei-shi, Tokyo, Japan; Kazumi Aoyama, 4–445 Ikebukuro, Toshima-ku, Tokyo, Japan; and Zenzaburou Takuma, 1–31 Nishiochiai, Shinjuku-ku, Tokyo, Japan

Filed Nov. 17, 1966, Ser. No. 595,193
Claims priority, application Japan, Dec. 25, 1965, 40/80,291
Int. Cl. E04c *5/08, 3/10, 3/26*
U.S. Cl. 52—223 **2 Claims**



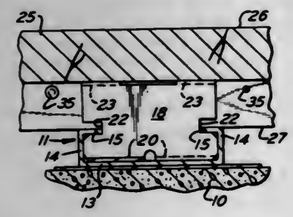
An anchoring device for prestressed concrete which comprises a plurality of steel wires, each having a head at the ends formed in a generally rectangular shape in cross-section, the shorter dimension of which is substantially equal to the diameter of the wire and the longer dimension of which is approximately twice the diameter of the wire, the neck of the head is formed a tapered portion whereby it is not susceptible to cracks, an annular anchor having a plurality of slots cut in a radial direction, the length in the radial direction is an integral number times the shorter dimension of the head whereby multiple wires are inserted in the slot, adjacent longer sides of the head are in close contact thus there is no risk of the wires turning in either direction around the longitudinal axis of the wire.

3,439,463
EXPANSION AND CONTROL JOINT COVER
Joseph F. Matarese, Hill Road, Burlington Township, Burlington, N.J. 08016
Filed Dec. 1, 1967, Ser. No. 687,366
Int. Cl. E04b *2/10, 5/00;* E04c *5/16*
U.S. Cl. 52—288 7 Claims



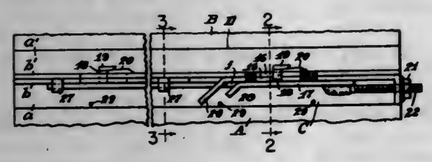
A construction control joint comprising an extruded cover which receives snap-in clips along its length. The snap-in clips have extending arms which grip one or both walls of the joint being covered.

3,439,464
FLOOR AND WALL SYSTEM
Ray E. Omholt, Berwyn, Pa. (% Powerlock Floors, Inc., 2028 Chancellor St., Philadelphia, Pa. 19103)
Filed Apr. 12, 1967, Ser. No. 630,266
Int. Cl. E04b *5/08*
U.S. Cl. 52—479 9 Claims



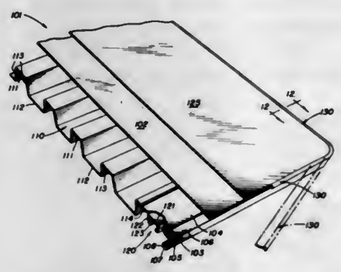
A system for floor and wall construction employing a plurality of parallel wooden boards whereby the individual boards are restrained against crosswise growth by members driven across their width and which may also extend into adjacent boards to hold together the system so that it is restrained from crosswise growth, longitudinal movement and mid-span differential deflection.

3,439,465
CONNECTOR FOR JOINING THE PANELS TOGETHER EDGE TO EDGE
Frank C. Du Pre, 9729 Swinton Ave., Sepulveda, Calif. 91343
Filed Oct. 20, 1965, Ser. No. 498,970
Int. Cl. E04c *1/10, 1/80*
U.S. Cl. 52—584 4 Claims



A connector for joining together panels and having projecting webs including registering complementary longitudinally extending slots. A slide-bar is reciprocally mounted on one of the webs and includes studs which extend through the slots for clamping the webs together. The slide-bar includes tongues cooperating with projections on one web to facilitate ejection of the studs from the slots.

3,439,466
FURNITURE TOP CONSTRUCTION
Kenneth D. Schreyer, Doylestown, Pa., assignor to Lyon Metal Products, Incorporated, Aurora, Ill., a corporation of Illinois
Original application Oct. 23, 1965, Ser. No. 503,157, now Patent No. 3,363,955. Divided and this application Apr. 5, 1967, Ser. No. 635,944
Int. Cl. A47b *17/00, 13/08, 96/20*
U.S. Cl. 52—624 14 Claims



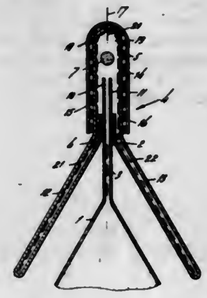
The present invention is directed to a furniture top including a flat top plate, an edging extending around the periphery of the top plate and disposed adjacent to the underside thereof, the edging having an inwardly extending attachment flange and a dependent side flange on the outer edge thereof disposed outwardly with respect to the periphery of the top plate, welds interconnecting the attachment flange and the top plate at points spaced inwardly with respect to the outer periphery thereof, a reinforcing sheet of ribbed construction disposed beneath the top plate and within the edging and having a layer of adhesive disposed therebetween, welds being provided between the top plate and the reinforcing sheet and the attachment flanges to mount the reinforcing sheet in place, the side flange of the edging extending downwardly a distance at least equal to the distance that the reinforcing ribs are disposed from the top plate, a decorative trim being provided around the periphery of the top plate and having a mounting tongue extending inwardly into the space between and grippingly engaging the underside of the top plate and the upper side of a mounting flange on the attachment flange of the edging, and a pair of spaced apart mounting channels disposed beneath the underside of the top plate and extending in the general direction of the reinforcing ribs.

3,439,467
PORTABLE COLLAPSIBLE TOWER
Jackson A. Partlow, Rock Hill, S.C., assignor to Zip-Up Lighting Tower Co., Inc., Rock Hill, S.C., a corporation of South Carolina
Filed Jan. 26, 1967, Ser. No. 611,861
Int. Cl. E04h *12/18;* E04g *25/00*
U.S. Cl. 52—632 9 Claims
A portable, collapsible tower having telescoping box-shaped support sections provided with guide means located on opposing sides of the sections along a vertical midplane of the tower to facilitate extension and retraction of the sections, and provided with a separately extensible and retractable accessory support section of

the tower to permit spacial arrangement of equipment thereon when the tower is in erect condition and compaction of the equipment when the tower is in collapsed condition.

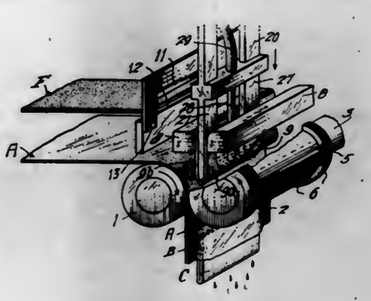


3,439,468
METHOD OF MANUFACTURING BAG CLOSURES
Edward Bok, Burgemeester Amersfoortlaan 82, Badhoevedorp, Netherlands
Filed Nov. 2, 1964, Ser. No. 408,158
Claims priority, application Netherlands, Oct. 31, 1963, 299,956
Int. Cl. B65b *61/18, 9/12, 51/30*
U.S. Cl. 53—14 3 Claims

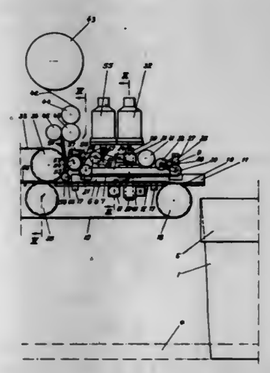


The present invention relates to a bag closure and method of manufacture, particularly a method of manufacturing a resealable bag using pressure sensitive adhesive as a resealing means and including tear strip pressure sensitive cutting means and reinforced pull tab opening means.

3,439,469
METHOD AND MACHINE FOR MAKING A PACKAGE CONTAINING LIQUID-IMPREGNATED SHEET MATERIAL
Stephen A. Van Mil, Jr., Union, N.J., assignor to Ivers-Lee Company, Newark, N.J., a corporation of Delaware
Filed July 11, 1966, Ser. No. 564,309
Int. Cl. B65b *3/04, 3/02, 47/00*
U.S. Cl. 53—21 6 Claims
This invention relates to a method and machine for sheathing or packaging flexible sheets, particularly sheets of absorbent fabric or tough paper that are impregnated or coated with or serve as a vehicle for a fluent substance such as a cleansing liquid or medicine, or paste or powder.



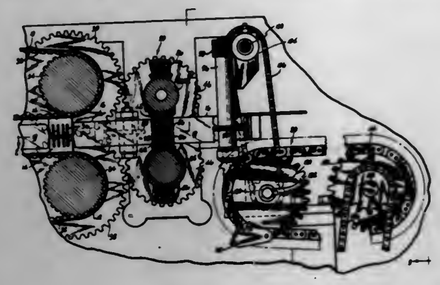
3,439,470
MACHINE FOR CLOSING BAGS
Friedhelm Brinkmeier, Ladbergen, Overbeck, Germany, assignor to Windmoller & Holscher, Lengerich, Westphalia, Germany
Filed Jan. 28, 1965, Ser. No. 428,645
Claims priority, application Germany, Feb. 4, 1964, W 36,119
Int. Cl. B65b *57/02*
U.S. Cl. 53—70 5 Claims



Apparatus is disclosed for closing filled plastic bags and simultaneously securing information sheets to the bags. The apparatus includes an arrangement for conveying the bag which cooperates with a mechanism for guiding the edges of the open ends of filled bags. In addition, a mechanism is provided for feeding information sheets to the bags, and a welding device is provided to close the bags by means of a weld seam and simultaneously to join the information sheets to the bag. The guiding arrangement consists of oppositely facing conveyor belts with an aligning plate disposed to one side of the belts.

3,439,471
PACKAGING APPARATUS
George Howard Kraft, Wilmette, Ill., assignor to National Dairy Products Corporation, Chicago, Ill., a corporation of Delaware
Filed May 17, 1966, Ser. No. 550,681
Int. Cl. B65b *9/12, 7/06, 51/26*
U.S. Cl. 53—182 8 Claims
A packaging apparatus is provided which includes a delivery conveyor and a take-off conveyor spaced from

each other and defining a gap therebetween, sealing means disposed at the gap, and means in addition to the sealing

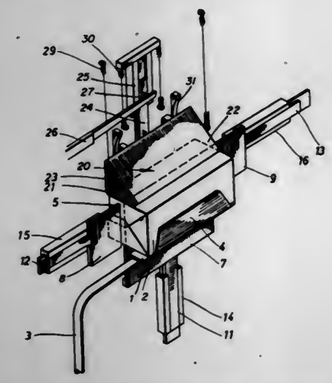


means disposed adjacent the gap for advancing units to be packaged across the gap at a constant speed.

3,439,472
WRAPPING MACHINE

Gottfried M. Hain, Lehen, and Wolfgang B. Leonard, Graben, Germany, assignors to "ALPMA" Alpenland-Maschinenbaugesellschaft Hain & Co. K.G., Wasserburg am Inn, Upper Bavaria, Germany

Filed May 11, 1966, Ser. No. 549,296
Claims priority, application Germany, May 25, 1965, A 49,304
Int. Cl. B65b *11/16, 49/08*
U.S. Cl. 53—226 4 Claims



A machine for wrapping packages includes a wedge shaped element arranged to move between two positions in an arcuate path. In the first position, one side of the wedge holds one side of the wrapper while other mechanisms fold down the flap on three sides. The wedge is then shifted to the second position where the other side of the wedge forms a continuation of a flat plate in alignment with the bottom of the package so that the fourth flap will be folded over the previously folded flaps when the package is moved away in a path paralllel with the plate.

3,439,473
APPARATUS FOR WRAPPING RECTANGULAR PACKAGES

Heinz Focke and Kurt Liedtke, Verden (Aller), Germany, assignors to Focke & Pfuhl, Verden (Aller), Germany

Filed May 9, 1966, Ser. No. 548,485
Claims priority, application Germany, May 20, 1965, F 46,103; Feb. 1, 1966, F 48,309
Int. Cl. B65b *11/32, 49/12*
U.S. Cl. 53—234 25 Claims

This disclosure relates to an apparatus for continuous and complete wrapping and sealing of film blanks around block-like articles, more particularly packages, such as cigarette packages, wherein the film blank is folded



around the package during transport, forming a tube by folding over tubular flaps, and is finally sealed.

3,439,474
METHOD FOR HYDROGEN SEPARATION AND PURIFICATION

David L. McKinley, Nitro, W. Va., assignor to Union Carbide Corporation, a corporation of New York

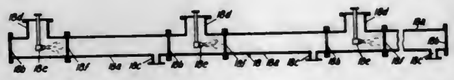
No Drawing. Continuation of application Ser. No. 508,549, Nov. 18, 1965. This application Aug. 17, 1967, Ser. No. 661,464
Int. Cl. B01d *53/22*
U.S. Cl. 55—16 1 Claim

A method for separating hydrogen from gas mixtures containing hydrogen according to a permeation technique in which there is used a hydrogen diffusion barrier foil consisting of an alloy of not less than 37.5 to not more than 42 weight percent copper and the rest palladium.

3,439,475
GAS/LIQUID CONTACTING DEVICES AND THE OPERATION THEREOF

James Austin Maidenhead, and John D. Ellis, Chalfont St. Giles, England, assignors to Nordac Limited, Uxbridge, Middlesex, England, a British corporation

Continuation of application Ser. No. 440,184, Mar. 16, 1965. This application Nov. 9, 1967, Ser. No. 681,938
Claims priority, application Great Britain, Apr. 23, 1964, 16,797/64, 16,798/64
Int. Cl. B01d *47/06, 47/12*
U.S. Cl. 55—90 3 Claims

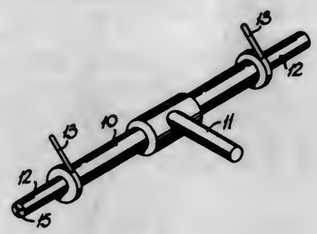


Gas/liquid contacting device which comprises a duct obturated by a barrier, a means for spraying coarse droplets of water to impinge on the upstream face of the barrier and cause the droplets to break into smaller droplets that move parallel to the barrier to intercept and intimately mix with a gas stream, the barrier having apertures adapted to provide a gas velocity therethrough in the range of 100–400 feet per second to give rise to a pressure drop of at least 15 inches water gauge, and a method for cleaning gases which comprises passing a gas stream through a zone at a velocity of 15–100 feet per second, causing the gas stream to flow at 50–400 feet per second through the apertures in a barrier obturating the zone to produce a pressure drop not less than one inch water gauge, causing coarse liquid droplets to impinge on the face of the barrier, and preventing an accumulation of water on the downstream face of the barrier.

3,439,476
GAS PURIFICATION APPARATUS

Basil Edward Knight, Pinner, England, assignor to C.A.V. Limited, London, England, a British company

Filed Nov. 24, 1967, Ser. No. 685,670
Claims priority, application Great Britain, Nov. 30, 1966, 53,625/66
Int. Cl. B03c *3/74, 3/36, 3/01*
U.S. Cl. 55—120 2 Claims

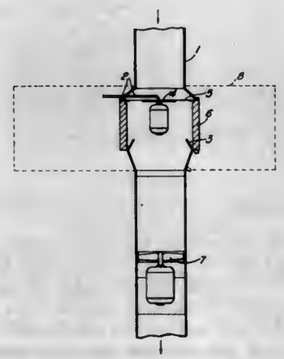


Gas purification apparatus comprising tubular chamber having an air inlet tube extending into both ends thereof and inlets for gas to be purified, the tubes support electrical insulators which carry a wire electrode. A high potential difference is maintained between the wall of the chamber and the electrode. The gas to be purified acts to draw air through the tubes to maintain the insulators clean.

3,439,477
APPARATUS FOR GAS FILTRATION

Humphrey Walter Pyne, Chellaston, Bruce Horwood, Brentford, and Robin Burnell Wilson, Ashford Common, England, assignors to National Research Development Corporation, London, England, a British corporation

Continuation of application Ser. No. 616,627, Feb. 16, 1967. This application Apr. 26, 1968, Ser. No. 724,643
Claims priority, application Great Britain, Feb. 25, 1966, 8,337/66
Int. Cl. B01d *47/16*
U.S. Cl. 55—231 6 Claims

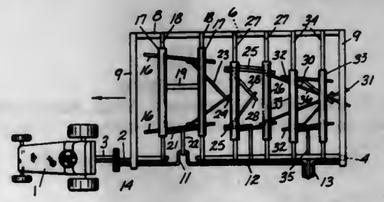


A gas filter comprising a number of rigidly held filaments spaced apart and arranged for rotation in a common plane transverse to the general direction of gas flow at a sufficient speed to ensure that each cross-sectional element of gas is swept out by at least one filament in one revolution, the arrangement being designed to operate with wet gas or with the addition of liquid to the filaments if necessary so that particles striking the filaments adhere thereto, are directed centrifugally outwardly along the filaments, and are ejected from their ends into a collecting zone.

3,439,478
METHOD OF HARVESTING GRAPES OR THE LIKE

Joseph Roy Orton, Ripley, N.Y., assignor to Chisholm-Ryder Company, Inc., Niagara Falls, N.Y., a corporation of New York

Original application Apr. 15, 1965, Ser. No. 448,518. Divided and this application Feb. 29, 1968, Ser. No. 709,327
Int. Cl. A01g *19/00;* A01d *41/08, 91/00*
U.S. Cl. 56—1 8 Claims

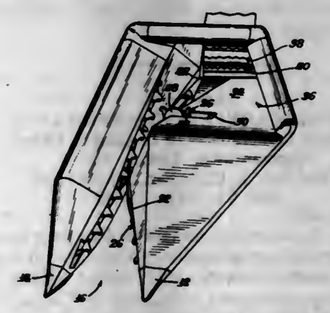


The frame of the mobile harvester travels along opposite sides of a row of grapevines or the like trained on a trellis wire and on opposite sides of the row has groups of generally horizontal flexible bars extending lengthwise of the row and moved horizontally back and forth crosswise of the row and vertically positioned to engage and shake the top, bottom and intermediate part of the fruit bearing growth. The flexible bars have their trailing ends converging toward, and preferably crossing, each other at the center of the row to grip and shake the vines so that grapes at the center of the row are shaken free as well as the grapes growing along the outside of the row. Vertical side panels guide the grapes to bottom conveyors. Between the conveyors the falling grapes are guided onto the conveyors by rows of flexible bodied arms each row being covered by a flexible covering the edges of which, along the free ends of the flexible arms, meet at the center of the row of vines and forming a peak shedding the grapes onto the conveyors.

3,439,479
ROW CROP HARVESTER

Ronald F. Zitko and Carmen S. Phillips, Downers Grove, Ill., assignors to International Harvester Company, Chicago, Ill., a corporation of Delaware

Filed July 18, 1966, Ser. No. 565,870
Int. Cl. A01d *45/02*
U.S. Cl. 56—16 6 Claims



1. A row crop forage harvester adapted for harvesting plants having stalks, comprising a pair of gathering

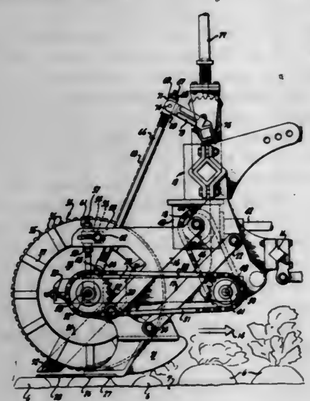
dividers defining a gathering passage therebetween, cutting means adjacent the rear end of the passage, the harvester having a generally horizontal area of substantial width adjacent the passage for receiving the plant stalks thereupon, after being cut, in position adjacent the horizontal for further movement of the stalks rearwardly, common means on at least one of the gathering dividers on a side of the passage for carrying the stalks rearwardly and for actively spreading the cut stalks laterally throughout said area and comprising a chain having a run alongside said passage and including fingers on the chain projecting into said passage for engagement with the stalks of the crop for moving the crop within the passage rearwardly, said generally horizontal area having a slot therein, said chain having a transverse run extending through said slot and having the fingers thereon projecting above said area.

3,439,480

BEET TOPPER

Robert N. Burns and Thornton E. Wulf, Boise, Idaho, assignors to Western Conveyor Company, a corporation of Idaho

Filed Apr. 15, 1966, Ser. No. 543,425
Int. Cl. A01d *23/02*
U.S. Cl. 56—121.4 **1 Claim**



A beet topper for advance over a row of beets has a parallelogram linkage mounting a cutting knife and connected to the main frame of the beet topper. A beet-engaging wheel on the linkage is circular cylindrical in shape, is about as wide as the beets in the row and has radially extending fins projecting axially from the wheel sides to act as sweeps for dislodging debris from the adjacent parts of the beet topper.

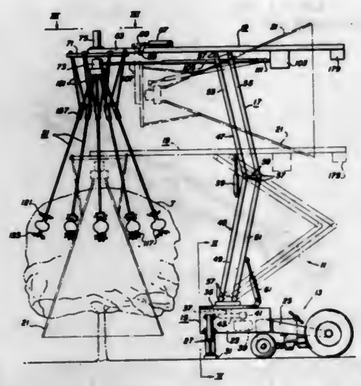
3,439,481

FRUIT HARVESTING APPARATUS

Robert Lee Hall, 1770 Brookside Drive, Germantown, Tenn. 38038

Filed July 7, 1966, Ser. No. 563,561
Int. Cl. A01g *19/00*
U.S. Cl. 56—328 **9 Claims**

Apparatus for severing oranges or like fruit items from fruit trees including a plurality of circularly arranged rotating fruit doffing wheels—each wheel having radially projecting fingers adapted to engage and sever the fruit items from the tree. The plurality of doffing wheels are pendantly supported from an elevated frame which in turn is supported by a boom mounted on vehicular base structure such as a tractor vehicle. The boom means being operative to selectively raise or lower the frame structure thereby lifting and lowering the circular plurality of fruit doffing wheels about the vertical center axis of the



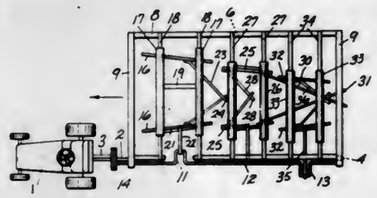
fruit tree. The circular plurality of doffing wheels are also simultaneously movable radially inwardly and outwardly to radially contracted or expanded dispositions while being moved upwardly and downwardly thereby engaging and removing the fruit items from a fruit tree.

3,439,482

GRAPE HARVESTING MACHINE

Joseph R. Orton, Ripley, N.Y., assignor to Chisholm-Ryder Company, Inc., Niagara Falls, N.Y., a corporation of New York

Continuation of application Ser. No. 448,518, Apr. 15, 1965. This application Feb. 29, 1968, Ser. No. 709,352
Int. Cl. A01g *19/00*
U.S. Cl. 56—330 **21 Claims**



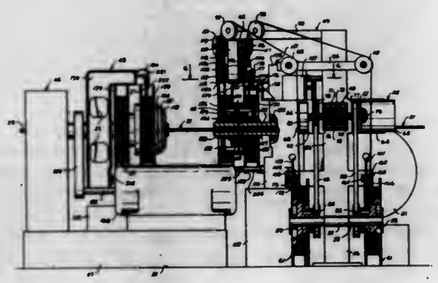
The frame of the mobile harvester travels along opposite sides of a row of grape vines or the like trained on a trellis wire and on opposite sides of the row has groups of generally horizontal flexible bars extending lengthwise of the row and moved horizontally back and forth crosswise of the row and vertically positioned to engage and shake the top, bottom and intermediate part of the fruit bearing growth. The flexible bars have their trailing ends converging toward, and preferably crossing, each other at the center of the row to grip and shake the vines so that grapes at the center of the row are shaken free as well as the grapes growing along the outside of the row. Vertical side panels guide the grapes to bottom conveyors. Between the conveyors the falling grapes are guided onto the conveyors by rows of flexible bodied arms each row being covered by a flexible covering the edges of which, along the free ends of the flexible arms, meet at the center of the row of vines and forming a peak shedding the grapes onto the conveyors.

3,439,483

METHODS OF AND APPARATUS FOR PACKAGING LONGITUDINAL MATERIAL

William B. Brown, Pasadena, Md., assignor to Western Electric Company, Incorporated, New York, N.Y., a corporation of New York

Filed May 23, 1966, Ser. No. 552,335
Int. Cl. D02g *3/36*
U.S. Cl. 57—6 **16 Claims**



Methods of and apparatus for packaging different proportional lengths of longitudinally extending material onto a plurality of take-up units and thereafter wrapping the material helically about a moving core with the packages of the different proportional lengths depleting simultaneously. Separate supplies of the longitudinally extending material are passed around associated rolls of different diameters and are taken up onto associated reels which are operatively connected by a differential gear mechanism. As the reels are rotated, each length of the material is provided to the associated reel at a rate determined by the diameter of the associated roll whereby the length of material taken up on one reel differs from the length taken up on another reel during a given period. The differential gear mechanism facilitates the different rates of rotation of the reels. The full reels are then used to wrap the different lengths of material, one on top of the other, helically about a moving core whereby the different reels of the predetermined different lengths of material deplete simultaneously.

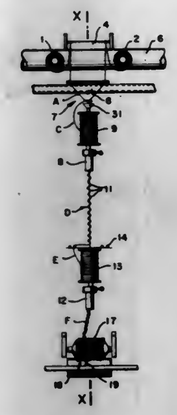
3,439,484

METHOD AND APPARATUS FOR MAKING NOVELTY YARN

Raoul M. Naipas and Pierre Prouvost, Roubaix, Nord, France, assignors to Moulinage et Retorderie de Chavanoz, Chavanoz, Isere, France

Filed Oct. 21, 1965, Ser. No. 499,240
Claims priority, application France, Nov. 18, 1964, 995,405
Int. Cl. D02g *3/36, 3/02*
U.S. Cl. 57—16 **3 Claims**

Method and apparatus for making novelty yarn by withdrawing a pair of core yarns from bobbins, passing the spaced core yarn through adjustable guide means which determine the amount of spacing between the core yarns, thereafter wrapping a first effect thread about the core yarns forming loops which then pass through a second wrapping station where a second effect thread is wrapped about the composite yarn to bind the loops



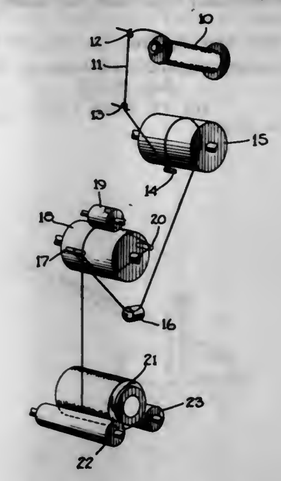
along the yarn length. The guides above the first wrapping station are adjustable to vary the loop effect.

3,439,485

BULKING FILAMENTARY STRAND BY FALSE TWISTING

Neil E. Lloyd, Rock Hill, S.C., assignor to Celanese Corporation of America, New York, N.Y., a corporation of Delaware

Filed Dec. 16, 1964, Ser. No. 418,673
Int. Cl. D01h *13/26;* **D02g** *3/02*
U.S. Cl. 57—34 **10 Claims**



A novel bulked filamentary strand is provided in a method of bulking a filamentary strand wherein the strand is false-twisted by means of a false-twist friction tube and the twist is heat-set by an improved process of heat-setting.

3,439,486

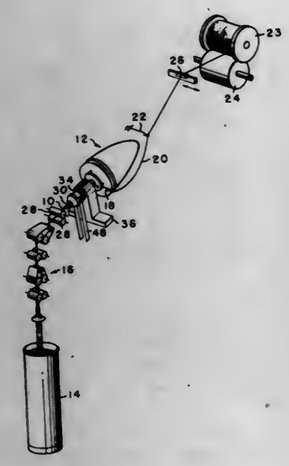
SPINNING

Norman E. Klein, Inman, S.C., assignor to Deering Milliken Research Corporation, Spartanburg, S.C., a corporation of South Carolina

Filed Sept. 15, 1967, Ser. No. 668,025
Int. Cl. D01h *5/28, 1/10, 7/86*
U.S. Cl. 57—58.49 **28 Claims**

The method and apparatus is directed to open end spin-

ning of yarn continuously from sliver or roving by disintegrating the sliver or roving, recombining the sliver or



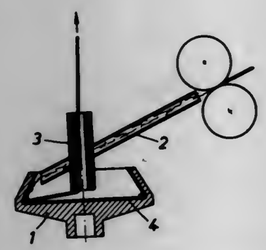
roving and spinning the recombined sliver or roving in a two-for-one spinning arrangement.

3,439,487

SPINNING CHAMBER ROTOR

Hans Landwehrkamp and Franz Schreyer, Ingolstadt, Germany, assignors to Schubert & Salzer, Maschinenfabrik Aktiengesellschaft, Ingolstadt, Germany, a corporation of Germany

Filed Mar. 6, 1968, Ser. No. 711,019
Claims priority, application Germany, Mar. 9, 1967, Sch 40,359
Int. Cl. D01h *7/00*
U.S. Cl. 57—58.89 12 Claims



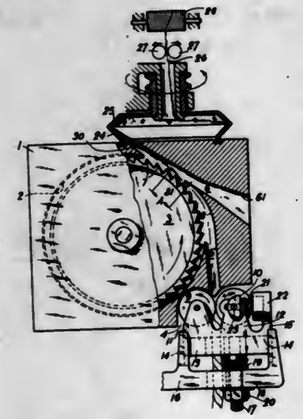
The upper end of a spinning machine rotor forms a cup-shaped spinning chamber. The rotor body is made of a lightweight material having mechanical properties suitable for high-speed rotation, such as an aluminum alloy or a rigid plastic, for example, styrol resin. The cup interior forming the fiber collection surface is lined with material which has good spinning properties for fiber supplied to the cup, such as brass, chromium, nickel, Teflon, hardened gold, or a liquid coating such as varnish or enamel. If the rotor body material and the lining material are not compatible for forming a strong bond, an intermediate layer compatible to both materials may be interposed between the rotor body and lining. The lining may be a preformed insert or may be a layer applied to or formed in the rotor cup.

3,439,488

APPARATUS FOR SUPPLYING SEPARATED FIBERS TO A SPINNING APPARATUS

Frantisek Bucil, Usti nad Orlici, Josef Hybl, Ceska Trebova, and Stanislav Kabele and Milos Vecera, Usti nad Orlici, Czechoslovakia, assignors to Vyzkumny Ustav Bavlnarsky, Usti nad Orlici, Czechoslovakia

Filed Jan. 19, 1967, Ser. No. 610,390
Claims priority, application Czechoslovakia, Mar. 19, 1966, 1,865/66
Int. Cl. D01g *15/40*
U.S. Cl. 57—58.95 10 Claims



An apparatus for supplying separated fibers to a spinning machine includes a rotatable fiber combing roller having an outer circumferential combing surface which, during rotation of the roller, defines an area of intensive action upon the fibers. A feeding mechanism applies gripping pressure to a fibrous sliver and feeds this sliver to the combing roller tangentially with reference to the surface thereof. The feeding mechanism is spaced by a predetermined distance from the area of intensive action of the combing roller.

3,439,489

NOVELTY NUB YARNS

James R. Holton, Gulf Breeze, and James G. Sims, Pensacola, Fla., and Wesley A. Parker, Pasadena, Tex., assignors to Monsanto Company, St. Louis, Mo., a corporation of Delaware

Application Apr. 8, 1965, Ser. No. 446,558, which is a continuation-in-part of application Ser. No. 374,434, June 11, 1964. Divided and this application July 7, 1966, Ser. No. 563,411
Int. Cl. D02g *3/02*
U.S. Cl. 57—140 3 Claims



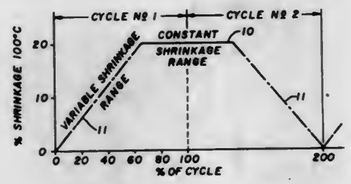
A continuous multifilament yarn made of synthetic thermoplastic polymer is drawn below the natural draw ratio to provide molecularly oriented sections and molecularly unoriented nub sections. The nub sections are randomly distributed along the length of the yarn, but occur at substantially the same position in the filaments. The nub sections have random lengths averaging in the range of ¼" to 3½". The average nub spacing is in the range of 3" to 13" and the nub length of the individual filaments for a given nub is substantially equal.

3,439,490

PRODUCTION OF BULKED YARNS

Terry Wesley Tarkington, Hartselle, Ala., and William R. Martin, Pensacola, Fla., assignors to Monsanto Company, St. Louis, Mo., a corporation of Delaware

Filed Feb. 7, 1964, Ser. No. 343,314
Claims priority, application Great Britain, Feb. 21, 1963, 7,109/65
Int. Cl. D02g *3/02*
U.S. Cl. 57—140 2 Claims



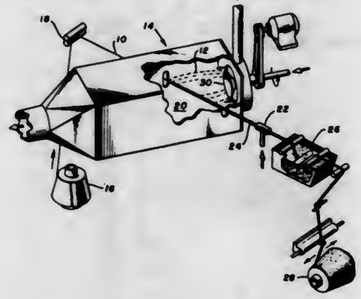
This invention relates to novel composite yarns and to fabrics prepared from such yarns. More particularly, this invention relates to a method of making composite yarns which are voluminous or bulky in character and dimensionally stable and are formed from synthetic filaments having variable shrinkage characteristics which cause the yarn to bulk upon being subjected to shrinking conditions.

3,439,491

PROCESS FOR MAKING CORE SPUN YARNS

Jack G. Scruggs, Cary, N.C., assignor to Monsanto Company, St. Louis, Mo., a corporation of Delaware

Filed Aug. 9, 1965, Ser. No. 478,217
Int. Cl. D02g *3/36, 3/38, 3/02*
U.S. Cl. 57—160 6 Claims



A threadline is covered with a sheath of microfibers by advancing the threadline through a chamber provided with a microfiber generating device and a source of gas for directing the said fibers against the threadline which is false twisted in the chamber area to cause the microfibers to wrap tightly around the threadline.

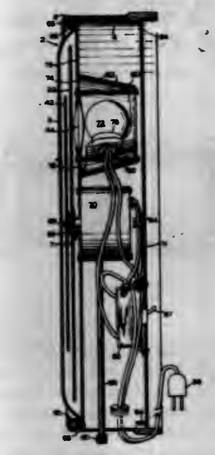
3,439,492

CHROMOCLOCK

Guy F. Gravenson, New York, N.Y.
(101 74th St., North Bergen, N.J. 07047)

Filed Aug. 15, 1967, Ser. No. 660,656
Int. Cl. G04b *45/00*
U.S. Cl. 58—1 6 Claims

By replacing the hour hand and the minute hand of a regular clock with transparent, segmented, multi-colored discs and light projection elements, a new kind of time-indicating device is obtained which indicates time by



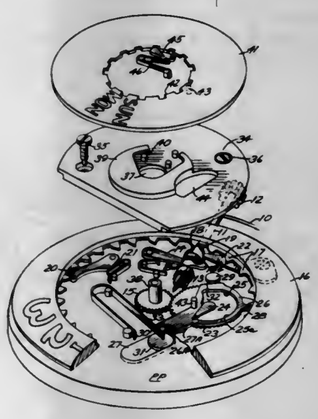
continuously varying color blends and color combinations which appear through illuminated openings in the face of the device.

3,439,493

DAY-DATE CALENDAR TIMEPIECE

William W. Mutter, Paramus, N.J., and George P. Gruner, Floral Park, N.Y., assignors to Bulova Watch Company, Inc., New York, N.Y., a corporation of New York

Filed Jan. 10, 1967, Ser. No. 608,333
Int. Cl. G04b *19/24*
U.S. Cl. 58—58 9 Claims



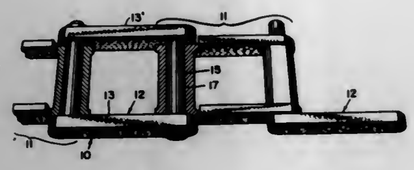
A time piece for indicating the day of the week and the date of the month as well as the time, the timepiece including concentrically disposed date and day rings each having an inner toothing. Automatic and concurrent daily actuation of these rings is effected by a mechanism including a trip arm which, when triggered, engages a tooth on the date ring and a tooth on the day ring to index these rings.

3,439,494

COMBINATION CHAIN

Richard W. Hutton and Philip L. Gettmann, Portland, Oreg., assignors to Esco Corporation, Portland, Oreg., a corporation of Oregon

Filed Oct. 26, 1966, Ser. No. 589,582
Int. Cl. F16g 13/00, 13/08, 15/12
U.S. Cl. 59—78 2 Claims



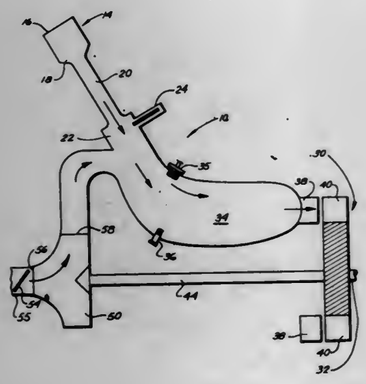
A combination chain having a plurality of block links and a plurality of pintle links. Each block link includes a unitary body with tapered pintle bores, and having the tapers oppositely oriented with respect to each other. Each pintle link includes a pair of generally L-shaped members, each defined by a side bar and laterally-extending tapered pin which is receivable in a correspondingly tapered hole in the side bar of the other member. Each pin is also received in one of the tapered bores of an adjacent block link. The tapered pintle pins and tapered bores compensate for any tendency of the chain to follow an arcuate path.

3,439,495

RESONATING COMBUSTOR FOR DIRECTLY STARTING TURBINE ENGINE

Robert L. Binsley, 9330 Sophia Ave., Sepulveda, Calif. 91343, and Robert S. Siegler, 5339 Roundmeadow Road, Hidden Hills, Calif.

Filed Sept. 18, 1967, Ser. No. 668,548
Int. Cl. F02c 5/10
U.S. Cl. 60—39.02 8 Claims



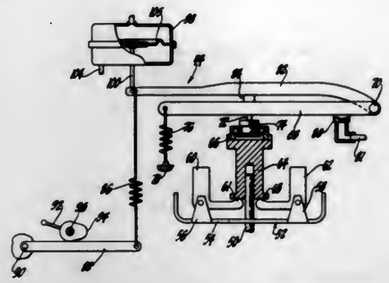
A resonating or pulse jet-type combustor for discharging combustion product through a main burner directly to a main turbine. Hot starting gases from the resonant combustor pre-heat and pre-pressurize the burner while being passed directly to the turbine which inturn operates a compressor. As the turbine attains its self-sustaining level of power, external air is drawn by the compressor into the burner. Immediately thereafter, the resonant combustor is inactivated.

3,439,496

TURBINE GOVERNOR

Eugene J. Bevers, Indianapolis, Ind., assignor to General Motors Corporation, Detroit, Mich., a corporation of Delaware

Filed Nov. 12, 1964, Ser. No. 410,695
Int. Cl. F02c 9/04, 3/10
U.S. Cl. 60—39.16 2 Claims



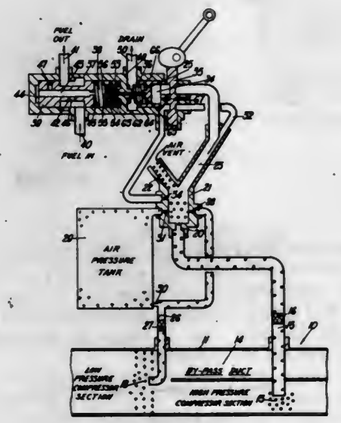
A governor or fuel control for a free power turbine type of gas turbine engine. The gas generator governor flyweights are loaded by a first speeder spring, constantly operative, and a second speeder spring, which is opposed by a power turbine governor. A lost motion connection prevents the power turbine governor from overriding the first speeder spring, which thus maintains a minimum gas generator speed.

3,439,497

DEVICE FOR PROTECTING A GAS TURBINE ENGINE COMPRESSOR AGAINST THE EFFECTS OF SURGING

Walter George Cross, Derby, England, assignor to Rolls-Royce Limited, Derby, Derbyshire, England, a British company

Filed Apr. 17, 1967, Ser. No. 631,327
Claims priority, application Great Britain, May 13, 1966, 21,483/66
Int. Cl. F02g 1/06; F02c 9/08
U.S. Cl. 60—39.28 6 Claims



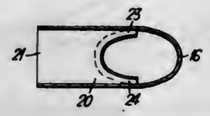
A device for protecting a gas turbine engine compressor against the effects of surging detects the rate of reduction of the pressure of the air which has been compressed by the compressor, and, when this exceeds a predetermined value, closes a valve which controls the fuel supply to the engine.

3,439,498

GAS TURBINE ENGINE COMBUSTION CHAMBER

Jerry Chanes Melconian, Derby, England, assignor to Rolls-Royce Limited, Derby, England, a British company

Filed Nov. 13, 1967, Ser. No. 682,304
Claims priority, application Great Britain, Dec. 16, 1966, 56,553/66
Int. Cl. F02c 3/14, 7/12
U.S. Cl. 60—39.37 4 Claims



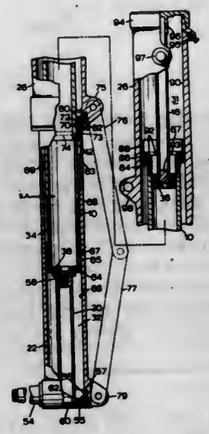
A gas turbine engine combustion chamber has at least one pair of flame tubes which communicate with one another by way of an intercommunicating duct, the internal wall of each of the intercommunicating ducts being supplied with tangentially directed jets of cooling air which flow over at least those portions of the said internal wall which are disposed adjacent the respective flame tubes.

3,439,499

SHOCK ABSORBER

Henry Ralph Stratford, Whitby, Ontario, Canada, assignor to York Gears Limited, Toronto, Ontario, Canada

Filed Feb. 13, 1967, Ser. No. 615,768
Int. Cl. F15b 7/00
U.S. Cl. 60—54.5 15 Claims



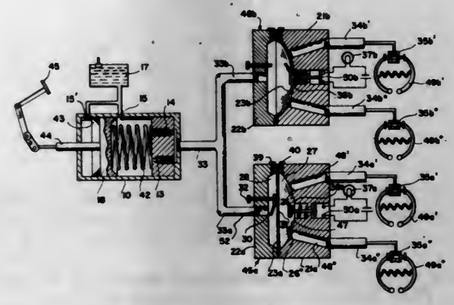
A shock absorber consisting of an inner cylinder, a first outer cylinder slidingly mounted over one end of the inner cylinder, and a second outer cylinder slidingly mounted over the other end of the inner cylinder and also encompassing part of the first outer cylinder. All three cylinders are adapted to telescope with respect to each other and the outer cylinders are rigidly connected to respective pistons within the inner cylinder, which contains a liquid such as oil. The pistons have restricted orifices which function as dashpots within the liquid.

3,439,500

HYDRAULIC CONTROL SYSTEM FOR VEHICULAR BRAKES AND THE LIKE

Siegfried Hertell, Kelsterbach (Main), Germany, assignor to Ate A. Teves, Maschinen- und Armaturen-fabrik KG, Frankfurt am Main, Germany, a company of Germany

Filed Mar. 1, 1967, Ser. No. 619,859
Claims priority, application Germany, Mar. 3, 1966, T 30,575
Int. Cl. F15b 20/00; B60t 17/22; B16t 15/46
U.S. Cl. 60—54.5 10 Claims



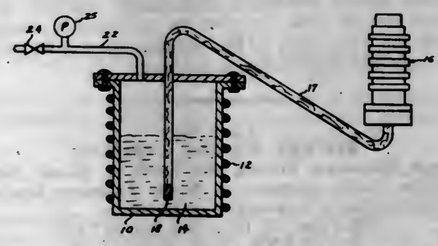
Hydraulic brake system, particularly for automotive vehicles, wherein one or more wheel cylinders associated with respective wheel brakes are connected to a master cylinder via conduits including at least one safety cylinder which is subdivided by a resilient membrane into two chambers, one on the side of the master cylinder, the other on the side of wheel cylinder or cylinders; upon actuation of the master cylinder piston by a brake pedal, fluid pressure deflects the membrane toward an outlet port of the brake-side chamber communicating with each wheel cylinder until, in the event of a leak in the hydraulic circuit on that side, the membrane comes to rest against a wall of the safety cylinder and actuates an alarm switch provided on this wall. The membrane may have a bleeder orifice provided with an at least unidirectionally effective closure member for blocking fluid flow from the master cylinder side to the brake side except in a normal position of the membrane remote from the brake-side outlet, thereby eliminating the cumulative effect of very small fluid losses at the brake side.

3,439,501

GAS ACTUATED VAPOR FEED SYSTEM

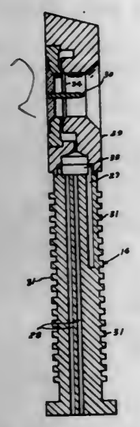
Robert A. Moore, Altadena, Calif., assignor to the United States of America as represented by the Secretary of the Air Force

Filed Nov. 9, 1967, Ser. No. 681,647
Int. Cl. F02k 7/00; F28d 7/04
U.S. Cl. 60—203 4 Claims



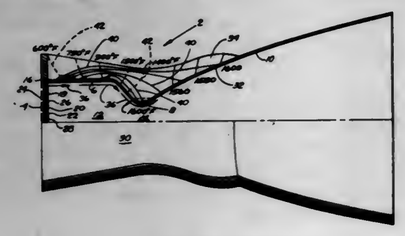
In a gas actuated feed system which has a liquid or a liquid with solids therein stored in a tank, an oscillation damping porous metal plug is provided in the end of the

supply tube leading to a vaporizer, attached to a nozzle. The nozzle end of the vaporizer is heated and radiation fins are located on the vaporizer to provide the proper temperature gradient along the vaporizer. An enlarged



liquid supply hole is provided near the end of the vaporizer. Blind holes are provided adjacent the liquid supply holes in the vaporizer to hold excess liquid during oscillations of the liquid in the liquid supply tube.

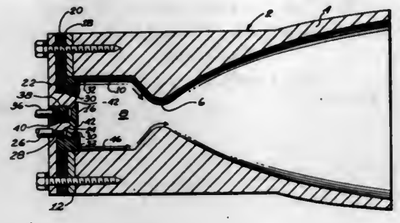
3,439,502
COOLING OF GAS GENERATORS
Sen L. Lee, Canoga Park, Calif., assignor to North American Rockwell Corporation, a corporation of Delaware
Filed Jan. 25, 1966, Ser. No. 522,937
Int. Cl. F02k *9/02, 11/02*
U.S. Cl. 60—258 **3 Claims**



A primary cooling system for a rocket motor thrust chamber having its combustion chamber and throat portions constructed of material characterized by a high ratio of thermal conductivity to density, such as copper. The walls of the combustion chamber and throat are sufficiently thick so that when a film of coolant fluid is injected into the combustion chamber heat paths are formed within the interior of the walls, extending from the throat portion axially rearwardly to a region upstream of the throat portion. Heat absorbed by the throat is conducted along the heat paths to the upstream region which acts as a heat sink and dissipates the heat.

3,439,503
ROCKET ENGINE COOLING
Joseph Friedman, Encino, and Lewis A. Glenn, Northridge, Calif., assignors to North American Rockwell Corporation, a corporation of Delaware
Filed Jan. 25, 1966, Ser. No. 522,936
Int. Cl. F02k *11/02, 9/02, 11/04*
U.S. Cl. 60—267 **4 Claims**

A primary cooling system for a rocket motor thrust chamber having its combustion chamber and throat portions constructed of beryllium which has excellent thermal conductivity properties. The walls of the combustion chamber and throat are sufficiently thick so that when a film of coolant fluid is injected into the combustion chamber heat paths are formed within the interior walls, ex-



tending from the throat portion axially rearwardly to a region upstream of the throat portion. Heat absorbed by the throat is conducted along the heat paths to the upstream region which acts as a heat sink and dissipates the heat.

3,439,504
DEVICES FOR REDUCING THE REAR-END DRAG OF JET ENGINES
René Paul Logerot, Paris, and Pierre André Alesi, Dammarie-les-Lys, France, assignors to Societe Nationale d'Etude et de Construction de Moteurs d'Aviation, Paris, France, a company of France
Filed May 8, 1967, Ser. No. 636,770
Claims priority, application France, May 11, 1966, 61,142
Int. Cl. F02k *1/14, 1/20;* **B64c** *15/06*
U.S. Cl. 60—271 **1 Claim**

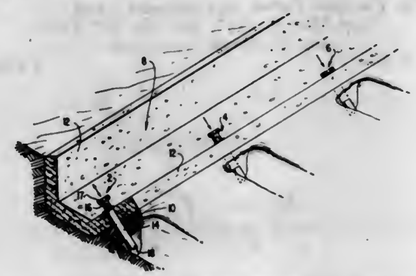


A device for reducing the rear-end drag of a jet engine, comprising a fixed convergent ring located generally at the downstream end of the engine fairing, which may or may not be extended in the downstream direction by a number of "cold" flaps, said ring being provided on its downstream side with an aerodynamic slot through which; in sub-sonic and trans-sonic flight conditions, an airflow can be developed extending downstream of the said ring and directed in an inclined direction towards the axis of the jet engine, tangentially to and outside the "cold" flaps, when the latter are present and are in steeply inclined positions.

3,439,505
IRRIGATION FLOW CONTROL AND METHOD OF INSTALLING
Willis W. Martin, Box 1550, Riverton, Wyo. 82501
Continuation-in-part of application Ser. No. 587,748, Oct. 19, 1966. This application Aug 1, 1967, Ser. No. 662,257
Int. Cl. E02b *13/02*
U.S. Cl. 61—12 **5 Claims**

An irrigation flow control device suitable for installation in the wall of an irrigation ditch at the time of lining the ditch with concrete includes a primary tubular member of sufficient length to project from the inner surface of the lined ditch through and beyond the wall

thereof. A secondary tubular member, closed at its inner end, has a diameter permitting relatively tight telescoping of the open end of the tube into the inner end of the primary tubular member to close the primary tubular member when in a fully telescoped position. The secondary tubular member includes at least one opening in the wall thereof, various extents of which opening may be exposed beyond the inner end of the primary tubular



member to effect control of the amount of water permitted to flow in and through the flow control device. The device also includes a sleeve extending loosely about the primary tubular member. The sleeve may be prepositioned in the concrete wall during setting and the primary tube inserted thereafter, in order to protect the latter against deformation due to forces exerted on it by the concrete while unset.

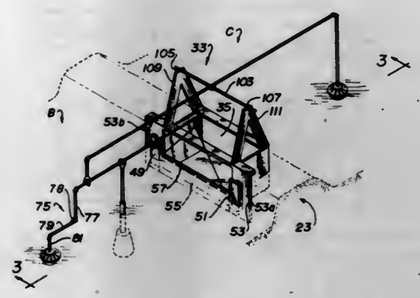
3,439,506
FLOW CONTROLLING IRRIGATION INSTALLATION FOR AN UNLINED DITCH
Willis W. Martin, Box 1550, Riverton, Wyo. 82501
Filed Aug. 25, 1967, Ser. No. 663,431
Int. Cl. E02 *13/02*
U.S. Cl. 61—12 **2 Claims**



A flow controlling irrigation conduit for installation in an earthen wall of an unlined irrigation ditch includes an axially extending tubular body adapted to be buried in the earthen wall of a length requisite to extend therethrough. A flow restrictor is frictionally and movably mounted in the body for selective manual movement axially thereof to vary the flow of water through the body. An anchor plate is fixedly secured to and extends about the body intermediate the ends thereof. The anchor plate is disposed in a plane generally perpendicular to a longitudinal axis of the body and is adapted to be buried in the earthen wall to stabilize the body against movement due to forces exerted upon the body during manual adjustment of the flow restrictor, and to prevent loss of water by seepage along the exterior of the outer tube.

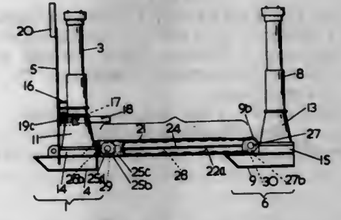
3,439,507
METHOD AND APPARATUS FOR IRRIGATION CONTROL
James R. Shaw, 15 Beaconsfield Court, Orinda, Calif. 94563
Filed Apr. 22, 1966, Ser. No. 544,436
Int. Cl. E02b *7/36*
U.S. Cl. 61—28 **3 Claims**

A system for regulating the liquid level differential between adjacent ponds in a series of such ponds including a sluice box for fluid flow between the ponds and an adjustable gate secured to the sluice box to block variably the channel thereof and cause different amounts of liquid to flow therebetween, the adjustable gate height being



raised or lowered to achieve the aforementioned desired effect by means of a linkage arm and fulcrums actuated by floats associated with each of the ponds being controlled.

3,439,508
MINE ROOF SUPPORT MEANS
William Woolley Payne, Bingham, England, and Jack Hayter, Flamwood, Klerksdorp, Transvaal, Republic of South Africa, assignors to W. E. & F. Dobson Limited
Filed Apr. 28, 1966, Ser. No. 546,073
Claims priority, application Great Britain, Apr. 29, 1965, 18,069/65
Int. Cl. E21d *11/00*
U.S. Cl. 61—45 **13 Claims**

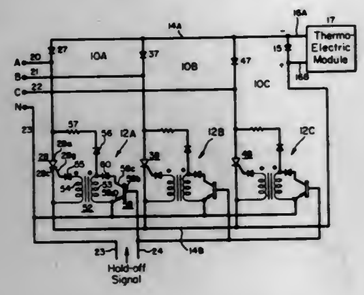


A mine roof support having front and rear units of side by side hydraulic props on separate front and rear bases, with a blast barrier plate extending transversely of the front unit and hingedly connected to the front base, a hydraulic jack inter-connecting the blast barrier plate and the front unit, and a hydraulic jack or two steering hydraulic jacks and a telescopic base frame inter-connecting the front and rear bases.

3,439,509
RECTIFIER SYSTEM FOR ENERGIZING THERMOELECTRIC LOAD
Thomas C. Jednacz, York, Pa., assignor to Borg-Warner Corporation, Chicago, Ill., a corporation of Delaware
Filed Nov. 22, 1967, Ser. No. 685,004
Int. Cl. F25b *21/00*
U.S. Cl. 62—3 **5 Claims**

A rectifier circuit 10 receives A-C energy and, under the regulation of a control unit 12, produces a D-C voltage which energizes a thermoelectric load 17. The rectifier circuit includes SCR's 28, 38 and 48 which are self-commutated upon reversal of the applied A-C voltage, and the same A-C voltage is utilized to fire the different SCR's unless nullified by a hold-off signal. A

diode 15 is connected between the conductors 14A, 14B which pass the D-C output of the rectifier to the thermoelectric load, to prevent any back voltage which

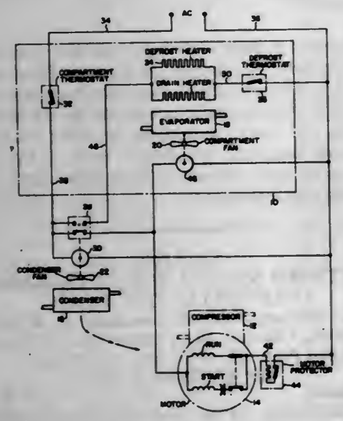


might be generated by the thermoelectric load from interfering with the self-commutating operation of the rectifier circuit.

3,439,510
TREATMENT OF RED BLOOD CELLS
Oscar S. Gray, Fort Lauderdale, Fla., assignor to Gray Industries, Inc., Fort Lauderdale, Fla., a corporation of Delaware
No Drawing. Filed Dec. 1, 1967, Ser. No. 687,122
Int. Cl. A61m *1/03*
U.S. Cl. 62—78 **14 Claims**

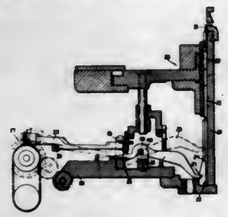
Red blood cells are subjected to microwave energy while held in a confined zone which is surrounded by a circulating atmosphere of coolant gas under superatmospheric pressure to improve the morphological characteristics of the cells.

3,439,511
REFRIGERATION DEFROST CONTROL RESPONSIVE TO OPERATION OF CONDENSER FAN
Ralph E. Christman, Columbus, Ohio, assignor to Westinghouse Electric Corporation, Pittsburgh, Pa., a corporation of Pennsylvania
Filed Feb. 29, 1968, Ser. No. 709,328
Int. Cl. F25d *21/06*
U.S. Cl. 62—155 **3 Claims**



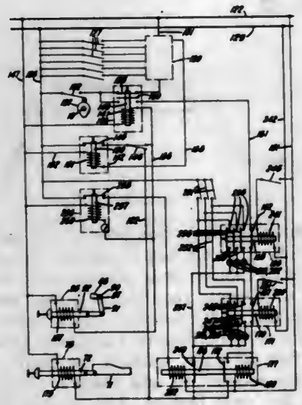
Refrigerator circuit arrangement in which a refrigeration-defrost control switch is driven by the condenser fan motor which is connected for energization through the refrigeration compartment thermostat to permit a period of compressor and compartment fan dormancy following defrost termination.

3,439,512
HOLDING DEVICE
Michael A. Petko, Philadelphia, and Theodore G. Burger, Norristown, Pa., assignors, by mesne assignments, to John Donald Marshall and Horace L. Bomar, trustees of the Carolina Patent Development Trust
Filed May 9, 1967, Ser. No. 637,126
Int. Cl. D04b *9/10, 9/00*
U.S. Cl. 66—14 **4 Claims**



A positioning bracket for setting and maintaining the lifting lever pivot rod of a jacquard needle selecting mechanism in fixed location at the spacer ring. The bracket functions as two spacer blades as well as a rod holder.

3,439,513
PATTERN MEANS FOR KNITTING MACHINES
Le Roy D. Hill, West Reading, Walter H. Imboden, Wyomissing, and Melvin E. Riehl, Strausstown, Pa., assignors, by mesne assignments, to North American Rockwell Corporation
Filed Sept. 25, 1967, Ser. No. 670,181
Int. Cl. D04b *15/78, 11/06*
U.S. Cl. 66—154 **12 Claims**

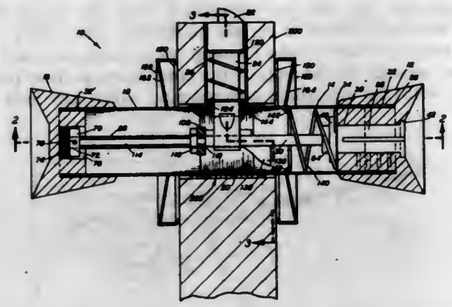


The invention disclosed herein relates to straight bar or full-fashioned knitting machines for knitting flat fabric blanks and more particularly to pattern mechanism for controlling the operation of the machines during knitting cycles to form courses of the fabric blanks and during fashioning cycles to fashion the selvages of the blanks.

3,439,514
DOOR KNOB ASSEMBLY
Byron D. Lee, 3675 Moorehead Ave., Boulder, Colo. 80302
Filed Sept. 21, 1967, Ser. No. 675,270
Int. Cl. F05b *55/04, 55/00*; E05c *1/12*
U.S. Cl. 70—147 **4 Claims**

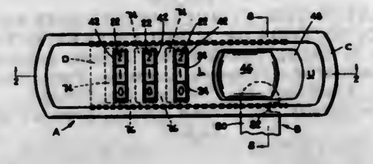
A door knob locking assembly with a cam controlled

latching means which is actuated to unlock a door when



the outside knob is pressed inwardly, and to lock the door when the inside knob is rotated.

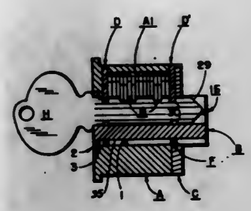
3,439,515
LATCHING DEVICE AND COMBINATION LOCKING MEANS
Charles S. Gehrie, Montclair, N.J., assignor to Presto Lock Co., Inc., Garfield, N.J., a corporation of New York
Filed Oct. 26, 1967, Ser. No. 678,312
Int. Cl. E05b *37/16*
U.S. Cl. 70—288 **14 Claims**



A latching device having combination locking means of the dial type which includes a manually operable latching member cooperable with the hasp. The latching member is constructed for cooperation with sleeves each having a flange and a flat portion, the sleeves being associated with rotatably mounted dials having indicia or numbers. On "open combination," the sleeves are all oriented with their flat portions in alignment to allow movement of the latching member to latched and unlatched positions. The device is on "locked combination" when a flange of a sleeve is in the path of the latching member to block its movement. Resilient means associated with the latching member releasably maintains the latching member in its unlatched position, in which position the latching member cooperates with the flat portions of the sleeves to prevent their rotation and the rotation of their associated dials, thereby maintaining the lock on open combination. As a result, tampering with the dials, which would cause an improper change and loss of the known predetermined open combination, is inhibited.

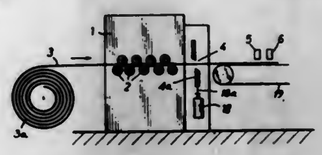
3,439,516
CYCLE LOCK
John D. Quillen, 790 Woodland Ave., San Leandro, Calif. 94577
Filed Sept. 19, 1966, Ser. No. 580,229
Int. Cl. E05b *25/00, 27/08, 35/00*
U.S. Cl. 70—383 **12 Claims**

A cycle lock in which two sets of tumblers are used and a key actuated plug is rotatably mounted in the lock body and has a key slot with one side opening out to the cylindrical periphery of the plug. The tumblers are solid discs and have arcuate edge portions that permit the tumblers to individually rotate in the lock body. Each tumbler is spring biased and has a pair of lobes that will be forced into the key slot as the plug is rotated by the



key if the key has a notch that is in alignment with this tumbler. The present invention differs from my Patent No. 3,255,620, in that resilient tumblers are used in the patented cycle lock while in my present lock the tumblers are nonresilient but are spring biased.

3,439,517
CONTROL AND DRIVING SYSTEM FOR STRAIGHTENING AND CUTTING MACHINES
Curt Münchbach, Pforzheim, Sonnenberg, Germany, assignor to Karl Fr. Ungerer, Pforzheim, Germany, a company of Germany
Filed July 26, 1967, Ser. No. 656,254
Claims priority, application Germany, Aug. 20, 1966, U 13,028
Int. Cl. B21b *37/00*; B21d *1/02*; B21j *9/18*
U.S. Cl. 72—11 **4 Claims**

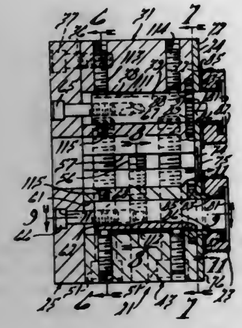


There is described a driving system for a sheet straightening and cutting device including a single hydraulic motor energized by hydraulic fluid introduced into and withdrawn from said motor by means of a hydraulic conduit of large cross-section and a hydraulic conduit of small cross-section. Workpiece operated sensors actuate appropriate valves (1) to circulate the fluid in the conduit of large cross-section for operating the motor at normal speed; (2) to circulate the fluid in the conduit of small cross-section for operating the motor at creeping speed, and (3) to prevent circulation of the fluid in either conduit for (a) stopping the motor, and (b) energizing the cutting device.

3,439,518
TOOLHOLDER FOR THREAD ROLLING TOOLS
Herbert C. Burnett, Fraser, Mich., assignor to Detroit Tap and Tool Co., a corporation of Delaware
Filed Feb. 8, 1967, Ser. No. 614,658
Int. Cl. B21b *1/10*; B21h *3/04*; B21d *17/00*
U.S. Cl. 72—101 **10 Claims**

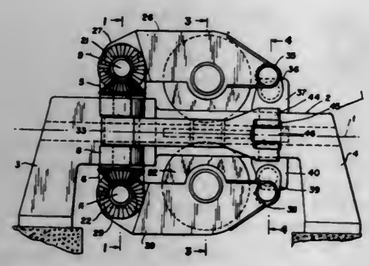
This application discloses a thread rolling toolholder having a two piece, pivoted base with fixed shafts supported in the outer end of each piece. The shafts have a cantilevered end upon which thread rolling tools or the like are supported for rotation and are axially located by thrust bearings. Pivotal adjustment of the two base pieces permits different size workpieces to be accommodated. A synchronizing drive gear train is supported

within the base and is adapted to be drivingly coupled to each of the tools so as to synchronize their rotation. The use of tapered bores for the tool holding shafts allows



adjustment to compensate for wear in the components. In addition, one of the drive gears is supported for movement out of mesh with the other gears so as to adjust the synchronization between the tools.

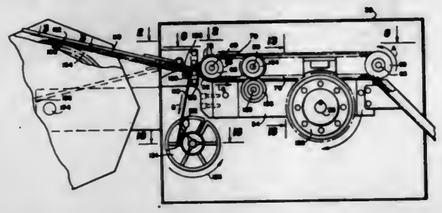
3,439,519
BILLET ROUGHING MILL
Charles Christian Gerding, Pittsburgh, Pa., assignor to Jones & Laughlin Steel Corporation, Pittsburgh, Pa., a corporation of Pennsylvania
Filed Apr. 25, 1967, Ser. No. 633,442
Int. Cl. B21b *21/00, 13/10*; B21d *41/04*
U.S. Cl. 72—189 11 Claims



A roughing stand adapted to work substantially the entire periphery of a billet. It is provided with peripherally disposed undriven work rolls, each of which is moved in a closed curved path toward and away from the billet by synchronized drive means. The rolls are arranged in sets, each set moves as a unit displaced in time phase with respect to each other set of rolls.

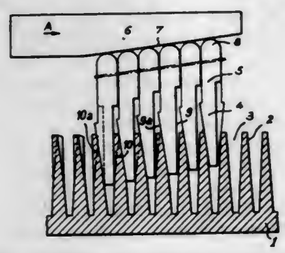
3,439,520
MACHINE FOR CUTTING AND FORMING OPPOSED AXIAL CONDUCTORS OF ELECTRONIC COMPONENTS
Theodore F. Schwartz, 11660 St. Andrews Way, Scottsdale, Ariz. 85251
Filed June 20, 1967, Ser. No. 647,497
Int. Cl. B21f *45/00, 11/00*
U.S. Cl. 72—338 8 Claims

A machine for cutting and forming opposed axial conductors of electronic components which comprises rotary shearing and forming rotors operated in unison successively to shear off opposed axial conductors of electronic components, and to form the conductors at substantially right angles to the axes of the components; the shearing rotors and forming rotors being provided with notched peripheries, the notches engageable with the conductors for advancing them in certain continuity. The valleys of the notch portions of the forming rotors being disposed in offset relation to the axes of the conductors at their juncture with the electronic components, which are held in



guides, such that rotary movement of the forming rotors cause the said valleys of said notches to force conductor portions of the electronic components laterally of their axes and to bend them at substantially right angles to the axes of the components, while they are restrained laterally by the said guide means; an endless belt having component receiving pockets adapted to carry components into said shearing and forming rotors; and means for continuously feeding components into said pockets.

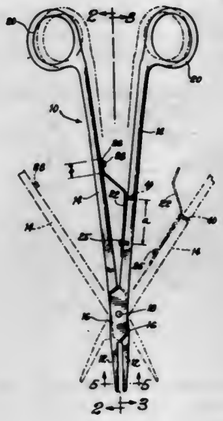
3,439,521
APPARATUS FOR CORRUGATING SETS OF FINS ON SECTORS OF TUBULAR ELEMENTS
Emile E. Tetart, Louvie-Juzon, France, assignor to Commissariat a l'Energie Atomique, Paris, France
Filed Sept. 15, 1966, Ser. No. 579,669
Claims priority, application France, Sept. 17, 1965, 31,823
Int. Cl. B21d *31/00, 41/00*; B21j *7/16*
U.S. Cl. 72—399 4 Claims



A series of blades is relatively disposed to form a stack with each blade having one end in the form of a punch of tapered section and whose major faces are corrugated. The punches are engageable progressively in the spaces separating the fins to be corrugated under the action of a camming member acting on the end of the blades remote from the corrugating ends.

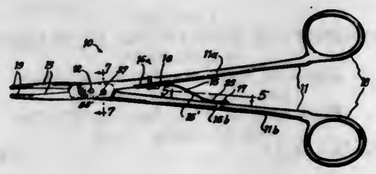
3,439,522
HEMOSTATIC CLIP AND APPLICATOR
Ernest C. Wood, Los Angeles, Calif., assignor of thirty-three and one-third percent each to Peter B. Samuels and Rene G. Le Vaux
Filed May 17, 1967, Ser. No. 639,094
Int. Cl. B21d *9/08*
U.S. Cl. 72—410 9 Claims

A hemostatic clip applicator comprising opposed jaw members and opposed handles formed as extensions of the jaw members with a spring normally retaining the jaw members and the handles in spaced apart relationship. The spring is releasibly connected at one end to one of the handles so that spreading of the handles beyond a



normal open position will result in release of the connection of the spring with the handle. A spring tension adjusting means in the form of a set screw is associated with the opposite handle.

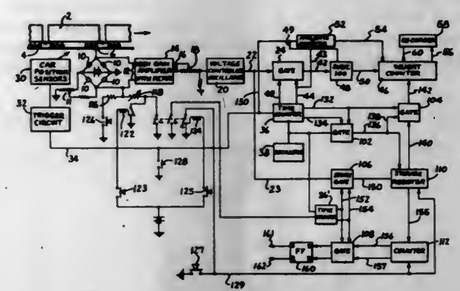
3,439,523
HEMOSTATIC CLIP CONSTRUCTIONS
Ernest C. Wood, Los Angeles, Calif., assignor of one-third each to Peter B. Samuels and Rene G. Le Vaux
Original application Mar. 30, 1964, Ser. No. 355,810, now Patent No. 3,326,216, dated June 20, 1967. Divided and this application May 8, 1967, Ser. No. 649,391
Int. Cl. B21d *9/08*
U.S. Cl. 72—410 7 Claims



This disclosure is of a hemostatic clip applicator of plier type configuration wherein the jaw portions have workpiece receiving faces for receiving hemostatic clips having parallel arm portions interconnected at one end thereof.

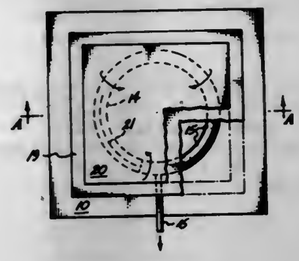
3,439,524
AUTOMATIC WEIGHING SCALE CALIBRATION
Edward Laurence Rogers, Park Ridge, Ill., assignor to Railroad Machinery Development Corporation, Northfield, Ill., a corporation of Ohio
Filed Apr. 27, 1966, Ser. No. 545,635
Int. Cl. G01g *19/04*
U.S. Cl. 73—1 9 Claims

A scale for weighing railroad cars in motion including means by which an operator may check weighing scale to determine the drift of the indicator, if any, at a predetermined simulated load. Means are provided for storing the drift information and automatically applying an appropriate correction to subsequent weight recordings. An



alarm is built in to indicate that the drift has exceeded the predetermined amount considered allowable.

3,439,525
NONDESTRUCTIVE TESTING METHOD USING LIQUID CRYSTALS
Gary L. Waterman and Wayne E. Woodmansee, Seattle, Wash., assignors to The Boeing Company, Seattle, Wash., a corporation of Delaware
Filed Dec. 28, 1966, Ser. No. 605,326
Int. Cl. G01n *25/02*
U.S. Cl. 73—15.4 8 Claims

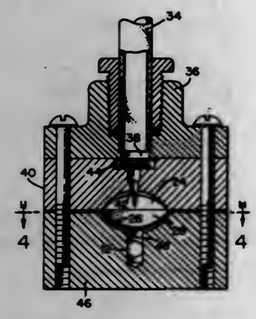


This invention involves a method of applying liquid crystal materials to a surface to be tested for discontinuities. Test areas on the surface are defined through utilization of a hollow, loop forming tubular member through which a vaccum is applied, and which produces a thermally responsive contact between the crystal holding medium and the surface within the test area.

3,439,526
MEASURING DEVICE
Norman C. Kaufman, Hazel Park, Mich., assignor to Earl A. Thompson Manufacturing Co., Ferndale, Mich., a corporation of Michigan
Filed Nov. 15, 1965, Ser. No. 507,769
Int. Cl. G01m *3/02*
U.S. Cl. 73—37.9 8 Claims

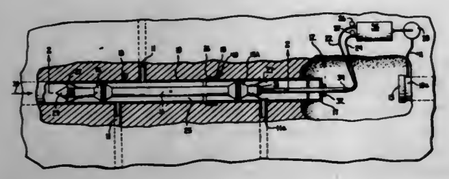
A gaging system for use with conventional pneumatic gage heads in which air pressure is discharged through the head and in which the pressure near the head measures a specimen by indicating rate of flow produced by the difference in size between the gage head and the article to be measured. A mercury manometer responds to the pressure to be measured, transmitted by a flexible diaphragm which in its extreme positions fits accurately against one concave surface of a lenticular reservoir for

the mercury. The diaphragm in its extreme position, combined with grooves in the concave surfaces of the reservoir, radiating from a central opening prevents bubbles of air being trapped between the diaphragm and the bottom of the reservoir at the lowest pressure in the system and prevents drops of mercury being separated from the main body of mercury and trapped between the diaphragm and the top of the reservoir at high pressure. The



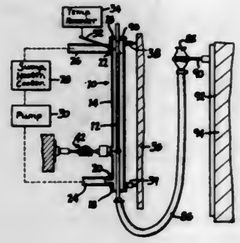
volume of mercury is less than the volume of the manometer tube. Vacuum exerts a braking action on momentum travel of the mercury in the event of sudden increase of pressure to the maximum, for example by clogging of the gage head. This reduces splashing of the mercury and contamination of the system with mercury. A valve between the reservoir and the manometer tube allows rapid filling of the tube and slows emptying.

3,439,527
APPARATUS FOR TESTING GAS MAINS
Carl H. Rohrer, 1501 Hale Ave., Fort Wayne, Ind. 46804
Filed May 12, 1967, Ser. No. 637,995
Int. Cl. G01m *3/08*
U.S. Cl. 73—40.5 **2 Claims**



An apparatus for testing gas mains characterized by an elongated cylindrical structure that is sealed into the segment of a gas line to be tested by means of two inflatable rubber members. A guiding structure cooperatively associated with the elongated structure aids in moving the testing apparatus along the gas main after a section has been tested. A venting structure allows pressure gas to be fed through the cylindrical structure to keep up the service to the customers while the main is being tested. The apparatus is placed in the main and sealed therein by inflating or otherwise deforming the two rubber members. High pressure gas is fed into the area between the two inflated members and low pressure gas is fed through the elongated structure so that service to customers on either side of the sealed area is not interrupted. A microphone may be used to hear the noise of a leak and transmit this to earphones at ground level.

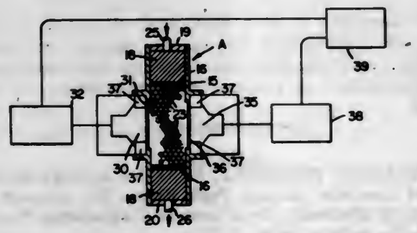
3,439,528
METHOD AND APPARATUS FOR AGITATING A TEST FLUID
Paul R. Mernitz, Alma, Mich., assignor to Leonard Refineries, Inc., Alma, Mich., a corporation of Michigan
Continuation-in-part of application Ser. No. 395,657, Sept. 11, 1964. This application Apr. 21, 1967, Ser. No. 659,243
Int. Cl. G01n *7/16*
U.S. Cl. 73—53 **12 Claims**



Apparatus is provided for vibrating a vertically oriented elongated transparent tube in a specific manner in order to agitate the contents of the tube. The apparatus is particularly suited for measuring the vapor/liquid ratio of a confined fluid.

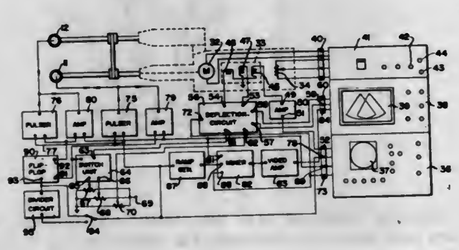
A resilient plug fabricated of a self-sealing material seals an opening in the tube. A flexible tube has one end attached to the lower end of the transparent tube. The other end of the flexible tube receives a confining liquid which enters and fills the transparent tube. The other end of the flexible tube is adjustable to different vertical heights to permit varying the pressure of the confining liquid. A test fluid is injected into the upper end of the transparent tube by piercing the resilient plug. Means are provided for heating and vibrating the transparent tube to vaporize the test fluid. Readings are taken at different temperature levels to determine the vapor to liquid ratio of the test fluid. Vibration of the tube insures separation of the vapor and liquid portions of the test fluid to result in accurate readings.

3,439,529
OSMOMETER EMPLOYING ULTRASONIC RADIATION
James A. Patterson, 727 Viola Place, Los Altos, Calif. 94022
Filed Aug. 16, 1966, Ser. No. 572,714
Int. Cl. G01n *11/00*
U.S. Cl. 73—64.3 **10 Claims**



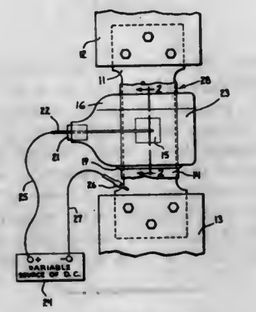
A method and apparatus for determining the change in size of spherical particles in a solid stress osmometer wherein ultrasonic energy having a wavelength approximately the diameter of the spheres is passed through the particle chamber of the osmometer before and after a fluid is passed through the osmometer. Any change in size of the particles due to the fluid contact is indicated by a change in the attenuation of the ultrasonic energy.

3,439,530
MULTI-SCAN ULTRASONIC TESTING APPARATUS
John J. Flaherty, Elk Grove Village, and Peter J. Rosauer, Mount Prospect, Ill., assignors to Magnaflux Corporation, Chicago, Ill., a corporation of Delaware
Filed Jan. 10, 1966, Ser. No. 519,536
Int. Cl. G01n *9/24*
U.S. Cl. 73—67.8 **17 Claims**



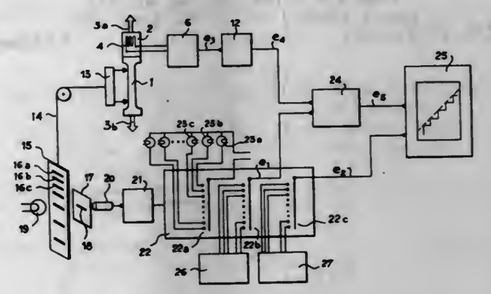
Ultrasonic testing apparatus in which a plurality of transducers are oscillated to produce transverse scanning movements of beams through portions of a body, B-scan indications being produced on an oscilloscope screen in spacial relation corresponding to the portions of the body scanned. The portions of the body scanned preferably overlap so that the indications reinforce one another and the effects of noise and extraneous indications are minimized.

3,439,531
METHOD FOR SIMULATING ENVIRONMENTAL CONDITIONS
William A. Sipes, Philadelphia, Pa., assignor to the United States of America as represented by the Secretary of the Navy
Filed Feb. 11, 1966, Ser. No. 527,385
Int. Cl. G01n *17/00*
U.S. Cl. 73—86 **5 Claims**



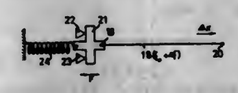
A method for simulating an environmental condition which produces hydrogen embrittlement in a metal part comprising masking a metal part with a protective coating while leaving uncoated a small area, and applying a current to an electrolyte while said metal part is immersed in the electrolyte and while a stressing force is applied to the metal part.

3,439,532
TENSILE TESTING MACHINE FOR METALLIC TEST PIECES
Marc Grumbach, Le Pecq, Yvelines, and André Guimard, Saint Germain-en-Laye, France, assignors to Institut de Recherches de la Siderurgie Francaise, Saint Germain-en-Laye, France
Filed Nov. 29, 1966, Ser. No. 597,742
Claims priority, application France, Dec. 2, 1965, 40,660
Int. Cl. G01l *7/16*
U.S. Cl. 73—89 **5 Claims**



A recording device for measuring the strain hardening coefficient of a metallic test piece includes two measuring lines feeding a respective input corresponding respectively to the orthogonal coordinates x, y. Each line delivers an electric signal respectively proportional to $\log_e \sigma$ and $\log_e \epsilon$, wherein σ is the stress to which the test piece is subjected and ϵ is the true strain of the test piece. The first measuring line comprises an extensometer arranged to measure the length of the test piece and delivers a signal to one of the inputs which is proportional to the logarithm of the logarithm of the measured length. The second measuring line comprises a dynamometer and delivers a signal to the other input which is the sum of the first-named signal and a signal proportional to the logarithm of the logarithm of the load applied to the test piece.

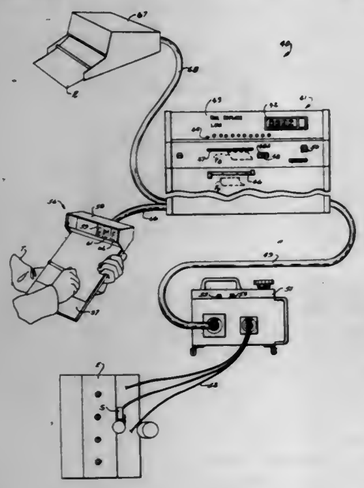
3,439,533
UNBONDED RESISTANCE WIRE STRAIN GAGE
Roland F. C. Brachet, Bagneux, France, assignor to Societe Metrel, Le Chesnay, France, a body corporation of France
Filed Nov. 9, 1966, Ser. No. 593,092
Claims priority, application France, Nov. 10, 1965, 37,875
Int. Cl. G01n *3/28*
U.S. Cl. 73—88.5 **1 Claim**



An unbonded resistance wire strain gage with overload protection comprising a frame, two wire tensioning members connected by springs to the frame, a mobile member, the taut wire being held in position between the wire tensioning and mobile members and being subjected to strain applied to the mobile member attached to the wire, the strain being applied along a direction parallel to the axis of the wire whereby the wire is either lengthened or shortened between limits of tension until a predetermined extension of the wire is reached, stop means which limits the movement of the wire tensioning members, said predetermined tension in the wire being balanced by the force of spring means which balances

said taut wire whereby the taut wire measures large extensions without overstressing the wire, and said spring means including a spring member which provides a lower rate of increase of tension of the taut wire before the tensioning member comes into contact with the stop means.

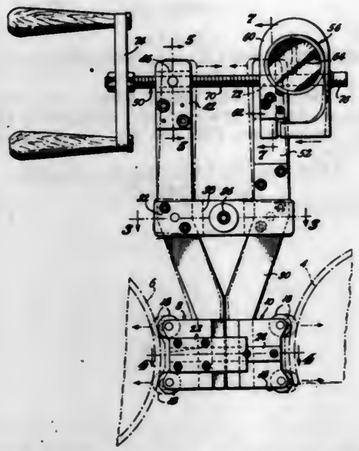
3,439,534
AUTOMOTIVE TESTING CENTER
Ollie P. Pilgrim, Kalamazoo, Mich., assignor to Allen Electric and Equipment Company, Kalamazoo, Mich., a corporation of Michigan
Filed Apr. 5, 1967, Ser. No. 628,734
Int. Cl. G01m *15/00, 17/00;* **G06f** *1/00*
U.S. Cl. 73—117 **3 Claims**



An automotive diagnostic center including a linear path along which a series of stations are provided, each such station including testing equipment for diagnosing the condition of associated parts and functions of an automotive vehicle. A customer area extends along the diagnostic line whereby customers standing in the customer area can readily and fully view their vehicles when under test, the technician testing same and the equipment used to test the vehicle. Customer readout devices are provided in the customer area at each station. At least at one station, the customer readout may be a printed report indicating the test made, digital result of the test and a quantitative indication of whether the test outcome was satisfactory or unsatisfactory and whether the part tested has failed. The corresponding test equipment is preprogrammed to run a particular sequence of tests automatically, or step by step.

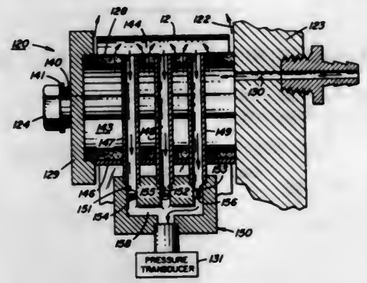
3,439,535
DEVICE FOR MEASURING MACHINE PRESSURE
Senate W. McNeely, Asheville, and Hoyt G. Montgomery, Candler, N.C., assignors to American Enka Corporation, Enka, N.C., a corporation of Delaware
Filed Aug. 11, 1966, Ser. No. 571,809
Int. Cl. G01l *5/16*
U.S. Cl. 73—141 **5 Claims**

A device for measuring the pressure exerted between a pressor roll and a beam in a warper which comprises positioning means adapted to be located between the pressor roll and the beam for closely spacing the pressor roll adjacent to the beam; lever means for transmitting the pressure exerted by said pressor roll on said positioning means as a force; force measuring means operably associated with said lever means for determining the actual magnitude of the exerted pressure and means operably associated with the lever means for causing the



positioning means to urge the pressor roll further away from said beam in a manner that stimulates the build-up of the yarn on said beam.

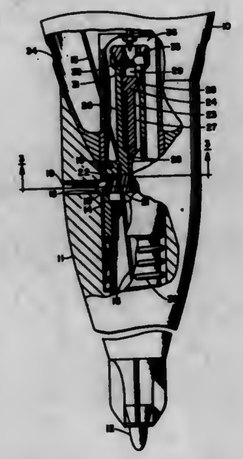
3,439,536
SENSING DEVICE
Robert Holbrook Cushman, Princeton Junction, N.J., assignor to Western Electric Company, Incorporated, New York, N.Y., a corporation of New York
Filed Feb. 6, 1967, Ser. No. 614,177
Int. Cl. G01l *5/04*
U.S. Cl. 73—159 **3 Claims**



This invention relates to sensing devices. More particularly, this disclosure is directed to a device for sensing changes in the pressure of an air cushion or other pressurized fluid volume as an indication of certain conditions with respect to a body passing thereover. The sensing device of the present invention may be utilized to sense such conditions as the tension of a tape moving over the device and supported with respect thereto by the air cushion, the porosity of a strip passing thereover or the surface integrity of a strip of material passing thereover.

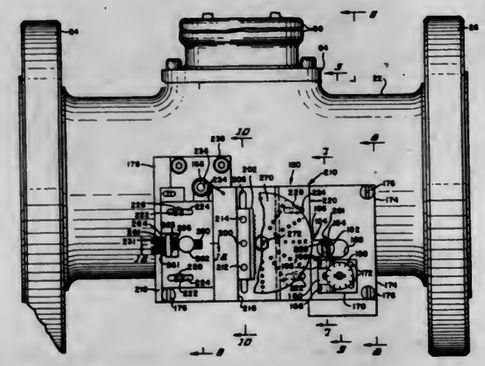
3,439,537
UNDERWATER VEHICLES
Vlash A. Pullos, Garden Grove, Calif., assignor to North American Rockwell Corporation
Filed Nov. 15, 1965, Ser. No. 507,904
Int. Cl. G01n *1/00*
U.S. Cl. 73—170 **14 Claims**

An unmanned underwater vehicle for carrying oceanographic instruments provided with means for controlling its vertical motion in response to changes in depth. An actuator is described having a piston dividing a cylinder into two chambers. A frangible diaphragm communicating with one of the chambers is burst by underwater pressure thereby providing a single rapid forceful movement of the piston. In one embodiment the piston motion releases ball detents for releasing ballast from an



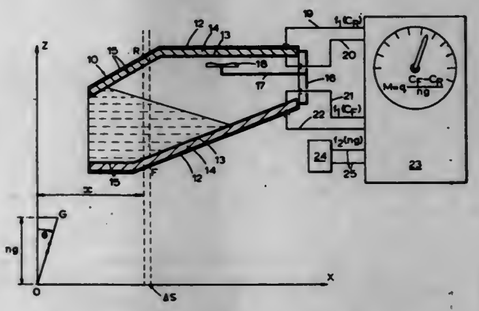
underwater vehicle. In another embodiment check valves provide for rupture of the frangible disk on decreasing pressure and motion of the piston releases a sea anchor for preventing damage to a pop-up vehicle. In a third embodiment the piston is connected to a hollow tube which is driven into the ocean floor upon rupture of the diaphragm for obtaining bottom samples.

3,439,538
TEMPERATURE COMPENSATING APPARATUS FOR FLUID FLOW METERS
Thomas C. Farrell, Glenshaw, Pa., assignor to Rockwell Manufacturing Company, Pittsburgh, Pa., a corporation of Pennsylvania
Filed June 21, 1966, Ser. No. 559,163
Int. Cl. G01f *1/08*
U.S. Cl. 73—230 **22 Claims**



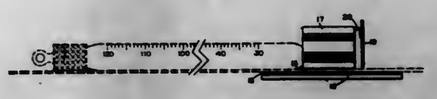
A fluid flow meter temperature compensating mechanism comprising one or more movable guide vanes disposed in the path of fluid approaching a fluid-driven, rotatable metering rotor and operatively connected by a motion-transmitting linkage to a temperature sensing element whereby the positions of the vanes are correlated with respect to the fluid temperature sensed by the element to control the velocity of the rotor by controlling the direction of fluid flowing past the rotor. Three adjustments are provided for: one for adjusting the magnitude of vane displacement for a given temperature variation to facilitate the measurement of fluids having different coefficients of expansion; another for adjusting the vane position relative to the motion-transmitting linkage and temperature sensing element to calibrate the meter; and a third for unitarily adjusting the vanes and linkage to positions corresponding to the actual temperature of the fluid being metered to facilitate meter calibration with the first-mentioned adjustment.

3,439,539
APPARATUS FOR MEASURING THE FORCE ON A BODY DUE TO FLUID PRESSURE
Clare M. R. Pallis, Hilltop House, Warren Road, Bluebell Hill, near Rochester, Kent, England
Filed Dec. 16, 1966, Ser. No. 602,193
Claims priority, application Great Britain, Dec. 16, 1965, 53,360/65; Mar. 8, 1966, 10,002/66
Int. Cl. G01f *3/18*
U.S. Cl. 73—301 **10 Claims**



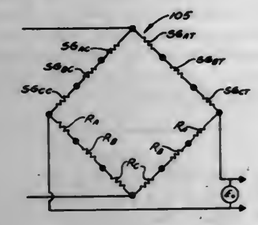
An arbitrarily-shaped fluid container has capacitors on the roof and/or floor thereof each in the form of two electrodes separated by an insulating elastomeric material such as rubber. The electrodes are bonded to each side of the elastomeric material and wholly enclosed in a thin flexible film of insulating material impervious to the fluid in container. The capacitors are electrically connected to a computer mechanism which effects an output indicative of the mass of the quantity of fluid in said container.

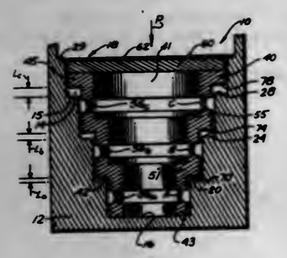
3,439,540
TAPE THERMOMETER HOLDERS
Robert V. Wise, 512 Stehley St., Anaheim, Calif. 92806
Filed Mar. 31, 1966, Ser. No. 541,461
Int. Cl. G01k *1/08*
U.S. Cl. 73—344 **1 Claim**



A thermometer holder with an insulated clip to fasten it to a surveyor's tape so as to determine the tape temperature. The holder has a thermometer housing and sunshades to avoid heating of the thermometer by incident sunlight.

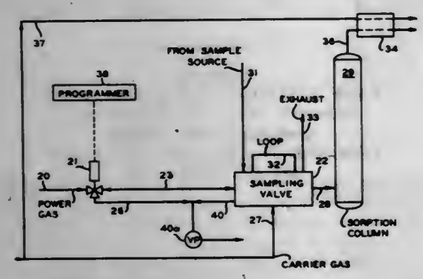
3,439,541
MULTI-RANGE PRESSURE MEASURING DEVICE
Thomas E. Gilder, Chatsworth, Calif., assignor to North American Rockwell Corporation
Filed June 9, 1967, Ser. No. 645,029
Int. Cl. G01l *9/00*
U.S. Cl. 73—398 12 Claims





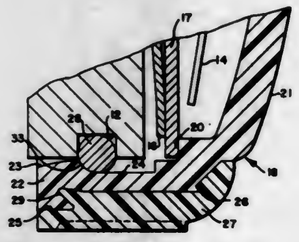
A pressure transducer having a housing in which is positioned a tubular shaped strain sensing unit with a plurality of concentrically aligned deflectable hoops. A force applied axially to the unit is measured by the amount of strain sensed by the hoops. The hoops deflect at different rates allowing pressure measurement over a selectively broad range.

3,439,542
PNEUMATIC AMPLIFIER SAMPLING VALVE FOR CHROMATOGRAPHIC ANALYZERS
Floyd D. McCray, Bartlesville, Okla., assignor to Phillips Petroleum Company, a corporation of Delaware
Filed June 20, 1966, Ser. No. 558,781
Int. Cl. G01n *1/24*
U.S. Cl. 73—422 2 Claims



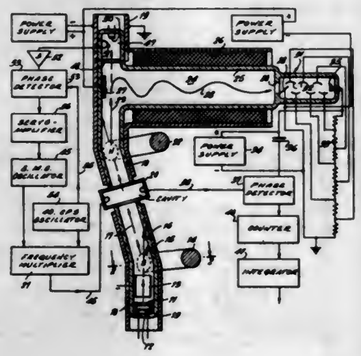
A pneumatically operated sampling valve of the type having a diaphragm for selectively closing and opening a series of passageways. The diaphragm is actuated by a series of plungers on the other side thereof in turn operated by a plurality of pistons. The construction is such that one side of the diaphragm is exposed to the pressure in the piston operating chamber. Means are provided to regulate the pressure in the piston actuating chambers so that the pressure of the sample handled can be below atmospheric in one embodiment and extremely high in another embodiment.

3,439,543
COMBINED CRYSTAL AND BEZEL RING FOR DIAL INDICATORS
David H. Aldeborgh, Poughkeepsie, N.Y., assignor to Standard Gage Company, Inc., Poughkeepsie, N.Y., a corporation of New York
Filed June 23, 1965, Ser. No. 466,228
Int. Cl. G01p *1/02*
U.S. Cl. 73—431 3 Claims



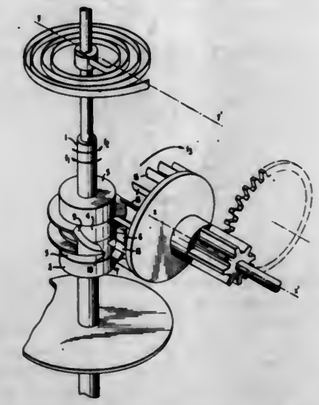
An integral bezel-crystal assembly is mounted on a dial indicator housing by expanding the flange portion of the assembly and seating it over an annular rim on the housing. The bezel-crystal assembly may be rotated relative to the housing and retained in an adjusted zero-setting position with the instrument being sealed against the entry of dust therein.

3,439,544
CESIUM ION ACCELEROMETER
Austin Gallatin Boldridge, Jr., 444 Eastgate Road, Ridgewood, N.J. 07450
Filed May 28, 1965, Ser. No. 459,862
Int. Cl. G01p *15/08*
U.S. Cl. 73—517 1 Claim



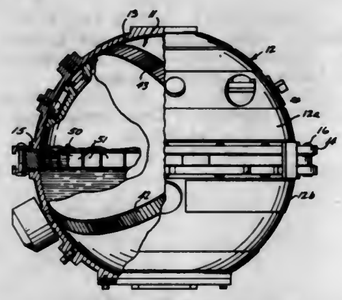
An acceleration measuring device for moving vehicles in which an ion drift tube determines the acceleration along a predetermined line of motion. A helical beam of ionized cesium atoms is first modulated by a standardized frequency generator. The ion beam is then collected by an electrode and the resultant frequency is compared with the generator frequency. A magnetic filtering means separates the ions from generated electrons prior to the beam modulation.

3,439,545
DRIVEN BALANCE WHEEL DEVICE
Roger Jean Jules Siot, Paris, France, assignor to Etablissements Ed. Jaeger S.A., Levallois-Perret, Hauts-de-Seine, France
Filed Apr. 13, 1967, Ser. No. 630,583
Claims priority, application France, Apr. 18, 1966, 57,945
Int. Cl. G04b *15/06*
U.S. Cl. 74—1.5 3 Claims



An escapement driven to oscillate at a desired speed is provided with opposed ramps that successively engage teeth on a wheel to be driven by the oscillating escapement. The escapement is provided with a lost motion means between it and the oscillating shaft on which it is mounted in order to avoid the danger of the escapement locking.

3,439,546
FLOATED INERTIAL PLATFORM
William G. Baker, Rolling Hills, Carl L. Bose, Palos Verdes Estates, and Roland E. Gagon, Rolling Hills Estates, Calif., assignors to Northrop Corporation, Beverly Hills, Calif., a corporation of California
Filed Oct. 24, 1965, Ser. No. 504,511
Int. Cl. G01c *19/28*
U.S. Cl. 74—5.6 15 Claims



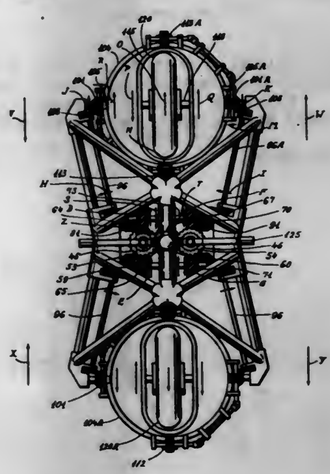
A ball-shaped inertial platform, in which platform equipment is mounted, is supported on a spherical fluid bearing formed between the platform and a spherical support casing. The platform is centered within the casing by means of low-friction roller wheels mounted on the platform's outer surfaces for two degrees of freedom. Power and communications signals are coupled to the platform through low-friction brush contacts which protrude from the platform walls and contact the support casing. Attitude information is provided from the platform by means of capacitive pickoff system utilizing pairs of excitation strips on the platform and pickoff plate members on the casing.

3,439,547
PICKOFF SYSTEM
John M. Slater, Fullerton, Calif., assignor to North American Rockwell Corporation
Filed Feb. 2, 1966, Ser. No. 524,602
Int. Cl. G01c *19/28*
U.S. Cl. 74—5.6 10 Claims



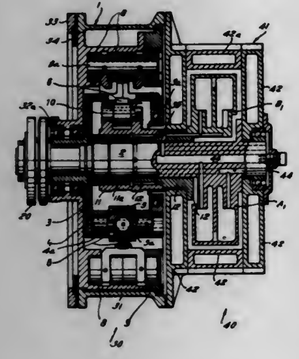
An apparatus for detecting the orientation of the spin axis of a rotating sphere relative to a stationary support member. The apparatus comprises four elongate photodetector elements disposed orthogonically on the support member. As the sphere rotates, spots on the sphere sequentially pass each of the four elements. Appropriate electrical circuitry compares the time a particular spot takes to travel from a first to a second colinear element with the time subsequently taken for the same spot to travel past the second element back to the first. This difference in time is indicative of the orientation of the spin axis along a line perpendicular to the first and second elements.

3,439,548
TORQUE GENERATOR
Tibor Horvath, Brooklyn, N.Y., assignor of one-eighth each to Heino Janson, Flushing, and Gene A. Papi, New York, N.Y.
Filed Jan. 28, 1966, Ser. No. 523,702
Int. Cl. G01c *19/04*
U.S. Cl. 74—5.34 3 Claims



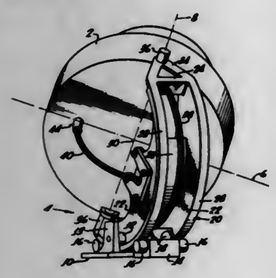
In a frame on a longitudinal axis there are disposed two counter rotating flywheels rotating about parallel axes disposed normal to the longitudinal axis. The axes of rotation of the flywheels are rotated in the plane of the longitudinal axis with gear linked control of their resulting precession to cause rotation of the frame for use as a motor or for purposes of positional orientation. When used for positional orientation, control means may be provided to shift the limits of the flywheel precession.

3,439,549
TRANSMISSION WITH AUTOMATICALLY VARYING RATIO
Huschang Sabet, 67 Eduard-Pfeiffer-Strasse, 7 Stuttgart-Nord, Germany
Filed Oct. 20, 1967, Ser. No. 676,983
Claims priority, application Germany, Oct. 20, 1966, S 106,606
Int. Cl. F16h *27/04*; F02b *53/00, 55/00*
U.S. Cl. 74—70 10 Claims



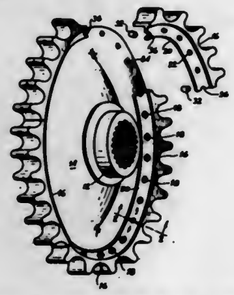
A first shaft is connected with a first rotary piston, and a second shaft is connected with a second rotary piston. A slide block rotated about a circular path by the first shaft supports a motion transmitting member for rocking and sliding movement, the motion transmitting member having one end guided along a non-circular endless path, and another end pivotally connected with a crank driven by the second shaft which rotates the respective piston at a varying speed relative to the other piston so that the pistons form expanding and contracting chambers and the shafts are driven when a combustible fuel is ignited in the working chamber.

3,439,550
MECHANICAL MOVEMENT APPARATUS
Merrill Keith Goulding, Glendale, Calif., assignor to Electronic Specialty Company
Filed Mar. 6, 1967, Ser. No. 620,878
Int. Cl. F16h *29/20*
U.S. Cl. 74—89.15 18 Claims



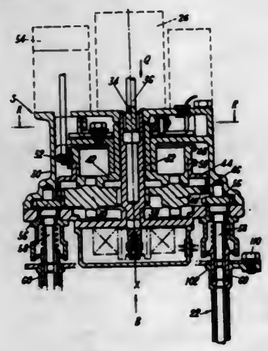
A gimbal mechanism includes a pair of helically threaded rods of circular arcuate configuration disposed in mutually perpendicular planes and a ball nut on each rod which is rotated by a direct current motor to pivot the arcuate rod about its center of curvature. The threads on each nut and rod are grooves of a special gothic arch cross section configuration which compensates for the difference in thread pitch between the concave and convex sides of each screw.

3,439,551
TOOTHED WHEEL WITH REPLACEABLE TOOTHED SEGMENTS
Frank A. Militana, 550 Monterey Ave., Pelham Manor, N.Y. 10803
Filed Sept. 13, 1967, Ser. No. 667,569
Int. Cl. F16h *55/30, 55/16*
U.S. Cl. 74—243 16 Claims



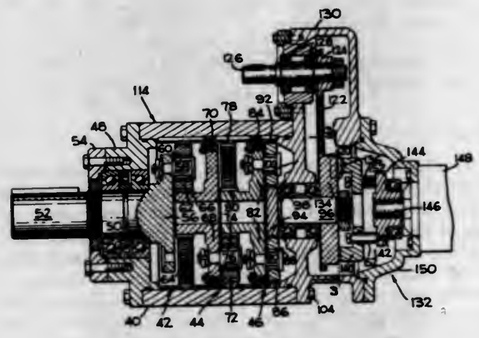
A known toothed wheel comprises a core and a plurality of replaceable curved toothed segments disposed around the periphery of the core in end-to-end relation. Releaseable bolts secure flanges of the segments to the core. The present wheel also has an adjustable means operative on the adjacent ends of the adjacent segments to transfer circumferential stress from one toothed segment to the next, so that the circumferential stress is distributed entirely around the wheel instead of being localized to the clamping bolts of that segment which is stressed directly. The adjustable means usually is a tapered plug which acts as a wedge operative between adjacent parts of the segment, together with screw means to force the plug in a direction transvers to the long axis of the segments. The plug may be disposed directly between the ends of adjacent segments, so that the circumferential force is transmitted by compression, or the plug may pass through a part connected to one segment and bear against a hole in the adjacent segment so that the circumferential force is transmitted by tension. Both types of plug may be used together. The adjustment of the plug or plugs also helps adjust and maintain the tooth spacing or pitch between one segment and the next segment.

3,439,552
SELECTIVE DRIVE DEVICE
Peter Roderick King, Littleover, and Dennis Litchfield, Derby, England, assignors to Rolls-Royce Limited, Derby, England, a British company
Filed Mar. 6, 1967, Ser. No. 620,854
Claims priority, application Great Britain, Mar. 15, 1966, 11,392/66
Int. Cl. F16h *3/34*
U.S. Cl. 74—353 15 Claims



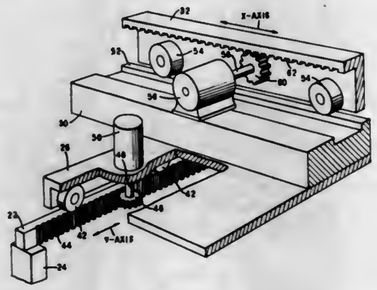
A selective drive transmits drive from a common motor shaft to a selected secondary shaft through a transmission member mounted on a rotary selector. When it is desired to transmit drive to a different secondary shaft transfer means are operated to cause the selector to rotate until the newly selected secondary shaft is engaged with the transmission member.

3,439,553
TRANSMISSION
John Curlett, Los Gatos, Calif., assignor to Gurries Manufacturing Co., San Jose, Calif., a corporation of California
Filed May 16, 1966, Ser. No. 550,492
Int. Cl. F16h *1/28*
U.S. Cl. 74—409 5 Claims



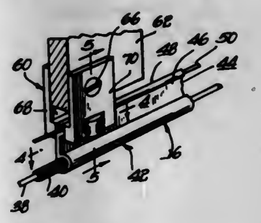
A transmission including a plurality of planetary gear stages together with means for applying a periodic variable torque to the gear stages to eliminate gear back lash and frictional losses.

3,439,554
STABILIZATION OF SERVOSYSTEM AGAINST BACKLASH
Rawlins E. Purkhiser, Springfield, N.J., assignor to Air Reduction Company, Incorporated, New York, N.Y., a corporation of New York
Filed May 25, 1967, Ser. No. 641,272
Int. Cl. F16h *19/04*
U.S. Cl. 74—409 8 Claims



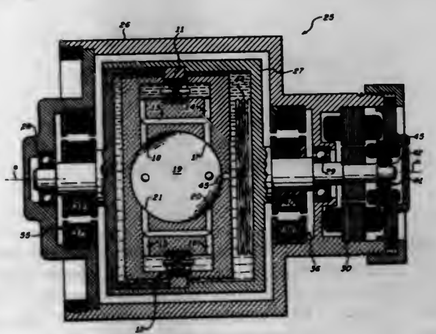
A machine of the type which traces a two-dimensional template and moves a tool to reproduce the shape of the template, the machine having a relatively heavy main carriage providing motion in one dimension and a relatively light cross carriage or tool holder movable relative to the main carriage providing motion of the tool in a second dimension, the main carriage being driven by a first servomotor through gearing having significant backlash; the motor having a flywheel rigidly connected to the motor shaft, the moment of inertia of the flywheel being proportioned to provide optimum stability of the servosystem in the presence of the backlash; the tool holder being driven by a second servomotor through gearing, the second motor having a flywheel rigidly connected to the motor shaft, the moment of inertia of the second flywheel being proportioned to adjust the total moment of inertia facing the second motor to provide substantially equal response times in the two motors.

3,439,555
CABLE APPARATUS
Raymond G. Rech, Swansea, Mass., assignor to Arens Controls Inc., Evanston, Ill., a corporation of Illinois
Filed May 3, 1967, Ser. No. 635,735
Int. Cl. F16c *1/16*
U.S. Cl. 74—501 8 Claims



Motion-transmitting cable apparatus having a sheath with a permanently deformable, longitudinally extending, lateral projection which defines a continuous series of deformable clamping sites spaced from the motion-transmitting cable by a relatively thin web. The apparatus also includes a clamp-type mounting which engages the lateral projection in deformable relationship laterally away from the cable.

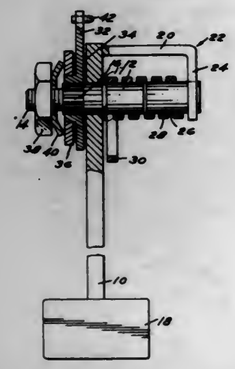
3,439,556
ROTARY TRANSFORMER FOR TRANSMITTING ELECTRICAL SIGNALS
Willis G. Wing, Glen Head, N.Y., assignor to Sperry Rand Corporation, a corporation of Delaware
Original application July 21, 1965, Ser. No. 473,771. Divided and this application July 13, 1967, Ser. No. 653,111
Int. Cl. G01c *19/28*
U.S. Cl. 74—5.6 7 Claims



An inertial device having a stationary member and a pick-off mounted on a rotating member. Rotary transformer means are mounted on the stationary and rotating member. Tertiary winding means having two parts are

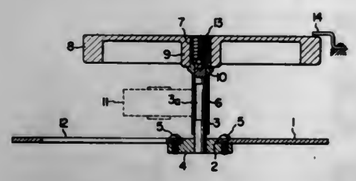
coupled to the winding of the stationary member in such a manner as to compensate for undesirable modulation in the output signal of the rotary transformer means.

3,439,557
FRICTION REGULATING MECHANISM
Charles C. Bookout, Livonia, Mich., assignor to Ford Motor Company, Dearborn, Mich., a corporation of Delaware
Filed Dec. 2, 1966, Ser. No. 598,853
Int. Cl. G05g 5/06, 1/14; F16d 19/00
U.S. Cl. 74—531 7 Claims



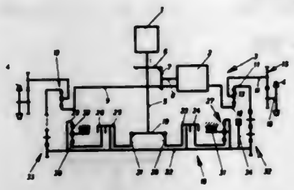
A clutch pedal for a cable actuated clutch system includes a built-in tension regulating system that automatically restores cable tension each time the pedal is returned to its rest position. Rest tension in the cable is opposed primarily by the friction between the cable arm and the pedal arm and this friction assists in transmitting the clutch actuating force from the pedal to the cable when the clutch is actuated.

3,439,558
APPARATUS FOR SUPPORTING A CAPSTAN OF A TAPE RECORDER
Yoshiyuki Watanabe, Tokyo-to, Japan, assignor to Kabushiki Kaisha Sankei Seisakusho, Tokyo-to, Japan, a joint-stock company of Japan
Filed May 19, 1967, Ser. No. 639,748
Claims priority, application Japan, July 1, 1966, 41/62,581
Int. Cl. G11b 15/28, 15/29
U.S. Cl. 74—573 1 Claim



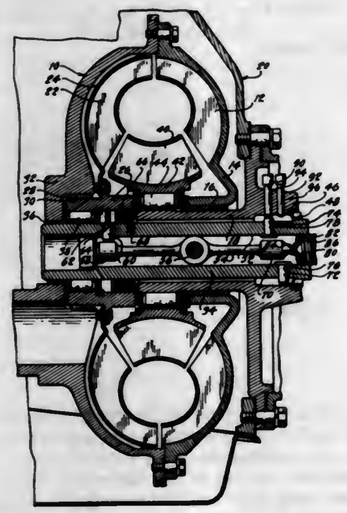
A tubular capstan carrying a fly-wheel is slipped over a vertical stationary supporting shaft and a pinch roller is selectively brought against an intermediate portion of the tubular capstan. The diameter of the portion of the supporting shaft corresponding to said intermediate portion is reduced to form bush bearings above and below the intermediate portion and the weight of the capstan and fly ball is supported by the supporting shaft through an adjustable screw driven in the upper portion of the capstan and a thrust ball.

3,439,559
SUPERIMPOSED STEERING GEAR FOR TRACKED VEHICLES
Bernhard Binger, Ravensburg, and Karlheinz Duernay, Friedrichshafen, Germany, assignors to Zahnradfabrik Friedrichshafen Aktiengesellschaft, Friedrichshafen, Germany
Filed May 24, 1966, Ser. No. 552,500
Claims priority, application Germany, June 30, 1965, Z 11,623
Int. Cl. F16h 37/06
U.S. Cl. 74—720.5 24 Claims



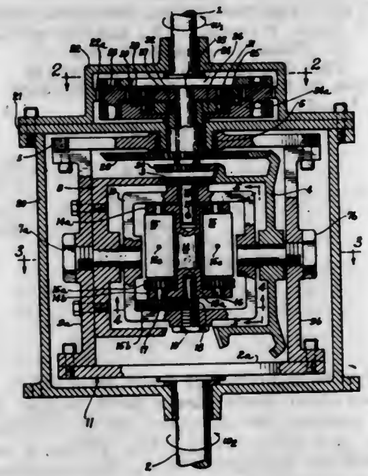
An engine-driven change speed gear mechanism drives a pair of track-laying wheels through a pair of summation gear devices to propel a vehicle without turning when the control elements of the gear devices are held stationary. Steering of the vehicle is effected by superimposed drive of the control elements in opposite directions through a steering gear assembly driven by the engine having drive ratio control means to change the rotational speed of the control elements and the turning rate of the vehicle in either direction.

3,439,560
MANUALLY OPERABLE TRANSMISSION COIL SPRING CLUTCH
Thomas R. Stockton, Ann Arbor, Mich., assignor to Ford Motor Company, Dearborn, Mich., a corporation of Delaware
Filed Jan. 25, 1968, Ser. No. 700,589
Int. Cl. F16h 47/06, 47/00
U.S. Cl. 74—732 6 Claims



This specification describes a simplified, two speed-ratio, hydrokinetic, power transmission mechanism having a torque converter with a turbine drivably connected to the power input gear of a gear unit by means of a compound overrunning clutch arrangement. Engine braking through the hydrokinetic torque converter is available. The usual neutral clutch is eliminated. A spring-loaded, lost motion connection between the power output gear and an intermediate countershaft in the transmission gearing, together with a countershaft brake, will permit engagement of the low speed-ratio gearing notwithstanding the presence of torque acting on the power input gear.

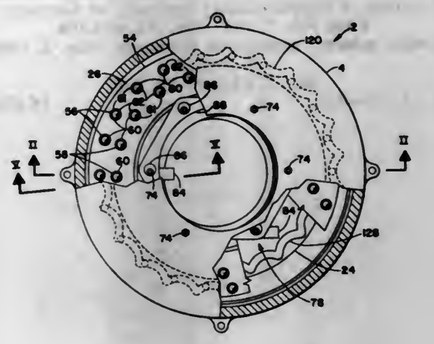
3,439,561
MECHANICAL TORQUE CONVERTER
Martin Preston, 300 N. State St., Apt. 5701, Chicago, Ill. 60616
Continuation-in-part of application Ser. No. 639,804, May 19, 1967, which is a continuation-in-part of application Ser. No. 594,061, Nov. 16, 1966, which is a continuation-in-part of application Ser. No. 501,637, Oct. 22, 1965. This application Apr. 12, 1968, Ser. No. 720,804
Int. Cl. F16h 3/74
U.S. Cl. 74—751 8 Claims



A stepless, variable-speed power transmitting device in which the ratio of the input and output shaft speeds depends (a) on the external torque load applied to the output shaft and (b) on the speed of the power driven input shaft. Power is transmitted from the input to the output shaft through a spinning rotor having diametrically opposed, eccentrically revolving weights, the kinetic energy of which is therefore cyclically variable as the resulting rotational speed and mass inertia of the rotor also varies cyclically. During one phase of the working cycle energy is transmitted by a gear train from the input shaft to the rotor and during another phase part of the energy is recirculated to the input shaft and part of it is transmitted to the output shaft.

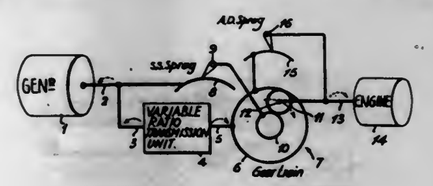
3,439,562
SPEED-CHANGE MECHANISM
Thomas F. Bickley, Arlington, Tex., assignor to LTV Aerospace Corporation, Dallas, Tex., a corporation of Delaware
Filed July 3, 1967, Ser. No. 650,883
Int. Cl. F16h 1/28, 57/00
U.S. Cl. 74—804 28 Claims

A self-compensating speed-change assembly for substantially eliminating all backlash or lost motion between relative rotating members including a first member and a second member positioned in spaced, opposed relationship about a common axis, and with one member mounted for axial displacement relative to the other member. A torque transmitting mechanism is disposed between the first and second members and operatively engages both of said members for rotating at least one of said



members, at a different angular velocity, relative to the torque transmitting mechanism. In addition, means are provided for constantly urging one of the members toward the other member for substantially eliminating all backlash between the torque transmitting mechanism and the first and second members; thus, allowing the speed-change assembly to automatically compensate for normal wear.

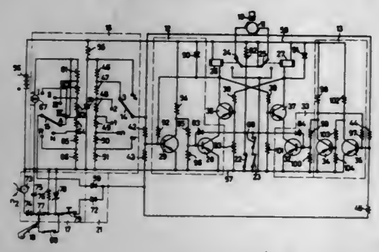
3,439,563
TRANSMISSION SYSTEM FOR INTERCONNECTING TWO ROTARY MACHINES
John William Ledward Petty, Wokingham, England, assignor to National Research Development Corporation, London, England, a British corporation
Filed Oct. 10, 1966, Ser. No. 585,410
Claims priority, application Great Britain, Oct. 14, 1965, 43,620/65
Int. Cl. F16h 5/60
U.S. Cl. 74—810 9 Claims



A rolling friction steplessly variable ratio unit and a planetary gear train are used to couple together an engine and a generator. The generator, externally energized, can start the engine in a power recirculation mode when the input and output of the variable unit are respectively connected through a first sprag to two elements of the gear train, the engine being connected to the third. One ratio of the variable unit cancels the ratio of the gear train so that the generator can run up to synchronous speed unloaded. When the engine starts and reaches a certain speed the gear train over-runs the first sprag and a second sprag, formerly over-running, comes into action to couple the engine directly through the variable unit

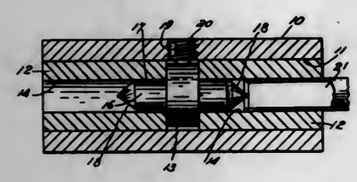
to the generator, the gear train being then locked up to rotate bodily.

3,439,564
TRANSMISSION GEAR CHANGING CONTROL ARRANGEMENT, PARTICULARLY FOR MOTOR VEHICLES
Hermann Scholl, Stuttgart, Volker Kadelbach, Heutingsheim, and Wolfgang Reichardt, Stuttgart-Rohr, Germany, assignors to Robert Bosch GmbH, Stuttgart, Germany, a limited-liability company of Germany
Filed Feb. 7, 1967, Ser. No. 614,498
Claims priority, application Germany, Mar. 3, 1966, B 86,057
Int. Cl. F16h 5/42, 5/60
U.S. Cl. 74—866 15 Claims



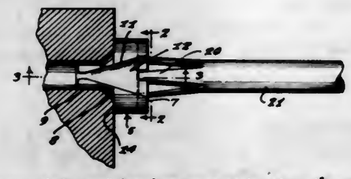
A first voltage is derived proportional to the setting of a gear selector; a second voltage proportional to the actual gear engaged; and a third voltage proportional to the output speed of the transmission; the various voltages are compared, and if the speed output voltage exceeds a certain limit, a gear shift motor is energized to shift the gear up, or down, as the case may be; the gear shift selector has standard transmission positions, and an automatic position, and disabling means are provided to prevent automatic up-shifting to obtain maximum engine braking under emergency conditions.

3,439,565
HOLLOW DRILL SHARPENER
Bennie F. Dirzius, 1425 S. 52nd Ave., Cicero, Ill. 60650
Filed Oct. 6, 1966, Ser. No. 584,700
Int. Cl. B21k 11/00, 5/12; B23d 79/04
U.S. Cl. 76—82 1 Claim



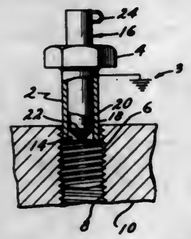
My hollow drill sharpener has a hollow hand sized body member to receive a pair of cylindrical bushings spaced by a central hollow fastening ring supporting a cutting member extending into each of said bushings with a single flute cutting edge on each end extending into but not contacting said bushing. Each of said bushings is adapted to receive a hollow drill inserted up to the cutting edge, without obstruction, to be sharpened by rotation against the cutting edge, the hollow drill being supported by the bushing immediately back of the cutting edge during sharpening to prevent formation of burrs or ragged edges on the hollow drill.

3,439,566
PRECISION COUNTERSINK TOOL
Glen T. Galutia, Colorado Springs, Colo. (22005 29 Court St., Kent, Wash. 98031)
Filed May 9, 1966, Ser. No. 548,688
Int. Cl. B23b 51/10; B27g 15/02
U.S. Cl. 77—73.5 4 Claims



A countersink tool having means to stop the cutting of the tool when the desired depth of countersink has been obtained, including an enlarged concentric flange around the body of the countersink bit which acts as a stop when it comes in contact with the workpiece or a bearing plate which may be inserted between the flange and the workpiece.

3,439,567
DEVICE FOR REMOVING BROKEN STUDS
Albert P. Denis, Westport, N.Y., assignor to Robert B. Denis, Longmeadow, Mass.
Filed Oct. 18, 1966, Ser. No. 587,538
Int. Cl. B25b 13/00; B23p 19/02, 19/04
U.S. Cl. 81—53 2 Claims

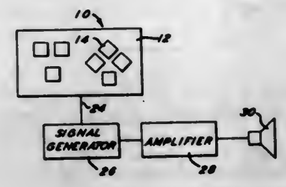


1. A broken stud removing device comprising:
an open ended tubular sleeve metal member adapted for insertion into the open end of a broken stud hole, said sleeve having a head portion at one end thereof for engagement with a torque applying tool,
a metal cartridge of greater length than said sleeve slidably insertable in the bore thereof,
said cartridge having a conductive petal pin coated with a dielectric material and
a frangible pouch enclosure at the lower end of the pin enclosing a charge of welding material impregnated in a welding flux in contact with the metal tip of said pin,
said pin adjacent the opposite end thereof having means for electrically connecting a welding electrode to the metal of said pin outwardly of said sleeve,
whereby said sleeve with cartridge inserted therein may be placed in the end of a broken stud hole with the pouch in contact with the top of a stud for striking the outer end of said pin to fracture the pouch and weld the sleeve to the top of the stud.

3,439,568
PERCUSSION TYPE ELECTRONIC MUSICAL INSTRUMENT
Errol R. Griffith, Topton, Pa., assignor to Allen Organ Company, Macungie, Pa., a corporation of Pennsylvania
Filed Apr. 12, 1965, Ser. No. 447,228
Int. Cl. G10h 1/02; H01h 3/12
U.S. Cl. 84—1.01 4 Claims

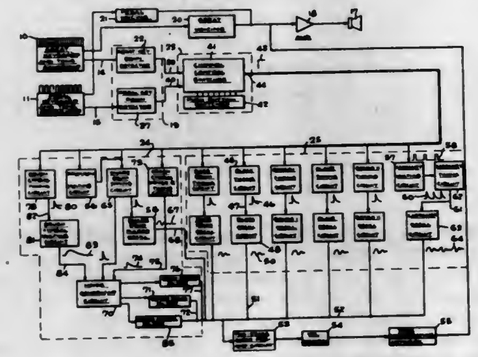
A percussion type musical instrument includes a generally planar surface having a plurality of reciprocably

mounted blocks of a size, shape and arrangement which permits them to be struck readily by the fingers or heel of the hand of the player. The blocks are mounted on a portable surface which may be connected by cable



to electronic tone generating apparatus at a remote location, or the electronic tone generating apparatus may be mounted in a housing below the surface, which housing is also portable.

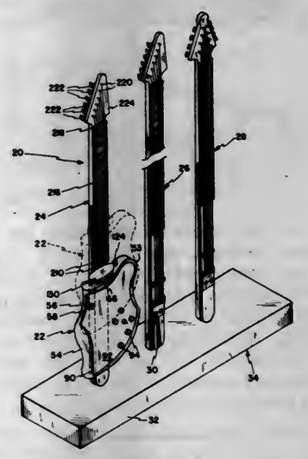
3,439,569
ELECTRICAL MUSICAL INSTRUMENT
Ralph L. Dodds and Bradley J. Plunkett, Los Angeles, Calif., assignors to Warwick Electronics Inc., Chicago, Ill., a corporation of Delaware
Filed June 24, 1965, Ser. No. 466,551
Int. Cl. G01h 1/02
U.S. Cl. 84—1.26 14 Claims



This invention relates to electrical musical instruments, and more particularly to such an instrument which may be operated as an accessory with another musical instrument or independently thereof for producing selected tonal pitches determined by the depression of various keys operated by a musician. Circuit means are provided for detecting and accommodating a pedal signal, such as an A.C. signal, which ceases when the pedal is released for non-sustaining systems and circuitry is provided for accommodating an input signal, such as a D.C. signal, which ceases when a pedal is released even though the audible signal may be sustained.

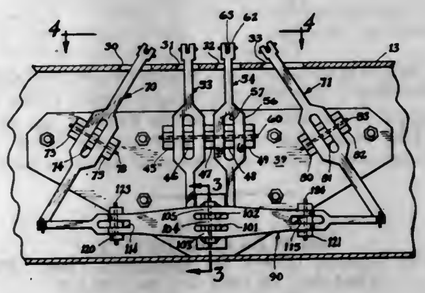
3,439,570
STRINGED MUSICAL INSTRUMENTS HAVING A SLIDABLY MOUNTED NECK
Emerson L. Lee, 489 Brook Ave., Tooele, Utah 84074
Filed Oct. 16, 1967, Ser. No. 675,530
Int. Cl. G10d 1/08
U.S. Cl. 84—293 13 Claims

A musical system, including novel stringed instruments, the presently preferred instrument comprising a body and a neck which can readily be separated one from another to convert the instrument from one to another stringed type by exchanging necks or bodies. When assembled, the neck is slidably coupled to the body so that the body conceals the adjacent part of the strings and the position of the neck relative to the body may be quickly changed by the player when desired both before and during use to make holding, fingering and picking the instrument easier at any point in time. The body



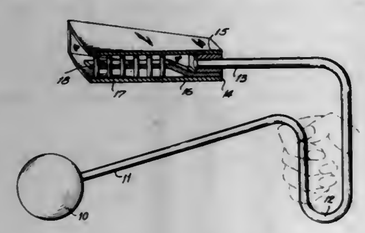
novelly accommodates sounding of picked notes from underneath the face of the body so that no interference occurs between the arm of the player used to pick strings and the strings, and the player may comfortably rest the mentioned arm upon the face of the body as the instrument is being played. The disclosure also relates to a novel pick guide mounted on the body, a novel pick and a novel instrument storage assembly.

3,439,571
STRINGED INSTRUMENT HAVING IMPROVED TUNING AND CHORDING MEANS
John W. Ryan, Bel Air, Calif., assignor to Mattel, Inc., a corporation of California
Filed Jan. 3, 1967, Ser. No. 606,621
Int. Cl. G10d 3/14
U.S. Cl. 84—312 4 Claims



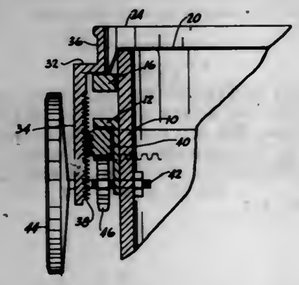
A guitar resonance chamber has upstanding levers pivoted therein and to the upper ends of which the guitar strings are attached. A whiffletree arrangement, forwardly of the upstanding levers, applies equal tuning forces to the lower ends of the levers and a manually actuable screw, accessible at the rear of the instrument, is arranged to actuate the whiffletree arrangement.

3,439,572
PERCUSSION INSTRUMENT
Martin B. Cohen, 230 Parkway, Maywood, N.J. 07607
Filed Apr. 14, 1967, Ser. No. 630,969
Int. Cl. G10d *13/08*
U.S. Cl. 84—402 8 Claims



A percussion instrument for simulating the sound of a natural animal jawbone, having a sound chamber containing an open cavity and a plurality of loosely coupled elements demountably restrained within the cavity. One end of a rod member is secured to the closed end of the sound chamber. A striking ball is secured to the other end of the rod member so that when the ball is struck, the rod member will vibrate the elements within the sound chamber and produce percussion-like sound.

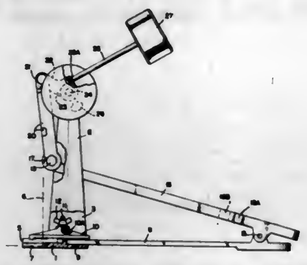
3,439,573
DRUM TUNING DEVICE
Marco D. Zottolo, La Mesa, Calif.
(3008 55th St., San Diego, Calif. 92105)
Filed Sept. 5, 1967, Ser. No. 665,335
Int. Cl. G10d *13/02*
U.S. Cl. 84—411 1 Claim



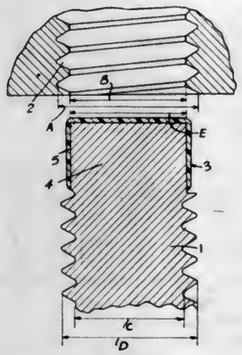
A drum head tuning mechanism wherein a control knob having a gear attached thereto rotates a ring gear in a fixed plane; gear teeth on the external rim of the ring gear coact with vertical teeth on the inside of a retaining hoop to adjust the tension of the drum head.

3,439,574
DRUM BEATER DEVICE
John R. Ramsey, 1629 F St., Springfield, Oreg. 97477
Filed Dec. 30, 1966, Ser. No. 606,125
Int. Cl. G10d *13/00*
U.S. Cl. 84—422 4 Claims

The present disclosure concerns a foot operated drum beating device having a rotatable shaft which carries a beater element. A treadle is linked to the rotatable shaft for imparting swinging movement to the beater. A pair of coil spring members are provided at opposite ends of the shaft urging the shaft in opposite directions with the beater element resting in equilibrium. Rotatable spring housings are provided to enable the adjustment of spring tension and hence the rest position of the beater element and the treadle pressure required to move the same.



3,439,575
SCREWS, BOLTS AND LIKE FASTENINGS
Guthrie William Gifford, "Furtherside," Thornhill Road, Streetly, Coldfield, Warwickshire, Sutton, England
Filed Sept. 20, 1967, Ser. No. 669,026
Claims priority, application Great Britain, Sept. 20, 1966, 41,947/66
Int. Cl. F16b *35/00*
U.S. Cl. 85—1 2 Claims



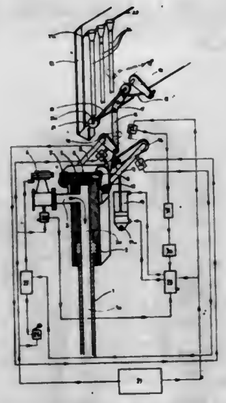
A screw, bolt or like fastener comprising a screw threaded shank and a spigot at one end of said shank including a core portion having a coating of readily deformable material thereon which is of such shape and dimensions relative to the screw threaded shank so as to be a push fit in a complementary threaded hole.

3,439,576
WEDGE TYPE EXPANSION BOLT
Lester Lerich, 30 Morningside Drive, Lakewood, Colo. 80215
Original application May 20, 1965, Ser. No. 457,457, now Patent No. 3,257,891, dated June 28, 1966. Divided and this application Apr. 14, 1966, Ser. No. 542,557
Int. Cl. F16b *13/10*; E04c *5/12*
U.S. Cl. 85—79 6 Claims



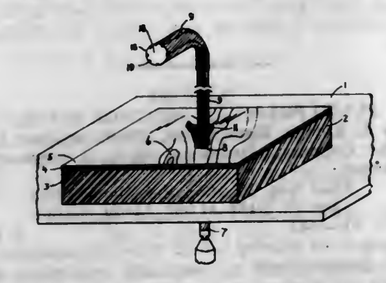
In a masonry expansion bolt, sleeve-like wedge members are disposed in an annular recess formed in the body of the shank portion of the bolt and are provided with inwardly directed resilient expansion means adjacent to the trailing ends of the wedge members to yieldingly urge the trailing ends outwardly into engagement with the wall of the hole in which the bolt is inserted so that, upon tightening of the bolt in the hole, the wedges will automatically be displaced forwardly along inclined bearing surfaces of the bolt into anchored engagement with the wall of the hole.

3,439,577
DEVICE FOR FEEDING AND LOADING AN EXPLOSION GENERATOR WITH EXPLOSIVE CHARGES
Claude Ducongé, Le Vesinet, and Pierre Magneville, Vernouillet, France, assignors to Institut Francais du Petrole, des Carburants et Lubrifiants, Rueil-Malmaison, Hauts-de-Seine, France
Filed Oct. 13, 1967, Ser. No. 675,208
Claims priority, application France, Oct. 18, 1966, 80,485
Int. Cl. F42b *33/00*
U.S. Cl. 89—1 8 Claims



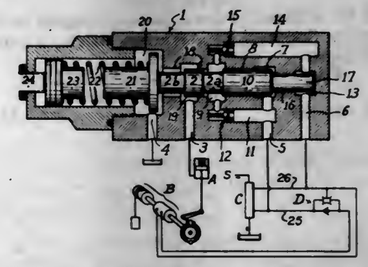
An inclined guide is provided for supplying a plurality of parallel explosive charges to a position where they come into abutment with a stop, a cam is provided to automatically lift the charges serially out of engagement with the stop so that they may drop into an adjacent tube for loading, an automatic mechanism for opening and closing the breech in timed relationship with the cam, and a coordinated valve for admitting water under pressure between the closed breech and the loaded explosive charge.

3,439,578
THREE-DIMENSIONAL MODELS
David Livingston McCallum, 9258 Aero Drive, Pico Rivera, Calif. 90660
Filed Sept. 15, 1966, Ser. No. 579,769
Int. Cl. B23c *1/16*, *1/18*
U.S. Cl. 90—13 2 Claims



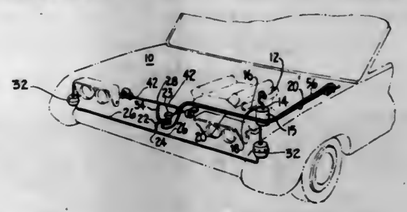
An apparatus and method of optically relaying information from a pattern of contours for profiling three-dimensional objects to a viewing scope for manual operation or to a control box for automatic operation.

3,439,579
DEVICE FOR RELEASING OR PRODUCING HYDRAULIC PRESSURE IN A CHAMBER
Gabriel L. Guinot, Le Plessis-Belleville, France, assignor to Societe Anonyme Poclain, Le Plessis-Belleville, Oise, France, a French society
Filed May 12, 1967, Ser. No. 638,117
Claims priority, application France, May 13, 1966, 61,427
Int. Cl. F15b *15/26*, *13/04*
U.S. Cl. 91—44 6 Claims



A device for releasing or producing hydraulic pressure in an annular chamber associated with a reversible hydraulic motor supplied selectively with pressurized fluid by two conduits, the device comprising a control valve having an outlet connected to the chamber, an intermediate chamber, the annular chamber communicating with a duct to atmosphere and with a source of pressurized fluid. Two single-acting piloting rams are associated with the valve member of the control valve. The rams are adapted to operate the valve to bring the annular chamber into communication with the pressurized fluid source. The supply conduits of the reversible motor each are connected to a cylinder of one of the single-acting rams and connected jointly to the intermediate chamber through two nonreturn valves opening towards said intermediate chamber. A spring and piston are provided for returning the valve member into the position in which the annular chamber communicates with the duct to atmosphere.

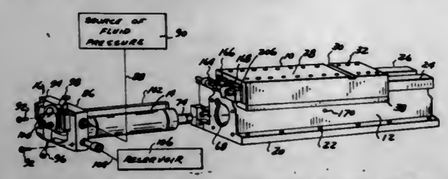
3,439,580
PNEUMATIC ACTUATOR HAVING A PRESSURE DIFFERENTIAL OPERATED LATCHING MECHANISM
Raymond A. Deibel, Cheektowaga, and William C. Riester, Williamsville, N.Y., assignors to Trico Products Corporation, Buffalo, N.Y.
Continuation of application Ser. No. 566,520, July 20, 1966. This application June 18, 1968, Ser. No. 739,914
Int. Cl. F15b *15/26*, *11/16*
U.S. Cl. 91—45 3 Claims



A fluid pressure system utilizing vacuum pressure to actuate retractable headlamps in a motor vehicle which includes a single acting fluid pressure differential operated power unit for moving the headlamps to and from their operative position. A pressure differential

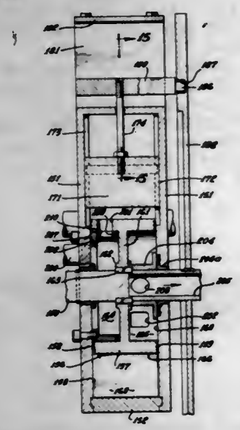
operated servo-valve controls the application of fluid pressure from a source to the power unit as well as from the power unit to a fluid pressure differential operated latching mechanism. The latching mechanism diaphragm chamber is placed in communication with the power unit for unlatching a restricted bleed in the line connecting the power unit and the latch vents the system to permit return of the diaphragms in both the latch unit and the power unit. A manually operated controller selectively ports vacuum to the servo-valve and also serves as a switch for the headlamp electrical circuit.

3,439,581
SLIDE UNIT
Howard W. Wilkins, Warren, Mich., assignor to Research Designing Services, Inc., Warren, Mich., a corporation of Michigan
Filed Aug. 15, 1966, Ser. No. 572,310
Int. Cl. F01b *23/00, 29/08*
U.S. Cl. 91—55 **12 Claims**



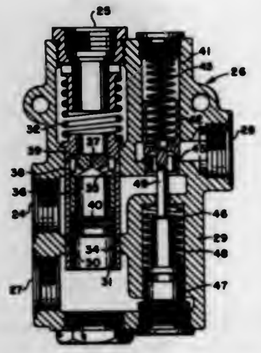
A slide mechanism for carrying a tool toward and away from a workpiece includes a platen mounted for reciprocal movement on a frame. A hydraulic cylinder controlled by a sensing apparatus automatically reciprocates the platen on the frame and a cylinder, control mechanism, and sensing apparatus are removable as a package from the frame for repair or replacement. Wedge shaped gibs are provided along the guideway of the frame so that wear can be compensated for by longitudinal adjustment of the gibs.

3,439,582
ROTARY ENGINE
Elwood Smith, 1728 N. Gramercy Place, Hollywood, Calif. 90028
Continuation-in-part of application Ser. No. 433,365, Feb. 17, 1965. This application Nov. 13, 1967, Ser. No. 687,413
Int. Cl. F01c *1/00*
U.S. Cl. 91—99 **7 Claims**



A rotary engine for use with a pressure fluid such as steam and having a driven shaft, a rotor means coaxial with said shaft and between stationary walls which extend radially beyond the rotor means to define a coaxial annular fluid pressure chamber, spaced radially extending vanes on the rotor means movable in said chamber, radially movable gates guided on said stationary walls in said pressure chamber and cooperable with said vanes. Pressure fluid is directed along an intake path through said rotor means into said pressure chamber and thence along an exhaust path from said pressure chamber through a hollow portion of the driven shaft. In one example, a rotor means has a partition wall forming with the stationary walls an intake chamber portion and a coaxially exhaust chamber portion. Control means are provided in the intake chamber portion for regulating pressure fluid admitted to the pressure chamber.

3,439,583
FLOW CONTROL VALVE HAVING A PRESSURE LIMITING TUBULAR VALVE MEMBER
Hugh J. Stacey, Willoughby, Ohio, assignor to Parker-Hannifin Corporation, Cleveland, Ohio, a corporation of Ohio
Filed Apr. 14, 1966, Ser. No. 542,575
Int. Cl. F15b *13/042, 11/10*
U.S. Cl. 91—420 **9 Claims**

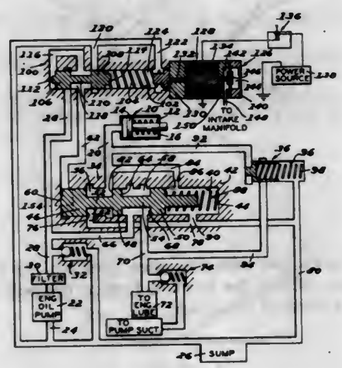


A control valve having first and second passages therein for connection with the respective motor ports of a four-way directional control valve and with respective larger and smaller displacement ports of a fluid motor. A check valve in the second passage when closed permits return flow from the second passage to the first passage through another check valve in a third passage. The first passage is partly constituted by a tubular control valve which extends across the second passage and is caused to move to a position establishing communication between the first and second passages by a predominance of return pressure in the first passage. An orifice check valve in the tubular control valve restricts return flow of fluid through the first passage, but may be bypassed altogether through openings in the tubular control valve when moved by a substantial pressure drop across the orifice check valve.

3,439,584
FLUID PRESSURE CONTROL SYSTEM
Robert E. Kaptur, Birmingham, Mich., assignor to Ford Motor Company, Dearborn, Mich., a corporation of Delaware
Filed Aug. 30, 1965, Ser. No. 483,754
Int. Cl. F15b *11/08, 13/04;* **E03b**
U.S. Cl. 91—443 **5 Claims**

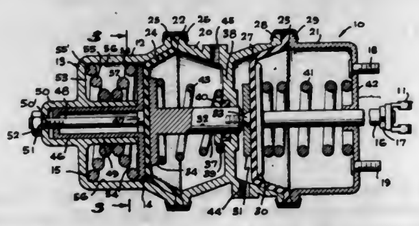
A system for moving a fluid pressure controlled servo in one direction and automatically controlling the return rate of movement as a function of engine intake manifold vacuum level, including a pressure regulating

valve movable progressively between two positions as a function of the changes in intake manifold pressure and to a third position upon energization of a solenoid, to vary the pressure level of fluid flowing through the valve in a signal line to act at all times on an on-off shift valve



that supplies or vents line pressure to the servo, as a function of its position. The shift valve has at least two venting positions, cooperating with restricted and unrestricted branches of the vent line as a function of the pressure level in the signal line, to control rate of return movement of the servo.

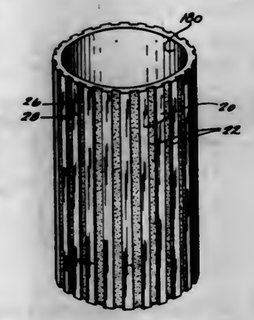
3,439,585
AIR BRAKE AND OPERATOR THEREFOR
Dan B. Herrera, 4063 Cudahy St., Huntington Park, Calif. 90255
Filed Sept. 12, 1966, Ser. No. 578,713
Int. Cl. F15b *15/10*
U.S. Cl. 92—130 **7 Claims**



A spring-powered brake actuator for operation in the event of pneumatic or hydraulic failure includes an actuator spring having a generally hourglass shape, i.e., each of its surface engaging ends having spring loops of substantially the same diameter and the spring loop diameter decreasing to a minimum intermediate the ends and further includes a spring guide means.

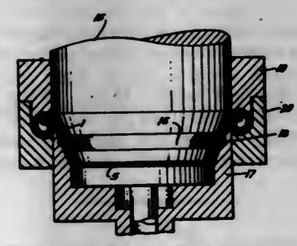
3,439,586
IRON CYLINDER LINERS
Maurice O. Holtan, 2012 Menomonee River Parkway 53226, and William J. Holtan, 7844 Milwaukee Ave. 53213, both of Wauwatosa, Wis.
Filed Jan. 10, 1966, Ser. No. 519,782
Int. Cl. F16j *11/04*
U.S. Cl. 92—169 **4 Claims**

A cast iron liner sleeve has an interior surface accurately finished cylindrically and an exterior surface which comprises axially extending ribs and intervening grooves, the external surfaces of the ribs having surfaces accurately finished in cylindrical conentricity with the inner surface



and the grooves having surfaces which are rough as cast to facilitate anchorage to it of the metal of a cylinder block which is cast about the liner.

3,439,587
CLOSURE AND METHODS AND APPARATUS FOR MAKING SAME
Martin M. Sternau, Flushing, N.Y., assignor, by mesne assignments, to W. R. Grace & Co., Duncan, S.C., a corporation of Connecticut
Division of application Ser. No. 182,505, Mar. 26, 1962, now Patent No. 3,345,798, dated Oct. 10, 1967, which is a continuation-in-part of applications Ser. No. 591,628, June 15, 1956, now Patent No. 3,348,358, dated Oct. 24, 1967, and Ser. No. 653,227, Apr. 16, 1957. This application Aug. 7, 1967, Ser. No. 684,076
Int. Cl. B31d *1/00;* **B31f** *1/08*
U.S. Cl. 93—1.3 **3 Claims**

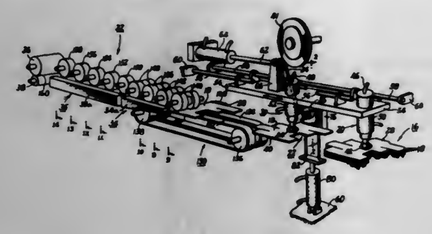


Method and apparatus for forming closures from a laminate having a moldable top layer and a heat shrinkable inner layer wherein the laminate is pressed into a female mold having a peripheral crease by a male die having a resilient ring disposed to press the laminate into said peripheral groove during the forming operation.

3,439,588
TAPE-APPLYING APPARATUS AND METHOD
Arthur S. Taylor, Spring Valley, and Ellsworth R. Sandhage, Pearl River, N.Y., assignors to American Cyanamid Company, Stamford, Conn.
Filed Aug. 24, 1966, Ser. No. 574,723
Int. Cl. B31b *1/72, 15/60;* **B65h** *35/10*
U.S. Cl. 93—36.9 **12 Claims**

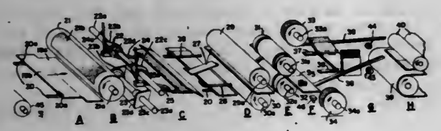
The apparatus and method disclosed are for metering and applying tape to articles. In the apparatus, tape is fed to the periphery of a rotatable polygonal wheel which meters the tape on the edge surfaces thereof and orients

the tape for application. The tape is cut on the corners of the polygonal wheel and then transferred by a stamping or reciprocal movement which brings the tape into contact with an article. The above apparatus may be



used alone or in combination with other apparatus. It is disclosed in combination with a box former which feeds blanks through the tape applying apparatus and then folds the blanks into box forms secured by the tape.

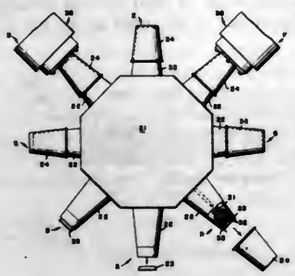
3,439,589
MACHINE FOR FOLDING CARTON BLANKS
William Geisler and Norman R. Clark, San Francisco, Calif., assignors to Fibreboard Corporation, a corporation of Delaware
Filed May 6, 1966, Ser. No. 548,123
Int. Cl. B31b *1/36, 1/40, 1/72*
U.S. Cl. 93—52 7 Claims



A machine for folding a flattened, paperboard blank into a double-walled tube comprises conveyor means for moving the blank along a line of flight and means for first folding first and second panels of the blank into superimposed relationship and for thereafter folding the blank transversely to such first fold. End portions of the blank are then secured together to form a double-walled tube.

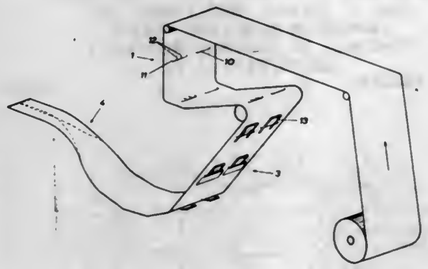
3,439,590
METHOD FOR HEAT SEALING
William Rosenberg, Charles J. Crafton, Frederick Douglas Johnson, and Ross W. Hohman, Baltimore, Md., assignors to Maryland Cup Corporation, Owings Mills, Md., a corporation of Maryland
Filed Dec. 15, 1964, Ser. No. 418,434
Int. Cl. C09j *5/10*; B32b *31/20*; B31b *17/60*
U.S. Cl. 93—55.1 2 Claims

1. A method of joining a closure disc having a peripheral flange to the end wall of a frustoconical shaped body to form an open-ended paper container comprising supporting said disc within the said body with the peripheral flange extending toward the end wall and the inside surface of the body and the surface of the flange adjacent said inside surface having a thermoplastic coating therein, blowing hot air at one station into the hollow end against the parts to be joined until the coating is preheated to a physical state of impending tackiness, causing the flange of the disc and the end wall to contact, rolling the edge of the end wall over the flange of the disc, said disc being in a position adjacent said end wall while the coating remains in a physical state of impending tackiness, then blowing air at a higher temperature at a subsequent station against the said parts until the coating



becomes tacky and adhesive, then pressing the parts together, then cooling the parts to restore the polyethylene to its initial physical condition.

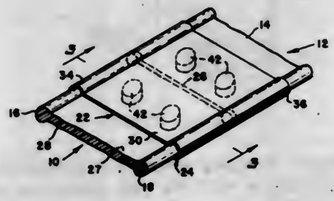
3,439,591
PROCESS AND MACHINE FOR THE MANUFACTURE OF BAGS HAVING ATTACHED HANDLES
Jean Class, Strasbourg, France, assignor to Les Ateliers de Constructions Mercaniques C. & A. Holweg, S.A.R.L., Strasbourg, Bas-Rhin, France, a corporation of France
Filed Sept. 19, 1966, Ser. No. 580,405
Claims priority, application France, Sept. 23, 1965, 8,418
Int. Cl. B31B *49/04, 1/00*
U.S. Cl. 93—35 1 Claim



1. A process for the continuous manufacture of bags having attached flat paper handles, in one single operation and irrespective of their format, and especially of bags having handles stuck to their inner walls, with reinforcing strips, comprising the steps of
- forming transverse slots in a first strip of material for the bag unwinding from a reel,
- depositing handles in said slots on the face of said strip, forming said handles from a narrow second strip folded upon itself,
- cutting said second strip, folding two end strands of said second strip at 90° in the plane of said second strip,
- pressing said handles upon said first strip after gluing said second strip in predetermined zones thereof,
- depositing and sticking a reinforcing strip, over said handles and said first strip of material,
- folding said first strip of material to form a conventional tube,
- putting said handles and said reinforcing strips into exact superposition,
- cutting off said tube to separate its unslotted parts in line with said slots,

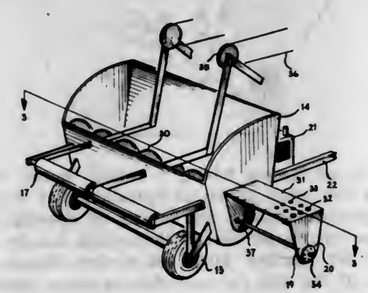
accelerating said flattened tubular section, in order to disengage said handles completely from the following section of said tube, and
folding the bottom of said tube.

3,439,592
CONNECTOR FOR WATER STOP MATERIAL OR THE LIKE
John R. McAusland, 222 St. Ives Drive, Severna Park, Md. 21146
Filed July 26, 1966, Ser. No. 568,064
Int. Cl. E01c *11/12*; E04f *15/14*; F16b *7/00*
U.S. Cl. 94—18 4 Claims



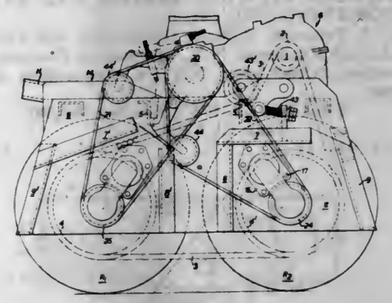
A connector for joining together in end-to-end relationship strips of flexible water stop material, the connectors comprising a pair of mating members adapted to sandwich the abutting ends of the strips between them across the joint, the upper member having downwardly extending bosses projecting through mating holes in the water stop material and in the lower mating member, the members and water stop material being joined together by pressure sensitive adhesive.

3,439,593
SPREADER
Charles H. Torman, Orlando, Fla., assignor to Orlando Paving Company, Orlando, Fla.
Filed Sept. 30, 1966, Ser. No. 583,195
Int. Cl. E01c *19/18, 19/48*
U.S. Cl. 94—44 1 Claim



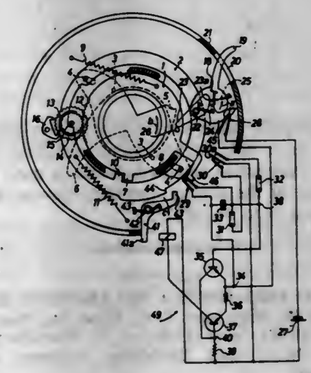
A shoulder spreader apparatus for spreading road building materials and having a hopper mounted to a wheeled frame which may be loaded from a dump truck. A motor driven variable speed rotatable screw in the bottom of the hopper moves the material toward one side of the hopper and out an opening. The hopper is connected through the opening in the side to an adjustable guide means for directing the flow of the material passing through the opening. Rollers are attached to the front of the hopper to engage the tires of the dump truck loading the hopper and a strike off blade may also be provided.

3,439,594
NON-STEERABLE TWIN ROLL VIBRATING ROLLER
Harold Raymond Cowley, Bath, and John Lashenko, Oldland Common, near Bristol, England, assignors to Stothert and Pitt, Limited, Bath, Somerset, England, a corporation of Great Britain
Filed July 6, 1967, Ser. No. 651,432
Claims priority, application Great Britain, July 28, 1966, 33,975/66
Int. Cl. E01c *19/24, 19/28*
U.S. Cl. 94—50 5 Claims



A non-steerable tandem vibratory roller in which each roll is vibrated by independent vibrators arranged concentrically in relation to a cantilever shaft on the main frame, on which shaft the roll is mounted to revolve, characterised in that drive is transmitted to each vibrator through a separate drive belt or like transmissions driven from a common power unit and that the traction drive is through a single drive chain or like transmissions to both rolls, both traction and vibrator drives being at one side or end of the rolls whereby the other side in unobstructed by any frame for the rolls.

3,439,595
EXPOSURE CONTROL DEVICE FOR PHOTOGRAPHIC CAMERAS
Gerd Kiper, Unterhaching, near Munich, Germany, assignor to Agfa-Gevaert Aktiengesellschaft, Leverkusen, Germany
Filed Feb. 6, 1967, Ser. No. 614,059
Claims priority, application Germany, Feb. 9, 1966, A 51,528
Int. Cl. G01j *1/52*
U.S. Cl. 95—10 12 Claims



Exposure control device for photographic cameras. Selects the exposure time and the size of the diaphragm aperture as a function of the intensity of scene light. In a higher range of intensities, a time delay circuit varies both the exposure time and the aperture. In a lower range

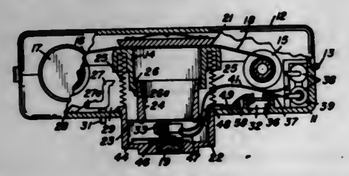
of intensities, the delay circuit varies only the exposure time while the size of the aperture remains unchanged and is maintained at a maximum value. A branch circuit which is characteristic of the lower range of intensities is connected in the delay circuit by a movable part of the shutter if the shutter remains open longer than required for full opening of the diaphragm.

3,439,596

RETRACTILE LENS CAMERA WITH AUTOMATIC EXPOSURE CONTROL SYSTEM AND BATTERY PRESERVING SWITCH

Dean M. Peterson, William Windle, Jr., and Charles E. Pickering, Rochester, N.Y., assignors to Eastman Kodak Company, Rochester, N.Y., a corporation of New Jersey

Filed Jan. 18, 1967, Ser. No. 610,088
Int. Cl. G03b 19/04
U.S. Cl. 95—11 5 Claims



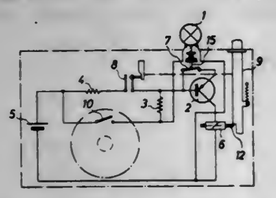
In a camera having a retractile objective lens and an automatic exposure control system of the type employing a battery, a switch is associated with the retractile lens assembly to open the battery circuit when the lens is retracted and to close the circuit when the lens is extended to its operative position, thereby preventing drainage of the battery while the camera is not in use.

3,439,597

FLASH UNIT FOR CAMERAS

Karl Wagner, Ottobrunn, Munich, Germany, assignor to Agfa-Gevaert Aktiengesellschaft, Leverkusen, Germany

Filed Oct. 24, 1966, Ser. No. 588,832
Claims priority, application Germany, Oct. 22, 1965, A 50,579
Int. Cl. G03b 9/70
U.S. Cl. 95—11.5 10 Claims



A photographic camera having a shutter-operating device and a flash bulb arrangement including an electric circuit. An electrically actuated device is used for blocking operation of the shutter-operating device whenever a flash exposure is to be inhibited.

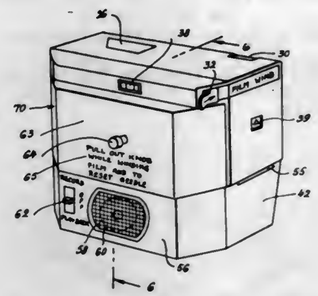
3,439,598

CAMERA AND SOUND RECORDING DEVICE

Dorothea M. Weitzner, 8 E. 62nd St., New York, N.Y. 10021, and Laforest S. Saulsbury, New York, N.Y.; said Saulsbury assignor to said Weitzner

Filed May 25, 1966, Ser. No. 552,902
Int. Cl. G03b 31/04
U.S. Cl. 95—12 8 Claims

A camera having a sound recording device attached thereto including a rotating photograph record head recording an audio message on the backing of the film in the camera, and means for audibly playing back the audio message recorded on the film backing. The camera is used for making frames slides with audio messages inscribed on the frames of the slides. The camera has a casing for removably receiving a cartridge with a laminated film assembly therein to photographically record



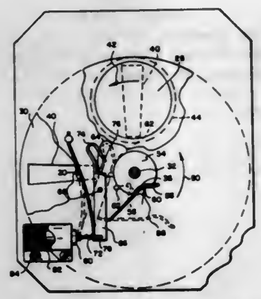
optical images. A casing structure is associated with the casing supporting a rotatable disk and motor means for rotating said disk. A sound recording head is mounted on the disk and carries a stylus for contacting a film layer in the laminated film assembly, and means for moving the sounding recording head radially of the disk while the disk rotates for tracing a spiral path on the film layer.

3,439,599

AERIAL CAMERA

Theodore F. Schwartz, 11660 St. Andrews Way, Scottsdale, Ariz. 85252

Filed Aug. 5, 1966, Ser. No. 570,494
Int. Cl. G03b 29/00
U.S. Cl. 95—12.5 7 Claims



An aerial camera having a rotary shutter which alleviates the inertia effects of operation. The rotary shutter is provided with a disc having an opening rotatable about and across the area of the camera lens by a motor. A solenoid operated latch mechanism allows one revolution of the disc for each film exposure operation of the camera.

3,439,600

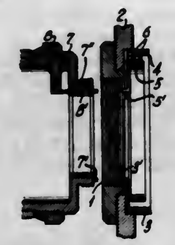
INTERCHANGEABLE LENS CAMERA

Minoru Suzuki, Tokyo-to, Japan, assignor to Asahi Kogaku Kogyo Kabushiki Kaisha, Tokyo-to, Japan, a corporation of Japan

Filed July 22, 1966, Ser. No. 567,178
Claims priority, application Japan, Aug. 19, 1965, 40/50,119
Int. Cl. G03b 3/00
U.S. Cl. 95—44 4 Claims

A camera includes a control mechanism, for example a variable resistor, provided with a first control element and a screw coupled interchangeable lens barrel provided

with a second control element engageable with the first control element. Means are provided for compensating the control mechanism for variations in the lens coupling and includes a first adjusting element directed rearwardly from the lens barrel and a second forwardly



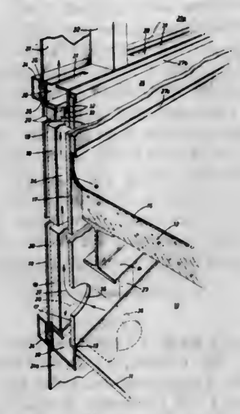
projecting adjusting element connected to the control mechanism and lying in the circumferential path of the first control element, so that the control mechanism is adjusted in accordance with the relative position of the lens barrel.

3,439,601

TERMINAL EXIT FOR FORCED AIR CIRCULATING SYSTEMS

Kenneth R. Cooper, Don Mills, Ontario, Canada, assignor to Contemporary Walls Limited

Filed May 19, 1967, Ser. No. 639,699
Int. Cl. E04f 17/04
U.S. Cl. 98—90 3 Claims



A terminal exit for forced air circulating systems of buildings incorporating the sill member of a window as the termination of the forced air system, and further incorporating an air chamber within the wall structure beneath the window, and communicating with the sill member and with the air treating and circulating plant.

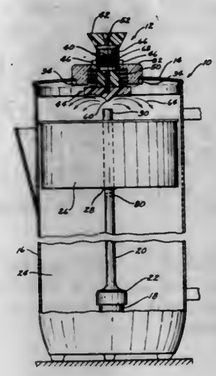
3,439,602

COFFEE PERCOLATION CONTROL

Joseph F. Gazzo, 1303 McKinley Ave., Des Moines, Iowa 50315

Filed Dec. 28, 1966, Ser. No. 605,472
Int. Cl. A47f 31/04
U.S. Cl. 99—285 10 Claims

A percolator type coffee pot having a valve element for selectively closing the upper open end of the upstanding ejaculator tube in the pot extending through the coffee basket to terminate as desired the further percolation of the coffee should the heated liquid in the bottom of the pot be boiled when keeping the coffee warm. The valve element is spring biased into engagement with the upper end of the tube or may be threadably adjusted. A signalling means is provided to indicate visually whether



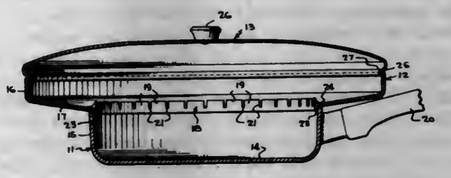
the valve is open or closed and the valve is carried in the removable element in the lid of the pot which is thermally non-conductive. The valve element for closing the pipe serves as a baffle when the valve element is in its open position to direct fluid impinging thereon in a downward direction into the coffee basket.

3,439,603

COOKING UTENSIL

Robert L. Reames, 4619 Hanover Ave., Richmond, Va. 23226

Filed June 22, 1966, Ser. No. 559,440
Int. Cl. A47j 37/00
U.S. Cl. 99—355 14 Claims



A cooking pan having a supplemental peripherally extending food supporting rack including a coextensive upwardly extending slotted drain rim and downwardly extending locking lip engaging the inner pan periphery for retaining the rack in position on the pan.

3,439,604

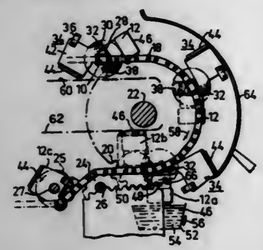
APPARATUS FOR PRODUCING ARTICLES FROM A PLASTIC OR FLUID SUBSTANCE

Åke Silvander, Duvnas Udde 17, Saltsjo-Duvnas, Sweden

Filed Dec. 23, 1966, Ser. No. 604,326
Claims priority, application Sweden, Dec. 29, 1965, 16,923/65
Int. Cl. A47j 43/04; A21c 9/00
U.S. Cl. 99—431 4 Claims

The apparatus to be specified hereinafter is particularly for producing certain types of pastry-work by using forming members mounted on endless conveying members adapted to move said members to immerse them into a fluid or plastic mass or dough in a trough so that said

mass or dough adheres to the forming members, which are then guided to be turned up. The dough is baked in hot oil while being carried by the forming members, from which they will then be removed. Important is the



turning operation of the forming member after the dough has adhered, since the dough is distributed thereby on said members and held in a corrected position during continued operation.

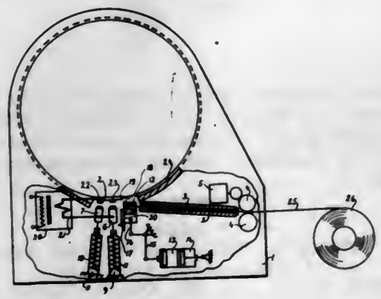
3,439,605
PACKAGING JIG
William L. Hanley, Palm Beach, Fla., assignor to The Hanley Company, Bradford, Pa., a corporation of Pennsylvania
Filed Mar. 16, 1966, Ser. No. 534,773
Int. Cl. B65b *13/00, 13/04, 13/06*
U.S. Cl. 100—7 **10 Claims**



The following description is concerned with a device for packaging bricks, concrete blocks and the like. This device is a packaging jig comprising two walls at right angles to each other one of which has at least an inner surface inclined to the horizontal, together with a base which is pivotally mounted adjacent the lower edge of the inclined wall so that it may be positioned in a horizontal plane or in a plane at right angles to the surface of the inclined wall. Thus a corner is formed providing a guide for stacking of bricks which since the base is also inclined to the horizontal urges the bricks by gravity against the inclined wall during stacking, the base after the bricks have been strapped together being moved to the horizontal position to rest on a conveyor out of contact with the inclined wall.

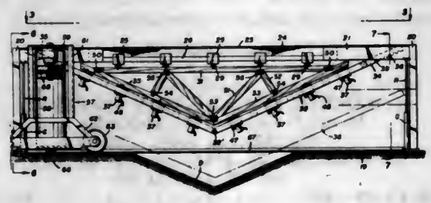
3,439,606
STEEL-TAPE BINDING MACHINE
Jan Bursik, Ladislav Bursik, Ladislav Kusiak, and Miroslav Nierla, Ostrava, Czechoslovakia, assignors to Vitkovicke zelezarny Klementa Gottwalda, narodni podnik, Ostrava, Czechoslovakia
Filed Oct. 5, 1967, Ser. No. 674,700
Claims priority, application Czechoslovakia, Oct. 10, 1966, 6,433/66
Int. Cl. B65b *13/04, 13/34;* **B23k** *9/28*
U.S. Cl. 100—26 **7 Claims**

A machine for binding objects together with a steel tape, which comprises means for guiding a steel tape around the objects to be bound, said means being operatively mounted on a supporting frame. A supporting plate is mounted in the frame. A pair of exchangeable stationary welding electrodes is secured to the underside of the supporting plate and is adapted to cooperate with two independently reciprocally movably mounted electrodes, which are respectively connected to two driving cylinders. A combination clamping and cutting device is reciprocally movably mounted in the frame of the machine. A clamping edge of the combination clamping and cutting device cooperates with a recess in the underside of the supporting plate so as to clamp the steel tape during a preselected period of the binding operation and cooperates with a stationary cutting edge so as to cut the steel tape during an other preselected period of the binding operation. A steel-tape feeding and tensioning device is mounted in the machine, adjacent to the combination clamping and cutting device. The former serves to feed the steel tape through the latter and around the objects to be bound together.



Thereafter the clamping and cutting device clamps the steel tape so that a predetermined length of overlapping tape is held together. The feeding and tensioning device then places the tape under tension around the objects to be bound together. One of the movable electrodes is then moved by its driving cylinder towards the overlapping steel tape and urges it against the associated stationary electrode, thereby spot-welding the overlapping tape together. The clamping and cutting device thereafter releases the tape and cuts it so that the tape is held in tension around the objects to be bound together only by the spot weld, thereby testing the strength of the latter. Finally, the other movable electrode is moved by its driving cylinder toward the overlapping steel tape and urges it against the other stationary electrode, thereby forming a second spot weld on the overlapping tape.

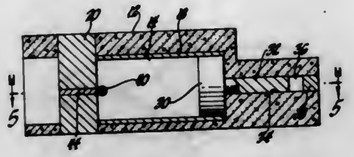
3,439,607
METHOD FOR FABRICATING TRUSSES IN UPRIGHT POSITION
Arthur Carol Sanford, Palm Beach, Fla. (P.O. Box 1177, Pompano Beach, Fla. 33062)
Original application July 26, 1966, Ser. No. 567,991, now Patent No. 3,390,628, dated July 2, 1968. Divided and this application Feb. 15, 1968, Ser. No. 724,656
Int. Cl. B30b *13/00;* **B25c** *7/00*
U.S. Cl. 100—35 **2 Claims**



The fabrication of triangular trusses having wood components connected together in one plane by toothed connector plates on opposite sides of each joint by supporting the truss components in a vertical plane and then pass-

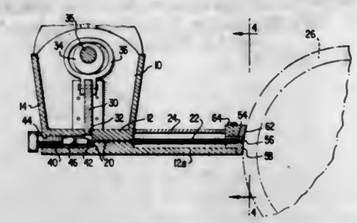
ing a roller press thereover applying pressure to opposite sides of the truss components to fully embed the connector plates therein. The truss is fabricated with the normally bottom chord supported in horizontal position, and the normally top inclined chord components adjustably supported for varying the angle therebetween.

3,439,608
MEANS AND METHOD OF DESTROYING OLD AUTOMOBILES AND THE LIKE
William J. Huston, Sr., 645 Northfield, Pontiac, Mich. 48055
Filed Apr. 18, 1966, Ser. No. 543,308
Int. Cl. B30b *15/34, 15/14, 15/16*
U.S. Cl. 100—38 **6 Claims**



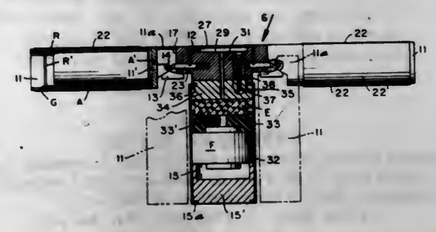
Scrap metal is compacted by placing it within an enclosed space, the temperature of the space is raised by igniting an explosive charge therein and finally a wall of the enclosed space is driven into compacting engagement with the scrap metal by means of an explosive charge.

3,439,609
INK FOUNTAIN FOR PRINTING PRESS
Joseph P. Dorr, Silver Spring, Md., assignor to Capitol Tool and Manufacturing Co., Inc., College Park, Md., a corporation of Maryland
Filed Sept. 16, 1966, Ser. No. 579,936
Int. Cl. B41f *31/08;* **B41h** *1/38;* **B41l** *27/10*
U.S. Cl. 101—366 **6 Claims**



In an ink fountain for a printing press wherein the fountain has a plurality of outlet ducts and a pump mechanism for forcing ink through the outlet ducts; a discharge member engageable with an ink cylinder of the press and having an elongated discharge passage communicating with all the outlet ducts to discharge ink in a thin substantially continuous body extending longitudinally of the ink cylinder. Actuation of the pumping mechanism is through a drive shaft mounted in a bifurcated bracket having a pair of legs secured about a bushing which receives the drive shaft with a pair of screws received in threaded passages in the legs for securing the latter about the bushing. Rotation of the drive shaft is through a pulley operated stub shaft mounted in the upper end of the bracket and gears operatively connected between the shaft and the drive shaft for transmitting motion to the latter. The bracket screws are of sufficient length to provide access thereto without obstruction from the gears. To enable a plurality of fountains to be coupled together in series relationship to be driven from the same source, the end of the drive shaft is provided with a hexagonal passage for receiving a coupling pin which also is received in the drive shaft of an adjacent ink fountain to couple the drive shafts together for simultaneous operation from the same drive source.

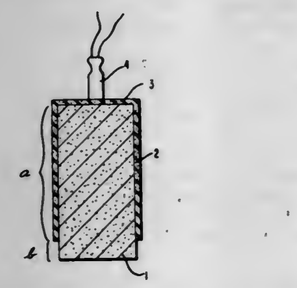
3,439,610
FOLDING MUNITION
Jack A. Myers, Ridgecrest, Calif., assignor to the United States of America as represented by the Secretary of the Navy
Filed Apr. 20, 1964, Ser. No. 361,621
Int. Cl. F42b *25/02, 25/16*
U.S. Cl. 102—4 **10 Claims**



1. A folding munition, comprising in combination:
a housing;
a plurality of hinge members extending radially from said housing in an equi-spaced relationship with respect to each other;
a plurality of elongated tubular members each having a discharge end and a closed end;
means defining a firing-pin port extending through the closed end of each tubular member;
means for retaining within each of said members a round of ammunition having percussion means associated therewith;
means pivotally connecting each of said tubular members to said housing through said hinge members;
a tubular member activating means including a spring and a stop shoulder associated with the closed end of each of said tubular members for pivotally urging the tubular members into a common plane, and for operatively maintaining said members in said common plane;
a plurality of elongated firing pins, each being radially disposed and slidingly mounted in said housing and being so aligned with a firing-pin port of a given tubular member as to permit each pin of said plurality to be slidingly displaced through said port to impinge against a percussion means associated with a round of ammunition retained within the given tubular member;
a plurality of compression springs, each being disposed to abut a given firing-pin for continuously urging the given firing-pin toward a firing-pin port of a given tubular member;
locking means including a detent locking device for lockingly engaging each of said firing-pins and retaining the pins against the action of the compression springs;
a gas operated detent actuating means for releasing said locking means to release said pins from a retained condition;
means defining a first gas port terminating adjacent said detent actuating means for directing gas to said actuating means;
a flexible web extending between said tubular members and connected thereto in a manner such as to substantially span the space defined by the spacing of the tubular members when the members are disposed in a common plane extending radially from said housing for imparting an aerodynamic drag and a rate of rotation of said munition;

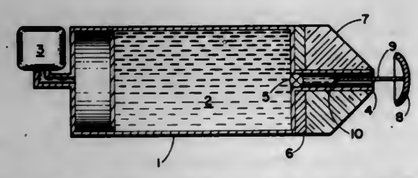
an actuator casing mounted adjacent said housing;
a pyrotechnic gas generating means disposed in said casing for generating a pressurized gas;
conduit means for directing generated gas from said gas generating means to said gas port;
a spin-armed fused arranged within said casing adjacent said pyrotechnic means adapted to be armed by said rotation and actuated by impact for firing said pyrotechnic means; and
releasable sealing means sealing said casing in a manner such that gases generated by said pyrotechnic means may be forced through said conduit means and said gas port to impinge on said detent actuating means for initiating an operation of said detent actuating means to initiate a release of said firing pins and impart selected displacement to said munition.

3,439,611
EXPLOSIVE PRIMER
Arnold Harold Holtzman, Cherry Hill Township, N.J., assignor to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware
Filed Sept. 13, 1967, Ser. No. 667,410
Int. Cl. F42b *3/02*
U.S. Cl. 102—24 **4 Claims**



An explosive primer especially useful for initiating a layer of explosive used to drive metal layers together to bond them comprising a solid body of detonating explosive of cylindrical form surrounded by a sheath of higher-velocity detonating explosive extending from one end of the cylindrical body to a location short of the opposite end, and means located at one end of the cylindrical body for initiating the entire end surface of the sheath substantially simultaneously.

3,439,612
HYBRID FLARE
William Lai, Los Altos, Calif., assignor to United Aircraft Corporation, East Hartford, Conn., a corporation of Delaware
Filed Nov. 14, 1966, Ser. No. 594,127
Int. Cl. C06d *1/10*
U.S. Cl. 102—37.8 **6 Claims**

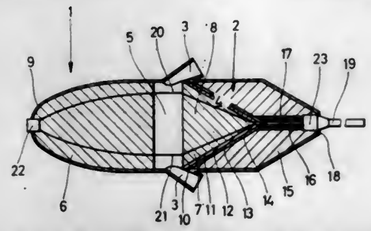


A hybrid flare system wherein a liquid oxidizer is directed onto an exposed unenclosed burning surface of a fuel material. Highest radiant energy emissions occur at oxidizer to fuel ratios above 2.5.

ERRATUM

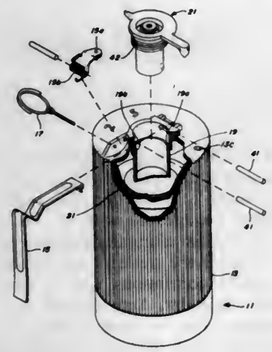
For Class 102—38 see:
Patent No. 3,439,635

3,439,613
SELF-PROPELLED HOLLOW CHARGE HAVING CONCAVE LINER WITH PROPELLANT CONTAINED THEREIN
Franz Rudolf Thomanek, Landkreis Schrobenhausen, Germany, assignor to Bolkow Gesellschaft mit beschrankter Haftung, Munich, Germany
Filed Mar. 8, 1965, Ser. No. 438,833
Int. Cl. F42b *15/10;* **F02k** *9/04*
U.S. Cl. 102—49.3 **10 Claims**



1. A flying body comprising an explosive charge having a recess formed adjacent one end by a lining wall, said lining wall also forming a boundary for a rocket combustion chamber, thrust nozzle means connected to said combustion chamber for the discharge of thrust gases, and a driving charge in said combustion chamber located within the recess of said explosive charge.

3,439,614
VARIABLE COMBUSTIBLE DELAY ARRANGEMENT
Robert W. Schnepfe, Jr., Timonium, Md., assignor to AAI Corporation, Cockeysville, Md., a corporation of Maryland
Continuation of application Ser. No. 490,043, Sept. 24, 1965. This application Nov. 22, 1967, Ser. No. 689,234
Int. Cl. F42b *11/42, 27/00*
U.S. Cl. 102—64 **9 Claims**



A cylindrical canister dispenser arrangement is disclosed for ejecting a mass of material into the atmosphere. The canister arrangement employs a spring-biased striker which contacts a percussion primer to ignite a variable time delay fuze which, after a predetermined period of time, fires a propellant charge to create a high gas pressure which propels a piston away from the fuze end of the cylindrical canister to cause a frangible cover plug to be blown away and the mass of material expelled through the resulting hole. The variable time delay fuze has a rotatable body with a longitudinal bore therein containing a slow-burning powder and a plurality of ports that are longitudinally and angularly spaced apart from each other so as to provide combustible communication between the slow-burning powder and a relatively fast-burning fuze which is in combustible communication with the propellant.

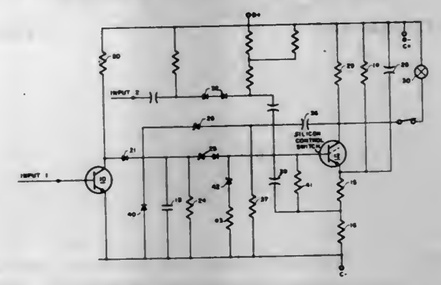
3,439,615
RIFLE GRENADE FUZE AND BULLET-STOPPING DEVICE
Thomas H. Forman, Needham, and Edward S. Prohaska, Randolph, Mass., assignors to the United States of America as represented by the Secretary of the Army
Filed Feb. 20, 1959, Ser. No. 794,784
Int. Cl. F42b *11/42*
U.S. Cl. 102—65.2 **2 Claims**



1. A rifle grenade comprising a sleeve adapted to be mounted on a rifle, a grenade body attached to said sleeve, an outer housing slidably mounted within said sleeve, a slidable inner housing mounted within said outer housing and held against forward movement with respect to said sleeve, an inertia member carried by and locked to said inner housing, a firing pin carried by and locked to said inertia member, spring means urging said firing pin forwardly, a sleeve member surrounding the forward end of said inertia member, said outer housing being slidable in said sleeve in response to firing of said rifle and effective upon sliding to unlock said inner housing and inertia member, said inner housing upon release moving to a rearward locked relation with the outer housing, said inertia member, firing pin and sleeve member being rearwardly movable in said inner housing in response to acceleration of said grenade, means to lock said inertia member to said inner housing member after having moved rearwardly, said sleeve member being movable forwardly upon impact independently of said inertia member to unlock said firing pin from said inertia member and permit said spring means to project said firing pin forwardly.

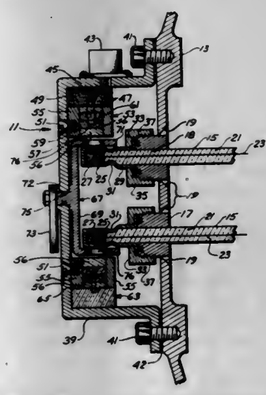
3,439,616
SOLID STATE DETONATOR FIRING CIRCUIT
William J. Godsey, Birmingham, Ala., and Michael J. Pollock, deceased, late of Washington, D.C., by Tillie W. Pollock, legal representative, Washington, D.C., assignors, by mesne assignments, to the United States of America as represented by the Secretary of the Navy
Filed Dec. 21, 1964, Ser. No. 420,233
Int. Cl. F42c *11/06;* **F23q** *7/02*
U.S. Cl. 102—70.2 **1 Claim**

1. A firing circuit comprising:
(a) a normally conducting input transistor and an output silicon control switch,
(b) a time constant circuit means interconnecting said transistor and silicon control switch,
(c) a voltage divider circuit means connected for biasing said control switch to cut off while said input transistor normally conducts; also a squib to be fired connected in parallel with a resistor of appreciably higher resistance than said squib, this parallel combination connected together in series with a firing capacitor across said silicon control switch,



(d) said normally conducting input transistor being cut off during intervals between negative input pulses allowing said time constant circuit means to charge during such pulse intervals, and after a predetermined number of input pulses are applied to said input transistor said time constant circuit means connected thereto being sufficiently charged to apply its charge to the gate of said silicon control switch causing it in turn to conduct to discharge said firing capacitor through said parallel combination of squib and resistor for firing said squib,
(e) an auxiliary input circuit connected for applying a signal to also cause said control switch to conduct for firing said squib,
(f) reset means connected to said control switch for cutting off any conduction thereof caused by extraneous random signals prior to arming of said squib.

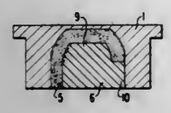
3,439,617
IGNITER SAFE AND ARM
Aubrey B. Boyd, Littleton, Colo., and Jarod L. Baugh, Loveland, Ohio, assignors to North American Rockwell Corporation, a corporation of Delaware
Filed Jan. 5, 1967, Ser. No. 607,559
Int. Cl. F42c *15/00*
U.S. Cl. 102—70.2 **3 Claims**



A safe and arm device for solid propellant igniters having a housing in which is disposed shock detonating material. Fuses leading to the igniter are fixedly held in the

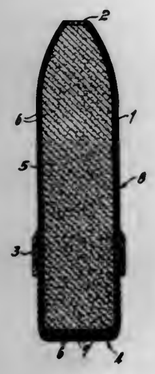
housing adjacent the detonating material with a perforated rotor disposed between the fuses and the detonating material.

3,439,618
WET CHARGED PERCUSSION CAP
Heinz Gawlick and Hellmut Bendler, Furth, Germany, assignors to Dynamit Nobel Aktiengesellschaft, Troisdorf, Germany
Filed Sept. 21, 1967, Ser. No. 669,628
Int. Cl. F42c *19/10*
U.S. Cl. 102—86.5 **10 Claims**



The present disclosure relates to a primer cap, particularly of the firing pin percussion type, wherein the primer charge is introduced into the capsule of the primer cap by moist charging with an anvil provided on the primer charge and fastened to the capsule. The drying of the wet primer charge is facilitated by providing the anvil with a projection that molds the primer charge into a cup shape between the anvil and capsule during insertion. The anvil may be provided with a plurality of radially extending webs for engaging the sides of the capsule and providing spaces therebetween for receiving the primer charge so that it may be exposed to the outside for drying. Also, the anvil may be made of a permeable porous synthetic material or an impermeable synthetic material provided with perforations, to provide for the quick drying of the wet primer charge.

3,439,619
PRACTICE AMMUNITION
Erich Bock, Schwaig, and Max Rentzsch, Furth, Germany, assignors to Diehl, Nuremberg, Germany
Filed July 10, 1967, Ser. No. 652,188
Claims priority, application Germany, July 16, 1968, D 50,599
Int. Cl. F42b *13/20*
U.S. Cl. 102—92.7 **2 Claims**



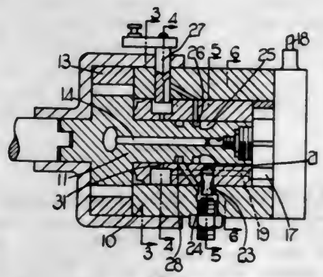
The present invention relates to practice ammunition which comprises a housing having a relatively long and narrow cylindrical portion with a bottom at one end thereof and with a blunted nose at the opposite end. The bottom is composed of a synthetic material reinforced by glass fibers crossing each other, while the glass fibers in the cylindrical portion are oriented in the longitudinal direction.

3,439,620
PROJECTILE DRIVING BANDS
Henry Morton Crossley, Bury, and Percival William Bailey, Chorley, England, assignors to Henry Crossley (Packings) Limited, Bolton, Lancashire, England, a corporation of the United Kingdom
Filed Oct. 13, 1967, Ser. No. 675,220
Claims priority, application Great Britain, Oct. 25, 1966, 47,844/66
Int. Cl. F42b *31/00, 13/16*
U.S. Cl. 102—93 **9 Claims**

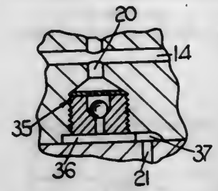


A projectile driving band comprising a radially laminated fibrous material such as woven asbestos cloth, woven cotton cloth, jute, hessian or glass cloth, and a thermosetting resinous material selected from the phenol group of resins with which the fibrous material is impregnated to bond the laminations together, whereby on firing of the projectile, the driving band is discarded. The laminated structure may have an inert filler incorporated therein such as, for example, an ebonite solution of P.T.F.E. The laminated structure is formed from a number of wedge shaped members giving to the band an inward taper externally and an outerward taper internally.

3,439,621
LIQUID FUEL PUMPING APPARATUS
Moshe Drori, East Twickenham, Middlesex, England, assignor to C.A.V. Limited, London, England
Filed Apr. 14, 1967, Ser. No. 631,037
Claims priority, application Great Britain, Apr. 25, 1966, 17,966/66
Int. Cl. F04b *7/00, 1/10*
U.S. Cl. 103—2 **5 Claims**

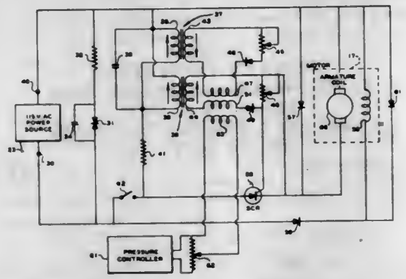


A liquid fuel pumping apparatus for supplying fuel to internal combustion engines having an injection pump and a passage through which the injection pump is placed in communication with one end of a cylinder during the filling stroke, the cylinder containing a shuttle which is moved into contact with an abutment, a one way valve being provided in said passage, the valve permitting the flow of fuel to the injection pump and being positioned



to trap cavities formed in the fuel when the shuttle strikes the abutment, so that said cavities are not collapsed suddenly when the injection pump delivers fuel.

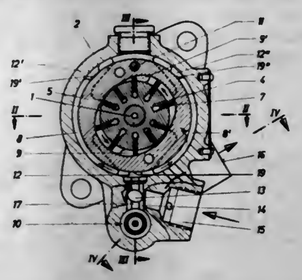
3,439,622
MOTOR CONTROL CIRCUIT UTILIZING A VOLTAGE CONTROLLED RECTIFIER
Richard O. Welty, Bartlesville, and George E. Mader, Jr., Dewey, Okla., assignors to Phillips Petroleum Company, a corporation of Delaware
Filed Sept. 2, 1966, Ser. No. 577,061
Int. Cl. F04b *49/06;* **F04d** *15/00;* **H02p** *5/00*
U.S. Cl. 103—35 **6 Claims**



A rectifier is connected in the field circuit of a D.C. motor while a silicon controlled rectifier (SCR) is connected in the armature circuit of the motor. The primary coil of a step-down transformer is connected to a power supply while the secondary circuit contains a control coil, a rectifier and a variable resistor. This variable resistor is also connected between the cathode and gate terminal of the SCR. A control signal representative of the desired motor speed is applied to a coil which is magnetically coupled to the control coil. A biasing coil, together with a rectifier and a variable resistor, is connected in the secondary circuit of a second step-down transformer, the biasing coil being magnetically coupled to the control coil. The motor can be utilized to drive a variable speed pump in a melt index analyzer.

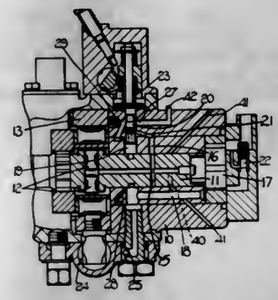
3,439,623
ROTARY PUMP FOR POWER STEERING SYSTEMS
Georg Dietrich and Georg Kehrer, Schwabisch Gmund, Germany, assignors to Zahnradfabrik Friedrichshafen, Aktiengesellschaft Friedrichshafen, a corporation of Germany
Filed Oct. 19, 1967, Ser. No. 676,426
Claims priority, application Germany, Oct. 22, 1966, Z 12,488
Int. Cl. F04b *49/08;* **F04c** *3/00*
U.S. Cl. 103—42 **8 Claims**

The disclosure relates to rotary vane pumps, particularly high pressure and high speed pumps for operating hydraulic motors of power booster systems. The invention features a pump having special passages and flow guidance means for auxiliary flow to the inlet chambers so that as the speed increases there will be an increased pressure at the inlet chambers which is proportional to the speed to effect an increase in intake flow to the pump rotor. Accordingly, cavitation due to high pump speeds



which causes incomplete filling of the inlet chambers and the rotor cells is avoided. Full filling of the intake chambers is insured at extremely high speeds by an arrangement which increases intake to the pump chambers in proportion to the difference between the statics pressures actuated on the left and right side of a control valve piston, a function of pump speed within operating limits.

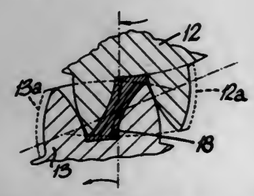
3,439,624
LIQUID FUEL PUMPING APPARATUS
Paul Edgar Glikin, London, and Ivor Fenne, Greenford, England, assignors to C.A.V Limited, London, England
Filed Nov. 8, 1966, Ser. No. 592,829
Claims priority, application Great Britain, Nov. 15, 1965, 48,372/65
Int. Cl. F04b *13/02, 49/10*
U.S. Cl. 103—2 **5 Claims**



1. A liquid fuel pumping apparatus for supplying fuel to an internal combustion engine and comprising a body part, an injection pump mounted within the body part said pump being adapted to be driven in timed relationship with an engine to which the apparatus supplies fuel, a fluid pressure operable member the setting of which determines the timing of delivery of fuel by the injection pump, a feed pump for supplying fuel under pressure, valve means for controlling the output pressure of the feed pump in a manner so that it varies in accordance with the speed at which the apparatus is driven, conduit means through which fuel flows from the feed pump to the injection pump, an axially adjustable throttle member for controlling the flow of fuel through said conduit means, resilient means biasing the throttle member in a direction to increase the flow of fuel through the conduit means, said throttle member being subjected to a variable speed dependent pressure so that its axial setting will depend upon the speed at which the apparatus is driven, a flow path communicating with the out-

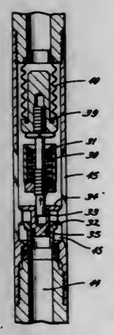
let of the feed pump, the flow of fuel through said flow path being controlled by said throttle member, a restriction in said flow path downstream of said throttle member and passage means for applying the pressure at a point in said flow path intermediate the throttle member and said restriction to said fluid pressure operable member, whereby variation in the setting of the throttle member will produce variations in the pressure at said point thereby to vary the setting of said fluid pressure operable member.

3,439,625
GEAR PUMPS
Eugene Harold Warne, Solihull, England, assignor to Joseph Lucas (Industries) Limited, Birmingham, England
Filed Mar. 10, 1967, Ser. No. 622,281
Claims priority, application Great Britain, Mar. 23, 1966, 12,801/66
Int. Cl. F04c 1/04
U.S. Cl. 103—126 1 Claim



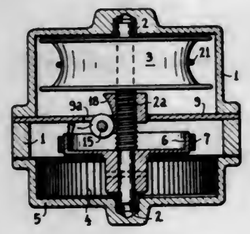
A gear pump has a pair of meshing gears having asymmetrical teeth with involute operative faces and having the inoperative faces relieved as compared with symmetrical involute gear teeth to provide an increase volume space between two pairs of meshing teeth on the gears.

3,439,626
GAS LIFT APPARATUS
Bolling A. Abercrombie, Houston, Tex., assignor to Everett D. McMurry and Knud I. Brunn, both of Houston, Tex.
Filed Oct. 23, 1965, Ser. No. 503,968
Int. Cl. F04f 1/08, 1/00
U.S. Cl. 103—232 5 Claims



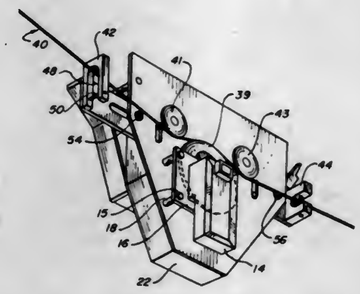
A gas lift apparatus having an improved gas lift valve having both an increased flow capacity and sensitivity to casing pressure during the opening cycle. A balancing piston is provided in a housing having an end port connected to a well tubing and a side port connected to the annulus between a well casing and the tubing. The balance piston is located toward the opposite end of the housing so as not to obstruct fluid flow between the ports. The valve stem is preferably arranged to snap open and shut during operation.

3,439,627
HAULING DEVICE FOR SKI LIFTS
Ugo Carlevaro, 43 Via San Secondo, Turin, Piedmont, Italy
Filed Feb. 20, 1967, Ser. No. 617,300
Claims priority, application Italy, Mar. 26, 1966, 32,808/66
Int. Cl. B61b 11/00, 7/04, 7/10
U.S. Cl. 104—173 7 Claims



In a hauling device for ski lifts comprising a winding drum with rewinding spring for winding up the individual towing rope, braking means connected to said drum for maintaining a slight braking action during the rewinding operation and a powerful braking action during unwinding of the individual towing rope; and a control device automatically changing said braking action during the course of operation.

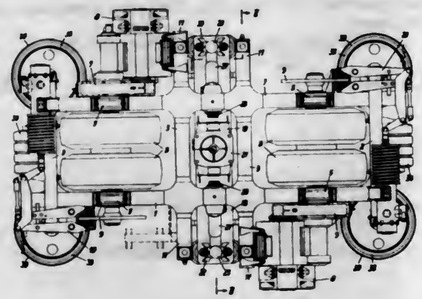
3,439,628
TROLLEY CONTAINER
Lavine Mendelson, 4915 Kelly Road, Tampa, Fla. 33615
Filed July 1, 1966, Ser. No. 562,208
Int. Cl. B61b 7/06
U.S. Cl. 105—50 10 Claims



A trolley capable of carrying an object, such as film, having a two-speed drive and switch means to automatically vary said drive speed whereby said trolley can deliver said object at a fast speed and return it at a slower speed to the starting point to conserve power.

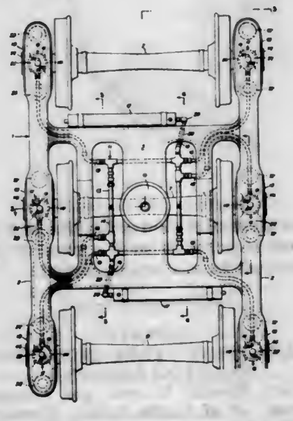
3,439,629
MONORAIL TRUCK
Konrad Deller, Cologne-Deutz, Germany, assignor to ALWEG Gesellschaft mit beschrankter Haftung, Essen, Germany
Filed Oct. 4, 1966, Ser. No. 584,178
Claims priority, application Germany, Oct. 16, 1965, A 50,525
Int. Cl. B61b 13/04; B61c 9/38
U.S. Cl. 105—133 5 Claims

A truck for vehicles of monorail trains, which includes two pairs of load carrying wheels equipped with pneumatic tires for engagement with the top surface of a monorail and arranged one behind the other in the driving direction of the truck, guiding wheels at the front and the rear of the truck frame and on opposite sides thereof for guiding engagement with upper portions of opposite side surfaces of a monorail, supporting wheels on opposite sides of the longitudinal central plane of the truck frame, said guiding wheels and said supporting wheels



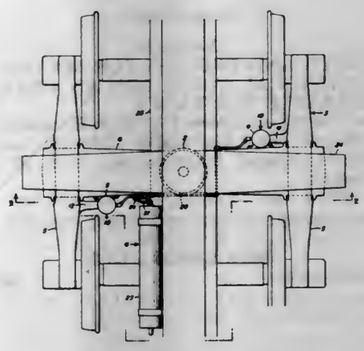
and said load carrying wheels being fixedly rotatably journalled in said truck frame, pivotal suspension means including spring means suspended on said truck frame and supporting a cradle for movement along a substantially horizontal plane, and swivel joint means supported by said cradle for connection with a railway box of at least one railway vehicle.

3,439,630
HYDRAULICALLY DAMPERED CROSS EQUALIZED TRUCKS
Geoffrey W. Cope, Williamsville, N.Y., assignor to Symington Wayne Corporation, Salisbury, Md., a corporation of Maryland
Filed Mar. 2, 1965, Ser. No. 436,610
Int. Cl. B61f 5/10, 3/10, 5/12
U.S. Cl. 105—196 16 Claims



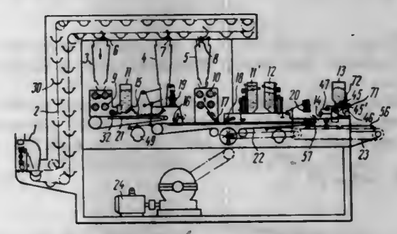
A railway truck having side frames resiliently supported on journal boxes, a bolster connecting and rigid with the side frames and a hydraulic cylinder unit acting vertically between each journal box and the adjoining side frame, the cylinder units being hydraulically interconnected for distributing between them a vertical force received by any of them and the pressure in the hydraulic interconnection being pneumatically maintained.

3,439,631
HYDRAULICALLY DAMPENED CROSS-EQUALIZED TRUCK
Geoffrey W. Cope, Williamsville, N.Y., assignor to Symington Wayne Corporation, Salisbury, Md., a corporation of Maryland
Filed Feb. 24, 1965, Ser. No. 434,981
Int. Cl. B61f 5/12
U.S. Cl. 105—197 10 Claims



A railway truck cross-equalized against the development of a periodic roll in the associated car body by vertically acting hydraulic cylinder units at opposite sides of the truck, each of which is connected and responsive to relative vertical movement of a side frame or other supporting member and a bolster or other supported member, the units being hydraulically connected to each other for distributing between them a vertical force initiated at either side.

3,439,632
MULTIFLOW DOUGH-FORMING MACHINE FOR FANCY BAKED GOODS
Motja Anselevich Pirotsky, Kiev, U.S.S.R., assignor to Ukrainsky Nauchno-Issledovatelsky I Konstruktorsky Institute prodovolstvennoga maschinostroenia, Kiev, U.S.S.R.
Filed Apr. 14, 1965, Ser. No. 448,003
Int. Cl. A23g 3/00; A21c 5/00, 9/00
U.S. Cl. 107—1 9 Claims



A multiflow dough-forming machine for fancy baked goods having a dough blanks feeder; a conveyor for receiving said blanks and for proofing them; dough-sheeting arrangements mounted beneath said conveyor for selectively receiving the blanks from said conveyor and for sheeting same; conveyors for transferring the sheeted blanks beneath butter batchmeters mounted thereabove for depositing butter thereon as the blanks are advanced from any selected dough-sheeting arrangement; a further batchmeter for depositing filling onto the buttered blanks mounted after one of said butter batchmeters; an attachment to roll up the buttered blanks mounted after the other butter batchmeter; further devices for notching the blanks to impart fancy shapes thereto; an arrangement for folding in and doubling the buttered and coated and

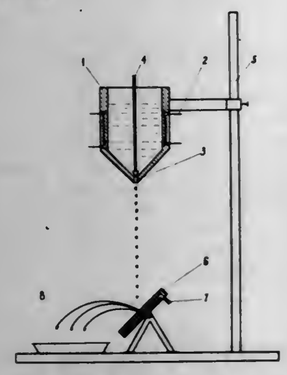
filled blanks, said arrangement positioned at the discharge end of one of said second-mentioned conveyors transferring the sheeted blanks beneath a filling batchmeter; a batchmeter for sprinkling the fancy shaped blanks with some granular product; and an arrangement for wetting the blanks before they are sprinkled and a conveyor positioned beneath the discharge end of the last-mentioned conveyor and intended to support the sheets on which the notched blanks are laid down.

3,439,633

APPARATUS AND PROCESS FOR MANUFACTURING SPHERICAL CORES FOR AN ORALLY ADMINISTRABLE SUBSTANCE

Zbigniew Pawlak, Asfaltowa FA. M13; Kazimierz Michalski, Praga Pot, Korytnidky 23—16; and Jerzy Surowiecki, Pragaii, Namystowska 3/23, all of Warsaw, Poland

Filed Apr. 17, 1967, Ser. No. 631,446
Claims priority, application Poland, Apr. 16, 1966, P 114,058
Int. Cl. B22d 23/08
U.S. Cl. 107—54 10 Claims



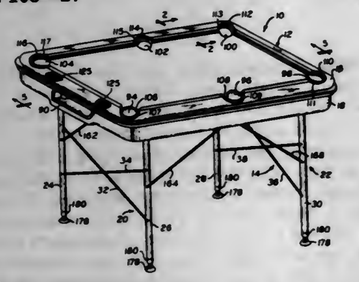
A method in which a sugar melt is discharged dropwise by gravity onto a heated inclined surface from a height such that the drops splatter upon striking the surface and form hardened spherical droplets which fall directly into a collector.

3,439,634

TABLE BASE

Louis Bender, Plainfield, N.J., assignor to Standard Plastic Products, Inc., South Plainfield, N.J., a corporation of New Jersey

Original application Mar. 15, 1965, Ser. No. 439,901, now Patent No. 3,319,958, dated May 16, 1967. Divided and this application Mar. 22, 1967, Ser. No. 625,194
Int. Cl. A47b 25/00, 19/00; B63d 15/00
U.S. Cl. 108—27 6 Claims



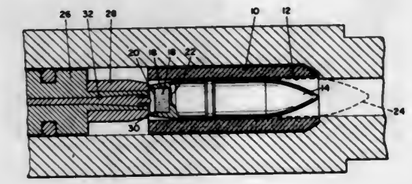
A table base which includes an upper planar part with a marginal edge portion that is upwardly extending and downwardly concave which is joined to a lower planar part with a marginal edge portion that is downwardly extending and upwardly concave at the confronting planar surfaces and the confronting marginal edges.

3,439,635

CASELESS AMMUNITION WITH THE PRIMER OPERATIVELY SUPPORTED TO THE AFT END OF THE PROJECTILE

Perry J. Hensley, Magna, Utah, assignor to Hercules Incorporated, Wilmington, Del., a corporation of Delaware

Filed Dec. 28, 1967, Ser. No. 694,205
Int. Cl. F42b 9/00
U.S. Cl. 102—38 8 Claims



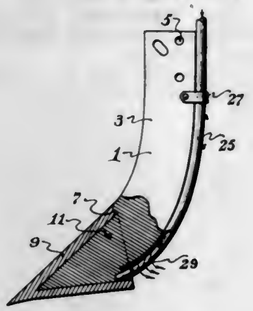
A round of caseless ammunition is provided with the primer operatively supported to the aft end of the projectile. Both conventional and combustible primers can be employed.

3,439,636

CULTIVATOR TINE WITH FLUID DISPENSER

Lawrence W. Lemke, Rte. 1, Gentry, Ark. 72734

Filed May 29, 1967, Ser. No. 641,893
Int. Cl. A01c 23/02
U.S. Cl. 111—7 4 Claims



The combination of a cultivation tine and a liquid dispenser, secured together in such a manner that the dispenser is protected from damage thereto.

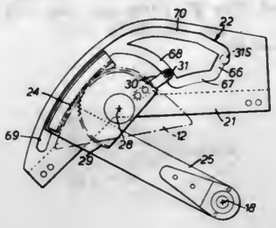
3,439,637

APPARATUS TO FEED SUPERPOSED WEBS FOR SEAMING

Bob Haselgrove, Ronald Dorsett, and Leonard Thomas Frank Bryan, all of Castle Estate, Coronation Road, Cressex, High Wycombe, Buckinghamshire, England

Filed Dec. 12, 1966, Ser. No. 601,037
Claims priority, application Great Britain, Dec. 10, 1965, 52,632/65
Int. Cl. D05b 3/04; D05c 3/02
U.S. Cl. 112—2 13 Claims

Apparatus for closing the toe portion of a lady's stocking along a seam line of compound arcuate form comprising a pair of superposed clamps to grip the toe portion therebetween and carry said portion past a sewing machine, the clamps being a on a mounting for rotation of the clamps to carry the stocking past the sewing machine along one arcuate portion of the compound seam line and the mounting being on a carrier which moves the



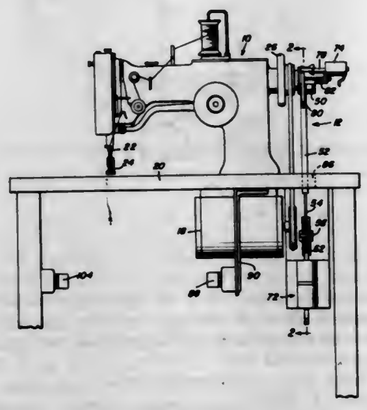
mounting to carry the stocking along another arcutae portion of the compound seam line, a common drive for selectively moving the mounting and/or carrier and a means for making such selection automatically according to the form of the seam line.

3,439,638

AUTOMATIC NEEDLE POSITIONER

Peter Zuk, Cressona, Pa.
(R.D. 3, Pottsville, Pa. 17901)

Filed Oct. 18, 1966, Ser. No. 587,532
Int. Cl. D05b 69/12; F16h 27/02, 31/00
U.S. Cl. 112—219 13 Claims



A needle positioner including an extension on the drive shaft of a sewing machine, a strap reciprocally movable transversely cross the extension, a cylindrical housing for guiding the strap about the extension, a pair of laterally spaced rotationally offset notches on said extension, a pawl on the end of said strap selectively engageable with either of said notches for turning the shaft and positioning the needle, and means for automatically laterally shifting the strap for engaging one or the other of the notches.

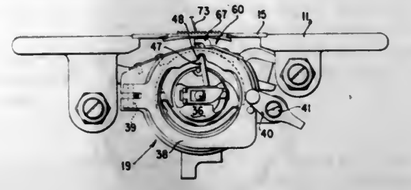
3,439,639

THREAD PULL-OFFS

William E. Patrick, Brighstone, England, and Frank Fennesz, Jr., Clark, N.J., assignors to the Singer Company, New York, N.Y., a corporation of New Jersey

Filed Oct. 16, 1967, Ser. No. 675,558
Int. Cl. D05b 49/00, 3/02
U.S. Cl. 112—242 2 Claims

A finger is mounted on top of a housing for a compensating loop taker to pull off thread from a thread supply in the loop taker. The finger is in the path of thread between the supply of thread in the loop taker and an



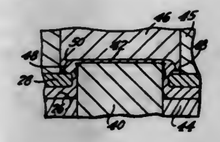
article to be sewn to pull off thread from the thread supply during lateral oscillation of the loop taker in compensation for lateral oscillation of a needle.

3,439,640

CONTAINER OPENING DEVICES

Ermal C. Fraze, 355 W. Stroop Road, Dayton, Ohio 45429

Application Mar. 2, 1964, Ser. No. 348,618, now Patent No. 3,273,744, dated Sept. 20, 1966, which is a continuation-in-part of application Ser. No. 280,545, May 15, 1963, which in turn is a continuation-in-part of application Ser. No. 193,060, May 2, 1962, which in turn is a continuation-in-part of application Ser. No. 130,884, Aug. 11, 1961. Divided and this application Apr. 15, 1966, Ser. No. 562,011
Int. Cl. B21d 51/00, 39/00, 11/00
U.S. Cl. 113—116 5 Claims



1. In the method of fabricating a container wherein a metal wall of the container is scored along a line to form a tear strip and a hollow rivet is formed in the tear strip and extended through a portion of the tab and the hollow rivet is then headed into overlapping engagement with the tab for use of the tab as a lever to initiate severance of the tear strip at a particular region near one end of the tear strip, the improvement comprising:

shaping the hollow rivet to an elongated configuration with its longitudinal axes extending towards the particular region; and

confining the longitudinal sides of the hollow rivet during the heading operation to limit spreading of the metal laterally of the longitudinal configuration and thereby divert the metal of the rivet longitudinally of the elongated configuration towards the particular region for local reinforcement of the joint between the tab and the tear strip where maximum stressing of the joint between the tear strip and the tab is created by the lever action.

3,439,641

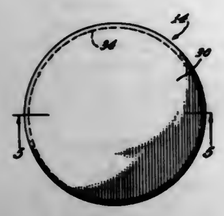
METHOD OF MAKING AN EASY OPENING CAN END

Ermal C. Fraze, 355 W. Stroop Road, Dayton, Ohio 45429

Original application Jan. 29, 1965, Ser. No. 429,063, now Patent No. 3,343,713, dated Sept. 26, 1967. Divided and this application Apr. 14, 1967, Ser. No. 656,963
Int. Cl. B21d 51/44
U.S. Cl. 113—121 12 Claims

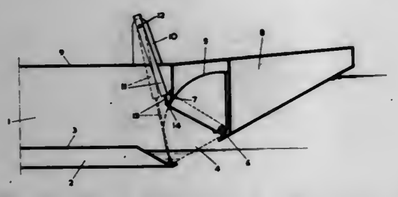
This disclosure describes a method of making an easy opening container including an end panel in the container

wall. The panel is secured to the container wall by roll forming together portions of both the panel and container



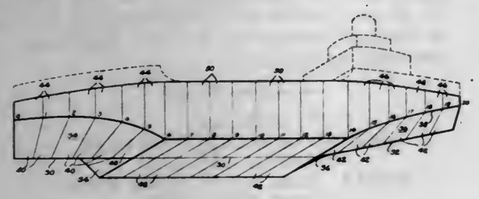
wall. The panel thereafter has a tear strip formed therein and a tear tab attached thereto.

3,439,642
HOPPER BARGE FOR TRANSPORTING ESPECIALLY LIQUID WASTE MATTER
Bartele van der Werff, Capelle aan den Ijssel, Netherlands, assignor to A. Vuyk en Zonen's Scheepswerven N.V., Capelle aan den Ijssel, Netherlands, a corporation of Netherlands
Filed June 9, 1967, Ser. No. 644,928
Claims priority, application Netherlands, Dec. 20, 1966, 6617871
Int. Cl. B63b *35/30*
U.S. Cl. 114—37 4 Claims



A hopper barge for transporting waste matter to and unloading same in the open sea comprising a double bottom acting as an air-case and passageways at the stem and the stern which can be closed by hinged sector-shaped valves. The air-case extends along the entire length of the cargo-hold and from board to board; the passageways and the valves extend across the entire width of the hold.

3,439,643
SHIP'S HULL
Mario I. Andrea, 8900 Brickyard Road, Potomac, Md. 20854
Filed May 12, 1967, Ser. No. 638,712
Int. Cl. B63b *1/00, 3/00*
U.S. Cl. 114—63 5 Claims



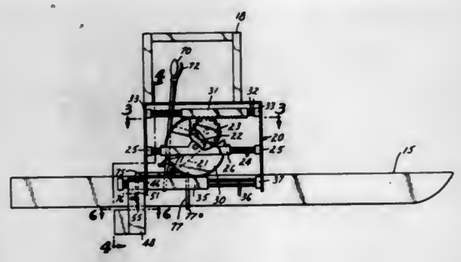
Frames with vertical upper members and V-shaped lower members, the V-angle from stem aft increasing uniformly from 0°–180°, remaining at 180°, and then decreasing uniformly towards 0°.

3,439,644
GUARD RAILS TO RETAIN AN ANCHOR ROPE PULLEY FORWARDLY OVER A BOAT STEM
Leland L. Pennington, 2501 Central Ave., Kansas City, Kans. 66102
Filed May 27, 1968, Ser. No. 732,370
Int. Cl. B63b *21/22*
U.S. Cl. 114—210 2 Claims



Guard rails spaced in parallelism securable to a boat deck, inclined upwardly and forwardly from a boat stem, and curved rearwardly with a spread sloping downwardly securable to deck sides. An anchor rope pulley mounted between the guard rails forwardly and upwardly from a boat stem.

3,439,645
APPARATUS FOR PROPELLING A CRAFT
Harold D. Kragness, Rte. 2, Canby, Minn. 56220
Filed Dec. 13, 1967, Ser. No. 690,325
Int. Cl. B63h *1/30, 5/00*
U.S. Cl. 115—25 8 Claims

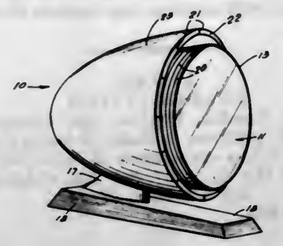


A boat with a pair of foot operated treadles affixed to separate shafts each having a segment gear attached to the outer end thereof and meshing with second gears which are in turn meshed with upper and lower generally horizontal racks which are mounted for longitudinal sliding movement. A third gear, having a pitch diameter approximately twice the pitch diameter of the second gear, is rotatably mounted on each of the lower racks in mesh with the associated upper rack and a third horizontal rack mounted for longitudinal sliding movement below the lower rack and further attached to a chute-like paddle, having a pair of gates therein which swing freely in one direction but provide a propelling force in the opposite direction. The apparatus further includes means for altering the movements of the gates of either or both paddles so that the direction of the propelling force is altered.

3,439,646
REARVIEW MIRROR WITH ADJUSTMENT GUIDES
Robert J. Helle, 371 De Leon Vista, Crystal Lake, Ill. 60014
Filed May 25, 1965, Ser. No. 458,543
Int. Cl. G09f *9/00*; B60q *9/00*; A47g *1/24*
U.S. Cl. 116—124 2 Claims

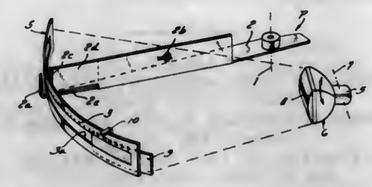
A rearview mirror assembly comprises a pedestal, a mirror mounted pivotally on the pedestal, means such as a housing or ring stationary relative to and encircling the

rim of the mirror, and adjacent annular areas of the stationary member and the mirror rim having guide means



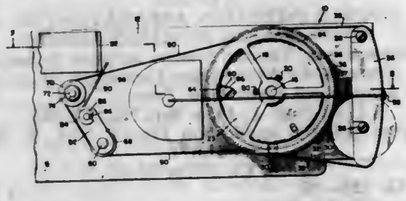
and indexing means coactive to show the pivotally adjusted attitude of the mirror.

3,439,647
INDICATING APPARATUS
Wilhelm Baumgaertner, Trier, and Ludwig Zwicker and Manfred Szyszka, Nuremberg, Germany, assignors to Metrawatt Aktiengesellschaft, Nuremberg, Germany
Filed Aug. 25, 1966, Ser. No. 574,985
Claims priority, application Germany, Aug. 27, 1965, M 52,649
Int. Cl. G09f *13/04, 9/00*
U.S. Cl. 116—129 12 Claims



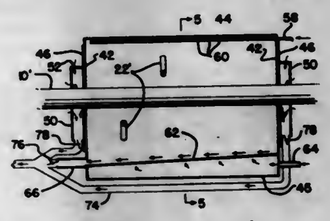
An indicating apparatus wherein the scale is provided with an elongated light-penetrable portion and the tip of the pointer extends in front of the scale. The arm of the pointer is located behind the scale and the scale is movable with reference to the pointer or vice versa to place the tip into registry with different regions of the light-penetrable portion. The apparatus comprises illuminating means located behind the scale at one side of the arm and masking means carried by the arm to cast a shadow upon the light penetrable portion of the scale at the other side of the arm.

3,439,648
INDICATING DEVICE
Ronald C. Miller, Norristown, and William F. Newbold, Springfield Township, Montgomery County, Pa., assignors to Honeywell Inc., Minneapolis, Minn., a corporation of Delaware
Filed Aug. 19, 1966, Ser. No. 573,514
Int. Cl. G09f *9/00*
U.S. Cl. 116—135 7 Claims



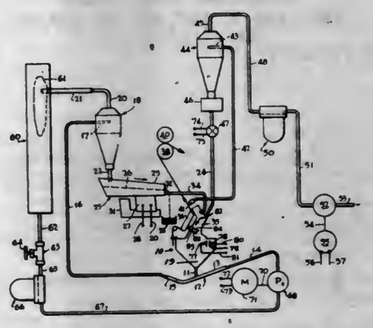
An indicating device is shown with a single support drum upon which an indicating tape having indicia inscribed upon the surface thereof is mounted. The ends of the tape are relieved along opposite edges to form end portions having a width one half that of the central tape portion. The ends are wrapped about the outer surface of the support drum and attached thereto. A platen supports the central tape portion and provides for the display of the indicia upon the indicating tape. The drum is thus c apable of rotating 360° for imparting linear motion of the indicating tape.

3,439,649
ELECTROSTATIC COATING APPARATUS
Richard O. Probst and Charles R. Thatcher, Indianapolis, and Norbert M. Zupan, Brownsburg, Ind., assignors to Ransburg Electro-Coating Corp., Indianapolis, Ind., a corporation of Indiana
Continuation-in-part of application Ser. No. 439,790, Mar. 15, 1965. This application Jan. 5, 1966, Ser. No. 521,481
Int. Cl. B05b *5/02*; G03g *5/00*
U.S. Cl. 118—634 13 Claims



Apparatus for coating an article with powder comprises a coating chamber having openings for the passage of an article moved through the chamber. One or more spray guns in the chamber direct air-suspended powder towards the article for electrostatic deposition thereon. Each of the openings through which the article passes has an associated means providing an air curtain for recapturing powder escaping through the opening. The chamber has an air-permeable floor, and air discharged upwardly through such floor fluidizes powder collecting thereon, and such powder is withdrawn in fluidized state. The fluidized powder so withdrawn may be directly supplied to the spray guns.

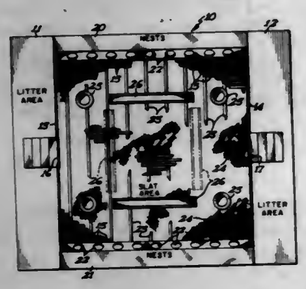
3,439,650
INFORMATION TRANSFER AND INK PARTICLE REFINING SYSTEM
Philip A. Stowell, Paoli, Pa., assignor to Borg-Warner Corporation, Chicago, Ill., a corporation of Illinois
Filed July 12, 1965, Ser. No. 471,176
Int. Cl. B05b *5/02*
U.S. Cl. 118—637 7 Claims



An inker station for developing a previously charged dielectric web includes a housing for retaining the particles and discharging them into one input connection of a Venturi-type fitting as an air stream is passed into

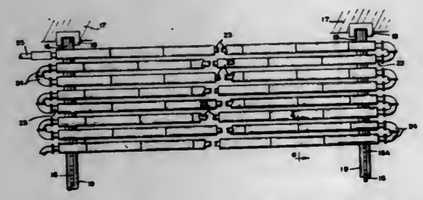
the other input connection of the fitting. From the fitting the entrained material is discharged into a cyclone separator where undesired small particles are removed, and then into a vibrator separator which excludes unduly large particles and passes only particles within the desired size range back into the housing to contact, and adhere to, the previously charged dielectric web as it is pulled through a portion of the housing. A sniffer disposed at the web exit removes excess background ink particles from the developed web.

3,439,651
METHOD OF CONTROLLING THE LAYING HABITS OF POULTRY
Seymour A. Peterson, Dassel, Minn., and John W. Granath, Danville, Ind., assignors to Storm Industries, Inc., Dassel, Minn., a corporation of Minnesota
Filed Mar. 1, 1967, Ser. No. 619,699
Int. Cl. A01k *31/00, 45/00*
U.S. Cl. 119—21 3 Claims



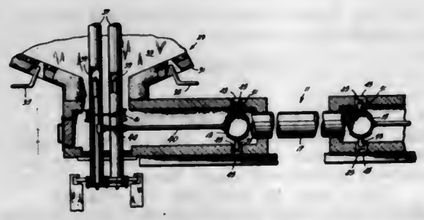
This disclosure is directed to a method of establishing the laying habits of a poultry flock. It is known generally, that a poultry flock will lay the greatest number of eggs in the nests if the flock is confined after the flock starts to lay rather than beforehand. It has been discovered that the number of eggs laid in the nests by a flock may be broadened to a maximum rate by disrupting the environment of the flock when the daily production rate is approximately 10–15 percent of the total flock number and continuing such disruption until sometime short of reaching peak production. The environmental change may be accomplished by upsetting the schedule of the flock in a controlled house.

3,439,652
FURNACE GRATE CONSTRUCTION
Joseph A. Clark, Rte. 1, Box 3642, Sweethome, Oreg. 97480
Filed Aug. 7, 1967, Ser. No. 658,668
Int. Cl. F23h *3/02*
U.S. Cl. 122—374 2 Claims



A furnace grate for industrial type furnaces burning solid fuels such as coal, sawdust, wood chips, baggase and the like having a grate comprised of a series of water-cooled pipes with protective metal sleeves loosely mounted on the pipes and capable of movement relative to the pipes. The sleeves are disposed along the pipe members of the grate in an end-to-end manner serving to protect the pipe members of the grate from furnace operating temperatures as well as from slag deposits resulting from fuel impurities.

3,439,653
HEADER SYSTEM
Frank A. Lee, London, England, and George Kratsios, Verona, N.J., assignors to Foster Wheeler Corporation, Livingston, N.J., a corporation of New York
Filed Oct. 11, 1967, Ser. No. 674,540
Int. Cl. F22b *37/24*
U.S. Cl. 122—510 5 Claims



A header system, preferably for use in combination with a fired heater, utilizing a series of slide assemblies to permit expansion of a header without deformation of the header's shape.

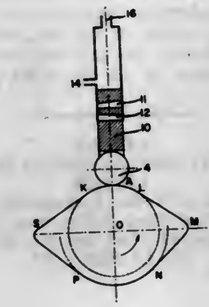
3,439,654
POSITIVE DISPLACEMENT INTERNAL COMBUSTION ENGINE
Donald K. Campbell, Jr., 8721 SW. 191st St., Miami, Fla. 33157
Filed Oct. 10, 1967, Ser. No. 674,274
Int. Cl. F02b *55/00*; F01c *1/08*
U.S. Cl. 123—12 8 Claims

An internal combustion engine having a plurality of overlapping combustion chambers with elliptical cam pistons located in a common plane and adapted to be actuated by two firing strokes for each complete revolution of the pistons, to impart continuous rotation to a power take-off shaft.

3,439,655
DOUBLE INJECTION APPARATUS FOR A COMPRESSION IGNITION MOTOR
Pierre Eyzat, Vanves, France, assignor to Institut Francais du Petrole des Carburants et Lubrifiants, Rueil Malmaison, France
Filed Nov. 1, 1966, Ser. No. 591,266
Claims priority, application France, Nov. 9, 1965, 37,871
Int. Cl. F02m *45/02*
U.S. Cl. 123—32 1 Claim

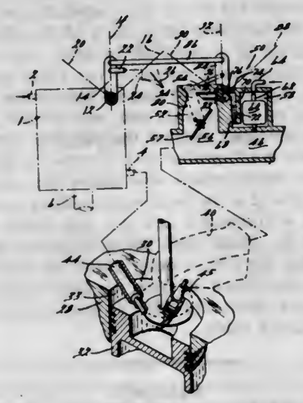
A principal and a secondary injection in each work cycle of a compression ignition motor at an interval of substantially half a cycle is attained by using a cam having two bosses of different radii actuating an injection

pump. The pump has a cylinder with a lateral admission orifice in the wall thereof and the piston in the cylinder is actuated by the cam. Spaced first and second annular grooves in the piston connected to each other and to the



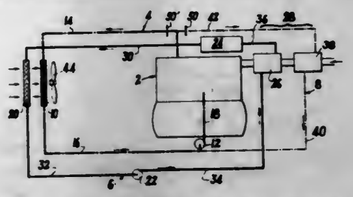
space in the cylinder above the piston cooperate with the admission orifice and with the wall of the cylinder to provide an abrupt ending for the two injections. The boss on the cam corresponding to the secondary injection has a greater height than the height of the first boss.

3,439,656
ENGINE FUEL FEED SYSTEM
Laszlo Hideg, Dearborn Heights, Mich., assignor to Ford Motor Company, Dearborn, Mich., a corporation of Delaware
Filed Mar. 1, 1967, Ser. No. 619,783
Int. Cl. F02b *11/00*
U.S. Cl. 123—32 8 Claims



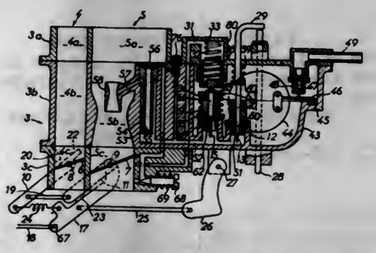
An internal combustion engine in which fuel from a fuel injection pump is injected directly into the cylinders during the minimum to essentially 60% load range, with quantities varying as a function of the load; beyond this load range, the fuel flow quantity additionally injected remains essentially constant and additional fuel is added in the form of an air-fuel mixture from a carburetor connected to the engine intake manifold. The fuel injection pump fuel control lever is moved by the vehicle accelerator pedal, and is connected to a fuel shut-off valve in the carburetor to provide this overlapping fuel supply action.

3,439,657
COOLING DEVICES FOR SUPERCHARGED INTERNAL COMBUSTION ENGINES
Jean Louis Gratzmuller, 66 Boulevard Maurice Barres, Neuilly-sur-Seine, Hauts-de-Seine, France
Filed Feb. 27, 1967, Ser. No. 618,601
Claims priority, application France, Mar. 2, 1966, 51,607
Int. Cl. F02b *29/04*
U.S. Cl. 123—41.31 4 Claims



A cooling system for a supercharged internal combustion engine having a liquid cooled jacket and supercharger air inlet means. The supercharger air inlet means is provided with a pair of serially arranged heat-exchanger means to lower the temperature of the supercharger air. The first of these heat-exchanger means receives cooling liquid from a liquid cooling circuit including the jacket of the internal combustion engine. The other of these heat-exchangers is located in the air inlet means between the engine and the first heat-exchanger and forms the part of a separate liquid cooling circuit provided with a circulation pump and air-cooled radiator.

3,439,658
CARBURETTING SYSTEM
Jocelyn Elie Louis Simonet, Paris, Seine, France, assignor to Societe du Carburateur Zenith, Lyon, France, a company of France
Filed July 25, 1967, Ser. No. 655,867
Claims priority, application France, Aug. 2, 1966, 71,787
Int. Cl. F02m *13/04, 13/06*; F02b *17/00*
U.S. Cl. 123—75 6 Claims

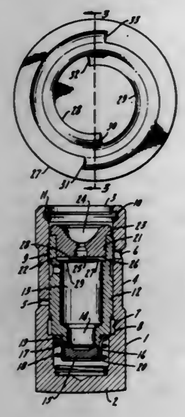


To feed an internal combustion engine with so-called stratified charges through separate channels with mixtures of different fuel richnesses, there is provided an additional input of fuel including for instance an additional jet subjected to the pressure prevailing in the corresponding air-feeding channel on the downstream side of the throttle in the latter. Said jet may be in fact the same as the normal jet for said channel.

3,439,659
SPIRAL METERING VALVE
Gerald R. Bouwkamp, Villa Park, Ill., assignor to Standard Screw Company, Bellwood, Ill., a corporation of New Jersey
Filed May 9, 1967, Ser. No. 637,223
Int. Cl. F01l *1/16*
U.S. Cl. 123—90 7 Claims

This invention comprises a metering valve for use in a hydraulic tappet or valve lifter. The metering valve is

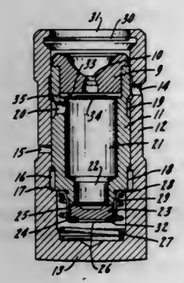
located within the hollow plunger of the hydraulic tappet. There is an opening from the interior of the hollow tappet into the cup in which the end of the hollow pushrod is located. The valve is positioned near this opening and is adapted to be seated against the member in which the opening is located. The valve comprises a generally flat imperforate disk which has formed in each face a generally spiral raised portion. The raised portion of the side of the disk opposite the member in which the opening is formed comprises the sole part of the disk which seats in this direction. The ends of each spiral overlap and are out of contact. The two spirals are provided merely to simplify assembly and to make sure that the disk is assembled in the tappet so that one spiral will always be in position to move to seat. Only one spiral is active at a time and the spiral on the opposite face of the disk is inactive since it is faced in the direction of the interior of the tappet plunger.



3,439,660
TAPPET METERING DISK

Kenneth W. Lesher, Wheaton, Ill., assignor to Standard Screw Company, Bellwood, Ill., a corporation of New Jersey

Filed May 19, 1967, Ser. No. 639,849
Int. Cl. F01l *1/24*; F16k *15/00*
U.S. Cl. 123—90 6 Claims

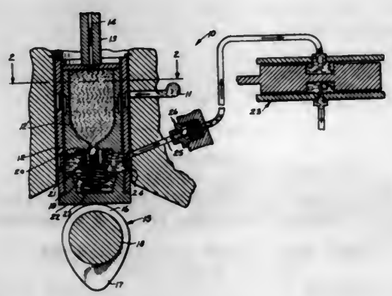


The device disclosed comprises a hollow hydraulic tappet, to the interior of which lubricant is conducted from the engine in which the tappet is positioned. Lubricant fluid is discharged from the hydraulic tappet toward the valve operating means and furnishes lubrication to the valve operating means including the rocker arm and associated parts. The tappet disclosed is associated with a hollow pushrod which leads to the rocker arm which moves an engine valve. Means are provided in the tappet to meter the flow of lubricant to the pushrod. This means comprises a generally flat disk provided on each face with a ring-like raised portion which is shaped with a gap or open space in the ring. The ends of the ring are separated. They overlap each other in one form. The rings are of non-uniform radial disposition with respect to the disk. A flat seat for the disk is provided within the tappet about the opening through which lubricant flows to the pushrod. When the disk is seated on the seat, lubricant can flow outwardly only through the gap between the ends of the ring and it is metered by the size of the gap between the ends of the ring.

3,439,661
CONTROLLED DISPLACEMENT HYDRAULIC LIFTER

Michael A. Weiler, Jacksonville, N.C.
(9721 W. Reichert Place, Milwaukee, Wis. 53225)

Filed Jan. 11, 1968, Ser. No. 697,193
Int. Cl. F01l *1/24*
U.S. Cl. 123—90 1 Claim



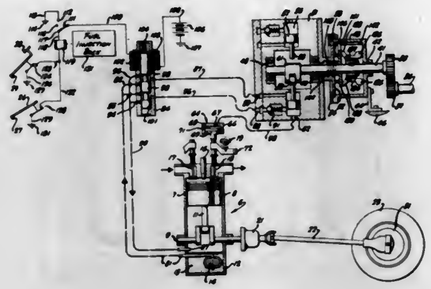
A device for internal combustion engines which will effectively control the lift of any camshaft used. This device allows the complete controlling of the effective timing and duration of a camshaft in order that the engine will attain maximum horsepower per cubic inch of displacement at high camshaft speeds. The device, according to the setting of the control unit, will permit maximum torque to be obtained because the gasoline wasting overlap timing bar is eliminated and this device allows for a smooth idling speed, which also allows the engine to run quieter. The device is equipped with a sliding spool control valve, which is connected to a one-way-check valve, the other end of the check valve being connected to a bleed-off port within the lifter's outer body, the bleed-off port allowing for fluid bleed-off from the control displacement chamber of the lifter. The lifter is also supplied with an internal ball check valve.

3,439,662
VARIABLY TIMED BRAKE FOR AN AUTOMOTIVE VEHICLE ENGINE

Stanley A. Jones and Paul C. Smith, Sacramento, Calif., assignors of fifty percent to Stanley A. Jones, twenty-five percent to Paul C. Smith, twelve and one-half percent to Dennis H. Fletcher, all of Sacramento, Calif., and twelve and one-half percent to Alan B. Jones, Fair Oaks, Calif.

Filed Sept. 18, 1967, Ser. No. 668,400
Int. Cl. F02d *31/00*; F01l *1/00*; B60k *27/00*
U.S. Cl. 123—97 5 Claims

This invention relates to a variably timed braking mechanism for an automotive vehicle engine having a crank shaft and a periodically operated poppet exhaust valve and includes a mechanically driven piston pump hydraulically connected to a responsive expansible cylinder effective to afford timed operation of the engine exhaust valve in addition to the normal mechanical operation of such valve. The pump is driven from the automotive vehicle engine by a means which includes a fly-

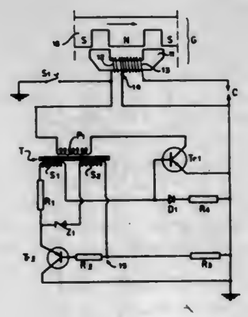


ball governor responsive to engine speed and effective to vary the angularity or phase relationship of the drive shaft to the pump so that the timing of the hydraulically operated exhaust valve mechanism is varied in accordance with speed variations of the automotive vehicle engine.

3,439,663
TRANSISTOR IGNITION SYSTEM FOR GAS ENGINES

Arnaldo Lombardini, Viale Piave 1, and Giorgio Ferretti, Via Asioli 12, both of Reggio Emilia, Italy

Filed May 19, 1967, Ser. No. 639,827
Int. Cl. F02p *1/02, 1/08*
U.S. Cl. 123—149 4 Claims



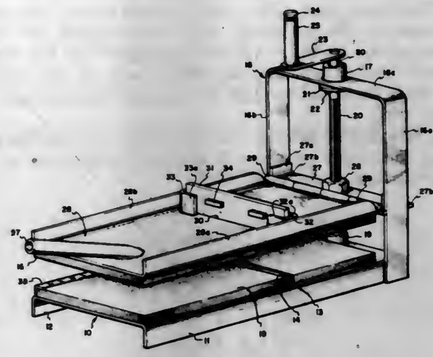
A transistorized magneto for internal combustion engines comprising a transistor for breaking the primary current and means responsive to the speed of the motor for regulating the base current of said transistor.

3,439,664
MASONRY CUTTER

Ronald R. Sylvester, 902 East 12650 South, Draper, Utah 84020

Filed Mar. 8, 1967, Ser. No. 621,598
Int. Cl. B28d *1/26, 7/04*
U.S. Cl. 125—23 5 Claims

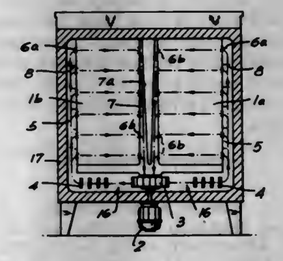
A machine for cutting masonry such as bricks and the like to desired size. A cushioned bottom plate has a cutting blade projecting upwardly therefrom and a pivoted, cushioned, upper plate has a corresponding blade arranged to be impacted to initially break the brick. The upper plate is vertically adjustable to insure its being arranged to apply even pressure to the masonry item to thereby prevent undesired fracturing.



3,439,665
APPARATUS FOR HEATING FOOD

Karl Borje Stromqvist, Bandhagen, Sweden, assignor to Aktiebolaget Electrolux, Stockholm, Sweden, a corporation of the Kingdom of Sweden

Continuation of application Ser. No. 346,549, Feb. 21, 1964, which is a continuation-in-part of application Ser. No. 198,001, May 28, 1962. This application Sept. 30, 1966, Ser. No. 583,481
Int. Cl. F24c *15/32*; A21b *1/26*; A23l *1/00*
U.S. Cl. 126—21 3 Claims



Stacking a plurality of frozen food receptacles in a single body of air in a heating space having opposing air inlet and air outlet sides, the opposing inlet and outlet sides of the space being defined by vertically spaced slots which are formed in horizontally extending rows vertically spaced from one another and opposite one another.

3,439,666
DOUBLE SHELL TANK FLUID HEATER

Martin Schuch, C1 Tower Trailer Park, Carteret, N.J. 07008

Filed Dec. 13, 1967, Ser. No. 690,337
Int. Cl. F24h *3/06*; F24c *1/14*; F24b *7/00*
U.S. Cl. 126—110 4 Claims

A fluid heater is described having a hollow cylindrical outer shell and a hollow cylindrical inner shell annularly disposed so as to provide a narrow gas flow space between the two shells. The inner shell has inwardly-converging top and bottom portions which are connected with the corresponding outer shell portions by shell rings, which provide an upper inlet and lower outlet for fluid passing through the inner shell.

Flat arcuate pancake-type gas burners are placed in and on the lower juncture of the two shells, and an insulated cover is provided around the unit, there being a narrow annular air space between the inner surface of the cover and the outer shell. The cover extends beyond the upper juncture of the two shells, and a top connects the upper edges of the cover. A central opening in the top houses a fluid blower which blows fluid, such as air, through the inner shell and through the annular space around the outer shell.

A cylindrical deflector having a diameter less than the inner shell inlet opening, is attached within and to the inner surface of the inner shell.

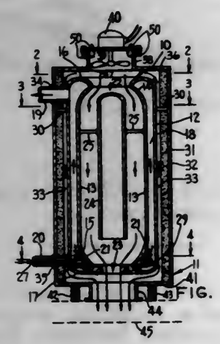
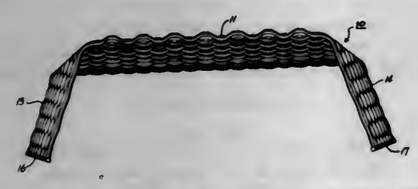


FIG.

A flue connected to the upper portion of the outer shell and passing through the cover serves to discharge flue gas, while a duct connected to the lower portion of the outer shell serves to allow entry of the burners as well as the secondary air required. A circular plate is placed under the burners and in and over the lower junction of the shells to direct flow of secondary air from the duct to portions of the burner remote from the duct.

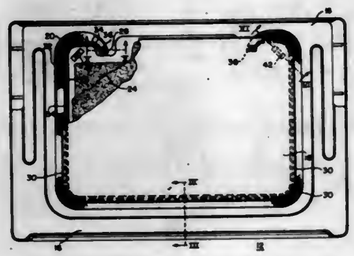
The cover is desirably extended below the lower junction of the shells, and a bottom is joined to the extending edges. A central opening in the bottom permits heated fluid to pass out into a plenum chamber, for example, for heating purposes.

3,439,667
FIREPLACE GRATE
Mark M. Stone, Highland Park, Ill., assignor to Metalex Corporation, Libertyville, Ill., a corporation of Illinois
Filed July 31, 1967, Ser. No. 657,164
Int. Cl. F23h *13/02*
U.S. Cl. 126—165 **14 Claims**



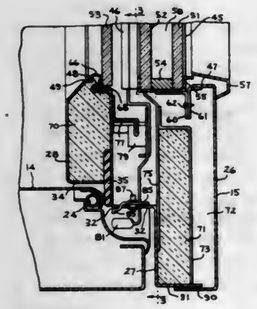
A fireplace grate is constructed of a unitary multi-apertured sheet, preferably of expanded metal, formed to have a central portion of concave curvature for receiving combustible materials and folded, depending end portions for supporting the central portion a minimum distance above a support surface. The apertures are formed to establish a preferred horizontal direction of air flow into the central portion but in such a fashion as to not prejudice vertical air flow therethrough. A grill tray is supported over the center of the grate on legs which are adapted to seat in the grate apertures.

3,439,668
OVEN DOOR CONSTRUCTION
Carl W. Tilus, Mansfield, Ohio, assignor to Westinghouse Electric Corporation, Pittsburgh, Pa., a corporation of Pennsylvania
Filed Sept. 23, 1966, Ser. No. 581,582
Int. Cl. F24c *15/02*
U.S. Cl. 126—190 **4 Claims**



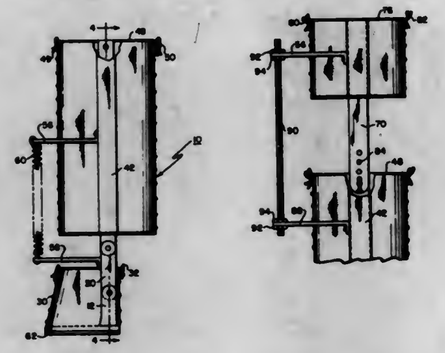
A heat cleaning oven door construction in which the muffle panel peripheral edges overlie a woven glass fabric tubular gasket on a wire form frame, the wire form frame in the gasket forming an inner margin bead held between the muffle panel peripheral flange and an inner panel shoulder, with the gasket outer margin framing most of the peripheral edge length of the muffle panel to serve as the oven door seal and to thermally isolate the muffle panel from the remainder of the door.

3,439,669
SUPPORTING MEANS FOR SHUTTER OF OVEN DOOR WINDOW
William K. Winkler, Anchorage, Ky., assignor to General Electric Company, a corporation of New York
Filed Feb. 1, 1968, Ser. No. 702,221
Int. Cl. F24c *15/04*
U.S. Cl. 126—200 **4 Claims**



This invention relates to an oven door that has a window sealed with transparent panes. The door may be used with a high temperature, self-cleaning oven, where it would be necessary to provide the window with a shutter to close the window when the oven is operating on a self-cleaning oven cycle. The shutter may be retracted into the door structure during normal clocking operations, and raised to a closed position when the oven is to be operated at a high temperature. The shutter has handles at the top corners, and the inner surface of the door has slots through which the handles extend so the handles are accessible on the inner side of the door. A gravity actuated catch member is positioned within the door near the top thereof for automatically engaging the handle after the door is opened and the shutter is raised to its closed position for supporting the shutter in place.

3,439,670
KNEE AND FETLOCK SUPPORT FOR ANIMALS
Russell A. Schuerch, 2316 Van Leunen, Cincinnati, Ohio 45239
Filed Aug. 29, 1966, Ser. No. 575,883
Int. Cl. A61d *3/00*; A61f *5/00*
U.S. Cl. 128—80 **1 Claim**



1. A fetlock support for animals comprising spaced elongated side members, said side members comprising a lower section, an intermediate section and an upper section, a bottom member secured to the ends of said lower sections, securing means on said bottom member adapted to securely engage the hoof of the animal, tubular sheath means secured to said upper sections for encirclement around the leg of said animal above the fetlock joint, means hingedly connecting said intermediate and lower sections in the region of said hoof, hinge means pivotly connecting said intermediate and upper sections in the region of said fetlock joint, said hoof engaging means and said leg engaging means being spaced apart in the region of the said fetlock joint, resilient means connected between said upper section and intermediate sections to yieldingly resist movement of said fetlock joint, upper side members hingedly secured to said upper sections and projecting vertically upwardly therefrom, upper sheath means of generally tubular form adapted for encirclement around the leg above the knee joint rigidly secured between said upper side members, means on said upper side members for axially adjusting said upper sheath means, adjustable means on said upper sheath means for tightly securing said upper sheath means to the leg of the animal and stiffening means connected between the upper members and said upper sections to resist movement of said knee joint, said stiffening means including a pair of spaced brackets secured to said upper side members and said upper sections and a rod secured between said brackets lying forwardly of said side members to resist movement of said knee joint.

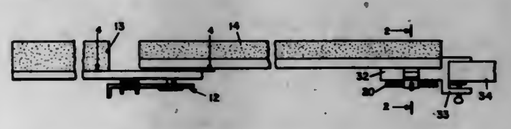
3,439,671
INSTRUMENT FOR SPIKING FRACTURED BONES
Gerhard Küntscher, Hamburg-Blankenese, Germany, assignor to Orthopedic Equipment Company, Inc., Bourbon, Ind., a corporation of Indiana
Filed Mar. 30, 1966, Ser. No. 538,786
Claims priority, application Germany, Apr. 1, 1965, O 10,762
Int. Cl. A61f *5/04*; A61b *17/00*
U.S. Cl. 128—83 **2 Claims**

An instrument for facilitating the guidance of a second surgical bone spike through a transverse opening in a previously inserted first bone spike, as required for the Y-spiking technique, comprising a rigid, hollow, longitudinally arcuate guide inserted in the hollow head of the first bone spike, and an elongated probe inserted into said guide and being directed by said guide to the skin surface



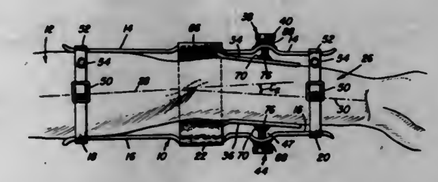
at a point aligned with the transverse opening of said first spike.

3,439,672
ADJUSTABLE SURGICAL SPLINT
Allen B. Fisher, 5507 Osage Ave., Baltimore, Md. 21227
Filed Nov. 15, 1966, Ser. No. 594,449
Int. Cl. A61f *5/04*; F16c *11/00*
U.S. Cl. 128—88 **4 Claims**



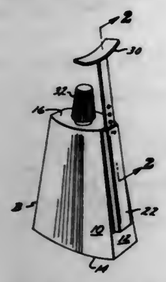
1. A surgical splint comprising a pair of elongated splint elements having overlapping end portions, an adjustable angle hinge joint connecting said splint elements and providing for angular adjustment of said elements with respect to each other, said hinge joint including a pintle non-rotatably attached to one of said splint elements and rotatably received in a bore in the other splint element and extending outwardly beyond said other element on the side opposite said one splint element, a peripherally notched disc nonrotatably fixed on said outwardly extending portion of said pintle, a spring urged locking detent carried by said other splint element and receivable in any of the notches of said notched disc to hold said splint elements in adjusted position with respect to each other.

3,439,673
ELBOW IMMOBILIZER FOR USE ON MALE AND FEMALE PATIENTS
Carl A. Sprecher, Lebanon, Pa., assignor to Lebanon Machine & Manufacturing Co., Inc., Lebanon, Pa., a corporation of Pennsylvania
Filed July 26, 1966, Ser. No. 567,893
Int. Cl. A61f *5/37, 5/04*; A61d *3/00*
U.S. Cl. 128—133 **5 Claims**



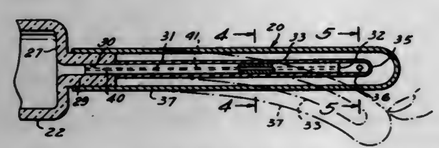
There is disclosed herein an improved limb immobilizer particularly intended for the elbow joint of both men and women to facilitate intravenous administration of food, blood, etc. The apparatus comprises a pair of elongated support members, adjustable straps arranged to overlie opposite sides of the limb in the vicinity of the joint, adjustable side members for modifying the effective angular relationship between the upper and lower portions of the support members, and an adjusting mechanism for moving the side members to the desired angular relationship and maintaining that relationship in use.

3,439,674
LIQUID EYEWASH DISPENSING DEVICE INCLUDING EYELID ENGAGING MEANS
Jhon Lellcoff, 1732 Norfolk Lane, Anaheim, Calif. 92802
Filed Feb. 18, 1966, Ser. No. 528,491
Int. Cl. A61m *1/00, 7/00*
U.S. Cl. 128—233 1 Claim



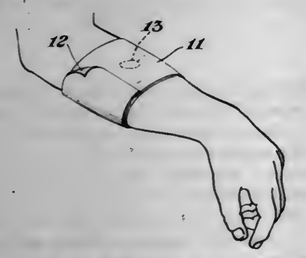
An eyewash liquid dispensing device including a container on which an eyelid-engaging assembly is movably supported that may be used to hold an eyelid in an open position when a liquid is being applied to an eye.

3,439,675
DEFORMABLE NEEDLE ASSEMBLY
Martin Bruce Cohen, Maywood, N.J., assignor to Becton Dickinson and Company, Rutherford, N.J., a corporation of New Jersey
Filed June 14, 1966, Ser. No. 557,533
Int. Cl. A61m *5/32*
U.S. Cl. 128—239 3 Claims



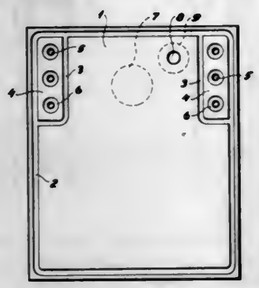
A needle assembly including an unpointed cannula which has a shank and unpointed end. A plastic sheath covers the cannula and extends from its shank to its unpointed end. The sheath extends beyond the unpointed end terminating in a rounded sealed surface. At least one hole is in the sheath intermediate the unpointed end of the cannula and the rounded sealed end of the sheath.

3,439,676
WOUND DRESSING
Charles J. Burda, Midland, Mich., assignor to Dow Corning Corporation, Midland, Mich., a corporation of Michigan
Filed Dec. 1, 1966, Ser. No. 598,327
Int. Cl. A61f *7/02*
U.S. Cl. 128—268 5 Claims



An improved wound dressing which is transparent and is composed of a self-adhering silicone elastomer having medicaments dispersed therein which are controllably released to the site of the wound.

3,439,677
COLOSTOMY OR ILEOSTOMY BAG
Kjeld Bonfils, Platanvej 16, Copenhagen 5, Denmark
Filed Nov. 5, 1965, Ser. No. 506,514
Claims priority, application Denmark, Nov. 14, 1964, 5,628/64
Int. Cl. A61f *5/44*
U.S. Cl. 128—283 6 Claims

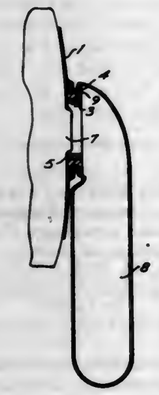


Colostomy or ileostomy bag of thin plastic sheet provided with filtered net means for enabling discharge of wind outwardly and away from the patient's body.

3,439,678
COATED BABY PANTY
Manuel A. Thomas, Spartanburg, S.C., assignor to Deering Milliken Research Corporation, Spartanburg, S.C., a corporation of South Carolina
No Drawing. Continuation-in-part of application Ser. No. 361,904, Apr. 22, 1964. This application Aug. 14, 1967, Ser. No. 660,205
Int. Cl. A61f *13/00*; A61l *15/00*
U.S. Cl. 128—284 2 Claims

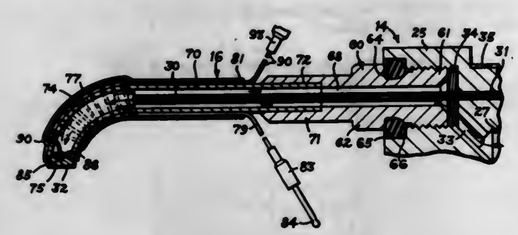
A plied fabric having high water resistance durable to repeated laundering. The fabric comprises at least two layers each formed from a woven fabric which is resistant to standing water and is air and vapor permeable.

3,439,679
COLOSTOMY OR ILEOSTOMY DEVICE
Alton O. Doolittle, 3899 Gundry Ave., Long Beach, Calif. 90807
Filed June 16, 1966, Ser. No. 558,027
Int. Cl. A61f *5/44*
U.S. Cl. 128—283 1 Claim



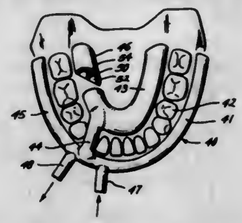
In mounting a colostomy or ileostomy device to the body without the use of belts, straps or harness, an adhesive mounting disk is removably attached to a ring, and also the pouch is removably attached to this same ring. Thus a very compact and relatively light device is obtained which is readily kept sanitary.

3,439,680
SURGICAL INSTRUMENT FOR CATARACT REMOVAL
Edward R. Thomas, Jr., Chicago, Ill., assignor to Northwestern University, Evanston, Ill.
Filed Apr. 12, 1965, Ser. No. 447,124
Int. Cl. A61b *17/36*
U.S. Cl. 128—303.1 10 Claims



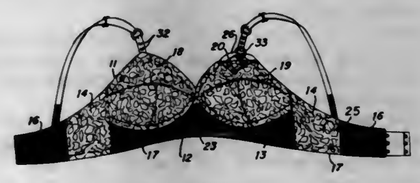
A cryosurgical system including a pencil-like hand instrument which can be easily and quickly manipulated by the surgeon in much the same way as a pencil. An automatic control system regulates the flow of liquid refrigerant into the handpiece wherein it is expanded adjacent the tip to effect the cooling thereof. The probes on the handpiece can be easily removed and replaced, and a heater coil is provided thereon for defrosting the tip. In one embodiment a small valve is provided in the handpiece for regulating the flow of liquid to the tip.

3,439,681
COOLING APPARATUS FOR DENTAL ANESTHETIZATION
Orvel K. Riley, Victoria, Tex., assignor to Surgical Eng. and Research Corp., Victoria, Tex., a corporation of Texas
Filed Oct. 31, 1966, Ser. No. 590,977
Int. Cl. A61f *7/12*
U.S. Cl. 128—401 8 Claims



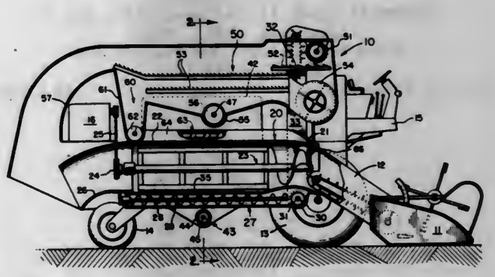
1. In apparatus for anesthetizing teeth and adjacent tissues by the application of cold; a dental applicator comprising a pair of fingers extending from a crossover, one of said fingers being shaped to fit inside the mouth and against the buccal gingival surface associated with a row of teeth in heat-transferring relationship for a distance of at least four teeth, the other of said fingers being shaped to fit against the corresponding lingual gingival surface in heat-transferring relationship, said crossover being shaped to cross over the row of teeth; said applicator having a fluid inlet and fluid outlet connected to its buccal side, and said fingers and said crossover having at least one duct in fluid communication therewith such that fluid entering said fluid inlet can flow longitudinally of each of said fingers and return to said outlet; said applicator being sufficiently flexible to be conformable to both said buccal and lingual gingival surfaces for at least said distance, thereby to permit sufficient heat transfer between said applicator and said gingival surfaces for dental anesthetization; and said applicator being sufficiently rigid at anesthetization temperatures to retain its shape and remain conformed to said gingival surfaces in heat-transferring relationship after being conformed thereto.

3,439,682
THERAPEUTIC BRASSIERE
Albert C. Defru, 811 N. Buena Vista, Burbank, Calif. 91505
Continuation-in-part of application Ser. No. 485,737, Sept. 8, 1965. This application Oct. 10, 1967, Ser. No. 677,831
Int. Cl. A41c *3/04, 3/00*
U.S. Cl. 128—460 2 Claims



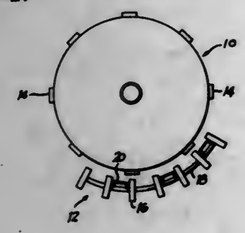
A therapeutic brassiere utilizing an inner support band constructed of stiffened, laminated material having contoured recesses dimensioned to carry a wearer's breasts and support them from underneath and a pair of cradle members carried by said inner support member, said cradle members cooperating with said inner support member for carrying the wearer's breasts forward of the inner support member, and cradle support straps attached to said cradle members at the outer extremities of said cradle support members, said first and second cradle straps either forming shoulder straps or being attached to first and second shoulder straps.

3,439,683
AXIAL FLOW COMBINE
Arthur H. Keller, Western Springs, Ill., assignor to International Harvester Company, Chicago, Ill., a corporation of Delaware
Filed Dec. 15, 1966, Ser. No. 602,046
Int. Cl. A01f *12/20*; A01d *41/04*
U.S. Cl. 130—27 8 Claims



A harvesting machine in which the separator and cleaning mechanism are located above the elongated threshing cylinder and a grain storage tank is located along each side of the threshing cylinder. This geographic location of the components provides for a low center of gravity and thus a stable harvesting machine.

3,439,684
MAGNETIC FILLER BAR
Martin A. Davidow, Bettendorf, and Allan L. Rathje, Davenport, Iowa, assignors to J. I. Case Company, Racine, Wis., a corporation of Wisconsin
Filed Dec. 30, 1966, Ser. No. 606,214
Int. Cl. A01f *12/26*
U.S. Cl. 130—27 6 Claims



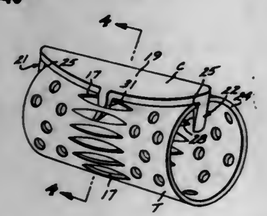
1. A filler bar assembly for a concave in a harvesting machine, the combination including:
a plurality of spaced concave bars extending across a harvesting section of said machine, a plurality of spaced concave rods transversely connected with said concave bars,
a filler bar positioned between said concave bars and contacting said concave rods for filling a portion of the space between said concave bars, and
polarized means connected with said filler bar for securing said filler bar to said concave rods.

3,439,685
METHOD FOR BREAKING THE CIGARETTE HABIT
Robert L. Allen, Baker Bridge Road, Lincoln, Mass. 01773
Filed Mar. 14, 1967, Ser. No. 623,076
Int. Cl. A24b *15/02*; A61k *13/00*; A24d *1/18*
U.S. Cl. 131—9 2 Claims



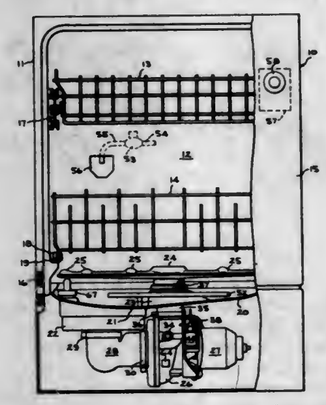
The provision of a series of special cigarettes to be smoked in predetermined succession: the fillers of the successive cigarettes being modified by progressively reducing their nicotine content through the substitution of a relatively neutral, burnable, component while progressively increasing the amount of a distateful ingredient.

3,439,686
HAIR CURLER
Clifford D. Klink, 11456 Copeland St., Apt. C, Llynwood, Calif. 90262
Filed Nov. 28, 1967, Ser. No. 686,005
Int. Cl. A45d *2/12*
U.S. Cl. 132—40 10 Claims



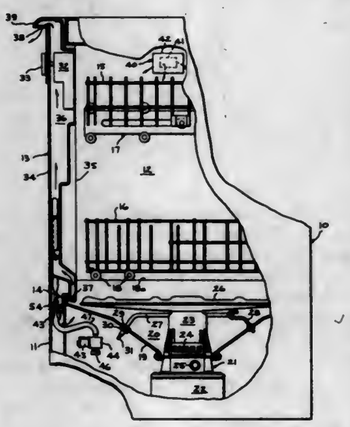
A hair curler including a hollow tube having a plurality of prong-receiving openings spaced around its periphery intermediate its ends. A clip including a pair of oppositely disposed latching elements for engaging the respective opposite ends of said tube and a radially inwardly extending prong for engaging said openings to prevent said clip from slipping on said tube.

3,439,687
CONTROL SYSTEM FOR AN AUTOMATIC DISHWASHER
Donald S. Cushing, Louisville, Ky., assignor to General Electric Company, a corporation of New York
Filed Mar. 24, 1967, Ser. No. 625,680
Int. Cl. F04d *15/02*, *13/08*; B08b *3/02*
U.S. Cl. 134—57 9 Claims



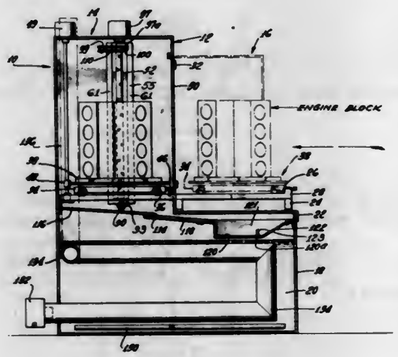
A system employing a pressure sensitive fill switch to de-energize a water valve and energize a timer motor and motor-driven pump. Drain solenoid on pump is controlled by timer switch. Flood switch ameliorates malfunction of either water valve or fill switch by de-energizing water valve and allowing energization of drain solenoid.

3,439,688
WATER INLET SYSTEM FOR DISHWASHER
George T. Sholtes, Fern Creek, Ky., assignor to General Electric Company, a corporation of New York
Filed Oct. 11, 1965, Ser. No. 494,590
Int. Cl. B08b *3/02*; F16k *45/00*
U.S. Cl. 134—104 5 Claims



A water inlet system for a front-opening dishwasher closed by a door having a vent passageway therethrough used during the drying operation to vent the dishwasher wash chamber. When the door is closed, the vent passageway inlet opening is located adjacent the door lower portion. Inlet water for the pre-rinsing and washing operations is introduced into the wash chamber through the door vent passageway inlet opening to flush away food particles that may have collected adjacent the vent inlet opening and thus prevent it from becoming clogged thereby.

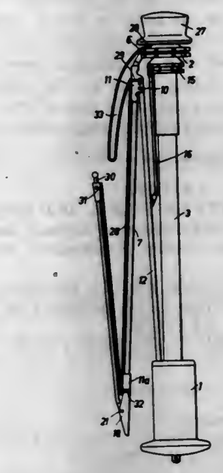
3,439,689
JET CLEANING APPARATUS WITH FILTER MEANS FOR REMOVING DEBRIS FROM THE CLEANING FLUID
Emil Zadron and Alton S. Kenmonth, Los Angeles, Calif., assignors to Jet-Clean Co., a limited partnership (of California), Los Angeles, Calif.
Filed Sept. 30, 1966, Ser. No. 583,184
Int. Cl. B08b *3/02*
U.S. Cl. 134—104 5 Claims



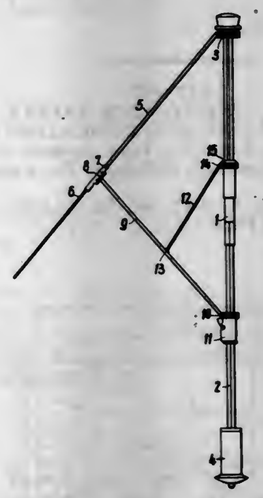
A jet cleaning apparatus having a cleaning chamber and a sloping wall positioned directly beneath the cleaning chamber. The uppermost zone of the sloping wall is imperforate so that cleaning fluid falling thereon flushes material removed from an article being cleaned onto a filter comprising the lowermost zone of the sloping wall. Most of the cleaning fluid and fine sediment return to a reservoir below the sloping wall through this filter, larger particles and the remainder of the cleaning fluid passing over the lower edge of the filter means into a debris trap. The trap is provided on the side thereof opposite the lower edge of the first-mentioned filter with a second filter sloping upwardly from the bottom of the trap, the remainder of the cleaning fluid returning through the reservoir through this second filter.

3,439,690
COLLAPSIBLE UMBRELLA FRAME
Heinz Weber, Hilden, Rhineland, Germany, assignor to Bremshey & Co., Solingen-Ohligs, Germany, a corporation of Germany
Filed Sept. 29, 1966, Ser. No. 582,928
Claims priority, application Germany, Oct. 2, 1965, B 83,971
Int. Cl. A45b *19/06*
U.S. Cl. 135—26 6 Claims

Collapsible umbrella has three-portion roof-supporting ribs of which the inner and center portions are telescoping and the outer portion hinged to the center portion, flexible roofing material located on the outside of the ribs and forming a generally mushroom-shaped fold between the crown of the umbrella and a location at which it is secured to the inner end of the center rib portions. The outer rib portion in the collapsed condition of the roof-supporting ribs lies adjacent the telescoped inner and center rib portions and is of such length that its free end extends at most up to the generally mushroom-shaped fold.



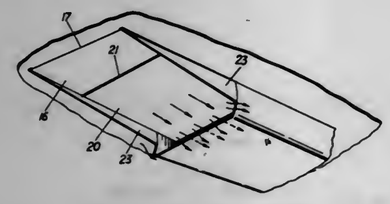
3,439,691
COLLAPSIBLE UMBRELLA
Heinz Weber, Hilden, Rhineland, Germany, assignor to Bremshey & Co., Solingen-Ohligs, Germany, a corporation of Germany
Filed Apr. 27, 1967, Ser. No. 634,308
Claims priority, application Germany, Apr. 28, 1966, B 66,087
Int. Cl. A45b *19/06*
U.S. Cl. 135—26 4 Claims



Collapsible umbrella has a stick, a system of roof-supporting ribs each consisting of an upper rib portion pivotally connected to the normally upper end of the stick and at least another rib portion telescoping the upper rib portion, an auxiliary runner or slider displaceable along the stick, the auxiliary runner having an inner surface, a plurality of struts, each of which is pivotally linked with the runner and with one of the roof-supporting ribs, either the auxiliary runner or stick or both being formed

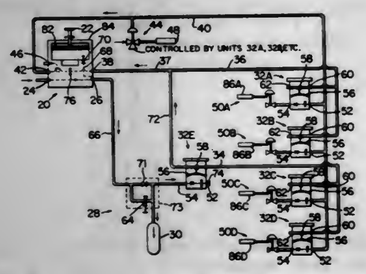
of elastically yieldable material, and means tending to oppose the sliding of the runner along the stick as the umbrella is being opened comprising a lug extending axially along the inner surface of the auxiliary runner and frictionally abutting the stick in an initial phase of the sliding of the auxiliary runner when opening the umbrella roof and being received in a longitudinal groove formed in the stick in a succeeding phase of the sliding of the auxiliary runner, whereby the lug is spaced from the stick so that it is no longer in frictional engagement therewith.

3,439,692
SUPERSONIC INTAKE FOR A JET ENGINE
Malcolm Roy Pike, Nottingham, England, assignor to Rolls-Royce Limited, Derby, Derbyshire, England, a British company
Filed Oct. 3, 1966, Ser. No. 583,690
Claims priority, application Great Britain, Oct. 11, 1965, 43,124/65
Int. Cl. F02b *27/00;* **F02k** *11/04*
U.S. Cl. 137—15.2 **4 Claims**



A wedge-shaped supersonic air intake for a jet engine which is defined by a cowl with a lip, a compression wedge and two opposite side walls, each of the side walls being movable in its own plane between a first position in which they extend to the lip of the intake and in which spillage over the side walls is prevented, and a number of other positions in which the side walls do not extend to the lip so as to allow spillage to occur.

3,439,693
CONTROLLING SYSTEM WITH SAFETY RELAY AND CONTROLLING AND INDICATING UNITS
Joseph P. Wagner, Knoxville, Tenn., assignor to Robertshaw Controls Company, Richmond, Va., a corporation of Delaware
Filed Feb. 8, 1967, Ser. No. 614,590
Int. Cl. F01b *25/12, 25/16, 27/00*
U.S. Cl. 137—26 **21 Claims**

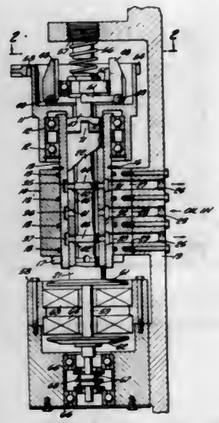


A control system including a manually operable safety relay and a plurality of controlling and indicating units. The relay is connected immediately to one or more immediately effective controlling and indicating units and is connected with delay means to delay one or more delay type controlling and indicating units.

The immediately effecive units can stop or otherwise control an engine or the like in response to unsafe conditions, whereas the delay units can stop the engine or the like in response to unsafe conditions only after a delay permitting a short starting operation of the engine or the like.

The relay has a pressure responsive holding action after it is actuated that is released by any of the units in response to unsafe conditions.

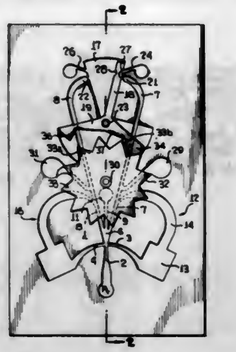
3,439,694
CENTRIFUGAL TYPE SPEED GOVERNOR WITH ELECTROMAGNETIC SET POINT ADJUSTMENT
Maurice C. Davis, Phoenix, and Palmer R. Wood, Scottsdale, Ariz., assignors to The Garrett Corporation, Los Angeles, Calif., a corporation of California
Filed June 23, 1966, Ser. No. 559,858
Int. Cl. G05d *13/10*
U.S. Cl. 137—53 **12 Claims**



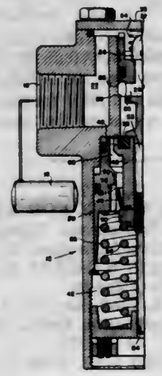
The subject speed governor comprises a valve having a ported sleeve and a pilot slide moveable axially therein to control fluid flow between an inlet and a pair of outlet ports. The slide is coupled to flyweight levers pivoted for movement in response to centrifugal force in a driven rotatable table member. The slide and sleeve normally occupy a set relative axial position through the valve at a predetermined speed of rotation to prevent fluid flow. Variation in speed of the table causes movement of the flyweights and consequent relative axial movement of the slide and sleeve to establish fluid flow between the inlet and one or the other outlet ports. An electroresponsive means, including stationary field coils and magnetically responsive disks attached to the ported sleeve, are provided to adjust the sleeve and thereby change the set position. Resilient means yieldably oppose movement of the flyweights and slide in response to centrifugal force. Additional resilient means tends to maintain the ported sleeve in a predetermined set position. The sleeve is splined to the flyweight supporting table so as to be rotated thereby relative to the slide to reduce mechanical hysteresis.

3,439,695
FLUID-DRIVEN TIMING MECHANISM
Peter Bauer, Germantown, Md., assignor to Bowles Engineering Corporation, Silver Spring, Md., a corporation of Maryland
Filed Sept. 29, 1965, Ser. No. 491,208
Int. Cl. F15b *1/08, 1/12, 1/14*
U.S. Cl. 137—81.5 **17 Claims**

A fluid-driven timing mechanism comprising a fluidic oscillator, a pallet mounted for oscillatory movement about a pivot, and a rotatably mounted pallet wheel operatively engageable by said pallet. The pallet is oscillated about its pivot in response to oscillations by said oscillator whereby to rotate the pallet wheel in a predetermined direction.



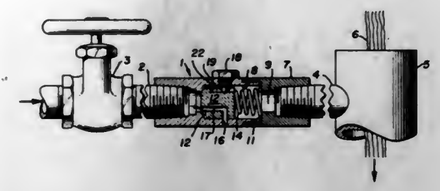
3,439,696
FLUID PRESSURE CONTROL VALVE
Harry M. Valentine, Elyria, Ohio, assignor to Bendix-Westinghouse Automotive Air Brake Company, Elyria, Ohio, a corporation of Delaware
Filed Dec. 15, 1966, Ser. No. 601,938
Int. Cl. G05d *7/00, 9/00;* **F16k** *17/20*
U.S. Cl. 137—108 **4 Claims**



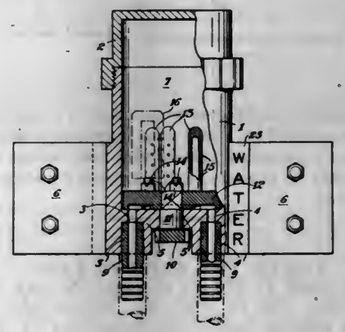
An air compressor discharge line unloader valve including a pressure responsive device subject to compressed air delivered by the compressor for insuring snap action opening of the unloader valve.

3,439,697
VENT VALVE
Howard M. Blanchette, Pensacola, and William R. Osban, Gulf Breeze, Fla., assignors to Monsanto Company, St. Louis, Mo., a corporation of Delaware
Filed Apr. 26, 1966, Ser. No. 545,368
Int. Cl. F16k *5/00;* **G05d** *7/00*
U.S. Cl. 137—119 **2 Claims**

A vent valve having a longitudinally fluted valve member slidably operable within a bore formed in the valve housing and being exposed at the fluid inlet end of the bore to pressure of fluid that is restrictively vented or bled to atmosphere through passages formed in the valve housing and valve member when the latter is biased to a closed or seated position. When the valve member is unseated to an open position by a build-up of fluid pressure in the inlet end of the bore the passages are disconnected and fluid flows past the fluted valve member.



3,439,698
SELECTIVE SOAPY WATER OR CLEAN WATER DISPENSER
Gwilym Mansell de May, London, England, assignor to Smith, Hayden & Company Limited, East Molesey, Surrey, England, a corporation of the United Kingdom
Filed Jan. 25, 1967, Ser. No. 611,709
Claims priority, application Great Britain, Feb. 1, 1966, 4,414/66
Int. Cl. E03c *1/046;* **F17d** *1/00*
U.S. Cl. 137—268 **9 Claims**

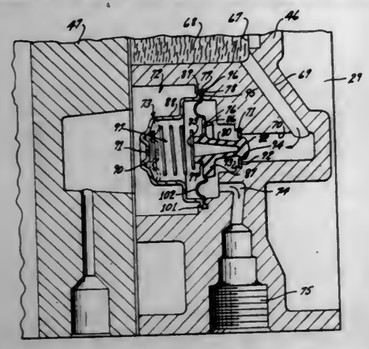


Apparatus for dissolving solid material in a liquid which is supplied to and withdrawn from a mixing chamber through a plate valve, formed with injection nozzles and manually adjustable to cut off the supply or to discharge solution or liquid.

3,439,699
INTEGRAL VALVE AND DIAPHRAGM ASSEMBLY FOR A PRESSURE REGULATOR
Michael J. Caparone, Arcadia, and Theodore J. Dykzeul, Rolling Hills, Calif., assignors to Robertshaw Controls Company, Richmond, Va., a corporation of Delaware
Filed Mar. 23, 1964, Ser. No. 353,924
Int. Cl. F16k *43/00, 51/00;* **F16l** *55/18*
U.S. Cl. 137—315 **14 Claims**

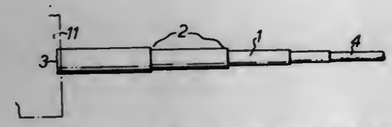
This disclosure relates to a pressure regulator that includes a flexible diaphragm having a valve member that is integral therewith so as to provide a one-piece structure with the valve member itself being flexible so as to be initially flexed through a valve seat to subsequently open and close the same on the side thereof oppo-

site to the flexible diaphragm in order to control the pressure of fluid passing through such valve seat and



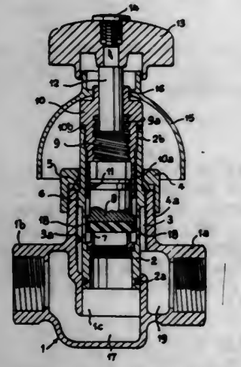
out through an outlet of a housing means containing such pressure regulator means.

3,439,700
REFUELLING AIRCRAFT
Norman J. Preston, Earley, near Reading, England, assignor to Esso Research and Engineering Company, a corporation of Delaware
Filed July 5, 1966, Ser. No. 562,787
Claims priority, application Great Britain, July 8, 1965, 29,062/65
Int. Cl. B60p 3/00; F16l 3/20
U.S. Cl. 137—351 **2 Claims**



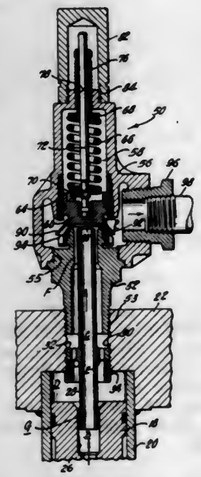
This invention is directed to an aircraft refuelling apparatus characterized by a fuel hose supporting means which comprises a telescoping tubular arm housing the fuel line. The arm may be extended and retracted by suitable automated means.

3,439,701
TAP OF THE BUILT-IN TYPE
Pietro Stella, 17 Via dei Cattaneo, Novara, Italy
Filed Apr. 12, 1966, Ser. No. 542,155
Claims priority, application Italy, May 31, 1965, 12,467/65
Int. Cl. F16k 1/32, 27/02, 27/12
U.S. Cl. 137—359 **2 Claims**



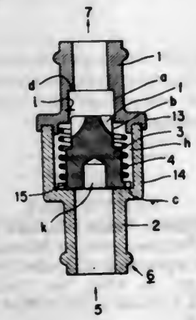
A fluid control device such as a tap, cock, valve or the like, of the type intended to be built into a wall or similar support, in which the flow control means, sealing members, spindle, control handle, and the covering hood are supported by a bushing tightly slidable in a bore in the tap body, and having means for adjustably setting the position of said bushing with respect to said body.

3,439,702
PILOT OPERATED SAFETY RELIEF VALVE
Homer E. Ferrill, Alexandria, La., assignor to Dresser Industries, Inc., Dallas, Tex., a corporation of Delaware
Filed June 13, 1966, Ser. No. 557,080
Int. Cl. F16k 17/32, 31/12
U.S. Cl. 137—478 **11 Claims**



A pilot operated pressure relief valve for the relief of system overpressure. The pilot mechanism is integrally assembled to the main valve adapted for mounting in fluid communication with a system in which overpressure is to be relieved. System pressure is internally transmitted via parallel passages to the pilot mechanism which is responsive thereto for operating the main valve to effect relief.

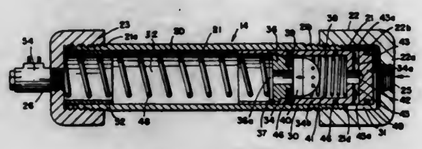
3,439,703
FLOW CONTROL VALVE FOR BLOW-BY GAS
Tadahide Toda and Mitsumasa Yamada, Toyota, and Haruyuki Obata, Higashi-Kamogun, Japan, assignors to Toyota Jidosha Kogyo Kabushiki Kaisha, Toyota-shi, Japan, a corporation of Japan
Filed June 6, 1967, Ser. No. 643,941
Claims priority, application Japan, June 11, 1966, 41/55,375
Int. Cl. F02f 9/02; F16k 15/00
U.S. Cl. 137—480 **2 Claims**



This invention relates to a valve for controlling the flow of blow-by gas in an internal combustion engine as

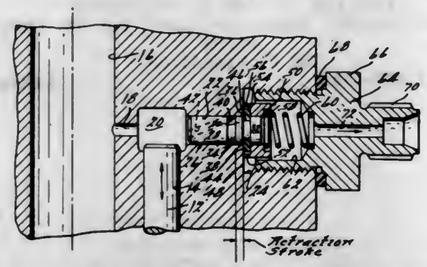
that gas is being returned to the intake system on the downstream side of the carburettor. The valve member has a chamfered end and so cooperates with a seat within a specially designed casing as to provide a minimum passageway for the blow-by gas which is not easily clogged.

3,439,704
SAFETY VALVE ASSEMBLY FOR BRAKE LINES
Wilhelm A. Berglund, 6834 W. Ardmore Ave., Chicago, Ill. 60631
Filed Feb. 7, 1966, Ser. No. 525,631
Int. Cl. F16k 17/00
U.S. Cl. 137—498 **8 Claims**



A novel safety valve assembly is provided for use in the hydraulic brake lines of automobiles for automatically isolating brake wheel cylinder assemblies from the hydraulic cylinder whenever disabling leaks occur in the assemblies or in the flexible lines leading thereto. The safety valve includes a piston movable in a cylinder upon a rapid loss of fluid such as would be encountered in a brake failure and which when moved is effective to lock into place preventing escape of fluid therethrough.

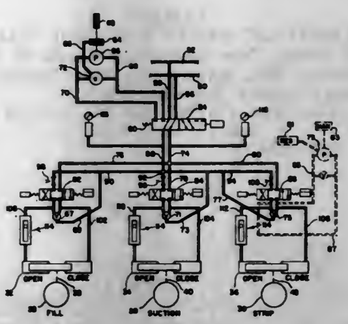
3,439,705
FLUID FLOW CONTROL VALVE ASSEMBLY
Aladar Otto Simko, Detroit, Mich., assignor to Ford Motor Company, Dearborn, Mich., a corporation of Delaware
Filed Jan. 9, 1967, Ser. No. 608,174
Int. Cl. F16k 17/10; F04b 49/08
U.S. Cl. 137—543.23 **9 Claims**



A retraction type delivery valve for a fuel injection system, the valve having a retraction collar slidable in and out of the bore to control flow and also the residual pressure in the injection line, the valve having a positioning ring and a sealing disc that abut the valve body in one direction of movement of the valve to limit the volume retraction movement of the valve.

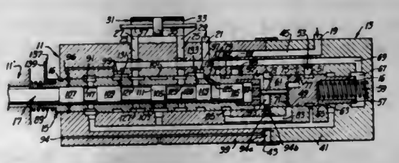
3,439,706
REMOTE VALVE ACTUATION AND INDICATION SYSTEM
Edwin R. Barrett, 5113 25th Ave. NE., Seattle, Wash. 98105
Filed Mar. 2, 1966, Ser. No. 531,287
Int. Cl. B67d 5/22; F16k 31/12, 37/12
U.S. Cl. 137—554 **10 Claims**

Hydraulic actuation and indication system for remotely located valves. A power operated pumping system is connected to an actuator located in a tank which in turn is connected to a valve in the tank. An indicator is included in the circuit to show whether the valve is open or closed.



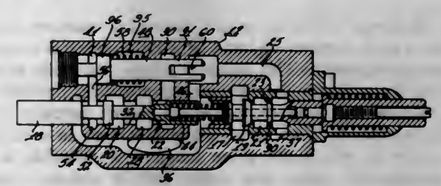
A manually operated standby hydraulic circuit also connects to the actuator and indicator. Valving is provided so that the power circuit and manual standby circuit can be operated independently of each other.

3,439,707
FAIL-SAFE SERVO VALVE
Ray A. York, Pasadena, Calif. (12461 NE. Bellevue-Redmond Road, Bellevue, Wash. 98004), and Hsien Bing Wang, Orange, Calif.; said Wang assignor to Bertea Corporation, Irvine, Calif., a corporation of California
Filed Feb. 2, 1967, Ser. No. 613,582
Int. Cl. E16k 31/12
U.S. Cl. 137—596 **23 Claims**



This disclosure describes a fail-safe servo valve for controlling an actuator. The servo valve includes a housing having a bore therein, a sleeve slidably mounted in the bore, and an elongated actuator valve slidably mounted in the sleeve. The actuator valve is movable to control flow of an operating fluid to the actuator to control the latter. In the event that the actuator valve jams in the sleeve, the sleeve moves with the actuator valve to disable it and prevent the servo valve from controlling the actuator.

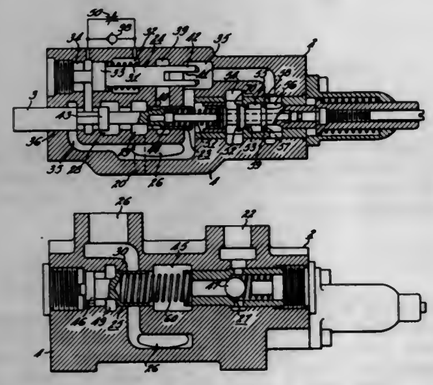
3,439,708
HYDRAULIC CONTROL VALVE
Robert E. Schott, New Berlin, Wis., assignor to Allis-Chalmers Manufacturing Company, Milwaukee, Wis.
Filed Apr. 3, 1967, Ser. No. 627,999
Int. Cl. F04b 49/08
U.S. Cl. 137—596.13 **7 Claims**



A hydraulic control for use in a hydraulic system to control hydraulic pump loading and position of an actuating cylinder. The control includes a directional valve for

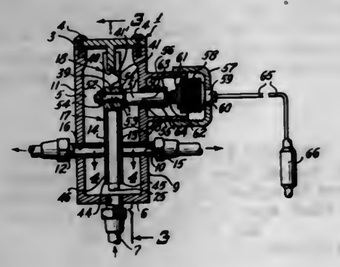
operating a hydraulic actuator, a by-pass valve for returning excess flow to the reservoir and a switch valve controlling actuation of the by-pass valve.

3,439,709
HYDRAULIC DRAFT CONTROL VALVE
Robert E. Schott, New Berlin, and Gerald W. Bernhoft, Wauwatosa, Wis., assignors to Allis-Chalmers Manufacturing Company, Milwaukee, Wis.
Filed Apr. 17, 1967, Ser. No. 631,238
Int. Cl. B60d 7/00
U.S. Cl. 137—596.13 5 Claims



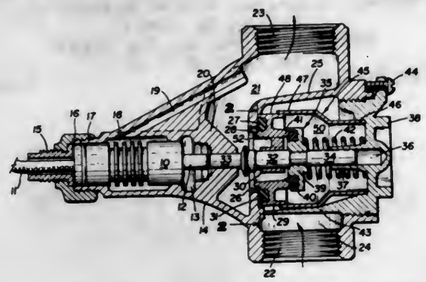
A hydraulic draft control valve providing flow rate as a function of spool displacement and a variable dampening means to control the time delay of a switch valve actuation. The draft control valve has by-pass means operated in response to the switch valve which is pressure responsive.

3,439,710
VALVE CONSTRUCTION
Hugh J. Tyler, Fairport, N.Y., assignor to Robertshaw Controls Company, Richmond, Va., a corporation of Delaware
Filed Nov. 2, 1965, Ser. No. 506,057
Int. Cl. F16k 31/44, 19/00, 13/00
U.S. Cl. 137—612 10 Claims



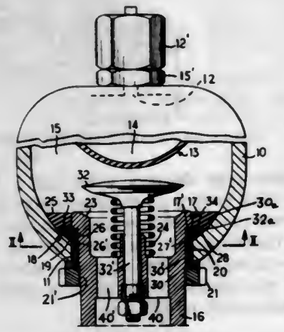
A three-way valve in which the valve element takes the form of a continuous band of elastic material mounted on an actuator. The band is supported only at its sides by the actuator thereby leaving a central portion of each side of the band unobstructed by the actuator and freely stretchable. The valve element is used in a three-way valve in which the valve element is movable to a first position in which one valve port is closed, a second position in which another valve port is closed, and a third or neutral position between the first and second positions in which both valve ports are closed.

3,439,711
SEQUENTIALLY POWER ACTUATED PLURAL VALVES
John F. Sherwood, Wheat Ridge, and Marvin Staschke, Thornton, Colo., assignors, by direct and mesne assignments, to Thermal Hydraulics Corporation, Glendora, Calif., a corporation of California
Filed July 6, 1966, Ser. No. 563,181
Int. Cl. F16k 31/00, 39/02
U.S. Cl. 137—630.15 4 Claims



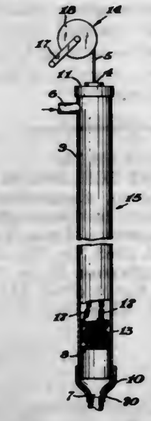
A power actuated valve provided with a fluid intake chamber communicating through a valve opening with a main fluid chamber, and having main and pilot valve members located in the fluid intake chamber. Said valve members have surfaces exposed to incoming water pressure which aids in closing the valve. The fluid intake chamber is provided with means for relieving the main valve member of pressure during the valve opening operation comprising a wall surrounding the valve mechanism in spaced relation thereto forming a pressure-exchange chamber within the fluid intake chamber, the pressure-exchange chamber permitting outflow in greater volume than fluid intake into the pressure-exchange chamber.

3,439,712
LOCKING MEMBER FOR LIQUID OUTLET PLUG OF PRESSURE ACCUMULATOR
Jean Mercier, 501 Bloomfield Ave., Caldwell, N.J. 07006
Filed Dec. 29, 1966, Ser. No. 605,839
Claims priority, application France, Jan. 18, 1966, 46,239
Int. Cl. F16l 55/00
U.S. Cl. 138—30 4 Claims



1. In a pressure vessel of the type having a port with a deformable partition secured therein and adapted to move toward such port and having a hollow flanged plug in said port, said flange defining a shoulder; the combination therewith of a locking member for said plug, said locking member comprising a plurality of rigid arcuate segments defining a ring of inner diameter less than that of the port and of outer diameter greater than that of such port, adjacent ends of said segments being in relatively close juxtaposition to define substantially a continuous surface, the undersurface of said segments adjacents the outer periphery thereof having a configuration complementary to that of the inner surface of the pressure vessel adjacent its port and defining a relatively wide surface adapted to seat directly on said inner surface of said port, an annulus of resilient material bonded to the portion of the top surface of said arcuate segments spaced from the ends of the latter and coaxial with the ring formed thereby, said annulus having an inner diameter greater than the inner diameter of the ring formed by said rigid arcaute segments, whereby the exposed surfaces of said segments adjacent the inner periphery thereof define a retaining shoulder for the shoulder of such plug, and an outer diameter greater than the outer diameter of said ring so as to overlap its outer periphery, whereby said overlapping portion of the annulus, when the expanded partition is thereagainst will prevent extrusion through the spaces between the segments and the shell of the accumulator as well as through the spaces between adjacent ends of said segments.

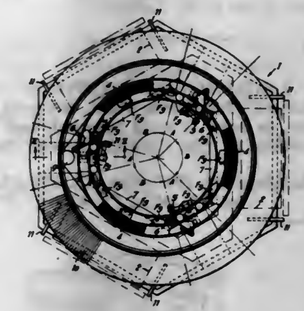
3,439,713
PRESSURE REDUCING VALVE
Melvin F. Katzer, Danville, Calif., assignor to The Dow Chemical Company, Midland, Mich., a corporation of Delaware
Filed June 13, 1966, Ser. No. 557,133
Int. Cl. F15d 1/10
U.S. Cl. 138—43 7 Claims



1. An apparatus comprising a valve housing with an inlet and outlet defining a liquid flow path, a chain-stacking seat and a chain within the valve housing along said flow path, said chain being disposed toward the inlet thereof relative to the chain-stacking seat; said stacking seat and said chain being connected to means for moving one relative to the other to cause stacking or unstacking of the chain on said chain-stacking seat.

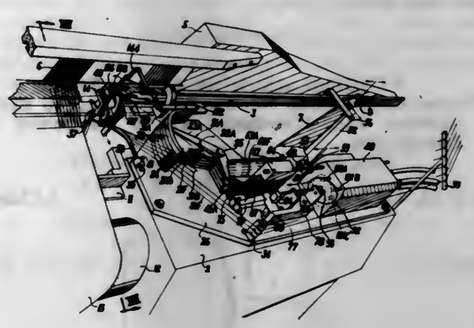
3,439,714
METHOD OF, AND EQUIPMENT FOR, FORMING AND MOVING PICKS IN CIRCULAR WEAVING LOOMS
Armand Malchair, Herstal, Belgium, assignor to Peltzer & Fils S.A., Verviers, Belgium
Filed Sept. 13, 1966, Ser. No. 579,097
Claims priority, application Belgium, Sept. 17, 1965, 669,741
Int. Cl. D03d 37/00
U.S. Cl. 139—13 10 Claims

An apparatus for the drawing off and the insertion of picks in circular looms comprises at least one platform movable along a circular path within the shed, means placing a length of weft equal to that of a pick in zig-zag



fashion upon the platform and means progressively inserting this length of weft into the shed.

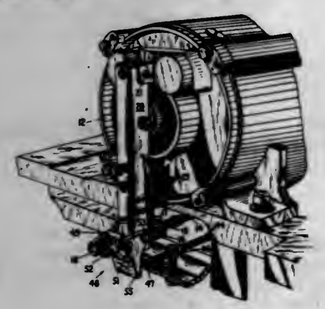
3,439,715
WEFT MIXER FOR LOOMS
Yves Juillard, Mulhouse, France, assignor to Societe Alsacienne de Constructions Mecaniques de Mulhouse, Mulhouse, France
Filed May 3, 1967, Ser. No. 635,731
Claims priority, application France, May 6, 1966, 60,509
Int. Cl. D03d 47/00, 47/28
U.S. Cl. 139—122 5 Claims



A shuttleless loom having a weft picking means for inserting a single weft thread in the shed during the rearward stroke of the batten and a weft thread cutting and holding device mounted on the batten to cut and hold a weft thread engaged by the device prior to operation of the weft picking means. A weft thread guide member is carried by the batten and is formed so as to engage and carry a weft thread placed in the path of rearward travel of the guide member, said weft thread cutting and holding device cooperating with the guide member to maintain the supply end of the cut thread across the path of the weft picking means. A plurality of separate weft threads are furnished by a weft supply means and a plurality of fingers of a weft selector mechanism guide an associated particular one of the separate weft threads. Any selected finger is moved by a pattern controlled means to an operative position in which the finger places its associated weft thread in the path of travel of the guide member as the batten approaches the end of its forward stroke, and the selected finger is moved back to its inoperative position as soon as its associated weft thread is taken up and carried by the guide member. A batten controlled means is operative to raise the weft

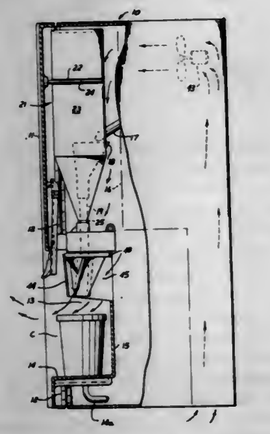
thread carried by the guide member above the tip thereof before a next selected finger of the selector mechanism reaches its operative position in order to permit the raised weft thread to pass over and out of the path of forward travel of the guide member.

3,439,716
LOOM STOPPING DEVICE
Russell E. Adams, Hopkinton, Mass., assignor, by mesne assignments, to John Donald Marshall and Horace L. Bomar, trustees of The Carolina Patent Development Trust
Filed Sept. 29, 1967, Ser. No. 671,674
Int. Cl. D03d *51/40*
U.S. Cl. 139—336 4 Claims



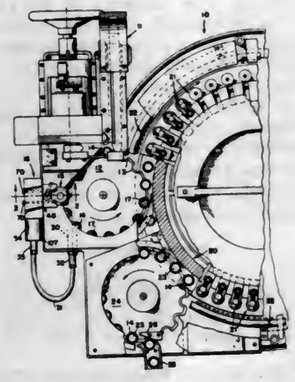
A toggle release for the actuating lever of a clutch-brake motor for effecting instantaneous loom stoppage. The toggle release being controlled independently of the loom's start-stop shipper linkage.

3,439,717
VENDING MACHINE APPARATUS
Charles Herbert Bode, Newhope, Pa., assignor to Rudd-Melikian, Inc., Warminster, Pa., a corporation of Pennsylvania
Filed June 30, 1965, Ser. No. 468,470
Int. Cl. B65b *1/04*
U.S. Cl. 141—91 3 Claims



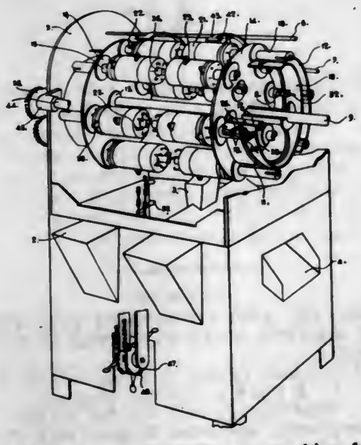
Dispensing structure for use in vending machines comprises door mounted cannisters for cream and sugar, and separate funnel structures for delivering hot beverage and powdered commodities to a cup. The funnels are arranged with respect to air circulating fan to draw moisture away from the powdered commodity dispensers in order to prevent the accumulation of gummy deposits.

3,439,718
ROTARY AIR-FLOW CONTROL VALVE FOR COMPOUND GUN OF CROWN CAP LINING MACHINE
Norbert L. Wright, Park Ridge, and Henry J. Dorn, Western Spring, Ill., assignors to Continental Can Company, Inc., New York, N.Y., a corporation of New York
Filed Apr. 27, 1967, Ser. No. 634,225
Int. Cl. F16k *21/00*; B32b *15/08*; B65d *21/12*
U.S. Cl. 141—156 7 Claims



A rotary air-flow control valve that operates an air cylinder of a compound applying gun to turn the gun on and off. The gun is associated with a machine for lining crown caps with a thermosetting plastic liner and gasket forming compound. As unlined caps pass sequentially under the gun, the gun is actuated by the rotary air-flow control valve to deliver a quantity of thermosetting plastic paste into each unlined cap.

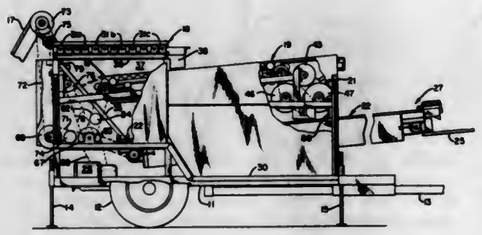
3,439,719
CASHEW-NUT PEELING MACHINE
Carlos Duarte Cardoso, Castanheira do Ribatejo, Portugal, assignor to Sodescal-Sociedade de Maquinas de Descasque, Ltda., Lisbon, Portugal
Filed May 4, 1965, Ser. No. 453,052
Claims priority, application Spain, May 11, 1964, 299,709; Apr. 6, 1965, 311,491
Int. Cl. A23n *5/08, 5/00*
U.S. Cl. 146—10 17 Claims



A nut-shelling machine, such as a machine for automatically shelling cashew-nuts. The machine includes a plurality of pairs of opposed claw heads, and these pairs of opposed heads are uniformly distributed about a main

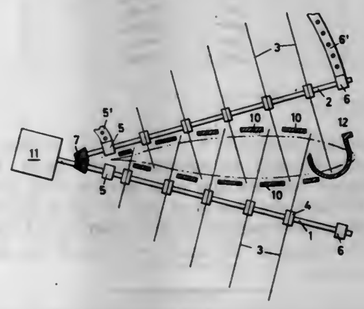
axis of the machine, with each pair of opposed claw heads having a common head axis which is parallel to the machine axis. During operation of the machine all of the pairs of opposed claw heads rotate about the main axis of the machine and each pair of opposed claw heads are simultaneously moved first toward each other and then away from each other during rotary movement about the main axis. Each claw head carries a plurality of claws extending inwardly beyond each claw head where each claw terminates in an inner piercing end capable of piercing through a nut shell, so that these inner piercing ends of the claws carried by each pair of opposed heads are situated between the pairs of opposed heads. The claws of each head are supported thereby at locations uniformly distributed about the axis of the head with the inner piercing ends of the claws directed toward the head axis, and the claws are pivotally carried by each head for inward swinging piercing movement toward the head axis and for outward releasing movement away from the head axis. A cam means is carried by each head and coacts with the claws thereof for swinging the claws inwardly toward the head axis, to bring about piercing of the shell, in response to axial movement of the pair of opposed heads toward each other and for swinging the claws of each head outwardly away from the head axis in response to axial movement of each pair of opposed heads away from each other, so that in this way a shell which is engaged by the piercing ends of the claws will be pierced thereby and split into shell halves which are retracted by the claws and then dropped therefrom as the claws are swung outwardly away from the head axis during their outward releasing movement. A pair of coaxial holding bars are respectively surrounded by each pair of opposed heads and have a common axis coinciding with the head axis, and these bars hold a nut while it is acted upon by the claws.

3,439,720
POTATO SEED CUTTER APPARATUS
Edwin C. Neufeld, Jr., Gering, Nebr., assignor, by mesne assignments, to Lockwood Corporation, Gering, Nebr., a corporation of Delaware
Filed July 18, 1966, Ser. No. 565,983
Int. Cl. A01c *9/00*; A01f *29/00, 31/00*
U.S. Cl. 146—57 18 Claims



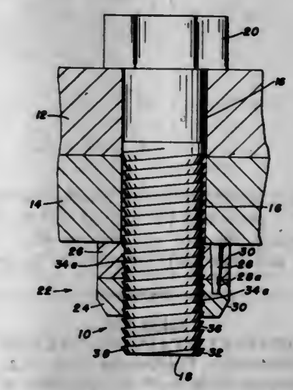
Seed cutter for potatoes having elevating conveyor, one endless conveyor stretch including plurality of adjustable rotary rollers having notched surfaces for sorting potatoes into streams of at least no-cut sizes and plural graded sizes larger than no-cut sizes and another endless conveyor stretch including rollers having notched surfaces and arranged in receiving relation to the plural graded sizes for maintaining graded potatoes of different sizes in plural separate streams with lengthwise axis of each potato transverse of direction of movement for delivery to cutter assembly. Cutter assembly including pair of yieldable rollers in common horizontal plane and cutter blade upright between rollers having transverse blade edges related to different sizes of separate graded streams to provide desired cuts. Take-away conveyor arranged for receiving no-cut sizes and cut sections and delivering same to sacking stations.

3,439,721
MACHINE FOR CUTTING BAIT FISH
Thorbjorn N. Christiansen, Nyksund, Norway
Continuation-in-part of application Ser. No. 579,294, Sept. 14, 1966. This application Nov. 1, 1966, Ser. No. 591,268
Claims priority, application Norway, Sept. 14, 1965, 159,691/65
Int. Cl. A01d *55/24, 55/18*
U.S. Cl. 146—99 8 Claims



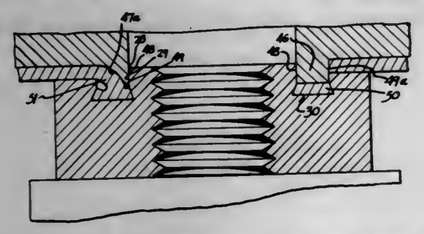
A bait fish cutting machine has a casing mounting two shafts for rotation about axes converging at 30° to 45°, the axes being obliquely inclined to a normally horizontal top of the casing and converging in an obliquely upward direction. The shafts are driven simultaneously in opposite directions, and a plurality of cutting blades are mounted on each shaft to define interstices therebetween, with the blades of each shaft projecting into the interstices between the blades on the other shaft.

3,439,722
NUT AND BOLT ASSEMBLY
Ira M. Brandon, 5013 Fannin St., Houston, Tex. 77004
Filed Aug. 15, 1966, Ser. No. 574,516
Int. Cl. F16b *39/30, 39/28*
U.S. Cl. 151—14 1 Claim



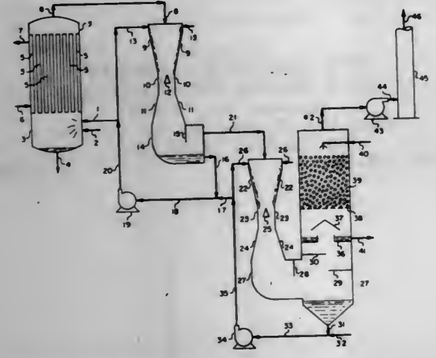
A nut and bolt assembly in which the nut is constructed of two pivotal sections with threads having a flat crest, and the threads being undercut and the bolt is provided with an undercut thread arrangement with pointed crests which tends to close the nut more tightly towards the center of the bolt as the nut is tightened hereon.

3,439,723
NUT-PANEL ASSEMBLY
Plummer E. Double, Detroit, and Herman R. Abbrecht, Birmingham, Mich.; said Double assignor to Multifastener Corporation, Redford, Mich.
Original application Mar. 14, 1962, Ser. No. 179,621, now Patent No. 3,315,345, dated Apr. 25, 1967. Divided and this application Oct. 20, 1966, Ser. No. 618,551
Int. Cl. F16b *39/00*
U.S. Cl. 151—41.73 4 Claims



A nut-panel assembly in which a pilot portion of the nut extends through an opening in the panel. The nut has shoulders adjacent the pilot portion with re-entrant grooves between the shoulders and the pilot portion. The re-entrant grooves receive severed portions of the panel which are joined to the main portion of the panel by arcuate sections.

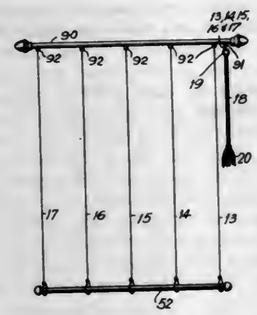
3,439,724
METHOD AND APPARATUS FOR THE CONCENTRATION OF DILUTE BLACK LIQUOR
Louis A. Mason, Williston Park, N.Y., assignor to Chemical Construction Corporation, New York, N.Y., a corporation of Delaware
Filed Aug. 23, 1965, Ser. No. 481,682
Int. Cl. B01d *1/14*
U.S. Cl. 159—13 4 Claims



Hot flue gas derived from the combustion of wood pulp black liquor is processed by method and apparatus which initially contacts the hot gas stream with concentrated black liquor and then with dilute black liquor.

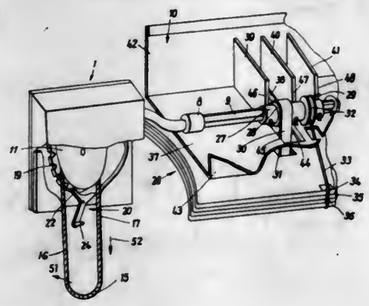
3,439,725
DRAW-CURTAIN MECHANISM
Leonard J. Haimovitz, Englewood Cliffs, N.J., and Roy C. Adams, Jackson Heights, N.Y., assignors to Lensol Promotional Sales Inc., New York, N.Y.
Filed Dec. 20, 1966, Ser. No. 603,347
Int. Cl. A47h *5/14, 13/00*
U.S. Cl. 160—84 5 Claims

An improved draw-curtain employing a generally rectangular body of fabric secured to a hollow support member and including a plurality of control lines alternately interleaved along vertical paths throughout the length of the fabric, said lines being collected through bushings in the support member within its hollow chamber and being received at one end of the support member by a draw-string to permit the fabric to be raised and



lowered. In addition, a rod member is secured at the bottom of the fabric to maintain the shape and tension of the curtain. In addition, a weighted pull-cord serves as a counterbalance for the curtain so that the curtain remains in a stable position after adjustments in height.

3,439,726
CORD PULL FOR LOUVERED OR SLATTED SHUTTERS OR BLINDS
Per Stephen Lageson, Persgarden, Mullsjo, Sweden
Filed Dec. 13, 1966, Ser. No. 601,472
Claims priority, application Germany, Aug. 16, 1965, L 54,315; Sweden, Dec. 16, 1965, 16,321/65
Int. Cl. E06b *9/308, 9/322*
U.S. Cl. 160—170 6 Claims



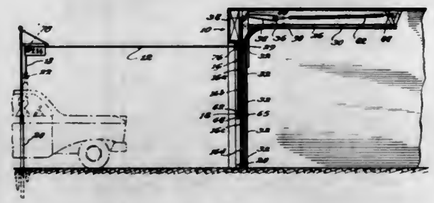
A shaft is connected to a pair of discs rotatable by a pull cord, which pull cord passes through complementary projections formed on the facing surfaces of the discs. The lowermost slat, of a blind, has secured thereto the end of a flexible band, which band passes through openings formed in the overlying slats and has its other end wound about a bushing secured to the said shaft. A pivotally-mounted locking element, actuated upon lateral movement of the pull cord, is movable into engagement with teeth formed on one of the discs, thereby to retain the blind in a desired raised or lowered position. A cord, connected to the front and rear edges of the slats, passes over a V-pulley carried by the shaft and effects a tilting of the slats upon rotation of the discs in one or the other direction by the pull cord.

3,439,727
GARAGE DOOR OPERATOR
Richard L. Perl, Mansfield, Ohio, assignor to The Tappan Company, Mansfield, Ohio, a corporation of Ohio
Filed Oct. 27, 1966, Ser. No. 590,064
Int. Cl. E05f *11/38, 13/00*
U.S. Cl. 160—188 8 Claims



A continuous cable for operating the door carries travel stops and extends around gearing driven by a pivotally mounted reversible electric motor drive. The travel stops on the cable engage a fixed stop respectively at the ends of the normal travel of the door to produce increased tension in the cable which causes the motor drive to rock on its mounting and actuate a reversing switch for the drive.

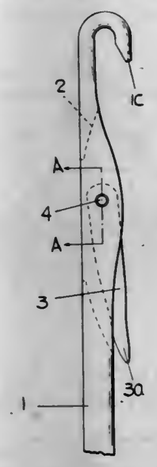
3,439,728
REMOTE CONTROL SYSTEM FOR OPENING AND CLOSING OVERHEAD-OPENING MULTI-PANELED DOORS
Robert J. Martini, 216 Oakdene Road, Barrington, Ill. 60010
Filed May 17, 1967, Ser. No. 639,085
Int. Cl. E05f *11/54, 13/00;* E05d *15/24*
U.S. Cl. 160—193 10 Claims



A system for opening and closing vertically movable, counterbalanced, multipaneled doors, such as garage doors. A cable, extending from a remote location, is connected to the door in a manner so that a pull on the cable will provide an initial lifting force to cause the door to be raised to its opened position, and a second pull on the same cable will provide the necessary force to cause the door to be returned to its closed position.

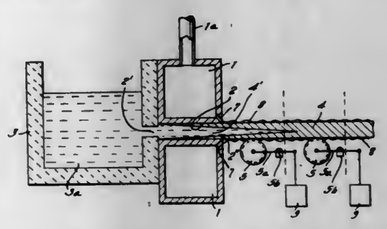
3,439,729
LATCH NEEDLES
George William Beighton, Groby, England, and Arthur Iden Britcher, Antrim, Northern Ireland, assignors to T. Grieve and Company Limited
Filed Oct. 11, 1966, Ser. No. 585,855
Claims priority, application Great Britain, Dec. 8, 1965, 51,970/65
Int. Cl. B21g *1/00*
U.S. Cl. 163—5 4 Claims

A latch needle is provided, along with the method of manufacture of a latch needle, wherein the needle is specifically adapted for fine gauge knitting machines, its spindle having rivet-like ends, being threaded into both opposite cheeks, and being keyed against rotation within



the cheeks, and wherein a latch is rotatably carried on the spindle.

3,439,730
METHOD AND APPARATUS FOR CONTINUOUS CASTING OF METAL IN HORIZONTAL DIRECTION, ESPECIALLY FOR CONTINUOUS CASTING OF THIN METAL BANDS, PLATES OR THE LIKE
Günther Moritz, Bad Godesberg, Germany, assignor to Vereinigte Aluminium-Werke Aktiengesellschaft, Bonn, Germany
Filed July 20, 1966, Ser. No. 566,588
Claims priority, application Germany, July 24, 1965, V 28,968
Int. Cl. B22d *11/02, 15/00*
U.S. Cl. 164—82 15 Claims

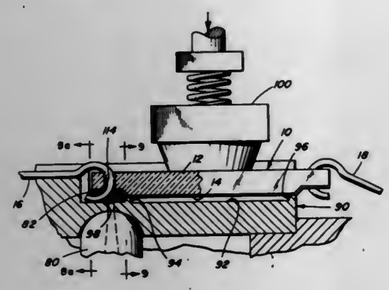


A method and apparatus for casting metal strands in which a stream of molten metal is passed in substantially horizontal direction through a chill and the thus formed metal strand, after complete solidification, is guided likewise in substantially horizontal direction over rigid guide means spaced downstream from the chill, whereas the strand portion intermediate the chill and the rigid guide means is supported on a plurality of rollers which are spaced in direction of movement of the strand and mounted movable in substantially vertical direction.

3,439,731
PRESSURE SEALING
Robert H. Cushman, Princeton Junction, N.J., assignor to Western Electric Company, Incorporated, New York, N.Y., a corporation of New York
Filed May 24, 1966, Ser. No. 552,561
Int. Cl. B22d *19/00*
U.S. Cl. 164—108 10 Claims

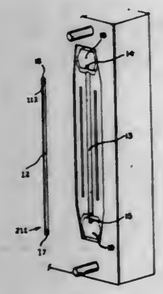
Mold cavities are sealed against the escapement of injected molten metal by controlling the injection pressure

of the molten metal such that the material will not leak out of any leak orifices before the molten material solidifies. Surface tension of the molten metal is utilized to prevent leakage through any orifices leading from the mold cavity.



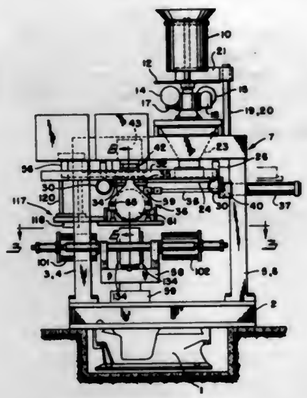
3,439,732
DIE-CASTING PROCESS USING MAGNETIC CORE TO POSITION PREFORM
Mario Andreoli, Rastignano, Bologna, Italy
Filed Oct. 20, 1965, Ser. No. 498,830
Claims priority, application Italy, Nov. 28, 1964, 25,864
Int. Cl. B22d *19/00*; B29d *3/02*
U.S. Cl. 164—112 1 Claim

This disclosure relates to a method of making composite hollow die-cast articles having a tubular portion connected to a hollow head portion, wherein use is made of a tubular insert, which is positioned in the die cavity and the molten material is cast around it during the casting stage of the method so that the solidified casting has the tubular insert as an integral part thereof.

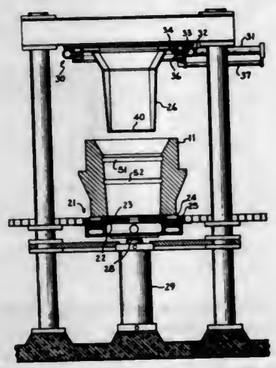


3,439,733
FOUNDRY MOLDING MACHINE
Leon F. Miller, Rocky River, and Henry J. Herbruggen, Westlake, Ohio, assignors to The Sherwin-Williams Company, a corporation of Ohio
Filed Dec. 27, 1965, Ser. No. 516,634
Int. Cl. B22c *5/08, 7/00, 5/04*
U.S. Cl. 164—200 9 Claims

A foundry molding machine and process for producing molds or cores from a sand-resin mix by blowing the same into a box and using a low temperature cure accelerator such as warm air which is permeated through the mold or core through the box blow vents and which is exhausted through an exhaust port of a pressure pad clamped over the box, the machine including a reservoir mixing and conveying the sand-resin mix to the discharge outlet thereof.

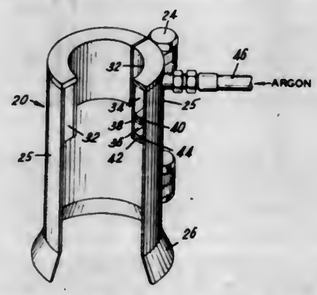


3,439,734
APPARATUS FOR FORMING HOT TOP LINERS
Fred Eastwood, Fairview Park, Ohio, assignors, by mesne assignments, to Foseco Trading A.G., Graubunden, Switzerland, a Swiss company
Original application Dec. 6, 1965, Ser. No. 511,793, now Patent No. 3,384,149, dated May 21, 1968. Divided and this application Dec. 8, 1967, Ser. No. 714,378
Int. Cl. B22c *17/00, 9/12, 15/00*
U.S. Cl. 164—213 2 Claims



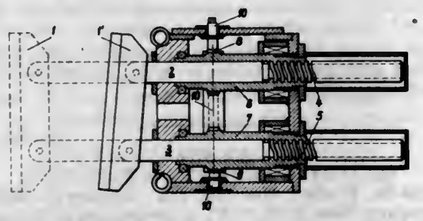
1. Apparatus for forming heat-insulating liners in reusable hot top casings for use on big-end-up ingot molds, said apparatus comprising the combination of a fixed lining station, means for transferring a plurality of the hot top casings in seriatim to said fixed lining station, a hollow perforated forming tool mounted at the fixed lining station and complementally formed with respect to the interior of the hot top casings to be lined, means at said lining station for receiving the casings one at a time and relatively moving each casing and said forming tool into telescoped relationship with each other so as to form an annular cavity between the inner surface of the casing and the outer surface of the forming tool, means for feeding a slurry comprising a finely divided refractory material, a fibrous material, and a liquid carrier into said annular cavity and means for withdrawing the liquid carrier through the interior of the hollow perforated forming tool so as to build up a composite layer of the fibrous and refractory material on the outer surface of said tool, means for relatively moving the casing and the forming tool out of telescoped relationship with each other with said composite layer accompanying the casing, a drying station for drying the liner within the casing sufficiently to permit the casting of molten metal in the lined casing, and means for continually transferring each lined casing from said lining station to said drying station.

3,439,735
CONTINUOUS CASTING APPARATUS WITH INERT GAS PROTECTOR
Ronald L. W. Holmes, New Providence, N.J., assignor to Union Carbide Corporation, a corporation of New York
Filed Nov. 19, 1965, Ser. No. 508,708
Int. Cl. B22d *27/00*
U.S. Cl. 164—259 2 Claims



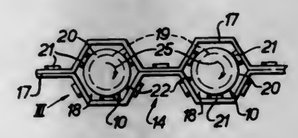
A stream protector for protecting from atmospheric contamination a stream of molten metal as it flows downwardly from a tundish to a mold comprising a pair of semi-cylindrical walls, and gas passage means mounted adjacent the walls for distributing inert gas uniformly within the protector by discharging such gas downwardly in semi-annular curtains in parallel relation to such stream of metal. The walls are hinged together so that the protector can be opened for inspection of the stream.

3,439,736
LIQUID COOLED WALLED CONTINUOUS SLAB CASTING MOLD WITH ADJUSTABLE TAPERED WALLS
Manfred Strohschein, Josef Glaser, and Hans Kurth, Gelsenkirchen, Germany, assignors to Mannesmann Aktiengesellschaft, Dusseldorf, Germany, a corporation of Germany
Filed Mar. 8, 1966, Ser. No. 532,705
Claims priority, application Germany, Mar. 8, 1965, M 64,429; Aug. 5, 1965, M 66,221
Int. Cl. B22d *11/06, 11/12*
U.S. Cl. 164—273 6 Claims



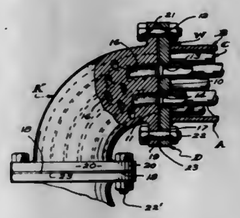
A continuous casting mold has at least two mold walls that are positionable by a differential motion mechanism at an adjustable taper and distance relative to the mold center.

3,439,737
SPACER GRID FOR HEAT EXCHANGE ELEMENTS WITH MIXING PROMOTION MEANS
Colin Boorman, Altringham, Cheshire, and Colin Betts, Hale, Cheshire, England, assignors to United Kingdom Atomic Energy Authority, London, England
Filed Nov. 14, 1966, Ser. No. 594,168
Claims priority, application Great Britain, Nov. 23, 1965, 49,744/65
Int. Cl. F28f *13/12*
U.S. Cl. 165—109 2 Claims



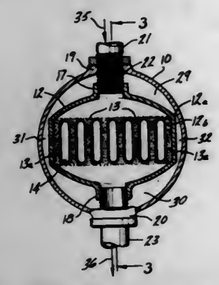
A spacer grid of cellular form for an assembly of elongate heat exchange elements includes projections for locating the elements and for promoting mixing of coolant passing through the cell. An irregular edge provided on one side of the grid promotes eddy diffusion in coolant passing through the grid.

3,439,738
WASTE WATER HEAT EXCHANGER
Richard T. Dixon, Glendale, and Edwin E. Wasil, Palos Verdes Peninsula, Calif. (both % Heat Recovery Manufacturing, Inc., 1625 Naud St., Los Angeles, Calif. 90012)
Filed Oct. 18, 1967, Ser. No. 676,222
Int. Cl. F28f *9/26*
U.S. Cl. 165—143 9 Claims



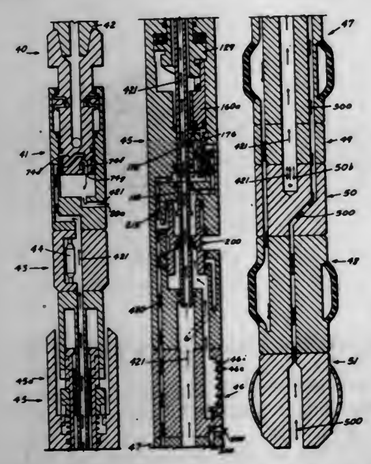
A heat exchanger comprising a plurality of elongate, parallel, spaced apart, tubular shells, tube sheets fixed to and closing the ends of the shells, a plurality of flow tubes extending longitudinally through each shell and having longitudinally outwardly opening ends engaged in the carried by the tube sheets, novel connecting means at and between related ends of adjacent shells and establishing communication between related ends of related flow tubes and to connect the flow tubes in the several shells in series, fluid conducting by-pass means between adjacent related ends of adjacent shells and connecting the several shells in series, novel support means in the shells and engaging and supporting the flow tubes in spaced parallel relationship with each other and from the inner surfaces of the shells, novel mounting means between and engaging adjacent shells to maintain the shells in predetermined spaced relationship, fresh water supply and discharge means connected with the opposite ends of the series connected shells and waste water supply and discharge means connected with the opposite ends of the series connected shells.

3,439,739
IN LINE HEAT EXCHANGER WITH BYPASS
Ulric R. Jaeger, Greenwich, Conn., assignor to Olin Mathieson Chemical Corporation, a corporation of Virginia
Filed Feb. 8, 1967, Ser. No. 615,018
Int. Cl. F28d 7/00
U.S. Cl. 165—164 8 Claims



The invention relates to a heat exchanger comprising substantially concentric members having a plurality of inner tubes bonded to a body of pervious metal material wherein the heat exchanger surfaces are in contact with a first and second heat exchange medium.

3,439,740
INFLATABLE TESTING AND TREATING TOOL AND METHOD OF USING
George E. Conover, P.O. Box 12486, Houston, Tex. 77017
Filed July 26, 1966, Ser. No. 570,388
Int. Cl. E21b 49/00
U.S. Cl. 166—250 37 Claims

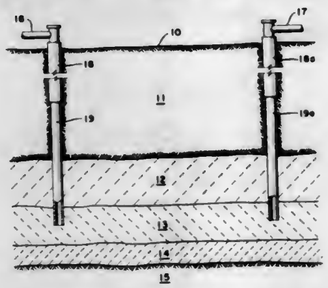


A testing or treating tool for use with tubular members in a well bore to isolate any desired zone or zones at one or more elevations in a well bore without necessarily removing the tool from the well bore.

3,439,741
STEAM DRIVE OIL PRODUCTION PROCESS
Harry W. Parker, Bartlesville, Okla., assignor to Phillips Petroleum Company, a corporation of Delaware
No Drawing. Filed Oct. 9, 1967, Ser. No. 673,937
Int. Cl. E21b 43/24, 43/16
U.S. Cl. 166—272 7 Claims

In producing oil from an oil stratum by steam drive from an injection well to a production well therein, a substantial slug of heavy crude oil is periodically injected thru the injection well to reduce fingering and the injected crude oil is upgraded by visbreaking. The injected crude oil is preferably of lower API gravity than the in-place oil.

3,439,742
METHOD OF PRODUCING HYDROCARBONS FROM AN UNDERGROUND FORMATION
Robert W. Durie, Ottawa, Ontario, Canada, assignor to Shell Oil Company, New York, N.Y., a corporation of Delaware
Filed Sept. 29, 1966, Ser. No. 582,867
Claims priority, application Canada, Jan. 17, 1966, 950,055
Int. Cl. E21b 43/20
U.S. Cl. 166—272 14 Claims



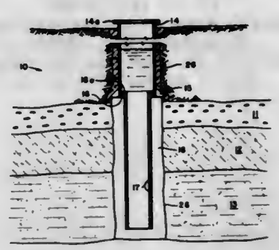
A method of producing hydrocarbons from formations containing both water and hydrocarbons having a viscosity equal to or greater than the viscosity of water comprising penetrating with injection and production wells said formations which also contain more than 10 pore volume percent of water and injecting through the injection well a fluid under pressure lower than the pressure required to cause fracturing of the formation until communication with a production well is established, followed by injecting through the same well a hot inert fluid and producing hydrocarbons through the production well.

3,439,743
MISCIBLE FLOODING PROCESS
Malcolm R. J. Wyllie, Allison Park, Pa., assignor to Gulf Research & Development Company, Pittsburgh, Pa., a corporation of Delaware
No Drawing. Filed July 13, 1967, Ser. No. 653,024
Int. Cl. E21b 43/24, 43/20
U.S. Cl. 166—272 9 Claims

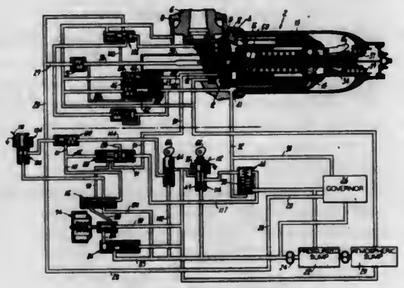
A miscible flooding process for the recovery of oil from underground formations in which a solvent for the oil is injected into the formation to miscibly displace oil through the formation to a production zone. Preferred solvents are hydrocarbons having from 2 to 6 carbon atoms per molecule. The solvent is followed by a mixture of inexpensive gas and either hot water or steam at a temperature which will vaporize the trailing edge of the injected solvent whereupon the solvent is miscibly displaced by the inexpensive gas. Thereafter, cold water is injected into the formation to move the previously injected fluids to the production zone.

3,439,744
SELECTIVE FORMATION PLUGGING
Bryant W. Bradley, Houston, Tex., assignor to Shell Oil Company, New York, N.Y., a corporation of Delaware
Filed June 23, 1967, Ser. No. 648,350
Int. Cl. E21b 33/13, 43/16
U.S. Cl. 166—287 6 Claims

A process for recovering oil from underground formations containing thief and non-productive permeable zones comprising temporarily plugging the oil-productive zone with a material readily susceptible to freezing thereby forming a frozen plug and thereafter plugging thief and non-productive permeable zones with a permanent plugging material, removing the temporary frozen plug from the oil-productive zone by suitable means such as dissolution or thawing, and recovering oil therefrom by means of a fluid drive.



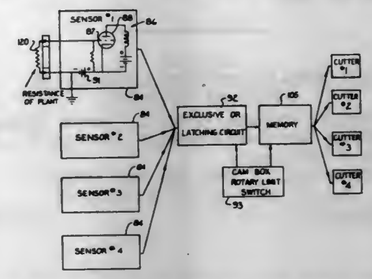
3,439,745
COMBINED PROPELLER PITCH LOCK AND LOW PITCH STOP SYSTEM
Leonard L. Gaubis, East Granby, and Thomas F. McDonough, Windsor, Conn., assignors to United Aircraft Corporation, East Hartford, Conn., a corporation of Delaware
Filed Mar. 30, 1966, Ser. No. 538,861
Int. Cl. B63h 3/00; B64c 11/34
U.S. Cl. 170—160.21 2 Claims



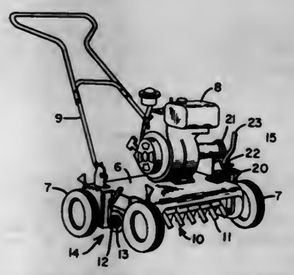
A blade switch on a propeller blade closes an electrical circuit at a predetermined blade angle and the circuit causes pitch lock pressure to be dumped, thereby allowing the pitch lock ratchet teeth to engage and thus causing the propeller to pitch stop at the predetermined blade angle.

3,439,746
METHOD AND APPARATUS FOR SELECTING PLANTS OF A CROP FOR HARVEST
Richard G. Lee, Carmel Valley, Calif., assignor to The Tensor Corporation, Monterey, Calif., a corporation of California
Filed Jan. 17, 1966, Ser. No. 521,086
Int. Cl. A01b 41/02, 41/06
U.S. Cl. 172—1 24 Claims

A method and apparatus for selecting plants of a crop is described which automatically compares the plants to one another to determine the superior plants for harvesting or thinning of the crop. Plant quality sensing probes are advanced linearly along a row of the crop while simultaneously being moved through a circular path to impart to them a cycloidal motion. The plants of successive groups of plants are contacted with the probes when their direction of movement in the circular is opposite to the direction of advancement along the row so that the relative movement between the probes and the plants is minimized during the sensing.

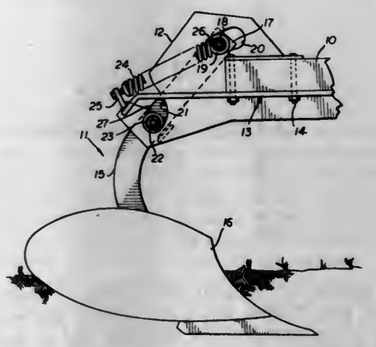


3,439,747
AERATING AND CULTIVATING APPARATUS
Gordon E. Kindlien, White Bear Lake, and Raymond C. Rothi, St. Paul, Minn., assignors to Ryan Equipment Company, St. Paul, Minn., a corporation of Minnesota
Filed Mar. 31, 1966, Ser. No. 539,142
Int. Cl. A01b 33/02, 45/02; A01d 55/18
U.S. Cl. 172—42 7 Claims



An apparatus having manually operable clamp means for quickly releasing and clamping a reel on a turf working machine.

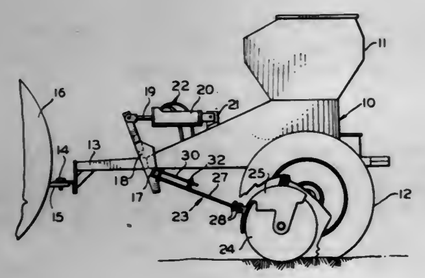
3,439,748
PLOW TRIP
Gerald G. Ward, Naperville, Ill., assignor to International Harvester Company, Chicago, Ill., a corporation of Delaware
Filed Oct. 25, 1966, Ser. No. 589,252
Int. Cl. A01b 61/04
U.S. Cl. 172—269 3 Claims



A plow-carrying standard is mounted on its supporting frame by lost motion connections permitting forward

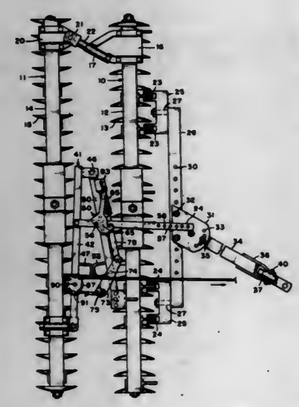
movement of the upper portion of the plow standard against the action of a spring, one of the connections being releasable upon said forward movement to accommodate tripping of the plow.

3,439,749
DRAWBAR CONSTRUCTION FOR FURROW OPENER
Nils O. Olsson, Ancaster, Ontario, Canada, assignor to International Harvester Company, Chicago, Ill., a corporation of New Jersey
Filed Oct. 22, 1965, Ser. No. 501,999
Int. Cl. A01b *21/08, 5/04, 23/04*
U.S. Cl. 172—572 **3 Claims**



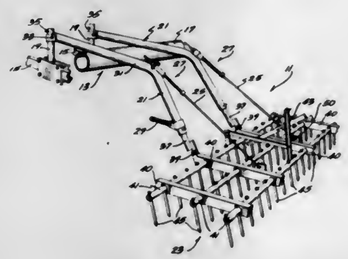
A flexible draft link for a furrow opener wherein economical and efficient means are provided for varying the down pressure exerted on the furrow opener to cause it to penetrate to the desired depth under different soil conditions.

3,439,750
AUTOMATIC-RELEASING CABLE CONTROL FOR HARROW
William R. McKay, Compton, Calif., assignor to Alexander Manufacturing Company, a corporation of Mississippi
Filed Oct. 5, 1965, Ser. No. 493,103
Int. Cl. A01b *21/08, 23/04*
U.S. Cl. 172—581 **16 Claims**



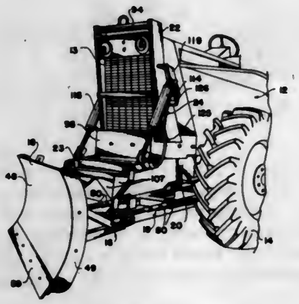
The mechanism controls the folding of harrow front and rear gang frames which are pivoted together at one end. A toggle, interconnects the other end of the frames and an angle bar is attached to one of the toggle bars. A latch is attached to the other toggle bar and a cable is connected to the latch so that pulling the cable in one direction unlatches the latch and also folds the frames from a divergent position to a parallel position.

3,439,751
PLOW HARROW
John E. Kasten, 136 Concord Lane, West Bend, Wis. 53095
Filed Feb. 24, 1966, Ser. No. 529,824
Int. Cl. A01b *19/00, 23/00*
U.S. Cl. 172—634 **3 Claims**



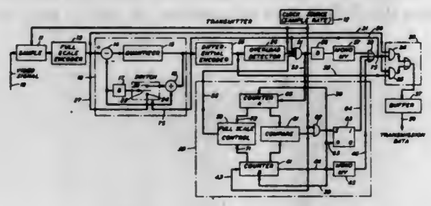
Disclosed herein is a plow harrow including means releasably connecting a link supporting a spike assembly to a rod for axial movement of the link relative to the rod so as to permit pivotal movement of the spike assembly relative to the rod and for affording detachment of said link from the rod when desired.

3,439,752
ANGLE DOZER
John Coontz, 131 N. 6th St., Kiowa, Kans. 67070
Filed Feb. 24, 1966, Ser. No. 529,710
Int. Cl. E02f *3/76*
U.S. Cl. 172—805 **3 Claims**



This invention is a bulldozer assembly connectible to a tractor having a blade means adjustable in all directions relative to path of tractor movement including a vertical support frame secured to the forward portion of the tractor; a horizontal thrust support assembly mountable on an engine portion of the tractor connectible to a draw bar; an undercarriage means pivotally connected to the thrust support assembly; linkage means having opposite ends connected to the support frame and the undercarriage means; and hydraulic means connected to the support frame and the linkage means to raise and lower the blade means connected thereto as required.

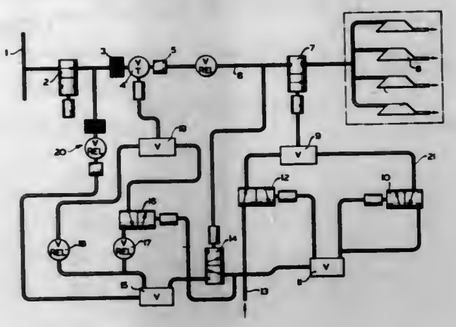
3,439,753
REDUCED BANDWIDTH PULSE MODULATION SCHEME USING DUAL MODE ENCODING IN SELECTED SUB-BLOCK SAMPLING PERIODS
Frank W. Mounts, Murray Hill, N.J., and Birendra Prasada, Brighton, Mass., assignors to Bell Telephone Laboratories, Incorporated, New York, N.Y., a corporation of New York
Filed Apr. 19, 1966, Ser. No. 543,609
Int. Cl. H04n *7/00;* **H04b** *1/04*
U.S. Cl. 178—6 **9 Claims**



1. A television transmission system comprising transmitting means, receiving means, and communication channel means interconnecting said transmitting means and said receiving means, said transmitting means comprising a source of video signals, means to sample said video signals, differential encoding means, full scale encoding means, means to process said samples for the purposes of encoding and transmission in master blocks having a fixed number of samples, means to subdivide said master blocks into sub-blocks each having a fixed number of samples, means selecting said differential encoding means to encode samples where said video signal changes slowly, means to select said full scale encoding means to encode samples where said video signal changes rapidly, means to limit the number of samples which may be full scale encoded in any one of said master blocks, means to distribute the utilization of full scale encoded samples within one of said master blocks by allotting a specified number of full scale encoded samples to each of said sub-blocks, means to accumulate the utilization of full scale encoded samples not utilized in any one of said sub-blocks and to allot said accumulated samples to any subsequent one of said sub-blocks, and means to transmit said master blocks of encoded samples to said receiving means, said receiving means comprising, means to decoded differentially encoded samples, means to decode full scale encoded samples, and means responsive to the rate of change of said transmitted encoded samples to select the appropriate one of said decoding means.

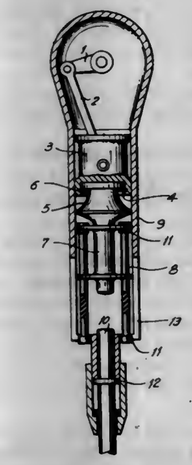
3,439,754
APPARATUS FOR TIGHTENING SCREW CONNECTIONS TO A PRECISE TORQUE
Wolfgang E. Pantel, Geisenheim, Germany, assignor to Chicago Pneumatic Tool Company, New York, N.Y., a corporation of New Jersey
Filed Mar. 14, 1967, Ser. No. 622,967
Claims priority, application Germany, Mar. 16, 1966, P 38,995
Int. Cl. B23q *5/00;* **F01b** *25/04;* **B25b** *21/00*
U.S. Cl. 173—12 **5 Claims**

Apparatus connectible as a unit between a source of operating pressure air and one or more pneumatically powered screw driving tools. The apparatus includes a first air flow circuit to allow operating air flow to the tools, having an initial pressure value to effect operation of the tools to run down the work to an initial degree of tightness. A second air flow circuit is automatically operable following attainment of the initial tightness of the work to increase the pressure value of the air flow to the tools to cause the tools to run the work down to a higher or final degree of tightness. A control circuit is included in the apparatus to effect operation of the second air flow



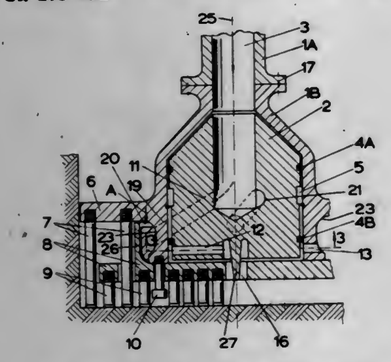
circuit and to thereafter cause intermittent operation thereof until operation of the apparatus is finally shut off.

3,439,755
POWER PERCUSSION TOOL
Evgeny Vsevolodovich Alexandrov, Ljubertsy, U.S.S.R., assignor to Institut Gornogo Dela imeni A.A. Skochinskogo, Ljubertsy, U.S.S.R.
Filed Feb. 11, 1965, Ser. No. 431,915
The portion of the term of the patent subsequent to May 31, 1985, has been disclaimed
Int. Cl. E21b *1/00;* **E21c** *3/00;* **B25d** *9/00, 11/00, 13/00*
U.S. Cl. 173—119 **2 Claims**



1. A power percussion tool comprising: a housing; a drive; a mechanism converting rotary motion imparted by said drive into reciprocating motion and accommodated in said housing; an elastic sucker rigidly connected to said motion converting mechanism; a piston accommodated in said housing for reciprocating movement therein and interacting with said sucker on the upward stroke; resilient members connecting said piston to said housing for disengaging said piston on its working stroke from said sucker, and for imparting kinetic energy to said piston for striking the percussion rod, the resilient members having sufficient strength to hold said piston out of the reach of said sucker in idling during overhead work.

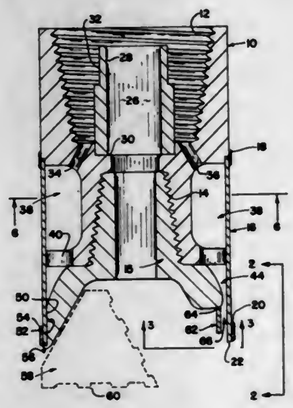
3,439,756
HIGH SPEED VIBRATION DRILLS
Joel B. Guin, 148 E. 48th St., New York, N.Y. 10017
Filed Jan. 29, 1965, Ser. No. 428,918
Int. Cl. E21b 1/06, 3/12, 5/00
U.S. Cl. 175—92 2 Claims



1. A high speed vibration drill comprising:
a drill shaft rotated by rotating means and having a channel for drill fluid running through it lengthwise;
a round drill bit shell attached to the lower end of the drill shaft by attaching means;
a drill bit core located within the drill bit shell and having mounted on its outer surface bearing means which separate it from the inner walls of said shell, and circular sealing means surrounding the core and mounted to the outer surface thereof to close off the passage between the core and shell;
an annular shaped upper plate mounted upon and around the drill bit shell and extending peripherally therefrom;
a drilling means comprising a plurality of spikes, attached by attaching means to the underside of the upper plate near the periphery thereof, and extending to the work face of the hole to be drilled;
other drilling means below the core and said upper plate to present a drilling surface across the breadth of the work face;
a lower plate located below the drill bit core, extending outward peripherally under said upper plate, and penetrated by a plurality of holes through which said spikes penetrate;
said other drilling means comprising a plurality of spikes attached by attaching means to the lower side of said lower plate and extending downward to the work face, the lower ends of said spikes being flush with the lower ends of the upper spikes;
bolts running through said lower plate and attached to the lower face of said bit shell, to keep the lower plate from falling off and to limit the vibrational amplitude thereof; and
vibration means within said drill for briefly separating said upper and lower plates drilling fluid pressure and letting said plates come together by releasing the pressure, each vibration causing first the lower spikes and then the upper spikes to gouge into the work face with great force, as the force on the upper and then the lower spikes is reduced.

3,439,757
DRILLING APPARATUS
Wayland D. Elenburg, P.O. Box 1588, Monahans, Tex. 79756
Filed Mar. 12, 1968, Ser. No. 712,561
Int. Cl. E21b 17/10, 21/00; E21c 9/00
U.S. Cl. 175—325 9 Claims

A well drilling apparatus for preventing excessive flow of fluid into a formation while at the same time maintaining the cones of a bit free from the cuttings. This apparatus is comprised of concentrically arranged drilling pipes flow connected to a sub with the sub having a formation cutting bit attached to the lower depending end thereof. The sub and bit include longitudinally extending passageways, with one such passageway centrally extending through the sub and bit and into communication with the tubing located within the drill pipes, and with the remaining passageways being radially arranged to communicate with the annulus of the drill pipes. A cylindrical downwardly depending skirt is rigidly attached to the sub and downwardly depends about the drill bit, thereby enclosing the drill shanks therewithin. A weir in the form of

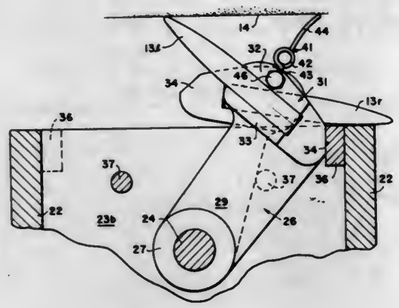


a plate member is attached between adjacent shanks and is spaced apart from and enclosed by the lower terminal end of the skirt thereby providing a passageway for clean drilling fluid which flows from the drill pipe annulus and between the weir and skirt. The passageway forces the clean fluid to flow in close proximity of the drill cones to thereby maintain the cones free of debris in an improved manner. This action also removes large formation cuttings from the vicinity of the drill bit so as to prohibit further reduction in their size, thereby effecting a savings in the expenditure of power which must be used by the cone, as well as immediately returning large cuttings or chips of the formation to the surface for analysis.

3,439,758
PIVOTED TOOTH-HOLDER FOR TUNNELING MACHINE
Gerald A. Petersen, Cupertino, Calif. (% Petersen Engineering Co. Inc., 950 Kifer Road, Sunnyvale, Calif. 94086)
Filed Jan. 9, 1967, Ser. No. 608,231
Int. Cl. E21c 13/12; E21b 9/26; E21d 9/00
U.S. Cl. 175—381 10 Claims

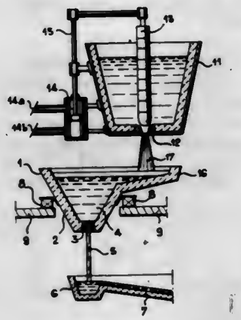
It has been found desirable to reverse the direction of rotation of tunnel machine cutter wheels from time to time in order to compensate for the tendency of such wheels to drift out of straight line due to the reaction to the rotation thereof. The present invention provides pluralities of pairs of tooth holders, each having a replacable tooth and each of which is movable between an operative and inoperative position, so that one tooth of each pair is operative during rotation in one direction and the other in the opposite direction. Means is provided for automatically reversing the positions of the holders between operative and inoperative positions, depending upon the direction of rotation. A preferred means comprises a resilient member which is dragged across the tunnel face when the tooth with which it is associated is in inoperative position, and which upon

reversal of direction of rotation of the wheel engages the tunnel face and retards rotation of its holder relative to



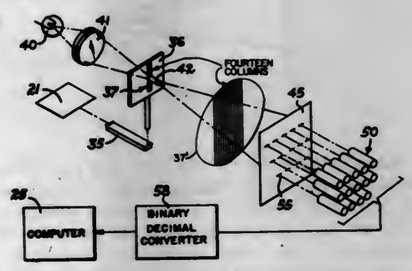
the wheel, thereby causing the holder to pivot into operative position.

3,439,759
METHOD AND APPARATUS FOR OBTAINING A CONSTANT PREDETERMINED FLOW OF LIQUID, ESPECIALLY MOLTEN METAL
Jean Rouanet and Aristide Berthet, Metz, France, assignors to Institut de Recherches de la Siderurgie Francaise, Saint Germain-en-Laye, France
Filed Dec. 12, 1966, Ser. No. 600,858
Claims priority, application France, Dec. 14, 1965, 42,096
Int. Cl. G01g 9/00
U.S. Cl. 177—1 12 Claims



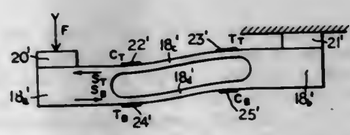
A method and apparatus for obtaining a constant predetermined outflow of liquid metal from a container provided with a calibrated discharge opening in which the level of liquid metal in the container is maintained between an upper and a lower level, in which the time is measured at which the level of the liquid metal in the container drops from said upper to said lower level to thus establish the actual discharge of liquid metal during the time and in which the actual discharge is compared with a reference discharge corresponding to the predetermined outflow and in which in the event a difference is established between the actual discharge and the reference discharge the upper and lower levels of the liquid metal in the container are changed corresponding to the measured difference.

3,439,760
AUTOMATIC PRINTING PRICE SCALE WITH PHOTOELECTRIC ENCODER INCLUDING RANGE AND MOTION DETECTORS
Kenneth C. Allen, Dayton, Ohio, assignor to The Hobart Manufacturing Company, Troy, Ohio, a corporation of Ohio
Continuation-in-part of application Ser. No. 220,765, Aug. 31, 1962. This application Oct. 15, 1963, Ser. No. 316,290
Int. Cl. G01g 23/28
U.S. Cl. 177—3 13 Claims



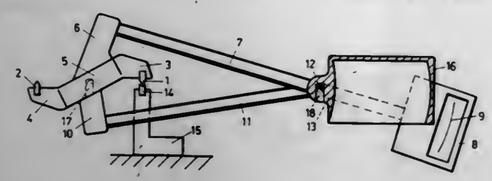
An automatic weighing scale comprising photoelectric digital encoding means and computing means with printout means for computing the price of a commodity and issuing a printed ticket. The price is based upon the weight of the commodity multiplied by the price per unit of weight. The digital encoding means comprises a chart bearing a pattern of translucent and opaque binary markings. Weight magnitudes are converted into binary electrical signals by photoelectric transducers clustered in the path of light projected through the chart and through a slitted mask. Certain of said same photoelectric transducers are also utilized in an out-of-range control system and in a motion detection system, both of which systems act to prevent the automatic operation of the overall system unless proper conditions obtain.

3,439,761
STRAIN-GAGE TRANSDUCER STRUCTURES
Eric Laimins, Belmont, Mass., assignor to BLH Electronics, Inc., Waltham, Mass., a corporation of Delaware
Filed Oct. 17, 1966, Ser. No. 587,047
Int. Cl. G01g 3/14
U.S. Cl. 177—211 12 Claims



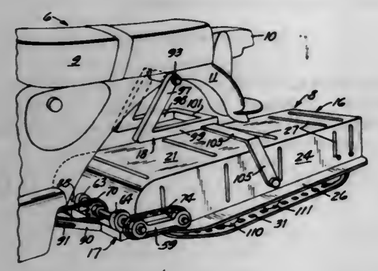
A rigid load-carrying structure, such as a scale platform, is mounted in relation to a support solely by parallel beam elements having their adjacent ends interconnected to constrain movements of the load-carrying structure to one path, and having electrical strain gages applied to the elements and connected to characterize only the loading along the one path of movements.

3,439,762
BEAM FOR A PRECISION BALANCE
Max Appius, Goldach, Switzerland, assignor to Mikrowa Fein-und Schnellwaagen AG., Walzenhausen, Switzerland
Filed June 7, 1967, Ser. No. 644,274
Claims priority, application Switzerland, July 6, 1966, 9,802/66
Int. Cl. G01g 1/28
U.S. Cl. 177—235 10 Claims



A balance beam whose one arm is a rigid plate perpendicular to the upright median plane of the beam, and whose other arm mainly consists of three cylindrical rods fastened to lugs projecting from the plate in different directions, one rod being located in the median plane above the other two rods which are symmetrically spaced from the median plane and diverge away from the principal pivot axis, the ends of the rods remote from the axis being connected by a transverse bar. The coefficient of thermal expansion of the upper rod is different from that of the two lower rods.

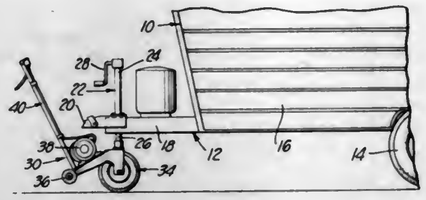
3,439,763
ENDLESS TRACK ATTACHMENT FOR MOTORIZED CYCLES
Walter H. Pederson, Rte. 1, Woodland Hills, East St. Cloud, Minn. 56301
Filed Nov. 14, 1966, Ser. No. 593,776
Int. Cl. B62d 55/04
U.S. Cl. 180—9.24 5 Claims



An attachment for use in place of the rear wheel of a motorcycle to make the cycle suitable for use in soft terrain which includes a torque transfer member to connect one end of the frame for an endless belt to the drive member of a cycle and a weight-force transmitting member to support the cycle from the intermediate portion of the frame.

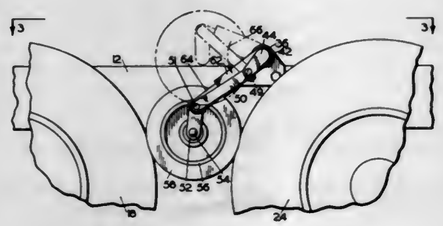
3,439,764
POWER CASTER FOR MOVING TRAILERS
Howard M. Kimball, El Monte, Calif., assignor to Kimball and Stark, Inc., El Monte, Calif.
Filed July 3, 1967, Ser. No. 650,775
Int. Cl. B60k 7/00; B60p 3/06
U.S. Cl. 180—12 6 Claims

A power caster for moving travel trailers and the like having a hitch tongue for attaching the trailers to a towing vehicle and mounting a jack with a lower telescoping tube, the power caster having a frame mounting a rear, relatively large driving wheel, a coupling sleeve on the frame directly over the wheel for rotatably receiving the lower end of the telescoping jack tube on the trailer to support the front end of the trailer, a motor for driving the wheel to move the trailer, a steering handle attached to the



frame for steering the power caster to maneuver the trailer, and a pair of relatively small auxiliary wheels mounted on the front end of the frame which are elevated out of contact with the ground when the power caster is attached to the trailer and about which the power caster, when detached from the trailer, may be rocked by means of the steering handle to elevate the driving wheel out of contact with the ground and thereby permit rolling of the power caster along the ground on the auxiliary wheels.

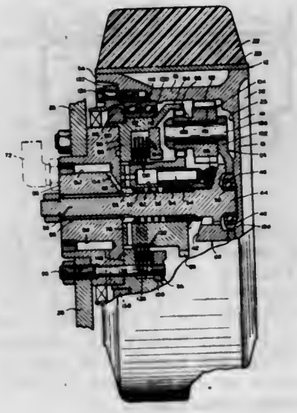
3,439,765
POWER TRANSFER MEANS FOR CONNECTING DRIVEN AND UNDRIVEN WHEELS OF VEHICLES
Larry D. Keegan, deceased, late of Clackamas, Oreg., by Lee E. Keegan, executrix, Rte. 1, Box 131C, Pendleton, Oreg. 97801
Filed Mar. 10, 1967, Ser. No. 623,796
Int. Cl. B62d 61/10; B60k 17/00
U.S. Cl. 180—22 4 Claims



A cross shaft is driven rotatably by power drive means and carries a friction wheel arranged upon driven rotation of the shaft to frictionally connect a driven wheel with an undriven wheel. Connection of the friction wheel with the shift is accomplished by a lever arm which is extendable so that such friction wheel is positionable between the driven and undriven wheels by pivotal movement with the shaft in addition to extending movement of the arm. The arm has a pair of telescopically extendable members, and also provided in the connection are link means pivotally connected at one of its ends to the outer end of the arm, means rotatably supporting the friction wheel on the other end of the link means, and second link means pivotally connected between the shaft and the arm, with one of the arm members being connected to the shaft and the other

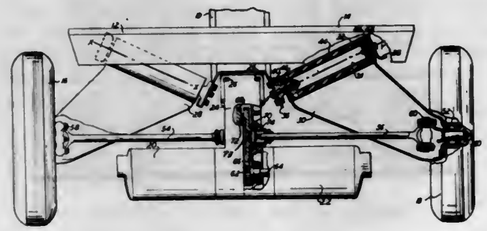
of the arm members being connected to the second link means, for limiting the extension thereof.

3,439,766
HYDRAULIC-MOTOR-IN-WHEEL ASSEMBLY
Donald S. Dence, Lake Columbia, Brooklyn, and Barry L. Frost, Jackson, Mich., assignors to Clark Equipment Company, a corporation of Michigan
Filed Dec. 29, 1966, Ser. No. 605,800
Int. Cl. B60k 3/02
U.S. Cl. 180—66 12 Claims



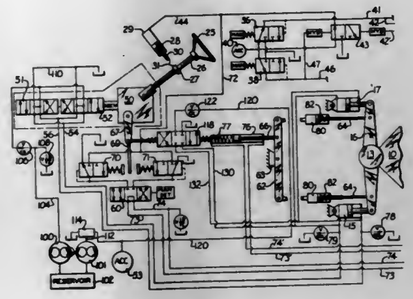
Pistons arranged in-line axially in a central rotatable body, working against a fixed swash plate for rotating the body, planetary gearing between the body and wheel, and brake means having multiple radial plates surrounding the body and movable axially in braking and releasing directions, all within the confines of the wheel rim.

3,439,767
MOTOR VEHICLE SUSPENSION AND DRIVE ARRANGEMENT
Arthur Edward Lynes, Thorpe Bay, and Laurie Martland, Basildon, England, assignors to Ford Motor Company, Dearborn, Mich., a corporation of Delaware
Filed Oct. 27, 1967, Ser. No. 678,602
Claims priority, application Great Britain, Apr. 12, 1967, 16,780/67
Int. Cl. B60k 17/00, 23/00, 1/00
U.S. Cl. 180—73 6 Claims



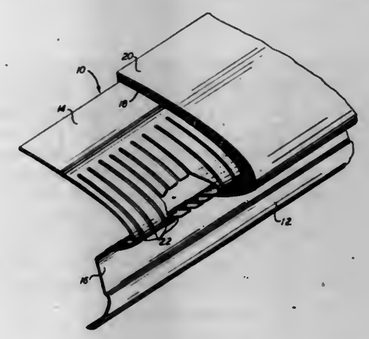
A motor vehicle wheel suspension and final drive arrangement having independently sprung rear wheels and separate motors for driving each wheel. The motors are supported on a rigid housing that also contains gear sets for driving the wheels.

3,439,768
HYDRAULIC DUAL SOURCE STEERING SYSTEM FOR VEHICLES
Jackson C. Medley, East Peoria, Ill., assignor to Caterpillar Tractor Co., Peoria, Ill., a corporation of California
Filed Oct. 17, 1967, Ser. No. 675,966
Int. Cl. B62d 5/06
U.S. Cl. 180—79.2 8 Claims



A dual source hydraulic steering system utilizing a pump supplied open-center steering circuit as the primary means of steering a vehicle and an accumulator supplied closed-center auxiliary steering circuit which supplements and backs up the pump circuit pressure when steering response for the vehicle is slower than that required by the vehicle operator.

3,439,769
SAFETY INSTRUMENT PANEL
Harold G. Brilmyer, Grosse Pointe, Mich., assignor to Ford Motor Company, Dearborn, Mich., a corporation of Delaware
Filed May 2, 1966, Ser. No. 546,741
Int. Cl. B60k 37/00; B62d 25/14; B60r 21/04
U.S. Cl. 180—90 2 Claims



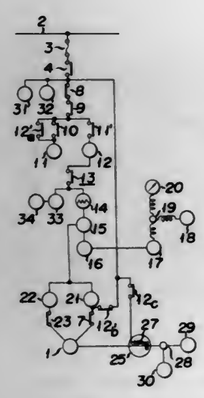
An instrument panel for a motor vehicle formed from steel sheet and having sufficient strength characteristics to serve as a structural member in the vehicle body assembly. Slot means extend through the panel at areas subject to impact from a body portion of a vehicle passenger during a vehicle collision. These slot means weaken the structural resistance of the sheet to deformation at the selected areas and thereby promote the dissipation of impact energy.

3,439,770

CONSTANT SPEED DRIVE CONTROL SYSTEM FOR AUTOMOBILES

Hikotaro Saito, 1989—3 Kumisawa-cho, Totsuka-ku, Yokohama-shi, Japan

Filed Mar. 23, 1967, Ser. No. 625,515
Int. Cl. B60k *31/00*
U.S. Cl. 180—105 2 Claims



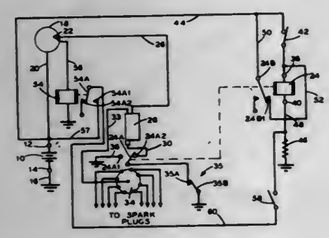
A constant speed drive control system for automobiles which enables driving a motor car at a desired constant speed regardless of geometry of the ground and whether the car is loaded or unloaded only by placing the change gear in the high-speed position until the brake is operated.

3,439,771

APPARATUS FOR PREVENTING THEFT OF A VEHICLE

Noel Commins, 5 Dutch Court, West Nyack, N.Y. 10994

Filed Oct. 4, 1967, Ser. No. 672,777
Int. Cl. B60r *25/00*; H02j *3/00*
U.S. Cl. 180—114 7 Claims



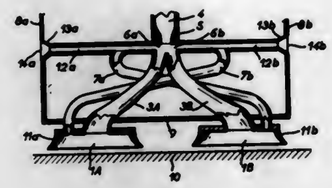
An apparatus for preventing the theft of a vehicle of the type having an ignition switch for selectively connecting and disconnecting an ignition coil with a battery which includes a first relay for connecting the distributor with the ignition coil when the relay is energized and for grounding the distributor when the relay is de-energized. A second relay is provided for automatically de-energizing the first relay when the ignition switch is operated to the ignition coil disconnect position to prevent energization of the vehicle ignition system thereby to eliminate unauthorized use of the vehicle.

3,439,772

SURFACE EFFECT DEVICES WITH FLUID AMPLIFIER STABILIZING MEANS

Francois Louis Giraud, Plaisir, France, assignor to Bertin et Compagnie, Paris, France, a company of France

Filed Dec. 27, 1966, Ser. No. 604,820
Claims priority, application France, Dec. 29, 1965, 44,183
Int. Cl. B60v *1/00, 3/04*
U.S. Cl. 180—118 11 Claims



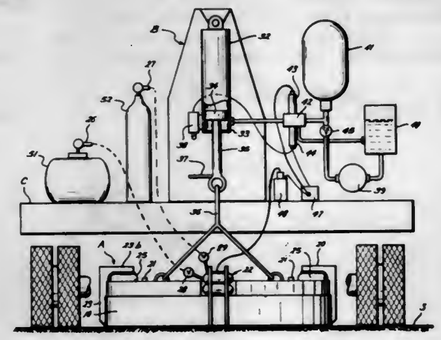
Attitude control system for multi-cushion ground-effect machines with spaced cushions supplied with pressure fluid through a fluid amplifier device adapted for proportioning the respective supply flows, said fluid amplifier device being under the control of attitude sensing means such as cushion pressure sensors, the arrangement being such as to privilege one cushion and prejudice another cushion in order to restore the correct attitude whenever there is a departure therefrom.

3,439,773

METHOD OF AND APPARATUS FOR IMPARTING A SEISMIC PULSE TO THE EARTH

Rodger W. Dart and Richard E. Smythe, Houston, Tex., assignors, by mesne assignments, to Sinclair Research, Inc., New York, N.Y., a corporation of Delaware

Filed May 5, 1967, Ser. No. 636,412
Int. Cl. G01v *1/02*
U.S. Cl. 181—.5 16 Claims



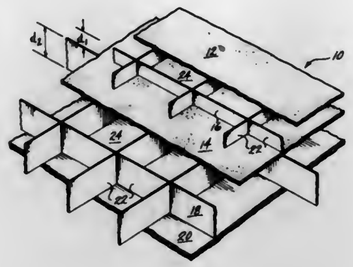
The present invention relates to a method of and apparatus for imparting a single seismic pulse to the earth's surface as a result of an energy release in which the apparatus is in direct contact with the earth's surface during the major portion of the energy release and thereafter rises or is lifted and is held above the earth's surface to prevent rebound pulses from being delivered to the earth and to allow the earth to respond at its natural frequency.

3,439,774

SOUND ENERGY ABSORBING APPARATUS

Vernon E. Callaway and Leonard S. Goralski, Tacoma, Wash., assignors to The Boeing Company, Seattle, Wash., a corporation

Filed Jan. 21, 1966, Ser. No. 522,127
Int. Cl. F01n *1/04*
U.S. Cl. 181—42 1 Claim



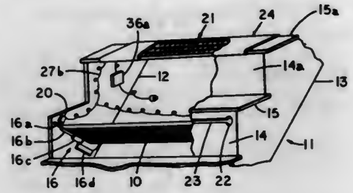
A sound absorbing panel comprising two spaced layers of a microporous material, the outer layer being of a higher permeability for high frequency noise absorption, and the inner layer being of a lower permeability for low frequency sound absorption, with cellular structure placed between the two layers and between the inner layer and a supporting surface.

3,439,775

SAFETY DEVICE FOR STAIRS

Rodney A. Henrie, 136 E. 3rd St., and Harvey R. Stoner, 14 S. Vine St., both of Mount Carmel, Pa. 17851

Filed Nov. 15, 1967, Ser. No. 683,263
Int. Cl. E04f *11/00*; A62b *1/22*; E04g *1/00*
U.S. Cl. 182—138 9 Claims



An automatically-operated safety device is provided for protecting against injury persons, such as children and the aged, who are prone to fall down stairs. Operation of the device is initiated by the falling person.

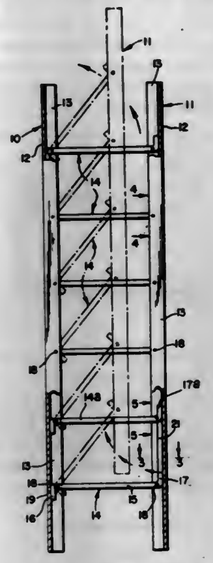
3,439,776

COLLAPSIBLE LADDERS

Ernest O. Scheerer, 777 Vaughn Ave., Toms River, N.J. 08753

Filed Apr. 12, 1968, Ser. No. 720,827
Int. Cl. E06c *1/383*
U.S. Cl. 182—160 4 Claims

A collapsible ladder wherein the rungs are pivotally attached to the upright legs and are so deformed at their ends as to prevent them from swinging in one direction, and a releasable pivoted lug is provided on one rung to prevent all the rungs from swinging in the opposite direction when the ladder is in extended condition for use. To collapse the ladder into a narrow but slightly longer mass, the said lug is swung out of the way and one leg is moved longitudinally with respect to the other to swing the rungs said opposite direction and thus bring the legs into mutual contact.



3,439,777

OIL MIST LUBRICATOR

Karl Evald Andreas Gothberg, Backasen, Lerum, Sweden, assignor to Aktiebolaget Svenska Kullagerfabriken, Goteborg, Sweden, a corporation of Sweden

Filed Sept. 6, 1966, Ser. No. 577,356
Int. Cl. F01m *1/08*; A61m *11/02*; B05b *7/32*
U.S. Cl. 184—55 8 Claims



A lubricator comprising a container defining a reservoir for a lubricant, a chamber for a gaseous fluid above the lubricant reservoir including a dividing wall between the chamber and lubricant reservoir, an ejector nozzle in the dividing wall, means operatively connecting the ejector nozzle with the lubricant reservoir whereby a jet of lubricant mist is discharged from the ejector nozzle, a discharge outlet for the lubricant mist and a guide member interposed in the path of the jet of lubricant mist which is selectively adjustable to vary the concentration of lubricant in the lubricant mist delivered at the discharge outlet.

3,439,778

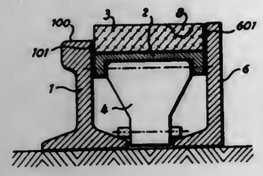
DEFORMABLE RAILWAY WHEEL BRAKE

Ernst Garbers, 10 Dammannweg 52, Theodore Klotzek, 38 Reeseberg 90, and Erwin Spingies, 31 Bullskamp 72, all of Hamburg, Germany

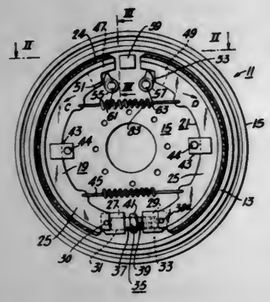
Filed Oct. 24, 1966, Ser. No. 588,858
Claims priority, application Germany, Oct. 23, 1965, G 45,015
Int. Cl. B61k *7/02*; B60t *8/12*
U.S. Cl. 188—62 12 Claims

Stationary rail brake for braking vehicles traveling along a track and particularly shunted railway vehicles in marshalling yards. The braking element is in the form

of a deformable material having elastomeric properties and supported to extend along one side of a rail. The support is vertically movable to lift the elastomeric material above the head of the rail and brake rotation of the wheel by the shearing effect of the material on the wheel and by molecular movement of the elastomeric material. A confining rail may be spaced from the railway rail to confine the elastomeric material and restrict the deformation of the material transversely of the direction of travel of the wheel and to confine molecular movement of the material substantially in the direction of travel of the material, to thereby increase the total braking effect. Means operated under control of the speed of the vehicle may be provided to raise and lower the elastomeric material through operation of mechanical or fluid pressure operated means.



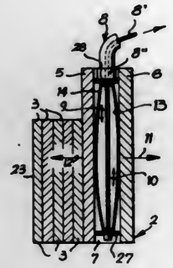
3,439,779
VEHICLE BRAKE
Louis Saver, R.D. 1, Brookville, Pa. 15825
Filed July 12, 1967, Ser. No. 652,769
Int. Cl. F16d *51/00*
U.S. Cl. 188—78 **3 Claims**



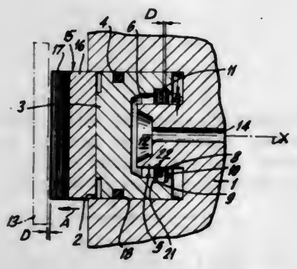
Brake shoes that are freely movable relative to a rotatable brake drum are adjustably connected together at the bottom and are pivotally movable into frictional engagement with the rotating brake drum by a pair of cams rotated by a fluid actuated cylinder. Return springs connected to the brake shoes restore the brake shoes to a non-operative position when fluid pressure on the cylinder is reduced.

3,439,780
DISK BRAKE AND ACTUATOR THEREFOR
Heinz Frigger, Langen-Oberlinden, Germany, assignor to Alfred Teves Maschinen- und Armaturenfabrik KG, Frankfurt am Main, Germany, a corporation of Germany
Filed June 8, 1967, Ser. No. 644,588
Claims priority, application Germany, June 25, 1966, T 31,456
Int. Cl. F16d *65/14, 55/00*
U.S. Cl. 188—106 **9 Claims**

Disk brake having a brake yoke disposed along the periphery of a rotatable disk, at least one brakeshoe shiftable against a braking face of the disk and co-operating with an actuating member (e.g., piston or lever) for shifting the brakeshoe into engagement with the disk, and an auxiliary mechanism for relatively displacing the braking surface of the shoe and the braking face of the disk, the auxiliary mechanism being disposed directly within the brakeshoe between the braking surface thereof and the surface of the backing plate upon which the actuating member acts. The brakeshoe includes a backing plate member and a lining member bonded to the backing-plate member, one of these members containing a self-adjusting mechanism for automatically advancing the braking surface of the lining relative to the abutment surface of the backing plate upon an increase in the play of the brakeshoe indicative of wear, or a manually operable mechanism for advancing the braking surface of the lining when the mechanism is used as a locking, emergency brake or parking brake system.

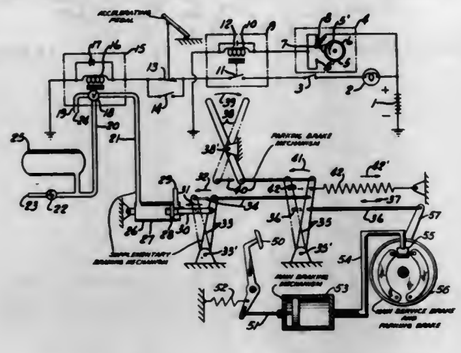


3,439,781
SELF-ADJUSTING BRAKE MECHANISM
Fritz Ostwald, Buchschlag, Germany, assignor to Alfred Teves Maschinen- und Armaturenfabrik KG, Frankfurt am Main, Germany, a corporation of Germany
Filed July 18, 1967, Ser. No. 654,198
Claims priority, application Germany, July 21, 1966, T 31,639
Int. Cl. F16d *65/38, 55/00, 51/00*
U.S. Cl. 188—196 **10 Claims**



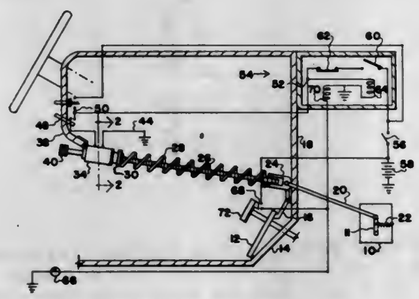
A hydraulic wheel brake for an automotive vehicle in which the cylinder and piston are provided with mutually telescoping members forming a clearance therebetween in which a spiral spring is received; the spiral spring has turns of large and small diameter engaging the inner and outer members and frictionally bearing radially one of them while being received in a groove of the other for sliding the frictional turn along the respective member to re-position the piston when the brake play exceeds a predetermined level.

3,439,782
BRAKE HOLDER WITH THROTTLE RELEASE
Hiroshi Uda, Itami, Tadasu Irie, Toyonaka, and Kaname Doi, Ibaragi, Japan, assignors to Sumitomo Electric Industries, Ltd., Osaka, Japan, a company of Japan
Filed May 24, 1966, Ser. No. 552,588
Claims priority, application Japan, June 17, 1965, 40/36,295
U.S. Cl. 192—3 **7 Claims**



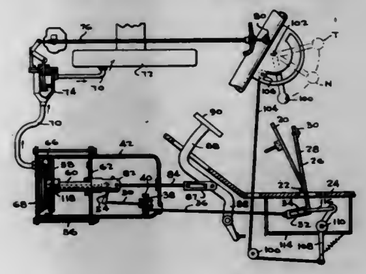
An automatic brake control for a motor vehicle wherein the parking brake is actuated by a motor preferably driven from the vehicle engine and controlled by an electric circuit having a plurality of switches arranged and constructed to engage the parking brake upon the vehicle coming to a stop (minimal to zero movement) with the throttle control in engine idle position. The motor is preferably pneumatically driven from the engine intake manifold. The switches include a vehicle movement detector switch which permits the parking brake to be engaged only during zero or minimal vehicle movement in either direction and is switched by induction from a magnetized rotor which rotates commensurate with the vehicle movement.

3,439,783
BRAKE RELEASED MAGNETIC THROTTLE HOLDER
John V. Graham, 1201 N. 12th, and John B. Keeling, 507 West Ave. Q, both of Lovington, N. Mex. 88260, and Leonard L. Robinett, P.O. Box 1258, Maljamar, N. Mex. 88264
Filed June 14, 1967, Ser. No. 645,952
Int. Cl. F16d *67/00, 23/00;* F02d *11/10*
U.S. Cl. 192—3 **10 Claims**



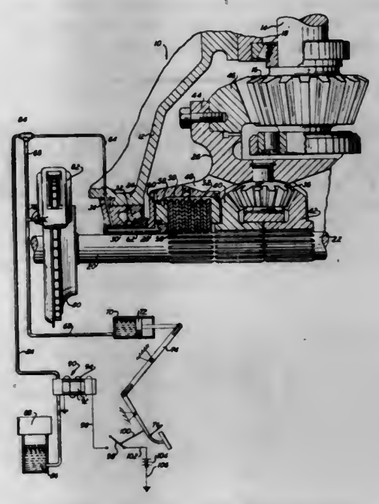
The throttle on an automobile is set at an adjustable opening by contacting an iron part on the control linkage to an electromagnet. The amount of opening is adjusted by rotating the control knob which has a threaded attachment to the iron member. The electric circuit to the electromagnet is broken by a manual switch or by the ignition switch or by a brake-actuated switch. In addition, the iron member may be manually displaced from the electromagnet.

3,439,784
AUTOMOBILE BRAKE AND THROTTLE CONTROLS
Edward F. Wittner, 421 Repton Road, Riverside, Ill. 60546
Filed July 24, 1967, Ser. No. 655,676
Int. Cl. F16d *67/00*
U.S. Cl. 192—3 **5 Claims**



A brake control system having a servo-piston connected to a brake applicator and mounted in a vacuum cylinder for selective actuation by valve means connected by flexible cord through a plural diameter spool to a companion pedal associated with the automobile accelerator pedal.

3,439,785
DIFFERENTIAL LOCK AND AXLE BRAKE
Douglas Hughson, Southfield, Mich., assignor to Ford Motor Company, Dearborn, Mich., a corporation of Delaware
Filed Nov. 14, 1966, Ser. No. 593,858
Int. Cl. F16h *57/10*
U.S. Cl. 192—4 **13 Claims**



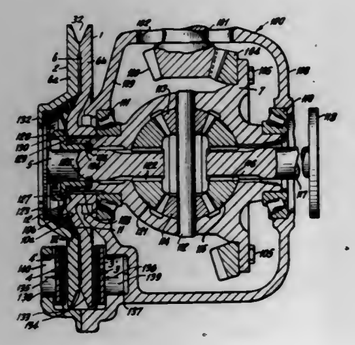
An axle braking system for a motor vehicle having a differential operatively connected to a source of power and a pair of driven half shafts extending from the differential. Means are provided for locking the differential

upon the manual actuation of the vehicle brake pedal so that a single brake, acting on one of the half shafts, functions to impede movement of both half shafts.

3,439,786
HYDRAULIC BRAKE FOR AUTOMOTIVE VEHICLES

Leopold Franz Schmid, Stuttgart, Germany, assignor to Alfred Teves Maschinen- und Armaturenfabrik KG, Frankfurt am Main, Germany, a corporation of Germany

Filed June 8, 1967, Ser. No. 644,547
Claims priority, application Germany, June 18, 1966, T 31,389
Int. Cl. F16d *41/24, 67/00;* F16h *57/10*
U.S. Cl. 192—4 11 Claims

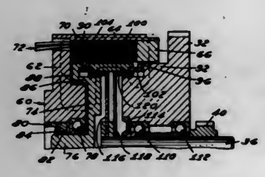


A differential brake for an automotive vehicle wherein one annular braking surface is keyed to a rotatable planetary-gear housing of the differential, and another annular braking face is provided coaxially therewith on at least one of the output shafts or wheel axles of the differential, and either a brake ring is wedged between both faces, or the brake members carrying the faces are clamped together by the brakeshoes so that the same braking force is applied to both faces. The members can be constituted as a disk in which case the brakeshoes form part of a disk brake, or constituted as part of a double-cone brake in which the brake ring is axially shiftable.

3,439,787
DOUBLE MAGNETIC-FLUID CLUTCH SYSTEM FOR SERVOCONTROL MECHANISM

Albert A. Minciotti and Richard Grau, Grand Rapids, Mich., assignors to Conductron Corporation, Ann Arbor, Mich., a corporation of Delaware

Filed May 5, 1967, Ser. No. 636,404
Int. Cl. F16d *27/00, 29/00, 11/06*
U.S. Cl. 192—21.5 3 Claims

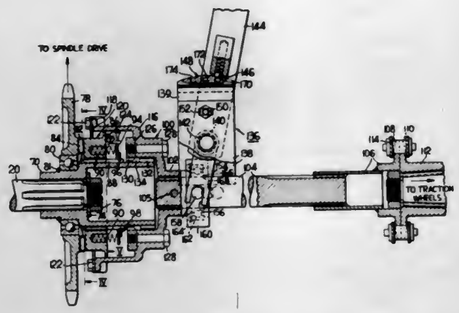


The use, in a reversible servocontrol mechanism, of a pair of electromagnetic particle clutches each adjustable by a relative motion of electromagnetic field and rotors to obtain a constant torque gain to permit accurate matching of the output of the clutches, and the specific clutch design utilizing an axially movable electromagnetic field to obtain such adjustment.

3,439,788
CLUTCH ENABLING SIMULTANEOUS CONTROL OF TWO DRIVEN SHAFTS OR SELECTIVE CONTROL OF EITHER OF SAID SHAFTS

Rector C. Fergason, Gadsden, Ala., assignor to Allis-Chalmers Manufacturing Company, Milwaukee, Wis.

Filed Oct. 18, 1967, Ser. No. 676,349
Int. Cl. F16d *47/04, 21/02*
U.S. Cl. 192—48.6 15 Claims



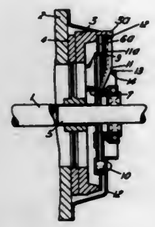
A power transmission and control mechanism therefor for harvesting machines or the like, such as cotton harvesters, in which a three way shifting arrangement selectively provides (1) a drive connection only to the harvesting units such as the cotton picking spindles; (2) a drive connection to the harvesting units and also to the differential of the propulsion unit; and (3) a drive connection only to the differential of the propulsion unit.

Power to the harvesting units is transmitted through a one way clutch which transmits power only on the forward movement of the harvesting machine.

3,439,789
CLUTCH WITH RELEASE LEVERS

Ronald Alan Cook, Hockley, England, assignor to Ford Motor Company, Dearborn, Mich., a corporation of Delaware

Filed Nov. 14, 1966, Ser. No. 593,900
Int. Cl. F16d *13/40, 11/06*
U.S. Cl. 192—70.3 1 Claim

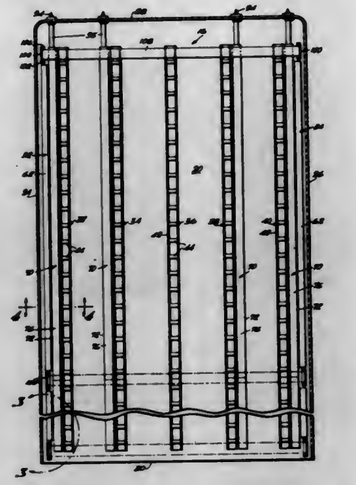


A clutch mechanism of the type used in an automobile having a flat annular spring interposed between the cover and the pressure plate and urging the pressure plate into engagement with the clutch disc. The cover has spaced holes through which pressure plate portions protrude. The cover also has holes through which the clutch release levers extend. The levers engage the protruding portions of the pressure plate at one of their ends and the release bearing at their other ends.

3,439,790
CARGO LOADING AND SUPPORT SYSTEM

Roger D. Langley, Miami, and Oscar T. Edlund, North Miami, Fla., assignors to Jet Avion Corporation, Hialeah, Fla.

Filed June 28, 1967, Ser. No. 649,499
Int. Cl. B65g *13/00*
U.S. Cl. 193—35 4 Claims

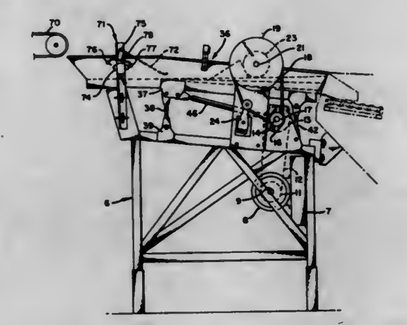


In combination, a conveyor system for use in loading and unloading a palletizel load on a bed and a system for lifting and supporting the load in transit, said conveyor system comprising a plurality of parallel, longitudinally extending conveyor runs to be anchored to the bed to define a first plane for movement of pallets thereover at a first height, said system for lifting and supporting the load in transit comprising means to lift and support the load above said plane when in position in the van for transport and to be relaxed below said plane for unloading, said means to lift and support including an inflatable member.

3,439,791
MACHINE FOR FEEDING APRICOTS ONE AT A TIME SINGLE FILE FROM A BULK SUPPLY

Rudolph Matthews and Roland F. Blakewell, Oakland, and Frank E. Simpson, Castro Valley, Calif., assignors to Atlas-Pacific Engineering Company, a corporation of California

Filed Apr. 5, 1967, Ser. No. 628,659
Int. Cl. B65g *27/08, 27/04*
U.S. Cl. 198—33 3 Claims

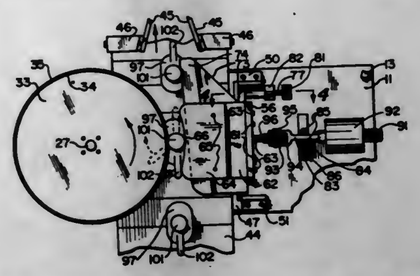


Drupaceous fruit such as apricots are fed in bulk supply to a device in which they are arranged in single file for feed to a feeder mechanism such as is shown in Patent 3,292,768.

3,439,792
CONTAINER ORIENTER

Walter K. H. Frank, Lombard, and Ray B. Packer, Cary, Ill., assignors to The Quaker Oats Company, Chicago, Ill., a corporation of New Jersey

Filed July 19, 1967, Ser. No. 654,443
Int. Cl. B65g *47/24*
U.S. Cl. 198—33 4 Claims

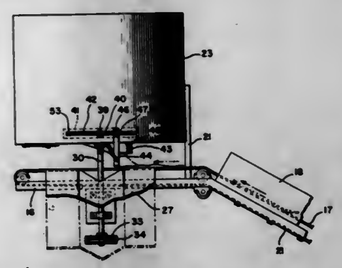


An apparatus for orienting containers in a uniform direction while moving on a conveyor. A rotatable disk and a pressure plate spaced such that an extending neck portion of a container passing through the space is caused to rotate, and a stop to engage an extending portion of the container and stop the rotation of the container when the extending portion of the container has reached a specified direction.

3,439,793
CONVEYING AND ORIENTATION APPARATUS PARTICULARLY FOR TOBACCO LEAVES

Robert H. Rakestraw, Box 13, Stoneville, N.C. 27048

Filed July 19, 1967, Ser. No. 654,471
Int. Cl. B65g *47/24, 47/52*
U.S. Cl. 198—33 10 Claims



An apparatus which receives randomly arranged tobacco leaves on a conveyor and automatically aligns or orients the leaves and delivers them to a chute with their stems facing in one direction, the chute carrying the oriented leaves to a collection point or receptacle. The apparatus may form an attachment to a tobacco leaf harvester.

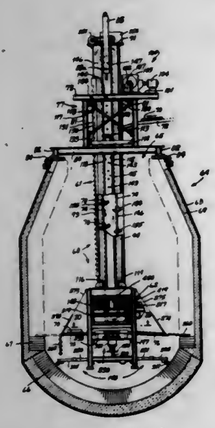
3,439,794
APPARATUS FOR CONVEYING AND DISTRIBUTING ARTICLES IN A CONFINED REGION

Francis W. Park, Novelty, Arthur K. Blough, Chagrin Falls, Stanley Darwin Noll, Shaker Heights, William F. Delfeld, Lyndhurst, George I. Kraus, University Heights, and Robert Kraus, Cleveland Heights, Ohio, assignors, by direct and mesne assignments, to Republic Steel Corporation, Cleveland, Ohio, a corporation of New Jersey

Filed Dec. 30, 1966, Ser. No. 606,058
Int. Cl. B65g *37/00;* F27d *1/16*
U.S. Cl. 198—83 36 Claims

A tower to be lowered by an overhead crane into place in a steelmaking furnace vessel has an elevator consisting of a basket conveyor for refractory bricks and has a ro-

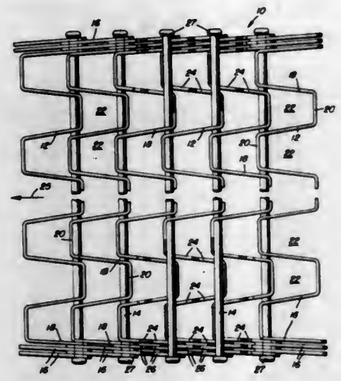
tating carriage at the lower end with opposite lateral run-out conveyors to deliver bricks for use in lining the vessel. An escapement feeds successive bricks to the baskets at an upper locality, to be carried by the conveyor up around an upper sprocket and downward to the carriage where a cam tilts the baskets to dump each brick onto chute arms which automatically rock down to deposit the brick on a distributor table. The table automatically turns through the required angle into alignment with the run-out conveyors, onto one of which a pusher mechanism, traversing the table, then delivers the brick. An upper frame around the tower, removably seated on stationary structure above the vessel, supports the tower, and with it the carriage, by a cable hoist whereby the tower and carriage are progressively raised to suit upward progress of bricklaying. A rack and pawl provide a safety latch relative to downward displacement of the tower. The run-out conveyors include extendable roller beds and terminal structures for delivering bricks at the course being laid. The carriage also has power-driven, extendable sliding platform structures for working personnel adjacent the conveyors, the platforms and conveyors thus accommodating different diameters of the furnace vessel.



The brick delivery system including escapement, elevator, chute arms, distributor table and pushers is automatically controlled, the distribution system of the distributor table and pushers including a sequence timer and sequential circuitry, responsive to successive bricks on the table. Control is provided to distribute bricks in alternate directions on the run-out conveyors or on either conveyor alone. The extent of table movement into alignment with the run-out conveyors is controlled by structure maintained in constant orientation with the tower while the carriage turns. A complete function of the apparatus is to receive bricks from a line at an upper locality and deliver them automatically onto the rising brickwork at succeeding points of use around the interior of the vessel.

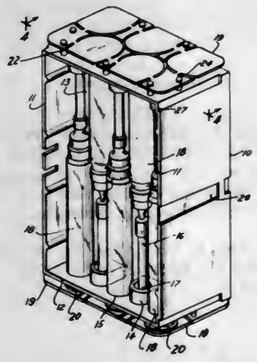
3,439,795
FLAT WIRE CONVEYOR BELT HAVING SLOTTED BAR LINKS
Gerald C. Roinestad, John F. Rodman, Jr., and John S. Burnett, Winchester, Va., assignors to Ashworth Bros., Inc., Fall River, Mass., a corporation of Massachusetts
Filed Dec. 1, 1967, Ser. No. 687,205
Int. Cl. B65g *15/48*
U.S. Cl. 198—193 **7 Claims**

A flat wire conveyor belt comprising; a plurality of slotted tractive links, a plurality of tractive cross pins for interconnecting the tractive links, and a plurality of slotted bar links positioned adjacent the edges of the belt



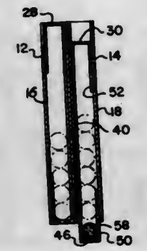
and connected thereto by the cross pins for carrying most of the tractive load of the belt as it travels around lateral curves.

3,439,796
TAMPERPROOF CONTAINERS
Robert P. Zykoski, Vandalia, Ohio, assignor to Intra Products, Inc., a corporation of Delaware
Filed Feb. 27, 1968, Ser. No. 708,561
Int. Cl. B65d *85/30, 85/42, 85/54*
U.S. Cl. 206—17.5 **7 Claims**



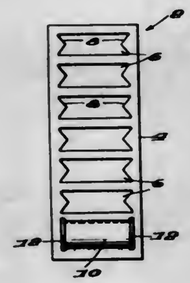
A tamperproof container for disposable syringes is formed of a rigid material, such as metals or polystyrene, and includes opposing end walls with alternate retaining cups and holes, a retaining cup of one wall being directly opposite a hole in the opposing wall. Syringes are inserted through the holes, needle-end first, and directed so that the needle-ends fit into the cups. The barrels of the syringes extend beyond the holes, and the syringes are held in place by end-caps over the protruding ends of the syringe barrels. The end-caps are permanently attached to the opposing walls by means of pins. The end-cap contains cut-aways and undercuts which permit the breaking off of sections of the end-cap covering the protruding ends of the barrels of the syringes, thereby enabling one to remove one syringe at a time while the others are kept in place.

3,439,797
CONTAINER
Howard F. Todman, Rye, N.Y., and Edward T. Cooper, Haworth, N.J., assignors to Todman-Cooper Company, a partnership
Filed Oct. 27, 1967, Ser. No. 678,553
Int. Cl. A24f *15/04*
U.S. Cl. 206—41.2 **6 Claims**



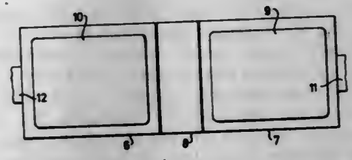
A container for cigarettes comprising a sleeve of rectangular cross-section divided transversely into two symmetrical sections by a continuous cut midway its ends through two sides and a front face. The two sections can be folded into back-to-back relation, and, after the package is thus initially opened, the sections can be separated to provide two compact, easily carried packages. An insert slidably disposed within each sleeve section has an opening at one corner so that when the insert is pushed partially out of its sleeve section to expose the opening, a cigarette can be easily removed. The insert is then returned to its initial position to close the package.

3,439,798
MULTIPACK CARRIER
David D. James, Wilmington, Del., assignor to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware
Filed Sept. 13, 1966, Ser. No. 579,102
Int. Cl. B65d *85/62*
U.S. Cl. 206—65 **13 Claims**



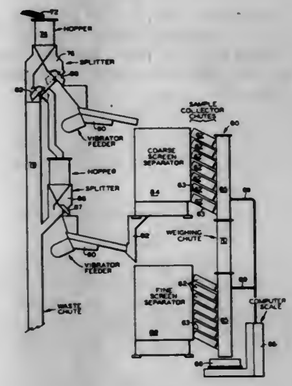
A carrier for a plurality of articles is made from a sheet of thermoplastic resin in the form of ribbed structure comprising film having a network of ribs integrally molded to each other and to the film, the ribbed structure having a bulk density of less than 30% the density of the resin, with the sheet having a plurality of apertures, at least one said aperture having tabs at a pair of opposite sides for cooperating with the remaining sides of said aperture for retaining an article therein.

3,439,799
BOX, E.G. FOR OBJECTS IN GOLD, SILVER OR PORCELAIN
Max Brammer, Kalby pr. Naestved, Denmark
Filed Feb. 15, 1968, Ser. No. 705,695
Int. Cl. B65d *1/34, 81/18, 85/20*
U.S. Cl. 206—75 **2 Claims**



A box for accommodating objects of gold, silver or porcelain comprising a frame which may have recesses or grooves, into which holders for securing the said objects are introduced. The frame cooperates with a wrapper in the form of two relatively rigid, plate shaped parts, which are connected with each other in a hinge-like manner, and which are arranged in such a manner as to cover both open sides of the frame when the box is closed. The surfaces of the plate shaped parts facing each other or one of these surfaces may be provided with cushions which, when the box is closed, extend into the space enclosed by the frame.

3,439,800
AGGREGATE SIZE TESTING APPARATUS AND PROCESS
Burl D. Tonjes, Malinta, Ohio, assignor to Gilson Screen Company, Malinta, Ohio, a partnership
Filed Jan. 9, 1967, Ser. No. 608,011
Int. Cl. B07b *1/28*
U.S. Cl. 209—3 **15 Claims**



This invention relates to an apparatus and process for rapidly ascertaining the proportionate amounts of various sized particles in an aggregate including separate and successive coarse and fine particle size plural screen tray vibratory separators, and separate splitters for each separator so that fine aggregates can be split more and only fed to the fine particle size separator. All the trays of each separator are individually pivotally mounted so that they may be tilted simultaneously in parallel while being vibrated for dumping into separate parallel corresponding collection chutes for separate selective discharge and analysis such as by weighing. The base of the separator is provided with a pair of oppositely rotating parallel shafts having eccentric weights angularly adjustable thereon to counteract the vertical vibrations of the separator and to counteract each other's horizontal vibrations.

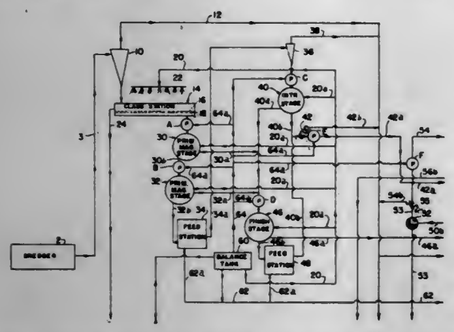
3,439,801
PROCESS FOR IMPROVING THE BRIGHTNESS OF CLAY
Horton H. Morris and James P. Olivier, Macon, Ga., assignors to Freeport Sulphur Company, New York, N.Y., a corporation of Delaware
No Drawing. Filed Oct. 15, 1965, Ser. No. 496,707
Int. Cl. B03d *3/00*
U.S. Cl. 209—5 12 Claims

Process for removing discoloring impurities such as those that are organic or graphitic in nature from a clay slip. The process consists essentially of intimately contacting an aqueous slip of a fine milled clay with a water-insoluble, non-ionizable organic liquid, and thereupon recovering the clay from the separated clay water phase. The organic liquid is the sole chemical reagent necessary for the effective separation of the discoloring impurities from the fine milled clay in the slip.

3,439,802
CLAY TREATMENT
Miller B. Mallary, Macon, Ga., assignors, by mesne assignments, to Engelhard Minerals & Chemicals Corporation, Edison, N.J., a corporation of Delaware
No Drawing. Filed Dec. 14, 1966, Ser. No. 601,560
Int. Cl. B03d *1/00*
U.S. Cl. 209—5 7 Claims

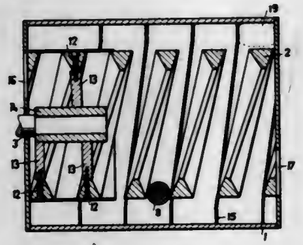
Stockpiled (aged) gray kaolin clay crudes are pulped and small amounts of barium carbonate or barium hydroxide are added. The treated pulps are dispersed with sodium carbonate and sodium silicate, and conditioned for the selective froth flotation of colored titania impurities. The purified clay is then bleached chemically. The pretreatment with barium compounds overcomes difficulties encountered in floating impurities from this type of clay.

3,439,803
METHOD OF SALVAGING IRON FROM RIVERBEDS
Leonard A. Duval, 207 Harmon Road, Aurora, Ohio 44202
Filed Dec. 21, 1964, Ser. No. 419,883
Int. Cl. B03b *7/00*; B03c *1/30*; B03d *1/02*
U.S. Cl. 209—12 7 Claims



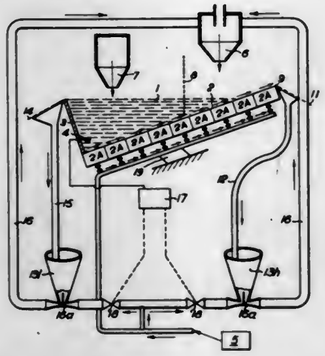
The present invention relates to an iron recovery plant for removing iron from slime. The slime enters the plant and is roughly screened to remove large non-iron producing debris which are then discharged. The slime is then passed through magnetic separation stations which act in series to collect the course category iron particles and some of the intermediate category particles. The remaining tail is then passed into a gravity separation station operable to collect most of the intermediate particles. The tails from the gravity separation station may then be operated upon by froth-flotation and techniques to recover fine category particles remaining in the tails solution.

3,439,804
SORTING APPARATUS FOR SPHERICAL BODIES
Bernhard Hühndorf-Richter and Claus-Benedikt Von Der Decken, Aachen, Heinz Ohlig, Rheydt, and Wilfried Rausch, Dollweg, Germany, assignors to Brown Boveri/Krupp Reaktorbau G.m.b.H., Dusseldorf, Germany
Filed June 29, 1965, Ser. No. 468,028
Claims priority, application Germany, July 1, 1964, B 77,475
Int. Cl. B07b *13/04*; B07c *5/08*
U.S. Cl. 209—86 8 Claims



A mixture of undamaged nuclear fuel beads, damaged beads, and fragments thereof are sorted in a sorting apparatus consisting of a rotatable helical guide having an input end and an output end and a plurality of turns spaced in such a manner that spherical bodies above a predetermined diameter are prevented from passing between the turns of the helical guide and are thus conducted from the input to the output end of the guide while damaged beads and fragments thereof fall out between the turns of the helical guide before reaching the output end of the guide.

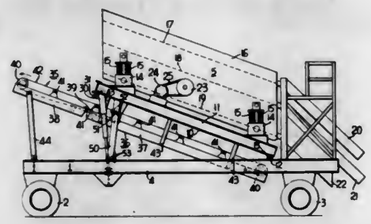
3,439,805
GRAVITY SEPARATION OF PARTICULATE MATERIAL
Terence Walsh, Bromley, England, assignor to National Research Development Corporation, London, England, a body corporate
Filed May 3, 1965, Ser. No. 452,473
Claims priority, application Great Britain, May 6, 1964, 18,878/64
Int. Cl. B03b *3/38*
U.S. Cl. 209—172.5 9 Claims



A method and apparatus for gravity separation of particulate material wherein a particulate separation material is separated with the low density and high density product phases. The low density and high density particles of separation medium thus obtained are separated from the low and high density products and are recirculated independently to an extent depending upon the bulk density of the separation chamber. In this manner, deviations in the bulk density of the material in the separation chamber from a desirable norm, are adjusted by regulating the

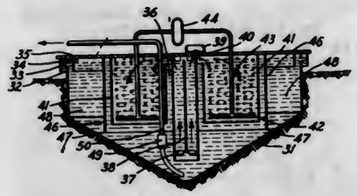
amounts, and the relative amounts, of the low and high density separation medium particles recirculated to the separation chamber.

3,439,806
PORTABLE SCREENING PLANT
Robert A. Kass, West Allis, and Harvey W. Schmidt, Milwaukee, Wis., assignors to Allis-Chalmers Manufacturing Company, Milwaukee, Wis.
Filed Dec. 26, 1967, Ser. No. 693,514
Int. Cl. B07b *1/28*
U.S. Cl. 209—260 4 Claims



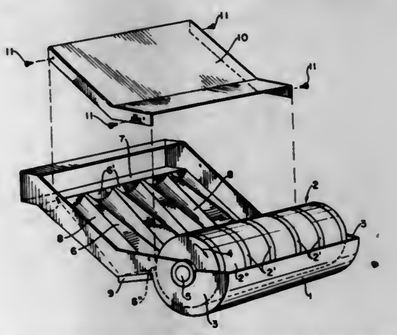
A portable screening plant is disclosed for sizing aggregate material and the like. The plant includes a mobile frame mounted on wheels. A tiltable screen assembly is mounted on the mobile frame and one end of the screen assembly is pivotally connected thereto. A lift mechanism is mounted on the mobile frame beneath the end of the screen longitudinally opposite the pivot, and operates to tilt the screen about a horizontal pivot axis from a generally horizontal traveling position upwardly to an inclined screening position and vice versa tilt the screen down again. A screened material conveyer is arranged beneath the screen and comprises a first and second section connected by a hinge. The first section of the conveyer is suspended and supported from the screen. The end of the second section of conveyor, remote from the hinge, is supported by a pivot arm projecting upwardly from the mobile frame. Tilting the screen downwardly from the screening position lowers the first section of the conveyer and folds the pivot-arm-end of the second section of the conveyer toward the screen to provide a compact assemblage for travel.

3,439,807
PLANT FOR BIOLOGICAL PURIFICATION OF SEWAGE WATER
Martin Danjes, Hermannstrasse 3, Detmold, Germany
Filed Sept. 9, 1966, Ser. No. 578,208
Claims priority, application Germany, Sept. 14, 1965, D 48,204; Oct. 15, 1965, D 48,433; Apr. 6, 1966, D 49,800
Int. Cl. C02c *1/10*
U.S. Cl. 210—197 1 Claim



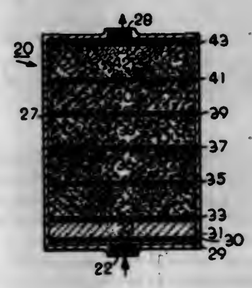
Sewage water is biologically purified in an aerating basin by providing a vertical upwardly directed flow from the bottom of the basin and then deflecting this flow to move vertically downwardly while injecting air bubbles into the downwardly flowing current which rise therein at a speed slower than the speed of the downwardly flowing current. The aerating basin is provided with suitable means producing these currents, including radially disposed aeration boxes and V-shaped guides located around the lower ends of the aeration boxes.

3,439,808
ROTARY MAGNETIC SEPARATOR
Heinrich Sommermeyer, Ronneburger Strasse 13, Gera, Thuringia, Germany
Filed Nov. 22, 1966, Ser. No. 596,278
Int. Cl. B03c *1/02*
U.S. Cl. 210—222 9 Claims



A device for filtering from a liquid particles which are attracted to a magnet. A chute is provided for directing the liquid with the particles therein downwardly toward a rotary magnetic roller means which has a plurality of poles distributed longitudinally therealong. This chute has side walls, between which the liquid is confined, and a bottom wall down which the liquid flows, and this bottom wall is formed with a plurality of grooves gradually tapering in the direction of liquid flow. These grooves are respectively aligned with the poles of the rotary magnetic roller means. Thus, as the liquid flows along the grooves, liquid will be displaced out of the grooves, due to their taper, while the heavier particles will be maintained in the grooves, and relatively small amounts of liquid with large amounts of particles therein will be directed toward the poles so that the greatest part of the particles concentrates at the poles while liquid which is substantially free of the particles flows around the magnetic roller means in a trough in which the lower half of the roller means is situated.

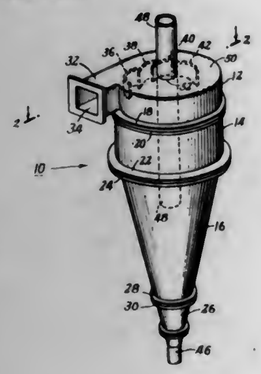
3,439,809
WATER CLEANER
Merle L. McPherren, 949 Date St., San Diego, Calif. 92101
Filed Apr. 26, 1968, Ser. No. 724,379
Int. Cl. B01d *23/14*; C02b *1/00*; C02c *1/20*
U.S. Cl. 210—249 3 Claims



A water cleaner that may be quickly and readily installed to an existing water system or may be installed with a new installation. The cleaner comprises a plurality

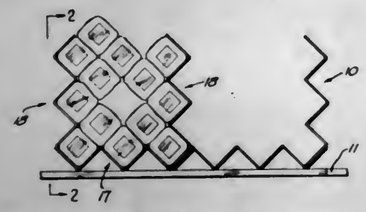
of layers separated by screen means. One of the layers is white sand and the others are filter aid and coconut charcoal. The screen means consit of two plastic screens separated by a carbon wool screen.

3,439,810
CENTRIFUGAL SEPARATOR
Marvin K. Newman, Southfield, and Orlan M. Arnold, Grosse Pointe Park, Mich., assignors to Ajem Laboratories, Inc., Livonia, Mich.
Filed Sept. 26, 1967, Ser. No. 670,727
Int. Cl. B04b *1/10*
U.S. Cl. 210—512 **13 Claims**



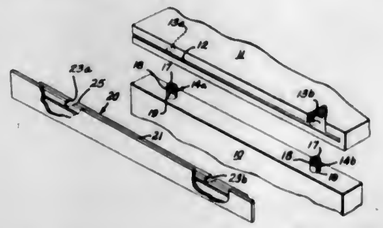
A centrifugal separator for classifying liquids containing suspensions of solid material wherein the centrifugal separator utilizes the high pressure tangential inlet flow of liquid and solid suspensions to create a vortexing action within a conically shaped separating chamber. The vortexing liquid is guided within the inlet scroll and in the conical separating chamber to induce liquid flow toward the walls of the separating chamber to thereby provide for a more efficient settling action on the suspended solid particles. Provision is also made to increase the separating effect just prior to the area of exit of the clarified liquid.

3,439,811
BREAD STORAGE RACK
Thomas H. Bell, 2411 Fairfax Road, Lansing, Mich. 48910
Filed Mar. 20, 1967, Ser. No. 624,347
Int. Cl. A47f *7/00, 5/16*
U.S. Cl. 211—49 **14 Claims**



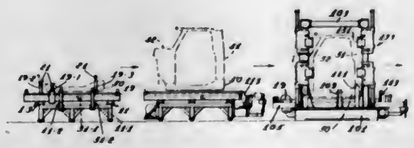
The bread storage rack disclosed herein comprises a plurality of sections, each of which has angularly related surfaces, alternate surfaces being parallel to one another and adjacent surfaces being perpendicular to one another. The sections are bolted together to form a base section and spaced vertical wall sections in a manner such that the surfaces extend at an angle to the horizontal and vertical. The loaves of bread are positioned within the rack with the loaves along the base and wall sections engaging two surfaces thereof. Additional loaves are placed upon the aforementioned loaves and are supported by the two surfaces of adjacent underlying loaves of bread. In this fashion, the weight of each loaf of bread is distributed over two surfaces and the bread can be arrayed to greater depth, that is, more loaves can be stacked one on another without displacing the bread.

3,439,812
GLUELESS FURNITURE JOINT
Preston Nagelkirk and Simon J. Koning, Zeeland, Mich., assignors to Herman Miller, Inc., Zeeland, Mich., a corporation of Michigan
Filed Mar. 13, 1967, Ser. No. 622,793
Int. Cl. A47f *5/00;* **F16b** *5/02, 5/12*
U.S. Cl. 211—90 **9 Claims**



A pair of panels are joined together by affixing a plurality of flat-head screws into the edge of one panel, providing a groove in the edge of the mating panel and drilling a plurality of apertures through the interior surface of the mating panel into the groove. The spacing of the apertures in the mating panel corresponds to the spacing of the screws on the one panel edge. The panels are then butted together such that the heads of the screws pass into the apertures and protrude into the groove in the mating panel. A keeper assembly comprising an elongated flange having a plurality of cutout sections therein adapted to fit under the heads or caps of the flat-head screws is driven into the groove forcing the two panels into tightly abutting relationship. A three panel joint may be fabricated in a similar manner by providing offset apertures on either side of the center panel communicating into the groove, abutting the panels with the flat-head screws to either side thereof and driving a single flange member having cutout sections adapted to receive each of the screws into the groove. It is understood that this abstract is not to be utilized to limit the scope of this invention.

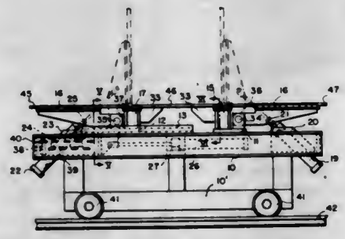
3,349,813
DEVICE FOR POSITIONING AND HOLDING
John J. Drumm, Bloomfield Hills, and Matthew C. Najmowicz, Detroit, Mich., assignors to Ford Motor Company, Dearborn, Mich., a corporation of Delaware
Filed Nov. 29, 1967, Ser. No. 686,396
Int. Cl. B23q *3/08;* **B25j** *3/00*
U.S. Cl. 214—1 **2 Claims**



A multi-station, multi-fixture means for assembling objects such as motor vehicle bodies comprising a device for positioning and holding an object including upright trunnions about a holding zone, horizontally pivotable clamp supporting means mounted on said trunnions and

having a cam track formed therein, clamping means mounted on said clamp support means, vertically reciprocal drive means mounted on said trunnions, cam follower means riding on said cam track and operatively connected to said drive means, and locating means which position the object within said holding zone with respect to three predetermined and mutually perpendicular planes.

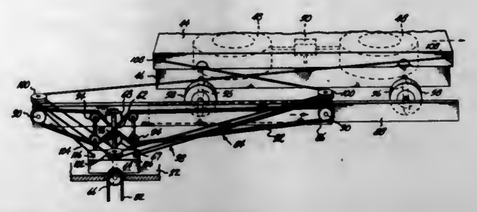
3,439,814
PIPE BUNDLING MACHINE
Clifford F. Morain, Youngstown, Ohio (Burgett Road, Canfield, Ohio 44406)
Filed Apr. 12, 1967, Ser. No. 630,258
Int. Cl. B65g *57/00;* **B65b** *13/02, 13/20*
U.S. Cl. 214—8 **4 Claims**



This disclosure relates to a machine for forming bundles of a number of pipe lengths. A pair of supports of a fixed height are mounted on a frame and a second pair of supports are mounted outwardly and in line with the first pair on pivots closely adjacent the first supports. Hydraulic cylinders are provided to move the pivotally mounted supports from their horizontal position to a vertical position and a third cylinder moves one of the fixed height and the adjacent pivotally mounted supports toward and away from the other supports to vary the width of the bundle formed. Two or three bundling machines are used depending upon the length of the pipe to be bundled. The bundling operation is performed as follows: a length of strapping sufficient to encompass the bundle is placed along the centerline of the supports; a wooden slat whose length is equal to the width of the bundle is placed above the strapping on the fixed height supports; slats whose lengths are equal to the height of the bundle are placed on the pivotally mounted supports; a sufficient number of pipe lengths are placed on the slats at right angles thereto; the pivotally mounted supports are raised to their vertical positions; a slat is placed across the bundle and the strapping is joined to itself, after which the pivotally mounted supports are lowered to the normal position. The bundles formed are of rectangular cross-section.

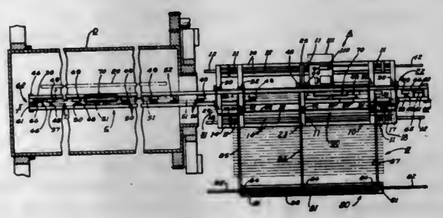
3,439,815
CABLE ARRANGEMENT FOR A LATERALLY MOVABLE LOAD TRANSFER DEVICE
Wesley R. Wagner, Seattle, and Charles A. Baylon, Bellevue, Wash., assignors to Automated Towers Corporation, Seattle, Wash., a corporation of Washington
Continuation-in-part of application Ser. No. 475,653, July 29, 1965. This application Aug. 5, 1966, Ser. No. 570,664
Int. Cl. B65g *1/00;* **B66b** *9/00*
U.S. Cl. 214—16.1 **15 Claims**

A transfer device for handling materials is disclosed comprising a platform having a carriage thereon which is reciprocable between spaced points relatively on and off of the platform, and means for reciprocating the carriage between the aforesaid points. These means include a traveling reference which is slidably mounted on the platform to be reciprocated along a line parallel to the line connecting the aforesaid points, drive means for reciprocating the reference, a pair of freely rotatable wheels on the relatively opposite end portions of the reference in the directions of its travel, a third freely rotatable wheel on the platform intermediate the aforesaid



reference wheels, and a pair of flexible bands interconnecting the platform with the carriage. Each band extends about the third wheel and a different one of the reference wheels, to cause the carriage to reciprocate with the reference, but at a greater rate of speed than the reference so that the carriage can be driven off of the platform, and then returned thereto.

3,439,816
CHARGING APPARATUS FOR AN ENCLOSURE
James J. Archambeau, Chisholm, and Maurice J. Greskowiak, Hibbing, Minn., assignors to Arthur G. McKee & Company, Cleveland, Ohio, a corporation of Delaware
Filed Dec. 23, 1966, Ser. No. 604,250
Int. Cl. B65g *65/30, 15/28, 47/34*
U.S. Cl. 214—29 **10 Claims**

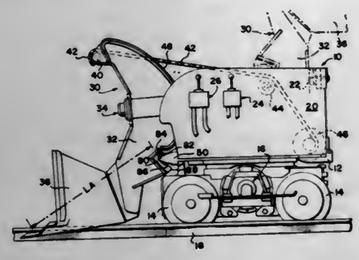


This disclosure relates to a charging apparatus for conveying and depositing elongated members, such as rods used in rotary grinding mills, longitudinally into an enclosure such as a rod mill drum. The apparatus includes a storage rack and a carriage which may be extended longitudinally into the enclosure to be charged. The carriage includes a conveyor which conveys the elongated members into the enclosure, and a dump mechanism which dumps the elongated members laterally from the carriage when they reach a position within the enclosure.

3,439,817
MATERIAL HANDLING MACHINE
Theodore N. Hackett, 4324 Rowland Drive, Salt Lake City, Utah 84117
Filed Sept. 1, 1967, Ser. No. 665,120
Int. Cl. E02f *3/62*
U.S. Cl. 214—131 **10 Claims**

An overhead rocker bucket type machine includes means at the outer thrust ends of the load supporting rails thereof mounting the rocker arms connected with the bucket for pivotal movement about such ends of the rail members during initial movement of the bucket up-

wardly during the digging cycle before the curved surfaces of the rocker arms engage the associated rail members to maintain the moment arm from the pivot point



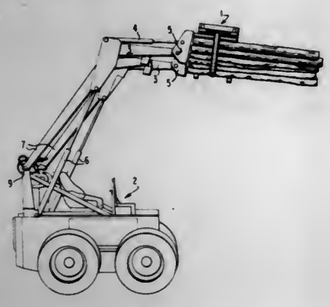
to the bucket lift equal throughout the digging portion of he cycle. Means are also provided for limiting downward movement of the bucket.

3,439,818

GRAPPLE FOR TRACTOR TYPE VEHICLES

Orval A. O'Neil, Cogswell, N. Dak., assignor to Melroe Manufacturing Company, Gwinner, N. Dak., a corporation of North Dakota

Filed Feb. 13, 1967, Ser. No. 615,640
Int. Cl. B66c *3/16, 1/44;* **B25b** *7/00*
U.S. Cl. 214—147 **6 Claims**



Grapple equipment on a tractor type vehicle is provided preferably in the form of an attachment that is interchangeable with the conventional bucket or scoop of front-end loader tractor. The equipment is particularly suited for picking up and transporting logs. The vehicle approaches the logs from their ends and hydraulically actuated grappling teeth engage opposite sides of the logs in picking them up. The teeth engaging opposite sides of the logs swing inwardly in spaced parallel planes and are actuatable so as to accommodate and adjust to different positions of the logs relative to the equipment as it approaches to pick them up. The load is maintained level as it is being raised by pivoting the grapple attachment relative to the lifting arms of the front-end loader tractor through utilization of the conventional hydraulic cylinder actuators that are employed with the bucket or scoop of the front-end loader tractor.

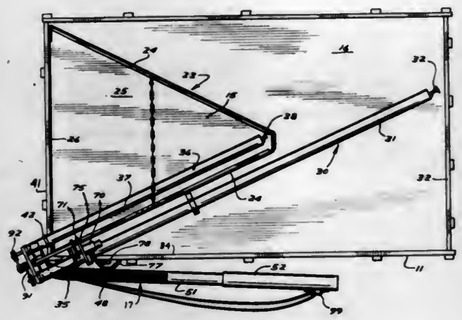
3,439,819

DEVICE FOR FILLING GRAIN DRILLS AND THE LIKE

Sherman H. Quanbeck, Aneta, N. Dak. 58212

Filed Sept. 12, 1966, Ser. No. 578,843
Int. Cl. B60p *1/04*
U.S. Cl. 214—508 **22 Claims**

A compartmented box for use in storing and handling two different items, such as seed grain and fertilizer, and particularly adapted for use in portable boxes including a pair of conveyors, one to each of the compartments, having a common discharge collecter housing located outside of both of the compartments. The conveyors are powered and power is controlled through a single control which can be used to alternately power either of the con-
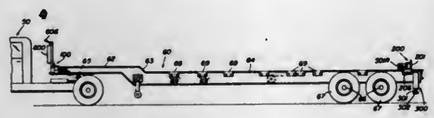


veyors to discharge the material from either of the compartments into the collector housing and then through a suitable flexible spout into the area in which the material is to be deposited. In particular, the unit finds use for filling grain drills wherein seed must be placed in one compartment and inorganic fertilizer in the other.

3,439,820

FREIGHT TRANSPORTATION SYSTEMS PROVIDED WITH SIDE TRANSFER FACILITIES FOR VARIOUS LENGTH CONTAINERS

Miklos Korodi, Chicago, Ill., assignor to General American Transportation Corporation, Chicago, Ill., a corporation of New York

Filed Apr. 7, 1967, Ser. No. 629,151
Int. Cl. B60p *1/64*
U.S. Cl. 214—516 **4 Claims**



A road vehicle for transporting and sidewise transferring freight containers, wherein the front bolster is fixed to the chassis and the rear bolster is movable longitudinally relative to the chassis to receive containers of various lengths. Front and rear side trannsfer mechanisms are provided, the front side transfer mechanism being adjacent the front bolster and carried by the chassis; the rear transfer mechanism being carried by the rear bolster and movable therewith longitudinally relative to the chassis, whereby the rear bolster and rear side transfer mechanism are selectively adjustable to receive and transfer freight containers of various lengths.

3,439,821

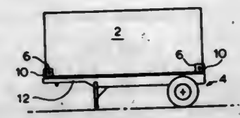
CONTAINER TRANSFER SYSTEM

Albert M. Hand, Etobicoke, Ontario, Canada, assignor to Steadman Industries Limited, Rexdale, Ontario, Canada

Filed May 29, 1967, Ser. No. 641,885
Int. Cl. B60p *1/64;* **B65j** *1/16;* **B66f** *1/04*
U.S. Cl. 214—516 **26 Claims**

The system comprises a container with socketed corner castings; a chassis; bolsters for supporting and locking

the container on the chassis and carriages reciprocable on the chassis below the container with upwardly extending



spaced pawls disengageably engageable with the corner castings for moving the container back and forth on the bolsters.

3,439,822

FREIGHT CONTAINERS PROVIDED WITH DETACHABLE END BOLSTERS

Miklos Korodi, Chicago, Ill., assignor to General American Transportation Corporation, Chicago, Ill., a corporation of New York

Filed June 2, 1967, Ser. No. 643,108
Int. Cl. B60p *1/64;* **B62d** *27/06*
U.S. Cl. 214—516 **4 Claims**



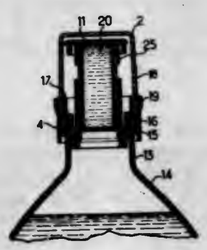
Detachable end bolsters for use in combination with a freight container carrying on the bottom thereof an elongated longitudinally extending and generally rectangular base and having a plurality of corner reinforcing members rigidly affixed to the respective corners thereof, wherein each of the bolsters comprises a rigid elongated hollow structure having generally parallel spaced-apart top and bottom walls and spaced-apart inner and outer side walls. Each of the bolsters includes means defining a row of longitudinally spaced-apart abutments on the bottom wall thereof and arranged substantially adjacent to the inner side wall thereof so as to provide a laterally extending rack thereon. The bolsters are adapted to be detachably secured to the respective opposite ends of the freight container whereby the freight container may be employed in a freight transportation system having side transfer facilities adapted to cooperate with the racks.

3,439,823

CONTAINER STOPPER COMPRISING A HOLLOW CAPSULE

Bruno Morane, Paris, France, assignor to L'Oreal, Paris, France

Filed Nov. 27, 1967, Ser. No. 685,756
Claims priority, application Luxembourg, June 6, 1967, 53,824
Int. Cl. B65d *1/04, 79/00*
U.S. Cl. 215—6 **5 Claims**



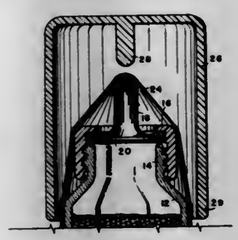
A container stopper comprising a two part capsule slidable in an annular body fitting the neck of the container, between a first position in which the capsule is kept closed by friction between its two parts and the annular body, and a second position in which the two capsule parts may be separated to drop the capsule contents into the container.

3,439,824

STERILE NURSING BOTTLE PACKAGE

Ralph K. Merrill, Jr., Edward N. Burnett, and Thomas B. Sparks, Fremont, Mich., assignors to Gerber Products Company, Fremont, Mich.

Filed July 8, 1964, Ser. No. 381,146
Int. Cl. A61j *9/00*
U.S. Cl. 215—11 **1 Claim**



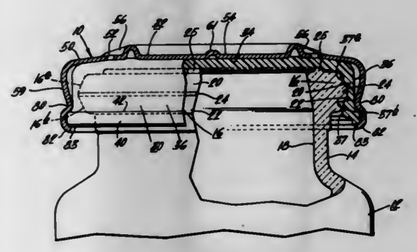
1. In combination, a nursing bottle having a neck defining an opening communicating the interior thereof with the exterior thereof, a nipple mounted on said neck, a frangible fluid impervious disc mounted in sealing relation to said opening interior of said nipple, said disc having a projection integral therewith extending into said nipple and above the neck of the bottle, whereby said disc can be ruptured by pressure against said projection while said nipple is in place on said neck.

3,439,825

CONTAINER CLOSURE

William E. Glensky, Phoenixville, Pa., assignor to The West Company, Phoenixville, Pa., a corporation of Pennsylvania

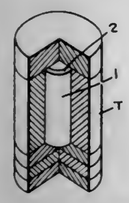
Filed Dec. 7, 1967, Ser. No. 688,775
Int. Cl. B65d *45/00, 55/00, 53/00*
U.S. Cl. 215—40 **6 Claims**



A container closure for sealing the opening in a container such as a bottle comprising inner and outer cap members of cup-like form, the inner cap member preferably being made of plastic and the outer cap member preferably made of a metal such as aluminum. The container has a circumferentially extending bead having angularly disposed sealing surfaces adjacent the opening and the inner cap member has a radially inwardly projecting portion defining angularly oriented sealing faces adapted to snap over and engage the bead. The skirt of the outer cap member is provided with dual locking means for locking the inner cap member in place comprising a radially inwardly directed rib spaced from the lower terminal edge of the skirt which engages above a locking shoulder on the inner cap member to press the sealing faces into firm engagement with the bead of the container and a radially

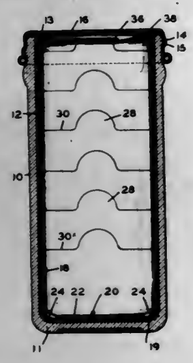
inwardly directed flange at the lower end of the skirt of the outer cap member engaging over the lower terminal edge of the sidewall of the inner cap member.

3,439,826
HOLLOW SEALED STOPPER WITH INTERIOR STORAGE SPACE
Michelino Fresu, Berchidda, Sassari, Italy
Filed Oct. 13, 1967, Ser. No. 675,241
Claims priority, application Italy, Oct. 13, 1966, 757,402, 771,130
Int. Cl. B65d *39/02, 41/02*
U.S. Cl. 215—48 5 Claims



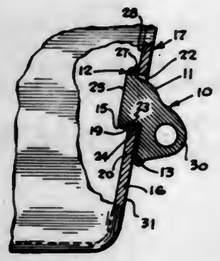
A hollow stopper provided with an interior cavity containing a tubular spring providing a storage space for an advertising message and being of sealed construction for exerting radial force due to their sealed cavity within the stopper body alternatively being of plastic construction or laminated layered construction.

3,439,827
SELECTIVELY VARIABLE DISPENSER-TYPE CONTAINER FOR THE PERIODIC DISPENSING OF COFFEE OR OTHER FLOWABLE PRODUCT
Milton L. Marland, 1625 Forest Lane, McLean, Va. 22101
Filed Mar. 4, 1968, Ser. No. 710,159
Int. Cl. B65d *83/07, 77/04, 75/38, 23/12*
U.S. Cl. 215—100 10 Claims



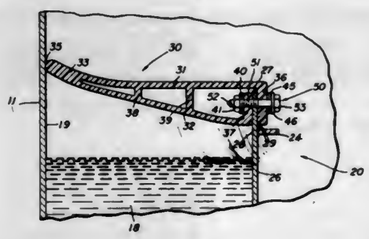
A selectively variable-capacity dispenser-type container for coffee, cocoa, tea, powdered milk, or other flowable product to be periodically dispensed therefrom, the container having one end closed and its other end open with a removable and replaceable cover, a flexible bag also having one end open and its other end closed for disposition in the container to form a liner and adapted to receive therein material to be dispensed, the open end portion of the bag being adapted to be reversely extended about the open end of the container to form a seal between the open end of the container and its closure and with such bag yieldably and frictionally held against the interior of the container so that its body may be moved step by step to expose the contents of the container adjacent to its open end and with minimum space for air which would cause deterioration to the contents of the container.

3,439,828
CLOSURE PLUG
Walter Koziol, Russell, Ill., assignor to Charmglow Manufacturing Co., Antioch, Ill., a corporation of Illinois
Filed Mar. 22, 1968, Ser. No. 715,366
Int. Cl. B65d *43/00, 39/16, 41/30*
U.S. Cl. 220—24 7 Claims



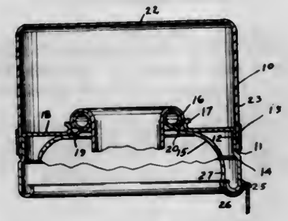
A plug member which can be inserted and retained in a hole by means of a lip insertable in the hole and contacting the inner adjacent wall surface of the hole while a center section of the plug rests by weight of gravity in the hole and on a portion of the wall forming the lower part of the hole. An outer flange extends downwardly from the center section and contacts the outer surface of the wall adjacent the hole, the lip and the flange preventing the plug from falling outwardly when placed in a wall which is pitched outwardly from bottom to top.

3,439,829
SEAL FOR COVERED TANK FLOATING ROOF
Joseph Charles Thompson, Arlington Heights, and Milton W. Heisterberg, Homewood, Ill., assignors to General American Transportation Corporation, Chicago, Ill., a corporation of New York
Filed Oct. 9, 1967, Ser. No. 673,721
Int. Cl. B65d *87/18*
U.S. Cl. 220—26 8 Claims



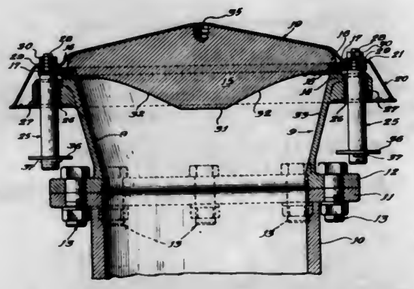
There is disclosed a covered tank for storing liquids, such as petroleum products, also having therein a floating roof, the tank including an upstanding substantially cylindrical side wall and the floating roof being arranged in the tank and including an upstanding substantially cylindrical wall structure having an annular rim spaced radially inwardly from the tank side wall and defining an upstanding substantially annular space therebetween; sealing structure for the annular space comprising a substantially annular sealing element arranged in the annular space and carried by the rim and movable therewith with respect to the tank side wall, the sealing element being generally wedge-shaped in cross-section and having a top wall and a bottom wall converging outwardly and terminating in a juncture providing a bearing surface disposed in sliding sealing engagement with the tank side wall.

3,439,830
CLOSURE FOR A CONTAINER
Richard F. Hendrickson, Erie, and Roderick V. King, Girard, Pa., assignors to Sterling Seal Company, Erie, Pa., a corporation of Pennsylvania
Filed Feb. 12, 1968, Ser. No. 704,886
Int. Cl. B65d *41/16, 41/62, 51/18*
U.S. Cl. 220—27 12 Claims



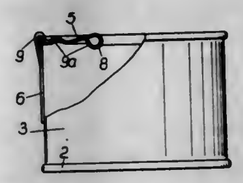
A cap for an aerosol can or the like is disclosed. The cap has an upper cup-like part with a closed end and a lower cup-like part having its upper end received in the open end of the upper part. An opening is formed in the upper closed end of the lower cup-like part. The area around the opening being curved to form a lip adapted to snap under a sharp edge on a mounting cup of a can to lock the cap to the mounting cup of the can.

3,439,831
GASOLINE STORAGE TANK VENT
Charles R. Pullen, Dubuque, Iowa, assignor to A. Y. McDonald Mfg. Co., a corporation of Iowa
Filed Aug. 18, 1967, Ser. No. 661,656
Int. Cl. B65d *51/16*
U.S. Cl. 220—44 9 Claims



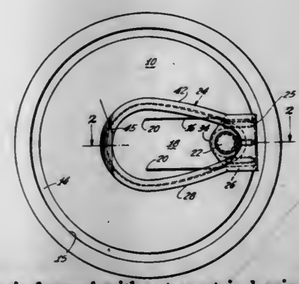
A gasoline or other volatile liquid storage tank vent having a body with unobstructed interior to the full size of the tank connection to the vent and a closure movable under influence of gas pressure, such closure being guided onto and off the body (a seal being provided) and being shaped to direct gas flow toward the seal area; the vent, when open, flowing gases over the seal area directly to atmosphere at exceedingly large flow rates for given diameter sizes of vents and tank connections.

3,439,832
KEY FOR OPENING OF CANS OR THE LIKE EQUIPPED WITH A TEARING TONGUE
Emil Liesenfeld, 1 Dammigstrasse, 5404 Bad Salzig (Rhine), Germany
Filed July 12, 1967, Ser. No. 652,937
Claims priority, application Germany, July 14, 1966 L 54,079
Int. Cl. B65d *17/26*
U.S. Cl. 220—52 9 Claims



A key for opening of cans or the like being equipped with a tearing tongue, comprising a band buckled to form two leg portions having substantially equal length and disposed at nearly 90° relative to each other. One of the leg portions has a longitudinal slot and the other of the leg portions serves as handle during rotation of the key. The inner side of the buckle point of the band has a profile complementary to the outer contour of the cross-section of a thickened seam edge portion of the can, and the key is secured to the can self-clampingly prior to its use.

3,439,833
CAN END WITH FOLDED PULL TAB
Ermal C. Fraze, 355 W. Stroop Road, Dayton, Ohio 45429
Continuation of application Ser. No. 528,250, Feb. 17, 1966. This application Apr. 25, 1968, Ser. No. 732,475
Int. Cl. B65d *17/24, 7/00*
U.S. Cl. 220—54 25 Claims

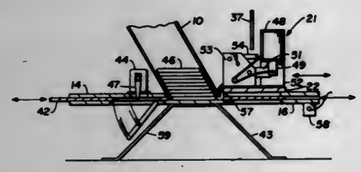


A can top is formed with a tear strip having its leading end directed toward the periphery of the can top and a pull tab for manual severance of the tear strip has a relatively long upper arm to serve as a pull handle and a relatively short arm spaced below the upper arm and connected to the upper arm by a U-shaped bend. The shorter lower arm is rigidly connected to the leading end of the tear strip and is shaped to fulcrum against the tear strip to initiate severance of the tear strip.

3,439,834
CARD DISPENSING APPARATUS
Claud W. Carter, Jr., Waco, Tex., assignor to Duo-Vend Corporation, Waco, Tex., a corporation of Texas
Filed June 2, 1967, Ser. No. 643,187
Int. Cl. G07f *11/16;* B65h *1/00*
U.S. Cl. 221—7 14 Claims

Card dispensing apparatus wherein a reciprocally operated, apertured plate closes off the lower end of a magazine containing a plurality of cards to be dispensed.

A slidably mounted, solenoid operated latch engages a tab on the apertured plate to remove the lowest card in the magazine and dispense it in one direction and remove the next lowest card in the magazine and dispense it in



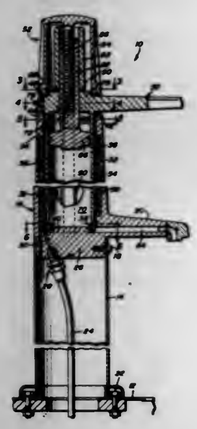
an opposite direction. The solenoid operated latch is automatically released from the apertured plate by means of a release bar actuated when the plate reaches a first position.

3,439,835

LIQUID METERING DISPENSER WITH RECIPROCABLE PISTON AND ROTATABLE CONTROL VALVE

Philip L. Reid, Spartanburg, S.C., assignor to Beverage-Air Company, a corporation of Delaware

Filed Sept. 14, 1967, Ser. No. 667,708
Int. Cl. B67d *5/30;* **G01f** *11/06*
U.S. Cl. 222—21 **13 Claims**



A beverage dispenser of the rotary valve type having a vertically movable piston displaceable through an adjustable stroke by pressurized fluid to dispense a fixed quantity of said fluid each time the valve actuator is angularly moved from one operative position to the other. Inlet and outlet passages separated by axially elongated seals are formed between the valve body and the rotatable valve member for communication with fluid chambers on opposite sides of the piston through axially spaced ports in the valve member.

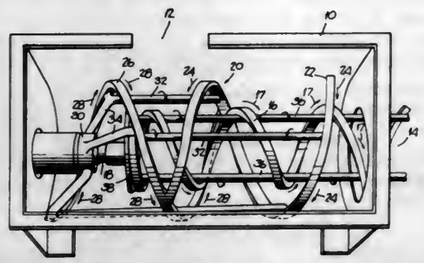
3,439,836

APPARATUS FOR CONDITIONING AND DISPENSING PARTICULATED MATERIAL

Ronald J. Ricciardi, 193 MacArthur Ave., Garfield, N.J. 07026

Filed Jan. 27, 1967, Ser. No. 612,156
Int. Cl. B65d *83/06*
U.S. Cl. 222—240 **6 Claims**

Apparatus for conditioning and dispensing particulated solid material having a chamber in which two concentric rotating augers are disposed in overlapping relationship. A portion of the second auger has a reversed pitch with



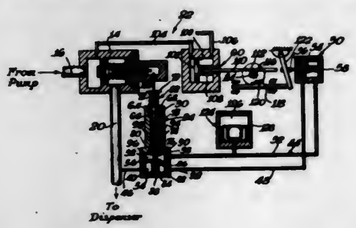
respect to the first auger for creating a counter-current movement of the material in the chamber.

3,439,837

LEAK DETECTING SYSTEM AND METHOD

Robert T. Hearn and Robert M. Riordan, both % The Wayne Pump Company, Div. of Symington Wayne Corp., Salisbury, Md. 21801

Filed July 18, 1967, Ser. No. 654,242
Int. Cl. B67d *5/08;* **G01m** *3/32*
U.S. Cl. 222—52 **10 Claims**



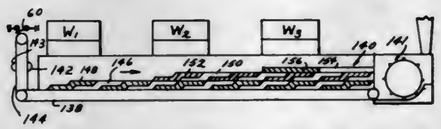
A system and method for detecting leaks in a fluid supply line running from a pumping assembly to a fluid dispensing apparatus wherein a reference pressure is established corresponding to the fluid pressure in the supply line during a dispensing operation and the reference pressure is compared with the fluid pressure in the supply line for a predetermined time after the termination of the dispensing operation to ascertain the pressure differential therebetween. The existence of a leak in the fluid supply is indicated when the pressure differential is more than a predetermined amount.

3,439,838

FIBER BLENDING EQUIPMENT

Cecil S. Wise, Dallas, N.C., assignor to Fiber Controls Corporation, Gastonia, N.C., a corporation of North Carolina

Filed Jan. 12, 1967, Ser. No. 608,908
Int. Cl. B65b *37/18*
U.S. Cl. 222—57 **32 Claims**



This invention relates to equipment for mixing or blending materials, especially textile fibers. More particularly, this invention allows a number of different materials to be dispensed from collecting and weighing apparatus in a predetermined ratio even though one or more of the weighing equipments cannot actually weigh the small amount of material desired to be discharged thereby during a cycle of operation. That particular equipment therefore collects N times the desired amount of its material and discharges it every Nth cycle, while the rest of the collecting and weighing means weigh out and discharge their respective contents each cycle onto a moving conveyor with a 1/Nth overlap of their respective contents discharged the last cycle.

ERRATUM

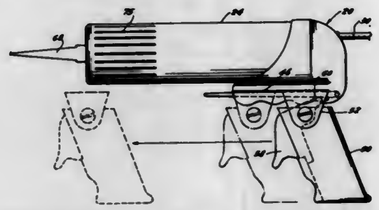
For Class 222—94 see:
Patent No. 3,439,846

3,439,839

SEALANT DISPENSING DEVICE

Joseph M. Schumann, Inglewood, Paul J. Stayboldt, Los Angeles, and Ralph J. Cook, Inglewood, Calif., assignors, by mesne assignments, to Products Research & Chemical Corporation, Burbank, Calif., a corporation of California

Filed Sept. 16, 1965, Ser. No. 487,700
Int. Cl. B65d *35/28, 5/72, 25/40*
U.S. Cl. 222—95 **8 Claims**



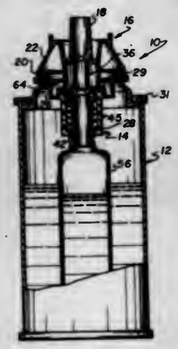
A disposable cartridge having a forward dispensing nozzle and having a rear end wall in the form of a piston is encased by a barrel of a dispensing gun that applies compressed air to the piston. The forward end of the barrel is open and flanged to engage the forward end of the cartridge and thus mechanically places the cartridge under longitudinal compression to press the rear rim of the cartridge against a resilient sealing ring. The dispensing gun has a removable piston grip.

3,439,840

AEROSOL DISPENSING VALVE FOR PLURAL SOURCES

Frank Venus, Jr., Watertown, Conn., assignor to The Risdon Manufacturing Company, Naugatuck, Conn., a corporation of Connecticut

Filed Feb. 1, 1968, Ser. No. 702,409
Int. Cl. B65d *83/14*
U.S. Cl. 222—136 **14 Claims**



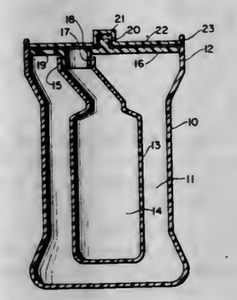
An aerosol dispensing valve and a dispensing package incorporating the valve are disclosed for dispensing two separately contained fluid components in admixed condition. The valve, in conjunction with two fluid containers normally holds the fluid components in unmixed condition in the respective containers, but is manually operable to dispense them in admixed condition through separate but functionally integrated valving operations.

3,439,841

MULTIPLE CONTAINER PACKAGE

Geoffrey Irving Rhodes, Ponteland, Newcastle upon Tyne, England, assignor to The Procter & Gamble Company, Cincinnati, Ohio, a corporation of Ohio

Filed July 31, 1967, Ser. No. 657,411
Claims priority, application, Great Britain, Oct. 24, 1966, 47,550/66
Int. Cl. A47g *19/24*
U.S. Cl. 222—142.5 **3 Claims**



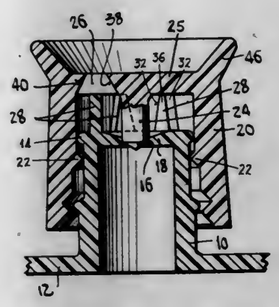
A multiple container package for pourable materials permitting the storage of two or more materials separately until their use and allowing for their discharge and use to be regulated as desired by means of two superposed, relatively rotatable discs with apertures in each, the positions of which can be selectively adjusted to allow the flow of the material in various combinations from the containers.

3,439,842

PUSH-PULL DISPENSING CAP

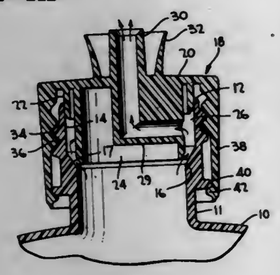
Morton B. Stull, Boonton, N.J. (% Stull Engraving Company, 221–223 Banta Ave., Garfield, N.J. 07026)

Filed Jan. 4, 1968, Ser. No. 695,779
Int. Cl. B65g *3/12;* **B08b** *9/08*
U.S. Cl. 222—196.3 **8 Claims**



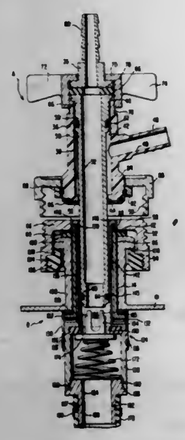
A push-pull dispensing cap comprising a tubular spout member having a central discharge opening, and a captive cap axially movable on the spout member and having an internal depending peg adapted to enter and close the spout opening. The cap has a plurality of discharge passages in its top wall, arranged around the center thereof, and the spout member has similarly arranged upstanding projections adapted to occupy the passages when the cap is shifted to its closed position.

3,439,843
LIQUID DISPENSER HAVING A CLOSURE CAP
Douglas F. Corsette, Los Angeles, Calif., assignor to Diamond International Corporation, New York, N.Y., a corporation of Delaware
Filed Aug. 14, 1967, Ser. No. 660,470
Int. Cl. B65d *39/08*
U.S. Cl. 222—212 7 Claims



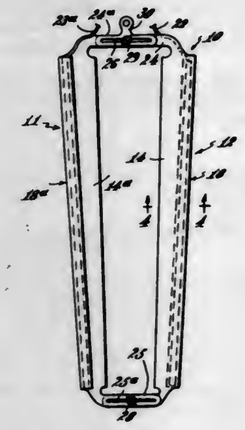
A plastic squeeze bottle formed with a neck having an internal constriction spaced from its mouth and fitted with an axially movable unitary valve closure. The closure carries a plug disposed for sealing engagement with said constriction, and is provided with a discharge passage opening into the plug from a location above the constriction and communicating with the atmosphere. A continuous seal is maintained by an enlarged stopper in sealing engagement with the neck above the constriction. An internally threaded skirt provides for securing and axially moving the closure on the container neck and snap beads on the neck and skirt respectively limit the axial movement of the closure.

3,439,844
TAPPING DEVICE FOR BEER KEGS AND THE LIKE
Mack S. Johnston, Rolling Hills, Calif., assignor to Johnston Enterprises, Inc., East Kalispell, Mont., a corporation of Montana
Filed Oct. 22, 1965, Ser. No. 502,092
Int. Cl. B65d *83/06, 83/00*
U.S. Cl. 222—398 12 Claims



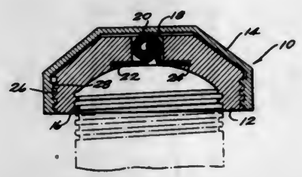
Disclosed is a tapping device for beer kegs and the like in which an adapter is semipermanently attached to the keg and beer is withdrawn by inserting a probe type coupler into the adapter. The adapter has an enlarged lower end within the keg in which is located the beer valve. It provides enlarged beer and gas passages with the beer passage through the center of the adapter which makes the adapter compatible with existing automatic cleaning equipment.

3,439,845
APPARATUS FOR CREASING TEXTILE MATERIAL
Hazen Russell Lester, Jr., Lindale, Ga., assignor to West Point-Pepperell, Inc., West Point, Ga., a corporation of Georgia
Filed Apr. 28, 1965, Ser. No. 451,549
Int. Cl. D06c *15/00*
U.S. Cl. 223—73 7 Claims



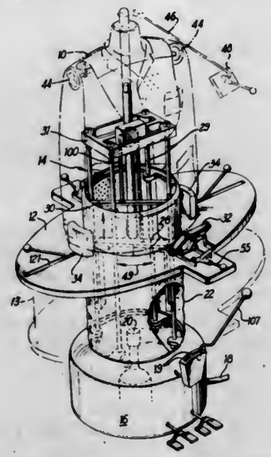
1. Apparatus for creasing textile fabric comprising a creasing element of sheet material having converging portions which are joined to form a V-shaped edge structure, heating means located within said V-shaped edge structure, means whereby the textile fabric may be held in contact with said edge structure, and means whereby moisture may be applied to that portion, only, of the material which contacts said edge structure.

3,439,846
NONLEAK, NONSPILLABLE BOTTLE CAP
David J. Evras, 1316 N. Main St., Oshkosh, Wis. 54901
Filed June 26, 1967, Ser. No. 648,569
Int. Cl. B65d *5/64, 25/40, 35/38*
U.S. Cl. 222—494 4 Claims



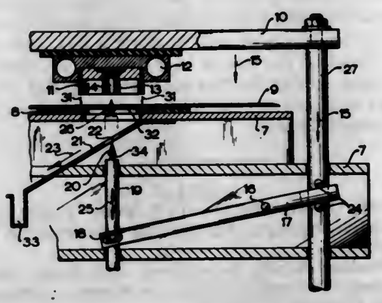
Disclosed herein is a cap assembly for a flexible liquid container. A collapsible discharge nozzle is mounted in an opening in the assembly and collapses into the opening whenever it is not in use. A cover is used to hold the nozzle in the opening when not in use.

3,439,847
LAUNDRY MACHINES
Anthony W. Swain, Clydesdale, College Road, Buxton, Derbyshire, England
Filed July 11, 1967, Ser. No. 652,569
Claims priority, application Great Britain, July 20, 1966, 32,518/66; Oct. 11, 1966, 45,369/66
Int. Cl. A41h *5/00*
U.S. Cl. 223—70 12 Claims



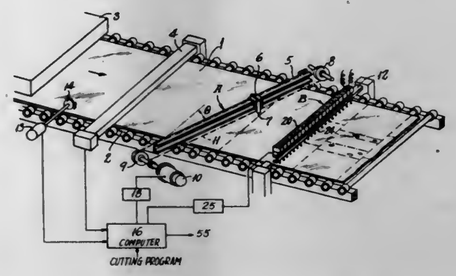
A steam pressing machine for garments which can be adjusted to suit garments of different sizes in that the garment during pressing is supported at its top end on a head piece and on its bottom end is attached a base. The head piece and base are adjustable in height simultaneously and their weights are counterbalanced one against the other to facilitate adjustment. The base and head piece move in opposite directions during adjustment.

3,439,848
SORTING MACHINE
August Schwarzkopf, Lengerich, Westphalia, Germany, assignor to Windmöller & Holscher, Lengerich, Germany
Filed May 18, 1967, Ser. No. 639,505
Claims priority, application Germany, May 26, 1966, W 41,671
Int. Cl. B26f *3/00, 3/02;* B65h *35/00*
U.S. Cl. 225—96 7 Claims



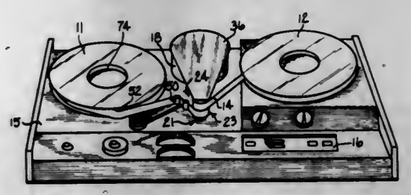
The invention concerns an apparatus for stamping or punching out portions of a web which includes means for separating the stampings from the web. The separating means comprises a stamping-removing tool, suitably a pin provided with a barbed hook, which penetrates a stamped out portion during the punching operation and transfers such portion from the web via a clearer to a collecting receptacle during the return stroke of a punching tool of the apparatus. The invention is of particular application in the processing of plastics foils.

3,439,849
APPARATUS FOR AUTOMATICALLY CUTTING A GLASS SHEET
Teizo Matsuzaki, Kuniyuki Minami, and Yoshiaki Sasagawa, Yokohama, Japan, assignors to Asahi Glass Co., Ltd., Tokyo, Japan, a corporation of Japan
Filed Aug. 24, 1966, Ser. No. 574,682
Claims priority, application Japan, Aug. 27, 1965, 40/51,963; Nov. 2, 1965, 40/66,876
Int. Cl. B65h *35/10;* B26f *3/00*
U.S. Cl. 225—96.5 5 Claims



An apparatus for automatically cutting a glass sheet is combined with a computer for first transversely scoring said sheet, secondly longitudinally scoring said sheet between the transverse scores to enclose defects within the score lines, and finally breaking said sheet on the score lines.

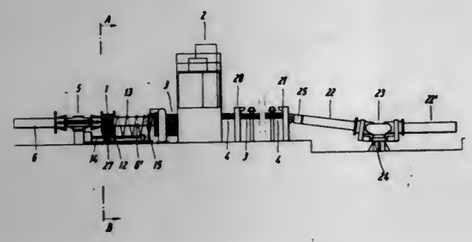
3,439,850
TAPE HANDLING METHOD AND APPARATUS
Delmar Ronald Johnson, Des Plaines, Ill., assignor to Ampex Corporation, Redwood City, Calif., a corporation of California
Filed Jan. 3, 1967, Ser. No. 606,976
Int. Cl. B65h *17/12, 23/08*
U.S. Cl. 226—1 11 Claims



A tape handling apparatus and method is provided for a tape transducing system of the friction drive type. A cylindrical capstan engages the tape solely by tape tension which produces frictional forces between the respective surfaces of the capstan and the tape. The capstan has two axially displaced cylindrical surfaces of different diameters, each with high coefficients of friction with respect to the tape. The tape is wrapped partially around only the smaller diameter surface to produce a substantial area of contact solely with such surface at the beginning of the transducing loop and partially around only the other surface to produce another substantial area of contact solely with the other surface at the end of the

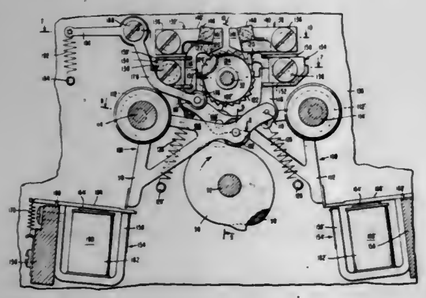
transducing loop. Due to the different diameters of the two capstan surfaces a greater tangential velocity is produced at the second surface which is imparted by friction to the tape, thus preventing accumulation of the tape in the transducing loop.

3,439,851
METHOD OF AND APPARATUS FOR INTRODUCING WIRE INTO A SURFACE TREATING CHAMBER
Klaus Rum, Krefeld, and Dieter Lingen, St. Tonis, Germany, assignors to Deutsche Edelstahlwerke Aktiengesellschaft, Krefeld, Germany
Filed Apr. 25, 1967, Ser. No. 633,477
Int. Cl. B65h *17/18*
U.S. Cl. 226—1 **10 Claims**



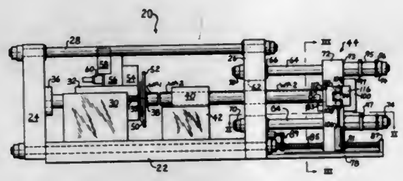
A coil of wire is more efficiently surface treated, e.g. surface blasted, if the turns of coil are separated without undergoing plastic deformation and introduced onto a rotating shaft, each separated turn of wire being inserted in a gap between adjacent discs on the said treating shaft, the wire being pulled along by the rotating motion of the discs operating on the spiral turns engaged therewith.

3,439,852
BIDIRECTIONAL TAPE DRIVE MECHANISM
Edwin O. Blodgett, Rochester, N.Y., assignor to Friden, Inc., a corporation of Delaware
Filed July 19, 1967, Ser. No. 654,589
Int. Cl. G03b *1/24*; **B65h** *25/00*; **F16h** *29/00*
U.S. Cl. 226—51 **10 Claims**



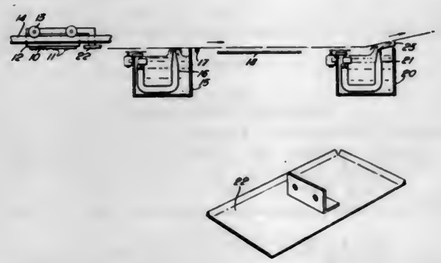
A tape drive mechanism having a tape drive pin wheel and associated guides and tension means for selectively transporting a tape in either longitudinal direction. The embodiment, as disclosed, provides a tape drive mechanism adapted to drive a punched tape in either longitudinal direction for reading the tape as it passes in one direction through the reading zone, and for driving the tape in the opposite direction if rereading of any portion thereof is required.

3,439,853
BACKSTOP EXTENSION FOR FRICTION WELDER
Gerald W. Deemie and Ira H. Sage, Peoria, Ill., assignors to Caterpillar Tractor Co., Peoria, Ill., a corporation of California
Filed Oct. 23, 1967, Ser. No. 677,375
Int. Cl. B23k *27/00*
U.S. Cl. 228—2 **9 Claims**



A friction welding machine having a backstop extension assembly for accommodating various long lengths of weld pieces and wherein means are provided for connecting the backstop extension to the main body of the machine, so that large thrust loads experienced during welding are transferred to the framework of the welding machine.

3,439,854
APPARATUS FOR SOLDERING PRINTED CIRCUIT PANELS
Brian Thomas Walker, Luton, England, assignor to British Aircraft Corporation (Operating) Limited, a British company
Filed Apr. 25, 1966, Ser. No. 544,743
Claims priority, application Great Britain, Apr. 28, 1965, 17,887/65
Int. Cl. B23k *1/08*
U.S. Cl. 228—34 **1 Claim**

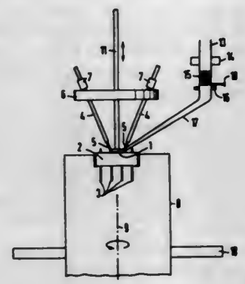


A wave soldering apparatus for printed circuit boards is disclosed in which the carrier which moves the board across the solder wave also supports a flux plate immediately ahead of the circuit board and in the same horizontal plane so that the flux plate picks up flux from the flux bath and contacts the solder wave just ahead of the printed circuit board.

3,439,855
METHOD AND APPARATUS FOR THERMALLY BONDING SEMICONDUCTOR COMPONENTS TO CARRIERS
Heinz-Herbert Arndt, Nuremberg, and Jürgen Schädel, Erlangen, Germany, assignors to Siemens Aktiengesellschaft, Erlangen, Germany
Filed July 13, 1966, Ser. No. 564,910
Claims priority, application Germany, July 16, 1965, S 98,233
Int. Cl. B23k *19/00, 37/04*
U.S. Cl. 228—44 **10 Claims**

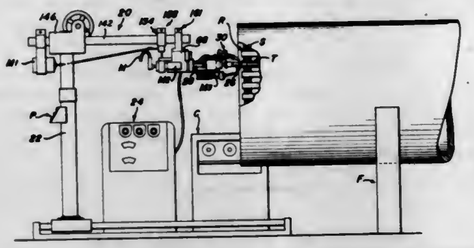
Entrainer device in apparatus for thermally bonding a substantially flat semiconductor element to a support in-

cludes means for holding the semiconductor element at the edges thereof, the entrainer device being rotatable



relative to the support about an axis perpendicular to the semiconductor element.

3,439,856
WELDING APPARATUS
Edward J. Philipps, Scotch Plains, and Joseph Martin, Menlo Park, N.J., assignors to Foster Wheeler Corporation, New York, N.Y., a corporation of New York
Filed Dec. 23, 1966, Ser. No. 604,475
Int. Cl. B23k *37/04*
U.S. Cl. 228—48 **12 Claims**



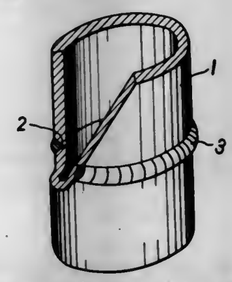
A welding apparatus for forming circular welds in which two substantially uniform circular welds are formed along the circumference of a tube positioned on a tube sheet.

3,439,857
POROUS SOLDERING IRON TIP
Donald C. Bennett, 7 Sullivan Way, East Brunswick, N.J. 08816
Filed Oct. 22, 1965, Ser. No. 502,062
Int. Cl. B23k *3/02*
U.S. Cl. 228—54 **3 Claims**



A continuous system, porous soldering tip capable of holding large quantities of solder and releasing the same on contact with a surface to be soldered.

3,439,858
BRAZING COMPOSITION FOR CARBONACEOUS MATERIALS
Yoshio Ando, Tokyo, Tadato Fujimura, Naka-gun, Ibaraki, and Tadayoshi Tanaka and Yoshihiko Inoue, Tokyo, Japan, assignors to Japan Atomic Energy Research Institute, Tokyo, Japan, a corporation of Japan
Original application June 22, 1964, Ser. No. 376,880. Divided and this application Nov. 4, 1966, Ser. No. 608,469
Claims priority, application Japan, Sept. 26, 1963, 38/51,286, 38/51,287
Int. Cl. B23k *3/06, 35/14, 31/02*
U.S. Cl. 228—56 **1 Claim**



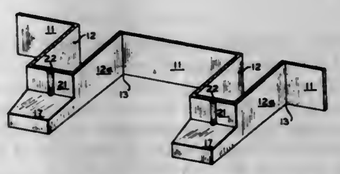
A material primarily for brazing carbonaceous materials comprising an iron-nickel alloy containing a small proportion of zirconium or titanium and having good workability and adhesiveness to said materials particularly at high temperatures.

3,439,859
BRAZING SLUG
John Richard Filson, Medford, N.J., assignor to Matsushita Electric Industrial Co., Ltd., Osaka, Japan, a corporation of Japan
Filed July 27, 1967, Ser. No. 656,373
Int. Cl. B23k *35/14*
U.S. Cl. 228—56 **4 Claims**



This invention is concerned essentially with a unique slug including a plate and brazing sheet in interfitting relation therewith, and relates to the manufacture of such a slug by a single punching operation utilizing an improved apparatus.

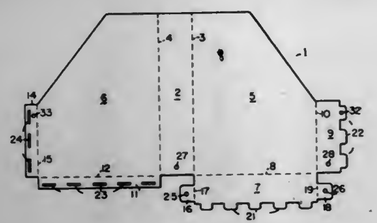
3,439,860
PROTECTIVE PACKING MATERIAL
Louis G. Wienecke, Jr., Fulton, N.Y., assignor to Phillips Petroleum Company, a corporation of Delaware
Filed June 5, 1967, Ser. No. 643,573
Int. Cl. B65d *5/56, 5/62, 5/58, 85/00, 25/12, 81/02, 85/30*
U.S. Cl. 229—14 **8 Claims**



A cushioning packing strip of flexible thermoplastic material having linked units of a bottom protrusion supporting the item, a middle portion abutting the edge of

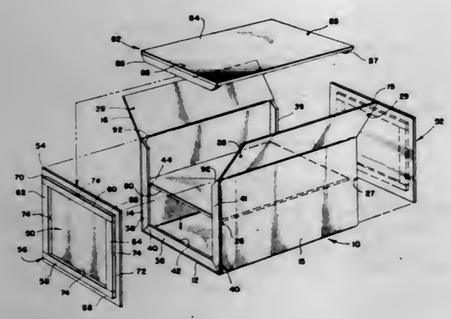
the item and an upper protrusion protectively overhanging the item. The units are linked by a flexible back wall and surround the periphery of the item.

3,439,861
COLLAPSIBLE FILE FOLDER
Gust A. Olson, 2030 Manning Ave., West Los Angeles, Calif. 90025
Filed Dec. 29, 1967, Ser. No. 694,640
Int. Cl. B65d 5/00
U.S. Cl. 229—16 7 Claims



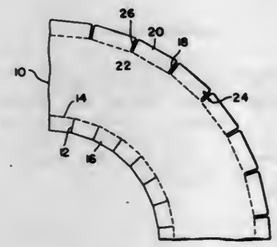
A collapisble file folder formed of an integral blank and typically having a narrow aspect when assembled, with an open top and slanting sides to allow easy insertion and withdrawal of the contents. A series of tabs extend from the bottom and the front and engage corresponding slots in flaps on the other side of the blank. This engagement positions the edges of the bottom downward, imparting stable equilibrium to the upstanding file folder. A curved embodiment superiorly holds thin filed material.

3,439,862
CONTAINER
Dolphin D. Overton III, and Rudolph B. Rustin, Jr., Mullins, and William E. Hughes, Marion, S.C., assignors to Overton Container Corporation, Mullins, S.C., a corporation of North Carolina
Filed Jan. 3, 1968, Ser. No. 695,508
Int. Cl. B65d 13/00, 9/12, 5/34
U.S. Cl. 229—23 12 Claims



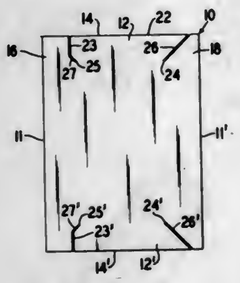
A strong, rectangular, reinforced, tobacco container is provided that presents an effective barrier to foreign objects and presents smooth interior wall surfaces. A foldable shell forms the outer bottom, side, and top walls for the container. Cleats are attached to the inner surface of the side and bottom walls at each end of these walls. Two end sections are provided that each include a panel and a frame with the peripheral edge of the panel extending beyond the frame to form lips on the top, bottom, and side edges of the end section. In the assembled container, the cleats attached to the side and bottom walls abut the side and bottom lips of the end section and the side and bottom edges of the frame of the end section. The container includes a reinforcing bottom member, and a reinforcing top member. The reinforcing top member has depending cleats which abut the top lip portion of the end panel and the top edge of the frame. Securing means hold the shell and the reinforcing top member in engagement with the end sections.

3,439,863
FLAT COIL CARTON
Billy H. Hayes, Decatur, Ala., assignor, by mesne assignments, to Calumet & Hecla Corporation, Allen Park, Mich., a corporation of Delaware
Filed May 29, 1967, Ser. No. 641,857
Int. Cl. B65d 13/00; B65h 55/00, 75/00
U.S. Cl. 229—23 3 Claims



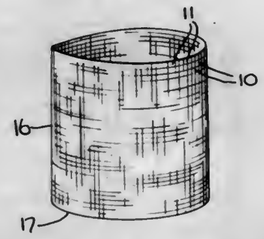
A flat coil carton comprising upper and lower annular walls having the radially inner and outer edges thereof cut to form tabs, the tabs being bent respectively downwardly and upwardly to define inner and outer side walls, and being bonded together.

3,439,864
SIFT-PROOF INDUSTRIAL BAG
Howard E. Kasting, Somerville, and Benjamin H. Romaine, North Plainfield, N.J., assignors to Union Carbide Corporation, a corporation of New York
Filed Sept. 5, 1967, Ser. No. 665,560
Int. Cl. B65d 33/00
U.S. Cl. 229—59 7 Claims



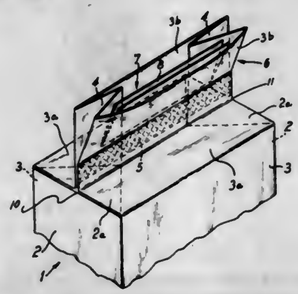
A sift-proof industrial bag having a heat-sealed rectangular-shaped bottom closure formed by a pair of overlapping opposed side flaps and a pair of infolded end flaps. The side flaps and the end flaps are heat sealed directly to each other in their common areas of overlap. In addition, a portion of the edges of the side and end flaps adjacent the corners of the bag are infolded over the end flaps and heat sealed to the end and side flap.

3,439,865
WOVEN PLASTIC BAGS
Morton I. Port, West End, N.J., and Bernard L. Schwartz, Scarsdale, N.Y., assignors to Parker Pace Corporation, a corporation of New York
Filed Dec. 17, 1964, Ser. No. 419,140
Int. Cl. B65d 29/00
U.S. Cl. 229—53 5 Claims



1. A dimensionally stable, heavy duty waterproof, gas pervious sack of high strength, said sack having an open end and a closed end and being fabricated of a fabric woven of flat, monofilament warp and weft yarns formed of a mono-axially oriented synthetic plastic material, the weave of said fabric being sufficiently tight to render said fabric waterproof but pervious to gas.

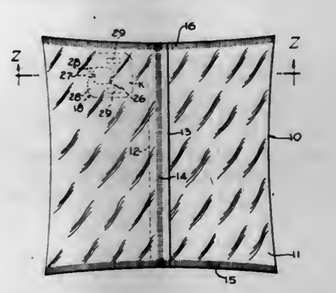
3,439,866
PACKAGING BAG
Paul Kühnle, Winnenden, Wurttemberg, Germany, assignor to Fr. Hesser Maschinenfabrik, A.G., Stuttgart-Bad Cannstatt, Germany, a corporation
Filed Nov. 8, 1967, Ser. No. 681,422
Int. Cl. B65d 33/16, 31/12, 27/00
U.S. Cl. 229—62 9 Claims



A packaging bag having a flat, folded, neck portion which is sealed proximate to the plane defined by the top level of the packaged material and in which the sidewall panels extending beyond said plane and above the seam form an inside pocket to receive brochures, or the like. The neck is either folded one or more times and then adhesively attached either against itself or to a side panel located below the seam; or the pocket is closed by means of a detachable strip telescoped in U-shaped form over the terminal end of the panels.

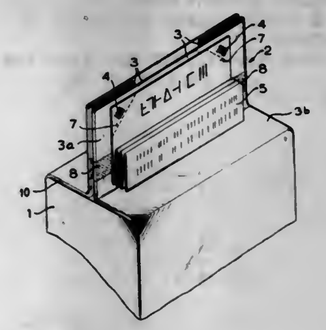
3,439,867
BAG ENCLOSING RE-CLOSING FACILITY
Floyd G. Paxton, P.O. Box 2098, Yakima, Wash. 98902
Original application Aug. 6, 1965, Ser. No. 477,797, now Patent No. 3,381,442, dated May 7, 1968. Divided and this application Oct. 25, 1967, Ser. No. 682,711
Int. Cl. B65d 33/16, 33/00, 83/00
U.S. Cl. 229—62 4 Claims

A pillow-type bag formed of thin sheet plastic material such as polyethylene having secured to the inner surface thereof close to an end of the bag assigned for opening the same, a "Kwik Lok" type reclosure facility which is located entirely inside said bag but is readily available, upon opening this end of the bag as by clipping the seal



therefrom, for reclosing the bag after a portion only of the contents thereof have been removed so as to repackage the balance of the contents in the bag.

3,439,868
PACKAGING BAG WITH BROCHURE
Paul Kühnle, Winnenden, Wurttemberg, Germany, assignor to Fr. Hesser Maschinenfabrik, A.G., Stuttgart-Bad Cannstatt, Germany, a corporation
Filed Nov. 29, 1967, Ser. No. 686,406
Int. Cl. B65d 33/16, 27/00
U.S. Cl. 229—62 8 Claims

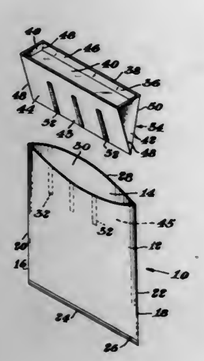


Packaging bag having a flat, folded neck portion which is sealed proximate to the plane defined by the top level of the packaged material and in which the panels extending above the aforesaid plane and above the seam are folded one or more times 180 degrees together with a sheet-like brochure, or the like, externally bonded to one of the panels. The bottom portion of the folded neck is either bonded to the main body of the bag, or bonded to an unfolded portion of the side panels. Alternatively, the folded neck is secured by means of an adhesive strip to the bag body.

3,439,869
VENTED BAG
William E. Shrum, St. Louis, and Larry J. Laursen, Midland, Mich., assignors to The Dow Chemical Company, Midland, Mich., a corporation of Delaware
Filed Feb. 8, 1968, Ser. No. 703,999
Int. Cl. B65d 33/16
U.S. Cl. 229—62 5 Claims

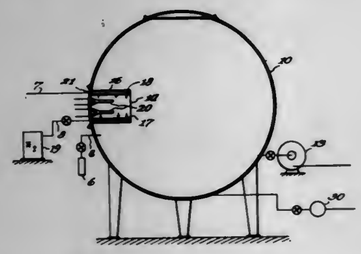
This invention pertains to a vented bag. Basically the vent is formed by applying to the bag strips of a substance which is not thermally compatible therewith. The

strips are located, for example, at inner face portions adjacent the mouth of the bag. Because of the non-compatible nature of the strips, a perfect or full closure of the mouth by heat sealing is prevented, thereby obtaining



vents at the non-sealed area where the strips are located. Vent constructions as described herein are substantially leak-proof even for such finely divided granular products as salt, sugar, talc and the like.

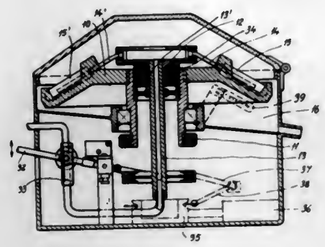
3,439,870
PURGING-DILUTING METHOD FOR REMOVING GASES
Helmut Vedder, Downers Grove, Ill., assignor to Chicago Bridge & Iron Company, Oak Brook, Ill., a corporation of Illinois
Filed May 11, 1967, Ser. No. 637,694
Int. Cl. F04b *37/20*
U.S. Cl. 230—69 13 Claims



A method of obtaining pressures of 1×10^{-5} torr or lower by reducing the pressure in a vessel to about 1×10^{-3} torr after which a metal getter pump along with a gas purging step, wherein purging gas is introduced throughout the vessel to be evacuated, are employed to pump the vessel down to a pressure in the order of 1×10^{-5} torr or lower.

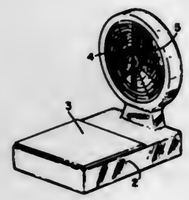
3,439,871
CENTRIFUGE FOR TREATING LIQUID AND/OR SOLID MATERIALS
Hans Peter Olof Unger, Skeppargatan 57, Stockholm, Sweden
Filed Aug. 16, 1967, Ser. No. 661,109
Claims priority, application Sweden, Aug. 22, 1966, 11,288/66
Int. Cl. B04b *1/00, 3/00, 5/00*
U.S. Cl. 233—3 8 Claims

A centrifuging device comprising a rotatable centrifuging head adapted to support a plurality of containers for the material to be treated in a substantially radial position with respect to the axis of rotation. The centrifuging head also carries a liquid distributing device the position of which with respect to the centrifuging head can be



varied such as by tilting it and vertically displacing it with respect to the centrifuging head, and which is provided with means for supplying liquid or liquid suspensions to the containers.

3,439,872
CLASSIFYING APPARATUS
John H. Higgins, % Mellon National Bank and Trust Company, Mellon Square, Pittsburgh, Pa. 15230
Filed Mar. 7, 1966, Ser. No. 532,428
Int. Cl. G01g *23/22*
U.S. Cl. 235—61 5 Claims

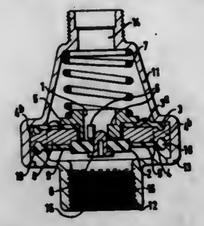


1. Classifying apparatus comprising a receptacle, means mounting the receptacle for downward retractive movement due to the weight of an object the magnitude of a characteristic of which is known placed on the receptacle, an index member connected with the receptacle movable a distance proportionate to the weight of the object placed on the receptacle and a dial associated with the index member having markings representing magnitudes of said characteristic and other markings intersecting the first mentioned markings representing such magnitudes per unit of weight so that the second mentioned marking read where the index member intersects the first mentioned marking classifies the object placed on the receptacle as to the magnitude of said characteristic thereof per unit of its weight.

3,439,873
BI-DIRECTIONAL PRESSURE RELIEF VALVE
Victor K. Relf, Auckland, New Zealand, asisgnor to Victor Enterprises Limited, Auckland, New Zealand
Filed Mar. 17, 1967, Ser. No. 623,967
Int. Cl. G05d *27/00*; F16k *17/14, 17/06*
U.S. Cl. 236—92 9 Claims

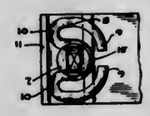
A pressure relief valve in which a housing is provided with an inlet and outlet and a pressure sensitive diaphragm between the inlet and outlet. A relief port is

mounted on the diaphragm and seating means is capable of closing the relief port up to predetermined pressure



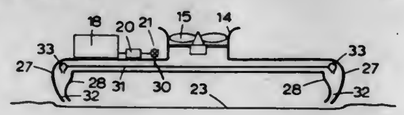
in one direction and of moving away from such port under the influence of pressure in the other direction.

3,439,874
RAIL FASTENING ARRANGEMENT
Hermann Oskar Meier, Arcisstrasse 21, Munich, Germany; Helen Joan Mary Meier, nee James, Eva Marianne Meier, Wolfgang Alexander Meier, and Manfred Julian Meier, all of Munich, Germany, heirs of said Hermann Oskar Meier, deceased
Filed Oct. 27, 1967, Ser. No. 678,762
Claims priority, application Germany, Oct. 29, 1966, M 71,505
Int. Cl. E01b *9/00, 13/00, 21/04*
U.S. Cl. 238—349 9 Claims



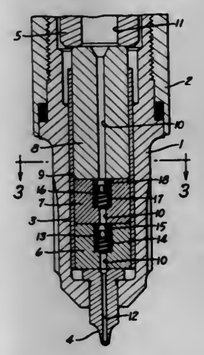
A rail fastening attachment for fastening rails on ties and the like employing a flexible rod-like clamp member in a substantially W-shape with opposing end terminal portions for contact with the rail and a central portion for contact with a projection on the clamp member and with a screw type fastening means.

3,439,875
APPLICATION OF CHEMICAL SUBSTANCES OVER LARGE AREAS
David Corbet Randall, Boundary House, Lady Margaret Road, Sunningdale, Berkshire, England, and Victor Edgar Sorapure, 23 Pembroke Place, Kensington, London W8, England
Filed Nov. 16, 1966, Ser. No. 594,842
Int. Cl. B05b *7/00*; B60v *1/16*
U.S. Cl. 239—8 8 Claims



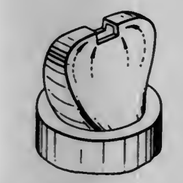
A method and apparatus for dispersal of undesirable floating oil accumulations on a water surface by application of an emulsifying agent into the air stream of an air cushion vehicle and directing same in a manner creating turbulent condition and attacking both upper and under surfaces of the floating oil. An air cushion vehicle is provided having skirt means at the periphery thereof, said skirt means formed as a pair of depending skirt members spaced apart to define a peripheral duct terminating in a jet nozzle, fan means to force air into said duct and from said jet nozzle and spray means for dispensing an emulsifying agent from a source thereof carried by the vehicle to the vicinity of the jet nozzles whereby the emulsifying agent is entrained in the air stream from the jet nozzles and directed angularly both over and under the floating oil during travel of the air cushion vehicle. The skirt members terminate in arcuate portions directed inwardly relative the periphery of the vehicle to serve as stream guide means for the stream-emulsant mixture.

3,439,876
CHECK VALVE ASSEMBLY FOR ENGINE FUEL INJECTORS
David E. Shook, Milwaukee, Wis., assignor to Murphy Diesel Company, Milwaukee, Wis., a corporation of Delaware
Filed June 6, 1966, Ser. No. 555,545
Int. Cl. F02m *47/02*; B05b *1/30*
U.S. Cl. 239—88 3 Claims



There is disclosed an engine fuel injector check valve assembly wherein separate aligned cylindrical members housing one or more check valves in a continuous axial passage therethrough are confined and held in alignment by a resilient sleeve clamping the same and providing a valve subassembly cartridge.

3,439,877
POST-AERATED GAS JETS
John Hancock, Leeds, and Albert Westerman, Normanton, England, assignors to Geo. Bray & Company Limited, Leeds, England, a British company
Filed Oct. 14, 1966, Ser. No. 586,832
Claims priority, application Great Britain, Oct. 26, 1965, 45,330/65
Int. Cl. F23d *15/02*; B05b *1/14*
U.S. Cl. 239—419.5 7 Claims

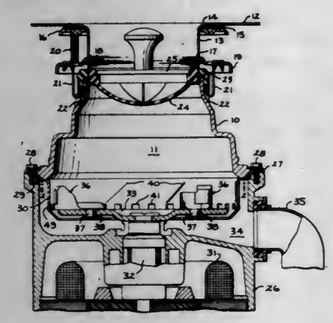


A post-aerated gas jet which is constructed to work with slow-burning gases such as natural gas at operating pressures of 1½–3 ins. water gauge. The jet works on a principle similar to known non-aerated jets used for fast burning manufactured gas where two converging gas streams impinge at the gas orifice to give a laminar flame, but the single slot orifice is replaced by two or more closely spaced slot orifices each of which produces a divergent laminar gas stream or streams. The length of each orifice at right angles to the plane of its corresponding gas stream is made small in comparison with the width of the slot, so that the momentum of the two converging gas streams at each orifice is increased at the point of impingement.

3,439,878
IMPELLER FOR FOOD WASTE DISPOSER

Donald J. Reaux, Pasadena, Tex., assignor to General Electric Company, a corporation of New York

Filed Apr. 21, 1966, Ser. No. 544,274
Int. Cl. B02c 18/42
U.S. Cl. 241—46.08 3 Claims

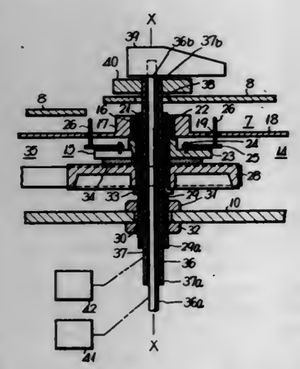


An improved impeller for use with a food waste disposer having a comminuting chamber, substantially circular stationary grinding means in the comminuting chamber, a rotatable element, means to rotate the element, and means to pivotally secure an impeller to the element to rotate therewith relative to the grinding means. The improved impeller has an asymmetrical configuration including a massive portion adjacent its leading surface which has a height greater than that of the trailing portion of the impeller to cause the impeller to orient itself relative to the grinding means, due to centrifugal forces developed during rotation of the element, such that the leading surface forms an angle with the tangent of the circular grinding means of less than 90°.

3,439,879
MAGNETIC RECORDING AND REPRODUCING APPARATUS

Hidefumi Furusawa, Tokyo, Japan, assignor to Nippon Columbia Kabushikikaisha (Nippon Columbia Co., Ltd.), Tokyo, Japan, a corporation of Japan

Filed Aug. 18, 1966, Ser. No. 573,329
Claims priority, application Japan, Aug. 23, 1965, 40/68,838
Int. Cl. G11b 5/78, 5/02
U.S. Cl. 242—55.12 7 Claims

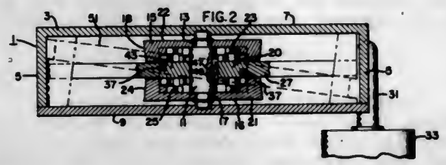


A magnetic recording and reproducing apparatus which is constructed so as to utilize minimum space and with the supply and takeup reels mounted on the recorder so that their axes fall generally on a diagonal line relative to the top of the case so as to take up minimum space and allow small recorders to be built. The takeup reel is also provided with self-threading means so as to allow rapid threading in operation.

3,439,880
MAGNETIC TAPE CARTRIDGE AND DRIVE MECHANISM

Philip A. Morrissette, New Hartford, N.Y., assignor to General Electric Company, a corporation of New York

Filed Apr. 5, 1967, Ser. No. 628,694
Int. Cl. G11b 15/32
U.S. Cl. 242—55.13 6 Claims

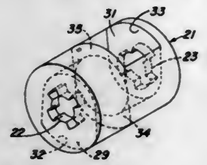


A magnetic tape cartridge including a casing and a shaft journaled therein. The cartridge is of the reel-on-reel type, that is, a pair of reels including central hub portions are coaxially mounted in superposed relation about the shaft. A rim-driven disc including a central aperture is interposed between the reels. Protruding cams on the disc extend inwardly into the aperture and are received by a helical cam groove in a drive clutch mounted about the shaft in a space defined by the reel hubs. When the disc is driven, the protruding cams act in the groove of the drive clutch and cause the drive clutch to travel upwardly or downwardly on the shaft, depending on the direction of rotation of the disc to thereby drivingly engage one of the reels so that the reels may be driven in a forward or reverse direction.

3,439,881
ONE-PIECE MOLDED SPOOL, WINDING CORE OR THE LIKE

Lawrence A. Ulmschneider, Rochester, N.Y., assignor to Eastman Kodak Company, Rochester, N.Y., a corporation of New Jersey

Continuation of application Ser. No. 314,711, Oct. 8, 1963, which is a continuation-in-part of application Ser. No. 79,792, Dec. 30, 1960. This application Aug. 7, 1964, Ser. No. 388,258
Int. Cl. B65h 17/02
U.S. Cl. 242—68.5 19 Claims

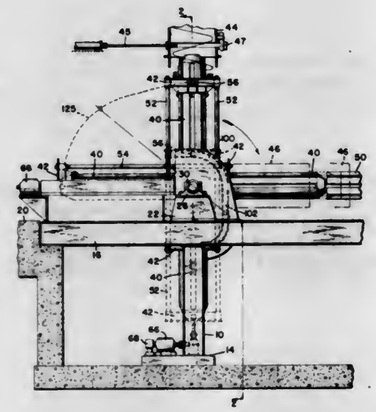


7. A hollow winding core molded in one piece and of approximately cylindrical external configuration, said core being adapted to be rotatably supported on a spindle that extends through axial holes formed in each end of the core and has a segment with a radially projecting spline disposed between the core ends and the internal surfaces of the material forming said core defining first and second recesses extending radially into said core, each of said recesses being circumferentially and axially offset from the other and axially offset from both of said ends, and the axially external ends of each of said recesses directly communicating respectively with opposite ones of said axial holes, and the axially internal ends of each of said recesses being co-planar and partially coextensive with one another, and said first and second recesses directly communicating with each other and being so dimensioned as to form within said core a cavity continuous between said axial holes and providing sufficient space for rotatably receiving the splined segment of said spindle.

3,439,882
COIL REMOVER

Harold E. Woodrow, Worcester, and William J. Hill, Holden, Mass., assignors to Morgan Construction Company, Worcester, Mass., a corporation of Massachusetts

Filed Sept. 27, 1966, Ser. No. 582,314
Int. Cl. B21c 47/24
U.S. Cl. 242—81 13 Claims

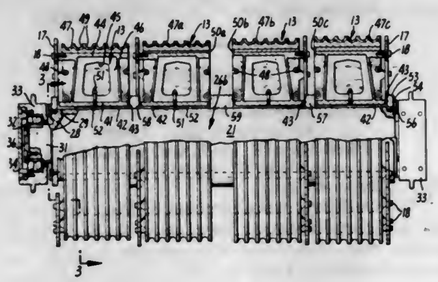


A coil bundle forming mechanism in the form of a turnstile, having spoke-like mandrels extending from a hub rotatable on a horizontal axis, receives rod coils on the mandrels in vertical position and discharges the completed bundle with the mandrel in the horizontal position. The bundle support is slidable on the mandrel to accommodate the size of the bundle and discharge the completed bundle.

3,439,883
TENSIONER BULL WHEEL SHAFT STRUCTURE

Gerald A. Petersen, Cupertino, Calif. (% Peterson Engineering Co. Inc., 950 Kifer Road, Sunnyvale, Calif. 94086)

Filed Dec. 13, 1966, Ser. No. 601,453
Int. Cl. B65h 59/18; E21c 29/16; F16h 55/36
U.S. Cl. 242—155 2 Claims

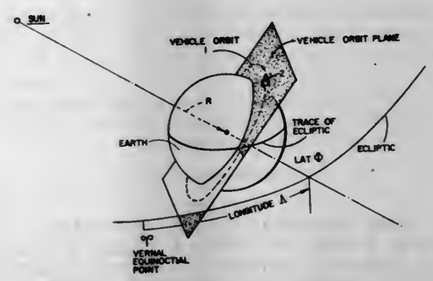


A single, large diameter, tubular shaft supports a plurality of cable tensioner bull wheels, the shaft being supported only by bearings at each end to reduce the overall shaft length and permit the same to be mounted transversely on a vehicle whose width complies with highway use regulations. The wheels are mounted on the shaft so that they may turn through a small angle relative to the shaft and relative to each other to accomplish phase adjustment when a plurality of conductors are strung simultaneously and one sags due to operating conditions. The outside diameters of the wheels are made slightly different from each other so that in normal operation there is a continuous moderate relative turning and hence when phase adjustment must be made there is no grabbing or jerking movement of the wheel being adjusted relative to the shaft.

3,439,884
SPACE VEHICLE GUIDANCE SYSTEM

John M. Slater, Fullerton, Calif., assignor to North American Rockwell Corporation, a corporation of Delaware

Continuation-in-part of application Ser. No. 483,763, Aug. 30, 1965. This application Apr. 19, 1967, Ser. No. 632,033
Int. Cl. G05d 1/10
U.S. Cl. 244—1 10 Claims

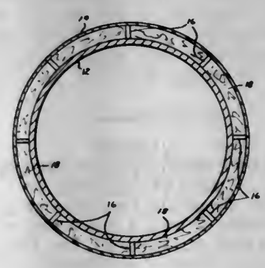


A guidance apparatus and method for quickly determining the position of a space vehicle with respect to a set of heliocentric ecliptic coordinates. A sun tracker locates the sun to establish the solar radius vector which determines two of the three angles needed for astronomical position determination. A gyroscope is used to sense the direction of an axis about which zero angular velocity with respect to inertial space is exhibited, in order to establish the third angle.

3,439,885
BRONZE WOOL SHIELD FOR AEROSPACE AND ATMOSPHERIC VEHICLES

Fred J. Sackleh, 4300 Pennlyn Ave., Dayton, Ohio 45429

Filed July 6, 1967, Ser. No. 651,629
Int. Cl. B64d 45/00; B64g 9/00
U.S. Cl. 244—1 4 Claims



Protection against hypervelocity impact in aerospace and atmospheric vehicles is provided by a layer of bronze

wool secured to the outer surface of the load-carrying structural wall of the enclosure of the vehicle. A thin outer structural wall surrounds the layer of bronze wool.

3,439,886
VISUAL TARGET FOR RETROFIRE ATTITUDE CONTROL

Caldwell C. Johnson, Dickinson, Tex., assignor to the United States of America as represented by the Administrator of the National Aeronautics and Space Administration

Filed Sept. 26, 1968, Ser. No. 762,936
Int. Cl. B64g 1/00; F41g 7/00
U.S. Cl. 244—1 **10 Claims**

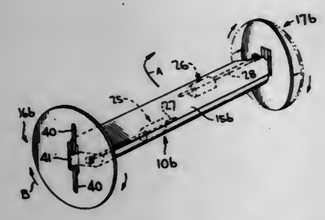


A method for controlling retrofire attitude of an orbital escape spacecraft having manually controlled retrorocket thrust means wherein the thrust vector of the retrorocket means is directed generally forward along the orbital path and a visual target is ejected along the axis of such thrust vector to establish a bearing by which attitude of the spacecraft may be adjusted.

3,439,887
WING ROTOR CONTROL APPARATUS

Gabriel D. Boehler and William F. Foshag, Washington, D.C., assignors to Aerophysics Company, Washington, D.C., a corporation of the District of Columbia

Continuation-in-part of application Ser. No. 405,420, Oct. 21, 1964. This application July 22, 1966, Ser. No. 567,104
Int. Cl. B64c 27/22, 5/10, 39/02
U.S. Cl. 244—10 **5 Claims**



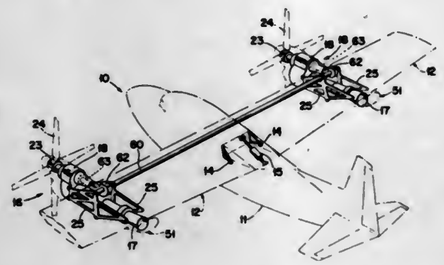
An aircraft consisting of a wing capable of autorotation about its spanwise axis. The aircraft has aerodynamic control plates mounted on the tips of the wing and pivotable about an axis perpendicular to the autorotation axis. The control plates are controlled by means within the wing for providing yaw and lift control for the aircraft.

3,439,888
AIRCRAFT PROPULSION MOUNTING ARRANGEMENT

Paul J. Dancik, Broomall, Pa., assignor to The Boeing Company, Seattle, Wash., a corporation of Delaware

Filed Dec. 30, 1966, Ser. No. 606,310
Int. Cl. B64c 27/22; B64d 27/20
U.S. Cl. 244—56 **11 Claims**

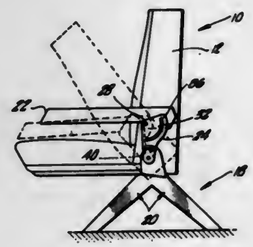
An aircraft propulsion mounting arrangement wherein a propulsion unit is secured to an aircraft wing which is capable of moving between a substantially vertical position and a substantially horizontal position, The propulsion unit is adapted to move in conjunction with the wing or relative to the wing.



3,439,889
AIRCRAFT SEATING STRUCTURE

Asbjorn Karlsen, Pacific Palisades, Calif., assignor, by mesne assignments, to Hardman Aerospace, Los Angeles, Calif., a corporation of California

Filed Feb. 13, 1967, Ser. No. 615,544
Int. Cl. B64d 11/06; A47c 7/54; B60n 1/06
U.S. Cl. 244—122 **16 Claims**



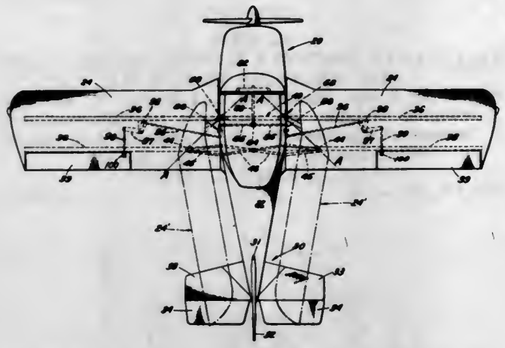
An aircraft seating structure which has an armrest between adjacent seats. The armrests are pivotally mounted on the frame but constrained against rotation except when an adjoining seat's back is folded forward. The constraint is provided by a rotatable shaft disposed in enlarged openings at the terminus of a pair of curved slots disposed in a pair of armrest support uprights. The shaft has a narrow or neck portion which upon rotation of the shaft allows its translation in the slots and the pivoting of the armrest downwardly out of its in-use position.

3,439,890
FOLDING WING AIRPLANE

Raymond M. Stits, P.O. Box 3084, Riverside, Calif. 92509

Filed May 15, 1967, Ser. No. 638,330
Int. Cl. B64c 3/56
U.S. Cl. 244—49 **9 Claims**

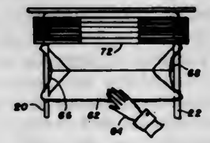
A full-cantilever-wing airplane, having wings that fold back and simultaneously turn, so as to lie alongside the fuselage with their chords generally vertical. An arm projects vertically from the root end of the main wing beam to a pivot on the fuselage spaced vertically from the wing. A second, outboard pivot is mounted on a supporting structure projecting laterally from the fuselage behind the main beam. Releasable locks connect the root ends of the main wing beams to the fuselage, and a structural member carries the compressive and tensile stresses of the wing beam transversely through the fuselage. The ailerons are joins to the controls in the fuselage by separable couplings, which become operatively connected as the wing moves to the flight position.



3,439,891
BAG HOLDER

Patrick J. Pinto, Freehold, N.J., assignor to William E. Young, Stamford, Conn.

Filed June 20, 1967, Ser. No. 647,360
Int. Cl. B65b 67/04; A47f 7/00
U.S. Cl. 248—100 **2 Claims**

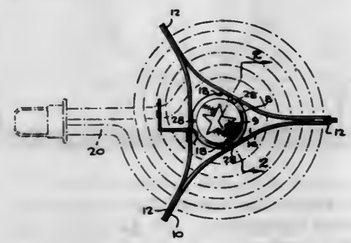


A bag holder in which two substantially straight rod-like arms are adapted for mounting in a horziontal manner and in a substantially parallel arrangement to each other and in which a recess is provided in each arm with the recess of suffiicent length to receive a group of bags, said recess shaped on its outward end to provide an abrupt shoulder of a sufficient size to retain in the manner of a stop the outward movement of the group of bags on the arm.

3,439,892
EASILY REMOVABLE HEATING UNIT INSERT

Howard E. Meyer, Laurel, Md., assignor to Electro-Therm, Incorporated, Laurel, Md., a corporation of Maryland

Filed Mar. 7, 1967, Ser. No. 621,176
Int. Cl. A47f 5/00
U.S. Cl. 248—200 **9 Claims**

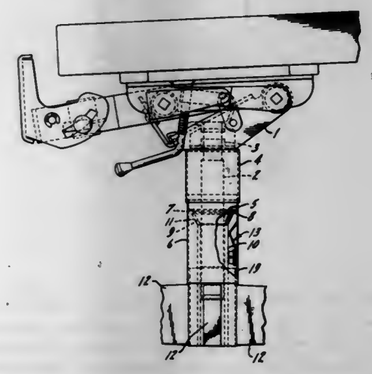


A slightly tapered support element for insertion within the opening defined by a heating element spider. The support member having generally cylindrical outward configuration and having plural vertical ridges extending outwardly therefrom with the lower portion of the ridges being cut out by a circular die to form a notch in each vertical ridge at the lowermost portion of the cylindrical member. The notch being snapped onto horizontal ridges extending inwardly from each web element of the spider.

3,439,893
CHAIR BASE

Kenneth N. Paquette, Muskegon, Mich., assignor to The Shaw-Walker Company, Muskegon, Mich., a corporation of Michigan

Filed Nov. 16, 1966, Ser. No. 594,782
Int. Cl. F16m 11/00, 13/00
U.S. Cl. 248—405 **1 Claim**

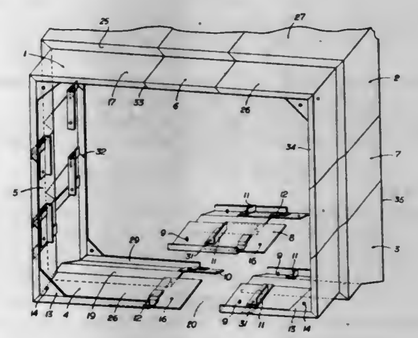


A swivel chair base having a locking arrangement which permits assembly and disassembly and wherein the height of the chair is adjusted by manipulating a cylindrical sleeve which presents no outside irregularity and wherein a spring latch under ordinary circumstances holds the chair and base against vertical displacement while permitting free angular rotation.

3,439,894
KNOCKDOWN FORMWORK FOR WALL OPENINGS

Alois Haider, 8261 Nonnreuth, Post Asten, Germany

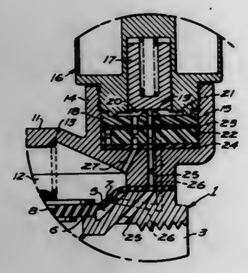
Filed Feb. 16, 1966, Ser. No. 527,960
Int. Cl. E06h 1/22
U.S. Cl. 249—39 **7 Claims**



A formwork for openings in a wall in which corner components are joined by connected components having

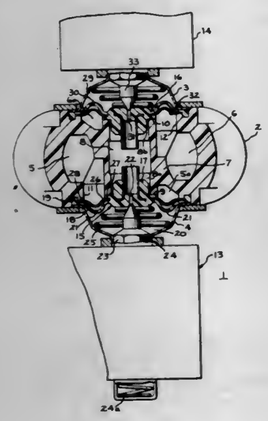
end faces oblique to the periphery of the formwork. The components are joined by lapping plates held in place by friction latches.

3,439,895
PILOT OPERATED VALVE
Ali Marandi, Azusa, Calif., assignor to Clemar Manufacturing Corporation, Glendora, Calif., a corporation of California
Filed May 1, 1967, Ser. No. 635,065
Int. Cl. F16k *31/145, 31/06*
U.S. Cl. 251—30 6 Claims



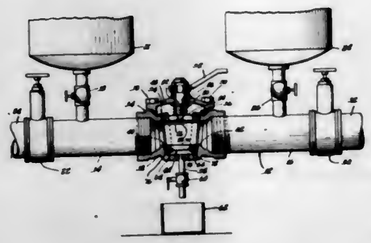
A diaphragm valve having a contiguous solenoid operated pilot valve, and passage communicating between the pilot valve and with the upstream side of the valve, the bonnet cavity and the downstream side of the valve. The passage between the pilot valve and the bonnet is for flow in one direction to open the valve and in the opposite direction to close the valve, and the passage having means for restricting flow in either direction to effect slow opening and closing.

3,439,896
PILOT TYPE VALVE
Joseph C. Worst, Louisville, Ky., assignor to General Electric Company, a corporation of New York
Filed Apr. 3, 1967, Ser. No. 627,888
Int. Cl. F16k *31/165*
U.S. Cl. 251—38 4 Claims



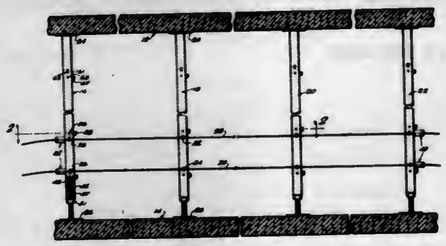
A pilot valve of the type in which the pilot flow is through the valve diaphragm. A flexible, permeable member is mounted for movement with the diaphragm and is located between the valve inlet and the pilot flow opening in the diaphragm to filter the pilot flow.

3,439,897
BALL VALVE ASSEMBLY WITH BOTH HIGH AND LOW PRESSURE SIDE SEALS
Werner K. Priese, Barrington, and Vernon E. Robbins, Arlington Heights, Ill., assignors to Hills-McCanna Company, Carpentersville, Ill., a corporation of Illinois
Filed June 28, 1966, Ser. No. 561,321
Int. Cl. F16k *5/02, 45/00*
U.S. Cl. 251—170 9 Claims



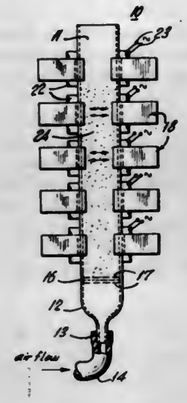
A valve assembly including a body defining a chamber with first and second fluid passages formed therein and communicating with the chamber, first and second support surfaces each extending about an inner end of one of the passages, a flow control member mounted for rotation in the chamber so as to regulate the flow of fluid through the passages and a first and second valve seat positioned in the chamber on opposite sides of the flow control member, each of the valve seats abutting a respective support surface and each valve seat including rigid support means having first sealing means mounted thereon and located between the support means and the flow control member and second sealing means mounted thereon and located between the support means and a respective support surface.

3,439,898
SAFETY BARRIER AND BARRIER FENCE
Floyd M. Cleveland, Plantation, and Peter Balma, Opa-Locka, Fla., assignors to General Safety, Inc., Fort Lauderdale, Fla.
Filed Jan. 29, 1968, Ser. No. 701,302
Int. Cl. E04h *17/02*; B21f *27/00*
U.S. Cl. 256—39 7 Claims



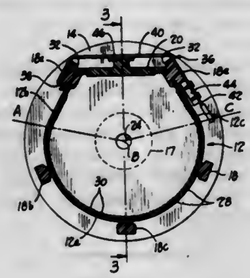
A safety barrier and barrier fence for placement along the peripheral marginal area of the adjacent story levels of a building composed of spaced extendible stanchion members engaging the confronting surfaces of the concrete floor slabs of adjacent story levels and cable means supported by the stanchions and means for tightening the cable means.

3,439,899
METHOD FOR THE PRODUCTION AND CONTROL OF FLUIDIZED BEDS
Abe Hershler, Flushing, N.Y., assignor to Magneto Dynamics, Inc., Bronx, N.Y., a corporation of New York
Filed Feb. 27, 1967, Ser. No. 618,908
Int. Cl. B01f *3/18, 11/00, 17/00*
U.S. Cl. 259—1 17 Claims



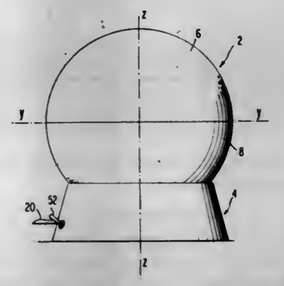
A particulate material having distributed therethrough small permanent magnets whose average individual size is preferably between 2 and 10 times that of the non-magnet particles is subjected to an upward flow of gas and to a magnetic field varying with time direction and intensity to produce and control the resulting fluidized bed. The varying magnetic field may be concentrated in localized regions of the bed and surface control is achieved by providing a horizontal varying magnetic field at the surface of the bed. Fluidization may be achieved without the gas flow and also without any non-magnet particles.

3,439,900
PLASTIC BARREL AND METHOD OF FABRICATION
Thomas R. Gill, Cleveland, Ohio, assignor to GS Equipment Company
Filed Feb. 7, 1967, Ser. No. 614,439
Int. Cl. B01f *9/00*; B32b *31/00*; C23b *5/78*
U.S. Cl. 259—81 12 Claims



A plastic barrel horseshoe shaped in transverse cross section and formed of a one-piece wall structure, a cover, two circular end plates, and reinforcing ribs. Parts are secured by spin welds. The wall structure is perforated and the inside surface has nodules. The barrel is especially constructed to contain parts for immersion in plating solutions. Spin welding is accomplished by rotating a generally conical plastic plug having a circumferential ridge and inserting the plug while spinning into a conical aperture that is formed in one plastic part and which communicates directly with another plastic part to be joined.

3,439,901
METHOD AND APPARATUS FOR AGITATING MATERIAL AND IN PARTICULAR FOR TOSSING SALADS
Robert P. McCulloch, 555 Perugia, Los Angeles, Calif. 90024
Filed Feb. 6, 1968, Ser. No. 703,285
Int. Cl. B01f *9/02*
U.S. Cl. 259—89 11 Claims



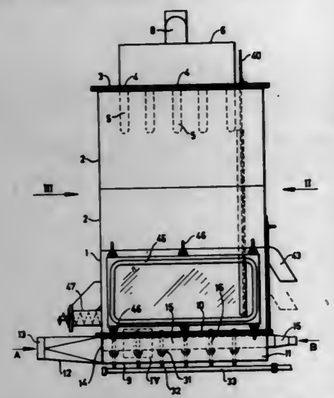
An apparatus for imparting diverse motions to loose material. The apparatus includes a container adapted to receive and enclose the material. The container is supported for rotational motion thereof about two mutually perpendicular rotational axes by releasable support means. Drive means connected with the support means frictionally contacts the container to rotate the container simultaneously about the two rotational axes. In an additional aspect of the invention, stopping of movement of the container is arranged to occur only at times when the container is in a convenient orientation relative to the support means for removal of the contents.

A method aspect of the invention includes supporting a spherical container for universal rotation on a support. The method further includes driving the container by a wheel which has a point of peripheral contact with the container to apply multi-directional frictional turning force thereto. This drive technique imparts to the container one velocity component disposed in one plane passing diametrically of the receptacle and a second velocity component disposed in a plane perpendicular to the first plane.

3,439,902
MIXER FOR CONTINUOUSLY TREATING ONE OR MORE GRANULAR OR PULVERULENT MATERIALS WITH ONE OR MORE ATOMIZED SUBSTANCES
Lourens B. van Munster, De Zilk, Netherlands, assignor to Vometic N.V., Haarlem, Netherlands
Filed May 26, 1967, Ser. No. 654,669
Claims priority, application Netherlands, June 3, 1966, 6607707
Int. Cl. B28c *5/06*; B01f *15/02*
U.S. Cl. 259—151 14 Claims

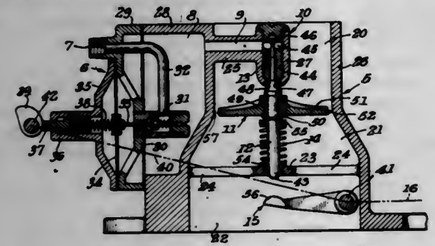
A mixer or a plurality of mixers connected in series with respect to the flow of material to be treated in said mixers, each mixer comprising a mixing chamber opening at its top side into an expansion chamber a vertical partition dividing said chambers into a first and second compartment interconnected via an aperture between the bottom of said partition and the gas-permeable bottom of the mixing chamber, means to fluidize the granular or pulverulent material introduced into said mixing chamber on both sides of said partition, means to direct at least one substance into said second compartment in an atom-

ized form, an outlet for the treated material arranged in said first compartment at a level above that of said



bottom of said partition and gas outlets leading gas out of said second compartment.

3,439,903
CABURETOR
Julius Tolnai, 3181 Oakshire Drive, Los Angeles, Calif. 90028
Filed Sept. 19, 1966, Ser. No. 580,488
Int. Cl. F02m 9/10
U.S. Cl. 261—44 **3 Claims**

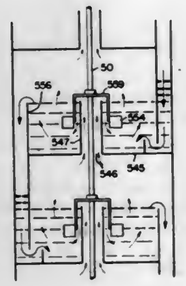


A carburetor having a housing with a passage smaller at the top than at the bottom and having a flared intermediate part, a fuel-metering valve mounting a disc rotational on the valve and diametrically smaller than the smaller passage part and which, when closed, locates the disc at the lower end of the latter passage part to allow limited inlet air flow downwardly through an annular space formed between the disc and the passage, the disc and valve being resiliently biased to a closed position of the latter, the lower face of the disc being subject to engine suction from below to cause downward movement of the disc into the flared part and increase of said annular space according to the degree of said suction, vanes on the top face of the disc to mix fuel and air in the passage part above the disc, and a throttle-controlled stop to limit the opening movement of the valve.

3,439,904
MULTISTAGE ABSORPTION COLUMN CONTACTOR FOR DISPERSING GAS IN LIQUIDS OR SLURRIES
James Y. Oldshue and Henry E. Hirschland, Rochester, N.Y., assignors to Mixing Equipment Co. Inc., Rochester, N.Y., a corporation of New York
Continuation of application Ser. No. 412,280, Nov. 12, 1964. This application May 16, 1966, Ser. No. 550,571
Int. Cl. B01f 3/04
U.S. Cl. 261—91 **12 Claims**

6. In a multi-stage absorption column contactor for dispersing gas in a continuous phase of liquid material, said column contactor having a generally upright shell, a stage separator plate secured within said shell and extending across said shell to divide said shell into an upper compartment and a lower compartment, a generally upright, rotatable drive shaft extending through said upper and lower compartments, said stage separator plate having an aperture through which said drive shaft passes, means for introducing liquid material into said upper compartment, means for withdrawing liquid material from said lower compartment, means for introducing gas into said lower compartment, and means disposed in the region of the top of said upper compartment for withdrawing gas from said upper compartment, the improvement comprising:

(a) a generally upright stand pipe joined to said stage separator plate and surrounding said drive shaft and said aperture in said stage separator plate to afford a passageway between said upper and lower compartments, said standpipe extending continuously a substantial distance above said stage separator plate to retain a pool of said liquid material of substantial depth in said upper compartment;



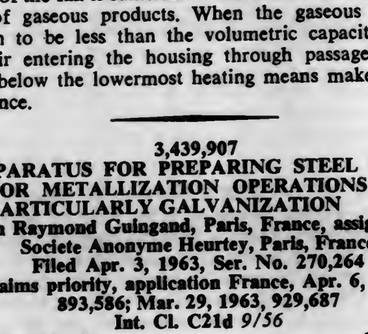
(b) a gas deflector secured to said drive shaft above said standpipe, said deflector having a closed top portion extending radially outward from said drive shaft and radially beyond said standpipe, and a downwardly extending closed skirt portion integral with said top portion and extending a substantial distance below the top of said standpipe;

(c) a plurality of impeller blades mounted on said skirt portion in the region of the bottom thereof, said blades extending generally radially from said skirt portion, and the tops of said blades being spaced a substantial distance below the top of said standpipe; and

(d) means for rotating said drive shaft to rotate said blades rapidly in said pool of liquid material to both pump and shear said liquid material vigorously so that gas passing up through said standpipe and deflected downward a substantial distance below the level of said liquid material to the region of said impeller blades is intimately dispersed into said liquid material.

3,439,905
DEVELOPING APPARATUS WITH A HEATED TRANSPORT ROLL
Gilmore Noble, Alseth, Minneapolis, Minn., assignor to Minnesota Mining and Manufacturing Company, St. Paul, Minn., a corporation of Delaware
Filed Sept. 29, 1967, Ser. No. 671,814
Int. Cl. F27b 9/28; G01d 15/10; G03d 13/00
U.S. Cl. 263—6 **8 Claims**

A developing apparatus for use in the development of an image on a film or paper support material of various sizes by the application of heat to one surface of the material. The apparatus comprising a uniformly heated roll with means for applying subatmospheric pressure to openings in said roll to draw said support into contact with



the roll surface and for transporting the support about said roll from an inlet area to a discharge area for the development of an image on said support while in contact with said heated roll.

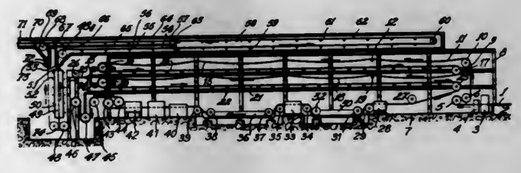
3,439,906
OVEN CONSTRUCTION
Grenville Bradbury Gerrish, 26 Standish Road, Melrose, Mass. 02176
Continuation-in-part of application Ser. No. 422,899, Jan. 4, 1965. This application Dec. 26, 1967, Ser. No. 701,515
Int. Cl. F27b 9/24; F27d 7/00
U.S. Cl. 263—8 **12 Claims**



An oven construction such as an open-ended housing with a conveyor disposed therein for transporting products therethrough to be heated by heating means, typically gas burners, arranged below, or above and below the conveyor. The gaseous products formed during combustion and released by the products are exhausted through ducting by an exhaust fan or the like. The volumetric capacity of the fan is sufficient to exhaust the maximum volume of gaseous products. When the gaseous products happen to be less than the volumetric capacity of the fan, air entering the housing through passageways located below the lowermost heating means makes up the difference.

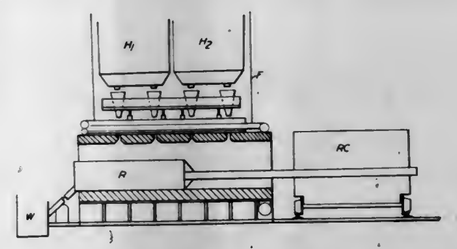
3,439,907
APPARATUS FOR PREPARING STEEL STRIP FOR METALLIZATION OPERATIONS AND PARTICULARLY GALVANIZATION
Jean Raymond Guingand, Paris, France, assignor to Societe Anonyme Heurtey, Paris, France
Filed Apr. 3, 1963, Ser. No. 270,264
Claims priority, application France, Apr. 6, 1962, 893,586; Mar. 29, 1963, 929,687
Int. Cl. C21d 9/56
U.S. Cl. 266—3 **14 Claims**

1. Apparatus for continuously treating metal strips to prepare the same for a metallization operation in a metallization bath, said apparatus comprising a heating furnace of the heat recovery type, a reduction and annealing furnace and a chamber for raising said strip to a desired temperature before it enters the metallization bath, said chamber having first and second entrances, said heating furnace being coupled to the reduction and annealing furnace which in turn is coupled to the first entrance to said chamber such that the strip passes successively from the heating furnace to the reduction and annealing furnace and to said chamber, accumulator means for initially receiving said strip, means for receiving said strip from the accumulator means to prepare the strip for subsequent treatment, the latter preparing means having an exit for said strip, said accumulator means being disposed above the said preparing means, said furnaces and



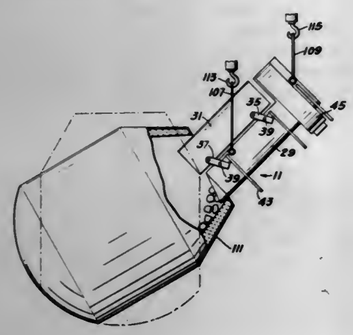
chamber extending horizontally above said accumulator means, means defining a generally vertical connecting path between the exit from said preparing means and the entrance to said heating furnace and to said second entrance to said chamber, said path comprising two channels one of which passes through a vertical zone adapted to provide an oxidizing and preheating operation, the latter channel extending towards said entrance to said heating furnace, while the other channel is substantially adjacent the first channel and extends directly towards the second entrance to said chamber, whereby the strip can pass from the preparing means to either the heating furnace or directly to the chamber.

3,439,908
REACTOR FOR DIRECT REDUCTION OF IRON ORE TO SPONGE IRON
Janki Bharati, 8 Unity Hotel, Juhu, Bombay 54, India
Filed July 12, 1965, Ser. No. 471,229
Int. Cl. F27b 21/00
U.S. Cl. 266—21 **3 Claims**



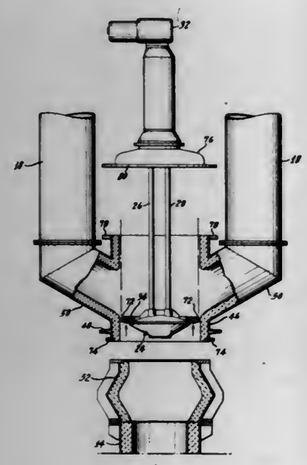
Relates to a reactor for the direct reduction of iron ore mixed with limestone to produce a sponge iron and comprises a reactor having a refractory brick construction and a horizontal chamber having charging holes at the top for feeding the iron ore-limestone mix, burners at the top for internal heating of the chamber, injectors located at the top for introducing reducing gas, means for ejecting said sponge ore after its production and a perforated bottom for the exit of waste gases.

3,439,909
APPARATUS FOR PREHEATING SCRAP METAL
Edwin Robinson Richards, Pittsburgh, Pa., assignor to Koppers Company, Inc., a corporation of Delaware
Filed Sept. 17, 1965, Ser. No. 488,155
Int. Cl. F27b 5/00, 7/00; C21b 7/08
U.S. Cl. 266—27 14 Claims



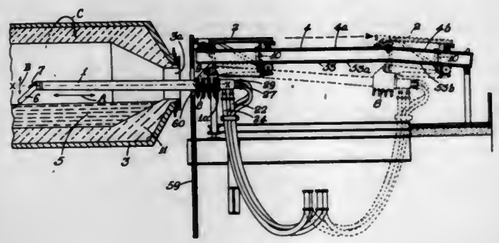
Apparatus for preheating scrap metal includes the combination of a preheating furnace having two wall portions with one wall portion being capable of movement parallel to the other portion and a heating system that introduces hot gases into the preheating furnace.

3,439,910
BACK DRAFT VALVE FOR BLAST FURNACE INSTALLATION
Donald H. Regelin, Bridgeville, and Jakob Engels, Pittsburgh, Pa., assignors to Zimmermann & Jansen G.m.b.H., Duren, Rhineland, Germany, a corporation of Germany
Filed July 27, 1966, Ser. No. 568,193
Int. Cl. F27d 7/00; C21b 9/12
U.S. Cl. 266—29 10 Claims



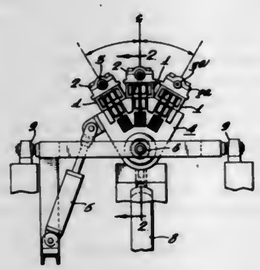
A back drafting valve assembly in which the valve element and its seat are normally retained in fixed position by an annular element. The annular element is defined by a split ring which is separable so that the valve element and seat are movable to an easily accessible location for maintenance and repair purposes.

3,439,911
LANCE FOR METAL REFINING
Jan Hendrik Barnard, Muckleneuk, Pretoria, Transvaal, and Dick Toet, Hazelwood, Pretoria, Transvaal, Republic of South Africa, assignors to South African Iron and Steel Industrial Corporation Limited
Filed Apr. 20, 1964, Ser. No. 360,899
Claims priority, application Republic of South Africa, Apr. 26, 1963, 63/1,808
Int. Cl. C21c 5/42, 5/44
U.S. Cl. 266—34 17 Claims



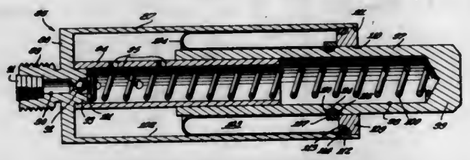
A metallurgical lance mounted in cantilever fashion at its root and having a discharge nozzle at its tip. A hollow carrier beam extends within the lance from the root towards the tip to convey material to the nozzle, the carrier beam being constituted by upper and lower longitudinally extending sections which are frictionally associated with each other for the damping of vibrations. A jacket for a cooling medium surrounds the carrier beam.

3,439,912
FRAME FOR INJECTORS IN MELTING FURNACES
Norbert Berger, Thalwil, Switzerland, assignor to Maerz Ofenbau, A.G., Zurich, Switzerland, a company of Switzerland
Filed Sept. 20, 1966, Ser. No. 580,700
Claims priority, application Austria, Oct. 4, 1965, A 8,966/65
Int. Cl. F27d 7/02; C21c 5/30
U.S. Cl. 266—34 9 Claims



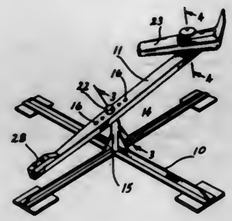
A frame for mounting a plurality of injectors such as burners, oxygen lances, etc., for selective projection into the mounting furnace. These injectors are mounted in parallel relation on the frame and the frame is translated to register the selected injector with the furnace opening. Tilting mechanism is provided to incline the selected injector to an angle between 0° and 90° to the horizontal so that the angle may be adjusted. An automatic controller is provided to interconnect the mechanisms which translate the frame, tilt the injector, project the injector, and control the operation of the injectors respectively.

3,439,913
BUFFERS WITH COMBINATION FLUID ACCUMULATOR AND SEAL MEANS
Gordon W. Kamman, Buffalo, N.Y., assignor to Houdaille Industries, Inc., Buffalo, N.Y., a corporation of Michigan
Filed June 8, 1966, Ser. No. 556,188
Int. Cl. B60g 11/26; F16f 5/00, 13/00
U.S. Cl. 267—65 12 Claims



Hydraulic buffers comprise a tubular housing having opposite end closures defining a cylindrical working chamber, metering means extending from one of the closures in the chamber, a plunger coactive with the metering means and extending from the other closure, a coiled expansile compression spring normally biasing the plunger into protracted relation, and a combination fluid sealing and accumulator flexible sleeve above the plunger and spring and having a small diameter end secured sealingly to the plunger and a larger diameter end sealingly secured to the housing. A clamping ring securing the smaller end of the sleeve to the plunger serves also as a bumper stop for the plunger.

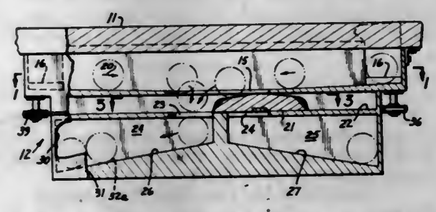
3,439,914
INCLINED CARROUSEL PROPELLED BY WEIGHT-SHIFTING OF OCCUPANTS TO CHANGE THE CENTER OF GRAVITY
John Willard, Eagar, Ariz.
(230 Elm St., West Hempstead, N.Y. 11552)
Filed Feb. 19, 1965, Ser. No. 433,920
Int. Cl. A63g 1/12
U.S. Cl. 272—33 8 Claims



A carrousel device utilizing a body member rotatable in an oblique plane and carrying a rotatable seat at one end thereof. An operating member mounted on the axis of rotation of the seat and fixed against rotation to the body member permits the occupant of the seat to rotate the seat, thus inducing rotation of the body member about an oblique axis.

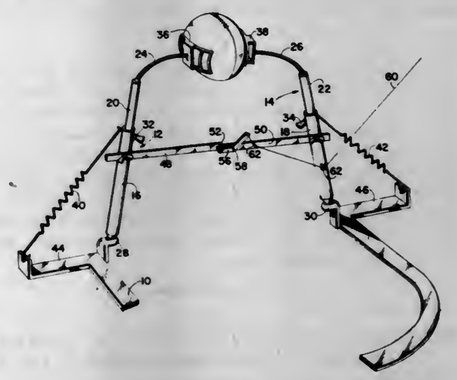
3,439,915
DEVICE FOR SEGREGATING POOL BALLS
John H. Schweer, Long Beach, Calif.
(3708 Kelton Ave., Apt. 1, Los Angeles, Calif. 90034)
Filed May 9, 1966, Ser. No. 548,728
Int. Cl. A63d 15/00
U.S. Cl. 273—11 7 Claims

This invention relates to a device for segregating game balls on a pool or billiard table having a plurality of pockets around its periphery. A channel means interconnects all pockets and slopes to a plurality of openings where a sliding valve member directs the balls to a selected receptacle. Means is provided to move the sliding member to open a selected one of the openings, comprising a longitudinally movable member extending completely around the periphery of the table and connected



to the sliding member so that a player can pull the movable member in either direction so as to open a selected opening. Preferably, the movable member is flexible, for example a rope, and extends over pulleys at the corners of the table.

3,439,916
FOOTBALL KICK TRAINING APPARATUS
Harold W. Kopp, Saxonville, Mass., assignor to Halko, Inc., Saxonville, Mass., a corporation of Massachusetts
Filed Oct. 12, 1965, Ser. No. 495,190
Int. Cl. A63b 67/10
U.S. Cl. 273—55 6 Claims



Apparatus for training and practice in properly kicking a football, especially in punting, wherein the ball is initially supported and released at a predetermined time to make contact with the kicker's foot in an optimum position.

3,439,917
POOL BALL
Charles J. Gentile, 511 Seven Oaks Road, Orange, N.J. 07050
Filed Apr. 5, 1965, Ser. No. 445,467
Int. Cl. A63b 37/00
U.S. Cl. 273—59 2 Claims



A pool ball is formed by injection-molding a contrasting outer layer to a pre-molded blank having an equa-

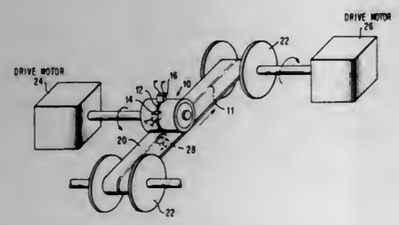
torial band and diametrically opposed polar portions. The equatorial band includes recesses from the bottom of which numeral forming projections extend upwardly to the height of the equatorial band. The sidewalls of the recesses include channels communicating with the outer surfaces of the polar portions. The contrasting layer of molding material covers the polar portions and fills the recesses and channels to the height of the equatorial band.

3,439,918

NARROW TRACK MAGNETIC RECORDING

Gerhard Walter, Hughsonville, N.Y., assignor to International Business Machines Corporation, Armonk, N.Y., a corporation of New York

Filed June 10, 1966, Ser. No. 556,699
Int. Cl. G11b *5/58*
U.S. Cl. 274—4 **11 Claims**



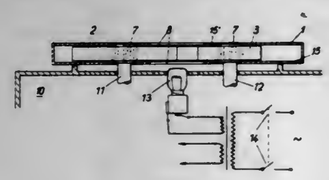
A magnetic recording system for making very narrow magnetic records on a magnetic tape, including a non-magnetic transfer drum having a very narrow magnetizable track located on the surface thereof, a magnetic recording head in intimate contact with said magnetizable track, rotating the drum while passing the tape in surface to surface contact with said drum at a point remote from said recording head, and a bias coil for affecting magnetic transfer of the information recorded on said transfer drum to the magnetic tape.

3,439,919

RECORDING AND/OR PLAY-BACK APPARATUS EMPLOYING A RECORD CARRIER IN TAPE FORM

Friedrich Laa, Vienna, Austria, assignor, by mesne assignments, to U.S. Philips Corporation, New York, N.Y., a corporation of Delaware

Filed July 11, 1966, Ser. No. 564,124
Claims priority, application Austria, Aug. 25, 1965, A 7,812/65
Int. Cl. G11b *5/00*
U.S. Cl. 274—4 **3 Claims**



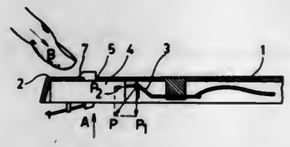
A tape cartridge illuminating and tape recorder condition indicating device which uses a light placed beneath the transparent lower cover of a recording tape cartridge to illuminate the tape reels within the cartridge and to indicate whether the recorder has been energized and whether the tape cartridge has been correctly inserted into the recorder.

3,439,920

TONE ARM TO CARTRIDGE CONNECTION FOR PHONOGRAPHS

Piet van der Lely, Emmasingel, Eindhoven, Netherlands, assignors, by mesne assignments, to U. S. Philips Corporation, New York, N.Y., a corporation of Delaware

Filed Mar. 7, 1967, Ser. No. 621,251
Claims priority, application Netherlands, Apr. 15, 1966, 6605034
Int. Cl. G11b *3/02*
U.S. Cl. 274—24 **4 Claims**



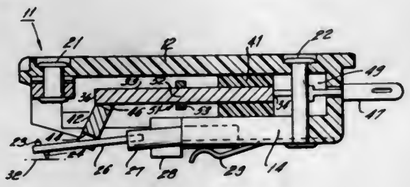
This invention relates to an arrangement for securing a cartridge element within a cavity positioned at one end of the tone arm of a record player. Within the cavity a series of spring loaded clamps provides a clamping and a conductive engagement between the cartridge and the tone arm. A latching projection on the cartridge engages the tone arm to provide positive locking engagement with the tone arm.

3,439,921

PHONOGRAPH PICKUP

Jerome F. Collins, Westbury, N.Y., assignor to Sonotone Corporation, Elmsford, N.Y., a corporation of New York

Filed Aug. 25, 1965, Ser. No. 482,364
Int. Cl. G11b *3/02*
U.S. Cl. 274—37 **10 Claims**



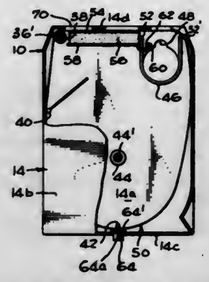
In phonograph pickups, both of the monophonic and stereophonic type, which operate with flat elongated mechanoelectric transducer beam or beams for generating signals by stylus-imparted vibratory motion in a direction perpendicular to the beam plane, a central or intermediate portion of the transducer beams which is only a small fraction of its length is engaged along its opposite beam plane surfaces by rigid vibration suppressing structure which suppresses lateral vibration thereof in a direction transverse or lateral to its beam plane but permit vibrations of the transducer portion in a direction parallel to its beam plane. The rear end of the transducer may be restrained against lateral vibrations by elastomer body elements as conventional. This rigid lateral beam-plane support of the central or intermediate portion of the transducer beam is effective in suppressing spurious output of the transducer beams caused by the elastomer damping bodies held clamped to an intermediate length portion of the transducer beam, and also increases the desired signal output thereof.

3,439,922

CLEANER CARTRIDGE

Sheldon Howard, Los Angeles, Calif. (13341 Bracken St., Arleta, Calif. 91331)

Filed Dec. 19, 1967, Ser. No. 691,881
Int. Cl. G11b *3/58*
U.S. Cl. 274—47 **8 Claims**



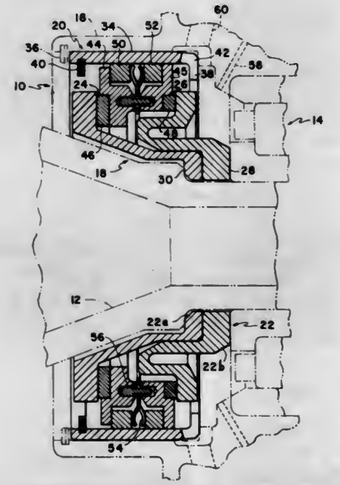
A device for cleaning the playback head and other components of a cartridge-type magnetic tape player. A cassette dimensionally conforming to a cartridge is accepted by the player, containing a loop of abrasive coated tape. When the cassette is inserted in the player, the abrasive coating cleans the playback head as the loop is driven past the head by the player capstan. Brake means in the cassette permits the tape to be stopped, enabling the abrasive coating to clean the still rotating capstan. For players in which the idler wheel is self-contained, the cleaner cartridge also includes an idler wheel cleaning brush.

3,439,923

FACE-TYPE SHAFT SEAL

Jerald L. Park, Stratford, Conn., assignor to Avco Corporation, Stratford, Conn., a corporation of Delaware

Filed Nov. 10, 1965, Ser. No. 507,208
Int. Cl. F16j *9/00, 15/00;* **F16k** *41/00*
U.S. Cl. 277—62 **1 Claim**



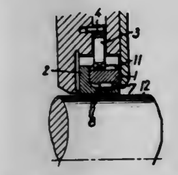
The disclosure illustrates a face-type shaft seal having a rotor portion with opposed parallel sealing surfaces and a stator portion including an annular sealing surface fixed relative to the opposed parallel surfaces. A thrust ring and seal ring are positioned between the opposed parallel faces and are urged into engagement therewith by an annular finger spring. A pair of piston-type seal rings are positioned against shoulders of the thrust and seal rings and against the annular sealing surfaces so that the coefficient of friction therebetween is sufficient to restrain rotational movement of the thrust and seal rings relative to the annular sealing surfaces and to permit substantial axial movement.

3,439,924

SEAL FOR A ROTATABLE SHAFT HAVING A SEGMENTED SEALING RING

Max Ludewig, Walter Zörner and Elmar Tonn, Berlin, Germany, assignors, by mesne assignments, to Halberg Maschinenbau G.m.b.H. & Co., Ludwigshafen (Rhine), Germany

Filed July 1, 1966, Ser. No. 562,276
Claims priority, application Germany, July 1, 1965, L 51,008
Int. Cl. F16j *15/16, 15/34, 15/54*
U.S. Cl. 277—137 **8 Claims**



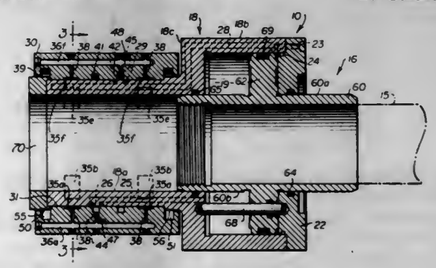
A floating ring seal for sealing fluids between an area of higher pressure and an area of lower pressure about a rotatable shaft. The seal includes a seal housing and a sealing body supported by the housing, which surrounds the shaft and forms an axially extending sealing gap therewith. The sealing body includes an undivided supporting ring and a subdivided or segmented floating ring. The floating ring is made with a U-shaped cross section so as to surround the supporting ring; the inner surfaces of the base and the outer leg of the U-shaped cross section are so adapted to the corresponding surfaces of the supporting ring that the floating ring is precisely positioned with respect to the supporting ring. A spring or springs disposed between the inner surface of the supporting ring and the inner leg of the U-shaped cross section of the floating ring also aid in centering the floating ring. The entire sealing body is supported by the seal housing by a number of radially extending resilient elements which secure the supporting ring to the housing.

3,439,925

HYDRAULIC CYLINDER

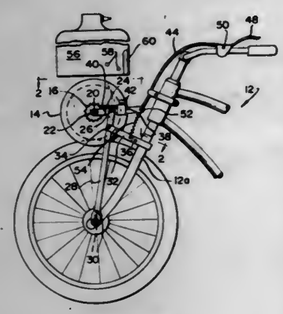
Merritt B. Sampson, Shaker Heights, Ohio, assignor to The S-P Manufacturing Corporation

Filed June 28, 1965, Ser. No. 467,346
Int. Cl. B23b *31/30, 31/10, 5/22*
U.S. Cl. 279—4 **17 Claims**



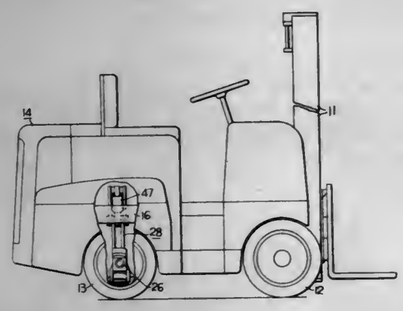
A rotary hydraulic cylinder with a reciprocable piston for actuating a rotary work holder and a stationary distributor for supplying fluid to the cylinder. The distributor includes a pressure lubricated bearing surface with cavities to provide fluid support, annular grooves to supply fluid to the actuator and collection grooves to inhibit fluid leakage.

3,439,926
SIMULATED MOTOR DEVICE FOR ATTACHING TO A VEHICLE
Thomas J. Bayard, 1105 Seward, Evanston, Ill. 60202
Filed Aug. 8, 1967, Ser. No. 659,225
Int. Cl. B62k *23/02, 9/00*; A63b *71/00*
U.S. Cl. 280—1.11 10 Claims



A bicycle attachment device of uncomplicated construction for simulating appearance, action and/or noise of a motor including a momentum wheel which can have a ratchet portion and is mounted for rotation and movement toward and away from the bicycle tire with a concave tire engaging tread and which can have a simulated motor cover thereover. The ratchet engages a removable feeler to give motor sound during operation. The wheel can be moved to engage the tire by a sheath push-pull control cable via a gripper mounted at the bicycle handle with a tension spring return for disengaging the wheel.

3,439,927
SUSPENSION MECHANISM FOR VEHICLE WHEELS
Neil J. Ryskamp, Markham, Ill., assignor to Allis-Chalmers Manufacturing Company, Milwaukee, Wis.
Filed Mar. 30, 1967, Ser. No. 627,121
Int. Cl. B60g *11/28*
U.S. Cl. 280—6 8 Claims



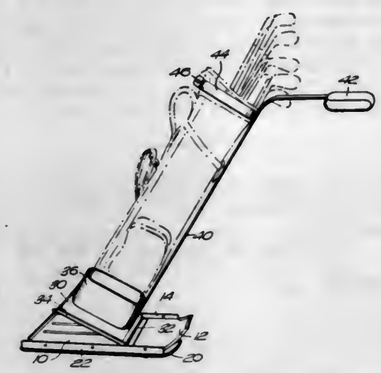
Illustrated in the drawings and described in the following description is a suspension mechanism for a pair of steerable vehicle wheels. This suspension mechanism is particularly suited for use in a lift truck wherein space for suspension mechanism is limited because of an engine mounted above and between the rear steerable wheels. My suspension mechanism utilizes a pair of lower toggles and a pair of upper toggles for mounting upstanding wheel supports to which the wheel axles are pivoted for steering movement. A pair of hydraulic jacks are connected to the suspension mechanism and have corresponding pressure chambers interconnected to serve as equalizing means.

3,439,928
SECTIONAL SKI
Kazuo Noguchi, 35–1 4-chome, Matsushima, Edogawa-ku, Tokyo, Japan
Filed Mar. 1, 1967, Ser. No. 621,726
Int. Cl. A63c *5/02*
U.S. Cl. 280—11.13 4 Claims



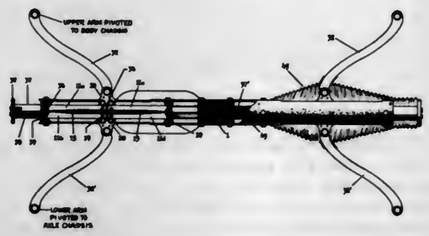
A sectional ski divided into, at least, two sections allowing for dismembering the ski unit so as to shorten the entire length thereof, thereby facilitating carrying the same. The sections are connected in use by a connecting device consisting of male and female means which assures the complete integration thereof.

3,439,929
VEHICLE FOR GOLF BAG
Joseph F. Murray, 42 Arden Road, Watertown, Mass. 02172
Filed May 9, 1968, Ser. No. 727,917
Int. Cl. B62b *13/06, 17/00*
U.S. Cl. 280—18 6 Claims



A short sled or ski has a platform hinged thereto on which a golf bag can be mounted. A rod or strip rises from the platform to a convenient height to be grasped so as to tilt the rod and golf bag forward and to draw the bag and ski along over the ground.

3,439,930
TILTING MECHANISM FOR AUTOMOBILE
Jeun Young Park, 32 Savoy Road, Framingham, Mass. 01701
Filed Apr. 11, 1967, Ser. No. 630,126
Int. Cl. B62d *9/02*; B60g *21/00, 25/00*
U.S. Cl. 280—111 3 Claims



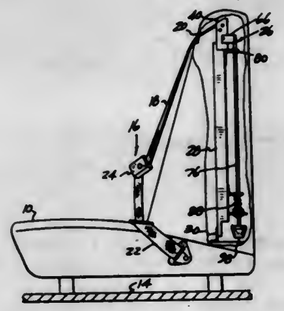
An automotive vehicle is provided with hydraulically operable mechanism which permits rocking of the vehicle body on bumpy roads when the front vehicle wheels are not deflected but which tilts the body when the steering wheel is turned, to counteract centrifugal forces on the body as it rounds a curve.

3,439,931
VEHICLE SUSPENSION SPRING
Henry L. Setz, Bloomfield Hills, Mich., assignor to Ford Motor Company, Dearborn, Mich., a corporation of Delaware
Filed Apr. 25, 1966, Ser. No. 545,045
Int. Cl. F16f; B60g
U.S. Cl. 280—124 18 Claims



A ribbon-like fiberglass tape is wound circumferentially around a drum that is rotatable upon arcuate movement of the leading or trailing arm of a motor vehicle suspension system to elastically support the sprung mass from the unsprung mass of the vehicle. Movement of the vehicle wheels in jounce is resisted elastically by a stretching of the fiberglass tape. One design provides independent operation of the front and rear suspensions; another provides a single tape interconnection between the two.

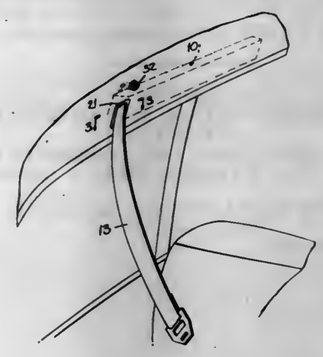
3,439,932
BELT RETRACTING DEVICE WITH PENDULUM ACTUATED LOCKING MEANS
Gerald F. Lewis, Berkley, David P. Jones, Detroit, and Ronald J. Palmieri, Harper Woods, Mich., assignors to Jim Robbins Seat Belt Co., Royal Oak, Mich.
Filed Apr. 21, 1967, Ser. No. 632,750
Int. Cl. B60r *21/10*; A47d *15/00*; A62b *35/00*
U.S. Cl. 280—150 8 Claims



A vehicle safety seat belt having an operating section freely extending from a stored position to accommodate the normal movements of the occupant of the seat. A counterweight attached to the stored end of the belt is movable between raised and lowered positions in a storage tube to uniformly bias the extended end of the belt toward the stored position.

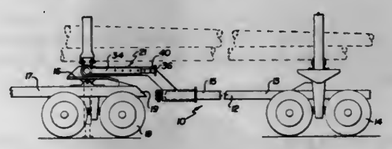
A pair of belt clamping members are connected through a motion transmitting linkage to an actuating pendulum. A sudden force acting on the vehicle and displacing the pendulum from a position of equilibrium causes the clamping members to rigidly anchor the belt to a fixed part of the vehicle.

3,439,933
SHOULDER HARNESS RETRACTOR
George H. Jantzen, New York, N.Y., assignor to M. Steinthal & Company Incorporated, New York, N.Y., a corporation
Filed Feb. 21, 1968, Ser. No. 707,171
Int. Cl. B60r *21/10*; A62b *35/00*
U.S. Cl. 280—150 5 Claims



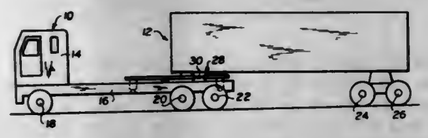
Self-locking retractors for shoulder harness belts in vehicles which automatically retain the shoulder harness in its fully extended position until it is no longer desired.

3,439,934
TRAILER LEG
Peter Murie, Jr., Terrace, British Columbia, and William R. Scotton, Ganges, British Columbia, Canada, assignors to Skeena Kenworth Ltd., Terrace, British Columbia, Canada
Filed July 5, 1967, Ser. No. 651,282
Int. Cl. B60s *9/04*
U.S. Cl. 280—150.5 6 Claims



Supporting leg apparatus for a trailer having a supporting leg carried on the end of a rotatable shaft movable transversely of the trailer and cam means operable as the shaft is moved transversely for rotating the latter and with it the leg between an extended ground-engaging position and a retracted ground-clear position.

3,439,935
FIFTH WHEEL TRACTOR
Walter W. Guidice, Rogue River, Oreg. (11721 8th Ave. NE., Seattle, Wash. 98128)
Filed Mar. 20, 1967, Ser. No. 630,780
Int. Cl. B62d *53/08, 53/10*
U.S. Cl. 280—407 10 Claims



A trailer bearing tractor is modified to provide cushioning support of the fifth wheel from the tractor frame far enough removed from the transverse rocking axis of the

fifth wheel significantly to affect the distribution or allocation of load between the front and rear tractor wheels.

A longitudinally adjustable fifth wheel section serves to locate the trailer kingpin over, before or behind the transverse rocking axis of the fifth wheel, thereby to affect significantly the allocation of load between the rear tractor wheels and the trailer wheels.

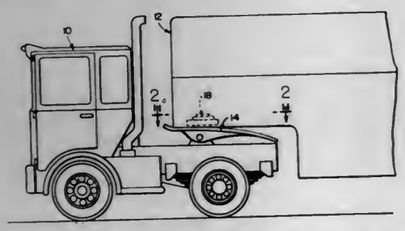
An anti-jackknife device is made available on demand.

Both primary and supplemental locks are provided for safeguarding the fifth wheel-kingpin connection.

3,439,936
STABILIZING CONTROL FOR ARTICULATED VEHICLES

Eugene W. Hines, Saline, Mich., assignor to Highway Products, Inc., Royal Oak, Mich., a corporation of Michigan

Filed July 14, 1967, Ser. No. 653,523
Int. Cl. B62d *53/06*
U.S. Cl. 280—432 **27 Claims**

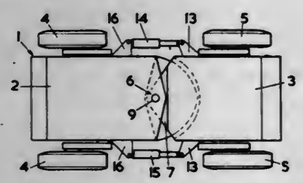


This invention pertains to an improved stabilizing control device for use with the drawn vehicle of a tractor-trailer combination, in which a viscous fluid damper is employed to reduce or eliminate excessive oscillating shifts of the drawn vehicle and uncontrolled rotation of the trailer, whereby skidding, sidesway, or jack-knifing can be prevented or substantially eliminated. The device of this invention utilizes a viscous fluid damper of the rotary or linear type in combination with a kingpin having an arm or "dog" secured thereto for engagement with and responsive to rotation of the fifth wheel of the drawing vehicle.

3,439,937
ARTICULATED VEHICLES

John Bell Dixon, Woking, England, assignor to The Secretary of State for Defence in Her Britannic Majesty's Government of the United Kingdom of Great Britain and Northern Ireland, London, England

Filed Sept. 28, 1966, Ser. No. 583,493
Claims priority, application Great Britain, Sept. 30, 1965, 41,634/65
Int. Cl. B60d *1/02*
U.S. Cl. 280—446 **8 Claims**

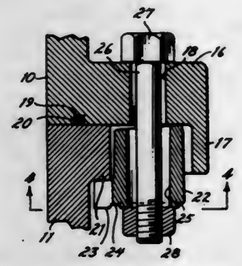


An articulated vehicle is provided with a convex form at an end of one of its adjacent articulated sections, and rollers are placed in bearing contact between the convex end and the next adjacent section so that stresses on a pivotal connection between the two sections are relieved. The convex end portion may have a curvature of changing radius so that adjacent sections of the vehicle are self-centering relative to each other.

3,439,938
FIRE HYDRANT

John T. Dunton, Bradford, Pa., assignor to Dresser Industries, Inc., Dallas, Tex., a corporation of Delaware
Continuation-in-part of application Ser. No. 421,580, Jan. 18, 1965. This application Sept. 28, 1967, Ser. No. 687,940

Int. Cl. F16l *23/00, 57/00;* **F16k** *17/40*
U.S. Cl. 285—2 **7 Claims**

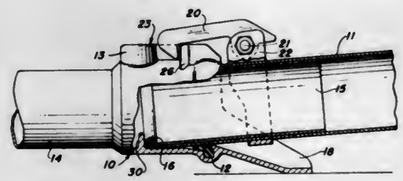


A fire hydrant having improved frangible casing and drive stem lock secured nozzle, valve operating structure and self draining valve. The casing parts have flanged ends and are held together by a plurality of pivotable lugs and bolts. Each lug has a weakened portion which is broken when the upper casing part is struck by a vehicle.

3,439,939
LATCH FOR IRRIGATING PIPE COUPLER

Gail Cornelius, Washington County, Oreg., assignor to R. M. Wade & Co., Portland, Oreg., a corporation of Oregon

Filed Jan. 19, 1968, Ser. No. 699,224
Int. Cl. F16l *37/00*
U.S. Cl. 285—6 **3 Claims**



A latch for connecting the end of a length of irrigation pipe to a coupler on the end of an adjacent length of pipe so constructed that the latch engages when the pipe is inserted into the coupler and can be disengaged by grasping the length of pipe intermediate its ends raising it and turning it, and having means to prevent disengagement when the lengths of pipe are coaxially disposed as when they are both lying on the ground.

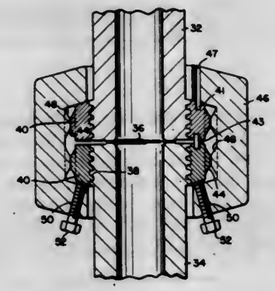
3,439,940
CONNECTION WITH A GLASS COATED SEALING SURFACE

Erwin J. Nunlist, Penfield, N.Y., assignor to Ritter Pfaudler Corporation, a corporation of New York

Filed June 21, 1965, Ser. No. 465,603
Int. Cl. F16l *17/00, 55/00*
U.S. Cl. 285—10 **9 Claims**

A separable glass faced leakless and gasketless connection is provided for joining glass lined or coated metal

sections such as for vessels, pipes, baffles or agitators, for use in high temperature, high pressure and corrosive environments, having a narrow width moderately flat annular ground glass mating surface on at least one of the sections to be joined. The glass-glass or glass-metal mating surfaces can be forced with only moderate pressure into shearless abutment and fluid tight seal using an internal and/or external arrangement of engaged threaded or flanged metal elements, through means of which the abut-

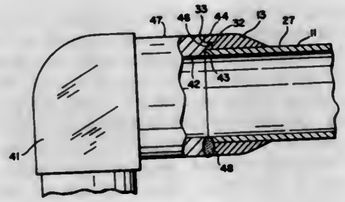


ting nondeformable glass surfaces are neither sheared nor fractured in mating. The threaded elements are elastically deformable, which elements force the faces together with an initial fluid tight sealing load force such that the mated faces maintain fluid tight seal without glass fracture. The threaded elements by their elastic deformability and recovery automatically compensate for any increased loading forces or reduced loading forces during use to maintain a substantially nonfracturing but fluid tight loading on the faces.

3,439,941
WELDED TUBE FITTING

John Nicol, Fairview Park, Ohio, assignor to The Weatherhead Company, Cleveland, Ohio, a corporation of Ohio

Filed July 27, 1966, Ser. No. 568,298
Int. Cl. F16l *13/02, 47/02*
U.S. Cl. 285—21 **11 Claims**

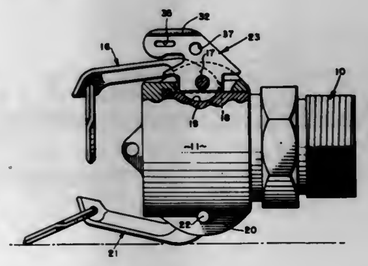


A welded tube coupling is disclosed which includes a sleeve swaged onto the end of a tube and formed with an axially extending cylindrical surface coaxial with the tube extending from the plane of the end of the tube. The coupling also provides a radial surface coplanar with the end of the tube extending inwardly from the outer surface of the sleeve. The tube and sleeve are adapted to interfit with a mating part which may be a fitting or a tube and sleeve assembly so that interfacial contact is provided along the entire joint. The coupling is then welded by the external application of fusion heat to fuse all of the abutting surfaces into a single weld extending from the interior of the tube to the exterior of the sleeve. The axially extending cylindrical surfaces provide proper radial alignment of the tube with the mating part and the abutting relationship of the outer radial surface establishes proper axial alignment. Also the joint provided by the radial surfaces provides an external indication of the proper location for the weld. The sleeve extends along the tube beyond the zone weakened by the application of welding heat and is provided with a tapered end so that the assembly has a zone of decreasing section modulus.

3,439,942
RETAINING MEMBER FOR COUPLING

Glenn E. Moore, Fairfield, and Stephen C. Lemon, Cincinnati, Ohio, assignors to Dover Corporation, Cincinnati, Ohio, a corporation of Delaware

Filed Mar. 12, 1965, Ser. No. 439,213
Int. Cl. F16b *7/00*
U.S. Cl. 285—80 **9 Claims**

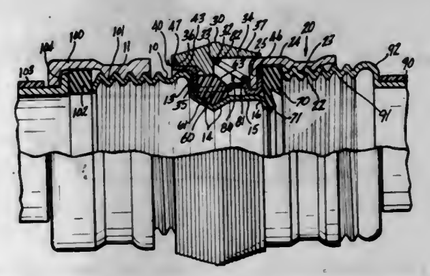


The invention involves the employment of a specific retainer means for holding the conventional lever arm of a male and female coupling in position. It includes a thin flat flexible resilient retaining member including a planar first portion having an aperture therein receiving a pin that pivots the lever arm. The retaining member has a resilient second portion normally bent at an angle to the plane of the first portion and overlying and contacting the lever arm and holding it in place.

3,439,943
QUICK CONNECT-DISCONNECT COUPLING

Thomas Thorne-Thomsen, Godfrey, Ill., assignor to Olin Mathieson Chemical Corporation, a corporation of Virginia
Continuation-in-part of application Ser. No. 482,045, Aug. 24, 1965. This application July 6, 1967, Ser. No. 651,469

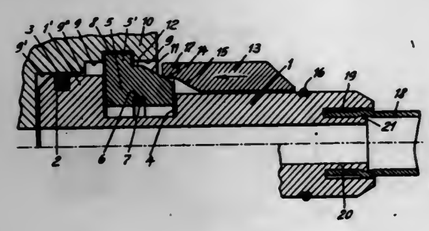
Int. Cl. F16l *37/12, 47/00*
U.S. Cl. 285—316 **1 Claim**



A quick connect-disconnect coupling for use in connection with hoses, sprinklers and related articles. The male member of the coupling is sealingly secured to the female member by a snapring having an inwardly directed

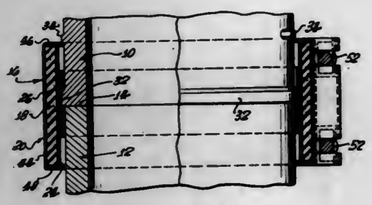
lobe. The lobe passes through an opening in a tubular adapter which is secured to the female member. The male and female members can be assembled or disassembled by axially moving the spring biased cap member, permitting the snapring to expand to a larger diameter, thus allowing the end of the male member to be inserted into or withdrawn from the adapter and female member.

3,439,944
NIPPLE FOR PIPE JOINTS
Bernhard Leutenegger, 18 Allschwilerstrasse, 4142 Munchenstein, Basel-Land, Switzerland
Filed Apr. 29, 1966, Ser. No. 546,327
Claims priority, application Switzerland, July 16, 1965, 10,183/65; Germany, Oct. 1, 1965, L 51,775
Int. Cl. F16l *25/00*
U.S. Cl. 285—321 **4 Claims**



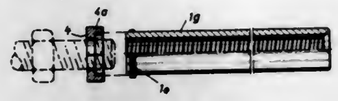
Pipe joint with a nipple fitting into a receiving opening of a female element, the latter being formed with an inner peripheral groove to receive a peripheral flange of a segmented latch member resiliently biased for radial outward displacement on the forward part of the nipple, the latch member being retractable from the groove of the female element by a sleeve which is slidable on the rear part of the tubular nipple shaft and whose front end has a mouth engageable with a tapered rear surface of the latch member upon forward movement of the sleeve toward the receiving opening.

3,439,945
PIPE JOINT SEAL AND METHOD
Jack A. Chambers, Manhattan Beach, and Leslie A. Woodson, Long Beach, Calif., assignors to W. S. Shamban & Company, Culver City, Calif., a corporation of California
Filed May 26, 1965, Ser. No. 459,024
Int. Cl. F16l *21/02*
U.S. Cl. 285—373 **9 Claims**



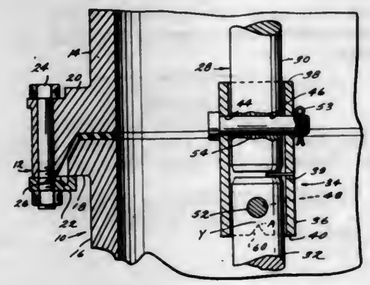
This disclosure describes a pipe seal which may include a layer of unsintered PTFE, a layer of chemically resistant material and a layer of elastomeric material. These layers are adapted to be wrapped around a pipe to seal the pipe against leakage. A suitable clamp may be provided for holding these layers tightly against the pipe.

3,439,946
STEEL PIPE TRACK ROD FOR MOTOR VEHICLES
Rudolf Gottschald, Osterath, and Gottfried Maxeiner, Dusseldorf, Germany, assignors to A. Ehrenreich & Cie, Dusseldorf-Oberkassel, Germany
Filed Mar. 23, 1966, Ser. No. 536,896
Claims priority, application Germany, Mar. 31, 1965, E 29,011
Int. Cl. F16b *7/00;* **B25g** *3/38*
U.S. Cl. 287—90 **1 Claim**



A ball joint-tie rod connection in which the tie rod in the form of an inwardly threaded pipe threadedly receiving the threaded stud of the ball joint has an abutment ring firmly mounted on that end portion of the tie rod which is adjacent said ball joint, while that end face of said ring which faces said ball joint is enlarged over the other end face of said ring and is engaged by a lock nut.

3,439,947
FIRE HYDRANT STEM COUPLING
Lawrence F. Luckenbill and Joseph L. Daghe, Decatur, Ill., assignors to Mueller Co., Decatur, Ill., a corporation of Illinois
Filed Feb. 10, 1967, Ser. No. 615,235
Int. Cl. F16b *7/00;* **F16d** *1/00;* **F16l** *21/00, 35/00, 37/00*
U.S. Cl. 287—108 **6 Claims**

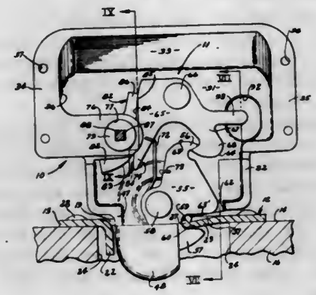


A coupling arrangement for a two-part valve stem of a fire hydrant capable of being torn, ripped or sheared in a generally longitudinal direction when the upper barrel section of the fire hydrant is knocked over and broken from the lower barrel section by a vehicle or the like. The sleeve member of the coupling is made from a ductile material which permits the sleeve to be torn, ripped or sheared without pieces of the sleeve dropping downwardly in the lower barrel section of the hydrant where damage may occur to the hydrant valve or where subsequent operation may be impaired.

3,439,948
DOOR LATCH ASSEMBLY
Vernon O. Smith, Ashley, Ohio, assignor to Overhead Door Corporation, Marion, Ohio, a corporation of Indiana
Filed Oct. 16, 1967, Ser. No. 675,516
Int. Cl. E05c *3/06, 3/16*
U.S. Cl. 292—216 **5 Claims**

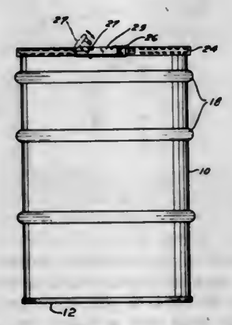
A shallow housing, open on one side, has narrow edges adapted for securement to the side of a sliding door adjacent the closing edge thereof which engages a casing. A latch mechanism within the housing has a latch with first hook means engageable with a catch mounted upon the

casing, and second hook means engageable by third hook means on a lever which holds the latch in its catch-engaging position. A cam is arranged to move the lever out



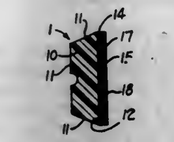
of its latch-holding position and lock means controls movement of the cam. An arm on the lever is engageable from the interior side of the door to move the lever out of the latch-holding position.

3,439,949
CONTAINER ASSEMBLY AND CLAMPING RING THEREFOR
Edward M. Bobula, Delaware, Ohio, Cesar Santoni, Hamilton, Ontario, Canada, and Raymond C. Russell, Lewiston, N.Y., assignors to The Greif Bros. Cooperage Corporation, Delaware, Ohio, a corporation of Delaware
Filed Nov. 22, 1967, Ser. No. 685,739
Int. Cl. B65d *45/34, 45/30*
U.S. Cl. 292—256.69 **6 Claims**



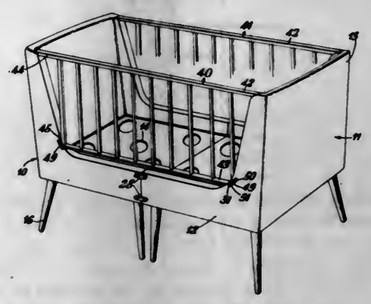
A drum type container assembly including a container body with a chime on its open end, a cover for the container with a peripheral flange that combines with the chime to form cam surfaces and a split clamping ring to engage with the cam surfaces and lock the container and cover together. The clamping ring has a locking assembly to close the ring tightly after it has been loosely positioned on the cam surfaces. The locking assembly includes a latch which may be pivoted from a closed position in which it will prevent the locking assembly from being operated and an open position where the locking assembly may be operated to loosen the clamping ring. The latch is mounted so that it will tend to move downwardly due to gravitational force when it is in the closed position and is pivoted upwardly to open thereby not interfering with any portion of the container assembly below the clamping ring.

3,439,950
RESILIENT BUMPER STRIP
Alex Kunevicius, Independence, Ohio, assignor to Custom Trim Products Inc., Parma, Ohio, a corporation of Ohio
Continuation-in-part of application Ser. No. 477,273, Aug. 4, 1965. This application Dec. 13, 1966, Ser. No. 601,473
Int. Cl. B60r *19/08;* **B61f** *19/04;* **E06b** *7/16*
U.S. Cl. 293—1 **17 Claims**



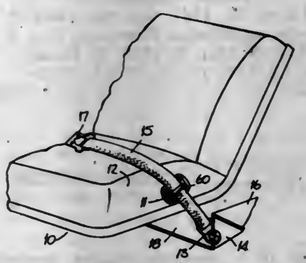
A protective and decorative resilient bumper strip accessory molding for and in combination with motor vehicles and the like and a method for making the same.

3,439,951
CONVERTIBLE FURNITURE
Reginald E. Wright, Buckhurst Hill, England, assignor to Bakelite Xylonite Limited, a corporation of Great Britain
Filed Apr. 27, 1967, Ser. No. 634,270
Claims priority, application Great Britain, Apr. 27, 1966, 18,479/66
Int. Cl. A47d *11/00;* **A47c** *13/00*
U.S. Cl. 297—7 **4 Claims**



Two or more chairs are fastened together to form a cot or other article of furniture. The furniture can readily be reconverted to chairs as desired.

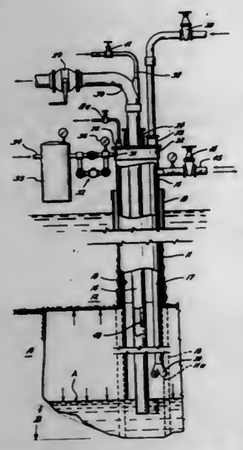
3,439,952
SEAT BELT RETRACTOR
George H. Jantzen, New York, N.Y., assignor to M. Steinthal & Company Incorporated, New York, N.Y., a corporation of New York
Filed Dec. 11, 1967, Ser. No. 689,447
Int. Cl. B60r *21/10;* **A62b** *35/02*
U.S. Cl. 297—388 **19 Claims**



An elongated housing containing a slide, mounted to the springs within the seat to ride up and down there-

with and communicating at an open end to an opening in the seat side. The slide is locked in position partially extending through the seat side when a dog-ended member attached to and beneath the housing is pivoted upwards relative to the housing. A resilient arm is attached to a fixed portion of the seat and contacts the underside of the dog-ended member to pivot the member upwards when the housing moves downward in response to pressure on the seat.

3,439,953
APPARATUS FOR AND METHOD OF MINING A SUBTERRANEAN ORE DEPOSIT
George H. Pfefferle, Dallas, Tex., assignor to Dresser Industries, Inc., Dallas, Tex., a corporation of Delaware
Filed May 23, 1967, Ser. No. 640,751
Int. Cl. E21b *41/00, 7/18*
U.S. Cl. 299—17 **3 Claims**



Apparatus for and a method of mining a subterranean ore deposit through a well bore where the ore is eroded from the ore matrix by laterally directed jets of water. The mining operation is started with the well filled with water. After the cavity formed by the eroding jet streams reaches a size such that the jet streams can no longer erode the ore efficiently, the water level in the well is lowered to a point just above the lower end of the eductor tube through which the ore and water slurry is removed. The mining operation then continues with the eroding jet streams traveling through air. The slurry is removed from the well through the eductor tube by an air lift system. The location of the air-water interface is determined by a vertically movable small diameter tubing string.

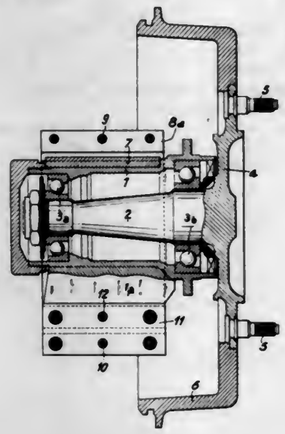
3,439,954
PRESSURE BREAKER
Helmut Darda, Nordwerk, 7712 Blumberg, Baden, Germany
Filed June 21, 1967, Ser. No. 648,537
Claims priority, application Germany, Dec. 8, 1966, D 51,738; Mar. 8, 1967, D 52,469
Int. Cl. E21c *37/02, 37/04, 37/06*
U.S. Cl. 299—22 **25 Claims**



The expander of a pressure breaker comprises two pressure bars which need not be connected with the cylinder of the hydraulic operating means. The piston of the operating means is connected with one of two wedge-like spreaders which are slidable between the pressure bars, and the other spreader is connected with the cylinder by means of motion transmitting members which guide the pressure bars and prevent entry of foreign matter between the abutting surfaces of pressure bars and spreaders. When the pressure bars are inserted into a drill hole, the cylinder is caused to move relative to the piston and the piston is caused to move relative to the pressure bars whereby the spreaders move toward each other and move the pressure bars apart.

Each spreader and/or the pressure bars may be provided with two or more groups of surfaces of different mutual inclination. Also, the length of the spreaders and/or the combined length of the cylinder and pressure bars (in pressure breakers with a single spreader) can be varied and the spreader or spreaders can be caused to perform useful work (i.e., to move the pressure bars apart) while under tensional rather than under compressive stresses.

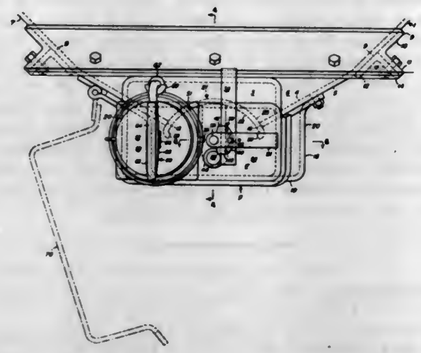
3,439,955
ELASTIC STUB-AXLE SYSTEMS OF WHEELS
Jean G. Cadiou, Paris, France, assignor to Societe Anonyme Andre Citroen, Paris, France, a French company
Filed Dec. 6, 1966, Ser. No. 599,485
Claims priority, application France, Dec. 9, 1965, 41,553
Int. Cl. B62d *7/00, 9/00;* **B60g** *25/00*
U.S. Cl. 301—133 **6 Claims**



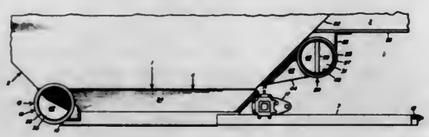
The stub axle of a non-driven wheel of a vehicle is supported by an elastic socket and a vertically mounted flexible blade, parallel to the stub axle, interposed between the stub axle and a wheel support. The elastic socket elastically transmits reactions in a direction longitudinal of the vehicle and the flexible blade has elasticity in a longitudinal direction while transmitting vertical reactions directly from one member to the other.

3,439,956
APPARATUS FOR PNEUMATICALLY DISCHARGING COMMINUTED LADING
Orville Ingram and Walter L. Floehr, Toledo, Ohio, assignors, by mesne assignments, to Midland-Ross Corporation, Cleveland, Ohio, a corporation of Ohio
Filed June 20, 1967, Ser. No. 647,514
Int. Cl. B65g *53/40*
U.S. Cl. 302—52 **16 Claims**

A pneumatic discharge apparatus for a railway car hopper having a housing containing a mixing chamber into which lading is fed by gravity through a lading inlet for mixing with air flowing under pressure through the chamber, a gate mounted in the housing both for swinging to open and close the inlet and for movement into and out of engagement with a boundary of the inlet for alternately restraining against and permitting its swinging, and a removable section on the housing to permit clean-out of the mixing chamber or gravity discharge of the lading.



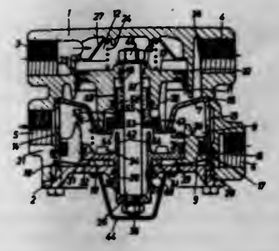
3,439,957
GRAVITY-PNEUMATIC DISCHARGE ASSEMBLY
Walter L. Floehr, Toledo, Ohio, assignor to Midland-Ross Corporation, Cleveland, Ohio, a corporation of Ohio
Filed Nov. 6, 1967, Ser. No. 680,638
Int. Cl. B65g *53/40;* **B61d** *7/02*
U.S. Cl. 302—52 **14 Claims**



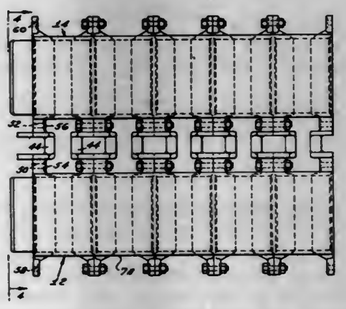
A discharge assembly for a hopper of a covered railway hopper car combining a slide gate for gravity discharge with a pneumatic discharge device for comminuted lading, the device having a lading outlet and a metering air inlet on opposite sides of the hopper and both opening downwardly toward the discharge gate in the gate's closed position for producing a cross flow of air that sweeps the gate clean of lading as a pneumatic discharge is completed.

3,439,958
CONTROL VALVE IN PRESSURE MEDIUM BRAKE DEVICES OF VEHICLES APPLICABLE IN ONE-CONDUIT-, AS WELL AS TWO-CONDUIT-OPERATIONS
Hans Gruner, Heidelberg-Wieblingen, and Heinz Nicolay, Heidelberg, Germany, assignors to Graubremse G.m.b.H., Heidelberg, Germany, a corporation of Germany
Filed May 24, 1966, Ser. No. 552,489
Claims priority, application Germany, Dec. 31, 1965, G 45,614
Int. Cl. B60t *15/02, 17/04, 11/02*
U.S. Cl. 303—40 **12 Claims**

A control valve in pressure medium brake devices of vehicles, applicable in one-conduit, as well as in two-conduit operations, which comprises a closed housing, a separation wall dividing the housing into a brake chamber and an operating chamber and a brake piston received and reciprocating in the brake chamber. A control piston reciprocates in the operating chamber. The brake chamber includes branches for connection with a brake cylinder by means of a brake conduit. The working chamber includes branches for a supply line and a control line and for connection with an air supply container. A piston rod is axially movable in the closed housing and connects floatingly the control pistons. An air inlet valve member is mounted on the separation wall and operated by the control piston. An inner housing includes the separation wall and is removably disposed in the closed housing, and the control piston and a part of the valve member is carried by and exchangeably removable jointly with the inner housing.

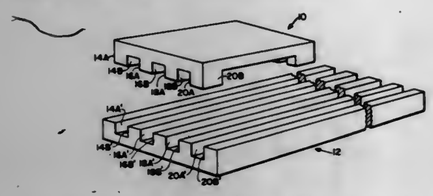


3,439,959
ENDLESS STEEL TRACK CONSTRUCTION
Glen L. Bowen, Orchard Lake, Milton Fishman, Southfield, John H. McVay, Birmingham, and Albert W. Francis, Farmington, Mich., assignors to G. L. Bowen and Co., Oak Park, Mich., a corporation of Michigan
Filed July 18, 1967, Ser. No. 654,181
Int. Cl. B62d *55/08*
U.S. Cl. 305—37 **8 Claims**



This specification describes an endless band-track for a tracked vehicle. The track is formed of segmented steel bands that are secured together at a juncture defined in part by transversely disposed track bars which form a part of a track shoe retainer. Rubber is bonded to both the outer and inner sides of the band-track in the region of the juncture of the steel band segments. The elements of the juncture are welded together to form an integral assembly that will accommodate flexure as the band-track traverses a sprocket wheel or a friction drive wheel without the necessity for articulated joints.

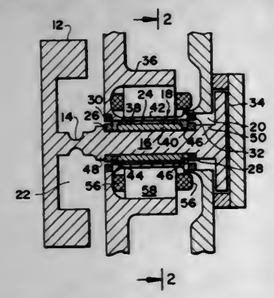
3,439,960
METHOD FOR FABRICATING HYDROSTATIC FLUID BEARINGS
Andre J. Guyon, Binghamton, N.Y., Derek Jones, London, England, and Michael D. Snyder, Chenango Bridge, N.Y., assignors to Singer-General Precision, Inc., a corporation of Delaware
Filed Feb. 2, 1967, Ser. No. 613,649
Int. Cl. F16c 1/24, 33/10, 33/74
U.S. Cl. 308—5 2 Claims



A hydrostatic fluid bearing made up of two groups of plural, redundant elemental bearing surfaces the respective surfaces of each group being rigidly interconnected, with such respective surfaces in confronting relation and spaced apart by a nominally constant distance over the entire lengths of the surfaces. Fluid under pressure is supplied to the space between confronting surfaces. Both translational and rotational bearings are described.

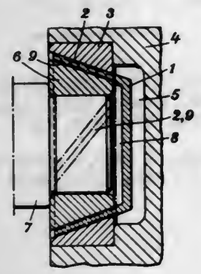
The method consists of using two sets of plural, redundant bearing surfaces, the surfaces of one set being formed on a machine tool with the surfaces fed in a first direction and the other set being formed on the same machine but with the surfaces fed in the opposite direction.

3,439,961
BIFLUID HYDRODYNAMIC BEARING
John C. Stiles, Mountain Lakes, N.J., assignor to Singer-General Precision, Inc., a corporation of Delaware
Filed Apr. 7, 1967, Ser. No. 629,255
Int. Cl. F16c 7/04, 35/00, 1/24
U.S. Cl. 308—9 6 Claims



A high-speed bifluid hydrodynamic bearing for use on the spin axis of a flexure support free rotor gyro having a central portion filled with a nonwetting or a poor wetting liquid such as mercury, contained between the rotor and the housing of the bearing, and nonwetting rings axially spaced and supported at each end of the bearing by the rotor and the housing, thereby trapping the mercury in the bearing cavity. One purpose of the invention is to allow one end of the shaft to operate in a partial vacuum while the other end is supported by the second part of the bearing which uses a gas, such as air, and thereby producing the second fluid of the bifluid hydrodynamic bearing. In addition, scavenger grooves are machined at each of said ends into the shaft of the bearing to collect any fluid squeezed out of the radial high pressure side of the gyro and return it to the radial low pressure side when the rotor is radially offset from the axial center line of the gyro. Furthermore, a series of herringbone grooves are cut in either the shaft or the housing to again provide for means of impelling the fluid towards the center of the bearing to further reduce any leakage under load. A second approach to this invention is the use of a "ferromagnetic fluid" as the bearing lubricant. This comprises a carrier fluid having larger number of finely divided ferromagnetic particles, such as ferrite disposed in the carrier fluid which fluid has a low vapor pressure and a viscosity suitable for bearing operation. These particles, within the fluid as a whole, maintain its newtonian characteristics. The particles are attracted by a magnetic field so that the fluid may be maintained within the bearing cavity and not leak out from the ends. In addition, the attractive magnetic force would increase the effective pressure in the fluid, thus, in effect, partially floating the shaft, even when the shaft is not rotating.

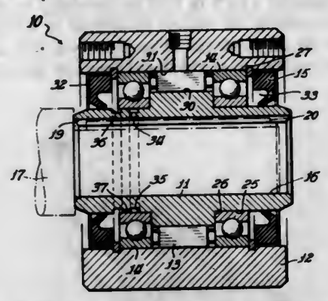
3,439,962
REVERSIBLE SLIDING BEARINGS OF SPIRAL OR HELICAL GROOVE TYPE
Karl Evald Andreas Gothberg, Lerum, Sweden, assignor to SKF Industries, Inc., King of Prussia, Pa., a corporation of Delaware
Filed June 2, 1967, Ser. No. 643,290
Int. Cl. F16c 7/04, 35/00
U.S. Cl. 308—9 23 Claims



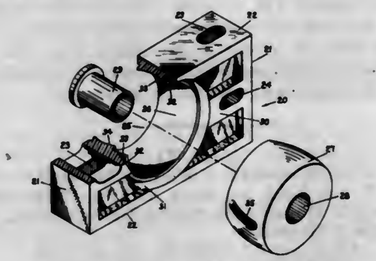
A reversible sliding bearing of the spiral or helical groove type comprising a stationary member, a rotatable member, both having sliding confronting bearing surfaces and an intermediate member disposed between the sliding surfaces of the stationary and rotatable members. The intermediate member has sliding surfaces which confront and conform in shape to the sliding surfaces of the rotatable and stationary members. Shallow grooves are provided in the confronting sliding surfaces, for example in the sliding surfaces of the intermediate member which are arranged in such a manner so that upon rotation of the rotatable member relative to the stationary member, in one direction there is a pressure build up of a fluid medium between the confronting sliding surfaces of the intermediate member and one of the other members supporting the members for relative rotation.

3,439,963
VENTED MECHANICAL DEVICE
Charles E. Hein, Newfield, and James O. Tennies, Ithaca, N.Y., assignors, by mesne assignments, to Borg-Warner Corporation, Chicago, Ill., a corporation of Delaware
Filed Mar. 3, 1967, Ser. No. 620,380
Int. Cl. F16c 1/24, 33/72; F16j 15/00
U.S. Cl. 308—36.1 1 Claim

An overrunning clutch is disclosed herein providing a structure whereby a drive and driven member are interconnected to provide a driving situation therebetween in one direction and an overrunning situation therebetween in the other direction. Substantial temperature gradients are created during operation of the clutch, particularly during the overrunning situation. Seals are provided to retain lubricant in the bearings which rotatably interconnect the drive and driven members of the clutch. The clutch is provided with a vent structure to vent the bearing enclosure during overrunning conditions.

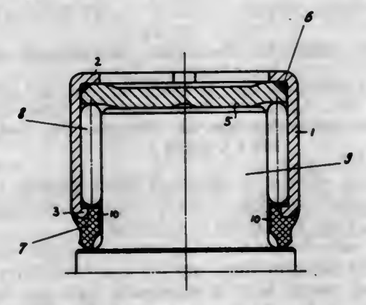


3,439,964
UNIVERSAL BEARING BLOCK
Guthrie B. Stone, Honeoye, and Alan J. Stone, Canandaigua, N.Y., assignors, by mesne assignments, to Murray Company of Texas, Inc., a corporation of Delaware
Filed Feb. 21, 1967, Ser. No. 617,579
Int. Cl. F16c 9/06, 23/00
U.S. Cl. 308—72 1 Claim



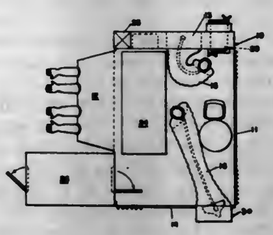
A unitary bearing block with a spherical interior chamber for receiving and retaining a one-piece ball-type bearing. An annular groove encircles a side opening to the chamber and has a flexible inner edge to permit insertion of the bearing by means of pressure.

3,439,965
NEEDLE-BEARING SHELL, PARTICULARLY FOR THE STAR PINS OF UNIVERSAL JOINTS
Hans Joachim Kleinschmidt, Essen, Germany, assignor to Gelenkwellenbau GmbH, Essen, Germany, a corporation of Germany
Filed Oct. 3, 1967, Ser. No. 672,557
Claims priority, application Germany, Oct. 5, 1966, G 48,087
Int. Cl. F16c 33/34, 33/46, 33/76
U.S. Cl. 308—212 3 Claims



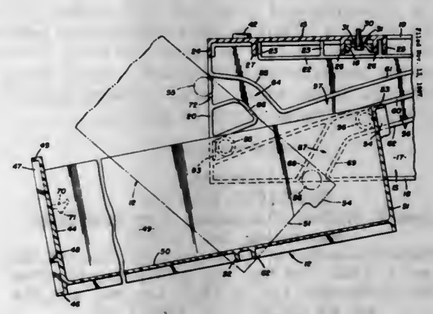
The sheet-metal shell of a needle bearing, preferably for journalling the star pin of a universal joint, whose inner cylindrical surface forms a race for the needles surrounding the bearing pin, has inwardly flanged rims at both axial ends. Inside the shell one of the rims serves as an annular shoulder against which an inserted bottom member is seated, and this rim has two diametrically opposite slots through which the bottom member can be inserted into the shell. The other rim has a larger number of recesses uniformly distributed along the periphery for the purpose of anchoring a sealing ring.

3,439,966
APPARATUS FOR ENTERING A SEALED ENCLOSURE
John J. Perkins and Robert S. Carlson, Erie, Pa., assignors to American Sterilizer Company, a corporation of Pennsylvania
Filed Dec. 6, 1965, Ser. No. 512,581
Int. Cl. A61g 11/00; A61b 19/00
U.S. Cl. 312—1 6 Claims



According to the present invention a sterile room is provided with a top floor and vertical wall. An opening is provided in the vertical wall, and a sheet-like pseudopodia is connected to the periphery of the opening so that the pseudopodia completely closes the opening. The pseudopodia has integral gloves and a face receiving member on it so that a person can see through the pseudopodia and also work through it. The pseudopodia is sufficiently long so that a person can actually walk with the pseudopodia into the room and walk around the floor of the room, thereby caring for patients or doing other duties inside the room.

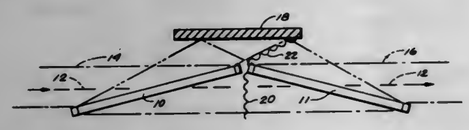
3,439,967
TILT-DOWN DRAWER CONSTRUCTION
William D. Taylor, Wooster, Ohio, assignor to Rubbermaid Incorporated, Wooster, Ohio, a corporation of Ohio
Filed Nov. 13, 1967, Ser. No. 682,021
Int. Cl. A47b 88/00, 95/00
U.S. Cl. 312—307 10 Claims



A storage drawer preferably of plastic material mounted in a unitary frame having side guide rails connected by transverse spacer members, said drawer having spaced

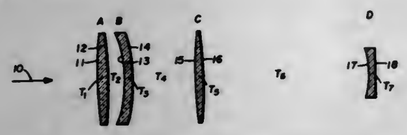
cam projections slidable in separate inclined tracks on the guide rails causing the drawer to tilt downwardly when pulled out and allowing removal of the drawer when tilted upwardly in pulled-out position.

3,439,968
INFRARED RADIATION BREWSTER'S ANGLE POLARIZER
Wilford N. Hansen and James A. Horton, Thousand Oaks, Calif., assignors to North American Rockwell Corporation, a corporation of Delaware
Filed June 25, 1965, Ser. No. 466,883
Int. Cl. G02b *13/14*
U.S. Cl. 350—1 **10 Claims**



The normal "piles-of-plates" polarizing structure has been modified to provide a compact polarizer from which either of two orthogonal modes of polarization, or a combination thereof, can be obtained for infrared radiation. The improved polarizer utilizes a "crossed plate" type of structure with at least two germanium plates wherein incident radiation strikes the surfaces of said plates at the Brewster's angle and one mode is transmitted therethrough while the other mode is reflected into a parallel path. Movable masks are provided to control the amount of each mode present in the output radiation.

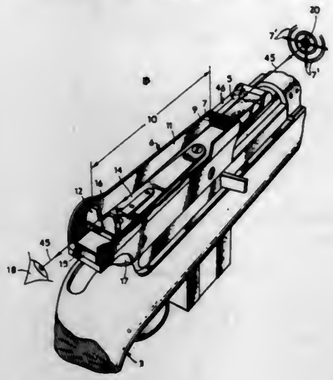
3,439,969
FAR INFRARED LENS
Artie D. Kirkpatrick, Phoenix, Ariz., assignor to Texas Instruments Incorporated, Dallas, Tex., a corporation of Delaware
Filed Oct. 13, 1964, Ser. No. 403,548
Int. Cl. G02b *3/00, 9/34*
U.S. Cl. 350—2 **8 Claims**



1. A far infrared objective which comprises:
(a) a first convex lens,
(b) a concavo-convex lens,
(c) a second convex lens, and
(d) a concavo-planar lens, with said second convex lens having a refractive index which varies between 4.0297 and 3.9774 in the range of 8 to 15 microns, and the remainder of the lenses of material having a refractive index which varies between 2.2234 to 2.1024 in the range of 8 to 15 microns.

3,439,970
SIGHTING DEVICE
Glenn E. Rickert, Community State Bank Bldg., Huntington, Ind. 46750
Continuation-in-part of applications Ser. No. 356,403, Apr. 1, 1964, and Ser. No. 2,701, Jan. 15, 1960. This application Apr. 5, 1965, Ser. No. 445,574
Int. Cl. G02b *27/32;* **F41g** *1/42*
U.S. Cl. 350—10 **5 Claims**

An optical sighting device is disclosed which includes a rear sighting element consisting of a prismatic collimating lens; and a front sighting element consisting of light transmitting indicia on an otherwise opaque and darkened face. The face is lighted from behind by a fluorescent material which in turn is energized by ambient incident light causing the indicia to appear in a vivid contrasting color to an observer. The front sighting element is placed approximately at the focal point of the rear lens



element so that the reticle indicia appears in focus with the target sighted. The prismatic effect of the rear sighting element deviates the rays from the front sighting element to cause them to appear to be coming from the target area although the front sighting element is actually positioned off of the line of sight to the target.

3,439,971
WIDE-ANGLE VIEWING DEVICE
Lyman B. Van Vliet, Jr., Santa Barbara, Calif., assignor to General Motors Corporation, Detroit, Mich., a corporation of Delaware
Filed Sept. 17, 1964, Ser. No. 397,138
Int. Cl. G02b *23/00, 23/02, 17/00*
U.S. Cl. 350—45 **4 Claims**

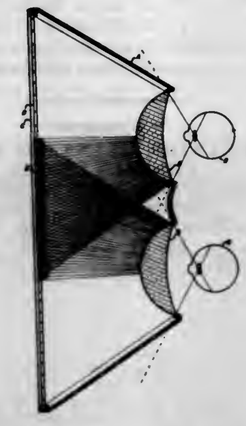


A wide-angle viewing device is disclosed which includes two unity power telescopes arranged in tandem within a housing of rectangular cross-section provided with highly reflective interior surfaces.

3,439,972
WIDE-ANGLE STEREOSCOPIC PICTURE ELEMENT AND VIEWER
Harvey L. Ratliff, Jr., Oxon Hill, Md., assignor to Jetru Inc., Amarillo, Tex.
Original application Apr. 1, 1965, Ser. No. 447,600, now Patent No. 3,272,069, dated Sept. 13, 1966. Divided and this application Apr. 22, 1966, Ser. No. 544,462
Int. Cl. G02b *27/22*
U.S. Cl. 350—131 **9 Claims**

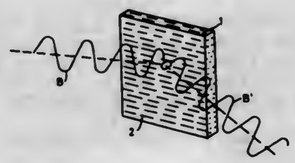
A picture element is employed which permits a wide-angle stereoscopic view to be formed by overlapping a left and a right eye image in a central area.

In one embodiment a grating screen is employed which coacts with adjacent right and left eye view strips in an overlapped central area to separate a right and left eye image; a second embodiment employs a lenticular screen coacting with adjacent right and left eye view strips in an overlapped central area to separate a right and left eye image; a third embodiment employs polarized images in conjunction with analyzers to separate a left and right



eye image in an overlapped central area; and a fourth embodiment employs a mirror arrangement to separate a left and a right eye view in an overlapped central area.

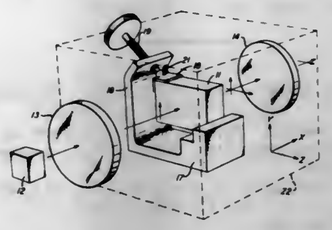
3,439,973
POLARIZING REFLECTOR FOR ELECTROMAGNETIC WAVE RADIATION IN THE MICRON WAVELENGTH
Bernt Paul, Erlangen, and Herbert Weiss and Manfred Wilhelm, Nuremberg, Germany, assignors to Siemens Aktiengesellschaft, Erlangen, Germany, a corporation of Germany
Filed June 25, 1964, Ser. No. 378,025
Claims priority, application Germany, Apr. 15, 1964, S 90,548
Int. Cl. G02b *5/30, 27/28, 5/20*
U.S. Cl. 350—147 **5 Claims**



A polarizing reflector for electromagnetic wave radiation comprises a carrier structure of poorly conducting material forming a reflector surface for the radiation. A multitude of elongated radiation dipoles having respective lengths in the order of magnitude of the wavelengths to be reflected are dispersed and embedded in the carrier material. The dipoles are in parallel relation to each other and to the reflector surface and have a mutual maximum spacing in the order of wavelength magnitude.

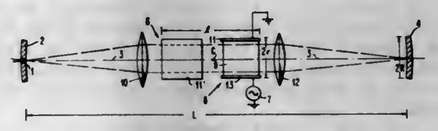
3,439,974
TUNABLE LIGHT FILTER
Charles H. Henry, Murray Hill, and David G. Thomas, Summit, N.J., assignors to Bell Telephone Laboratories, Incorporated, New York, N.Y., a corporation of New York
Filed Mar. 11, 1966, Ser. No. 533,654
Int. Cl. G02f *1/24*
U.S. Cl. 350—149 **9 Claims**

1. A light filter comprising an anisotropic crystal disposed between first and second light polarizing members, said crystal being characterized by ordinary and extraordinary indices of refraction which are equal at a discrete frequency, means directing a beam of light having a plurality of frequencies through said first polarizer,



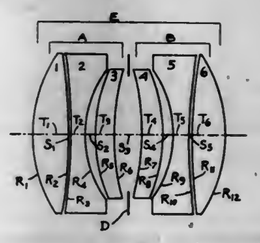
said crystal, and onto said second polarizer, and means for controlling the light passing through said second polarizer comprising means for producing coupling within said crystal between the ordinary and extraordinary rays of light of said discrete frequency.

3,439,975
OPTICAL CAVITY ELECTRO-OPTIC SCANNING DEVICE
William V. Smith, Chappaqua, N.Y., assignor to International Business Machines Corporation, Armonk, N.Y., a corporation of New York
Filed Mar. 8, 1965, Ser. No. 437,753
Int. Cl. G02f *1/26, 1/34*
U.S. Cl. 350—150 **7 Claims**



A system for obtaining a scanning beam of light that employs two electro-optical deflectors on opposite sides of the center of a confocal cavity. A beam of light is made to enter the axis of said cavity through a hole in one mirror. By causing a reversal of voltage to be applied to each deflector in synchronism with the time delay between successive passes of light through such deflectors, the amount of deflection is multiplied in accordance with the number of reflections within the cavity.

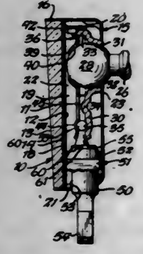
3,439,976
SYMMETRICAL COPYING LENS OF THE INVERSE GAUSS TYPE
Geraldine B. Lynch, Irondequoit, N.Y., assignor to Minnesota Mining and Manufacturing Company, St. Paul, Minn., a corporation of Delaware
Filed Oct. 23, 1965, Ser. No. 503,947
Int. Cl. G02b *9/62*
U.S. Cl. 350—215 **1 Claim**



A six element symmetrical lens of the inverse Gauss type, in which all elements are air spaced from each

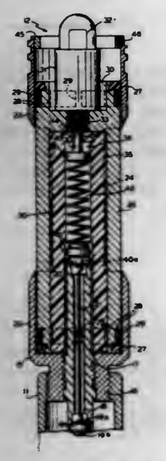
other, the first and last elements being biconvex, elements 2 and 5 being biconcave, and elements 3 and 4 being positive meniscus lenses. The adjacent surfaces of elements 1 and 2 and of elements 5 and 6 are of the same radius, but these elements are very slightly spaced from each other rather than being cemented.

3,439,977
JOURNAL FOR ACTUATOR OF GLARE REDUCING REAR VISION MIRROR
Lynn C. Meade, Buffalo, N.Y., assignor to Standard Mirror Company, Inc., Buffalo, N.Y., a corporation of New York
Filed July 22, 1964, Ser. No. 384,384
Int. Cl. G02b *17/00*
U.S. Cl. 350—281 **1 Claim**



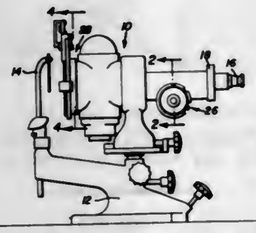
To provide a vertical journal for a manual actuator in the bottom flange of a light gage, sheet metal rear vision mirror panel support, a first bearing bushing is struck upwardly through the flange into the interior of the support and a second bearing bushing is provided in a bracket fixed to the inside of the support with the two bearing bushings in axial alinement and rotatably supporting the actuator.

3,439,978
STREAK RETINOSCOPE
William C. Moore, Skaneateles, and William S. Pilgrim, Port Byron, N.Y., assignors to Welch Allyn, Inc., Skaneateles Falls, N.Y., a corporation of New York
Filed Aug. 27, 1965, Ser. No. 483,230
Int. Cl. A61b *3/10*
U.S. Cl. 351—6 **6 Claims**



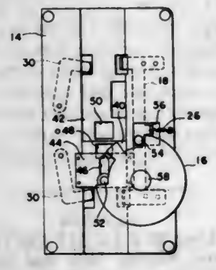
A streak retinoscope handle is secured to the reduced neck of a head by a nut bearing against a split ring in a groove around the neck. A sleeve manipulatable axially and rotatably through handle slots carries a lamp for illuminating a lens and mirror in the head. Spring contacts connect one lamp terminal to one side of a handle electric source, the other terminal being connected to the other side by insulated means including a coil spring axially of the freely rotatable sleeve. Fiber bundles carry light to distal fixation targets and the viewing lens holder is removable for corrective lens replacement.

3,439,979
CALCULATOR MEANS FOR FITTING CONTACT LENSES
Loran B. Morgan, 127 W. 21st Ave., Torrington, Wyo. 82240
Filed June 16, 1966, Ser. No. 558,070
Int. Cl. A61b *3/12*
U.S. Cl. 351—6 **6 Claims**



The lens curvature and diameter for contact lens fitted by the optical cap technique are calculated through use of attachments to and modifications of ophthalmometer and corneal topography survey instruments presently used for corneal measurements. The calculator attachments include movable scales appropriately calibrated to eliminate mental calculations when utilized in accordance with a prescribed procedure to determine the lens dimension.

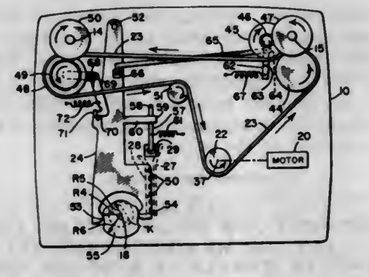
3,439,980
SMALL-SIZED MOTION-PICTURE PROJECTOR
Haruo Teshi and Seki Kono, Nagoya, Japan, assignors to Elmo Company Limited, Nogoya, Japan
Filed Dec. 20, 1965, Ser. No. 515,074
Claims priority, application Japan, Dec. 28, 1964, 39/74,179
Int. Cl. G03b *1/48, 41/00*
U.S. Cl. 352—79 **3 Claims**



A film guide plate movably disposed on a stationary aperture plate has two operating positions where it guides one side edge of a moving-picture film while film pressure plates on the stationary aperture plate press the particular threaded film from its other side edge against the guide

plate so that the center of an aperture on the stationary aperture plate and the center of an aperture on an auxiliary aperture plate are located on the optical axis of the projector. The auxiliary aperture plate is disposed in sliding movement relation with the rear of the stationary aperture plate. An operating knob on the stationary plate serves to simultaneously change both the auxiliary aperture plate and the guide plate from one to their other positions according to the particular threaded film.

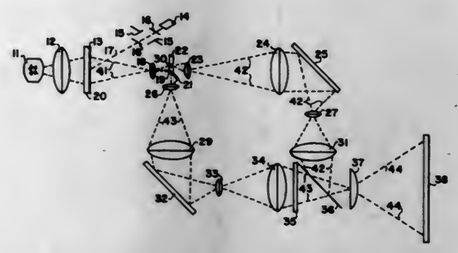
3,439,981
MOTION-PICTURE PROJECTOR
Otto R. Nemeth, Los Angeles, Calif., assignor, by mesne assignments, to GAF Corporation, New York, N.Y., a corporation of Delaware
Filed Apr. 12, 1966, Ser. No. 541,984
Int. Cl. G03b *1/22*
U.S. Cl. 352—191 **6 Claims**



Reversible apparatus having a friction roller for driving the take-up spool in a forward direction and a second friction roller for driving the supply spool in a reverse direction for rewinding the film. Both drive rollers are mounted on a movable arm. When the single control knob is rotated in one direction, cam actuated linkage is thereby shifted for simultaneously establishing a drive through the take-up reel and closing the plates which define the film gate. When this knob is rotated in the other direction, the cam actuated linkage operates for simultaneously opening the gate and establishing a drive to the supply reel in a rewind mode of operation. The same control knob also operates switching to control the drive motor and the projection lamp. A manually operated eccentric engages the drive claw to provide a means for framing adjustment.

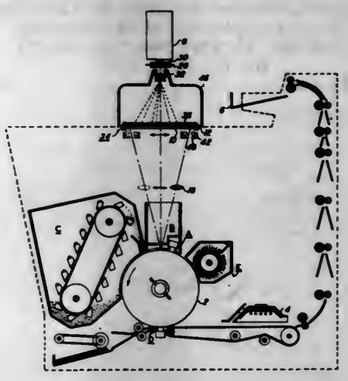
3,439,982
OPTICAL INSETTING
Urban W. Ludwig, Beltsville, Md., assignor to General Precision Systems, Inc., Binghamton, N.Y., a corporation of Delaware
Filed Dec. 20, 1967, Ser. No. 692,038
Int. Cl. G03b *21/26*
U.S. Cl. 353—34 **9 Claims**

A system for producing an inset of a portion of one picture into another by optical components. The system utilizes a schlieren system for producing two light paths from a single light pattern. Each of the two paths is a complement of the other, the two paths together making up a whole image projected upon a screen. Any type of image forming schlieren optical system can be used, but the one described utilizes an electro-plastic film which is deformed by means of a cathode ray. With no deformation, light from a light source is reflected along a first path and is applied through film transparency to project an image onto a screen. When the cathode beam strikes the electro-plastic film, the film is puckered or distorted by the beam, and the light is then deflected from its normal path into a second path. The light which is deflected from its normal path leaves a blank spot in the image formed in the normal path. Also, if a film



transparency is placed in the second path, then the image of the second film transparency will have the exact shape of the blank spot formed in the first image. The two can be combined on a single screen to form a single composite image.

3,439,983
MICROFILM COPIER DOUBLE INPUT
James H. Blow, Jr., Rochester, N.Y., assignor to Xerox Corporation, Rochester, N.Y., a corporation of New York
Filed Apr. 1, 1966, Ser. No. 539,428
Int. Cl. G03b *27/32;* **G03g** *13/00;* **B41b** *23/00*
U.S. Cl. 355—8 **8 Claims**

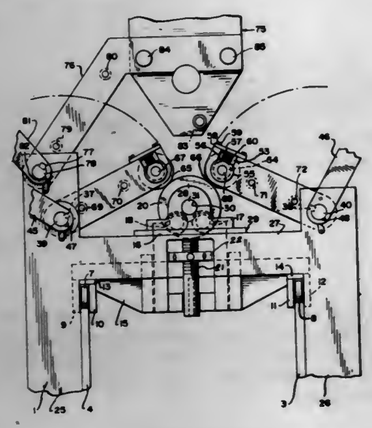


An apparatus for producing copy from simultaneously imaged multiple inputs. One imaging system utilizes projected data and another, reflected data to form images at a plane. An optical system is arranged between this plane and a photosensitive surface to effect reproduction of both data inputs.

3,439,984
PHOTO-ENGRAVING APPARATUS FOR PRINTING CYLINDERS
Alfred B. Poschel, % Canterbury Court, 1220 N. State St., Chicago, Ill. 60610
Filed Aug. 2, 1966, Ser. No. 569,735
Int. Cl. G03b *27/06*
U.S. Cl. 355—85 **10 Claims**

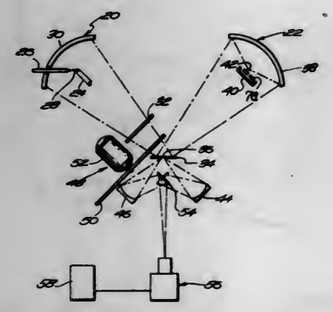
A photo-engraving apparatus capable of utilizing printing cylinders of varying length and diameter wherein pressure rollers are carried by arms pivoted to the frame of the apparatus and the lamp housing of the apparatus

is similarly pivoted to the frame to facilitate substitution of printing cylinders. The cylinder support bearings are made to be readily movable in a direction parallel to



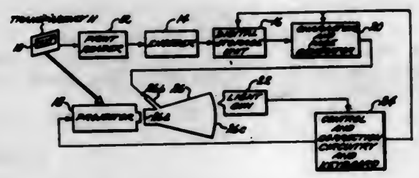
the cylindrical axis to enhance handling of varying cylinder lengths. The pressure rollers are mounted resiliently on the support arms to increase the effectiveness of the operation of the apparatus.

3,439,985
PYROMETRIC DEVICE
Daniel F. Comstock, Jr., and David L. Richardson, Lexington, Mass., assignors to Arthur D. Little, Inc., Cambridge, Mass., a corporation of Massachusetts
Filed Oct. 15, 1965, Ser. No. 496,277
Int. Cl. G01j 5/48
U.S. Cl. 356—43 11 Claims



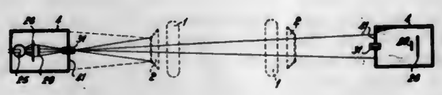
A pyrometric system for determining spectral reflectance of opaque materials at high temperatures, in which a first elliptical mirror is positioned to image a high temperature source into a plane reflector and a second elliptical mirror is positoined to image the source image to a focus at which the opaque material can be placed. The plane reflector includes a small aperture and a chopper is positioned to chop periodically the light path between the first elliptical mirror and the plane reflector. A third mirror is positioned to image to a detector only light directed from the first mirror through the aperture. Similarly, a fourth mirror images to the detector only light directed by the second mirror through the aperture. Means can be used to determine which of the third or fourth mirrors will illuminate the detector and the timing thereof.

3,439,986
METHODS AND APPARATUS FOR VERIFYING THE OUTPUT OF AUTOMATIC PRINT READERS AND FOR CORRECTING ERRORS INTRODUCED BY THE PRINT READER
William B. Moore, Rome, N.Y.
(Pinola Plantation, McClellanville, S.C. 29458)
Filed Mar. 10, 1966, Ser. No. 534,990
Int. Cl. G06k 9/08
U.S. Cl. 356—71 6 Claims



An apparatus for verifying the output of automatic print readers and for correcting errors introduced by the print reader having an optical projector, an electronic character and page generator, and a readout device for receiving the optically projected and electronically generated information in an overlying relationship to provide direct comparison of the outputs.

3,439,987
ARRANGEMENT FOR MEASURING OF ANGLES, ESPECIALLY FOR MEASURING THE ANGULAR POSITION OF WHEELS OF A MOTOR VEHICLE
Gottlob Bacher, Stuttgart-Weilimdorf, and Siegfried Fehrenbach, Stuttgart-Botnang, Germany, assignors to Robert Bosch G.m.b.H., Stuttgart, Germany
Filed Aug. 18, 1965, Ser. No. 480,681
Claims priority, application Germany, Aug. 19, 1964, B 78,169
Int. Cl. G01b 11/275; G01c 15/12
U.S. Cl. 356—155 10 Claims

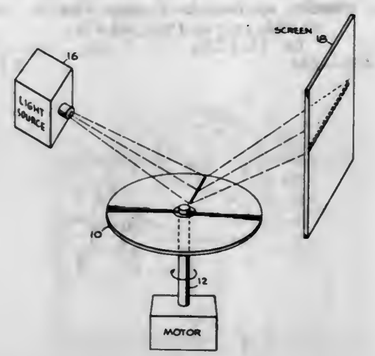


An arrangement for measuring the angular position of wheels of a motor vehicle. The arrangement includes at least one mirror arranged substantially normal to the wheel axis on each wheel to be checked, a pair of oppositely disposed projectors for projecting light rays in the direction of the mirror and including a scale and a reticle in the path of the light rays, and a screen plate arranged to receive the light rays reflected from the mirror and provided with coordinates.

3,439,988
APPARATUS FOR INSPECTING A REFLECTIVE SURFACE WHICH INCLUDES A PROJECTOR OF A PATTERN OF LINES HAVING DIFFERENT THICKNESSES
Carl D. Breske, St. Paul, Minn., assignor to Data Products Corporation, St. Paul, Minn., a corporation of Delaware
Filed Apr. 27, 1964, Ser. No. 362,903
Int. Cl. G01n 21/16, 21/32; G01b 11/30
U.S. Cl. 356—237 1 Claim

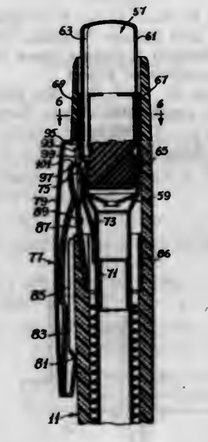
A method and apparatus useful for inspecting a substantially flat surface for imperfections. The surface is inspected by illuminating it with a pattern comprised of one or more lines. The light is reflected from the surface

against a target. Any imperfection in the surface will distort the reflected line of light and will be apparent to an operator observing the reflected light. Preferably, the



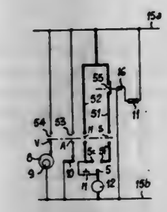
pattern includes calibrated parallel lines of different thickness so that an operator can judge the dimensions of a surface imperfection.

3,439,989
AUTOMATIC PENCIL
Kenneth W. Spillman, Whittier, Calif., assignor to The Parker Pen Company, Janesville, Wis., a corporation of Wisconsin
Filed Sept. 9, 1966, Ser. No. 578,261
Int. Cl. B43k 21/16, 5/16, 7/12
U.S. Cl. 401—65 5 Claims



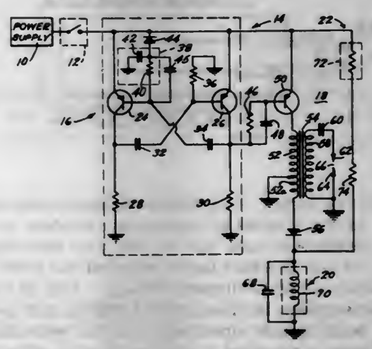
A retractable automatic pencil of the continuous feed type includes a barrel having a continuous lead feeding mechanism reciprocably mounted in its chamber and a reciprocably movable operating button extending from its rear end. The operating button causes the writing portion of the lead feeding mechanism to project beyond the forward end of the barrel in response to an initial axially reciprocating movement of the operating button, and it also causes the lead feeding mechanism to feed lead sticks in response to subsequent reciprocating axial movements of the operating button when the lead feeding mechanism is in the projected position. A release mechanism initiates the movement of the lead feed mechanism from the protracted position into the retracted position.

3,439,990
DEVICE FOR CYCLICALLY ACTIVATING A HEATING APPLIANCE CONTROLLED BY A THERMOSTAT
Pierre Boubee, 26, Ave. des Gressets, La Celle-Saint-Cloud, Yvelines, France
Filed June 30, 1967, Ser. No. 650,506
Claims priority, application France, July 6, 1966, 68,437
Int. Cl. F23n 5/02, 5/22
U.S. Cl. 431—69 10 Claims



A temperature-responsive control apparatus for fluid fuel burners in which the combustion configuration and dormant configuration are controlled by cam operated swtiches. The cams are mounted on the shaft of a motor, the energization of which is controlled by switches operated by selected ones of these cams, a thermostatic switch which selects one of two possible energization loops, for the motor corresponding to the dormant and combustion configurations and an ignition sensitive switch. The cams employed are also programmed to shut down the burners in the event of a malfunction.

3,439,991
DRYER CONTROL
George H. Fathauer, 11 Eastmoreland, Decatur, Ill. 62521
Filed Jan. 20, 1967, Ser. No. 610,579
Int. Cl. F23n 5/02, 5/20
U.S. Cl. 431—71 19 Claims



A control circuit for a burner employing an oscillator having a fixed operating time, a transformer connected to an output of the oscillator to produce a high voltage discharge across a pair of igniter electrodes, a fuel valve actuator connected to an output of the oscillator, and a thermistor connected between a source of voltage and the fuel valve actuator. The thermistor is dimensioned to provide holding current only for the fuel valve actuator after

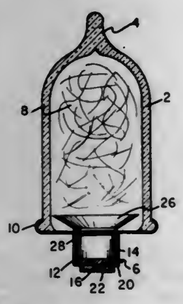
it has been initially actuated by the oscillator output and only if the temperature of the burner is sufficiently high at the termination of the output signal from the oscillator.

3,439,992

PHOTOFLASH LAMP

John W. Shaffer, Montoursville, and Donald W. Hartman, Williamsport, Pa., assignors to Sylvania Electric Products, Inc., a corporation of Delaware

Filed Nov. 24, 1967, Ser. No. 685,623
Int. Cl. F21k 5/02
U.S. Cl. 431—93 2 Claims



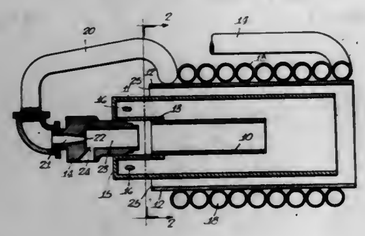
A percussive-type photoflash lamp in which the primer thereof includes a baffle arranged to protect the shredded foil within the lamp envelope from the detrimental effects of the high velocity gas flow resulting from firing of the primer.

3,439,993

VAPOURIZING BURNER FOR PRESSURIZED LIQUID FUELS

Isaac Neufeldt, Box 33, Coaldale, Alberta, Canada

Filed Aug. 25, 1967, Ser. No. 663,435
Int. Cl. F23d 11/44
U.S. Cl. 431—243 3 Claims



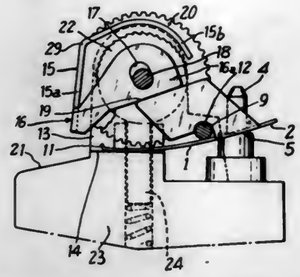
Vapourizing burner, for pressurized liquid fuels, such as propane, having a series of concentric cylinders, giving a primary combustion zone and at least two secondary air supplies, the rate at which fuel is supplied and burnt causing secondary air to be drawn through a first of the secondary air supplies, increase in fuel supply, and combustion rate bringing into operation a further secondary air supply. There is provided a required air-gas ratio over a very wide range of operation. A vapourizing coil is wound round the outside of the outermost concentric cylinder. The various stages of secondary air supply also provides for variable shielding of the vapourizing coil. At low flame conditions, the reduced shielding by low secondary air flow permits high heat flows to the coil for correct vapourizing. At high flame conditions and high combustion rates, the additional secondary air flow shields the vapourizer coil and prevents overheating and breakdown of the gas.

3,439,994

IGNITION SYSTEM FOR GAS LIGHTERS

Michel Cassan, Chatenay-Malabry, France, assignor to Societe Anonyme Dupont, Paris, France, a corporation of France

Filed Dec. 6, 1966, Ser. No. 599,431
Claims priority, application France, Dec. 6, 1965, 41,092; July 6, 1966, 68,470
Int. Cl. F23q 1/04, 7/12
U.S. Cl. 431—254 8 Claims



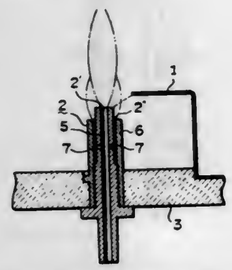
A gas cigarette lighter provided with a manually operable friction wheel to generate igniting sparks, a vertically slidable burner nozzle adapted to assume a closed, lower position and an open, upper position, a lever pivotable in a vertical plane and engaging said burner nozzle with one end and adapted to be depressed by the user's thumb at the other end upon operation of the friction wheel. From said lever there extend integral spring blades which engage the lighter body and urge the lever against said burner nozzle maintaining the latter in said closed, lower position, but when manually depressed, allowing said burner nozzle to assume its open, upper position.

3,439,995

SPARK IGNITED GAS BURNER

Tadamichi Hattori and Shingo Nishida, Tokyo-to, Japan, assignors to Kabushiki Kaisha Crown Sangyo, Tokyo-to, Japan, a corporation of Japan

Filed Sept. 20, 1967, Ser. No. 669,125
Claims priority, application Japan, Sept. 30, 1966, 41/90,948
Int. Cl. F23q 3/00
U.S. Cl. 431—266 1 Claim



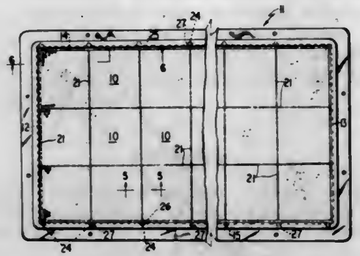
In a gas lighter which is ignited by electric discharge spark, the burner section is provided with a main gas outlet and an auxiliary gas outlet, and a pair of electrodes electrically connected to a high electrical voltage generating device (for example, a piezoelectric device) are so arranged near the auxiliary gas outlet that the electric discharge spark generated between said electrodes passes through the mixture of fuel gas which has issued from the auxiliary gas outlet and the air. The auxiliary gas outlet transversely communicates with the gas flow to main gas outlet by way of a chamber whereby to optimize the flow from the auxiliary outlet over a wide range of flow to the main outlet.

3,439,996

TILE ASSEMBLY FOR RADIANT GAS BURNERS

Jean A. D. P. Lherault, Paris, France, and David E. Nuckols, Richmond, Va., assignors to Solaronics, Inc., Richmond, Va., a corporation of Virginia

Filed June 9, 1965, Ser. No. 462,497
Int. Cl. F23d 13/12
U.S. Cl. 431—328 10 Claims



1. In a radiant gas burner comprising a multiplicity of heat-insulating refractory tiles assembled side by side in side by side rows thereof constituting a burner plate, each of said tiles having a myriad of minute passages extending therethrough for conducting a combustible gas mixture to the outer face of said plate, means resiliently holding said tiles in assembled and mutually sealed relation including tie wires extending under tension through said plate between and along adjacent rows of said tiles and compressible heat resistant cushioning means between said tie wires and the respective tiles adjacent thereto, each of said tie wires bearing laterally through such cushioning means against confronting sides of the tiles of two of said rows.

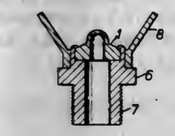
3,439,997

POST-AERATED GAS JETS

John Hancock, Leeds, and Albert Westerman, Normanton, England, assignors to Geo. Bray & Co. Limited, Leeds, England, a British company

Filed Oct. 13, 1967, Ser. No. 675,101
Claims priority, application Great Britain, Oct. 21, 1966, 47,294/63
Int. Cl. F23d 13/26; B05b 1/26, 1/14
U.S. Cl. 431—350 13 Claims

A jet suitable for use with all gases of the natural gas family, including such limit gases as propane/air at operating pressures of the order of 8 to 10 inches water gauge. To increase flame stability, the jet is provided with a terminal portion formed with a number of gas orifices which are arranged to ensure that the gas streams



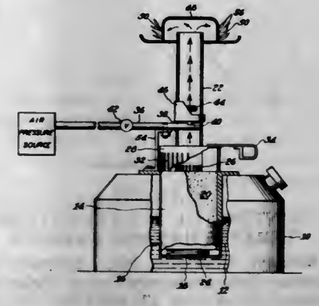
are divergent from one another and from the axis of the jet and are separate and distinct both prior to and after ignition. Flame stability is further enhanced by protecting the terminal portion with a shroud which surrounds the gas orifices.

3,439,998

APPARATUS FOR PRODUCING COMBUSTIBLE GAS

Enrique L. Laguinia, 910-J. Blumentrit St., Sampaloc, Manila, Philippines D-403

Filed Dec. 8, 1966, Ser. No. 601,294
Int. Cl. F23d 15/00
U.S. Cl. 431—353 4 Claims



Apparatus for deriving a combustible gas mixture from liquid fuel, using a porous ceramic core in the fuel tank, with pressurized air fed to a pipe downstream of the core.

CHEMICAL

3,439,999

CROSS-DYED CARPETS

Robert Miller, Columbia, S.C., and Milton Farber, Verona, N.J., assignors to Uniroyal, Inc., a corporation of New Jersey

No Drawing. Filed Sept. 28, 1964, Ser. No. 399,902
Int. Cl. D06p 3/82, 3/86
U.S. Cl. 8—15 19 Claims

1. A fabric suitable for dyeing in the piece to a multicolor pattern through exposure to a mixture of acid type dyes and other types of dyes, said fabric containing a plurality of synthetic yarns, all of which are formed from a polymeric mixture comprising at least 90% of a polyolefin or polyester which is inert to acid type dyes, and up to 10% of a thermoplastic highly polar basic nitrogen-containing polymer, said polymeric mixture being substantially undyeable by said acid type dyes but dyeable by said other types of dyes, at least one, but less than all of said yarns having been rendered, subsequent to forming, dyeable with acid type dyes by an infusion with an acidic reagent which reacts with some of the polar groups of said basic polymer to form a reaction product capable of fixing acid type dyes.

3,440,000

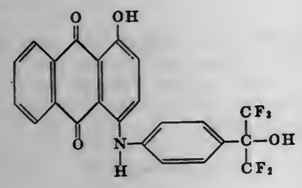
1 - HYDROXY - 4 - [p - (1',1',1',3',3',3' - HEXAFLUORO - 2' - HYDROXY - ISOPROPYL)-ANILINO]-ANTHRAQUINONES

Roy A. Pizzarello, Mount Vernon, N.Y., and Otto Polters-dorf, Fair Lawn, N.J., assignors to Interchemical Corporation, New York, N.Y., a corporation of Ohio

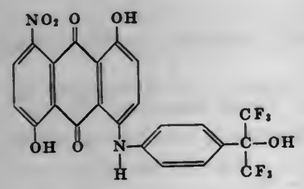
No Drawing. Filed June 22, 1966, Ser. No. 559,429
Int. Cl. C09b *1/50*
U.S. Cl. 8—25 5 Claims

1. A substituted anthraquinone compound of the group consisting of

(a)

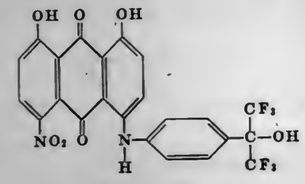


(b)



and

(c)



3,440,001

PRINTING OF POLYETHYLENE TEREPHTHALATE FABRICS

Gabor J. Szilagyi, Charlotte, N.C., assignor to Celanese Corporation, a corporation of Delaware

No Drawing. Filed Aug. 27, 1964, Ser. No. 392,632
Int. Cl. D06p *3/00, 5/02*
U.S. Cl. 8—62 9 Claims

A printing process for polyethylene terephthalate fabric comprising printing on the fabric an aqueous paste containing a disperse dye, a thickening agent and an oxyethylated fatty alcohol and then heating the fabric to fix the print.

3,440,002

FIBROUS MATERIAL HAVING A POLYALKYLENE IMINE BOUND THERETO BY A POLYFUNCTIONAL FIXATIVE

Robert E. Whitfield, Pleasant Hill, Allen G. Pittman, El Cerrito, and William L. Wasley, Berkeley, Calif., assignors to the United States of America as represented by the Secretary of Agriculture

No Drawing. Original application May 28, 1964, Ser. No. 371,150. Divided and this application May 12, 1967, Ser. No. 655,695
Int. Cl. D06m *15/42*
U.S. Cl. 8—115.5 6 Claims

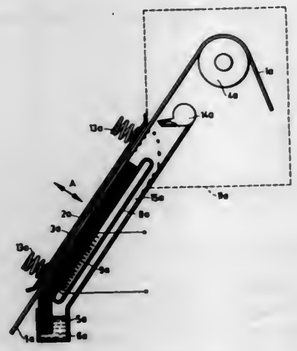
The formation of polymers on a fibrous material by serially impregnating said with two solutions containing, respectively, a multifunctional imine reactant and a polyalkylene imine and the fibrous material produced by such formation.

3,440,003

METHOD OF AND APPARATUS FOR STERILIZING A WEB MATERIAL

Alex Tuma, Loddekopinge, Loddekopinge, Sweden, assignor to AB Tetra Pak, Lund, Sweden, a Swedish company

Filed Aug. 16, 1966, Ser. No. 572,853
Claims priority, application Sweden, Oct. 18, 1965, 13,454/65
Int. Cl. A61l *1/00, 3/00*
U.S. Cl. 21—58 10 Claims



1. A method of sterilizing at least one side of a web material comprising the steps of: providing a porous pad of compressible material, steeping said pad with sterilizing liquid from a storage vessel, heating said sterilizing liquid to a suitable sterilizing temperature, running said web material with one face thereof against said pad and removing sterilizing material from said one face of said material after contact with said pad.

3,440,004

INDIUM FLUOROZIRCONATE, $InZrF_7$

Joseph C. Muhler, Indianapolis, Ind., assignor to Indiana University Foundation, Bloomington, Ind., a corporation not for profit

No Drawing. Filed July 19, 1966, Ser. No. 566,247
Int. Cl. C01g *15/00, 25/00*
U.S. Cl. 23—51 1 Claim

A new composition of matter, namely, indium fluorozirconate, $InZrF_7$, has been discovered. This compound, when incorporated in oral compositions for dental caries prophylaxis (e.g., as a constituent of a dentifrice, prophylaxis paste, or mouthwash), has demonstrated substantial utility as an anti-cariogenic agent.

3,440,005

PROCESS FOR REMOVING CHROMIUM AND SILICON VALUES FROM ALUMINATE SOLUTIONS

Richard Henry Featherston and Silas Edward Carroll, Benton, Ark., assignors to Reynolds Metals Company, Richmond, Va., a corporation of Delaware

No Drawing. Continuation of application Ser. No. 465,782, June 21, 1965. This application Apr. 3, 1968, Ser. No. 718,637
Int. Cl. C01g *7/00;* C01f *11/00*
U.S. Cl. 23—52 6 Claims

Black sand, a ferruginous alkali insoluble bauxite digestion residue, is used to treat an aqueous alkaline slurry obtained by the digestion of an aluminous ore with caustic alkali solution to remove disolved chromium and silicon therefrom by precipitation thereof as insoluble compounds in the black sand, followed by separation of the insoluble chromium and silicon compounds and the black sand from the digestion liquor.

3,440,006

METHOD OF PREPARING ANHYDROUS MAGNESIUM CHLORIDE, BROMIDE, AND IODIDE

Ulrich W. Weissenberg, Midland, Mich., assignor to The Dow Chemical Company, Midland, Mich., a corporation of Delaware

No Drawing. Filed Oct. 31, 1966, Ser. No. 590,521
Int. Cl. C01f *5/26*
U.S. Cl. 23—91 6 Claims

A method of preparing a substantially MgO-free anhydrous magnesium chloride, bromide or iodide which comprises admixing a saturated solution of a hydrated magnesium halide and an absolute alkanol with a cycloaliphatic ether, separating the precipitate formed by such admixture, and heating the precipitate in the substantial absence of moisture to form the substantially MgO-free magnesium halide salt.

3,440,007

METHOD OF REMOVING SULFUR DIOXIDE AND SULFUR TRIOXIDE FROM GASES AND PRODUCING AMMONIUM SULFATE THEREFROM

Tsugio Takeuchi, 1—48 Sakashita-cho, Chigusa-ku, Nagoya, Japan

No Drawing. Filed Mar. 15, 1965, Ser. No. 440,002
Claims priority, application Japan, May 2, 1964, 39/24,823
Int. Cl. C01c *1/24*
U.S. Cl. 23—119 3 Claims

A process comprising contacting a combustion gas containing SO_2 and SO_3 with active carbon at a temperature ranging from room temperature to 250° C., to adsorb onto the active carbon the SO_2 and SO_3 contained in the combustion gas, which are subsequently oxidized with the oxygen and steam also present in the gas to form sulfuric acid on the active carbon, and then reacting the sulfuric acid with ammonia, to thereby recover the same as ammonium sulfate as well as to regenerate the active carbon.

3,440,008

METHOD OF PREPARING BASIC ALUMINUM SULPHATE

Giovanni Bonelli, Piazza Cavour 7, Milan, Italy

No Drawing. Filed Dec. 10, 1962, Ser. No. 243,586
Claims priority, application Italy, Dec. 9, 1961, 18,605/61
The portion of the term of the patent subsequent to Oct. 22, 1984, has been disclaimed
Int. Cl. C01f *7/74;* C01d *7/02*
U.S. Cl. 23—123 7 Claims

1. A process of separating from potash alum the potassium and aluminum components thereof, which includes the steps of: dissolving the potash alum in water having a temperature range of from 50 to 80° C. to form a potassium aluminum sulphate solution, intermixing and reacting freshly precipitated aluminum hydrate with the said potassium aluminum sulphate solution, while maintaining the ratio of aluminum content in the alum to the aluminum content in the aluminum hydrate within the range of from 1:1 to 1:2 to form basic aluminum sulphate and a potassium sulphate solution. and by precipitation separating the basic aluminum sulphate from the thus obtained solution.

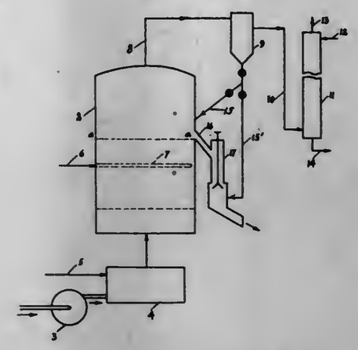
3,440,009

PROCESSING OF SPENT HYDROCHLORIC ACID PICKLE LIQUOR

Harold W. Flood, South Acton, Charles L. Kusik, Cambridge, and Frank J. Tremblay, Dracut, Mass., assignors to Arthur D. Little Inc., Cambridge, Mass., a corporation of Massachusetts

Filed July 19, 1966, Ser. No. 566,342
Int. Cl. C01b *7/08*
U.S. Cl. 23—154 5 Claims

A process for regenerating pickle liquor during steel pickling operations which reclaims ferric oxide in a granular form of large enough size to be usable in iron making processes. The granules are formed in a fluidized bed which is directly heated by combustion gases. The hydrochloric acid is also reclaimed for continuous use by further processing through a solid contaminant separator and absorption column.



3,440,010

METHOD AND APPARATUS FOR MAKING SUPERPHOSPHORIC ACID

William E. Rushton, South Holland, Ill., assignor to Whiting Corporation, a corporation of Illinois

Filed Dec. 23, 1965, Ser. No. 515,846
Int. Cl. C01b *25/18*
U.S. Cl. 23—165 6 Claims

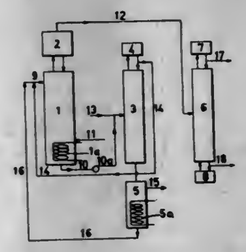
Process and apparatus for concentrating a feed containing orthophosphoric acid to produce a superphosphoric acid product wherein film-like formations which build up on the inner surfaces of heat exchanger tubes during normal operation are removed by periodically circulating through the heat exchanger tubes a film-removing liquid having a phosphoric acid content wherein substantially all of the phosphoric acid is present in the form of orthophosphoric acid.

3,440,011

PROCESS FOR THE MANUFACTURE OF CHLORINE BY OXIDATION OF HYDROGEN CHLORIDE OR NITROSYL CHLORIDE

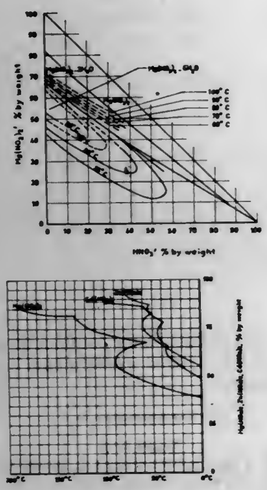
Jean Variaeten, Brussels, and Francis Nisol, Tubize, Belgium, assignors to Solvay & Cie, Brussels, Belgium

Filed Nov. 8, 1965, Ser. No. 506,775
Claims priority, application France, Nov. 7, 1964, 994,270; Oct. 14, 1965, 35,000
Int. Cl. C01b *7/04, 7/00*
U.S. Cl. 23—219 8 Claims



Hydrogen chloride or nitrosyl chloride are converted directly to chlorine by contact in an oxidation zone at 60° to 100° C. with a liquid phase oxidant medium ob-

tained by mixing nitric acid at a concentration not substantially less than 60% with a substantially saturated aqueous solution of a metal nitrate, such as magnesium or zinc nitrate, the quantity of metal nitrate being sufficiently to assure equilibrium of the reaction medium



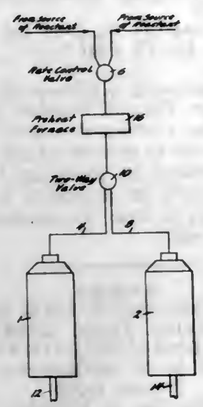
entering the oxidation zone with vapors containing at least 750 g. HNO_3/kg., and being less than the solubility of the metal nitrate in the reaction medium, and the quantity of water present in the reaction medium being always lower than 500 g./kg.

3,440,012
CATALYTIC OXIDATION OF SULFHYDRYL COMPOUND
Wilhelm E. Walles, Midland, and Stanley S. Leff, Bay City, Mich., assignors to The Dow Chemical Company, Midland, Mich., a corporation of Delaware
No Drawing. Filed Sept. 26, 1966, Ser. No. 581,703
Int. Cl. C01b *17/04*
U.S. Cl. 23—225 **3 Claims**

1. Catalytic process for the oxidation to yield elemental sulfur, of a compound in vapor phase bearing a sulfhydryl group, which comprises the step of mixing the said compound in said vapor phase with gaseous oxygen of amount at least stoichiometric to the oxidative reaction desired and thereafter contacting the resulting gaseous mixture in the presence of water with an oxazolidinone or morpholinone compound at a pH near neutral and at a temperature at which water is liquid, whereby elemental sulphur is released.

3,440,013
APPARATUS AND PROCESS FOR DIRECT MEASUREMENT OF HEAT OF REACTION
Norman L. Carr, Allison Park, and Allen E. Somers, Pittsburgh, Pa., assignors to Gulf Research & Development Company, Pittsburgh, Pa., a corporation of Delaware
Filed Dec. 1, 1964, Ser. No. 415,016
Int. Cl. G01k *17/08*
U.S. Cl. 23—230 **3 Claims**

An apparatus and process for obtaining exothermic reaction energies at elevated temperatures in a reactant stream passing through a catalyst bed. The chemical energy released in the chemical reaction is matched with the electrical energy released as heat in an equivalent physical system. The apparatus includes an electrical heating element surrounded by inert particles and designed to fit in a reactor in place of a catalyst bed. Examples of the type of reac-



tions to which the apparatus and process can be applied are hydrogenation, hydrocracking and desulfurization.

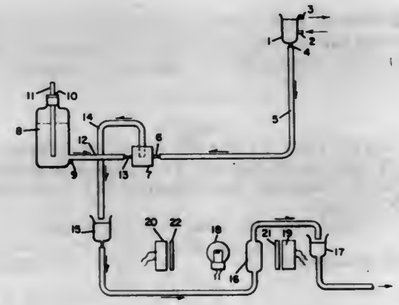
3,440,014
CHELOMETRIC TITRATION METHOD
Thomas M. Robertson, La Grange, and Charles J. Overbeck and James J. Hickey, Chicago, Ill., assignors to Nalco Chemical Company, Chicago, Ill., a corporation of Delaware
No Drawing. Filed Sept. 20, 1965, Ser. No. 488,767
Int. Cl. G01n *31/22*
U.S. Cl. 23—230 **8 Claims**

A method for quantitatively determining the presence of amino polycarboxylic acids or alkali metal salts thereof by a chelometric titration method where an alkaline earth metal halide-Xylidyl Blue II titrant indicator system is used.

3,440,015
NONDESTRUCTIVE METHOD FOR TESTING BATTERIES
Frederic M. Bowers and Regina D. Wagner, Silver Spring, Md., assignors to the United States of America as represented by the Secretary of the Navy
No Drawing. Filed June 23, 1965, Ser. No. 466,486
Int. Cl. G01r *31/16*
U.S. Cl. 23—230 **11 Claims**

A method for determining the capacity of a battery having a silver oxide electrode wtihout a destructive discharge by the steps of: placing a number of electrodes that have been manufactured and processed like that in the battery in a separate sealed compartment in the battery; removing one of the number of electrodes from the sealed compartment; and analyzing the removed electrode for Ag, AgO, and Ag_2O content by a process including (1) separating the silver oxides from the Ag° in a portion of the removed electrode having a known weight by, first, treating the portion with NH_4OH to solubilize the silver oxides into a soluble silver amine complex and, second, separating the soluble silver oxides from the Ag° by filtration, (2) weighing the remaining Ag° to determine the Ag° content, (3) determining the Ag content in the silver oxides by gravimetric chloride, (4) adding a saturated solution of KI to another portion of the removed electrode having a known weight to react with the AgO to produce I_2 which, in turn, reacts quantitatively with the Ag°, (5) determining the amount of I_2 liberated from the amount of I_2 that reacted with the Ag° and the amount of I_2 remaining in solution as measured by $Na_2S_2O_3$ titration, thereby determining the AgO content, and (6) determining the Ag_2O content from the Ag content of the silver oxides and the AgO content, whereby the capacity of the battery may be determined by the chemical composition of said removed electrode.

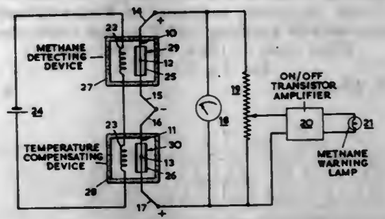
3,440,016
COLORIMETRIC ANALYZER
Earl J. Serfass, St. Petersburg, Fla., assignor to Milton Roy Company, St. Petersburg, Fla., a corporation of Pennsylvania
Filed Sept. 26, 1966, Ser. No. 582,045
Int. Cl. G01n *33/18, 21/26*
U.S. Cl. 23—253 **10 Claims**



1. A chemical analyzer for continuously mixing accurately controlled amounts of liquid sample and reagent in a manner such that the flow of reagent will be stopped when the supply of sample is depleted, said analyzer comprising:
- a reagent bottle having an outlet supplying reagent at zero pressure head,
- a liquid sample vessel having an outlet supplying liquid sample at a constant pressure head,
- a mixing chamber,
- a first capillary of accurately determined inside diameter connected between the outlet of said reagent bottle and said mixing chamber,
- a second capillary of accurately determined inside diameter connected between the outlet of said liquid sample vessel and said mixing chamber, and
- a drain tube having one end connected to an outlet of said mixing chamber and having the other end positioned at a fixed distance below said mixing chamber whereby the negative pressure head at said other end of said drain tube provides suction for mixing accurately controlled amounts of liquid sample and reagent in said mixing chamber.

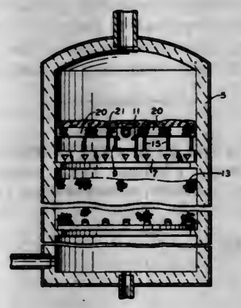
3,440,017
COMBUSTIBLE GAS DETECTING APPARATUS
Thomas Henry Palmer, Stafford, England, assignor to The English Electric Company Limited, London, England, a British company
Continuation-in-part of application Ser. No. 173,761, Feb. 16, 1962. This application Feb. 28, 1966, Ser. No. 530,502
Claims priority, application Great Britain, Feb. 24, 1961, 6,842/61; Mar. 29, 1961, 11,485/61
Int. Cl. G01n *31/12*
U.S. Cl. 23—254 **5 Claims**

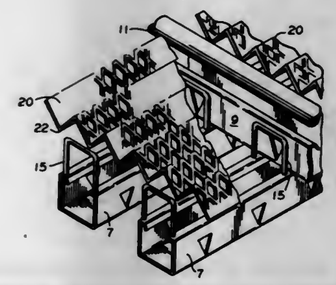
A thermo-couple device for a methane detector comprises a thermo-couple comprising coaxial wires butt-welded and-to-end to form a hot junction, a closely-fitting glass sleeve enclosing the thermo-couple element, and a heating coil encircling the glass sleeve and arranged symmetrically relative to the hot junction. The device may be



enveloped in a catalytic material to render it responsive to the presence of methane.

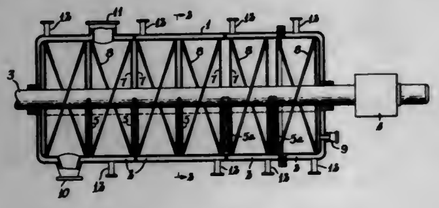
3,440,018
CHEMICAL TREATING TOWER
John S. Eckert, Silver Lake, Ohio, assignor, by mesne assignments, to U.S. Stoneware, Inc., a corporation of Massachusetts
Filed Mar. 11, 1966, Ser. No. 533,672
Int. Cl. B01j *1/00, 1/14*; B01f *5/00*
U.S. Cl. 23—283 **5 Claims**





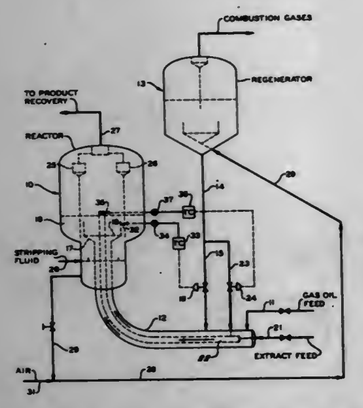
In a liquid vapor treating tower having liquid distributor means positioned near the top of the tower, mist-entrainment separator means, supported by the distributor means, defined by a foraminous element having an undulating cross section wherein the undulations are of substantially uniform amplitude and frequency.

3,440,019
POLYCONDENSATION REACTOR
Werner Albrecht and Manfred Dietze, Offenbach am Main, Wolfgang Kraft, Bad Vilbel, Hans Scheller, Schonberg, Taunus, and Hansjürgen Ullrich, Frankfurt am Main, Germany, assignors to Vickers-Zimmer Aktiengesellschaft Planung und Bau von Industrieanlagen
Filed June 1, 1965, Ser. No. 460,174
Int. Cl. B01j 1/00
U.S. Cl. 23—285 8 Claims



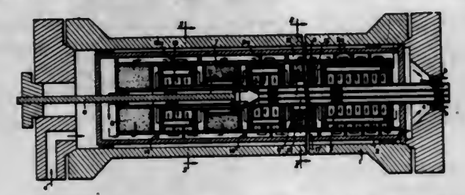
Apparatus for effecting the second stage of polycondensation in making polyesters or polyamides such as polyethylene terephthalate or nylon. The apparatus comprises a horizontally oriented reaction vessel of cylindrical configuration, divided into chamber by vertical, insulated baffle plates. A rotatable shaft extends horizontally through the vessel. Attached to the shaft are helical flights or tumbler rings which agitate polycondensate material as the shaft rotates. Polycondensate pumped from the first polycondensation reactor is heated and transported through the vessel while agitating; vapors such as ethylene glycol are removed through an outlet communicating with a source of reduced pressure. Polycondensate product is drawn off at the bottom of one end of the vessel. The vessel is jacketed along its periphery for temperature control.

3,440,020
CATALYTIC CONVERSION
Charley H. Owen, Phillips, Tex., assignor to Phillips Petroleum Company, a corporation of Delaware
Filed Oct. 16, 1964, Ser. No. 404,334
Int. Cl. B01j 9/12
U.S. Cl. 23—288 7 Claims



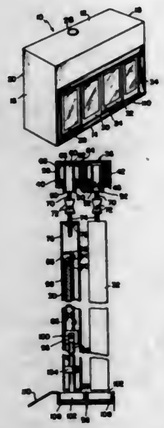
Two different feed materials are fed to the reactor of a fluidized bed catalytic cracker through a riser conduit which is divided into two separate and parallel conduits with at least one of the conduits having its outlet above the fluidized bed of the fluidized bed catalytic cracker reactor. In this manner two different charge stocks can be contacted with two different catalyst-to-oil ratios at two different temperatures.

3,440,021
HIGH PRESSURE REACTOR
Johann Niedetzky and Helmut Hinrichs, Linz (Danube), Austria, assignors to Osterreichische Stickstoffwerke Aktiengesellschaft, Linz (Danube), Austria
Filed July 5, 1966, Ser. No. 562,868
Int. Cl. B01j 9/04
U.S. Cl. 23—289 2 Claims



A horizontal high pressure reactor with a plurality of alternating catalyst chambers and heat exchangers, having provisions for vertical gas flow through the catalyst.

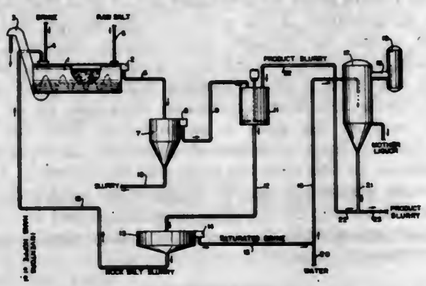
3,440,022
BLOW OUT CLOSURE CONSTRUCTION
Rush H. Elmore, Richmond, Va., assignor to Laboratory Furniture Company, Inc., Mineola, N.Y., a corporation of New York
Filed Mar. 15, 1966, Ser. No. 534,365
Int. Cl. B01l 1/00
U.S. Cl. 23—292 10 Claims



A closure construction for a fume hood including closure members that are mounted on the fume hood to pivot and swing out of closing relation with the fume hood entrance when an excessive pressure occurs in the fume hood.

3,440,023
OBTAINING KCl FROM CRUDE SALTS BY EQUILIBRATING AND DILUTING PRIOR TO PRECIPITATION
Hans Hoppe, Heinz Scherzberg, Günter Döring, and Wolfgang Ulrich, Sondershausen, Germany, assignors to Kali-Forschungsinstitut, Sondershausen, Germany
Filed Sept. 2, 1966, Ser. No. 576,933
Int. Cl. B01d 9/02; C01d 3/04
U.S. Cl. 23—297 3 Claims

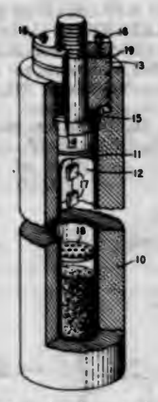
1. A method of making potassium chloride, comprising the steps of dissolving solid crude potassium chloride containing salt in water, heating the solution and separating the hot solution from any remaining crude salt, adding potassium chloride to said purified hot solution, vigorously agitating said hot solution with said potassium chloride until saturated with potassium chloride and an equilibrium ratio is achieved corresponding to the prevailing temperature, separating sodium chloride which deposits from the hot saturated solution, adding water to said hot solution in an amount sufficient to preclude precipitation of any sodium chloride during the cooling step to follow, and cooling said hot saturated solution to precipitate potassium chloride, whereby the resulting potassium chloride deposit has a K_2O-content of at least 60%.



3,440,024
CRYSTALLIZATION OF CALCIUM HYPOCHLORITE DIHYDRATE EMPLOYING ZINC IONS
John P. Faust and Homer L. Robson, Hamden, Conn., assignors to Olin Mathieson Chemical Corporation, a corporation of Virginia
No Drawing. Filed Oct. 19, 1966, Ser. No. 587,701
Int. Cl. B01j 17/04
U.S. Cl. 23—300 10 Claims

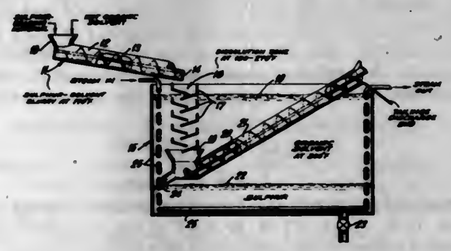
1. Process for the production of crystals of calcium hypochlorite dihydrate having improved filterability by crystallization of calcium hypochlorite dihydrate from aqueous medium containing zinc ions at a temperature of about 20–35° C.

3,440,025
HYDROTHERMAL GROWTH OF POTASSIUM TANTALATE-POTASSIUM NIOBATE MIXED CRYSTALS AND MATERIAL SO PRODUCED
Robert A. Laudise, Berkeley Heights, and David J. Marshall, East Orange, N.J., assignors to Bell Telephone Laboratories, Incorporated, Berkeley Heights, N.J., a corporation of New York
Filed June 20, 1966, Ser. No. 558,911
Int. Cl. B01t 17/20
U.S. Cl. 23—301 9 Claims



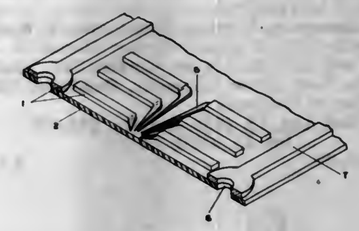
KTN compositions (mixed crystals of potassium tantalate-potassium niobate) are produced by hydrothermal growth using an aqueous potassium hydroxide transfer medium. Resulting crystals show reduced flawing due to lamellar defects as compared with crystals grown by flux techniques.

3,440,026
SOLVENT EXTRACTION OF ELEMENTAL SULPHUR FROM SULPHUR-BEARING MATERIALS
Jerome Dubow, Port Washington, N.Y., assignor to Dubow Chemical Corporation, Valley Stream, N.Y., a corporation of New York
Filed Oct. 6, 1966, Ser. No. 584,743
Int. Cl. C01b 17/08
U.S. Cl. 23—308 11 Claims



1. In a process for the solvent extraction of elemental sulphur from sulphur-bearing materials using a hot organic solvent the improvement comprising, providing a dissolution zone of a hot mixture of a sulphur-bearing material and an organic solvent maintained at a sulphur-dissolving temperature through which the hot mixture passes in a downward direction, said organic solvent having a boiling point above about 300° F., feeding said solvent with dissolved sulphur directly from said dissolution zone into another zone of solvent, said another zone of solvent being in surrounding relationship to the dissolution zone and being maintained at a higher temperature below its boiling point at which said sulphur precipitates as a flowable liquid, and maintaining said other zone at said higher temperature while said liquid sulphur precipitates.

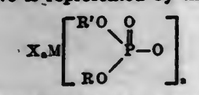
3,440,027
AUTOMATED PACKAGING OF SEMICONDUCTORS
Frances Hugle, Santa Clara, Calif., assignor to Frances Hugle as trustee of Frances Hugle trust
Filed June 22, 1966, Ser. No. 559,622
Int. Cl. H01l 1/00
U.S. Cl. 29—193.5 8 Claims



A continuous roll form array of packages for flip-chip semiconductor devices and integrated circuits wherein the delicate metal conductors to which the chips are face bonded are supported on a flexible insulating strip. This strip supports an entire roll of packages and provides indexing holes along the sides. The individual packages may contain more than one chip and may provide chip to chip interconnections. The number of external electrical package connections is unlimited.

3,440,028
ORGANO METAL HALIDE ORTHOPHOSPHATE GASOLINE ADDITIVE
Anthony J. Revukas, Cranford, N.J., assignor to Cities Service Oil Company, a corporation of Delaware
No Drawing. Continuation-in-part of application Ser. No. 127,858, July 31, 1961. This application Nov. 24, 1964, Ser. No. 413,631
Int. Cl. C10l 1/26
U.S. Cl. 44—69 8 Claims

A metal halide hydrocarbyl orthophosphate additive for leaded gasoline compositions is disclosed wherein the additive is in the amount of between 0.001 and about 5.0 times the theoretical amount (theories) to react stoichiometrically with the lead in the gasoline combustion products. A preferred metal halide hydrocarbyl orthophosphate additive is represented by the general formula



wherein M represents manganese or metals of Group I–B, II–A, II–B, IV–A, VI–B, or VIII of the Periodic Table, *n* and *a* are numbers selected so that *n* plus *a* equals the valence of the metal M, and R and R' each represent hydrocarbyl radicals having from 2 to 30 carbon atoms and soluble to the required extent in gasoline. Preferably at least one of the R and R' radicals represents a branched chain hydrocarbyl radical.

3,440,029
GASOLINE CONTAINING ANTI-ICING ADDITIVE
John C. Little and James P. West, Midland, Mich., assignors to The Dow Chemical Company, Midland, Mich., a corporation of Delaware
No Drawing. Filed May 20, 1964, Ser. No. 369,018
Int. Cl. C10l 1/22; C07c 91/16
U.S. Cl. 44—75 2 Claims

1. An improved gasoline motor fuel composition comprising:

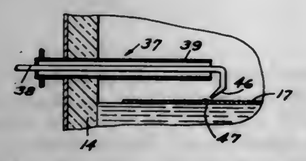
(1) a major proportion of a gasoline that normally tends to promote stalling of internal combustion engines by carburetor icing, and

(2) a small but effective proportion of a gasoline-soluble anti-icing additive having the formula

$$RO(C_2H_4O)_x—C_3H_6—NH_2$$

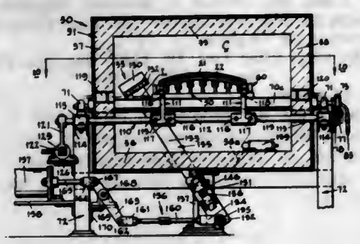
wherein R is an alkylphenyl radical containing 14–18 carbon atoms and *x* is 1–20.

3,440,030
PROCESS USING GAS INLETS TO LATERALLY STRETCH GLASS DURING FLOAT GLASS MANUFACTURING
Robert J. Thompson, Monroe, Premakaran T. Boaz, Detroit, Herbert W. Cholger, Taylor, Dorian R. Gray, Wayne, and John H. Meyer, Garden City, Mich., assignors to Ford Motor Company, Dearborn, Mich., a corporation of Delaware
Filed Aug. 15, 1966, Ser. No. 572,497
Int. Cl. C03b 18/02
U.S. Cl. 65—99 5 Claims



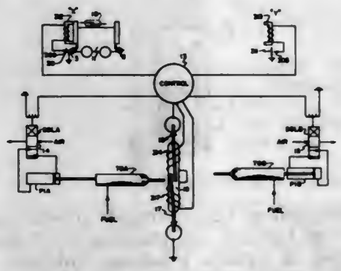
A method for producing glass of less than equilibrium thickness has the following steps. Molten glass is delivered to a molten bath housed in a glass processing chamber. The glass is flowed out on the bath and, before a ribbon of glass having an equilibrium thickness is established on the bath, lateral stretching forces are applied to the ribbon edges by impinging jets of fluid thereagainst. The temperature of the glass is high enough that solid rolls cannot be brought into contact therewith. The stretched ribbon is cooled to a temperature whereat the glass will form a self-supporting ribbon of glass having a thickness less than equilibrium thickness. In an alternate method, the glass is permitted to flow out upon the bath to form a ribbon of glass with an equilibrium thickness. In this case the glass will be cooled to a temperature whereat it can be engaged by solid rolls. The lateral stretching of the glass is accomplished by utilization of jets of fluid directed against the lateral edges of the ribbon of glass.

3,440,031
APPARATUS FOR PRODUCING MULTIPLE SHEET GLAZING UNITS
Eugene W. Babcock, Perrysburg, Ohio, assignor to Libbey-Owens-Ford Company, Toledo, Ohio, a corporation of Ohio
Filed May 9, 1966, Ser. No. 548,812
Int. Cl. C03c 27/00
U.S. Cl. 65—152 4 Claims



Apparatus for producing all-glass multiple sheet glazing units which are curved about one axis. The already-bent sheets are supported horizontally in spaced, face-to-face relation and conveyed past a first sealing station where stationary burners heat the straight edges to fuse them together, and then to a second sealing station where they are stopped while a movable burner follows the curved edges.

3,440,032
METHOD AND APPARATUS FOR MAKING DIMPLED REED CAPSULES
Bates C. Cook, Jr., Chicago, and Richard M. Rovnyak, Hanover Park, Ill., assignors to Automatic Electric Laboratories, Inc., Northlake, Ill., a corporation of Delaware
Filed Aug. 16, 1965, Ser. No. 479,736
Int. Cl. C03b 23/12, 23/18
U.S. Cl. 65—160 2 Claims



A dimple is placed in the glass envelope of a reed switch adjacent each reed contact to prevent stray magnetic fields from closing reed contacts which vibrate upon release. The process for forming the dimples is controlled by apparatus which simulates operation under stray magnetic field conditions and which continuously monitors the progress of dimple formation. The control apparatus includes circuits for operating a reed switch under adverse stray field conditions, control circuits for operating gas fueled torches heat the envelope and CRT displays for visually monitoring dimple formation.

3,440,033
METHOD FOR PRODUCING GRANULAR PRODUCT
Srini Vasan, Glencoe, Ill., assignor to International Minerals & Chemical Corporation, a corporation of New York
No Drawing. Filed June 25, 1964, Ser. No. 378,064
Int. Cl. C05d 1/02
U.S. Cl. 71—28 11 Claims

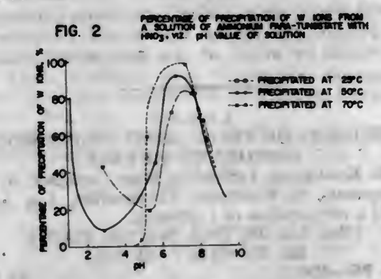
Potash pellets are prepared by establishing a particulate mixture consisting essentially of water-soluble crystalline potash salts having a water content of about 5 to 13% by weight, extruding the crystalline salts while they are at a temperature of 50° to 180° F. through a restricted path having a diameter of from about 0.07 to about 0.25 inch, and severing the extruded salts to provide a cylindrical pellet having a length of about 1 to 10 times the diameter thereof. The restricted path is preferably characterized by a first conical section of decreasing cross-section, a second cylindrical section and a third conical section of increasing cross-section.

3,440,034
DEFOLIANT COMPOSITIONS
Richard E. Fuller, Bellingham, Mass., assignor to Allied Chemical Corporation, New York, N.Y., a corporation of New York
No Drawing. Filed Oct. 22, 1965, Ser. No. 502,522
Int. Cl. A01n 13/00, 5/00
U.S. Cl. 71—70 2 Claims

An aqueous plant defoliant and fertilizer composition having as the essential active ingredient, a synergistic combination of sodium arsenite and a fertilizer mixture of urea and ammonium nitrate. There is present 4 to 8 parts of arsenite and 30 to 140 parts of nitrogen fertilizer per 100 gallons of defoliant composition.

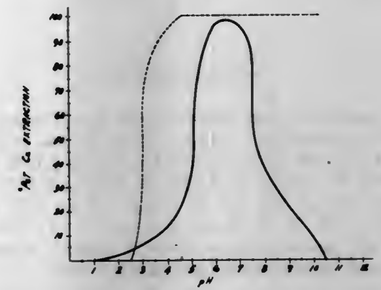
3,440,035
METHOD FOR PREPARING RAW MATERIALS FOR SINTERED ALLOYS
Keizo Iwase, Toshio Takada, and Masao Kiyama, Kyoto-shi, Shigenobu Kasahara, Kawasaki-shi, Tamotsu Fukatsu and Soukichi Takatsu, Yokohama-shi, and Teiji Kusaka, Kyoto-shi, Japan, assignors to Toshiba Tungaloy Kabushiki Kaisha, Kawasaki-shi, Kanagawa-ken, Japan, a joint-stock company of Japan
Filed Aug. 30, 1965, Ser. No. 483,422
Int. Cl. B22f 9/00; C22c 1/06
U.S. Cl. 75—.5 18 Claims

FIG. 2



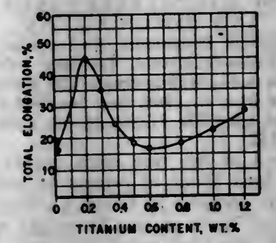
A method for economically preparing raw materials for sintered alloys of superior quality characterized in that a solution or a suspension of ammonium paratungstate and a nitric or hydrochloric aqueous solution of at least one metal selected from the iron group consisting of cobalt, nickel and iron are mixed. Said mixture is then subjected to a neutralizing reaction at a temperature of 20 to 80° C. and the pH value of the mother solution after reaction thereof is adjusted to 4.5 to 8.0. The resultant fine composite precipitate containing tungsten and at least one metal of the said iron group and having the desired composition to be controlled according to reaction condiions is filtered and dried by heating; and then subjected to reduction and carburization to obtain the composite powder.

3,440,036
RECOVERY OF COPPER FROM COPPER-BEARING SOLUTIONS
Robert W. Spinney, Staten Island, N.Y., assignor to Nassau Smelting and Refining Company, Incorporated, Staten Island, N.Y., a corporation of New York
Filed May 16, 1966, Ser. No. 550,282
Int. Cl. C22b 15/00
U.S. Cl. 75—117 15 Claims



A process for extracting copper from copper-bearing ammonium persulfate etch solutions wherein the pH of the solution is adjusted to a value in the range of 5.5 to 7.5, and copper is extracted by liquid-liquid extraction utilizing an organic phase comprising a water-insoluble liquid hydrocarbon and an α-hydroxy oxime as the extraction agent.

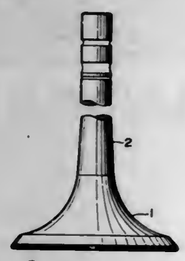
3,440,037
STAINLESS STEEL ALLOY EXHIBITING RESISTANCE TO EMBRITTLEMENT BY NEUTRON IRRADIATION
William R. Martin and James R. Weir, Oak Ridge, Tenn., assignors to the United States of America as represented by the United States Atomic Energy Commission
Filed Nov. 5, 1965, Ser. No. 506,914
Int. Cl. C22c 39/22; G21c 13/08
U.S. Cl. 75—128 1 Claim



This invention relates to a structural alloy material for service in a neutron environment wherein the improvement comprises a boride-forming element incorporated in said alloy in an amount which forms a homogeneous dis-

persion of boride within the metal matrix of said alloy, thereby reducing the migration of said boron to the grain boundaries, said alloy consisting essentially of 17–20% chromium, 8–11% nickel, a small proportion of carbon, 0.1–0.25% titanium, incidental amounts of boron-10, and the balance substantially all iron.

3,440,038
HIGH TENACITY CHROMIUM-NICKEL MANGANESE AUSTENITIC STEEL
Yoshiro Araki, Tokyo, Japan, assignor to Mitsubishi Jukogyo Kabushiki Kaisha, Tokyo, Japan
Filed Jan. 18, 1966, Ser. No. 521,275
Claims priority, application Japan, Feb. 6, 1965, 40/6,503
Int. Cl. C22c *41/02, 39/26, 39/44*
U.S. Cl. 75—128 **4 Claims**



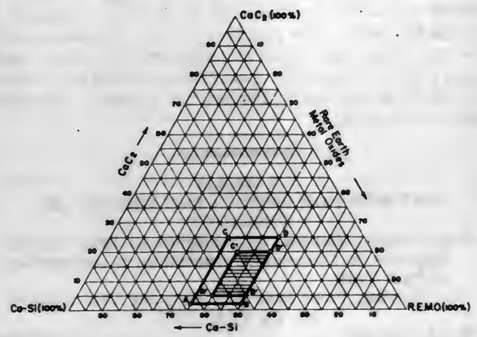
The austenitic steel alloys of high tensile strength contain 0.31 to 0.57% C, 0.11 to 1.91% Si, 6.4–11.9% Mn, 6.1 to 11.1% Ni, 16.0 to 22.0% Cr, 0.40 to 2.10% W, 0.09 to 0.59% N, 0.0051 to 0.22% B, 0.01 to 0.12% S, and Fe, the total of Mn and Ni being 12.0 to 19% and the total of C, Si, W, N, S and B being 1.4 to 4.2%. These alloys are particularly stable with respect to heat and have excellent processability characteristics.

3,440,039
BRAZING ALLOYS
Michael Ernest Hall Watson, Birmingham, England, assignor to Joseph Lucas (Industries) Limited, Birmingham, England, a British company
No Drawing. Filed Feb. 10, 1966, Ser. No. 526,400
Claims priority, application Great Britain, Feb. 12, 1965, 6,129/65
Int. Cl. C22c *5/00*
U.S. Cl. 75—134 **2 Claims**

A brazing alloy has been found to be capable of use in a brazing operation at a temperature in the region 580 to 640° C., provided the alloy has the following constituency by weight, namely 39 to 46.2% silver, 27.4 to 34.9% copper, 13.2 to 17.6% indium and 9.6 to 13.6% tin.

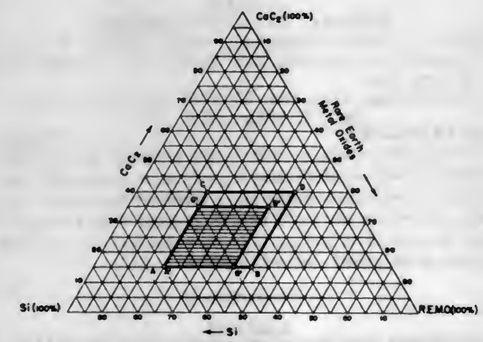
3,440,040
PROCESS OF MAKING RARE EARTH METALS AND SILICON ALLOYS
Rudolf Kallenbach, Dubendorf, Switzerland, and Walter Bungardt, Essen-Stadtwald, Germany, (both % Th. Goldschmidt A.G., Sollingstrasse 120, Essen, Germany)
Filed May 6, 1966, Ser. No. 548,135
Int. Cl. C22c *31/00, 35/00, 1/06*
U.S. Cl. 75—152 **4 Claims**

Master alloys of the rare earth metals and silicon containing at least about 40 percent by weight of rare earth metals are prepared by forming a reaction mixture containing about 35–50 percent by weight of rare earth metal oxides or rare earth metal salts, between about 25 and 62.5 percent by weight of a calcium and silicon alloy containing between 5 and 40 percent by weight of calcium, and between about 2.5 and 25 percent by weight of calcium carbide, the reaction mixture then being heated at a temperature of between about 1200 and 1800° C. to reduce the rare earth metal oxides or salts and to obtain



a rare earth metal-silicon master alloy product containing at least about 40 percent by weight rare earth metals.

3,440,041
METHOD OF PRODUCING RARE EARTH METALS AND SILICON ALLOYS
Rudolf Kallenbach, Dubendorf, Switzerland, and Walter Bungardt, Essen-Stadtwald, Germany (both % Th. Goldschmidt A.G., Sollingstrasse 120, Essen, Germany)
Filed May 6, 1966, Ser. No. 548,136
Int. Cl. C22c *35/00, 31/00, 1/06*
U.S. Cl. 75—152 **4 Claims**



Master alloys of rare earth metals and silicon are prepared by forming a reaction mixture containing between about 20 to 45 percent by weight of rare earth metal oxides or salts, between about 15 to 65 percent by weight of silicon or a ferrosilicon alloy containing at least 30 percent by weight of silicon, and between about 15 to 40 percent by weight calcium carbide, the reaction mixture being heated to effect reduction of the rare earth metal constituent of the mixture and to obtain a rare earth metal and silicon alloy product containing between about 25–35 percent by weight silicon and between about 45–65 percent by weight of rare earth metals plus iron.

3,440,042
METHOD OF PRODUCING DISPERSION HARDENED METALS
Albert R. Kaufmann, Lexington, Mass., assignor, by mesne assignments, to Whittaker Corporation, Los Angeles, Calif., a corporation of California
Filed Jan. 28, 1965, Ser. No. 428,705
Int. Cl. C22c *1/10, 1/05*
U.S. Cl. 75—206 **13 Claims**

This invention relates to a method of producing dispersion hardened metals by mechanically blending particles of a matrix metal and dispersoid particles, and then extruding and re-extruding the blend until the original particles of matrix metal have been transformed into elongated fiber having an average diameter of less than one micron.

3,440,043
METHOD OF PRODUCING TUNGSTEN POWDER BODIES INFILTRATED WITH COPPER TITANIUM ALLOYS
Edward J. Zdanuk, Lexington, and Richard H. Krock, Peabody, Mass., assignors to P. R. Mallory & Co., Inc., Indianapolis, Ind., a corporation of Delaware
Original applications Mar. 11, 1966, Ser. No. 533,579, now Patent No. 3,303,026, dated Feb. 7, 1967, and Oct. 21, 1966, Ser. No. 600,311, now Patent No. 3,353,933, dated Nov. 21, 1967. Divided and this application Aug. 21, 1967, Ser. No. 671,521
The portion of the term of the patent subsequent to Aug. 22, 1984, has been disclaimed
Int. Cl. B22f *3/26, 7/04*
U.S. Cl. 75—208 **7 Claims**

In a method for fabricating a composite consisting of essentially tungsten-copper-titanium including the steps of providing a sintered tungsten body contacted with copper and titanium and heating the sintered tungsten body and contacting metals in a vacuum environment below the melting point temperature of the tungsten and above the melting point temperature of the copper whereby the copper and titanium substantially completely infiltrate the tungsten body thereby forming a composite material consisting essentially of tungsten-copper-titanium.

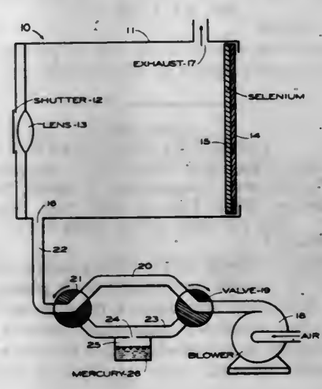
3,440,044
ANTHROIC ACIDS AND METAL ANTHROATE SALTS USED AS PHOTOCONDUCTORS IN ELECTROPHOTOGRAPHIC IMAGING METHODS
Louis A. Du Pleasis, Midland, Mich., assignor to The Dow Chemical Company, Midland, Mich., a corporation of Delaware
No Drawing. Filed July 19, 1965, Ser. No. 473,176
Int. Cl. G03g *5/08, 13/04*
U.S. Cl. 96—1 **9 Claims**

New anthroic acids, particularly the 1-, 2-, or 9-acids, are useful as photoconductive materials. Similarly useful are selected metal salts of anthroic acid: when the metal is cadmium or mercury the carboxylate group is in the 2 or the 9 position, when the metal is lead, chromium, titanium or tin the carboxylate group is in the 9 position, and when the metal is zinc the carboxylate group is in the 1, 2 or 9 position. A new electrophotographic recording element comprises a substrate having on the surface thereof an electrophotosensitive layer containing the described photoconductive material. Such electrophotographic recording element is used in a method of electrophotographically reproducing an image.

3,440,045
ELECTROPHOTOGRAPHIC PROCESS FOR THE MANUFACTURE OF A HIGHLY HEAT-RESISTANT IMAGE
Erwin Lind, Auringen uber Wiesbaden, Germany, assignor, by mesne assignments, to Azoplate Corporation, Murray Hill, N.J.
No Drawing. Filed Aug. 30, 1965, Ser. No. 483,847
Claims priority, application Germany, Sept. 1, 1964, K 53,898
Int. Cl. G03g *13/04, 5/08*
U.S. Cl. 96—1 **2 Claims**

This invention relates to a photographic reproduction process which comprises the sequential steps of exposing an electrostatically charged photoconductive element to light under a master, said element comprising a layer of inorganic photoconductive pigment dispersed in an insulating resinous binder on a conductive support selected from the group consisting essentially of (1) a highly heat-resistant alloy having a nickel content in the range of 60–85 percent and a chromium content in the range of about 12–25 percent, and (2) steel having a nickel content in the range of 19–40 percent and a chromium content in the range of 18–26, developing the electrostatic image with a toner and fixing the resultant image, wiping the surface of the photoconductive insulating layer with a solvent therefor to remove non-image areas thereof, and heating the layer at a temperature in the range of 1000° C. to 1300° C. for a time sufficient to sinter the toner image.

3,440,046
LIGHT INDUCED IMAGING OF SELENIUM IN THE PRESENCE OF CADMIUM OR MERCURY VAPORS
John W. Droege and Carl W. Melton, Columbus, Ohio, assignors, by mesne assignments, to The Battelle Development Corporation, Columbus, Ohio, a corporation of Delaware
Filed Oct. 22, 1965, Ser. No. 501,020
Int. Cl. G03c *5/04, 5/24*
U.S. Cl. 96—27 **4 Claims**



A fixed visible image or other detectable image of high resolution is provided by focusing an image of light on a solid or amorphous surface of selenium and contacting the surface with mercury vapor or cadmium vapor.

3,440,047
PHOTOPOLYMER OFFSET PRINTING PLATES OF THE ETCH TYPE
Steven Levinos, Vestal, and John A. Bergfjord, Binghamton, N.Y., assignors to General Aniline & Film Corporation, New York, N.Y., a corporation of Delaware
No Drawing. Filed Aug. 10, 1964, Ser. No. 388,710
Int. Cl. G03c *1/68;* **G03f** *1/02*
U.S. Cl. 96—36.3 **5 Claims**

A process for preparing an offset printing image, and a light-sensitive material for utilization therein, said light-sensitive material comprising a copper or chromium coated aluminum plate having thereon an acrylic resin coating and superposed thereon, a dried coating of an emulsion containing a photopolymerizable compound, said process comprising the imagewise exposure of the photopolymerizable surface to light, development and removal of the unpolymerized resin in the unexposed area, followed by etching of the metallic coating in that area, and finally, removal of the photopolymer and acrylic resin.

3,440,048

METHOD AND COMPOSITION FOR PRODUCTION OF COMBINATION LINE AND HALFTONE PHOTOENGRAVINGS

Walter S. Marx, Jr., Santa Barbara, Calif., assignor to Printing Arts Research Laboratories, Inc., Santa Barbara, Calif., a corporation of Delaware

No Drawing. Filed Oct. 12, 1964, Ser. No. 403,388
Int. Cl. G03c 5/04
U.S. Cl. 96—41 12 Claims

A combination line and halftone reproduction of an illustration is prepared by first using a color-changeable material to prepare the tone areas of an illustration and conventional materials for the lines. A halftone reproduction of the illustration is first prepared, then the illustration is contacted with a material which will change the color of the color-changeable material to a new color and then a line negative of the illustration is photographically produced with light having the same spectral characteristics as the new color.

3,440,049

POLYHYDROXY-SPIRO-BIS-INDANE PHOTOGRAPHIC TANNING AGENT

Jerome Albert Moede, Rochester, N.Y., assignor to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware

No Drawing. Filed June 3, 1966, Ser. No. 554,970
Int. Cl. G03c 5/30
U.S. Cl. 96—66 9 Claims

This invention relates to the use of polyhydroxy-spiro-bis-indane tanning agents in silver halide photography.

3,440,050

LITHOGRAPHIC PLATE

Simon Chu, New York, N.Y., assignor to Polychrome Corporation, Yonkers, N.Y.

No Drawing. Filed Feb. 5, 1965, Ser. No. 430,753
Int. Cl. G03c 1/94; B41n 1/04
U.S. Cl. 90—75 13 Claims

There are disclosed herein lithographic light-sensitive plates, and a method for making such plates, having an anodized aluminum base sheet, a reaction product on the surface of the aluminum base sheet formed by a reaction between the anodized aluminum surface and a Group IV–B metal fluoride, and a light-sensitive coating thereover.

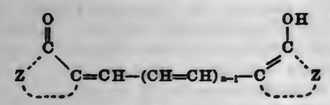
3,440,051

OXONOL DYES FOR LIGHT FILTERING LAYERS IN PHOTOGRAPHIC ELEMENTS

Joseph Bailey, Wealdstone, Harrow, England, assignor to Eastman Kodak Company, Rochester, N.Y., a corporation of New Jersey

Original application Mar. 27, 1961, Ser. No. 98,709, now Patent No. 3,247,127. Divided and this application June 25, 1965, Ser. No. 478,003
Claims priority, application Great Britain, Apr. 14, 1960, 13,379/60
Int. Cl. G03c 1/84
U.S. Cl. 96—84 2 Claims

1. A novel light-sensitive photographic element comprising at least one layer containing a sensitive silver halide emulsion and at least one layer containing a dye having the formula:



wherein Z represents the nonmetallic atoms necessary to complete a 1-carboxyalkyl-3-hydrocarbon substituted hexahydro-2,4,6-trioxo-5-pyrimidine nucleus and *n* is an integer of from 1 to 3.

3,440,052

SENSITIZED SILVER HALIDE EMULSIONS WITH HOLOPOLAR DYES CONTAINING A DILACTONE RING

Donald W. Heseltine, Rochester, N.Y., assignor to Eastman Kodak Company, Rochester, N.Y., a corporation of New Jersey

No Drawing. Filed June 10, 1965, Ser. No. 463,024
Int. Cl. G03c 1/10
U.S. Cl. 96—105 3 Claims

Photographic silver halide emulsions are spectrally sensitized with a holopolar dye containing a dilactone ring.

3,440,053

SILVER HALIDE PHOTOGRAPHIC EMULSIONS CONTAINING ALLOPOLAR CYANINE DYES

John V. Holtzclaw and Leslie G. S. Brooker, Rochester, N.Y., assignors to Eastman Kodak Company, Rochester, N.Y., a corporation of New Jersey

No Drawing. Filed Dec. 22, 1966, Ser. No. 603,786
The portion of the term of the patent subsequent to Nov. 19, 1985, has been disclaimed
Int. Cl. G03c 1/10
U.S. Cl. 96—105 10 Claims

Allopolar cyanine dyes are derived from 2,4-chromandione or 3H-naphtho[2,1-b]pyran-1,3-(2H)-dione. Photographic emulsions are provided containing such dyes. Novel merocyanine dye intermediates are provided for the preparation of the subject allopolar cyanine dyes. The allopolar dyes are prepared by condensing the merocyanine dye intermediates with a quaternary salt.

3,440,054

PRODUCTION OF PROTEINATES

Louis Sair, Evergreen Park, Ill., assignor to The Griffith Laboratories, Inc., Chicago, Ill., a corporation of Illinois

No Drawing. Filed Mar. 5, 1964, Ser. No. 349,735
Int. Cl. A23j 1/22; C07g 7/00
U.S. Cl. 99—14 18 Claims

Production of dry neutralized proteinates by reacting hydrophilic protein with alkali or alkaline earth metal hydroxides in the presence of sufficient water to effect reaction with said protein and prior to decomposition of the protein and thereafter drying. Mechanical pressure and heat may be applied before drying.

3,440,055

NOVEL LECITHINS AND CHOCOLATE CONTAINING THE SAME

William A. Cleary, Somerset, N.J., and Paul A. Sartoretto, New York, N.Y., assignors to W. A. Cleary Corporation, New Brunswick, N.J., a corporation of New York

No Drawing. Filed Mar. 1, 1965, Ser. No. 436,327
Int. Cl. A23g 1/00; A23j 7/00
U.S. Cl. 99—23 14 Claims

Disclosed is a method of fractionating lecithin, by extracting one volume of a mixture containing 30–85% by weight of acetone insoluble lecithin phosphatides, the balance being oil, with 0.5 to 2 volumes of alcohol to obtain a first alcohol extract. The first extract is separated and a second similar extraction is made on the insoluble residue. The second alcohol soluble extract is useful for reducing and stabilizing the viscosity of chocolate.

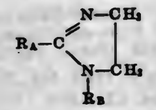
3,440,056

CHEMICALLY PRESERVED FERMENTED MALT BEVERAGES

Thomas F. McFadden, New Bedford, and Theodore A. Schueler, South Dartmouth, Mass., assignors of one-third to Samuel E. Brown, New Bedford, Mass.

No Drawing. Filed Aug. 11, 1966, Ser. No. 571,728
Int. Cl. C12h 1/00; B01j 1/16; C09k 3/00
U.S. Cl. 99—48 9 Claims

A fermented malt beverage containing a preserving amount of an imidazole compound or acid salt thereof represented by the formula



wherein R_A is an aliphatic hydrocarbon radical, the carbon atoms of which range from 8 through 18, and R_B is an alkanol radical.

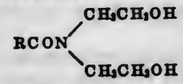
3,440,057

FERMENTED MALT BEVERAGES CHEMICALLY PRESERVED

Thomas F. McFadden, New Bedford, and Theodore A. Schueler, South Dartmouth, Mass., assignors of one-third to Samuel E. Brown, New Bedford, Mass.

No Drawing. Filed Aug. 18, 1966, Ser. No. 573,179
Int. Cl. C12h 1/00; B01j 1/16; C09k 3/00
U.S. Cl. 99—48 6 Claims

A fermented malt beverage containing a preserving amount of a diethanolamide represented by the formula



wherein R is an aliphatic hydrocarbon radical containing from 7 to 16 carbon atoms.

3,440,058

ACTIVE DRY YEAST

Seymour Pomper, Stamford, Conn., and Emanuel Akerman, Bronx, N.Y., assignors to Standard Brands Incorporated, New York, N.Y., a corporation of Delaware

No Drawing. Filed Sept. 28, 1965, Ser. No. 491,026
Int. Cl. C12c 11/18; A23j 1/18
U.S. Cl. 99—96 16 Claims

An active dry yeast having a moisture content below about 7.5 percent by weight and a glyceryl diester wherein one of the ester groups is derived from a saturated fatty acid having a carbon chain length greater than 12 and the other ester group contains at least one available acid group. The ester imparts superior leavening activity to the yeast.

3,440,059

ACTIVE DRY YEAST

Seymour Pomper, Stamford, Conn., and Emanuel Akerman, Bronx, N.Y., assignors to Standard Brands Incorporated, New York, N.Y., a corporation of Delaware

No Drawing. Filed May 31, 1966, Ser. No. 553,659
Int. Cl. C12c 11/02; A23j 1/18; A23l 1/28
U.S. Cl. 99—96 11 Claims

An active dry yeast product comprising yeast having a low moisture level and a small but effective amount of an antioxidant selected from the group consisting of 4-hydroxymethyl-2,6-di-tert-butylphenol; 4,4-methylenebis(2,6-di-tert-butylphenol); 3,4-methylenedioxyphenol; 2,5-dihydroxybenzoic acid and 1,2-dihydroethoxy-2,2,4-trimethyl quinoline. The small amount of the antioxidant present imparts superior air storage stability to the yeast product.

3,440,060

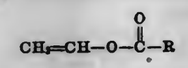
CHEWING GUMS

Howard M. Rife, Charleston, and Leolin V. Landers, South Charleston, W. Va., assignors to Union Carbide Corporation, a corporation of New York

No Drawing. Continuation-in-part of application Ser. No. 204,068, June 21, 1962. This application Dec. 23, 1965, Ser. No. 516,088
Int. Cl. A23g 3/00
U.S. Cl. 99—135 7 Claims

1. A chewing gum containing conventional chewing gum ingredients and, as a base material, an effective amount of a polymer selected from the group consisting of (a) a copolymer of vinyl acetate and ethylene containing from about 1 to about 40 percent by weight combined ethylene, based on the weight of said copolymer, and (b) a terpolymer of vinyl acetate, ethylene, and an ester having the formula

(I)



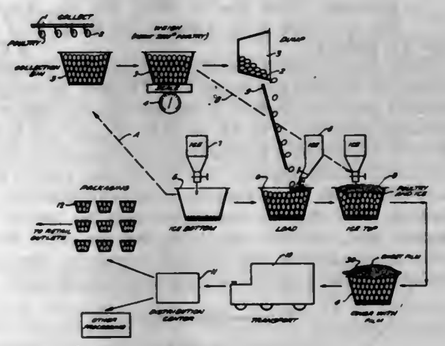
wherein R is a monovalent hydrocarbon radical containing from 8 to 22 carbon atoms inclusive, said terpolymer containing from about 1 to about 40 percent by weight combined ethylene and from about 1 to about 15 percent by weight combined ester (I), said percent by weight based on the weight of said terpolymer; and each of said polymers having a grade of from about 1.2 to about 20, an intrinsic viscosity of from about 0.05 to about 0.75, and a plasticity of from about 0.03 to about 2.7.

3,440,061

BULK HANDLING OF COMESTIBLES

Thomas J. Horan, 3111 Rowena Drive, Los Alamitos, Calif. 90720

Filed Jan. 26, 1965, Ser. No. 428,116
Int. Cl. A23b 1/06
U.S. Cl. 99—192 1 Claim



A method for the long distance delivery of comestibles which comprises introducing a weighed bulk quantity of the comestibles and particulated ice into a bulk shipment container having a capacity of from about 175 to about 350 gallons, covering the container, and shipping the covered container to a distant distribution center while continuously draining fluids from the filled container. At the distribution center, the container is dumped to separate the poultry from the ice whereupon the poultry is repackaged in smaller containers for distribution to the retailers.

3,440,062

METALIZING COMPOSITIONS CONTAINING CRITICAL PROPORTIONS OF METAL (Pt-Au OR Pd-Au) AND A SPECIFIC HIGH DENSITY FRIT

Lewis C. Hoffman, Wilmington, Del., assignor to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware

No Drawing. Filed Feb. 28, 1966, Ser. No. 530,410
Int. Cl. C09d 5/10
U.S. Cl. 106—1 12 Claims

Metalizing compositions comprising from 70 to 95% finely divided noble metal powder and 30 to 5% finely divided inorganic binder, wherein the noble metal powder

contains critical amounts of gold, platinum, and/or palladium, and said inorganic binder consists essentially of glass having a density of at least 7.2 gm./cc. These particular compositions can be fired over a wide range of firing conditions to produce coatings which do not migrate, possess superior temperature stability and exhibit high adhesive values.

3,440,063

EMULSION COMPOSITION AND PROCESS FOR USE IN AUTOMATIC CAR WASHES

Benjamin A. Chestochowski, Cincinnati, Edward J. Conklin, Forest Park, and Cecil A. Ellison, Cincinnati, Ohio, assignors to The Procter & Gamble Company, Cincinnati, Ohio, a corporation of Ohio

No Drawing. Filed Sept. 30, 1965, Ser. No. 491,886
Int. Cl. C09f *9/00;* C08h *17/00, 9/00*
U.S. Cl. 106—8 8 Claims

An emulsion composition for use in automatic car washes comprising a monoester (C_6–C_{12} moieties), an acetic acid salt of a fatty amine, a hydrotrope, a short chain alcohol and water; processes for removing water from automobiles utilizing said emulsion compositions.

3,440,064

FIRE-RETARDANT SULPHUR COMPOSITIONS

Allen C. Ludwig, San Antonio, Tex., assignor, by mesne assignments, to Research Corporation, New York, N.Y., a non-profit corporation of New York

No Drawing. Filed Apr. 4, 1966, Ser. No. 539,724
Int. Cl. C09k *3/28;* C09d *5/18;* B27k *3/52*
U.S. Cl. 106—15 8 Claims

There is provided a fire retardant sulphur composition containing sulphur and from 1 to 15 parts by weight per hundred parts of sulphur of styrene and/or alkene mercaptans and from 1 to 15 parts by weight per hundred parts of sulphur of a substantially non-vaporizing organic compound which together with the styrene and/or alkene mercaptan gives a non-burning or self-extinguishing composition. The organic compound may be maleic acid, fumaric acid, phthalic anhydride and the esters thereof; cyclic hydrocarbons; halogenated aromatics, phosphates and chlorinated paraffins among other compounds.

3,440,065

CELLULOSE-CONTAINING DENTURE ADHESIVE

Anthony Laurence La Via, Milltown, N.J., assignor to E. R. Squibb & Sons, Inc., New York, N.Y., a corporation of Delaware

No Drawing. Filed Dec. 5, 1966, Ser. No. 598,974
Int. Cl. C09j *3/02;* A61c *13/22*
U.S. Cl. 106—35 4 Claims

This invention relates to an improved denture adhesive in which wood flour, microcrystalline cellulose or other tasteless, inert, natural wood pulp derivative in finely powdered form, such as pure alpha-cellulose is incorporated in a gum-petrolatum base.

3,440,066

SAND MOULDING MIXTURES

James Beale, Nechells, Birmingham, England, assignor to Foseco International Limited, Birmingham, England, a company of Great Britain

No Drawing. Filed Mar. 11, 1966, Ser. No. 533,426
Claims priority, application Great Britain, Mar. 18, 1965, 11,563/65; Nov. 16, 1965, 48,620/65
Int. Cl. C04b *31/20;* B28b *7/34*
U.S. Cl. 106—38.35 5 Claims

A sand moulding mixture including sand and water and an additive including natural clay impregnated with a mineral oil.

3,440,067

CERAMIC DIELECTRICS

Shinobu Fujiwara, Minami-Akita-gun, Akita-ken, and Takao Shiraiwa, Akita-shi, Japan, assignors to TDK Electronics Co., Ltd., Tokyo, Japan

Filed June 8, 1964, Ser. No. 373,314
Int. Cl. C04b *35/00*
U.S. Cl. 106—39 4 Claims

Ceramic dielectric materials are provided having a relatively large dielectric constant and high Q-value, namely, low dielectric loss. The dielectric materials consist essentially of a sintered mixture of $BaTiO_2$ ranging from 30 to 93 molar percent, $La_2O_3 \cdot 2TiO_2$ ranging from 1 to 30 molar percent and $SrTiO_3$ ranging from 1 to 69 molar percent.

3,440,068

AMORPHOUS GLASS COMPOSITIONS

Robert J. Patterson, Dallas, and Andre E. Tilton, Plano, Tex., assignors to Texas Instruments Incorporated, Dallas, Tex., a corporation of Delaware

Filed Dec. 21, 1966, Ser. No. 603,623
Int. Cl. C03c *3/30, 13/00*
U.S. Cl. 106—47 3 Claims

Disclosed are compositions of matter comprising germanium, selenium, and tellurium, many samples of which have been found to be glasses transmitting in the infrared region of the electromagnetic spectrum, and some of which have been found to be crystalline. Also disclosed are methods of compounding these compositions, and an illustration of the use of the glass compositions of this invention as a transmitting element within an infrared detection system.

3,440,069

METHOD OF IMPROVING ROLL FORMING PROPERTIES OF MOLTEN MATERIALS

Richard E. Allen, Corning, N.Y., assignor to Corning Glass Works, Corning, N.Y., a corporation of New York

Filed Nov. 17, 1965, Ser. No. 508,265
Int. Cl. C03c *3/12, 3/30;* C03b *13/00*
U.S. Cl. 106—53 5 Claims

A method of improving roll forming properties of molten high dielectric constant glass ceramic materials by adding to the batch thereof an effective amount of at least 0.25 percent by weight of fluorine computed on a free fluorine basis, effective to decrease the adhesion of said materials to glass forming rollers.

3,440,070

VITRIFIED PRODUCTS

John L. Dewey, Pleasanton, Calif., assignor to The Dow Chemical Company, Midland, Mich., a corporation of Delaware

No Drawing. Filed May 5, 1966, Ser. No. 547,773
Int. Cl. C04b *33/12, 33/04*
U.S. Cl. 106—67 9 Claims

A vitrified article of high strength, and novel method of making such article, which comprises admixing with a moldable green clay stock, per hundred parts by weight of kaolinate clay in said stock, between about 0.005 and (sometimes referred to as a chelant) between about 0.005 and about 0.2 part of a polyoxyalkylene glycol (sometimes called a polyglycol) and optionally an aqueous polystyrene latex in an amount sufficient to provide up to 0.2 part of polystyrene solids, and sufficient water to produce a moldable composition; molding the composition into a desired shape; and heating or firing the so molded article, as in a kiln or a hot air oven.

3,440,071

PLYWOOD ADHESIVE AND PROCESS OF FORMING SAME

John Thomas Stephan, 1318 W. Kessler, Longview, Wash. 98632

No Drawing. Filed Nov. 30, 1966, Ser. No. 597,895
Int. Cl. C09h *11/00;* B32b *21/14*
U.S. Cl. 106—154 22 Claims

Insoluble fertilizer grade blood rendered in a form usable as a plywood adhesive constituent by combining thereof in aqueous slurry with seed stock selected from the group consisting of whole legume seeds, safflower seeds, oil seed residues, and mixtures thereof, the blood-seed slurry being hydrated and reduced in particle size by hydro-pulping the slurry with multiple passes thereof through a mechanical grinding apparatus, after which the hydrated product is combinable with hydrated lime or like alkaline earth hydroxide, with caustic soda or like alkali metal hydroxide, and with an alkali metal salt capable of undergoing a double decomposition reaction with the alkaline earth metal hydroxide, such as sodium silicate, to produce a plywood adhesive having good spreadability on commercial double roll glue spreaders and excellent bonding characteristics when utilized as either a cold press or hot press plywood adhesive.

3,440,072

CARTRIDGE WAD AND PROCESS FOR THE MANUFACTURE THEREOF

Benjamin K. Daubenspeck and Edward A. Rickey, Stratford, Conn., assignors to Remington Arms Company, Inc., Bridgeport, Conn., a corporation of Delaware

No Drawing. Original application Apr. 29, 1965, Ser. No. 452,007, now Patent No. 3,270,671, dated Sept. 6, 1966. Divided and this application Feb. 23, 1966, Ser. No. 529,218
Int. Cl. C09j *3/26;* C08b *27/60, 27/18*
U.S. Cl. 106—200 6 Claims

A dry process of making ammunition wads by heating and blending asbestos with suitable filler material, either a ligneous cellulose material or some synthetic material, adding a suitable wax binder, blending and cooling the dry mixture, and then molding the mixture into the completed wad in one step.

3,440,073

ASPHALTIC MATERIALS

Loren M. Fowler and Harry D. Burrell, Lawrenceville, Ill., assignors to Witco Chemical Company, Inc., New York, N.Y., a corporation of New York

No Drawing. Filed Mar. 15, 1965, Ser. No. 439,960
Int. Cl. C10c *3/04;* C08h *13/00*
U.S. Cl. 106—273 7 Claims

Reducing the objectionable odors of asphaltic materials, particularly for use of said asphaltic materials as sealants in refrigerators and freezers, by air blowing and steaming the asphaltic materials, in hot liquid from, and incorporating in said hot liquid asphaltic materials, prior to or during the air blowing or steaming steps, a water solution of a water-soluble inorganic alkaline material such as sodium hydroxide, sodium carbonate and potassium hydroxide.

3,440,074

PRODUCTION OF IMPROVED ROAD SURFACING BINDERS

Robert Stern, St.-Gratien, Val-d'Oise, France, and Thomas Ronald Welch, Ashford, and John Ashley Sage, Chertsey, England, assignors to The British Petroleum Company Limited, London, England, a company of England

No Drawing. Filed Mar. 3, 1965, Ser. No. 436,934
Claims priority, application Great Britain, Mar. 16, 1964, 10,919/64
Int. Cl. C08h *13/00*
U.S. Cl. 106—279 16 Claims

Road surfacing binders are prepared from Middle East crudes by mixing a vacuum residue with an aromatic flux oil and blowing the mixture to grade. In the case of the crudes under consideratiton, i.e. Middle East crudes, improved temperature susceptibility, viscosity and wax content are achieved by using a vacuum residue having a cut point above 530° C., preferably 550–570° C.

3,440,075

GOLDEN FLAKE PIGMENTS COATED WITH SILVER AND HYDROUS OXIDES

William J. Marshall, Wilmington, Del., assignor to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware

No Drawing. Filed Feb. 6, 1967, Ser. No. 614,015
Int. Cl. C09c *1/68, 1/36, 1/28*
U.S. Cl. 106—291 8 Claims

Flake pigments with a brilliant golden sparkle consisting of a pigmentary size mica or glass flake substrate coated with a thin layer of silver in particulate form (0.020 gram to 0.40 gram of silver per square meter of flake surface), overcoated with a translucent layer of a hydrous oxide (SiO_2, TiO_2 or Fe_2O_3).

3,440,076

RAISED PRINTING PROCESS

Frans V. E. Vaurio, Appleton, Wis., assignor to Fox River Paper Corporation, Appleton, Wis., a corporation of Wisconsin

No Drawing. Filed Nov. 12, 1965, Ser. No. 507,520
Int. Cl. B44d *1/14;* B41m *5/26*
U.S. Cl. 117—13 6 Claims

The method of forming raised hard printed characters on a sheet of paper. An ink composition is printed on the paper and then contacted with a dry material. One of the ink composition and dry material contains a thermosetting resin and the other contains a blowing agent and a curing agent. The dry material not adhering to the ink is removed and the resin associated with the printed character is then cured.

3,440,077

METHOD OF FABRICATING A COLOR CATHODE RAY TUBE SCREEN

Joseph J. Dapolito, Lyons, and William D. te Grootenhuis, Seneca Falls, N.Y., assignors to Sylvania Electric Products Inc., a corporation of Delaware

No Drawing. Filed Aug. 8, 1966, Ser. No. 570,708
Int. Cl. B44d *1/04, 1/095*
U.S. Cl. 117—18 5 Claims

1. In a method of fabricating upon the concave surface of the faceplate of a cathode ray tube a screen suitable for the reconstruction of polychrome images which screen comprises sets of discrete elements of at least two different colored light emitting phosphors affixed thereon by a photographic technique, the improvement which comprises the method of providing an admixture of phosphor particles and a photosensitized material on said concave surface prior to the formation of said discrete patterns which comprises the steps of: cleaning said concave surface of said faceplate; applying to said concave surface a tacky, photosensitized material in a manner to provide a substantially uniform thickness thereof and under conditions whereby said photosensitized material will remain, for at least a prescribed time, in a condition to provide adherence of phosphor particles thereto; positioning said concave surface at a phosphor receiving station; providing at least the area immediately adjacent said phosphor receiving station with a controlled atmosphere having a temperature in the range of about 70° to 80° F. and a relative humidity in the range of about 40% to 50%; surrounding said concave surface with a phosphor cloud confining tub having an opening in a wall thereof diametrically opposed to and remote from said concave surface;

drawing dry phosphor particles from a supply thereof to a mixing manifold; drawing substantially contaminant free air containing no impurities of a size larger than 7 microns of a given temperature and humidity from a supply thereof to said mixing manifold; mixing said phosphor particles and said air to provide a suspension of particles; introducing a phosphor dispensing gun through said opening to a position within said tub; feeding said suspension of phosphor particles from said manifold to said gun; dispensing said suspension from said gun to form a cloud within said tub; depositing on the photosensitized material a prescribed amount of phosphor particles; rotating said concave surface and said tub at a given speed about an axis of rotation during the dispensing of said suspension whereby substantially uniform distribution of said phosphor particles is achieved; and removing said tub and siphoning off the remainder of said phosphor cloud for subsequent use after said prescribed amount of phosphor particles has been deposited.

3,440,078

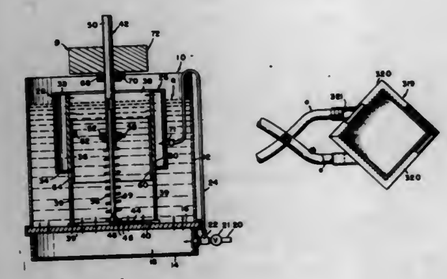
HOLDING AND MASKING DEVICE

Robert R. Sharetts, Reading, Pa., assignor, by mesne assignments, to The Polymer Corporation, a corporation of Pennsylvania

Continuation of application Ser. No. 197,654, May 25, 1962. This application Mar. 16, 1966, Ser. No. 534,916

Int. Cl. B44d *1/095, 1/52*

U.S. Cl. 117—21 **12 Claims**



Articles to be coated in heat fusion processes are masked and held by a device that impinges a moving stream of air against that portion of the article to be masked.

3,440,079

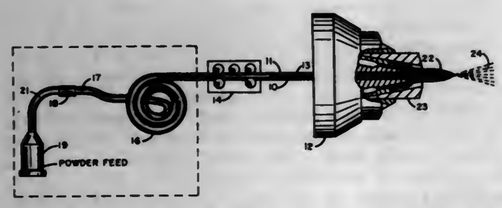
SPRAY COATING

Gerald A. Jensen, Lowell, Mass., assignor to Avco Corporation, Cincinnati, Ohio, a corporation of Delaware

Filed Feb. 10, 1965, Ser. No. 431,596

Int. Cl. B44d *1/97*

U.S. Cl. 117—22 **4 Claims**



The invention is directed to means for and method of depositing a composite coating comprising a matrix with particle inclusions on a substrate. The composite coating is formed by spraying a tube of material to an apparatus capable of melting and atomizing the tube and spraying the molten particles on a substrate. The particle inclusions in the composite are supplied through the passage of the tube and combined with the atomized particles and simultaneously sprayed to the substrate. Any combination of meltable tubing and heat resistant particles may be used.

3,440,080

CATHODE RAY TUBE COLOR SCREEN AND METHOD OF PRODUCING SAME

Michio Tamura, Fujisawa-shi, and Mitsuyoshi Nakamura, Tokyo, Japan, assignors to Sony Corporation, Tokyo, Japan, a corporation of Japan

Filed June 30, 1966, Ser. No. 561,930

Claims priority, application Japan, July 7, 1965, 40/40,666

Int. Cl. C09k *1/04;* **H01j** *29/32*

U.S. Cl. 117—33.5 **34 Claims**

1. The method of manufacturing a given color-emitting phosphor element for use in a pattern on a luminescent screen containing a plurality of different color-emitting phosphor elements in predetermined matching illuminants in a selective pattern on an inner surface of said screen, comprising forming a first coating on the inner surface of said screen, said coating predominantly containing a phosphor material that substantially emits a greater given color intensity than that matched by said different phosphor elements, forming a second coating of a predominantly luminance control material substantially coextensively superimposed on said first coating to effect cooperation with said first coating a resultant luminance that is matched in predetermined luminance by said different phosphor elements.

3,440,081

METHOD FOR THE FABRICATION OF IMAGE DISPLAY SCREENS

Andrew Glovatsky, Joseph B. Shinal, and Walter W. Slobbe, Seneca Falls, N.Y., assignors to Sylvania Electric Products Inc., a corporation of Delaware

Filed Dec. 20, 1965, Ser. No. 514,901

Int. Cl. B05c *7/02;* **H01j** *31/12*

U.S. Cl. 117—34 **4 Claims**

Method and apparatus are disclosed for applying a substantially uniform coating of viscous material to a cathode ray tube face plate in a series of sequential passes each of which encompasses approximately half of the face plate area.

3,440,082

METHOD OF REMOVING SCALE FROM FERROUS ARTICLES PRIOR TO COATING

Leonard J. Kube, Milwaukee, Wis., assignor to A. O. Smith Corporation, Milwaukee, Wis., a corporation of New York

No Drawing. Filed Mar. 29, 1965, Ser. No. 443,649

Int. Cl. B44d *1/092, 1/34;* **C23c** *7/00*

U.S. Cl. 117—49 **4 Claims**

A method of removing scale from ferrous articles by blasting the article with finely divided metallic particles while the article is at an elevated temperature in the range of 300–1,000° F. and exposed to the atmosphere. After blasting, the article is cooled in the atmosphere to room temperature thereby providing a treated surface conditioned for the application of a protective coating such as paint.

3,440,083

PRESSURE-SENSITIVE FOILS AND METHOD OF MAKING SAME

Joseph D. Fleming, Concord, Mass., Earl J. Sanchez, Metairie, La., Charles L. Farris, Beaverton, Oreg., and Norman T. Notley, New Orleans, La., assignors to Kalvar Corporation, New Orleans, La., a corporation of Louisiana

No Drawing. Continuation-in-part of abandoned application Ser. No. 434,694, Feb. 23, 1965. This application Dec. 2, 1966, Ser. No. 599,350

Claims priority, application Great Britain, Jan. 19, 1966, 2,466/66

Int. Cl. C08g *51/02;* **B44d** *1/22, 5/04*

U.S. Cl. 117—63 **16 Claims**

An opaque pressure-sensitive foil which can be cleared in selected areas by application of pressure and a method of making the same. The foil is made from a coating containing a plastic resin having an equilibrium water uptake of up to about 8% and containing uniformly dispersed therein about 2–40 parts, per 100 parts of resin, of an opacifier compound. The foil is made opaque by contacting a hot aqueous fluid. The opacifier compound is soluble in water at the temperature of the hot aqueous fluid to a degree of at least 60 grams per 100 grams of water. The coating initially is made by mixing the resin and the opacifier compound together with a solvent for the resin and the compound and evaporating the solvent.

3,440,084

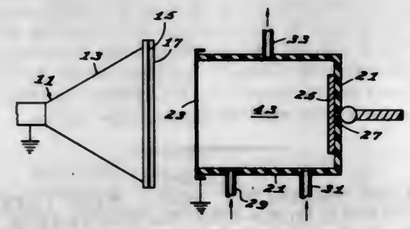
SIMULTANEOUS ELECTROSTATIC DEPOSITION AND ELECTRON BOMBARDMENT POLYMERISATION OF GASEOUS ALPHA-BETA UNSATURATED MONOMERS

Allen H. Turner, Ann Arbor, Mich., assignor to Ford Motor Company, Dearborn, Mich., a corporation of Delaware

Filed Jan. 4, 1966, Ser. No. 518,584

Int. Cl. B44c *1/04;* **B44d** *1/18, 1/26*

U.S. Cl. 117—93.31 **11 Claims**



A method is provided for coating an electrically-conductive object with a gaseous coating material and simultaneously curing such coating. A stream of the gaseous coating material is passed through an electric field extending between a first electrode and the object to be coated in an inert atmosphere and electrostatically deposited upon the object by an electron beam transmitted through such field transversely to said stream.

3,440,085

METHOD OF AND APPARATUS FOR PRODUCING COATED PARTICLES

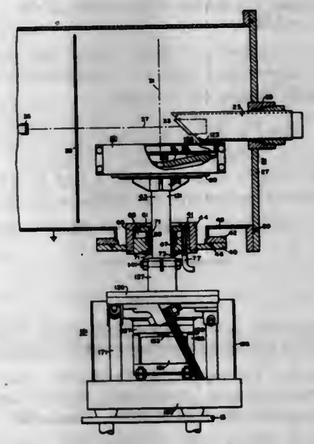
Donald E. Baker, New Kensington, and John E. Eck, Apollo, Pa., assignors to Nuclear Materials and Equipment Corporation, Apollo, Pa., a corporation of Pennsylvania

Filed Dec. 16, 1963, Ser. No. 330,772

Int. Cl. C23c *13/02, 13/12*

U.S. Cl. 117—100 **21 claims**

Particles to be coated are subjected, on a surface **91** (FIG. 1), to a coating vapor emitted by a target **33** impinged by a high-power electron beam. The particles are recirculated between the surface **91** and a feed pan **89**, on which they drop through a hole **93** in surface **91**, by way of interlaced helices **90, 92, 94, 96** (FIG. 3). The advance of the particles is effected by drive **151** (FIG. 1) which imparts to the helices and surface **91** a periodic motion having the wave-form shown in FIG. 9. During the gradual forward rising parts of the motion the particles are advanced on the helices and along the surface **91**. During the abrupt retracting parts of the motion the particles are suspended over the helices and surface **91**.



3,440,086

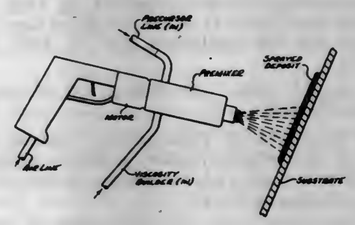
POLYURETHANE PRECURSOR-VISCOSITY BUILDER AND CURING AGENT COATING COMPOSITION AND METHOD OF COATING THEREWITH

Richard A. Kerns, La Crescenta, Calif., assignor to The Firestone Tire & Rubber Company, Akron, Ohio, a corporation of Ohio

Filed Dec. 23, 1964, Ser. No. 420,607

Int. Cl. B05b *7/26;* **C23c** *7/00;* **C09d** *3/12*

U.S. Cl. 117—105.5 **5 Claims**



A viscosity builder is used with polyurethane to be sprayed on to the slanting surface or the undersurface of a substrate. The polyurethane precursor and diisocyanate curing agent for the viscosity builder are introduced into the spray nozzle through one feed line, together with some of the viscosity builder, if desired; and polyamine or polyol curing agent for the precursor together with the balance of the viscosity builder, or all of it, are introduced to the spray nozzle through a separate feed line. As they are sprayed simultaneously on to the substrate, they set up almost instantaneously.

3,440,087

POLYUREA COATING FOR COPPER

Marwan R. Kamal and Harold A. Wittcoff, Minneapolis, Minn., assignors to General Mills, Inc., a corporation of Delaware

No Drawing. Filed Oct. 5, 1965, Ser. No. 493,241
Int. Cl. B44d *1/30*; C09d *3/48*
U.S. Cl. 117—132 10 Claims

Copper and copper-containing alloys are protected by coating the same with a polyurea prepared by reacting a polyisocyanate having the formula

$$\left[R\right]\left[(CH_2)_yNCO\right]_x$$

where y is 0 or 1, x is 2 to about 4 and R is the hydrocarbon group of polymeric fat acids with aldimines or ketimines of aliphatic polyamines in the presence of moisture.

3,440,088

COMPOSITION AND PROCESS FOR SURFACE TREATING FLUOROCARBON RESIN

Akira Yamada, Takatsuki-shi, Osaka-fu, and Tsuyoshi Aruga, Mishima-gun, Osaka-fu, Japan, assignors to Daikin Kogyo Kabushiki Kaisha, Osaka-shi, Japan

No Drawing. Filed Oct. 2, 1964, Ser. No. 401,213
Claims priority, application Japan, Oct. 4, 1963, 38/53,407
Int. Cl. B44d *1/22*; B32b *27/06, 9/04*
U.S. Cl. 117—138.8 16 Claims

A composition and process for treating the surfaces of fluorocarbon resins in order to improve the ability of such resins to be bonded to each other and to other substrates. The composition comprises 5 to 60% by weight of solid paraffin having a melting point of 30° to 100° C. in a solution of a complex compound formed from an alkali metal and polyaryl hydrocarbon. The composition is preferably used in paste form. The process involves applying the composition to the resin surface and then washing it off.

3,440,089

ELECTROSTATIC DUPLICATION PAPER

Floyd L. Edris, Pottstown, Pa., assignor to The Firestone Tire & Rubber Company, Akron, Ohio, a corporation of Ohio

No Drawing. Original application Oct. 23, 1965, Ser. No. 504,086, now Patent No. 3,291,766, dated Dec. 13, 1966. Divided and this application Apr. 19, 1966, Ser. No. 543,542
Int. Cl. G03g *7/00*; B32b *33/00, 27/10*
U.S. Cl. 117—155 5 Claims

1. As an article of manufacture, duplication paper for use in electrostatic printing processes comprising a paper substrate coated with a continuous film of a polymer consisting essentially of

(a) from about 5 to 15% by weight of solubilized shellac;

(b) up to about 75% by weight of monovinyl aromatic monomer;

(c) up to 25% of a member selected from the group consisting of aliphatic monovinyl monomers, aliphatic monovinylidene monomers and divinyl benzene, and

(d) the balance comprising conjugated diolefin monomer,

the aggregate amount of (c) comprising less than about twice the diolefin monomer content of said polymer, the aggregate of (c) and (d) in said polymer comprising at least 18% by weight of said polymer.

3,440,090

ELECTROCONDUCTIVE COATED PAPER AND METHOD FOR PREPARING SAME

Yoshio Matsunaga, Stamford, Conn., assignor to American Cyanamid Company, Stamford, Conn., a corporation of Maine

No Drawing. Filed May 25, 1965, Ser. No. 458,761
The portion of the term of the patent subsequent to Oct. 29, 1985, has been disclaimed
Int. Cl. D21h *1/40*; B32b *29/06*
U.S. Cl. 117—201 16 Claims

There is provided an electrically conductive paper adapted for non-impact printing containing on its surface a continuous coating of an electroconductive azine complex having at 20° C. a resistivity lower than about 5×10^4 ohms-cm. and conforming to the configuration:

$$[D]_m[A]_n$$

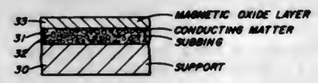
wherein D is an azine selected from the group consisting of a phenothiazine and a phenoselenazine, A represents a dihalogen dicyano-p-benzoquinone, m and n are each an integer from 1 to 3, said complex being present in amounts corresponding to from about 10 milligrams to about 100 milligrams of the complex per square foot of the paper.

3,440,091

CONDUCTIVE MAGNETIC TAPE SUPPORT

Paul J. Delmore, Rochester, N.Y., assignor to Eastman Kodak Company, Rochester, N.Y., a corporation of New Jersey

Filed Apr. 5, 1965, Ser. No. 445,652
Int. Cl. H01b *1/04*; B32b *7/12*; G11b *5/66*
U.S. Cl. 117—216 5 Claims



A magnetic recording material is provided wherein a layer containing conductive material is in intimate contact with the surface of the magnetic layer opposite that surface which touches the recording heads; for example, a magnetic material having a magnetic oxide material secured to a flexible support via an adhesive interlayer containing particulate particles of conductive carbon.

3,440,092

ART OF PRODUCING METAL SALT IMPREGNATED SILICA-COATED SUBSTRATES

William V. Best, Independence, Mo., Roland L. Hughes, Leawood, Kans., and Lewis M. Austin, Toledo, Ohio, assignors to Owens-Illinois Glass Company, a corporation of Ohio

No Drawing. Filed Nov. 20, 1964, Ser. No. 412,837
Int. Cl. B05b *7/20*; C09k *1/00*
U.S. Cl. 117—33.5 4 Claims

There is disclosed a process for depositing a sintered layer of finely divided silica containing an oxide of a transition metal or a rare earth metal upon the surface of a substrate having a linear coefficient of thermal expansion approximately the same as that of the finely divided silica in the fused state.

3,440,093

PROCESS FOR CRYSTALLIZING DEXTROSE

Leo R. Idaszak, Oak Lawn, Ill., assignor to Corn Products Company, New York, N.Y., a corporation of Delaware

No Drawing. Filed Nov. 14, 1966, Ser. No. 593,748
Int. Cl. C13k *1/10*
U.S. Cl. 127—58 6 Claims

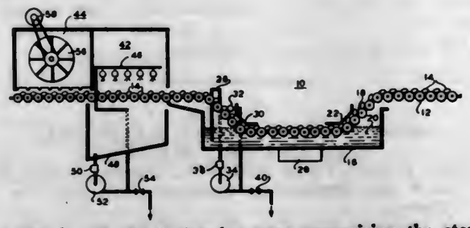
Broadly speaking, the instant invention is concerned with an improved method of crystallizing dextrose. More specifically, the present invention relates to a method of preparing dextrose crystals, relatively coarse in nature via an efficient productive technique. Conventionally, crystalline dextrose is prepared by crystallizing a feed liquor to yield a massecuite and separating out dextrose crystals from the massecuite by removal of mother liquor. The gist of the present invention lies in preparing under certain specified conditions dextrose crystals relatively coarse in character. As an initial step, crystallization should take place under conditions whereby the dextrose crystals during the entire first step of crystallization are substantially completely surrounded by the mother liquor phase. The massecuite is then removed to a separate zone and concentrated to a crystal phase concentration in excess of 50%. Crystalline dextrose is then separated from the massecuite concentration by routine procedures.

3,440,094

ULTRASONIC EGG CLEANING

Lewis Adam, Sea Girt, and Stanley S. Lanes, Matawan, N.J., assignors to Blaw Associates, % Ross E. Brown, Spring Lake, N.J., a partnership of New Jersey

Filed Oct. 19, 1966, Ser. No. 587,804
Int. Cl. B08b *3/10*
U.S. Cl. 134—1 24 Claims



1. The method of cleaning eggs comprising the steps of providing alkaline cleaning solution, ultrasonically cavitating the cleaning solution, continuously feeding eggs into, through and out of said ultrasonically cavitated cleaning solution, each of said eggs being fed through said solution for less than three minutes, and continuously washing said eggs with water after said eggs are fed out of said cleaning solution.

3,440,095

PROCESS FOR TREATING METAL

Louis C. Larsonneur, Palos Heights, Ill., assignor to Nalco Chemical Company, Chicago, Ill., a corporation of Delaware

No Drawing. Filed Sept. 1, 1966, Ser. No. 576,551
Int. Cl. B08b *3/08*; C23f *11/04*
U.S. Cl. 134—3 5 Claims

1. A process for inhibiting corrosion of metal surfaces in contact with a corrosive solution of acid which comprises maintaining contact of said surface with said acid which additionally contains a corrosion inhibiting amount of a 1 to 9 mole propylene oxide adduct of thiourea to substantially inhibit corrosion of said metal.

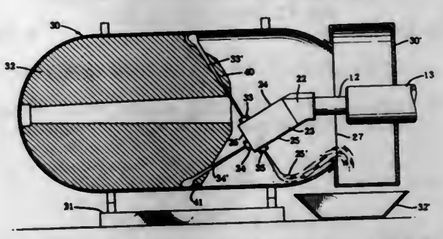
3,440,096

METHOD OF REMOVING SOLID PROPELLANT

Lyle B. Scott, South Gate, Calif., assignor to Byron Jackson Inc., Long Beach, Calif., a corporation of Delaware

Filed July 16, 1962, Ser. No. 209,997
Int. Cl. B08b *9/08, 3/02*
U.S. Cl. 134—24 3 Claims

1. The method of removing propellant from a substantially horizontally disposed rocket engine cylinder having an axially aligned access through one end comprising advancing axially through said propellant and in a direction away from said access a pair of angularly related revolving fluid jets, progressively eroding a swath through said propellant with one of said pair of fluid jets, progressively eroding a second swath through said propellant intersecting the first swath with the other of said pair of fluid jets, and simultaneously advancing axially



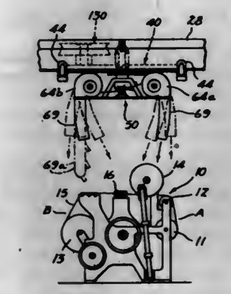
through said propellant a third revolving fluid jet following said pair of jets in said direction and directed reversely to the direction of advance of said jets to flush through said access from said cylinder spent fluid and waste propellant.

3,440,097

METHODS FOR CLEANING LOOMS

Hamlin J. Gleaton, Greenville, S.C., assignor to Eaton Yale & Towne Inc., a corporation of Ohio

Filed Apr. 28, 1966, Ser. No. 546,068
Int. Cl. B08b *5/00*
U.S. Cl. 134—37 4 Claims



1. A method of cleaning lint from looms arranged in a plurality of rows comprising the steps of:

(a) providing a crane extending transversely of said rows and supporting first and second air blowers,

(b) positioning said first blower for movement over the front portions of the looms in a first row,

(c) positioning said second blower for movement over the back portions of the looms in said first row,

(d) concurrently moving both blowers along said first row, while actuating said first and second blowers to blow air down onto the front and back portions, respectively, of the looms in said first row,

(e) indexing said blowers along said crane transversely of said rows into alignment with a second row of looms wherein the looms are oppositely disposed relative to the looms in said first row,

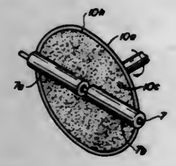
(f) repositioning said blowers subsequent to movement along said first row by rotating said blowers 180 degrees about a generally vertical axis so that said first blower is aligned with the front portions of the looms in said second row and said second blower is aligned with the back portions of the looms in said second row,

(g) and, thereafter, concurrently moving both blowers along said second row, while actuating said first and second blowers to blow air down on the front and back portions, respectively, of the looms in said second row.

3,440,098
RECHARGEABLE CURRENT-GENERATING ELECTROCHEMICAL SYSTEM WITH WIPER MEANS

Zbigniew Stachurski, New York, N.Y., assignor to Yardney International Corp., New York, N.Y., a corporation of New York

Filed Mar. 19, 1965, Ser. No. 441,265
Int. Cl. H01m 35/00, 45/02
U.S. Cl. 136—6 6 Claims



There is disclosed a current-generating electrochemical system characterized by cooperation between the electrode and a means sweeping the electrode for decreasing destructive phenomena occurring at the interface. An active electrode is juxtaposed with at least one counter-electrode and co-operates with a wiper or deflecting member, preferably disposed adjacent the surface of the reversible electrode to compact the active layer deposited upon its electrolyte-contacting face. Either the wiper or the electrode can be mounted for relative displacement with respect to the other.

3,440,099
ELECTROLYTE ADDITIVES FOR NICKEL-CADMIUM CELLS

Yutaka Okinaka, Madison, N.J., assignor to Bell Telephone Laboratories, Incorporated, Murray Hill, N.J., a corporation of New York

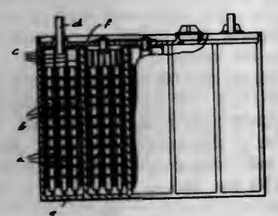
Filed Nov. 15, 1966, Ser. No. 594,439
Int. Cl. H01m 43/04, 39/04
U.S. Cl. 136—6 7 Claims

1. A nickel-cadmium cell comprising a nickel-hydroxide positive electrode and a cadmium negative electrode both in contact with an aqueous electrolyte comprising a first constituent selected from the group consisting of sodium hydroxide, potassium hydroxide and mixtures thereof and an additive selected from the group consisting of sodium borate, potassium borate, sodium phosphate, potassium phosphate and mixtures thereof.

3,440,100
STORAGE BATTERY

Ricardo Salcedo Gumucio and Angel Pascual Ardanuy, Madrid, Spain, assignors to Instituto Nacional De Industria, Madrid, Spain

Filed Dec. 13, 1965, Ser. No. 513,200
Claims priority, application Spain, June 2, 1965, 313,675
Int. Cl. H01m 39/00, 41/00
U.S. Cl. 136—26 12 Claims

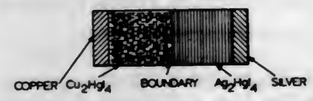


A storage battery which comprises a housing, at least one positive electrode including lead dioxide as active mass, located in the housing, at least one negative electrode including as negative active mass a composite amalgam of silver and of at least one metal selected from the group consisting of zinc, cadmium and copper, located in the housing spaced from the positive electrode, and an acidic electrolyte consisting essentially of sulfuric acid of effective concentration located in the housing and contacting the positive and negative electrodes.

3,440,101
TEMPERATURE RESPONSIVE GALVANIC CELL

Daniel Grafstein, Morristown, N.J., assignor to General Precision Inc., Little Falls, N.J., a corporation of Delaware

Filed Feb. 9, 1966, Ser. No. 526,120
Int. Cl. H01m 43/00, 39/04
U.S. Cl. 136—83 1 Claim



The process of making a galvanic cell pellet, comprising the steps of pressing a copper foil to a flat mass of copper mercury iodide; pressing a flat mass of silver mercury iodide on the copper mercury iodide mass opposite the copper foil; pressing a silver foil on the silver mercury iodide mass opposite the copper mercury iodide mass; and, pressing this composite for a time period of the order of 15 minutes at a pressure of the order of 5,000 p.s.i. under vacuum conditions.

3,440,102
METHOD OF OPERATING A FUEL CELL WITH AN INSOLUBLE FUEL

Eugene L. Holt, Forest Hills, N.Y., assignor to Esso Research and Engineering Company, a corporation of Delaware

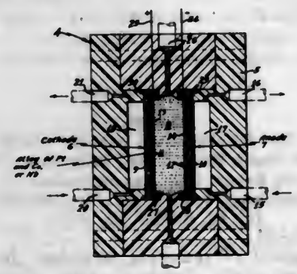
No Drawing. Filed Dec. 27, 1963, Ser. No. 334,001
Int. Cl. H01m 27/22
U.S. Cl. 136—86 10 Claims

The operation of a fuel cell utilizing a liquid fuel insoluble in an electrolyte of either phosphoric acid, sulfuric acid, or perchloric acid is rendered more efficient by maintaining the electrolyte-fuel mixture at its boiling point during such operation.

3,440,103
FUEL CELL AND CATHODE INCLUDING PLATINUM ALLOY WITH COBALT OR NIOBIUM

Johann G. E. Cohn, Orange, Otto J. Adlhart, Newark, and Keith O. Hever, Bloomfield, N.J., assignors to Engelhard Industries, Inc., Newark, N.J., a corporation of Delaware

Filed July 13, 1964, Ser. No. 382,080
Int. Cl. H01m 27/06
U.S. Cl. 136—86 5 Claims

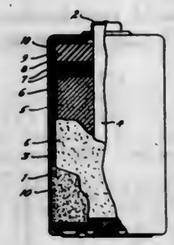


This disclosure pertains to use of fuel cells having catalytic cathodes. The catalysts assist in efficiently producing electrical energy with minimum polarization losses.

3,440,104
GALVANIC DRY CELLS

Richard Huber, Ellwangen, Germany, assignor to Varta Pertrix Union Gesellschaft mit beschrankter Haftung, Ellwangen, Jagst, Germany, a corporation of Germany

Filed Apr. 13, 1966, Ser. No. 542,390
Claims priority, application Germany, May 14, 1965, V 28,473
Int. Cl. H01m 17/04
U.S. Cl. 136—103 10 Claims

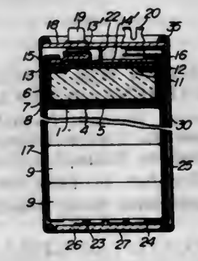


A galvanic dry cell comprising a positive electrode assembly, a surrounding negative zinc electrode, an aqueous zinc chloride electrolyte solution therein, and an alkaline substance adjacent to the outer surface to the negative electrode.

3,440,105
LAYER-BUILT DRY BATTERIES

Shohei Yamamoto, Osaka, Jun Watanabe, Kobe, Susumu Hosoi, Osaka, and Masahiro Kuwazaki, Toshikatsu Takata, Naohiro Matsuda, Kizo Hidaka, and Masahisa Nishiguchi, Moriguchi, Japan, assignors to Matsushita Electric Industrial Co., Ltd., Osaka, Japan, a corporation of Japan

Filed Feb. 18, 1966, Ser. No. 528,583
Claims priority application Japan, Feb. 24, 1965, 40/15,210
Int. Cl. H01m 21/06, 17/04, 31/00
U.S. Cl. 136—108 10 Claims



An improved layer-built dry battery wherein the elementary cells include a U-shaped negative electrode coated over its external surface with a carbon film, a paper separator strip and a depolarizer mix, the whole encased in a plastic covering heat shrunk into a U-shaped cross-sectional configuration whereby the reacting surface area of the negative electrode is increased and the amount of depolarizer mix packable in the positive electrode is also increased.

3,440,106
BATTERY FORMING DEVICE

Joseph A. Bakan and Victor A. Crainich, Jr., Dayton, Ohio, assignors to The National Cash Register Company, Dayton, Ohio, a corporation of Maryland

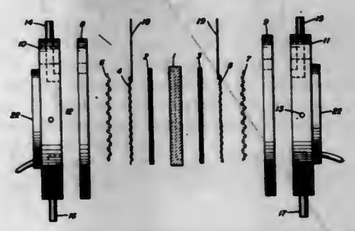
Filed July 20, 1966, Ser. No. 566,668
Int. Cl. H01m 43/06
U.S. Cl. 136—114 6 Claims

This disclosure is directed to electrode cell units having at least one pair of metal plates of different metals with a fixed porous web positioned between said plates and stationary with respect to one of the plates, said web including an encapsulated liquid electrolyte. The plates are arranged with means to advance one toward the other to form a battery upon contact with the liquid electrolyte when released from the capsules.

3,440,107
METHOD FOR PREPARING FUEL CELL ELECTRODES

William Austin Barber, Stamford, Conn., assignor to American Cyanamid Company, Stamford, Conn., a corporation of Maine

Continuation-in-part of application Ser. No. 511,075, Dec. 2, 1965. This application Dec. 20, 1966, Ser. No. 611,516
Int. Cl. H01m 27/10; C23e 17/02
U.S. Cl. 136—120 10 Claims

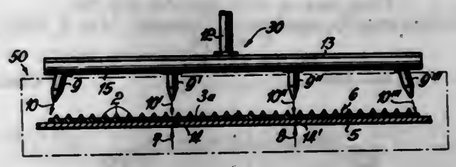


A method for preparing an electrode adapted for use in a fuel cell is provided which comprises the steps of: treating in the presence of an electrically conductive filler a noble metal compound containing at least one element selected from the group consisting of platinum, rhodium and mixtures thereof with a polysubstituted silane containing a Si-H group in an alcoholic solvent environment at a temperature between about 20° C. and 100° C., and precipitating on said conductive filler a chemically reduced noble metal having a crystallite size ranging from between about 20 A. and about 35 A.

3,440,108
SEPARATOR FOR STORAGE CELLS AND METHOD OF PRODUCING THE SAME

Arnulf Hefftner, Hildesheim, Germany, assignor to Robert Bosch GmbH, Stuttgart, Germany

Filed May 23, 1966, Ser. No. 552,206
Claims priority, application Germany, July 6, 1965, B 82,703
Int. Cl. H01m 3/04
U.S. Cl. 136—145 13 Claims



A separator for use in storage cells and a method of producing the separator by shaping, compacting and subsequently sintering a mass of particulated thermoplastic material to form a partially finished porous blank having a size corresponding to the combined size of several separators, by subsequently heating selected portions of

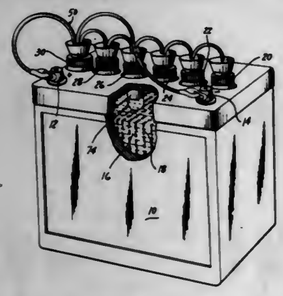
this blank to melt the material of the selected portions at least in zones adjacent to the exposed surfaces of the selected portions, so that these zones are free of pores and by finally subdividing the blank into a plurality of separators each of which has at least one marginal portion with pore-free zones adjacent to the exposed surface thereof.

3,440,109

STORAGE BATTERY WITH THERMOSTATICALLY CONTROLLED ELECTRIC HEATERS

Andrew J. Plattner, 13001 Puritan, Detroit, Mich. 48227

Filed Nov. 22, 1966, Ser. No. 596,244
Int. Cl. H05b *1/02, 3/06*
U.S. Cl. 136—161 4 Claims



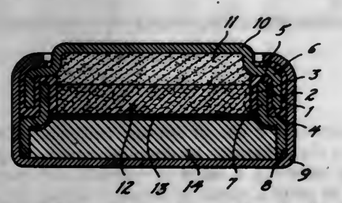
An electrolytic storage battery having a housing and liquid electrolyte situated in said housing, and a plurality of electric heaters adapted to be mounted in said housing. Each of the electric heaters comprising an acid resistant casing extending within the housing, a portion of each casing being immersed in the electrolyte, an electric heating element situated in each casing at a location therein below the level of said electrolyte, granular electrically insulating and partially thermal conductive material surrounding said heating element, electric leads extending through said casing through one end thereof, means for sealing said one end of each casing, and means for connecting electrically heating elements in a parallel circuit, one side of each circuit being connected to a separate one of the terminals of said battery. One of the electric heaters comprises a thermostatic switch means connected to and forming a part of one of the electric leads for opening the circuit of its associated heating element upon an increase in the temperature of the electrolyte above a calibrated value.

3,440,110

GALVANIC CELL

Erhard Arbter, Ellwangen, Jagst, Germany, assignor to Varta-Pertrix, Union G.m.b.H., Ellwangen, Jagst, Germany, a corporation of Germany

Filed Aug. 3, 1965, Ser. No. 476,885
Claims priority, application Germany, May 3, 1965, V 28,374
Int. Cl. H01m *1/02*
U.S. Cl. 136—166 9 Claims



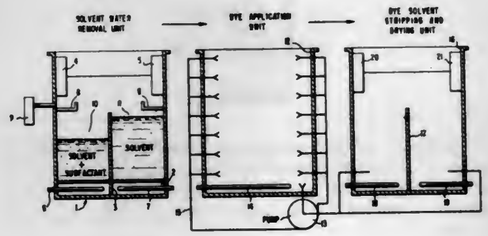
A galvanic cell or battery is provided in the form of a closed container wherein a separate internal supporting ring supports an elastic seal ring which electrically separates the cover from the housing while sealing the electrolyte from leakage.

3,440,111

SOLVENT DYEING OF ANODIZED ALUMINUM

Kenneth Howard Dale, Henrico County, Va., assignor to Reynolds Metals Company, Richmond, Va., a corporation of Delaware

Filed June 15, 1966, Ser. No. 557,648
Int. Cl. C23f *5/04*; B44d *1/34*
U.S. Cl. 148—6.1 15 Claims



1. Method for dyeing anodized aluminum comprising the steps of: (a) removing water from a wet anodized aluminum article by applying to the article an organic dehyrating solvent capable of forming a constant boiling mixture with the water present, at an elevated temperature; (b) applying to the dry anodized aluminum surface a solution of a dyestuff in a water-immiscible organic dye solvent to produce a color thereon; and (c) removing and recovering said dye solvent from the dyed but solvent-wet article and drying said article by treating the article with an organic stripping solvent which is miscible with the dye solvent but which is not a solvent for the dye.

3,440,112

COMPOSITION FOR PROTECTIVE TREATMENT OF METALS

Frank Ernest George Ravault, Nechells, Birmingham, England, assignor to Foseco International Limited, Nechells, Birmingham, England, a British company

No Drawing. Filed Jan. 14, 1966, Ser. No. 520,656
Claims priority, application Great Britain, Jan. 22, 1965, 2,932/65
Int. Cl. C21c *1/68*; C23d *7/00*
U.S. Cl. 148—22 2 Claims

A protective composition for applying to the surface of slabs, billets or other articles of metal which are to undergo heat treatment which comprises 9–50% by weight silicon carbide, 6–60% by weight ferrosilicon, and 8–50% by weight silica flour.

3,440,113

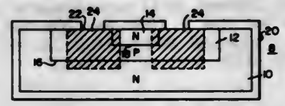
PROCESS FOR DIFFUSING GOLD INTO SEMICONDUCTOR MATERIAL

Elden D. Wolley, Pitcairn, Pa., assignor to Westinghouse Electric Corporation, Pittsburgh, Pa., a corporation of Pennsylvania

Filed Sept. 19, 1966, Ser. No. 580,516
Int. Cl. H01l *7/36, 7/44, 7/50*
U.S. Cl. 148—187 5 Claims

This disclosure relates to a novel process for diffusing gold into a silicon semiconductor wafer to control minority carrier lifetime within the wafer.

The wafer and gold source, in the form of a gold halide or gold cyanide are sealed within an enclosure



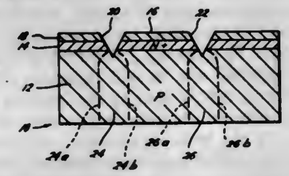
and heated whereby the gold source decomposes and the gold diffuses into the wafer.

3,440,114

SELECTIVE GOLD DOPING FOR HIGH RESISTIVITY REGIONS IN SILICON

James G. Harper, Garland, Tex., assignor to Texas Instruments Incorporated, Dallas, Tex., a corporation of Delaware

Filed Oct. 31, 1966, Ser. No. 590,882
Int. Cl. H01l *7/44, 11/00*
U.S. Cl. 148—187 8 Claims



A method of forming high resistivity regions in a silicon wafer by (1) diffusing a conductivity determining impurity through one face of the wafer, (2) forming a mask having an opening over the face of the wafer, (3) mechanically stressing the wafer beneath the opening, e.g., by scribing the wafer surface, and (4) diffusing gold through the opening into the wafer.

3,440,115

SHOCK-GEL PROCESS FOR PREPARING PLASTIC-BONDED EXPLOSIVES

Charles W. Falterman and Horace D. Stanton, China Lake, Calif., assignors to the United States of America as represented by the Secretary of the Navy

No Drawing. Filed Nov. 9, 1964, Ser. No. 410,030
Int. Cl. C06b *21/00, 15/02*
U.S. Cl. 149—4 5 Claims

5. In a method of coating particles of ordnance molding powder wherein given quantities of molding powder particles, methanol, and plastic binder material are mixed to provide a mixture preparatory to coating the particles with the plastic binder material, the improvement comprising the steps of:

agitating the mixture and rapidly adding to said mixture a quantity of aqueous precipitating solution to initiate a precipitation of the plastic binder and a coating of the particles with said plastic binder, while said particles are suspended and distributed uniformly throughout said mixture; and

agitating the thus obtained mixture; and

adding succeeding quantities of aqueous precipitating solutions to set the size of the resulting plastic-coated granules to provide a powder comprising uniform granules.

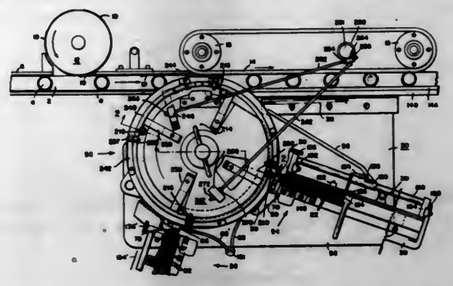
3,440,116

METHOD AND DEVICE FOR SECURING AN ARTICLE TO A CONTAINER

Alten E. Whitecar, Westville, N.J., assignor to Smith, Kline & French Laboratories, Philadelphia, Pa., a corporation of Pennsylvania

Filed May 8, 1964, Ser. No. 366,066
Int. Cl. B65c *9/04*; B29c *17/04*
U.S. Cl. 156—70 14 Claims

This disclosure relates to a method and device for securing an article to a container and more particularly relates to a device providing means for inserting an article



between a container and a label for retention therebetween.

3,440,117

METHOD OF SIMULTANEOUSLY SECURING A PLURALITY OF ELEMENTS TO A THERMOPLASTIC MEMBER USING SONIC ENERGY

Robert S. Soloff, Stamford, Stanley E. Jacke, Ridgefield, and Peter K. Bloch, Old Greenwich, Conn., assignors to Branson Instruments, Incorporated, Stamford, Conn., a corporation of Delaware

Filed July 2, 1965, Ser. No. 469,182
Int. Cl. B27b *7/02*; B32b *1/06, 1/10*
U.S. Cl. 156—73 7 Claims

Elements, such as metal pins and the like, are secured in a thermoplastic member by applying sonic or ultrasonic energy to the thermoplastic member while urging such member and elements in contact with each other. Responsive to the dissipation of sonic energy at the area of contact between the respective elements and the thermoplastic member, the member softens, thus permitting the elements to penetrate into the thermoplastic member. By providing a fixture which holds a plurality of elements, several elements can be secured simultaneously in the thermoplastic member.

3,440,118

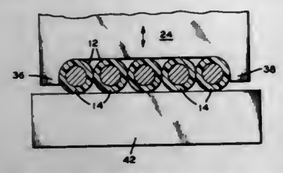
METHOD AND APPARATUS FOR BONDING TOGETHER A PLURALITY OF INSULATED ELECTRICAL CONDUCTORS BY SONIC ENERGY

Edward G. Obeda, Brookfield, Conn., assignor to Branson Instruments, Incorporated, Stamford, Conn., a corporation of Delaware

Filed Dec. 17, 1965, Ser. No. 514,616
Int. Cl. B32b *31/24*; H01b *13/10*
U.S. Cl. 156—73 6 Claims

A plurality of wires, each being provided with a thermoplastic jacket, are fastened together by supporting the

wires in juxtaposition on a flat surface, contacting the exposed upper sides with a sonically vibrating horn which causes the respective jackets to be squeezed sideways,



whereby the dissipation of sonic energy causes frictional heating of the thermoplastic material to effect bonding of the juxtaposed jackets.

3,440,119

METHOD AND APPARATUS FOR MOUNTING A DRUM TO A HUB

Bernard Spieker, New Milford, N.J., assignor to The Bendix Corporation, Teterboro, N.J., a corporation of Delaware

Original application Sept. 14, 1967, Ser. No. 667,855. Divided and this application Apr. 27, 1964, Ser. No. 362,891
Int. Cl. B32b *17/06, 15/02*
U.S. Cl. 156—99 5 Claims

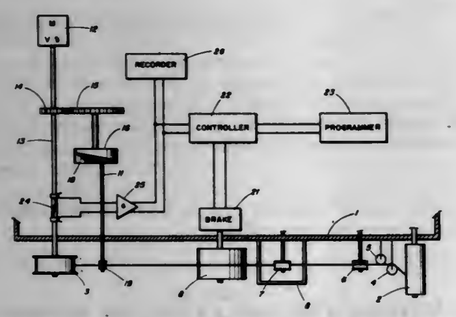
Method and apparatus for mounting a computer memory drum to a hub without the use of heat treatment. A drum of material such as glass is mounted to a metal hub on a shaft, the hub having axially extending fingers to flexibly grip one peripheral end of the drum. An arbor extends from the shaft within the hub and drum. Jacks project radially from the arbor and are adjustable to engage and align the drum with respect to the hub and the drum may be permanently cemented to the hub, and the arbor and jacks thereafter removed.

3,440,120

METHOD OF FORMING A FILAMENT WOUND PLASTIC BODY

Porter W. Erickson and Marlin A. Kinna, Silver Spring, Md., assignors to the United States of America as represented by the Secretary of the Navy

Original application Jan. 31, 1964, Ser. No. 341,811, now Patent No. 3,276,705, dated Oct. 4, 1966. Divided and this application Apr. 19, 1965, Ser. No. 459,969
Int. Cl. B31c; B65h *77/00*
U.S. Cl. 156—162 1 Claim



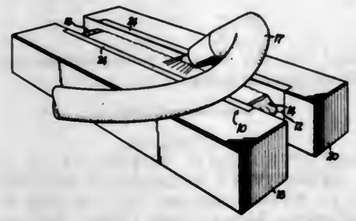
A method for fabricating fiber reinforced hollow plastic casings in which a filament passing through a resin has tension imparted thereto by a braking mechanism in accordance with a preset electric signal from a programmer. The actual tension of the filament is thereafter measured and an electric signal representative thereof is compared with the preset signal. The difference between the signals is measured and the imparted tension is modified in accordance therewith.

3,440,121

METHOD FOR BEDDING PANELS INTO FRAMES

Howard J. Shockey, Elkhart, Ind., assignor to Excel Corporation, Elkhart, Ind., a corporation of Indiana

Filed Mar. 9, 1966, Ser. No. 533,071
Int. Cl. B29c *11/00, 27/16*
U.S. Cl. 156—293 10 Claims



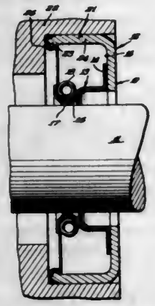
1. A method of bedding a panel into a frame member having channel surfaces forming a recess to receive a marginal edge of said panel, said method comprising the steps of damming said recess to convert said frame member into a container capable of holding liquid therein, partially filling the recess with a liquid bedding material which is curable by heat to a solid form and which is adherent to the panel and to said channel surfaces in the solid form thereof, briefly heating the bedding material in said frame member to solidify only a skin layer thereof at the surface of the bedding material, the remainder of the bedding material in said frame member remaining in a liquid condition, placing said frame member in a position for assembly with said panel wherein the uncured liquid tends to flow out of said recess but is prevented from so flowing by said skin layer and said dams, inserting a marginal edge of said panel into said recess and into the bedding material therein until it is closely spaced from said channel surfaces, thereby deforming said skin layer and causing it to conform to the configuration of said marginal edge, and heating said bedding material to fully cure the same to said solid form thereof.

3,440,122

STATIC SEAL AND METHOD OF MAKING SAME

Harold E. McCormick, Ballwin, Mo., assignor to Ramsey Corporation, St. Louis, Mo., a corporation of Ohio

Filed Oct. 23, 1965, Ser. No. 503,132
Int. Cl. B44d *1/06, 1/46;* F16j *15/14*
U.S. Cl. 156—329 7 Claims



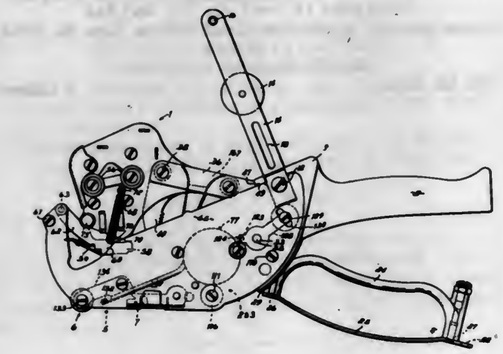
Method of forming a static seal on the periphery of a metal case of the type used as a retainer for a tetrafluoroethylene resin seal wherein the periphery of the case is coated with a thin film of a low temperature vulcanizing silicone rubber which is then permitted to form a peripheral bead, after which the beaded case is subjected to a curing temperature. In the preferred embodiment of the invention, the curing of the silicone rubber is accomplished at the same temperature as the tetrafluoroethylene sealing element in the case.

3,440,123

HAND LABELER

Paul H. Hamisch, Sr., Dayton, Ohio, assignor to The Monarch Marking System Company, Dayton, Ohio, a corporation of Ohio

Filed Jan. 10, 1966, Ser. No. 534,261
Int. Cl. B65c *11/02*
U.S. Cl. 156—384 23 Claims



1. A hand operable labeling device for accomplishing a plurality of operational cycles whereby labels are adhered to merchandise, each cycle including the steps of printing, dispensing and applying a label from a continuous label strip which has been unwound from a label supply roll, comprising

holder means secured to said device for maintaining said label supply roll in a fixed position whereby said label supply roll may be rotated to unwind said label strip therefrom,

a first handle whereby said device may be gripped,

a second handle pivotally secured to said first handle,

a base frame secured to said first handle and extending beyond the pivotal intersection of said handles,

a pivoting frame secured to said second handle and extending beyond the pivotal intersection of said handles,

limit means for permitting the non-pivoted ends of said handles to move a maximum distance away from one another to an initial position, said handles at the initial position forming an acute angle therebetween,

a printing mechanism for printing said labels, said printing mechanism having components secured to said pivoting frame, and components secured to said base frame,

a drive mechanism for moving said label strip through said device, said drive mechanism being secured to said base frame, and

a dispenser-applicator mechanism for separating said labels from said label strip and applying said labels as desired, said dispenser-applicator mechanism being secured to said base frame.

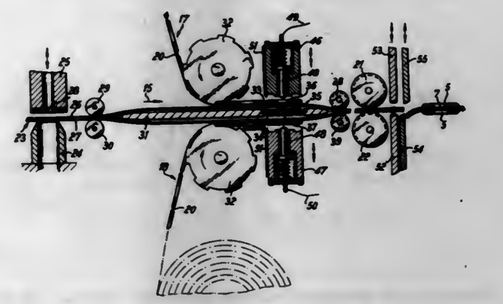
3,440,124

APPARATUS FOR MANUFACTURING GRIPHOLE CARRYING BAGS

August Schwarzkopf, Lengerich, Germany, assignor to Windmöller & Holscher, Lengerich, Germany

Filed Aug. 13, 1965, Ser. No. 480,257
Claims priority, application Germany, Aug. 24, 1964, W 37,432
Int. Cl. B32b *31/10, 31/18*
U.S. Cl. 156—423 11 Claims

Apparatus for manufacturing a carrying bag from a two-ply heat sealable material, said apparatus comprising a conveying means for intermittently moving said material along a fixed path, means disposed adjacent said path for removing a portion of said web to form a griphole, means disposed in said path for separating said plies, means located above said path for feeding a plurality of reinforcing elements to the rims of said gripholes, means carried by one end of said separating means for heat sealing said reinforcing elements to said rims, means located in said path for applying a transverse seal to said bag and means for severing said finished bag.

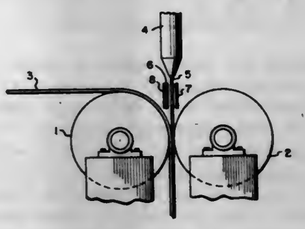


2,440,125

DEVICE FOR USE IN MACHINES FOR MANUFACTURING PLASTIC FOIL COVERED PAPER

Torsten Lennartson Lindh, Lund, and Lars Olof Ingemar Lindblad, Sodra Sandby, Sweden, assignors to AB Tetra Pak, Lund, Sweden, a Swedish company

Filed Feb. 4, 1965, Ser. No. 430,420
Claims priority, application Switzerland, Feb. 6, 1964, 1,396/64
Int. Cl. B32b *23/06, 31/20;* B29f *3/00*
U.S. Cl. 156—498 1 Claim



Method and apparatus to manufacture plastic covered paper in which one side of the extruded plastic is maintained at a high temperature to ensure a good bond with the paper and the other side is cooled rapidly to prevent oxidation.

3,440,126

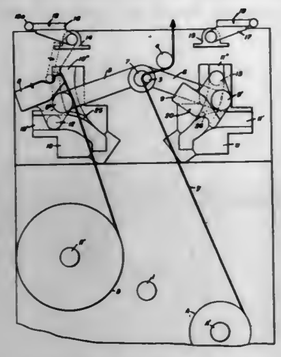
WEB SPLICER

Robert P. Bartholomay and Wilbur D. Robinson, Rochester, N.Y., and Harold J. Farrar, Boulder, Colo., assignors to Eastman Kodak Company, Rochester, N.Y., a corporation of New Jersey

Filed Feb. 28, 1966, Ser. No. 530,528
Int. Cl. B31f *5/06*
U.S. Cl. 156—505 5 Claims

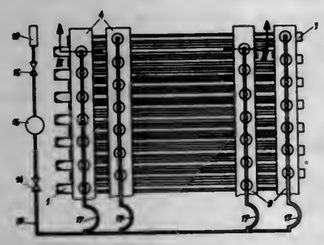
A splicing device for splicing the leading end of one roll to the trailing end of another by providing a pair of splice boards mountable in opposition to one another

and operable when moved into pressure engagement to splice the leading and trailing ends of the webs together.



The path of movement of the splice boards may be altered to permit either a front or a back splice.

3,440,127
HEATING RAILS FOR JOINT GLUING MACHINES
Ernst Hunziker, Brugg, Switzerland, assignor to Georg Fischer AG Brugg, Brugg, Switzerland
Filed July 6, 1965, Ser. No. 469,758
Claims priority, application Switzerland, July 7, 1964, 8,909/64
Int. Cl. B32b *31/20*
U.S. Cl. 156—583 8 Claims



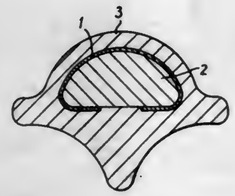
An apparatus for gluing panels in which two sets of rails are provided supported on respective beams and moveable toward and away from each other and also longitudinal by movement of the respective beams thereby to advance panels through the machine while pressing the panels toward each other and in which at least one set of rails is carried on its respective beam by fluid operable devices that maintain a predetermined controllable thrust on the rail when it is engaged with a panel.

3,440,128
CHRISTMAS ORNAMENT
Mary Kubilius, South Ozone Park, N.Y., assignor to Theodore J. Kubilius, Yonkers, N.Y.
Filed June 8, 1965, Ser. No. 462,223
Int. Cl. A47g *33/08*; B44f *7/00*
U.S. Cl. 161—5 5 Claims



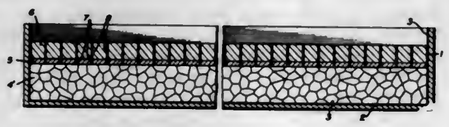
A Christmas tree ornament is described as a hollow plastic shell vertically split into front and back portions, joinable together at their edges, the front portion being transparent and the back portion being reflectively coated on the concave side and having mounted therein a photograph of, for example, a family group.

3,440,129
DECORATIVE PLASTIC EXTRUSIONS
Anthony Cesar Anselm, Weybridge, England, assignor to Creators Limited, Surrey, England, a British company
Filed June 14, 1965, Ser. No. 463,744
Claims priority, application Great Britain, June 16, 1964, 24,927/64
Int. Cl. B32b *31/30, 11/08*
U.S. Cl. 161—5 5 Claims



1. A decorative plastic extrusion comprising an extruded plastic core, a metal-plastic foil laminate bonded to the surface of said core, said core with the foil laminate bonded thereto forming an insert in an extrusion of transparent or translucent plastic material which forms a protective layer over the foil laminate which is seen through the front face of the decorative plastic extrusion.

3,440,130
LARGE CELLED MATERIAL
Maria Telkes, Falls Church, Va., assignor to The Dow Chemical Company, Midland, Mich., a corporation of Delaware
Continuation-in-part of applications Ser. No. 3,181, Jan. 18, 1960, and Ser. No. 218,667, Aug. 22, 1962. This application Nov. 12, 1965, Ser. No. 516,190
Int. Cl. B44f *1/04*; B32b *3/20, 5/18*
U.S. Cl. 161—5 31 Claims



A light transmitting panel having a core of compacted hollow cells of light transmitting material. The cells have common walls and have a volume of a sphere having a diameter between one-fourth and three-fourths inch. The panel is highly transmissive of solar infrared waves and a good insulator of longer infrared waves.

3,440,131
STRONG FIBROUS SHEET MATERIAL AND METHOD OF MAKING THE SAME
Shu-Tung Tu, Ipswich, Mass., assignor to United Shoe Machinery Corporation, Flemington, N.J.
No Drawing. Filed July 14, 1964, Ser. No. 382,626
Int. Cl. B32b *27/06*
U.S. Cl. 161—53 10 Claims

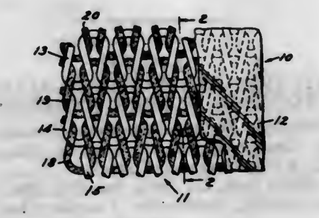
A strong fibrous sheet is formed by assembling a primary mat of intermeshed fibers with a second mat of intermeshed fibers, penetrating the thickness of both of the mats with an aqueous suspension of distinct, swollen collagen fibers of microscopic size and removing the

swelling water from the collagen to reaggregate the collagen fibers into a larger collagen fiber structure holding the primary mat and second mat of fibers firmly together and reinforcing the intermeshed fibers in each of the mats against displacement. The second mat may be either woven or nonwoven and provides a fiber structure resisting lengthwise and widthwise forces and providing superior surface character.

3,440,132
CERAMIC PLASTIC COMPOSITE MATERIAL FOR RADOMES
Francis J. Koubek, Ellicott City, Md., assignor to the United States of America as represented by the Secretary of the Navy
Continuation-in-part of application Ser. No. 86,257, Jan. 31, 1961. This application Dec. 2, 1964, Ser. No. 415,548
Int. Cl. B32b *17/04, 27/14*
U.S. Cl. 161—87 3 Claims

A refractory-plastic composition having a first layer of refractory material embedded in the surface of a glass cloth/resin laminate and a second layer of a flame-sprayed refractory material adhering to the embedded first layer.

3,440,133
COATED FABRICS HAVING HIGH STRETCH RATIOS
Peter P. A. Burnett, Mount Clemens, Mich., assignor to Ford Motor Company, Dearborn, Mich., a corporation of Delaware
Continuation-in-part of application Ser. No. 248,931, Jan. 2, 1963. This application Mar. 4, 1966, Ser. No. 540,784
Int. Cl. D03d *11/00*
U.S. Cl. 161—89 8 Claims



1. A coated fabric consisting essentially of a flexible polymeric coating adhered directly to at least one surface of a knitted substrate, said substrate comprising synthetic fiber yarn and natural fiber yarn, said coated fabric having a ratio of percentage stretch in its wales direction to its courses direction of at least 0.36.

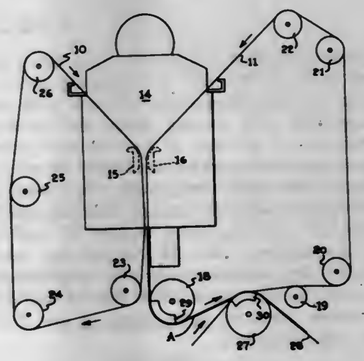
3,440,134
METHOD FOR TREATING CORRUGATED WASTE-PAPER AND PRODUCT PRODUCED THEREBY
Thomas L. Murphy, Jr., Columbia, Miss., assignor to M. T. Reed Construction Co., Jackson, Miss., a corporation of Mississippi
Filed Oct. 15, 1965, Ser. No. 496,573
Int. Cl. D21c *5/02*
U.S. Cl. 162—8 4 Claims

A method of utilizing waste corrugated cardboard and paper in the production of acceptable stock for use in conventional paper making, and the paper stock produced by said method. Said method comprises the steps of comminuting waste corrugated cardboard and paper, forming a slurry of said waste, adjusting the solids content of said waste in slurry form to approximately 20%, digesting said comminuted waste slurry with caustic soda in an amount consisting of 10% by weight of the waste, heating said slurry with direct steam to approximately 160° C. for a period of approximately 3 hours, then pulping said digested slurry at a temperature of approximately 35° C. for between 3–5 minutes, increasing the solids content of the resulting pulp to approximately 30%, and bleaching said pulp as required to achieve a desired brightness thereof.

3,440,135
PROCESS FOR CROSSLINKING CELLULOSIC FIBERS DURING GAS SUSPENSION OF FIBERS
Raymond Chung, Neenah, Wis., assignor to Kimberly-Clark Corporation, Neenah, Wis., a corporation of Delaware
Filed Dec. 13, 1965, Ser. No. 513,251
Int. Cl. D21f *11/00*; D21h *5/12*
U.S. Cl. 162—157 7 Claims

A method for producing crosslinked stiffened cellulosic fibers in substantially individual fiber form. The method involves fiber impregnation with the crosslinking agent followed by fluffing and drying actions and then crosslinking in a matter of seconds by propelling the fibers through a curing zone of a gas at crosslinking temperature. The process may involve screening of the product to remove fiber nits and the like. The process includes an aging step of the fiber in mass form prior to the fluffing action, the aging in combination with the other steps having the effect of providing a product substantially free of nits and eliminating the necessity for screening.

3,440,136
PAPERMAKING APPARATUS INCLUDING TWO WIRE SHEET FORMERS HAVING MEANS FOR AIR PURGING
Herbert C. Nelson, New Milford, Conn., and David W. Appel, Neenah, Wis., assignors to Kimberly-Clark Corporation, Neenah, Wis., a corporation of Delaware
Filed Dec. 16, 1965, Ser. No. 514,185
Int. Cl. D21f *1/32, 5/00*
U.S. Cl. 162—275 7 Claims

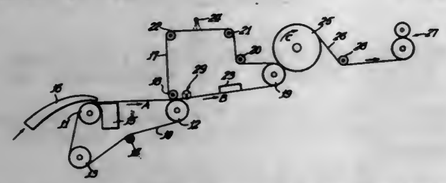


Apparatus for papermaking comprising a pair of endless forming webs of foraminous screen material which define a sheet forming area. Means are provided to evacuate air from the sheet forming area and the foraminous screen material as the screens approach the forming area in the course of sheet formation. The means include particularly a housing enclosing the forming area and extending toward the oncoming side of the webs so that liquid may be retained in the housing to displace air from both the sheet forming area and the webs themselves.

3,440,137
PAPERMAKING MACHINE

Roger W. Russell, Appleton, and Doyle L. Strong, Niagara, Wis., assignors to Kimberly-Clark Corporation, Neenah, Wis., a corporation of Delaware

Continuation-in-part of application Ser. No. 346,699, Feb. 24, 1964. This application Oct. 5, 1966, Ser. No. 584,400
Int. Cl. D21f 2/00; B65h 17/00
U.S. Cl. 162—306 5 Claims

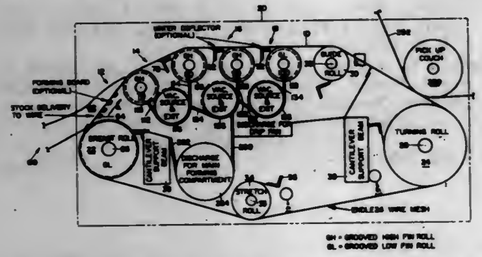


A papermaking machine including a forming fabric on which paper stock is deposited for dewatering, a felt having a line of contact with the forming fabric onto which the resulting paper web transfers and a vibrator device for vibrating either the fabric or felt adjacent to the line of transfer for improving the paper web couching action from the fabric to the felt.

3,440,138
HIGH SPEED WEB FORMING MACHINE

Robert E. Smith, Hudson Falls, N.Y., assignor to Sandy Hill Corporation, Hudson Falls, N.Y., a corporation of New York

Filed Oct. 19, 1965, Ser. No. 497,676
Int. Cl. D21f 1/50, 1/66
U.S. Cl. 162—351 3 Claims



A papermaking machine wherein a stock slurry is delivered to an endless wire at a forming zone, which may be open to atmosphere under vacuum, with the wire and its supported web passing from the forming zone in seriatim over a plurality of low vacuum zones, the wire being supported in part by a plurality of grooved fin type capillary rolls which themselves define sections of partitions between adjacent vacuum compartments, the other sections of partitions being formed by wall portions of the compartments, with the confronting rolls and wall portions being sealed by means of labyrinth seals wherefore a low friction resistance is experienced over each of the vacuum areas so as to result in low driving horsepower requirements.

3,440,139
DEVICES FOR HANDLING ANNULAR CHARGES

Maurice Lapierre, Chelles, France, assignor to Societe d'Exploitation des Materiels Hispano-Suiza, Rue du Capitaine Guynemer, France

Filed June 13, 1966, Ser. No. 557,192
Claims priority, application France, June 21, 1965, 21,658
Int. Cl. G21c 3/36
U.S. Cl. 176—30 9 Claims

An installation for handling a plurality of vertically stacked annular fuel elements including a support member for supporting the stack of fuel elements and positioned between the lowest annular fuel element and the bottom of the channel in which the fuel elements are located. A tubular probe having a catching device located at one end thereof, and movable between an expanded and a retracted position, is movable through the said annular passage with the catching device in the retracted



position; after which the catching device is expanded to engage the support member for removing the support member and the stack of annular fuel elements upon upward movement of the tubular probe. The catching device may include fingers pivotable about an axis from the retracted position within the tubular probe to an expanded position whereat the fingers engage an internal bearing surface on the supporting member.

3,440,140
PROTECTION OF ZIRCONIUM ALLOY COMPONENTS AGAINST HYDRIDING

Anton Sawatzky, Pinawa, Manitoba, Canada, assignor to Atomic Energy of Canada Limited, Ottawa, Ontario, Canada, a corporation of Canada

Filed Nov. 16, 1966, Ser. No. 594,742
Claims priority, application Canada, Dec. 3, 1965, 946,919
Int. Cl. G21c 13/08, 3/06; F28f 21/08
U.S. Cl. 176—43 9 Claims



Zirconium and zirconium alloy components are susceptible to structural weakening caused by the absorption of hydrogen. A method of protecting such components is disclosed which includes the use of sacrificial members of zirconium bonded to the component to be protected. These sacrificial members are maintained at a lower temperature than the component so that any hydrogen absorbed by the component will diffuse to the sacrificial member thereby preserving the structural integrity of the component.

3,440,141
PRODUCTION OF AMINO ACIDS BY THE FERMENTATION OF C_{15}–C_{22} OLEFINS

John D. Douros, Jr., Millington, and Lars A. Naslund, Roselle Park, N.J., assignors to Esso Research and Engineering Company, a corporation of Delaware

No Drawing. Filed May 25, 1966, Ser. No. 552,726
Int. Cl. C12d 13/06
U.S. Cl. 195—28 5 Claims

1. Fermentation process for the production of extracellular amino acids which comprises utilizing a hydrocarbon fraction containing in excess of 95% of olefins and wherein said olefins contain from about 15 to 22 carbon atoms in the molecule in a broth comprising an aqueous inorganic salt growth medium, an oxygen-containing gas, a bacteria microorganism capable of growth on said olefin fraction under fermentation conditions adapted to promote growth whereby a high yield of extracellular amino acids is secured.

3,440,142
PRODUCTION OF ASPARAGINASE

Joseph D. Teller, Freehold, N.J., assignor to Worthington Biochemical Corporation, Freehold, N.J., a corporation of New Jersey

No Drawing. Filed Mar. 3, 1966, Ser. No. 531,358
Int. Cl. C12d 13/10
U.S. Cl. 195—66 2 Claims

Asparaginase is prepared by aerobically growing an asparaginase-producing strain of *Escherichia coli* in a fermentation medium, harvesting the *Escherichia coli* cells, extracting the harvested cells to obtain a proteinous aqueous extract containing asparaginase, and purifying and concentrating the extract by fractional precipitation and chromatography, the fermentation medium containing an assimilable nutrient source of carbon and for providing an assimilable source of nitrogen, a peptone which is preferably that which is produced by the pancreatic digestion of casein and which is sold under the trademark N-Z-Amine Type B.

3,440,143
METHOD OF PREPARING ENZYMES FROM PLANT TISSUES CONTAINING PHENOLS

Jeremy Brown Roberts, Northborough, Mass., Dallas E. Jones, Guatemala City, Guatemala, and Adnan M. Badran, Amman, Jordan, assignors to United Fruit Company, Boston, Mass., a corporation of New Jersey

No Drawing. Filed May 5, 1966, Ser. No. 547,783
Int. Cl. C12d 13/00
U.S. Cl. 195—66 18 Claims

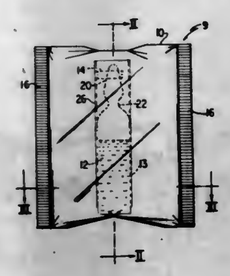
An enzyme concentrate is extracted from naturally occurring plant sources by using as the extractant at −10° to +5° C. a 0.5–5% aqueous solution of a polyalkylene glycol having an average of at least about 25 alkylene oxide units per molecule and having 2–3 carbon atoms in each alkylene group.

3,440,144
METHOD AND APPARATUS FOR CHECKING AND TESTING THE EFFECTIVENESS OF STERILIZATION

Harold W. Andersen, Oyster Bay, N.Y., assignor to H. W. Andersen Products, Inc., Oyster Bay, N.Y., a corporation of New York

Filed May 21, 1965, Ser. No. 457,625
Int. Cl. C12k 1/06
U.S. Cl. 195—103.5 12 Claims

A method and apparatus for testing the effectiveness of sterilization which comprises placing a source of live micro-organisms within an enclosure associated with a sterile source of culture medium confined out of contact with the micro-organisms during sterilization but adapted to be brought into contact therewith after the micro-organisms and culture medium have been exposed to a sterilization procedure, the micro-organisms being contained at all times within the enclosure and neither the culture me-

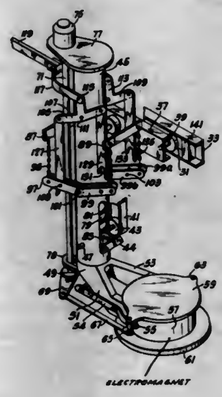


dium nor the micro-organisms being exposed to contamination either during the sterilization procedure or during the subsequent test period.

3,440,145
MATERIAL HANDLING APPARATUS

Linwood G. Tucker, Jr., Pittsburgh, Pa., and Joseph Rokop, Middletown, Ohio, assignors to Koppers Company, Inc., a corporation of Delaware

Filed Mar. 26, 1965, Ser. No. 443,043
Int. Cl. C10b 35/00
U.S. Cl. 202—262 15 Claims



A carriage mounted to a larry car supports an electromagnet mechanism that lifts a coke oven charging hole cover and moves the cover in a straight line to a predetermined horizontal distance; whereupon the cover is released. The mechanism later lifts the cover and moves it backward in a straight line, the same horizontal distance and accurately replaces the cover.

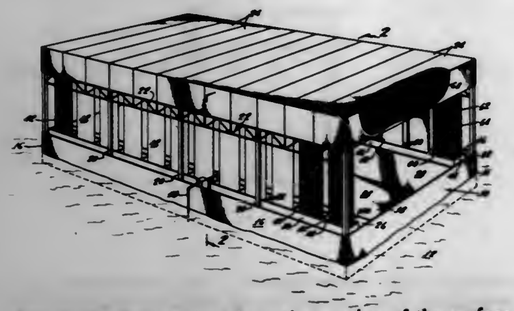
3,440,146
DESALINATION METHOD AND APPARATUS WITH PLURAL VAPORIZATION CHAMBERS CONTAINING SHALLOW LAYERS OF LIQUID

Johan A. Louw, 3127 Garnet Lane, Orange, Calif. 92667

Filed May 2, 1966, Ser. No. 546,674
Int. Cl. C02b 1/08; B01d 3/10, 1/26
U.S. Cl. 203—11 24 Claims

A desalination method and apparatus includes a plurality of series-connected heat exchangers each including an evaporation chamber and a condensation chamber. A plurality of spaced-apart heat-conductive members extend into the evaporation chamber through the major portion

of the depth of a shallow horizontal layer of saline water in the chamber. The pressure of the condensing vapor and the saline water in relation to the depth of the saline water



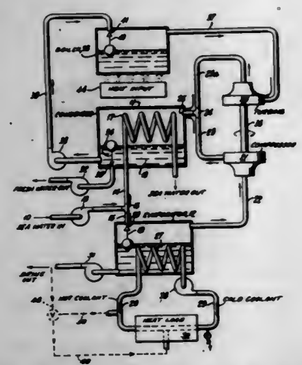
layer is regulated so that the major portion of the surface of each heat-conductive member is in contact with boiling water.

3,440,147

COMBINED HEAT LOAD COOLER AND SEA WATER DESALINATION STILL

George C. Rannenberg, East Granby, Conn., assignor to United Aircraft Corporation, East Hartford, Conn., a corporation of Delaware

Filed July 14, 1966, Ser. No. 565,197
Int. Cl. C02b *1/06;* B01d *3/06*
U.S. Cl. 203—11 2 Claims



Sea water or contaminated water is divided into a first stream which is partially vaporized and the residue discarded, and a second stream which condenses the produced vapor by indirect heat exchange therewith. The vaporization is brought about by a closed heat transfer loop in which heat is indirectly absorbed from a heat load at one loop point and the heat absorbed surrendered to said vaporization at another loop point.

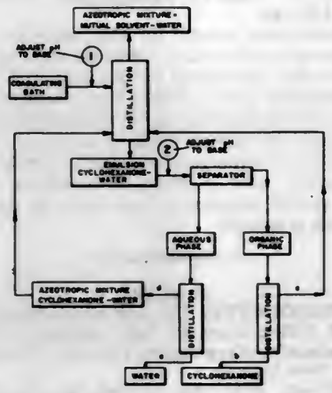
3,440,148

METHOD FOR RECOVERING THE COMPONENTS OF A COAGULATION BATH USED IN THE SPINNING OF POLYVINYL CHLORIDE

Paolo Melacini, Mestre, Venezia, and Silvio Trevisi, Padova, Italy, assignors to ACSA Applicazioni Chimiche S.p.A., Milan, Italy

Filed Jan. 13, 1966, Ser. No. 520,373
Claims priority, application Italy, Jan. 27, 1965, 1,720/65
Int. Cl. B01d *3/34, 3/14*
U.S. Cl. 203—33 10 Claims

A process for the recovery of cyclohexanone from a coagulation bath comprising a ternary solution of cyclohexanone, water and a mutual solvent therefor, which bath is used in the wet spinning of high syndiotactic polyvinyl chloride, comprising subjecting to distillation said coagulation bath comprising a ternary solution of cyclohexanone, water and a mutual solvent therefor; whereby there is obtained as distillation bottoms an emulsion of



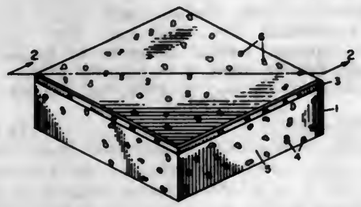
cyclohexanone and water; allowing said emulsion, the pH thereof having been adjusted to a basic value greater than about 8, to separate into two phases, a first phase consisting of cyclohexanone saturated with water and a second phase consisting of water saturated with cyclohexanone; and thence recovering cyclohexanone from the said separated phases.

3,440,149

STABLE LEAD ANODES

Edgardo J. Parsi, Wellesley Hills, and Albert Szcur, Jr., New Bedford, Mass., assignors to Ionics, Incorporated, Cambridge, Mass., a corporation of Massachusetts

Original application May 22, 1962, Ser. No. 196,758, now Patent No. 3,284,333, dated Nov. 8, 1966. Divided and this application June 17, 1966, Ser. No. 568,997.
Int. Cl. C23b *9/00;* B01k *3/02*
U.S. Cl. 204—29 8 Claims



A method of forming an anode for an electrolytic cell comprising adding discrete particles of a noble metal to a low temperature lead base melt, cooling to solidify without the particles melting, cleaning and then anodizing the lead anode body.

3,440,150

DUAL-SEAL ANODIZED ALUMINUM

Irvin R. Kramer, Baltimore, and Charles F. Burrows, Lutherville, Md., assignors to Martin-Marietta Corporation, New York, N.Y., a corporation of Marlyand

Filed Feb. 10, 1966, Ser. No. 526,499
Int. Cl. C23b *5/48, 5/50*
U.S. Cl. 204—35 9 Claims

A process for enhancing the corrosion resistance of aluminum and aluminum alloys of low alloy content comprising the steps of

(1) Anodizing to provide a porous oxidic anodized surface at least 0.3 mil thick;

(2) Partially water sealing this anodized surface; and

(3) Impregnating the partially sealed pores with an aliphatic acid, alcohol or amine such as behenic acid, stearyl alcohol or stearamide.

3,440,151

ELECTRODEPOSITION OF COPPER-TIN ALLOYS

Robert Duva, 646 Terrace Drive, Paramus, N.J. 07652, and Bernard Katz, 33 Philip Place, Irvington, N.J. 07111

No Drawing. Filed June 2, 1965, Ser. No. 460,852
Int. Cl. C23b *5/32*
U.S. Cl. 204—44 7 Claims

In the plating of copper-tin alloys from alkaline baths containing free cyanide, the tendency of tin to sludge out is suppressed by the addition of alkali aminoacetate chelating agents, such as EDTA, in amounts of over 25 g./l., i.e., in excess of the amounts added to function as a brightener.

3,440,152

METHOD AND ELECTROLYTE FOR ELECTROPLATING BRASS

John A. Lisowski and Frank B. Lisowski, Detroit, and Leonard E. Lisowski, Newport, Mich., assignors to Natural Products Company, Newport, Mich., a copartnership

No Drawing. Filed Mar. 21, 1966, Ser. No. 535,671
Int. Cl. C23b *5/32;* C22d *1/26*
U.S. Cl. 204—44 9 Claims

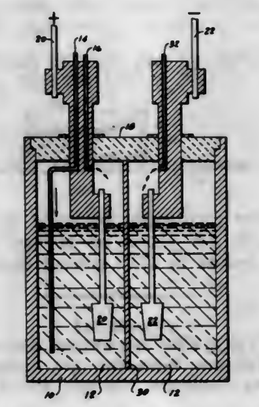
An electrolyte and process for electrodeposition of brass from an aqueous alkaline cyanide bath containing zinc cyanide, copper cyanide and an indium compound such as indium chloride. The process gives a brass deposit of improved corrosion resistance.

3,440,153

ELECTROLYTIC METHOD OF PRODUCING HIGHLY ORIENTED CRYSTALLINE STRUCTURES

Walter E. Arnoldi, West Hartford, Philip J. Birbara, Hazardville, and Sid Russell, Suffield, Conn., assignors to United Aircraft Corporation, East Hartford, Conn., a corporation of Delaware

Filed Apr. 24, 1964, Ser. No. 362,255
Int. Cl. C22d *3/06;* B01k *1/00*
U.S. Cl. 204—60 9 Claims



A method is provided for producing substantially pure chemical elements and compounds which exhibit a solid, highly oriented, anisotropic crystalline structure which comprises establishing a fused, sodium free electrolyte containing lithium as the predominant cation on a molar basis and having dissolved therein at least one oxyanion form of a desired element, contacting the electrolyte with an anode and a cathode, and passing direct current between the cathode and the anode to form lithium metal at the cathode, such that the lithium metal formed at the cathode reacts immediately with the oxyanion to form lithium oxide and to release the desired element at the cathode in order to form the desired crystalline structure.

3,440,154

ELECTROLYTIC REDUCTIVE COUPLING OF OLEFINIC COMPOUNDS

Manuel M. Baizer, St. Louis, Mo., assignor to Monsanto Company, St. Louis, Mo., a corporation of Delaware

No Drawing. Filed May 2, 1966, Ser. No. 546,581
Int. Cl. C07b *1/00*
U.S. Cl. 204—73 16 Claims

1. The method of electrolytic reductive coupling which comprises electrolyzing a solution of ionic compounds selected from the group consisting of phosphonium and sulfonium compounds in which the phosphorus or sulfur atom of the compound bears an aliphatic substituent, and an olefin, the electrolysis of the solution occurring in contact with a cathode and the olefin not reducing at a cathode potential less negative than the ionic compound, and obtaining and recovering from the solution a coupled product in which the said aliphatic substituent is coupled to said olefin and the said olefinic bond has become saturated.

3,440,155

EXTRACTION AND RECOVERY OF METALS FROM ORES, CONCENTRATES AND RESIDUES

Ralph W. Pickering, Sandy Bay, Tasmania, and John S. Pidgeon, Mount Stuart, Tasmania, Australia, assignors to Electrolytic Zinc Company of Australia Limited, Melbourne, Victoria, Australia

No Drawing. Filed Mar. 15, 1966, Ser. No. 534,411
Claims priority, application Australia, Apr. 6, 1965, 57,275/65
Int. Cl. C22d *1/24;* C22b *13/04*
U.S. Cl. 204—119 6 Claims

This invention utilizes selected mixtures of ammonium sulphate, ammonia and water to dissolve lead sulphate from lead-bearing ores, residues or the like to produce solutions containing up to 100 gm. /l. Pb and thus to separate the lead sulphate from other, undesirable, components of the starting material. After separation of the lead-bearing solution from the insoluble portion of the starting material, the lead may be recovered from the solution by removal of ammonia or by electrolysis.

3,440,156

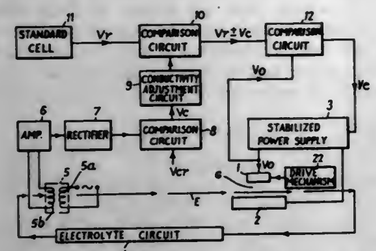
ELECTROCHEMICAL MACHINING INCLUDING CONTROLLING THE GAP VOLTAGE USING A CONSTANT ELECTRODE ADVANCE

Eric Winston Dickson, Leamington Spa, England, assignor to Associated Engineering Limited, Leamington Spa, England

Filed May 2, 1966, Ser. No. 546,918
Claims priority, application Great Britain, May 4, 1965, 18,834/65
Int. Cl. B23p *1/04*
U.S. Cl. 204—143 13 Claims

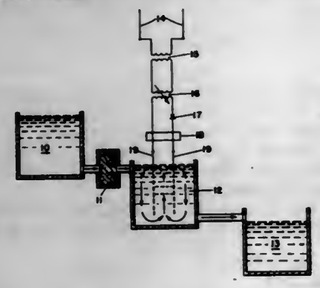
1. Apparatus for carrying out electrochemical machining comprising a workpiece and a tool connected in an electric circuit with a voltage stabilized power supply so that the workpiece forms an anode and the tool a cathode, means for flowing an electrolyte through a gap between the tool and the workpiece at a substantially constant rate, means for relatively moving the tool towards the workpiece at a constant advance rate as the material of the workpiece is removed, means for producing a signal dependent on the electrolyte conductivity and means for

controlling the voltage applied between the tool and the workpiece across the working gap by means of the signal



dependent on the electrolyte conductivity, whereby a substantially constant equilibrium working gap can be maintained throughout a machining operation.

3,440,157
ELECTROLYTIC PROCESS FOR PRODUCING PYROGEN FREE DEIONIZED WATER
Donald A. Gunther, Erie, Pa., assignor to American Sterilizer Company, Erie, Pa., a corporation of Pennsylvania
Filed Nov. 4, 1964, Ser. No. 408,823
Int. Cl. C02b *1/82*; B01k *3/02*
U.S. Cl. 204—152 **1 Claim**

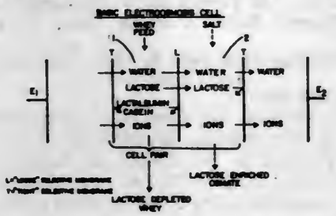


A process of treating deionized water that contains a high population of bacteria and the resultant possibility of pyrogenicity, which includes filtering the water to remove substantially all of the filterable bacteria and then passing the water between two electrodes, between which there is a substantially high potential sufficient to produce a current density of at least 0.1 milliampere per square millimeter of electrode surface. This high current density results in oxidization of some of the water and substantially all of the pyrogens are therefore destroyed. The voltage to produce such a current density may be in the range of say 7,500 volts if the electrodes are spaced apart accordingly.

3,440,158
PREPARATION OF ESTERS OF α,α′-DIMETHYLMUCONIC ACID
George Suld, Springfield, Pa., assignor to Sun Oil Company, Philadelphia, Pa., a corporation of New Jersey
No Drawing. Filed June 30, 1966, Ser. No. 561,736
Int. Cl. B01j *1/10*
U.S. Cl. 204—158 **6 Claims**

This invention relates to the preparation of esters of α,α′-dimethylmuconic acid which more specifically are dialkyl α·α′-dimethyl-trans-trans muconates. The esters are prepared from either the cis-cis or cis-trans forms of α,α′-dimethylmuconic acid (hereinafter DMMA) by esterifying the acid with an alkanol while concurrently causing isomerization to trans-trans configuration by irradiating the reacting mixture with ultraviolet light. The trans-trans diester products have particular utility in the preparation of polymers.

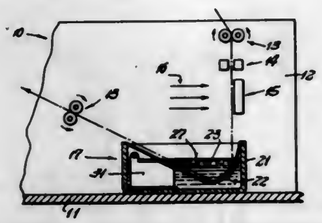
3,440,159
SEPARATION OF UN-IONIZED SUBSTANCES BY ELECTRO-OSMOSIS
Wayne A. McRae, Lexington, and William E. Katz, Boston, Mass., assignors to Ionics, Incorporated, Watertown, Mass.
Filed Aug. 26, 1965, Ser. No. 482,729
Int. Cl. B01k *3/10*; B01d *3/02*
U.S. Cl. 204—180 **8 Claims**



FEED	SMALL MOLECULE OR CRYSTALLOID	LARGE MOLECULE OR COLLOID
MOLASSES	SUCROSE	COLOR BODIES
APPLE SYRUP	SUCROSE	COLOR BODIES
CORN SYRUP	DEXTROSE	COLOR BODIES, DEXTRIN
EGG WHITES	DEXTROSE	ALBUMIN
WHEY	LACTOSE	LACTALBUMIN, CASEIN
SULFITE WASTE LIQUOR	SUCROSE, DEXTROSE, XYLOSE, ARABINOSE, ETC.	LIGNINS

The invention is directed to a process and apparatus for separating low molecular weight un-ionized substances from liquid mixtures such as sugar solutions containing the same by electro-osmosis. The electro-osmosis is effected in an electrolytic cell wherein alternating "tight" and "loose" ion exchange membranes define the chambers therein from which the low molecular weight substances are removed from the high molecular weight substances from their respective alternating chambers.

3,440,160
METHOD AND APPARATUS FOR CONTROLLING SUSPENSION CONCENTRATIONS
George Matkovich, Stamford, Conn., assignor to Pitney-Bowes, Inc., Stamford, Conn., a corporation of Delaware
Filed Feb. 9, 1966, Ser. No. 526,244
Int. Cl. B01k *5/00*
U.S. Cl. 204—180 **5 Claims**

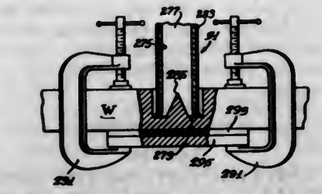


Excess toner particles in the liquid of an electrostatic developer tank are plated on charged electrodes and released as desired by D.C. current control.

3,440,161
ELECTROLYTIC SHAPING APPARATUS
Lynn A. Williams, Winnetka, Ill., assignor to Anocut Engineering Company, Chicago, Ill., a corporation of Illinois
Application Dec. 8, 1961, Ser. No. 158,042, which is a division of application Ser. No. 772,960, Nov. 10, 1958, now Patent No. 3,058,895, dated Oct. 16, 1962. Divided and this application July 25, 1966, Ser. No. 567,555
Int. Cl. B23p *1/04*
U.S. Cl. 204—224 **6 Claims**

1. In an electrolytic apparatus for piercing a hole through an electrically conductive and electrochemically

erodible workpiece by means of an electrode having at least one electrolyte passage therethrough and a conductive working face, means for moving said electrode toward and away from the workpiece to define a narrow work gap between the workpiece and said electrode working face, means connected for pumping an electrolyte to and

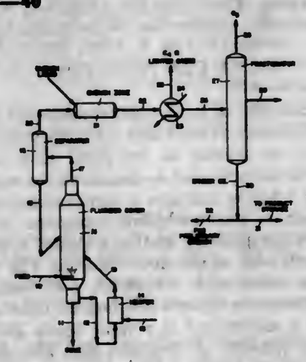


through the work gap at a greatly superatmospheric pressure, circuit means connected for passing an electrolyzing current between said electrode working face and the workpiece, and a member secured against the opposite side of said workpiece where said electrode emerges, said member accommodating at least a slight passage of the electrode working face when completely through the workpiece.

3,440,162
RETORTING OF OIL SHALE
John E. Lawson, Jr., Rifle, Colo., assignor to Esso Research and Engineering Company
Filed Apr. 18, 1966, Ser. No. 543,379
Int. Cl. C10g *1/02*; C10b *57/12, 53/06*
U.S. Cl. 208—11 **6 Claims**

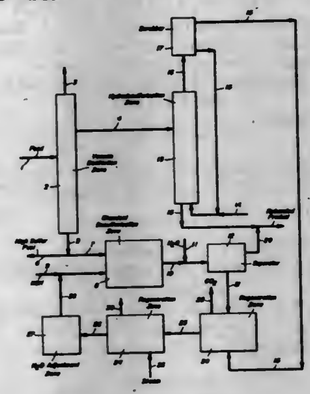
Independent control of the retorting of crushed oil shale is provided in a unitary operation by flowing the crushed shale downwardly through preheating, retorting and combustion-cooling zones with vaporous product being removed separately and fractionated. Shale oil bottoms are introduced into the retorting zone and inert heated gas is used to preheat the oil shale with the inert gas being recycled to the burning-cooling zone to cool the discarded shale. Air and combustible gas are introduced into the retorting zone while air may be introduced into the burning-cooling zone.

3,440,163
COKE BINDER OILS FROM DEALKYLATED CONDENSED AROMATIC TARS
Glen Porter Hammer, Baton Rouge, La., assignor to Esso Research and Engineering Company, a corporation of Delaware
Filed Dec. 28, 1965, Ser. No. 517,011
Int. Cl. C10c *3/02, 1/20, 1/08*
U.S. Cl. 208—40 **9 Claims**



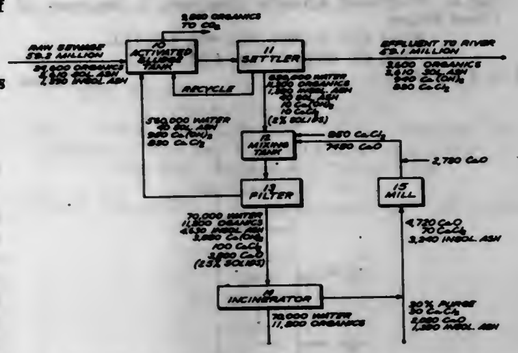
Petroleum or coal tar is dealkylated in a fluid coker. The effluent is heat soaked to convert it to a condensed ring aromatic fraction suitable as a coke binder oil.

3,440,164
PROCESS FOR DESULFURIZING VACUUM DISTILLED FRACTIONS
Clyde L. Aldridge, Baton Rouge, La., assignor to Esso Research and Engineering Company, a corporation of Delaware
Filed Sept. 3, 1965, Ser. No. 485,056
Int. Cl. C10g *29/00, 19/02*
U.S. Cl. 208—218 **1 Claim**



An atmospheric residuum is split by vacuum distillation to provide a gas oil fraction and a bottoms fraction; the gas oil fraction is desulfurized by catalytic hydrodesulfurization and the bottoms fraction is desulfurized by contacting with molten KOH, an oxygen-containing gas, and 5–30 wt. percent water based on the total reagent. The recovered products are then blended together to produce a low sulfur content oil. The H_2S formed in the hydrodesulfurization step is used to regenerate the KOH treating agent.

3,440,165
WASTE TREATMENT PROCESS WITH RECYCLING OF LIME
Noah S. Davis, Northridge, Oren J. Foust, Granada Hills, and Thomas W. Withers, Sepulveda, Calif., assignors to North American Rockwell Corporation, a corporation of Delaware
Filed June 13, 1967, Ser. No. 645,818
Int. Cl. C02c *1/06*
U.S. Cl. 210—4 **13 Claims**



A process is described for treatment of sewage wherein activated sludge is produced which may be treated directly or may be digested in a second embodiment before further treatment. The sludge is thereafter flocculated by sequential additions of calcium chloride and hydrated calcium oxide. The flocculated sludge is filtered to remove water from the solids and the filter cake is incinerated at a temperature sufficient to calcine the calcium com-

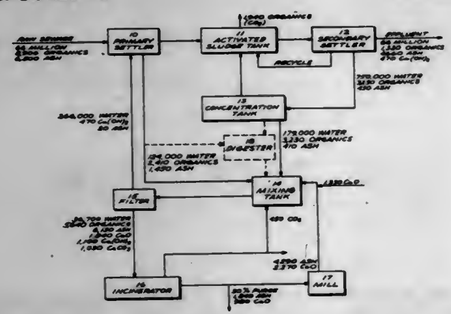
pounds therein to calcium oxide. Calcium oxide in the solid product of the incinerator is ground and recycled to provide hydrated calcium oxide for inducing flocculation thereby substantially reducing the cost of operation.

3,440,166

WASTE TREATMENT PROCESS WITH RECYCLING FLOCCULATING AGENTS

Noah S. Davis, Northridge, and Oren J. Foust, Granada Hills, Calif., assignors to North American Rockwell Corporation, a corporation of Delaware

Filed June 13, 1967, Ser. No. 645,817
Int. Cl. C02c *1/06*
U.S. Cl. 210—8 **14 Claims**



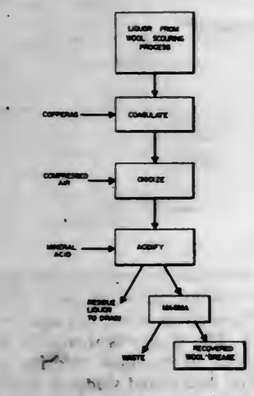
A process is described for treatment of sewage wherein activated sludge is produced which may be treated directly or may be digested in a second embodiment for further treatment. The sludge is thereafter flocculated by sequential additions of carbon dioxide and hydrated calcium oxide. The flocculated sludge is filtered to remove water from the solids and the filter cake is incinerated. Flue gas from the incinerator is recycled to the sludge for providing carbon dioxide thereto and calcium oxide in the solid product of the incinerator is ground and recycles to provide hydrated calcium oxide for inducing flocculation.

3,440,167

TREATMENT OF LIQUORS FROM THE TREATMENT OF RAW WOOL

Edward Watson Clark and Geoffrey F. Kitchen, Bradford, England, assignors to Woolcombers Limited, also trading as Westbrook Lanolin Company, a company of Great Britain

Filed Apr. 5, 1966, Ser. No. 540,214
Int. Cl. B01d *21/01*; C02b *1/20*
U.S. Cl. 210—50 **11 Claims**



A method of treating wool scouring liquor containing solid impurities in the form of wool grease and scouring aids such as soap, sodium carbonate and synthetic detergents of both the anionic and nonionic variety which comprises adding to the scouring liquor a coagulant consisting essentially of a copperas solution in the amount of 0.2% to 1.5%, subsequently oxidizing the liquor by contacting it with air as by blowing air through it for about 30–120 minutes at a temperature in the range of 60° F.–212° F., then acidifying the liquor to a pH of about 1.0 to 4.0 to precipitate magma, by adding a strong mineral acid and finally separating the precipitated magma from the liquor and recovering the wool grease from the magma.

3,440,168

PROCESS AND COMPOSITIONS FOR SUPPORTING MATERIALS IN THE PRESENCE OF WATER

Jack M. Kincaid, Houston, Tex., assignor to Petro-Tex Chemical Corporation, Houston, Tex., a corporation of Delaware

No Drawing. Filed Oct. 23, 1967, Ser. No. 677,087
Int. Cl. C10m *7/02*
U.S. Cl. 252—12.6 **9 Claims**

Method for supporting at least one moving surface in the presence of water by use of polybutene-1 compositions. Novel polybutene-1 compositions containing inert, slightly soluble, slightly hygroscopic materials are disclosed.

3,440,169

CADMIUM-SUBSTITUTED FERRITE MATERIALS

Donald H. Baird, Great Neck, and Samuel Natansohn, Massapequa Park, N.Y., assignors to General Telephone and Electronics Laboratories, Inc., a corporation of Delaware

Filed Dec. 3, 1965, Ser. No. 511,921
Int. Cl. C04b *35/36*; H01f *1/10*
U.S. Cl. 252—62.62 **10 Claims**

A cadmium-containing manganese zinc ferrite having a μQ product in excess of 100,000 is provided. The presence of cadmium in the ferrite causes the permeability vs. temperature dependence of the ferrite to assume a more linear slope, and the magnitude of the slope increases as the ratio of cadmium to zinc in the ferrite increases.

3,440,170

PROCESS FOR THE CLEANING OF EQUIPMENT

Jilles de Hek, Haarlem, Netherlands, assignor to Verenigde Kunstmestfabrieken Mekog-Albatros N.V., Mollebaan, Utrecht, Netherlands, a company of Netherlands

No Drawing. Filed May 28, 1965, Ser. No. 459,942
Claims priority, application Netherlands, June 9, 1964, 6406533; Feb. 8, 1965, 6501527
Int. Cl. C23f *11/04*; C23g *1/04*
U.S. Cl. 252—147 **16 Claims**

In the cleaning of equipment constructed of metals including iron such as steel and stainless steel, an aqueous solution of an organic or inorganic acid such as citric acid or hydrochloric acid is circulated through the equipment. The solution contains a conventional corrosion inhibitor such as hexamethylene tetramine or quaternary ammonium compounds, and in addition a water soluble stannous salt such as stannous chloride. The redox potential of the solution is measured, for example, with a platinum electrode against a saturated calomel-KCl electrode, and is maintained at a value below 280 mv. by adjusting the quantity of stannous salt, whereby reduction of ferric ions to ferrous ions by steel in the equipment, and consequent corrosion, is prevented. The solution may also contain a complexing agent which forms soluble complexes with ferric ions, such as ammonium bifluoride, and which does not form soluble complexes with ferrous

ions. Scale such as mill scale is dissolved without corrosion of the iron in the metal even when the solution is circulated at a high flow rate and when it is heated to elevated temperatures.

3,440,171

SURFACE ACTIVE COMPOSITIONS

Roy R. Warren, St. Albans, W. Va., assignor to Union Carbide Corporation, a corporation of New York

No Drawing. Filed June 29, 1964, Ser. No. 378,940
Int. Cl. C11d *1/52*
U.S. Cl. 252—152 **6 Claims**

The formation of a gel upon addition of a straight-chain alkylbenzene sulfonic acid to an aqueous solution of an alkanolamine is prevented by the addition of a water-soluble inorganic salt such as an alkali metal sulfate or chloride.

3,440,172

PHOTOLUMINESCENT GLASS SYSTEMS

Marvin J. Albinak and Warren H. Turner, Toledo, Ohio, assignors to Owens-Illinois, Inc., a corporation of Ohio

No Drawing. Filed Sept. 16, 1964, Ser. No. 397,675
Int. Cl. C09k *1/04*
U.S. Cl. 252—301.6 **4 Claims**

Photoluminescent glasses characterized by an extremely high degree of durability. Typical systems are alkali-free and are silica-alumina-zinc oxide systems. In these systems, the RO constituent is ZnO. It is this compound that provides a synergistic system with at least one other activator selected from the group of CuO, SnO, and Sb_2O_3. Substantial amounts of alkali metal oxides also can be used in the base glasses. When so operating, the ratio of ZnO to SiO_2 is retained at a sufficiently high order of magnitude to provide an active ZnO/SiO_2 photoluminescent system. The essential compositional ingredients and proportions are as follows:

	Parts by weight
SiO_2	30–80
Al_2O_3	1–20
ZnO	10–25
CuO	0.001–1.0
SnO or Sb_2O_3	0.1–20

3,440,173

FLUORESCENT TERBIUM CHELATES

Richard J. Hovey, Worcester, and Donald O. Hoffman, Sturbridge, Mass., assignors, by mesne assignments, to American Optical Company, Southbridge, Mass., a corporation of Delaware

No Drawing. Filed Dec. 17, 1964, Ser. No. 419,192
Int. Cl. C09k *1/00*; F21k *2/00*
U.S. Cl. 252—301.2 **2 Claims**

A chemical composition consisting of a terbium chelate wherein the ligand portion is derived from certain derivatives or salicyclic acid and has use and application in surface coatings and paints in which room temperature fluorescence will be achieved.

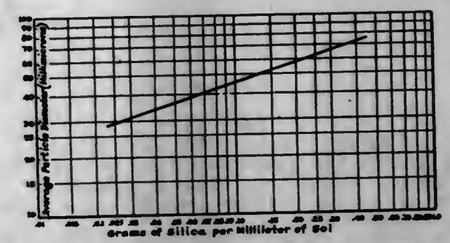
3,440,174

METHOD OF MAKING SILICA SOLS CONTAINING LARGE PARTICLE SIZE SILICA

William L. Albrecht, Naperville, Ill., assignor to Nalco Chemical Company, Chicago, Ill., a corporation of Delaware

Continuation-in-part of abandoned application Ser. No. 165,617, Jan. 11, 1962. This application Apr. 26, 1965, Ser. No. 453,873
Int. Cl. C01b *33/14*; B01j *13/00*
U.S. Cl. 252—313 **6 Claims**

A method of producing concentrated aqueous stable silica sols which contain at least 35% by weight of large, spherical, nonaggregated silica particles having a weight-



average particle of 45–100 millimicrons. Acid sol is fed to an alkaline heel using a controlled feed rate.

3,440,175

CONTINUOUS PROCESS FOR MAKING SILICA SOLS

Helmut H. Weldes, 9 Ellis Road, Havertown, Pa. 19083; Francis A. Boyle, 125 Henderson Ave., Norwood, Pa. 19074; and John S. Stephen Bobb, 3254 Friendship St., Philadelphia, Pa. 19149

Filed Oct. 22, 1965, Ser. No. 501,411
Int. Cl. C01b *33/14*; B01j *13/00*
U.S. Cl. 252—313 **7 Claims**

This is a process for forming a condensed silica sol without first forming a heel and said new condensed sol has a much reduced proportion of occluded alkali metal ions.

3,440,176

PREPARATION OF SILICA SOLS OF MINIMUM TURBIDITY

Roy J. Sippel, Deerhurst, Wilmington, Del., assignor to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware

No Drawing. Filed Mar. 31, 1966, Ser. No. 538,967
Int. Cl. C01b *33/14*; B01j *13/00*
U.S. Cl. 252—313 **7 Claims**

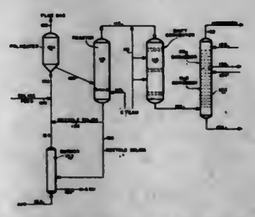
The process for preparing stable silica aquasol having low turbidity and low occluded sodium which comprises feeding a dilute acid silica sol to a silica sol heel having a particle size of about 8 to 20 millimicrons in average diameter, maintain the pH of the heel between about 8.5 to 9.5 by feeding to the heel an aqueous sodium silicate solution and heating the mixture to evaporate the water at a rate sufficient to maintain a constant mixture volume.

3,440,177

ASH REMOVAL IN GASIFICATION OF CARBONACEOUS SOLIDS

John T. Patton and Thomas W. Gillette, Houston, Tex., assignors to Esso Research and Engineering Company

Filed Dec. 18, 1967, Ser. No. 691,330
Int. Cl. C10k *1/02*
U.S. Cl. 252—373 **8 Claims**



The gasification of an ash-containing solid carbonaceous material is carried out sequentially by the steps of preheating the fluidized solid carbonaceous material, contacting the carbonaceous material with steam in a reacting zone to

partially convert the material, removing a stream of recycle solids from the reactor, burning a portion of the recycle solids to obtain a flue gas and an ash stream, withdrawing the ash stream, and utilizing the hot flue gas to reheat the other portion of recycle solids and the freshly introduced solids feed.

3,440,178

REACTIVATION OF CATALYSTS

Paul Anthony Lawrance, Stanwell, and Bernard Whiting Burbidge, Leatherhead, England, assignors to The British Petroleum Company Limited, London, England, a corporation of England

No Drawing. Continuation of application Ser. No. 423,573, Jan. 5, 1965. This application Jan. 24, 1967, Ser. No. 617,001

Claims priority, application Great Britain, Jan. 9, 1964, 1,029/64

Int. Cl. B01j *11/66, 11/80*

U.S. Cl. 252—415 12 Claims

The invention relates to catalysts prepared by chlorinating an inorganic oxide such as alumina with a compound of general formula



(where X and Y may be H, Cl, Br, F or SCl, or may together be O or S) and used for low temperature conversion processes are reactivated by heating in an oxygen free gas to above 400° F. and then rechlorinated.

An oxidative burn-off to remove the remaining deposits is given after the treatment with the oxygen free gas, which is preferably hydrogen.

The process is particularly suitable for reactivating catalysts used for the isomerisation of pentanes and hexanes at temperatures below 400° F.

3,440,179

THREE-COMPONENT CATALYTIC SYSTEM INCLUDING A TETRASUBSTITUTED HYDROCARBYL SILANE, AND METHOD FOR THE POLYMERIZATION OF OLEFINS

John W. Bayer, Perrysburg, and Edgardo Santiago, Toledo, Ohio, assignors to Owens-Illinois, Inc., a corporation of Ohio

No Drawing. Filed Sept. 12, 1963, Ser. No. 308,357

Int. Cl. B01j *11/84*

U.S. Cl. 252—429 4 Claims

A three component catalytic system for the polymerization of olefins which contains: (a) VCl_3 or certain titanium halides; (b) certain organoaluminum compounds; (c) an organosilane which contains four hydrocarbon radicals linked directly to a silicon atom.

3,440,180

OXIDATION CATALYST AND PROCESS FOR USING THE SAME

Ben W. Kiff, Ona, and Norman R. Cox, St. Albans, W. Va., assignors to Union Carbide Corporation, a corporation of New York

No Drawing. Continuation of abandoned application Ser. No. 310,467, Sept. 20, 1963. This application Jan. 7, 1966, Ser. No. 519,009

Int. Cl. B01j *11/32, 11/22*

U.S. Cl. 252—439 5 Claims

An oxidation catalyst consisting essentially of oxygen-containing compounds of iron, cobalt, molybdenum, and tellurium as metal components therein; wherein the molybdenum component is in chemical combination with oxygen; wherein the iron, tellurium, and cobalt components are in chemical combination with oxygen, the molybdate moiety, and mixtures thereof; and wherein the ratios of the gram-atomic weights of the aforedescribed metal components are defined in definite proportions.

3,440,181

METAL COATED VERMICULAR EXPANDED GRAPHITE AND POLYMER COMPOSITION CONTAINING SAME

Franciszek Olstowski, Freeport, Tex., assignor to The Dow Chemical Company, Midland, Mich., a corporation of Delaware

No Drawing. Filed Mar. 22, 1965, Ser. No. 441,844

Int. Cl. H01b *1/04;* B32b *15/04;* C08h *17/08*

U.S. Cl. 252—503 10 Claims

This invention relates to metal coated vermicular graphite compositions containing from about 2 to about 85 weight percent metal, having an apparent bulk density of from about 0.3 to about 15 lbs./ft.^{3} and a surface area of from about 0.1 to about 15 square meters/gm. The invention also relates to a method for producing electrically conductive polymer compositions by uniformly dispersing from 5 to 60 weight percent of a metal coated vermicular graphite into a solid organic polymer.

3,440,182

COPPER/VANADIUM OXIDE COMPOSITIONS, NOBLE METAL METALIZING COMPOSITIONS CONTAINING VANADIUM OXIDE ADDITIVES, AND ELECTRICAL CONDUCTOR ELEMENTS MADE THEREWITH

Lewis C. Hoffman, Wilmington, Del., assignor to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware

No Drawing. Continuation-in-part of application Ser. No. 475,846, July 29, 1965. This application Oct. 10, 1966, Ser. No. 585,246

Int. Cl. H01b *1/02, 5/14*

U.S. Cl. 252—514 14 Claims

Noble metal metalizing compositions comprising (a) a noble metal powder, (b) an inorganic binder powder and (c) a V_2O_5 additive powder to improve the solderability, conductivity and/or adhesion properties of fired metalizings thereof on ceramic substrates, components (a), (b) and (c) being present in specified proportions; also, electrical conductor elements made using such compositions. The V_2O_5 additive may be a copper/vanadium oxide composition containing Cu_2O and V_2O_5 in specified proportions, which oxide composition is preferably in a fusion-reacted form. Such copper/vanadium oxide composition may also serve as the inorganic binder in the metalizing composition, although its use in physical admixture with a glass powder is preferred. When V_2O_5 per se is used as the additive, it should be employed in admixture with a glass powder.

3,440,183

2-ETHYLPYROMECONIC ACID AS AN AROMA ENHANCER FOR PERFUMES

Charles R. Stephens, Jr., East Lyme, and Robert P. Allingham, Groton, Conn., assignors to Chas. Pfizer & Co., Inc., New York, N.Y., a corporation of Delaware

No Drawing. Continuation-in-part of application Ser. No. 630,818, Apr. 14, 1967. This application Dec. 12, 1967, Ser. No. 689,778

Int. Cl. C11b *9/00;* A61k *7/00*

U.S. Cl. 252—522 1 Claim

The use of 2-ethylpyromeconic acid in improving the aroma of perfumes, colognes and industrial odorants.

3,440,184

AQUEOUS DISPERSION OF AN ADMIXTURE OF A HIGH AND LOW STYRENE LATEX, A MELAMINE-FORMALDEHYDE RESIN AND AN INORGANIC FILLER, AND METHOD OF FOAMING SAME

Robert E. Erickson, Midland, and Edwin L. Wittbrodt, Auburn, Mich., assignors to The Dow Chemical Company, Midland, Mich., a corporation of Delaware

No Drawing. Filed Oct. 6, 1966, Ser. No. 584,644

Int. Cl. C08f *47/08, 43/08;* C08g *37/32*

U.S. Cl. 260—2.5 8 Claims

The invention relates to an aqueous dispersion of (a) about 25 to 50 parts by weight of a high-styrene latex, (b) from about 50 to 75 parts by weight of a low styrene latex, and for each 100 parts by weight of total latex solids, (c) from about 2.5 parts to about 10 parts by weight of a water dispersible melamine-formaldehyde resin and (d) from about 40 parts to about 150 parts by weight of a finely divided filler, and the method of foaming the aforesaid composition to produce a foam having improved shock-absorbing properties.

3,440,185

METHOD OF MAKING POROUS STRUCTURES OF POLYVINYL CHLORIDE, COMPOSITIONS FOR USE THEREIN AND RESULTING PRODUCTS

Albert J. Hanley, Cuyahoga Falls, Ohio, assignor to The General Tire & Rubber Company, a corporation of Ohio

No Drawing. Continuation of application Ser. No. 279,310, May 9, 1963. This application Jan. 24, 1967, Ser. No. 611,473

Int. Cl. C08f *47/08;* B32b *3/12*

U.S. Cl. 260—2.5 5 Claims

Porous sheets and shaped porous structures of high permeability to air, water vapor and other gases useful as leather substitutes, filter materials, etc., are produced from aqueous dispersions of selected size particles of polyvinyl chloride and separate selected size particles of plasticizer. The dispersions are cast as a layer on a support or otherwise shaped and water is evaporated under controlled conditions to create articulated gels in the form of coherent networks of plastic particles attached together only at points of contact, but otherwise separated by air voids.

3,440,186

INORGANIC POLYMERS

Selwyn H. Rose, King of Prussia, Pa., assignor to Pennsalt Chemicals Corporation, Philadelphia, Pa., a corporation of Pennsylvania

No Drawing. Filed Apr. 14, 1965, Ser. No. 447,978

Int. Cl. C08g *33/20, 33/16*

U.S. Cl. 260—2 8 Claims

Polymers having an inorganic backbone involving a doubly bridged bivalent tetrahedral metal where each of said bridging groups is the anion of an acid $R_2P(O)OH$, where R is a hydrocarbon of 2–18 carbon atoms, said bridging groups being different from each other and forming an 8 membered ring with said tetrahedral metal, and said hydrocarbon members in each of said bridging groups being alkyl, the alkyl groups in one bridging group differing from those in the other bridging group by at least 3 carbon atoms.

3,440,187

GRAFT POLYMER OF NATURAL RUBBER AND POLYDIENE

David W. Young, Homewood, and Richard F. Poss, Flossmoor, Ill., assignors to Sinclair Research, Inc., New York, N.Y., a corporation of Delaware

No Drawing. Filed June 24, 1965, Ser. No. 466,822

Int. Cl. C08d *3/00;* C10m *1/18;* C10l *1/16*

U.S. Cl. 260—5 5 Claims

The graft polymerization product of about 80 to 99% by weight of natural, pale crepe rubber and about 1 to 20% of a polymer of a 1,3-diene hydrocarbon of 4 to about 12 carbon atoms, e.g. 1,3-butadiene, is disclosed as being useful as a mineral oil pour point depressant. The polydiene has an average of at least about 1.8 hydroxyl groups per molecule, a viscosity at 30° C. of about 5 to 20,000 poises and a number average molecular weight of about 400 to 25,000. Preparation of the graft polymerization product, which has a molecular weight of about 35,000 to 250,000, may be by milling the natural rubber in the presence of the diene polymer, e.g. at temperatures of about 150 to 200° F.

3,440,188

AQUEOUS-BASED POLISH COMPRISING ETHYLENE ACRYLATE ESTER COPOLYMER AND HOMOPOLYMER OR COPOLYMER OF STYRENE AND/OR ACRYLATE ESTERS

Donald L. Burdick and Harold D. Lyons, Overland Park, Kans., assignors to Gulf Oil Corporation, Pittsburgh, Pa., a corporation of Pennsylvania

No Drawing. Filed Jan. 10, 1966, Ser. No. 519,441

Int. Cl. C09g *1/04;* C08g *1/16, 1/10*

U.S. Cl. 260—8 10 Claims

A water base polish is disclosed having an aqueous phase with a base polymer and a synthetic resinous polymer dispersed in it. The base polymer is an interpolymer containing 70 to 80 percent by weight ethylene, 5 to 12 percent by weight of an alkali metal acrylate or methacrylate, 5 to 10 percent by weight of acrylic or methacrylic acid, 5 to 12 percent by weight of acrylamide or methacrylamide, and 0 to 5 percent of an acrylic or methacrylic acid ester. The synthetic resinous polymer is a homopolymer or copolymer of styrene, and/or acrylic and methacrylic acid esters.

3,440,189

PARTICLE BOARD

John Arthur Sharp, Beloeil, Quebec, Canada, assignor to Canadian Industries Limited, Montreal, Quebec, Canada, a corporation of Canada

No Drawing. Filed Nov. 21, 1966, Ser. No. 601,272

Claims priority, application Canada, Nov. 27, 1965, 946,436

Int. Cl. C08g *51/18;* B32b *21/02*

U.S. Cl. 260—9 3 Claims

A particle board fabricated from wood particles bonded by a thermoset adhesive containing an organic polyisocyanate and "Vinsol" resin. The bonding procedure is carried out at 180° to 400° F. under a pressure of 200 to 450 pounds per square inch. The water resistance of the particle board makes it suitable for outdoor applications.

3,440,190

OLIGONUCLEOTIDE COMPOSITIONS AND THE PROCESS FOR THE PREPARATION THEREOF

Lester R. Melby, Wilmington, Del., assignor to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware

No Drawing. Filed Sept. 8, 1965, Ser. No. 485,946

Int. Cl. C07c *7/12;* C08f *19/04, 41/02*

U.S. Cl. 260—17.4 7 Claims

Oligonucleotide compositions and process wherein the 5'-hydroxy group of a deoxyribonucleoside is attached to an insoluble styrene/divinylbenzene/trityl i.e. styrene/divinylbenzene/vinyltriphenylmethyl polymer through trityloxy i.e., triphenylmethoxy linkages, and wherein the 3-position of the nucleoside is optionally joined to 3'-O-acylnucleoside 5'-phosphate through 3'→5' phosphodiester bonds followed by removal of the 3'-O-acyl group and further condensation of the liberated 3' hydroxyl with nucleoside phosphate; said compositions are useful for the selective separation of aromatic and aliphatic hydrocarbons.

3,440,191

DIORGANOPOLYSILOXANE COMPOSITIONS

James Caithness Cuthill, Ardrossan, and James McAllan Cormack Thompson, Seamill, Scotland, assignors to Imperial Chemical Industries Limited, London, England, a corporation of Great Britain

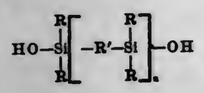
No Drawing. Filed Feb. 1, 1966, Ser. No. 523,951

Claims priority, application Great Britain, Feb. 22, 1965, 7,600/65; Nov. 15, 1965, 48,325/65

Int. Cl. C08g *47/04, 47/06*

U.S. Cl. 260—18 19 Claims

There is provided an organopolysiloxane composition comprising the reaction product of a compound of the general formula



where R is a monovalent hydrocarbyl, R' is a divalent aromatic group and *n* is 1, with a compound of the general formula R_bSiA_{4-b} where R'' is a monovalent hydrocarbyl, hydrogen or a halogen, A is a group OR''' or NR^{IV}_2, R''' is a monovalent hydrocarbyl, R^{IV} is a monovalent hydrocarbyl or hydrogen and *b* is 0 or 1; a process for the production to the above organopolysiloxanes is also provided by reacting 4 moles of the diol with at least 1 mole of the silane at temperatures between about 80° and 200° C.

3,440,192

POLYESTER-CARBOXYLIC ACID ADDUCTS AND WATER-BASED PAINT COMPOSITIONS THEREFROM

Kenneth L. Hoy, Saint Albans, and Paul C. Payne, South Charleston, W. Va., assignors to Union Carbide Corporation, a corporation of New York

No Drawing. Filed Oct. 5, 1964, Ser. No. 401,695

Int. Cl. C08g *17/16;* C09d *3/64*

U.S. Cl. 260—22 18 Claims

Polyester-carboxylic acid adducts having pendant carboxyl groups which are prepared by the adduction of alpha, beta-ethylenically unsaturated polycarboxylic acids or anhydrides to a significantly defined ethylenically unsaturated polyester. These adducts, after being rendered water-compatible by the reaction of the pendant carboxyl groups with a water-soluble cation, can be used to manufacture water-based coating compositions.

3,440,193

OIL-MODIFIED ALKYD EMULSION COATINGS

Philip J. Campagna, Williamsville, N.Y., assignor to Allied Chemical Corporation, New York, N.Y., a corporation of New York

No Drawing. Filed May 6, 1965, Ser. No. 453,835

Int. Cl. C08g *17/16, 53/18;* C09d *3/68*

U.S. Cl. 260—22 19 Claims

This invention relates to coating compositions which are air-drying aqueous emulsions of oil-modified alkyd resins containing an emulsifying agent selected from the group consisting of

nonylphenol-ethylene oxide condensate having an average of at least about 30 mols of ethylene oxide,

dinonylphenol-ethylene oxide condensate having an average of at least about 30 mols of ethylene oxide, and

octylphenol-ethylene oxide condensate having an average of at least about 20 mols of ethylene oxide.

3,440,194

WAX COMPOSITION CONTAINING ETHYLENE VINYL ACETATE OR ETHYLENE ETHYL ACRYLATE AND A GRAFT COPOLYMER OF ETHYLENE WITH MALEIC ACID

Frank J. Taranto, Flushing, and Herman F. Weindel, Uniondale, N.Y., assignors to Mobil Oil Corporation, a corporation of New York

No Drawing. Filed Oct. 20, 1964, Ser. No. 405,260

Int. Cl. C08f *29/50, 45/52*

U.S. Cl. 260—28.5 14 Claims

Coating compositions are provided comprising petroleum wax, an interpolymer selected from the group consisting of interpolymers of ethylene and vinyl acetate and interpolymers of ethylene and ethyl acrylate, and graft copolymers of polyethylene and a dicarboxylic acid or anhyride thereof.

3,440,195

NOVEL SEALING COMPOSITION AND METHOD USING THE SAME

Gerald W. Norcross, Kirkwood, Mo., assignor to Interchemical Corporation, New York, N.Y., a corporation of Ohio

No Drawing. Filed Jan. 20, 1966, Ser. No. 521,791

Int. Cl. C08c *11/68;* C08d *3/04*

U.S. Cl. 260—28.5 4 Claims

A thermoplastic joint sealant composition comprising the product obtained by heating above 200° F. a mixture of (1) an asphalt and (2) a block copolymer of a polystyrene homopolymer block and a block of a copolymer of styrene and butadiene.

3,440,196

COATING SOLUTIONS AND METHODS FOR PREPARING AND USING THE SAME

Edith M. Boldebuck, Schenectady, and Fred F. Holub, Scotia, N.Y., assignors to General Electric Company, a corporation of New York

No Drawing. Filed May 5, 1966, Ser. No. 547,776

Int. Cl. C08g *20/20, 20/32*

U.S. Cl. 260—29.2 12 Claims

Water coating solutions are produced by forming in water a mixture of ingredients comprising benzophenonetetracarboxylic acid and an aliphatic diamine containing 2 to 8 carbon atoms or a mixture of aliphatic diamines containing 2 to 8 carbon atoms with m-phenylenediamine and allowing these materials to interact at temperatures below 75° C. Homogenous, stable solutions are formed when the molar amounts of the amines are equal to or up to 65% in excess of the molar concentrations of the benzophenonetetracarboxylic acid.

3,440,197

COATING SOLUTIONS AND METHODS FOR PREPARING AND USING THE SAME

Edith M. Boldebuck, Schenectady, and Fred F. Holub, Scotia, N.Y., assignors to General Electric Company, a corporation of New York

No Drawing. Filed May 5, 1966, Ser. No. 547,791

Int. Cl. C08g *20/20, 20/32*

U.S. Cl. 260—29.2 29 Claims

Coating solutions capable of being converted to high temperature protecting and insulating films are prepared from a mixture of an aromatic polycarboxylic acid and an aromatic diamine dissolved in a solvent mixture comprising water and a water-soluble organic amine of the

class of monofunctional secondary amines and tertiary amines. By allowing these reactants to interact at a temperature below 65° C. a homogenous solution is obtained.

3,440,198

COMPOSITION FOR CONFERRING WRINKLE RESISTANT PROPERTIES TO FABRIC AND METHOD FOR PREPARNG THE SAME

Edward D. Szubin, West Caldwell, N.J., assignor to The Ironees Company, Philadelphia, Pa., a corporation of Pennsylvania

No Drawing. Filed Feb. 15, 1966, Ser. No. 527,528

Int. Cl. C08g *37/30;* D06m *15/58*

U.S. Cl. 260—29.4 5 Claims

A composition for conferring wrinkle-resistant properties to a cellulosic fabric, when the composition is blended with a zinc nitrate catalyst, consisting essentially of an aqueous homogeneous mixture of 37.5 to 45 parts by weight of dimethylol propylene urea, 1.35 to 2.7 parts by weight of crystalline olefin polymer emulsified with a cationic emulsifying agent, 0.6 to 1.8 parts by weight of a silicone oil emulsified with a non-ionic emulsifying agent, and 0.2 to 0.6 parts by weight of a specified non-ionic surface active agent.

3,440,199

AQUEOUS PAINT COMPOSITION CONTAINING AN INTERPOLYMER OF VINYL ACETATE, ETHYLENE AND GLYCIDYL ACRYLATE

Martin K. Lindemann, Somerville, and Rocco P. Volpe, Newark, N.J., assignors, by mesne assignments, to Air Reduction Company Incorporated, New York, N.Y., a corporation of New York

No Drawing. Filed Mar. 31, 1965, Ser. No. 444,377

Int. Cl. C08f *37/00;* C09d *3/74*

U.S. Cl. 260—29.6 9 Claims

An aqueous paint composition effective to provide on a supporting surface, such as wood, a film effective for both interior and exterior exposure resistant to softening at high atmospheric temperatures and effective to adhere to raw wood without priming, comprises an aqueous synthetic polymer latex and a pigment, the latex containing dispersed vinyl acetate-ethylene-glycidyl acrylate interpolymer of a particle size of 0.1μ to 2μ and containing 5 to 40%, preferably more than 15%, ethylene. The latex preferably has a solids content of 35 to 70% of interpolymer and 10 to 1000 parts of pigment preferably are present per 100 parts of latex solids.

3,440,200

TREATMENT OF WOVEN FABRICS WITH AQUEOUS DISPERSION OF INTERPOLYMER OF VINYL ACETATE, ETHYLENE AND GLYCIDYL ACRYLATE

Martin K. Lindemann, Somerville, and Rocco P. Volpe, Newark, N.J., assignors, by mesne assignments, to Air Reduction Company, Incorporated, New York, N.Y., a corporation of New York

No Drawing. Filed Mar. 31, 1965, Ser. No. 444,440

Int. Cl. C08f *37/00, 45/24;* D06m *15/40*

U.S. Cl. 260—29.6 6 Claims

Woven fabrics are coated by means of a coating composition comprising an interpolymer of vinyl acetate, ethylene, and a glycidyl acrylate, the interpolymer containing 5 to 40% ethylene and the coating composition being a dispersion of the interpolymer in water with the interpolymer preferably having a particle size of 0.1μ to 2μ.

3,440,201

MELAMINE - FORMALDEHYDE PHOSPHATE ETHER POLYOL RESINS USEFUL FOR COATING COMPOSITIONS, PROCESS FOR THEIR PREPARATION AND COATING COMPOSITIONS CONTAINING SUCH RESINS

Robert E. Sempert, Homewood, and Robert R. Harris, Burnham, Ill., assignors to The Sherwin-Williams Company, Cleveland, Ohio, a corporation of Ohio

No Drawing. Filed Aug. 26, 1965, Ser. No. 482,915

Int. Cl. C08g *9/30, 51/68*

U.S. Cl. 260—31.2 11 Claims

New water insoluble resinous condensation products useful in coating compositions are prepared by reacting 30–70% by weight of a water soluble phosphate ether polyol containing 4–15% by weight phosphorus, having a hydroxyl number of 400–500 and a functionality of 2–5, in an organic solvent, with 70–30% by weight of a water soluble melamine-formaldehyde or a water soluble alkoxy-melamine-formaldehyde.

3,440,202

POLYMER SOLUTIONS AND METHODS FOR PREPARING AND USING THE SAME

Edith M. Boldebuck, Schenectady, and Richard F. Gaertner, Rexford, N.Y., assignors to General Electric Company, a corporation of New York

No Drawing. Filed May 5, 1966, Ser. No. 547,724

Int. Cl. C08g *20/32, 51/34*

U.S. Cl. 260—31.2 17 Claims

Polyamide acid solutions having lower viscosities are unexpectedly produced at temperatures below 40° C. in a solvent consisting of cresol or cresol-phenol mixtures by dissolving a mixture of at least one benzophenone dianhydride and at least one diamine in the solvent and additives such as an ammonium salt of a monocarboxylic acid or a strong organic acid, and allowing the reactants to interact. These polyamide acid solutions are useful as coatings for wires, in making capacitor dielectrics, etc.

3,440,203

POLYAMIDE ACID SOLUTION CONTAINING A SILICONE AND SURFACE COATED WITH SAID SOLUTION

Edith M. Boldebuck and Joseph Sonnenberg, Schenectady, N.Y., assignors to General Electric Company, a corporation of New York

No Drawing. Filed May 5, 1966, Ser. No. 547,725

Int. Cl. C08g *51/34, 20/32*

U.S. Cl. 260—33.4 11 Claims

An improved polyamide acid coating solution which has reduced surface roughness is produced when small amounts of a silicone are added to the reaction produce of a benzophenone dianhydride and a diamine in cresol or a mixture of cresol-phenol. These polyamide acid solutions are useful in producing insulating films over conducting cores, in producing capacitor dielectrics, etc.

3,440,204

POLYAMIDE AMIDE-ACID COATING SOLUTIONS CONTAINING A SILICONE, METHOD OF USING SAID SOLUTIONS AND SURFACES COATED THEREWITH

Donald L. Reinhard, Ballston Lake, N.Y., assignor to General Electric Company, a corporation of New York

No Drawing. Filed May 5, 1966, Ser. No. 547,789

Int. Cl. C08g *20/32*

U.S. Cl. 260—33.4 10 Claims

The smoothness of coatings prepared from cured polyamide amide-acids is improved by adding thereto from 0.05 to 0.5% of particular silicone material based on the weight of the polyamide amide-acid.

3,440,205

ROOM TEMPERATURE CURING ORGANOPOLYSILOXANE ELASTOMERS

Rajendra Nath Chadha, Ann Arbor, and Kailash Chandra Pande, Adrian, Mich., and Richard Eugene Ridenour, Sylvania, Ohio, assignors to Stauffer Chemical Company, New York, N.Y., a corporation of Delaware

No Drawing. Filed Nov. 2, 1965, Ser. No. 506,125

Int. Cl. C08g *51/10, 51/04*

U.S. Cl. 260—37 8 Claims

(Cyclo-triacyloxy tetrasiloxy -) end blocked siloxanes and their use as RTV gums are disclosed.

3,440,206

ROOM TEMPERATURE CURING ORGANOPOLYSILOXANE ELASTOMERS

Kailash Chandra Pande, Adrian, Mich., and Richard Eugene Ridenour, Sylvania, Ohio, assignors to Stauffer Chemical Company, New York, N.Y., a corporation of Delaware

No Drawing. Filed Nov. 2, 1965, Ser. No. 506,126

Int. Cl. C08g *47/02, 31/02*

U.S. Cl. 260—37 8 Claims

Reacting tri alkyl siloxy end blocked, acyloxy siloxanes and siloxane diols yields polymers useful as RTV elastomers.

3,440,207

MIXED ORGANOSILOXANE POLYMERS WITH ESTERIFIED SILICA FILLER

Siegfried Nitzsche, Manfred Wick, and Ernst Wohlfarth, Burghausen, Bavaria, Germany, assignors to Wacker-Chemie G.m.b.H., Munich, Germany

No Drawing. Filed June 5, 1963, Ser. No. 285,572

Claims priority, application Germany, June 14, 1962, W 32,425

Int. Cl. C08g *47/06, 47/10*

U.S. Cl. 260—37 1 Claim

1. A composition consisting essentially of 100 parts by weight of an essentially linear organosiloxane polymer having terminal units of the formula $R''COOSi(R')_2$— wherein each R'' is a monovalent substituent selected from the group consisting of hydrogen atoms, hydrocarbon radicals and halogenohydrocarbon radicals, each R' is a monovalent substituent selected from the group consisting of hydrocarbon radicals, halogenohydrocarbon radicals and cyanoalkyl radicals, the organic substituents in said polymer being monovalent substituents selected from hydrocarbon radicals, halogenohydrocarbon radicals and cyanoalkyl radicals, said polymers having a viscosity from 5,000 cs. to 5×10^6 cs. at 25° C., 0.5 to 15 parts by weight of an organosilicon compound selected from the group consisting of (1) organosiloxane polymers of the general unit formula

$$R'_xSi(OR)_y(OH)_zO_{\frac{4-x-y-z}{2}}$$

where each R is a monovalent organic radical selected from hydrocarbon radicals, halogenohydrocarbon radicals and $R'''(OCH_2CH_2)_a$ where R''' is a hydrocarbon radical or a halogenohydrocarbon radical and a is 1, 2 or 3 and R' is as above defined, x, y and z each have a value from 0 to 3 and $x+y+z$ does not exceed 3, the average value of x is 1 to 1.7, each molecule contains at least 3 OR groups and the viscosity of the polymer at 25° C. does not exceed 120,000 cs., and (2) an esterified silica filler having —OR groups bonded to the silica surface, where R is as above defined and 0.01 to 10 parts by weight of a condensation catalyst.

3,440,208

FLOOR TILE COMPOSITIONS CONTAINING BLENDS OF STEREOREGULAR POLYOLEFINS AS THE BINDER

Andrew J. Foglia, Brooklyn, N.Y., and Joseph J. Feiter, Jr., Clifton, N.J., assignors to Mobil Oil Corporation, a corporation of New York

No Drawing. Filed July 6, 1965, Ser. No. 469,855

Int. Cl. C08f *29/02, 45/16*

U.S. Cl. 260—41 4 Claims

A floor tile molding composition, contains, by weight, 60–85% fillers, fibrous matter, and pigments and 40–15% binder. The binder is a blend of stereoregular polybutene-1 (5–95%) with stereoregular polypropylene (5–50%) or a stereoregular copolymer of butene-1 and ethylene containing 1–30 weight percent ethylene (95–5%), or both.

3,440,209

POLYMERIC COMPOSITIONS CONTAINING SUBSTITUTED 1,4-BENZOQUINONES

Raymond C. Harris and Gordon C. Newland, Kingsport, Tenn., assignors to Eastman Kodak Company, Rochester, N.Y., a corporation of New Jersey

No Drawing. Continuation-in-part of application Ser. No. 594,268, Nov. 14, 1966. This application Apr. 24, 1968, Ser. No. 723,927

Int. Cl. C08f *45/60, 47/04, 29/02*

U.S. Cl. 260—41 7 Claims

Polymeric compositions, particularly polyolefins, stabilized against the degradative effects of ultraviolet light with substituted 1,4-benzoquinones.

3,440,210

STABILIZATION OF POLYOLEFINS WITH OXALYL DIHYDRAZIDES

William W. Blount, Jr., Roger E. Gibson, and Clarence E. Tholstrup, Kingsport, Tenn., assignors to Eastman Kodak Company, Rochester, N.Y., a corporation of New Jersey

No Drawing. Continuation-in-part of application Ser. No. 536,629, Mar. 23, 1966. This application May 17, 1968, Ser. No. 729,906

Int. Cl. C08f *45/58, 47/04*

U.S. Cl. 260—41 8 Claims

Polyolefins containing N-benzal-(oxalyl dihydrazides), N,N'-dibenzal-(oxalyl dihydrazides), and derivatives thereof, to inhibit the degradative effects caused by the presence of copper or copper-bearing materials.

3,440,211

FLAME RETARDANT NYLON COMPOSITION

Richard R. Lunt, Jr., Wilmington, Del., assignor to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware

No Drawing. Continuation of application Ser. No. 568,150, July 27, 1966. This application Apr. 5, 1968, Ser. No. 719,270

Int. Cl. C08g *41/02;* C09k *3/28*

U.S. Cl. 260—45.7 5 Claims

Chlorinated biphenyl containing from 20 to 71 percent by weight of chlorine is added to the polyamide of 1,12-dodecanedioic acid and bis(para-aminocyclohexyl) methane for flame retardant purposes.

3,440,212

POLY-α-OLEFIN COMPOSITIONS HAVING IMPROVED STABILITY

Clarence E. Tholstrup, Kingsport, Tenn., assignor to Eastman Kodak Company, Rochester, N.Y., a corporation of New Jersey

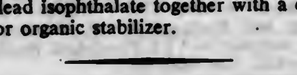
No Drawing. Continuation of abandoned application Ser. No. 508,850, Nov. 19, 1965, which is a continuation of application Ser. No. 193,590, May 9, 1962. This application Aug. 30, 1966, Ser. No. 576,159

Int. Cl. C08f *45/58*

U.S. Cl. 260—45.8 10 Claims

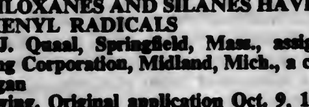
1. A composition of at least one normally solid poly-α-olefin derived from mono-α-olefins, α-olefin having 2 to 10 carbon atoms, and containing a synergistic stabilizing amount of the stabilizer components

(a) a diester of thiodialkanoic acid having the formula



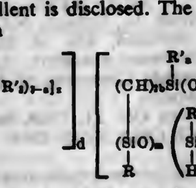
wherein R is an alkyl radical having 4 to 22 carbon atoms and x is an integer of 2 to 3,

(b) a phenylsalicylate having the formula

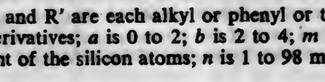


wherein R_3 is selected from the group consisting of hydrogen atoms and hydrocarbon radicals having 1 to 22 carbon atoms, and

(c) a thiobisphenol having a formula selected from the group consisting of



and



wherein R_1 and R_2 are hydrocarbon radicals having 1 to 22 carbon atoms and y is an integer of 1 to 6.

3,440,213

VINYL HALIDE RESINS STABILIZED WITH TRIBASIC LEAD ISOPHTHALATE

Leonard M. Kebrich, Miller Place, N.Y. and Edward L. White,, Freehold, N.J., assignors to National Lead Company, New York, N.Y., a corporation of New Jersey

No Drawing. Original application Apr. 8, 1964, Ser. No. 358,373, now Patent No. 3,355,471, dated Nov. 28, 1967. Divided and this application Apr. 3, 1967, Ser. No. 643,766

Int. Cl. C08f *45/54;* C08g *51/62*

U.S. Cl. 260—45.75 1 Claim

Vinyl resins stabilized with tribasic lead isophthalate or tribasic lead isophthalate together with a conventional metal salt or organic stabilizer.

3,440,214

ADDUCTS OF SILICON HYDRIDE POLYSILOXANES AND SILANES HAVING ALKENYL RADICALS

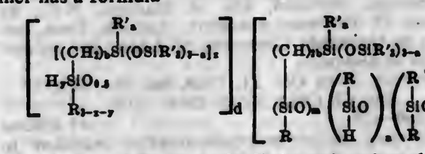
George J. Quaal, Springfield, Mass., assignor to Dow Corning Corporation, Midland, Mich., a corporation of Michigan

No Drawing. Original application Oct. 9, 1964, Ser. No. 402,941. Divided and this application Mar. 14, 1968, Ser. No. 734,506

Int. Cl. C08g *31/10;* C09k *3/18*

U.S. Cl. 260—46.5 12 Claims

A siloxane copolymer which is useful for rendering substrates water repellent is disclosed. The siloxane copolymer has a formula



wherein R and R' are each alkyl or phenyl or their halogenated derivatives; a is 0 to 2; b is 2 to 4; m is 2 to 99 mol percent of the silicon atoms; n is 1 to 98 mol percent of the silicon atoms; z is 0 to 97 mol percent of the silicon atoms; $m+n+z$ is 6 to 2000; x, y and d are each 0 to 2 and $x+y$ is 0 to 2.

3,440,215

AROMATIC POLYIMIDES

Fred F. Holub, Scotia, N.Y., assignor to General Electric Company, a corporation of New York

Filed Mar. 17, 1965, Ser. No. 440,387

Int. Cl. H01b *3/30;* C08g *20/32, 23/20*

U.S. Cl. 260—47 5 Claims

An aryl dianhydride is produced by the reaction of 4-chloroformyl phthalic anhydride and N,N'-diphenyl-p-phenylene-diamine. This dianhydride is converted to novel aromatic polyimides by reacting the dianhydride with arylene diamines. The novel aryl dianhydride is useful as a curing agent for epoxy resins and as an intermediate in the production of polyimide resins. The aromatic polyimides produced by this invention are useful as insulating coatings for electrical conductors.

3,440,216

PROCESS FOR CURING AN EPOXY RESIN WITH AN ORGANIC ANHYDRIDE AND PYRIDINE ACTIVATOR AND COMPOSITION THEREOF

George S. Wooster, Hamburg, and Aloysius J. Kane, Buffalo, N.Y., assignors to Allied Chemical Corporation, New York N.Y., a corporation of New York

No Drawing. Filed Oct. 20, 1965, Ser. No. 499,066

Int. Cl. C08g *30/00;* C09d *3/48;* D04h *1/32*

U.S. Cl. 260—47 11 Claims

A process for curing and resinifying polyepoxides, preferably glycidyl polyethers of polyhydric phenols, which comprises mixing and reacting the polyepoxide with a carboxylic acid anhydride or mixture of anhydrides in the presence of an activator for the anhydride or mixture of anhydrides, comprising certain dialkylpyridines. This invention further provides cured compositions obtained by the above-described process which are characterized by their excellent hardness and durability.

3,440,217

PROCESS FOR CONTROLLING THE CHAIN LENGTH OF POLY(PHENYLENE OXIDES)

Philip D. Faurote, Canoga Park, and Charles L. Segal, Los Angeles, Calif., assignors to North American Rockwell Corporation, a corporation of Delaware

No Drawing. Filed Jan. 11, 1967, Ser. No. 608,498

Int. Cl. C08g *23/18*

U.S. Cl. 260—47 1 Claim

A novel process for controlling the chain length of poly(phenylene oxides) made by oxidatively coupling the corresponding phenols substituted in at least their 2 or 6-position wherein said process comprises mixing with said corresponding phenols prior to the coupling reaction an amount of a phenol substituted in the 4-position to give the desired chain length poly(phenylene oxide).

3,440,218

POLY(AMIDE-ESTERS) OF AROMATIC COMPOUNDS

John R. Caldwell, Kingsport, Tenn., assignor to Eastman Kodak Company, Rochester, N.Y., a corporation of New York

No Drawing. Continuation-in-part of application Ser. No. 433,453, Feb. 17, 1965. This application Feb. 5, 1968, Ser. No. 702,768

Int. Cl. C08g *20/30*

U.S. Cl. 260—47 11 Claims

Linear, high molecular weight poly(amide-esters) having improved resistance to oxidation and a high degree of surface hardness are prepared from dicarboxylic acids (such as terephthalic acid) and diacyl derivatives of aminohydroxy substituted aromatic compounds (such as 4'-acetoxyacetanilide).

3,440,219
POLYMERISATION PROCESS
Per Wolff and Svend Henning Kaaber, Farum, Denmark, assignors to Johns-Manville Corporation, New York, N.Y., a corporation of New York
Filed Feb. 5, 1965, Ser. No. 430,703
Claims priority, application Denmark, Feb. 7, 1964, 600/64
Int. Cl. C08f 1/08
U.S. Cl. 260—63 10 Claims

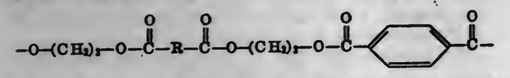
In liquid heterogenous phase polymerization in a closed vessel, the progress of polymerization is controlled by adding, at the latest during the polymerization, a volatile substance practically insoluble in the continuous phase of the reaction mixture, but easily soluble in the dispersed monomer, and only slightly soluble in the resulting polymer using the partial pressure of said volatile substance for governing the polymerization.

3,440,220
ELECTRICAL CONDUCTING PROPERTIES OF ACRYLIC SUBSTRATES BY INCORPORATING THEREIN A QUINONE COMPOUND
Brian Pilling, Decatur, Ala., assignor to Monsanto Company, St. Louis, Mo., a corporation of Delaware
No Drawing. Filed Aug. 3, 1966, Ser. No. 569,820
Int. Cl. C08g 15/00
U.S. Cl. 260—65 14 Claims

Improved electrical conducting properties are imparted to substrates comprised of a copolymer of acrylonitrile and a vinyl pyridine or an alkyl-substituted vinylpyridine by complexing a quinone with the copolymer.

3,440,221
REGULAR SEQUENTIAL COPOLYESTERS
Richard Keith Quisenberry, Kinston, N.C., assignor to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware
No Drawing. Filed Mar. 4, 1966, Ser. No. 531,731
Int. Cl. C08g 17/08
U.S. Cl. 260—75 4 Claims

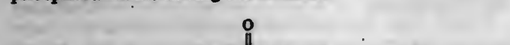
A fiber-forming linear copolyester having a regular sequential molecular structure of recurring units represented by the formula



wherein R is a radical of a sterically hindered aromatic dicarboxylic having the carboxyl groups in non-adjacent positions on the aromatic nucleus.

3,440,222
FLAME RESISTANT PHOSPHORAMIDATE-POLYESTER REACTION PRODUCTS
Edward N. Walsh, Thornwood, N.Y., and Eugene H. Uhing, Ridgewood, N.J., assignors to Stauffer Chemical Company, New York, N.Y.
No Drawing. Continuation-in-part of application Ser. No. 292,117, July 1, 1963. This application July 19, 1966, Ser. No. 566,260
Int. Cl. C08g 41/02; C09k 3/28
U.S. Cl. 260—75 4 Claims

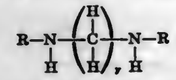
Flame resistant polyester resins comprising the reaction product of an aliphatic unsaturated polycarboxylic acid and an O,O-dihydrocarbyl N,N-bis-(hydroxyalkyl) phosphoramidate having the formula:



wherein R^1 is a hydrocarbyl radical selected from the class consisting of alkyl and aryl, and R^2 is a lower alkylene radical.

3,440,223
POLYURETHANES AND METHOD OF MAKING
Warren K. Pierce, Tallmadge, Ohio, assignor to The Goodyear Tire & Rubber Company, Akron, Ohio, a corporation of Ohio
No Drawing. Continuation of application Ser. No. 344,545, Feb. 13, 1964. This application July 17, 1967, Ser. No. 654,001
Int. Cl. C08g 41/02, 22/04, 51/60
U.S. Cl. 260—75 7 Claims

A method of producing a polyurethane composition by forming a reaction mixture of an organic polyisocyanate, a reactive hydrogen containing polymeric material, a primary diamine and a secondary diamine of the formula



where y is an integer having a value of 1 to about 10 and R is an alkyl radical having from 8 to 30 carbon atoms and reacting to cure said composition as a finished article such as a film, and to said composition.

3,440,224
POLYURETHANE COMPOSITIONS AND METHODS FOR PREPARING SUCH
Clarence N. Impola, Prior Lake, and William J. McKillip, Minneapolis, Minn., assignors to Ashland Oil & Refining Company, Ashland, Ky., a corporation of Kentucky
No Drawing. Filed Mar. 15, 1966, Ser. No. 534,433
Int. Cl. C08g 22/04, 51/40
U.S. Cl. 260—77.5 11 Claims

Polyurethane compositions of higher flexural strength are prepared by adding to isocyanate-terminated prepolymer compositions, obtained by reacting a polyhydric polyalkylene ether with an excess of an organic polyisocyanate, either before or after the formation of the prepolymer, from 10 to 16% by weight of the total composition of a hydrocarbon ester of a completely esterified polybasic acid, said ester being liquid at room temperature and boiling above 200° C.

3,440,225
PROCESS FOR THE MANUFACTURE OF SHAPED STRUCTURES FROM POLYGLYCOLIDES
Wolf B. Sattler, Wolfen, Albert Walter Voss, Dessau-Haideburg, and Hartmut W. G. Wendel, Bitterfeld, Germany, assignors to VEB Filmfabrik Wolfen, Wolfen, Kreis Bitterfeld, Germany
No Drawing. Filed July 29, 1965, Ser. No. 475,867
Int. Cl. C08g 31/06, 17/02
U.S. Cl. 260—78.3 8 Claims

To a cyclic glycolide alone or as the predominant constituent of a mixture is added prior to polymerization thereof highly dispersed silicic acid anhydride, a silicic acid ester or a mixture of both; polymerization, shaping of the polymerized product and heating of the shaped product follow.

3,440,226
POLYCARBONAMIDES RESISTANT TO ACID DYES
Lawrence W. Crovatt, Jr., Raleigh, N.C., and William A. H. Huffman, deceased, late of Durham, N.C., by Ernestine H. Huffman, executrix, Antioch, Tenn., assignors to Monsanto Company, St. Louis, Mo., a corporation of Delaware
No Drawing. Filed Oct. 21, 1965, Ser. No. 502,777
Int. Cl. C08g 20/38; D01f 7/04
U.S. Cl. 260—78 11 Claims

Fiber-forming linear polycarbonamides modified to contain certain terminal naphthyl disulfonated radicals as an integral part of the polymer chain possess excellent acid dye-resistant properties. Fibers formed from these polycarbonamides may, for example, be combined with standard polycarbonamide fibers to provide a fabric which is dyeable in a single dye bath to different colors or color tones.

3,440,227
POLYMERIZATION OF HIGHER LACTAMS
Bernard O. Baum, Wilmington, Del., assignor to The Budd Company, Philadelphia, Pa., a corporation of Pennsylvania
Continuation-in-part of application Ser. No. 511,435, Dec. 3, 1965. This application Mar. 31, 1966, Ser. No. 552,658
Int. Cl. C08g 20/10, 20/12
U.S. Cl. 260—78 14 Claims

Polyamides of higher molecular weight are obtainable by anionic polymerization of higher lactams in the presence of a promoter formed in situ by the reaction of an organic isocyanate and water in the presence of lactam by addition of isocyanate to liquid monomer containing from 200 to 1400 p.p.m. of water. The amount of isocyanate added is in slight excess of that required to reduce the water content of the monomer below 50 p.p.m.

3,440,228
MODIFIED POLYMERS HAVING RECURRING N-SUBSTITUTED ANTHRANYL SIDE GROUPS
Louis A. Errede, Roseville, Minn., assignor to Minnesota Mining and Manufacturing Company, St. Paul, Minn., a corporation of Delaware
No Drawing. Original application Jan. 6, 1964, Ser. No. 336,033. Divided and this application Apr. 17, 1967, Ser. No. 645,083
Int. Cl. C09d 3/48; C08f 45/46
U.S. Cl. 260—78 12 Claims

Polymeric materials having suitably reactive recurring groups, such as hydroxyls and groups hydrolyzable to hydroxyls, are reacted with anthranyls to form recurring carboxy-linked N-substituted anthranyl side groups thereon. At the time they are reacted with the anthranyls the polymeric precursors are either dispersed in a solvent or are in solid form (e.g. paper, cloth, etc.). The polymers of the invention, whether prepared from solvent dispersed or solid precursor polymers, are more heat resistant, stiffer, stronger and more water resistant than the precusor polymers. In addition, the polymers which contain recurring perfluoroalkyl groups in the side chains also have oil repellence properties.

3,440,229
PROCESS FOR MAKING CHLOROSTYRENE COPOLYMERS
Chester E. Pawloski, Bay City, and Eugene R. Moore, Midland, Mich., assignors to The Dow Chemical Company, Midland, Mich., a corporation of Delaware
No Drawing. Filed Apr. 5, 1965, Ser. No. 445,755
Int. Cl. C08f 19/02, 1/84
U.S. Cl. 260—78.5 5 Claims

Useful copolymers of ar-chlorostyrene and an unsaturated dicarboxylic acid anhydride such as maleic anhydride are produced by dissolving the anhydride in the mixture obtained by dehydrogenating ethylchlorobenzene and subjecting the solution to vinyl polymerizing conditions.

3,440,230
SELF-CONTAINED, CURABLE RESINS PREPARED BY REACTING ORGANIC ISOCYANATES AND EPOXY ALCOHOLS
Richard C. Doss, Bartlesville, Okla., assignor to Phillips Petroleum Company, a corporation of Delaware
No Drawing. Filed May 2, 1966, Ser. No. 546,567
Int. Cl. C08g 30/00
U.S. Cl. 260—77.5 7 Claims

A heat hardenable or curable epoxy resin is obtained from an organic polyisocyanate and an epoxy alcohol. The carbamate thus formed can be rapidly cross-linked to a hard, insoluble material having considerable bonding strength. This is done by heating. The reaction proceeds at room temperature and is ordinarily maintained below about 30° C. A diluent such as benzene, toluene or the like can be employed. It is helpful to maintain an inert atmosphere by, say, passing a current of nitrogen or other inert medium through the reaction vessel. In the example a mixture of 2,4 and 2,6-toluene-diisocyanate and benzene as diluent is reactive of 2,3-epoxy propanol.

3,440,231
OXETANE COPOLYMERS
Daniel Edwin Maloney, Hockessin, Del., assignor to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware
No Drawing. Filed Jan. 19, 1967, Ser. No. 610,250
Int. Cl. C08f 19/00; B32b 27/06, 27/28
U.S. Cl. 260—80.8 6 Claims

Reaction products of amino or hydroxy oxetane with acyl halide-alpha olefine copolymers and their use in coating organic substrates.

3,440,232
COPOLYMERS OF STYRENE COMPOUNDS AND DIALKYLAMINO HYDROXYPROPYL METHACRYLATES
Russell H. Cramm, Lake Jackson, and Russell T. McFadden, Freeport, Tex., assignors to The Dow Chemical Company, Midland, Mich., a corporation of Delaware
No Drawing. Filed Jan. 11, 1967, Ser. No. 608,493
Int. Cl. C08f 19/10
U.S. Cl. 260—80.73 12 Claims

The compositions are copolymers of a styrene compound and a 3-dialkylamino-2-hydroxypropyl methacrylate, useful as a light-stabilized styrene polymer. A specific composition is a copolymer of styrene and 3-dibutylamino-2-hydroxypropyl methacrylate.

3,440,233
PREPOLYMERS OF UNSATURATED HETEROCYCLIC COMPOUNDS AND ALPHA-ALKYL STYRENES AND PROCESS FOR PREPARING SAME
Roy T. Holm, Orinda, Calif., assignor to Shell Oil Company, New York, N.Y., a corporation of Delaware
No Drawing. Filed June 29, 1965, Ser. No. 468,100
Int. Cl. C08f 19/02
U.S. Cl. 260—88.1 11 Claims

I. A composition stable at room temperature comprising a mixture of (1) from 50 to 99 parts by weight of 3,4 - dihydro - 1,2 - pyran-2-methyl-3,4-dihydro-1,2-pyran-2-carboxylate, (2) from 1 to 50 parts by weight of alpha-methyl styrene and from 0.1 to 5% by weight of (1) of an amine salt of a fluoboric acid.

3,440,234
COMPLEXES, PROCESS FOR PREPARING THEM AND THEIR APPLICATIONS
Michel Asfazadourian and Marcel Prillieux, Mont-Saint-Aignan, France, assignors to Esso Research and Engineering Company, a corporation of Delaware
No Drawing. Filed June 10, 1965, Ser. No. 463,020
Int. Cl. C08f 27/02, 27/04
U.S. Cl. 260—91.7 2 Claims

Unsaturated hydrocarbons/metal halide complexes are prepared by reacting a halogenated hydrocarbon (an olefin or aromatic hydrocarbon) containing at least two halogen atoms with a metal carbonyl at a temperature within the range of 0° to 250° C. The resultant complex may be converted into an amorphous, crosslinked polymer by contacting the complex with water so as to dissolve the metal halide contained in the complex.

3,440,235

DECOLORIZATION OF COLOR-CODED PERFLUOROCARBON POLYMERS

Aime Joseph Perreault, South Burlington, Vt., assignor, by mesne assignments, to Haveg Industries, Inc., Wilmington, Del., a corporation of Delaware

No Drawing. Filed Oct. 7, 1964, Ser. No. 402,313
Int. Cl. C08f *1/88*
U.S. Cl. 260—92.1 8 Claims

Perfluorocarbon polymer, e.g., polytetrafluoroethylene, which is color coded has the color removed by the use of nitric acid.

3,440,236

SEPARATION OF CHLORINATED POLYVINYL CHLORIDE FROM ITS SOLUTION IN TETRACHLOROETHANE

Reginald Thomas Foster and John Heyward Taylor, Widnes, England, assignors to Imperial Chemical Industries Limited, London, England, a corporation of Great Britain

No Drawing. Filed Aug. 26, 1963, Ser. No. 304,653
Claims priority, application Great Britain, Sept. 17, 1962, 35,283/62
Int. Cl. C08f *27/02*
U.S. Cl. 260—92.8 7 Claims

1. A process for the separation of chlorinated polyvinyl chloride from its solution in tetrachloroethane, which comprises feeding the said solution into an agitated mixture of one part of tetrachloroethane and 0.25–0.6 part of methanol by volume and at the same time adding methanol alone or in admixture with tetrachloroethane to the said mixture so as to maintain the volume ratio of tetrachloroethane to methanol in the mixture within the same limits.

3,440,237

PRODUCTION OF POLYETHYLENE WITH WATER-MODIFIED ZIEGLER CATALYST

Edward H. Mottus, Ballwin, Mo., assignor to Monsanto Company, a corporation of Delaware

No Drawing. Original application May 22, 1958, Ser. No. 736,976, now Patent No. 3,184,416, dated May 18, 1965. Divided and this application May 17, 1965, Ser. No. 456,480
Int. Cl. C08f *1/28*; B01j *11/84*
U.S. Cl. 260—94.9 11 Claims

A process for the production of improved high-density polyethylene wherein ethylene is polymerized in the presence of a water-modified Ziegler catalyst prepared by the interaction of a trialkylaluminum with titanium tetrachloride and the polyethylene product is characterized by a more narrow molecular weight distribution pattern and improved melt index properties over conventional polyethylene products prepared with unmodified Ziegler catalysts.

3,440,238

POLYMERIZATION OF OLEFINS IN A GRAVITATING BED

Andrew J. Foglia, Brooklyn, N.Y., and Arnold F. Stancell, New Brunswick, and Raymond J. McGowan, Wayne Township, Passaic County, N.J., assignors to Mobil Oil Corporation, a corporation of New York

Filed Sept. 8, 1965, Ser. No. 485,718
Int. Cl. C08f *1/06*
U.S. Cl. 260—94.9 4 Claims

1. A process for polymerizing a gaseous 1-olefin to solid poly-1-olefin, which comprises feeding, to the top of a gravitating bed of solid polyolefin, derived from said 1-olefin and solid polymerization catalyst, solid polymerization catalyst, and said gaseous 1-olefin; passing said gaseous 1-olefin downwardly through said gravitating bed, at an inlet temperature that is above about 100° F. but below the fusion temperature of said poly-1-olefin, at a pressure at least sufficient to overcome the pressure drop through said gravitating bed and at a flow rate sufficient to remove exothermic heat of polymerization; removing unreacted gaseous 1-olefin at a point near the bottom of said gravitating bed, cooling the gaseous 1-olefin so removed to said inlet temperature, and recycling it; and removing poly-1-olefin product and solid polymerization catalyst from the bottom of said gravitating bed.

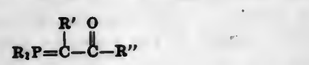
3,440,239

PREPARATION OF DIAZO COMPOUNDS

George R. Harvey, Kirkwood, Mo., assignor to Monsanto Company, St. Louis, Mo., a corporation of Delaware

No Drawing. Filed Nov. 12, 1965, Ser. No. 507,565
Int. Cl. C07c *113/04, 113/00*
U.S. Cl. 260—141 8 Claims

Preparation of diazo esters and amides by the reaction, in an inert organic liquid, of (1) a phosphorane of the formula



wherein R is selected from the group consisting of alkyl having a maximum of 12 carbon atoms, tolyl and phenyl; R′ is selected from the group consisting of hydrogen, chlorine, bromine, phenyl and alkyl having a maximum of 4 carbon atoms; and R″ is selected from the group consisting of alkoxy having a maximum of 12 carbon atoms, amino, phenyl substituted amino, and alkyl substituted amino having a maximum of 8 carbon atoms; with (2) an azide of the formula

$$R'''N_3$$

wherein R‴ is an aromatic radical selected from the group consisting of phenyl, benzenesulfonyl; benzoyl and substituted said aromatic radicals in which the substituent is selected from the group consisting of chlorine, bromine, nitro and alkyl having a maximum of 4 carbon atoms.

Diazo esters and amides are known chemical intermediates.

3,440,240

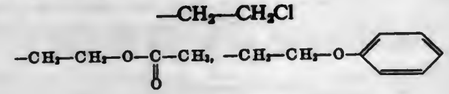
REACTIVE AZO-DYESTUFFS

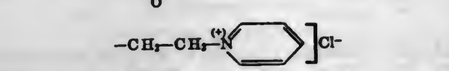
Rudolf Kühne and Fritz Meininger, Frankfurt am Main, and Heinrich Frölich, Kelkheim, Taunus, Germany, assignors to Farbwerke Hoechst Aktiengesellschaft vormals Meister Lucius & Bruning, Frankfurt am Main, Germany, a corporation of Germany

No Drawing. Filed June 9, 1964, Ser. No. 373,863
Claims priority, application Germany, June 10, 1963, F 39,951
Int. Cl. C09b *62/00, 29/24, 31/02*
U.S. Cl. 260—187 6 Claims

Water-soluble reactive azo dyestuffs containing as reactive groupings one of the groups —CH=CH$_2$,

—CH$_2$—CH$_2$Cl





or

—CH$_2$—CH$_2$—$\overset{(+)}{N}$(lower alkyl)$_3$]Cl$^-$

which are suitable for the dyeing or printing of native and regenerated cellulose fibres, wool, silk, polyamide, polyacrylonitrile, aromatic polyester or cellulose acetate fibres or leather.

3,440,241

PREPARATION OF 6-KETO-14α-HYDROXY-Δ^7-DEHYDRO STEROIDS

John B. Siddall, Palo Alto, Calif., assignor to Syntex Corporation, Panama, Panama, a corporation of Panama

No Drawing. Filed May 31, 1966, Ser. No. 553,680
Int. Cl. C07c *167/00, 169/50, 173/00*
U.S. Cl. 260—239.57 7 Claims

Preparation of 6-keto-14α-hydroxy-Δ^7-dehydro steroids by (1) irradiation of a 6-keto-Δ$^{8(14)}$-dehydro steroid in the presence of oxygen followed by mild reduction or (2) epoxidation of a 6-keto-Δ$^{8(14)}$-dehydro steroid followed by hydrolysis which are intermediates for the synthesis of the insect hormone ecdysone.

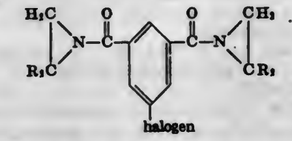
3,440,242

AROMATIC POLYALKYLENAMIDES

George H. Smith, Maplewood, Minn., assignor to Minnesota Mining and Manufacturing Company, St. Paul, Minn., a corporation of Delaware

No Drawing. Original application Aug. 7, 1959, Ser. No. 832,152, now Patent No. 3,115,474, dated Dec. 24, 1963. Divided and this application Sept. 12, 1963, Ser. No. 308,362
Int. Cl. C07d *23/06*; C08g *20*
U.S. Cl. 260—239 5 Claims

1. A composition of matter comprising a stable N,N′-bis(N-1,2-alkylene) isophthalamide having at least 85 percent of the theoretical azirane ring content and having the formula



2. A liquid composition of matter comprising N,N′-bis-1,2-propylenisophthalamide having at least 85 percent of the theoretical azirane ring content.

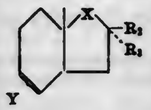
3,440,243

16-SUBSTITUTED ESTRATRIENES AND METHODS OF PREPARING THE SAME

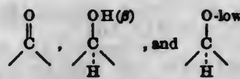
Robert Eugene Schaub, Paramus, N.J., Henry Marcel Kissman, Nanuet, N.Y., and Martin Joseph Weiss, Oradell, N.J., assignors to American Cyanamid Company, Stamford, Conn., a corporation of Maine

No Drawing. Filed June 11, 1963, Ser. No. 286,940
Int. Cl. C07c *169/10, 167/36*; A61k *17/00*
U.S. Cl. 260—239.55 13 Claims

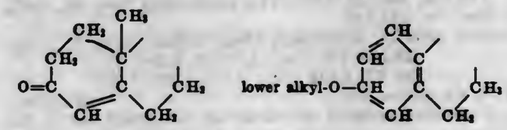
1. A compound of the formula:



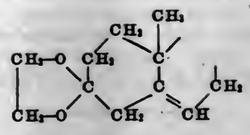
wherein X is a divalent radical selected from the group consisting of:



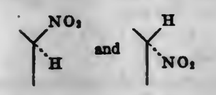
Y is a divalent radical selected from the group consisting of:



and



R$_2$ is selected from the group consisting of lower alkoxalyl and cyano, R$_3$ is selected from the group consisting of lower alkylthio, lower alkylsulfinyl, lower alkylsulfonyl and halogen, R$_2$ and R$_3$ taken together are members of the group consisting of;



9. The compound 3-ethylenedioxy-16β-nitroandrost-5-en-17-one.

3,440,244

3,6-DISUBSTITUTED-7-SULFAMYL-1,2,4-BENZTHIAZIDE-1,1-DIOXIDES

William M. McLamore, Kew Gardens, N.Y., and Gerald D. Laubach, Niantic, Conn., assignors to Chas. Pfizer & Co., Inc., New York, N.Y., a corporation of Delaware

No Drawing. Continuation-in-part of application Ser. No. 780,675, Dec. 16, 1958, which is a continuation-in-part of application Ser. No. 715,482, Feb. 17, 1958. This application Aug. 4, 1959, Ser. No. 831,462
The portion of the term of the patent subsequent to November 12, 1980, has been disclaimed
Int. Cl. A61k *27/00*; C07d *93/34*
U.S. Cl. 260—243 17 Claims

A series of novel 3,6-disubstituted-7-sulfamyl-1,2,4-benzothiadiazine-1,1-dioxides and their pharmaceutically acceptable salts have been prepared, including

3-benzylthiomethyl-6-chloro-7-sulfamyl-1,2,4-benzothiadiazine-1,1-dioxide,
3-benzylthiomethyl-6-methyl-7-sulfamyl-1,2,4-benzothiadiazine-1,1-dioxide,
3-(p-methoxybenzylthiomethyl)-6-chloro-7-sulfamyl-1,2,4-benzothiadiazine-1,1-dioxide,
3-allylthiomethyl-6-chloro-7-sulfamyl-1,2,4-benzothiadiazine-1,1-dioxide,
3-benzylthiomethyl-6-bromo-7-sulfamyl-1,2,4-benzothiadiazine-1,1-dioxide and
3-benzylthiomethyl-6-trifluoromethyl-7-sulfamyl-1,2,4-benzothiadiazine-1,1-dioxide.

These compounds are useful as diuretics and/or as hypotensive agents.

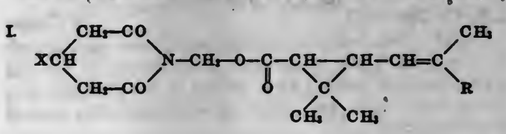
3,440,245

GLUTARIMIDOMETHYL AND β-METHYLGLUTARIMIDOMETHYL ESTERS OF CHRYSANTHEMUM CARBOXYLIC ACIDS

Takeaki Kato and Kenzo Ueda, Nishinomiya-shi, and Sadao Horie, Suita-shi, Toshio Mizutani, Amagasaki-shi, Keimei Fujimoto, Minoo-shi, and Yositosi Okuno, Nishinomiya-shi, Japan, assignors to Sumitomo Chemical Company, Ltd., a corporation of Japan

No Drawing. Filed Dec. 11, 1964, Ser. No. 417,806
Claims priority, application Japan, Dec. 17, 1963, 38/68,216; Dec. 28, 1963, 38/71,209
Int. Cl. C07d *29/22, 29/20*; A01n *9/22*
U.S. Cl. 260—281 7 Claims

Cyclopropanecarboxylic acid esters of the formula,



wherein X is hydrogen or methyl and R is methyl or methoxycarbonyl, the glutarimidomethyl and β-methyl glutarimidomethyl esters of chrysanthemum carboxylic acids, exhibit strong insecticidal properties with low toxicity to plants and to warm-blooded animals.

3,440,246

PROCESS FOR PREPARING 1,2,5-THIADIAZOLES

Leonard M. Weinstock, Rocky Hill, N.J., assignor to Merck & Co., Inc., Rahway, N.J., a corporation of New Jersey

No Drawing. Continuation of application Ser. No. 514,695, Dec. 17, 1965. This application July 31, 1968, Ser. No. 751,009

Int. Cl. C07d *91/68*

U.S. Cl. 260—302 4 Claims

There are disclosed 1,2,5-thiadiazole and hydrocarbyl-substituted derivatives thereof, as well as a process for preparing them from the appropriate diamine and a sulfur halide.

3,440,247

REACTION PRODUCTS OF PHOSPHITE DIESTERS WITH IMIDAZOLINES OR OXAZOLINES

Casper J. Dorer, Jr., Lyndhurst, Ohio, assignor to The Lubrizol Corporation, Wickliffe, Ohio, a corporation of Ohio

No Drawing. Continuation-in-part of application Ser. No. 214,491, Aug. 3, 1962. This application Aug. 26, 1966, Ser. No. 575,257

Int. Cl. C07f *9/02*; A01n *9/36*; C10l *1/26*

U.S. Cl. 260—307 10 Claims

Reaction products of phosphite diesters with imidazolines or oxazolines are useful as anti-icing additives for liquid hydrocarbon fuels, especially gasoline.

3,440,248

N-(CARBOXY HYDROCARBON) - 1,2,3,4,9,9-HEXACHLORO - 1,4,4a,5,6,7,8,8a - OCTAHYDRO - 1,4-METHANONAPHTHALENE - 6,7 - DICARBOXIMIDES

Carleton W. Roberts, Midland, and Gale D. Travis, Shephard, Mich., assignors to The Dow Chemical Company, Midland, Mich., a corporation of Delaware

No Drawing. Filed Feb. 23, 1965, Ser. No. 434,709

Int. Cl. C07d *29/24, 27/52*; A01n *9/02*

U.S. Cl. 260—326 8 Claims

Substituted 1,2,3,4,9,9 - hexachloro - 1,4,4a,5-6,7,8,8a-octahydro-1,4-methanonaphthalene - 6,7 - dicarboximides particularly such imides having an N(monocarboxyloweralkyl), N(dicarboxyloweralkyl) or N(phenylmonocarboxyloweralkyl) substituent are novel compounds useful as parasiticides for the control of insects, bacteria, fungi and higher plants.

3,440,249

ARYL PHENOXATHIINIUM COMPOUNDS

Stanley J. Strycker, Midland, Mich., assignor to The Dow Chemical Company, Midland, Mich., a corporation of Delaware

No Drawing. Filed July 5, 1966, Ser. No. 562,457

Int. Cl. C07d *89/16*

U.S. Cl. 260—327 6 Claims

Novel 10-hydroxyphenylphenoxathiinium compounds are disclosed. These compounds are prepared by reacting a phenoxathiin oxide with a phenol in the presence of a strong acid. They are useful as antidepressants and as vasoconstrictors.

3,440,250

DISUBSTITUTED ALCOHOLS SUBSTITUTED BY A NAPHTHYL RADICAL

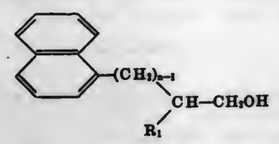
Etienne Szarvasi, and Michel Bayssat, Lyon, France, assignors to Lipha, Lyonnaise Industrielle Pharmaceutique

No Drawing. Original application Mar. 18, 1964, Ser. No. 352,963, now Patent No. 3,334,096, dated Aug. 1, 1967. Divided and this application Nov. 8, 1966, Ser. No. 592,755

Int. Cl. C07d *5/16, 5/20*

U.S. Cl. 260—347.8 4 Claims

New disubstituted alcohols having the formula:



wherein n is an integer at most equal to 2; and R_1 is a member of the group consisting of the tetrahydrofurfuryl radical when $n=2$, and a straight chain alkenyl radical containing 3 or 4 carbons when $n=1$.

3,440,251

PERHALOETHOXY DIFLUOROAMINES

Donald Pilipovich, Canoga Park, Calif., assignor to North American Rockwell Corporation, a corporation of Delaware

Filed Jan. 3, 1963, Ser. No. 249,567

Int. Cl. C07c *93/00*

U.S. Cl. 260—350 8 Claims

1. A process for producing a compound of the formula $CFX_2—CX_2—ONF_2$ wherein X represents a haolgen, which process comprises reacting tetrahaloethylene with trifluoramine oxide and boron trifluoride in condensed phase.

4. A compound of the formula $CFX_2—CX_2—ONF_2$ wherein X represents a halogen.

3,440,252

PREPARATION OF 21-DEOXY STEROIDS

Niall Galbraith Weir, Wembley, Middlesex, England, assignor to Glaxo Laboratories Limited, Greenford, Middlesex, England, a British company

No Drawing. Filed June 21, 1966, Ser. No. 559,083

Int. Cl. C07c *167/00, 169/36*

U.S. Cl. 260—397.45 18 Claims

17α - acyloxy - 20 - keto-21-substituted steroids of the pregnane series are converted to 17α-acyloxy-20-keto-21-unsubstituted steroids by heating with a tertiary amine or dialkyl sulfoxide when the 21-substituent is iodine and, if such heating is conducted in the presence of a metal iodide, also when the 21-substituent is bromine or hydrocarbonsulfonyloxy.

3,440,253

METHOD OF REFINING VEGETABLE AND ANIMAL OILS

Adolf Koebner, St. Bees, Cumberland, and Thomas Thornton, Moresby Parks, near Whitehaven, Cumberland, England, assignors to Marchon Products Limited, London, England a British company

No Drawing. Continuation-in-part of application Ser. No. 340,804, Jan. 20, 1964. This application Nov. 30, 1967, Ser, No. 686,832

Claims priority, application Great Britain, June 27, 1962, 24,665/62; Jan. 21, 1963, 2,590/63

Int. Cl. C11b *3/06, 3/02*; C11c *1/04*

U.S. Cl. 260—425 10 Claims

The alkali refining of edible oils is carried out in the presence of a concentrated, e.g. 25%–30% or 40%, aqueous solution of a salt of a mononuclear aryl or mononuclear alkyl aryl sulphonic acid in which the total number of carbon atoms of the alkyl chains is not greater than 4. The mixture resolves into a refined oil phase and an aqueous phase containing the soapstock. After separation, the soap is split by acidification and the resulting free fatty acids are recovered. The aqueous residue is preferably recycled after crystallising out excess inorganic salts.

3,440,254

METALLIFEROUS AZOMETHINE PIGMENTS

Maurice Auguste Jacques Lenoir, Paris, Roland Michael Lanzarone, Garges-les-Gonesse, and Madeleine Georgette Maigrot, Paris, France, assignors to Ugine Kuhlmann, Paris, France

No Drawing. Filed Dec. 28, 1966, Ser. No. 605,163

Claims priority, application France, Jan. 4, 1966, 44,782

Int. Cl. C09b *55/00*

U.S. Cl. 260—429 13 Claims

Metallisable dyestuffs preferably prepared by condensing a 2-hydroxy-3-carboxy-1-naphthaldehyde or a halogenated derivative thereof with an aromatic ortho- or peri-aminocarboxylic acid and having the formula

A—N=CH—B

or

B—HC=N—A'—N=CH—B

wherein B is an unsubstituted 3-carboxy-2-hydroxynaphthyl radical or such a radical substituted in any of the 5 to 8 positions by a halogen atom, A is an unsubstituted ortho-carboxyphenyl, ortho-carboxynaphthyl or peri-carboxynaphthyl radical, or such a radical substituted by at least one halogen atom or alkyl, alkoxy, nitro, or sulphonamido-N-substituted group, A' is an unsubstituted O,O'-dicarboxydiphenylene, monocarboxyphenylene or dicarboxy-phenylene radical, or such a radical substituted by any of the groups substituted in the radical A.

3,440,255

PROCESS FOR PREPARING ORGANOTIN HALIDES

Sumio Matsuda, 5–17, Nishi-Ekimaecho, Ibaragi-shi, and Shoichi Kikkawa, 10, 1716 Midorigaoka Senriyama Suita-shi, Osaka, Japan

No Drawing. Continuation-in-part of application Ser. No. 413,635, Nov. 24, 1964. This application Sept. 28, 1967, Ser. No. 671,224

Int. Cl. C07f *7/22*

U.S. Cl. 260—429.7 7 Claims

The organotin compounds of this invention are manufactured by reacting a halogenated organic compound with metallic tin in the presence of a catalyst.

3,440,256

SEQUENTIAL BATCH MANUFACTURE OF TETRAMETHYL LEAD

William W. Rich, Wilmington, Del., assignor to E. I. du Pont de Nemours and Company, Wilmington, Del., a Corporation of Delaware

Filed Apr. 19, 1967, Ser. No. 632,070

Int. Cl. C07f *7/26*; B01j *3/02*

U.S. Cl. 260—437 5 Claims

Process for increasing the efficiency of tetramethyl lead production which comprises operating a group of methylation autoclaves singly in sequence on a fixed time schedule which includes venting only one autoclave to the low pressure bleed line at any one time. Yield and autoclave efficiency are increased.

3,440,257

TRIS(p-DIALKYLAMINOPHENYL)AMINIUM HEXAFLUOROANTIMONATES AND -ARSENATES

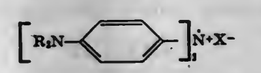
Peter Vincent Susi and Ralph Arthur Coleman, Middlesex, N.J., assignors to American Cyanamid Company, Stamford, Conn., a corporation of Maine

No Drawing. Original application Apr. 22, 1963, Ser. No. 274,785, now Patent No. 3,341,464, dated Sept. 12, 1967. Divided and this application Oct. 14, 1966, Ser. No. 586,679

Int. Cl. C07f *9/78, 9/92*

U.S. Cl. 260—440 3 Claims

1. Compounds of the formula



wherein R is an alkyl of from 2–4 carbon atoms and X^- is an anion selected from the group consisting of hexafluoroantimonate and hexafluoroarsenate.

3,440,258

PREPARATION OF DISODIUM METHYL ARSONATE

Richard L. Urbanowski, Painesville, and Roland P. Steinkoenig, Chardon, Ohio, assignors to Diamond Shamrock Corporation, a corporation of Delaware

No Drawing. Filed Aug. 1, 1966, Ser. No. 569,080

Int. Cl. C07f *9/72*

U.S. Cl. 260—442 6 Claims

1. A process for the liquid phase preparation of disodium methyl arsonate from arsenious trioxide, sodium hydroxide, and methyl chloride at superatmospheric pressure and elevated temperature, which process comprises:

(a) establishing a liquid reaction medium in a reactor, said liquid reaction medium comprising an inert liquid diluent, arsenious trioxide reactant, and a portion of the total sodium hydroxide reactant, the molar ratio of sodium to arsenic in the medium being at least about 0.8:1, but less than 3:1;

(b) heating said reaction medium to a temperature within the range from about 50° to about 100° C.;

(c) adding gradually to the reactor the methyl chloride and the balance of the sodium hydroxide, and adding any balance of arsenious trioxide, with the ratio, during addition, of the weight percent of methyl chloride added, based on the total weight of methyl chloride reactant, to the weight percent of sodium hydroxide added, based on the balance of sodium hydroxide reactant, being maintained between about 0.8:1 to about 1.2:1; while,

(d) pressurizing said reaction medium at a pressure above atmospheric pressure;

(e) permitting reaction of the materials in the reactor;

(f) maintaining said reactor during reaction within the temperature range from about 50° to about 100° C.; and,

(g) collecting disodium methyl arsonate.

3,440,259

POLYOL COMPOSITION FOR PREPARING URETHANE PLASTICS

Janis A. Bungs, Willoughby, Ohio, assignor to Diamond Shamrock Corporation, a corporation of Delaware

No Drawing. Filed Nov. 18, 1965, Ser. No. 508,560

Int. Cl. C07f *9/90*; C08g *22/40, 22/44*

U.S. Cl. 260—446 9 Claims

A polyol composition is described which comprises a condensation reaction product of from 1 to 2 mols of a halogenated aldehyde having from 2 to 5 carbons, inclusive, per molecule, 1 mol of at least one branch-chain polyether polyol having a minimum of two hydroxyl groups per molecule and from 0.08 to 0.10 mol of antimony trioxide, said reactants being subjected to a

reaction temperature of 100° to 225° C. for a period of from 1 to 20 hours. Use of the polyol composition to prepare polyurethane plastics is also described.

3,440,260

NOVEL POLYMER INTERMEDIATES

Nathan Mayes, Ironia, N.J., assignor to Thiokol Chemical Corporation, Bristol, Pa., a corporation of Delaware

No Drawing. Filed Sept. 30, 1964, Ser. No. 400,569
Int. Cl. C07f 7/02, 7/08
U.S. Cl. 260—448.2 25 Claims

Carborane silanes useful as intermediates in the preparation of thermally stable siloxane carborane of the general formula:

$$A(CH_2)_nZR$$

wherein A is a siloxane radical, Z is a carborane radical and R is a member of the group hydrogen, aryl radicals and aliphatic radicals, and *n* is an integer including zero.

3,440,261

SILICONES CONTAINING AN AMIDO GROUP AND METHOD OF PREPARING SAME

John C. Saam, Midland, Mich., assignor to Dow Corning Corporation, Midland, Mich., a corporation of Michigan

No Drawing. Filed Mar. 18, 1965, Ser. No. 440,921
Int. Cl. C07f 7/02, 7/04; C08g 31/02
U.S. Cl. 260—448.2 24 Claims

Silanes and siloxanes containing an amido group in the side chain are disclosed as new compounds. In addition, the method of preparing these amido functional silicones by the alkaline hydrolysis of imidazoline functional silanes is also claimed. The compounds and copolymers are useful for treating glass cloth to improve the strength of laminates made therefrom, as textile treating agents to improve the dyeability of the textile, and as creaseproofing and water repellent agents for textiles.

3,440,262

FLUID AROMATIC SILOXANE BLOCK COPOLYMERS

Alan L. Culpepper, Midland, Mich., assignor to Dow Corning Corporation, Midland, Mich., a corporation of Michigan

No Drawing. Filed Aug. 23, 1965, Ser. No. 481,898
Int. Cl. C07f 7/02; C08g 31/02, 47/00
U.S. Cl. 260—448.2 6 Claims

A thermally stable fluid aromatic siloxane block copolymer which is useful in lubricating glass cloth is disclosed. The siloxane block copolymer has diphenylsiloxane blocks of 3 to 100 units per block and blocks of at least two units of monoorganosiloxane units where the organic radicals are phenyl, meta-xenyl or naphthyl.

3,440,263

METHOD OF PREPARING MODIFIED SILICONE POLYMERS

James A. Brennan, Cherry Hill, N.J., assignor to Mobil Oil Corporation, a corporation of New York

No Drawing. Filed Dec. 23, 1964, Ser. No. 420,806
Int. Cl. C07f 7/08, 7/02
U.S. Cl. 260—448.2 13 Claims

The reaction between a silicone polymer containing Si-H bonds and olefinic compounds can be carried out to completion by first percolating the olefin over an activated adsorbent material, maintaining the olefin in a nonoxidizing atmosphere and then reacting the olefin with the silicone polymer, using an excess of olefin. The pretreatment permits complete removal of the said Si-H bonds and prevents gellation of the alkylated silicone.

3,440,264

FRACTIONATION OF ORGANIC COMPOUNDS OF HIGH MOLECULAR WEIGHT

Donald E. McVannel, Merrill, Mich., assignor to Dow Corning Corporation, Midland, Mich., a corporation of Michigan

No Drawing. Filed Apr. 4, 1966, Ser. No. 539,746
Int. Cl. C07f 7/18; C07c 3/00
U.S. Cl. 260—448.2 12 Claims

A process of fractionating a liquid mixture of organic compounds of molecular weight over 300 by placing the mixture on one side of a barrier membrane made of cured organopolysiloxane elastomer and a volatile nonreactive liquid on the other side of the barrier membrane is disclosed.

3,440,265

PROCESS OF PREPARING ORGANOSILYL-CONTAINING m-CARBORANES

Theodore L. Heying, North Haven, and Stelvio Papetti, Hamden, Conn., assignors to Olin Mathieson Chemical Corporation, a corporation of Virginia

Filed Aug. 31, 1966, Ser. No. 576,404
Int. Cl. C07f 7/12, 5/02; C08g 31/16
U.S. Cl. 260—448.2 4 Claims

Silicon-containing m-carboranes are prepared by heating silicon-containing o-carboranes at a temperature of about 290° C. to 375° C. The resulting compounds can be reacted with bis(chlorodimethylsilyl)-m-carborane with bis (methyloxydimethylsilyl)-m-carboranes in the presence of anhydrous ferric chloride to form polymers suitable for use in high temperature and high pressure application.

3,440,266

DISILOXANES SUBSTITUTED WITH TRIALKYLSILYLPHENYL SUBSTITUENTS AND REACTIVE GROUPS

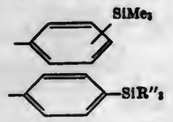
Tse C. Wu, Waterford, N.Y., assignor to General Electric Company, a corporation of New York

No Drawing. Filed Nov. 21, 1966, Ser. No. 595,633
Int. Cl. C07f 7/08; C08g 47/04
U.S. Cl. 260—448.2 6 Claims

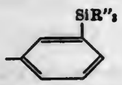
1. A compound of the formula:

$$R_xR'_yXSi—O—SiXR'_yR_x$$

where R is a trialkylsilylphenyl substituent having a formula selected from the class consisting of:



and



where Me is methyl, R'' is a lower alkyl group selected from the class consisting of methyl, ethyl, and propyl, no more than two R'' substituents being methyl on any given trialkylsilylphenyl group; R' is a monovalent aryl group: X is a reactive substituent selected from the class consisting of hydrogen, bromine, chlorine, and hydroxyl; *x* is a number from 1 to 2, *y* is a number from 0 to 1, and the sum of *x* and *y* is 2.

6. A method for forming the compound of claim 1 wherein X is selected from the class consisting of bromine and chlorine, which comprises hydrolyzing a compound having the formula:

$$R_xR'_ySiHCl$$

where R, R', *x* and *y* are as previously defined, and thereafter reacting the product with a material selected from the class consisting of N-bromosuccinimide and N-chlorosuccinimide.

3,440,267

PREPARATION OF ORGANOSILICON CHLORIDES

John L. Speier, Midland, Mich., assignor to Dow Corning Corporation, Midland, Mich., a corporation of Michigan

No Drawing. Filed Dec. 29, 1965, Ser. No. 517,472
Int. Cl. C07f 7/12
U.S. Cl. 260—448.2 5 Claims

A method for preparing chlorosilanes by contacting a compound of the group consisting of allylchloride and methallylchloride at atmospheric pressure at a temperature of at least 150° C., with a slurry of silicon and copper in an inert diluent such as mineral oil. The process results in unexpectedly superior yields of desired diallyldichlorosilane or dimethallyldichlorosilane.

3,440,268

PROCESS FOR PRODUCING ORGANIC ISOCYANATES

Walter Stamm, Tarrytown, N.Y., assignor to Stauffer Chemical Company, New York, N.Y., a corporation of Delaware

No Drawing. Filed Sept. 15, 1965, Ser. No. 487,620
Int. Cl. C07c 119/04
U.S. Cl. 260—453 8 Claims

A process for producing organic isocyanates which comprises reacting an N-substituted carbamoyl chloride with an N,N-disubstituted amide of the formula:

$$RC(=O)NR_1R_2$$

wherein R is a hydrocarbon radial of from 1 to 20 carbon atoms and R_1 and R_2 are hydrocarbon radicals of from 1 to 20 carbon atoms, inclusive, at a temperature of from about 20° C. to about 40° C. and separating the so-formed organic isocyanate from the hydrochloride of the said N,N-disubstituted amide.

3,440,269

PREPARATION OF XYLYLENE DIISOCYANATE FROM XYLYLENE DIHALIDES AND ALKALI CYANATES USING DIMETHYL SULFONE-ARYL HALIDE SOLVENT

Arnold L. McMaster, Lincoln Park, Mich., assignor to Wyandotte Chemicals Corporation, Wyandotte, Mich., a corporation of Michigan

No Drawing. Filed Dec. 27, 1965, Ser. No. 516,723
Int. Cl. C07c 119/04
U.S. Cl. 260—453 8 Claims

A process for preparing xylylene diisocyanate which comprises reacting xylylene dichloride or xylylene dibromide with sodium cyanate or potassium cyanate in the presence of a solvent consisting essentially of a mixture of dimethyl sulfone and an aryl halide and recovering xylylene diisocyanate from the reaction mixture.

3,440,270

PREPARATION OF XYLYLENE DIISOCYANATE FROM XYLYLENE DICHLORIDE AND ALKALI METAL CYANATE USING A QUENCHING SOLVENT

Arnold L. McMaster, Lincoln Park, and Kenneth E. Davis, Taylor, Mich., assignors to Wyandotte Chemicals Corporation, Wyandotte, Mich., a corporation of Michigan

Filed Dec. 30, 1965, Ser. No. 517,613
Int. Cl. C07c 155/02
U.S. Cl. 260—453 7 Claims

The process for preparing monomeric meta-xylylene diisocyanate, para-xylylene diisocyanate, and mixtures thereof by reacting meta-xylylene dichloride, para-xylylene dichloride or mixtures thereof with sodium bromide in the presence of dimethyl sulfone, adding sodium cyanate, quencing the reaction resulting from the cyanate addition with a quenching solvent, removing dimethyl sulfone, sodium bromide, sodium chloride, and the quenching solvent from the resulting mixture and separating the monomeric xylylene diisocyanate from polymeric xylylene diisocyanate.

3,440,271

2,3-BIS-(NF_2)-2-HALOPROPANE NITRILE

Lawrence J. Engel, Dunellen, N.J., assignor to Esso Research and Engineering Company, a corporation of Delaware

No Drawing. Filed Jan. 31, 1962, Ser. No. 170,856
Int. Cl. C07c 121/52, 121/02
U.S. Cl. 260—465.5 4 Claims

1. 2,3-bis-(NF_2)-2-halopropane nitrile.

3,440,272

Ni/SILANE CATALYST IN HYDROGENATION OF ORGANIC COMPOUNDS

Emile Eugene Frainnet, Merignac, Raymond Jean Calas, Le Bouscat, and Yves Colleuille, Lyon, France, assignors to Rhone-Poulenc S.A. Paris, France, a corporation of France

No Drawing. Filed May 17, 1965, Ser. No. 456,548
Claims priority, application France, May 21, 1967 975,304
Int. Cl. C07c 5/14, 29/00, 79/00
U.S. Cl. 260—468 5 Claims

Organic compounds containing carbon-carbon, carbon-oxygen, or nitrogen-oxygen unsaturation are reduced with hydrogen in the presence of a metallic nickel catalyst made by heating nickel chloride with triethylsilane.

3,440,273

CURABLE LIQUID POLYTHIOPOLYMERCAPTAN-POLYURETHANE POLYMERS

Eugene R. Bertozzi, Yardley, Pa., assignor to Thiokol Chemical Corporation, Bristol, Pa., a corporation of Delaware

No Drawing. Filed Oct. 23, 1965, Ser. No. 504,247
Int. Cl. C08g 41/04, 43/02
U.S. Cl. 260—471 4 Claims

A new class of curable liquid polythiopolymercaptan-polyurethane polymers is described. These polymers, which are liquid at 100° C., are prepared by interpolymerizing one or more (a) liquid disulfide-containing polyols having a molecular weight in the range from 150 to 15,000, (b) polyisocyanates having a molecular weight in the range from about 150 to 1,000, and (c) polymercaptans having a molecular weight in the range from about 90 to about 1,000, using quantities such that the ratio of hydroxy groups to isocyanate groups is 1:1 and the ratio of mercaptan groups to disulfide linkages (which is present in the disulfide-containing polyol) is in the range from 4:1 to 1:130. The polymerization reaction may be conducted either by first reacting the disulfide-containing polyol with the polyisocyanate and then reacting the resultant polyurethane with the polymercaptan, or by reacting all of the components at the same time. The liquid polythiopolymercaptanpolyurethane polymers undergo oxidative curing to form solid elastomeric polymers.

3,440,274

TRIMETHOXYPHENYLALKYLAMINES AND THEIR CARBOALKOXY DERIVATIVES

Frank P. Palopoli, Glenside, Dominic Donald Micucci, Havertown, and Paul D. Rosenstock, Philadelphia, Pa., assignors to Richardson-Merrell Inc., New York, N.Y., a corporation of Delaware

No Drawing. Filed Oct. 21, 1965, Ser. No. 500,272
Int. Cl. C07c 93/00, 93/14
U.S. Cl. 260—471 6 Claims

The preparation of allyl substituted trimethoxyphenylalkylamines and derivatives is described. An illustrative

compound is N-methyl-α-allyl-3,4,5-trimethoxyphenethylamine. These compounds have antihypertensive activity in animals.

3,440,275

DERIVATIVES OF α-DIHYDRODIMETHYLMUCONATES AND THEIR PREPARATION

George Suld, Springfield, Pa., assignor to Sun Oil Company, Philadelphia, Pa., a corporation of New Jersey

No Drawing. Filed June 23, 1966, Ser. No. 559,736
Int. Cl. C07c *67/00, 69/62*
U.S. Cl. 260—484 19 Claims

This invention relates to derivatives of dimethylmuconic acid which are α-dihydrodimethylmuconates and to a process for preparing the same. These α-dihydrodimethylmuconates contain a chlorine or bromine group at the alpha position and an alkoxy group at the beta position. More specifically, they conform to the formula

$$(COOR_1)CCH_3{:}CH{\cdot}CH(OR_2){\cdot}CCH_3(X)(COOR_1)$$

hereinafter fully described.

3,440,276

PROCESS FOR PREPARING ACRYLIC ESTERS

Calvin N. Wolf, Princeton, and Joseph F. McMahon, Clinton, N.J., assignors to Commercial Solvents Corporation, New York, N.Y., a corporation of Maryland

No Drawing. Filed Dec. 29, 1965, Ser. No. 517,437
Int. Cl. C07c *67/00*
U.S. Cl. 260—486 5 Claims

A process for preparing acrylic esters by contacting a gaseous mixture of formaldehyde and an alkyl ester of the formula R—CH_2—$COOR^1$ wherein R is hydrogen or lower alkyl and R^1 is lower alkyl, for example, methyl acetate, with niobium oxide at a tempearture in the range of from about 200 to 500° C.

3,440,277

FLUOROAROMATIC COMPOUNDS

Dewey G. Holland, Allentown, Pa., and Christ Tamborski, Dayton, Ohio, assignors to the United States of America as represented by the Secretary of the Air Force

No Drawing. Filed Dec. 13, 1965, Ser. No. 514,766
Int. Cl. C07c *63/00*
U.S. Cl. 260—515 4 Claims

2,2',5,5',6,6'-hexafluorobiphenyls are substituted in the 3,3',4,4'-positions with nonfluoro radicals such as hydrazino, hydrogen, bromine, lithium, carboxyl (or esters thereof), hydroxyl, imido, and the like. A method of making a number for the compounds in sequence is described. The compounds have good heat stability, good stability in the presence of oxygen, and are intermediates in the preparation of polymeric resins and oils.

3,440,278

PREPARATION OF L-α-METHYLDOPA

Rolf Kallischnigg, Liestal, Switzerland, and Ernst Biekert, Limburgerhof, Germany, assignors to Knoll A.-G., Ludwigshafen (Rhine), Germany

No Drawing. Filed Oct. 6, 1965, Ser. No. 493,558
Claims priority, application Germany, Oct. 9, 1964, K 54,211
Int. Cl. C07c *99/04*
U.S. Cl. 260—519 11 Claims

L-α-methyldopa is prepared by reacting 2-phenyl-4-methyl-5-oxazolinone in the form of a metal salt or in the presence of a basic condensing agent for forming such a salt with a reactive ester of veratryl alcohol, preferably veratryl chloride, hydrolizing the resulting 2-phenyl-4-veratryl-4-methyl-5-oxazolinone without isolating it partially to N-benzoyl-α-methyl-β-(3,4-dimethoxyphenyl) alanine, resolving the resulting racemate of this compound by means of a diastereomeric salt with an optically active base into the antimers or optical antipodes thereof, and converting the L-antimer into L-α-methyl-β-(3,4-dihydroxyphenyl) alanine by hydrolysis.

3,440,279

DIRECT RESOLUTION OF THE AMMONIUM SALT OF RACEMIC N-BENZOYL DL-SERINE

Norio Sugimoto, Zezetono-machi, Otsu, Ichiro Chibata and Shigeki Yamada, Toyonaka, and Masao Yamamoto, Kyoto, Japan, assignors to Tanabe Seiyaku Co., Ltd., Osaka, Japan

No Drawing. Filed Jan. 8, 1965, Ser. No. 424,173
Claims priority, application Japan, Jan. 13, 1964, 39/1,417
Int. Cl. C07c *99/12, 103/22, 103/02*
U.S. Cl. 260—519 7 Claims

A process is provided for directly resolving the ammonium salt of racemic N-benzoyl-DL-serine into its optically active components wherein a supersaturated solution of the racemic mixture in which one of said enantiomorphs that is dominant to the other is permitted to crystallize out. The dominance of the one enantiomorph can be obtained by adding seed crystals to the supersaturated solution of the racemic mixture, or by adding one enantiomorph to the hot solution before cooling to the supersaturated condition, or a combination of both procedures may be used.

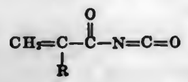
3,440,280

PROCESS FOR THE PREPARATION OF ACRYLAMIDE AND METHACRYLAMIDE PERCHLORATES

James L. Chaille, Camden, S.C., and Samuel F. Reed, Jr., Huntsville, Ala., assignors to Rohm & Haas Company, Philadelphia, Pa., a corporation of Delaware

No Drawing. Filed Sept. 20, 1960, Ser. No. 57,870
Int. Cl. C07c *103/02*
U.S. Cl. 260—561 7 Claims

1. A process for the preparation of a compound selected from the group consisting of acrylamide perchlorate salts and alkacrylamide perchlorate salts which comprises reacting an acryloyl isocyanate of the formula



in which R is selected from the group consisting of hydrogen and lower alkyl containing 1 to 4 carbon atoms with perchloric acid and recovering the perchlorate salts so formed.

3,440,281

PROCESS FOR PREPARING HALOBENZOPHENONEIMINES

Rodney Ian Fryer, North Caldwell, and Leo Henryk Sternbach, Upper Montclair, N.J., assignors to Hoffmann-La Roche Inc., Nutley, N.J., a corporation of New Jersey

No Drawing. Filed Dec. 9, 1965, Ser. No. 512,815
Int. Cl. C07c *85/08*
U.S. Cl. 260—566 3 Claims

Halobenzophenoneimines are prepared by treating halobenzophenones with ammonia under pressure in the presence of zinc chloride. The halobenzophenoneimines are intermediates useful in the preparation of pharmacologically active 1,4-benzodiazepines.

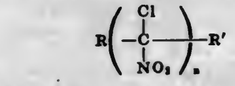
3,440,282

DICHLORO-POLYNITRO-AZAALKANES

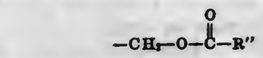
Milton B. Frankel, Menlo Park, Marvin H. Gold, Sacramento, and Henry J. Marcus, West Covina, Calif., assignors to Aerojet-General Corporation, Azusa, Calif., a corporation of California

No Drawing. Filed July 30, 1964, Ser. No. 386,379
Int. Cl. C07c *79/12, 79/46*
U.S. Cl. 260—583 3 Claims

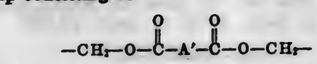
A class of compounds having the formula:



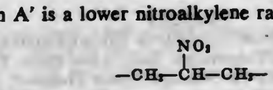
wherein *n* is an integer of from 1 to 2, R is a lower alkyl radical, and R' is an organic radical having a valence numerically equal to *n*, and when *n*=1 has the formula:



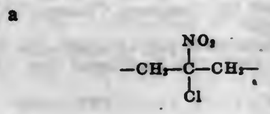
wherein R'' is a monovalent lower nitroaryl radical; and when *n*=2, is a divalent organic radical selected from the group consisting of



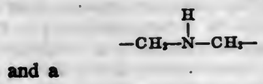
wherein A' is a lower nitroalkylene radical, a



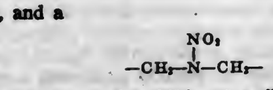
radical, a



radical, a



radical, and a



radical. This patent in addition describes methods for the preparation of these compounds which are useful as oxidizers.

3,440,283

AMINE SEPARATION

Zaven A. Dadekian, Suffern, N.Y., assignor to Baird Chemical Industries, Inc., New York, N.Y., a corporation of New York

No Drawing. Filed Mar. 28, 1966, Ser. No. 537,693
Int. Cl. C07c *85/16, 87/06*
U.S. Cl. 260—583 11 Claims

An aqueous phase is separated from a tertiary amine phase in the presence of a quaternary ammonium compound by performing the separation at superatmospheric pressure in the presence of a dissolved lower dialkylamine.

3,440,284

DICYCLOPENTADIENE ADDUCT

Henry C. Stevens, Akron, Ohio, assignor to PPG Industries, Inc., a corporation of Pennsylvania

No Drawing. Continuation-in-part of application Ser. No. 221,337, Sept. 4, 1962. This application June 3, 1966, Ser. No. 554,983
Int. Cl. C07c *49/52, 49/22, 49/36*
U.S. Cl. 260—586 7 Claims

Tetracyclododecenones are prepared by the cyclo-addition of dicyclopentadiene and a dihaloketene, e.g., dichloroketene. The preparation of dihaloketenes by the reaction of dihaloacetylhalides with tertiary amines is also described.

3,440,285

ALDEHYDES AND ALCOHOLS PREPARED THEREFROM

Bernard M. Lichstein, Elizabeth, and Cyril Woolf, Morristown, N.J., assignors to Allied Chemical Corporation, New York, N.Y., a corporation of New York

No Drawing. Filed Apr. 1, 1966, Ser. No. 539,265
Int. Cl. C07c *47/18, 31/18*
U.S. Cl. 260—602 4 Claims

A process for preparing hydroxy-substituted fluorinated aldehydes whereby a perhalogenated fluorine-containing ketone is reacted with a saturated aliphatic aldehyde in the presence of an alkali metal fluoride or alkaline earth metal fluoride catalyst. The resultant fluorinated aldehyde products can be reduced to their corresponding dihydric alcohols.

3,440,286

PROCESS FOR MAKING ARYL ALKYL SULFOXIDES FROM ALKYL ALUMINUM HALIDES AND ARYL SULFONIC ACID HALIDES

Heinz Reinheckel and Dietrich Jahnke, Berlin, Germany, assignors to Deutsche Akademie der Wissenschaften zu Berlin, Berlin-Adlershof, Germany

No Drawing. Filed Apr. 18, 1966, Ser. No. 543,032
Int. Cl. C07c *147/00*
U.S. Cl. 260—607 5 Claims

Arylsulfoxides of the formula R—SO—R' in which R is phenyl or tolyl and R' is an aliphatic radical, are prepared by reacting R'_nAlX_{3-n} in which R' is as above, X is halogen and *n* is 1, 2 or 3 with a tolyl or benzene sulfonic acid halide and hydrolyzing the reaction mixture.

3,440,287

PROCESS FOR MAKING THIOETHERS

Lee H. Horsley, Midland, Mich., assignor to The Dow Chemical Company, Midland, Mich., a corporation of Delaware

No Drawing. Filed Nov. 24, 1965, Ser. No. 509,607
Int. Cl. C07c *149/10*
U.S. Cl. 260—609 10 Claims

Mercaptans are oxyalkylated to produce 2-hydroxyalkyl thioethers substantially free of polyglycol thioethers by reacting the mercaptan with at least a 3-fold excess of alkylene oxide in the presence of a lithium or sodium mercaptide at a temperature of 80–125° C.

3,440,288

METHOD FOR PREPARING CHLOROBENZENE THIOLS

Hermann Hoffmann, East Greenwich, and Samuel F. Marsocci, West Warwick, R.I., assignors, by mesne assignments, to Farbwerke Hoechst AG, vormals Meister Lucius & Bruening, Frankfurt am Main, Germany

No Drawing. Filed June 15, 1966, Ser. No. 557,602
Int. Cl. C07c *149/00, 143/00*
U.S. Cl. 260—609 12 Claims

Method of making monochlorobenzene thiol or dichlorobenzene thiol by adding zinc an chlorosulfonic acid solution of monochlorobenzene sulfonyl chloride or dichlorobenzene sulfonyl chloride to water or aqueous acid.

3,440,289

PROCESS FOR PREPARING 6-ALKOXY-METHYL-2,4-DINITROPHENOLS

Andrew C. Hazy, New Haven, and Joseph V. Karabinos, Orange, Conn., assignors to Olin Mathieson Chemical Corporation

No Drawing. Filed Feb. 10, 1966, Ser. No. 526,404
Int. Cl. C07c *37/16, 39/16, 39/18*
U.S. Cl. 260—611 10 Claims

6-substituted-methyl-2,4-dinitrophenols are formed by heating a mixture of 6,8-dinitro - 1,3 - benzodioxane, an

alkanol and an acid catalyst and separating the resulting dinitrophenol from the reaction mixture.

3,440,290

METHOD FOR PREPARING POLYHYDROXY-AROMATIC COMPOUNDS RICH IN META ORIENTATION

Alexander H. Widiger, Jr., Midland, Mich., assignor to The Dow Chemical Company, Midland, Mich., a corporation of Delaware

No Drawing. Filed Aug. 5, 1965, Ser. No. 477,610
Int. Cl. C07c *37/00, 39/08, 43/22*
U.S. Cl. 260—613 **9 Claims**

1. A method for preparing a polyhydroxy aromatic product which comprises reacting a mixture consisting essentially of a chlorophenol with from 4 to 8 moles of 20 to 50% aqueous solution of sodium hydroxide under the mixtures autogenous pressure at a temperature of from about 250° to 270° C. for between about ½ to 2 hours, and separating from the reaction mixture a product rich in meta oriented dihydroxybenzene, dihydroxy diphenyl ethers and trihydroxy diphenyl, and low in hydroxy phenoxy phenoxyphenols, and highers.

3,440,291

SINGLE-STAGE HYDROFORMYLATION OF OLEFINS TO ALCOHOLS

John L. Van Winkle, San Lorenzo, Rupert C. Morris, Berkeley, and Ronald F. Mason, Mill Valley, Calif., assignors to Shell Oil Company, New York, N.Y., a corporation of Delaware

No Drawing. Continuation-in-part of application Ser. No. 468,573, June 30, 1965. This application Oct. 6, 1965, Ser. No. 493,555
The portion of the term of the patent subsequent to Jan. 7, 1986, has been disclaimed
Int. Cl. C07c *29/16*
U.S. Cl. 260—632 **9 Claims**

The direct, single-stage production of reaction products consisting predominantly of primary alcohol by reacting an olefinic compound with carbon monoxide and hydrogen at a temperature between about 100° and 300° C. and superatmospheric pressure in the presence of a catalyst of cobalt in complex combination with carbon monoxide and a P-hydrocarbyl monophosphabicyclononatriene.

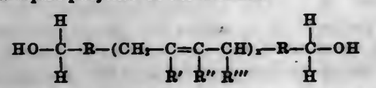
3,440,292

HYDROXYMETHYL-TERMINATED POLYMERS

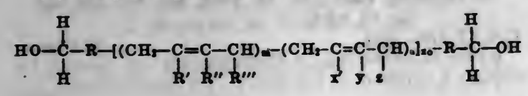
Henry C. Allen, Decatur, Ala., assignor to the United States of America as represented by the Secretary of the Army

No Drawing. Continuation-in-part of application Ser. No. 275,466, Apr. 24, 1963. This application Dec. 23, 1963, Ser. No. 332,981
Int. Cl. C08g *22/16*; C07c *33/02, 33/10*
U.S. Cl. 260—633 **10 Claims**

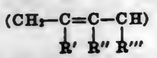
1. A substance selected from the group consisting of:
(a) a liquid polymer of the formula



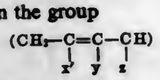
wherein R', R'', and R'' are each selected from the group consisting of hydrogen, lower alkyl, and halogen, R is a member selected from the group consisting of tetramethylene, pentamethylene, and hexamethylene, and x is a positive whole number greater than one such that the molecular weight of said polymer is about 2,000 to about 10,000; and
(b) a liquid copolymer of the formula



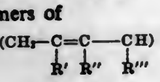
wherein R is a member selected from the group consisting of tetramethylene, pentamethylene and hexamethylene, R', R'', R''', x, y, and z are each a member selected from the group consisting of hydrogen, lower alkyl, therefore, halogen provided that the group



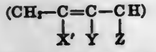
is different from the group



that the monomers of



and



are randomly dispersed relative to each other in said copolymer, and m, n and x_0 are positive whole numbers such that the molecular weight of said copolymer is about 2,000 to about 10,000.

3,440,293

HYDRATION OF OLEFINS TO ALCOHOLS

Robert J. Rosscup, Valparaiso, Ind., Alex Zletz, Chicago Heights, and Luke A. Schaap, South Holland, Ill., assignors to Standard Oil Company, Chicago, Ill., a corporation of Indiana

No Drawing. Continuation-in-part of application Ser. No. 170,231, Jan. 31, 1962. This application Mar. 17, 1966, Ser. No. 535,033
Int. Cl. C07c *29/04, 43/02*; B01j *11/40*
U.S. Cl. 260—641 **11 Claims**

1. A process for the catalytic conversion of C_2+C_5 olefin hydrocarbons to the corresponding C_2 to C_5 alcohols which comprises contacting in a catalytic zone a wholly liquid phase water-olefin mixture having a mole ratio of 1 to 10 moles water per mole of said olefin, at a temperature in the range of 300 to 675° F., and a pressure in the range of 2000 to 100,000 p.s.i. with a catalyst whose particles consist essentially of alumina and silica in the range of 10 to 30% alumina and 90 to 70% silica by weight, the sum of which equals 100%, in substantially uniform composition throughout the particles at a weight hourly space velocity of 2 to 20 parts of said water-olefin mixture per part of catalyst by weight, said catalyst prior to said contacting is not preconditioned by treatment with water at said temperature and pressure ranges.

3,440,294

OLIGOMERS OF BICYCLOHEPTADIENE

Roy L. Pruett and Edward A. Rick, Charleston, W. Va., assignors to Union Carbide Corporation, a corporation of New York

No Drawing. Filed Apr. 7, 1967, Ser. No. 629,069
Int. Cl. C07c *13/24*
U.S. Cl. 260—666 **7 Claims**

A method is described for the manufacture of dimers and trimers of bicycloheptadiene by means of a zero valent nickel catalyst comprising bis(1,5-cyclooctadiene) nickel. The yields of trimer are approximately 6 times those obtained employing prior art catalysts. The formation of trimer in favor of the dimer is suppressed however, by adding triphenyl phosphine to the catalyst. The production of large quantities of trimer is obtained by longer reaction times whereas relatively short reaction times are employed for the production of predominantly dimeric material. The unmodified catalyst favors the production of the exo, trans exo dimer whereas triphenyl phosphine modified catalyst increases the amount of exo, trans endo dimer formed. The examples relate to methods

for the manufacture of pentacyclo-(8.2.1.$1^{4,7}$.$0^{2,9}$.$0^{3,8}$)-tetradeca-5,11-diene(bicycloheptadiene dimer) and octacyclo(14.2.1.$1^{4,13}$.$1^{7,10}$.$0^{2,15}$.$0^{3,14}$.$0^{5,12}$.$0^{6,11}$)heneicosa-8,17-diene(bicycloheptadiene trimer) from bicycloheptadiene by means of a bis(1,5-cyclooctadiene) nickel catalyst.

3,440,295

PARA-XYLENE PREPARATION USING HYDROGEN SCAVENGER

Peter J. Capitano, East Orange, N.J., and Johannes W. Angelkorte, Montevallo, Ala., assignors to Union Carbide Corporation, a corporation of New York

No Drawing. Filed Dec. 27, 1966, Ser. No. 604,562
Int. Cl. C07c *15/08*
U.S. Cl. 260—668 **16 Claims**

Efficiency of pyrolysis of p-xylene to yield xylylenes is approximately doubled by feeding with the p-xylene minor proportion of one or more radical-forming substances to scavenge the hydrogen. Effective organic compounds include ethers, aldehydes, carboxylic acids and anhydrides, halides, sulfides, sulfoxides, mercaptans, nitroparaffins, ketones, and ketenes. Elemental sulfur and halogens also work.

3,440,296

PURE BINARY ADDITION COMPOUNDS

David G. Walker, Baytown, Tex., assignor to Esso Research and Engineering Company, a corporation of Delaware

No Drawing. Continuation of application Ser. No. 307,345, Sept. 9, 1963. This application Nov. 29, 1967, Ser. No. 686,781
Int. Cl. C07c *7/00*; C01f *7/48*; B01d *3/34*
U.S. Cl. 260—674 **9 Claims**

4. A method for preparing a catalytically inactive metal halide: aluminum halide addition compound which comprises fusing at least a stoichiometric amount of metal halide with an aluminum halide wherein said metal of said metal halide is selected from the group consisting of Cu^{+1}, Ag^{+1}, Sn^{+2}, and Pb^{+2} and the halide of the metal halide and the aluminum halide is selected from the group consisting of chlorine and bromine to form a fused product, dissolving said fused product in an aromatic selected from the group consisting of benzene and toluene, removing any undissolved solids, cooling the resultant solution whereby a ternary addition compound is crystallized out of the solution, and heating said ternary addition compound to quantitatively drive off said aromatic.

9. A method for separating aromatic isomers by the staged complexing and decomplexing of a mixture of aromatic isomers with a binary metal halide: aluminum halide addition compound which comprises complexing said mixture of aromatic isomers with a catalytically pure solid metal halide: aluminum halide addition compound wherein said metal of said metal halide is selected from the group consisting of Cu^{+1}, Ag^{+1}, Sn^{+2}, and Pb^{+2} and the halide of the metal halide and the aluminum halide is selected from the group consisting of Cl and Br, and decomplexing the aromatic ternary compounds which are formed to recover said isomers and said solid metal halide: aluminum halide addition compound.

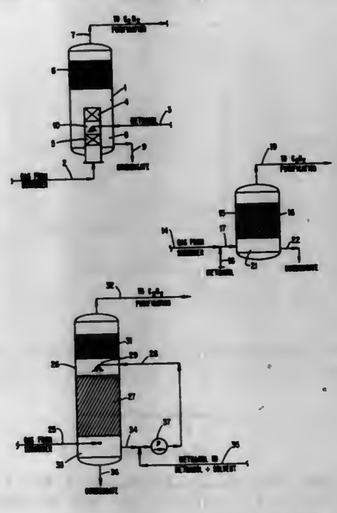
3,440,297

SCRUBBING PROCEDURE FOR CRUDE ACETYLENE STREAM

David P. Keckler, Lakewood, Ohio, assignor to Diamond Shamrock Corporation, a corporation of Delaware

Filed Dec. 14, 1966, Ser. No. 601,720
Int. Cl. C10h *23/00*
U.S. Cl. 260—679 **5 Claims**

A process improvement in the preparation of acetylene from the pyrolysis product of low boiling hydrocarbons. Conventionally such pyrolysis product can be contacted, for removal of impurities, with a high boiling hydrocarbon scrubbing solvent. Thereafter separation of contaminated solvent can precede preparation of an acetylene-



rich gas in a purification system using methanol. The improvement herein is the contacting of scrubbed gas with methanol, during separation of contaminated solvent to prepare a methanol-vapor-containing gas, thus enhancing removal of contaminated scrubbing solvent.

3,440,298

PROCESS FOR DEHYDROGENATION

Laimonis Bajars, Princeton, N.J., assignor to Petro-Tex Chemical Corporation, Houston, Tex., a corporation of Delaware

No Drawing. Continuation-in-part of application Ser. No. 244,254, Dec. 13, 1962. This application July 2, 1965, Ser. No. 469,302
Int. Cl. C07c *5/18, 11/22*
U.S. Cl. 260—680 **9 Claims**

1. The method for dehydrogenating aliphatic hydrocarbons of 4 to 6 carbon atoms which comprises heating in the vapor phase at a temperature of from about 450° C. to 850° C. an aliphatic hydrocarbon of 4 to 6 carbon atoms with oxygen in a molar ratio of at least one-fourth mol of oxygen per mol of said hydrocarbon and chlorine in a molar ratio of from at least about .01 to less than 0.5 mol of chlorine per mol of said aliphatic hydrocarbon, the partial pressure of said aliphatic hydrocarbon being equivalent to less than about one-fifth atmosphere at a total pressure of one atmosphere, with a material comprising as its main active constituent a member selected from the group consisting of magnesium phosphate, calcium oxide, magnesium oxide and mixtures thereof in a catalytic amount, the ratio of the gram mols of the said oxygen to the gram atoms of said chlorine being at least 1.50.

3,440,299

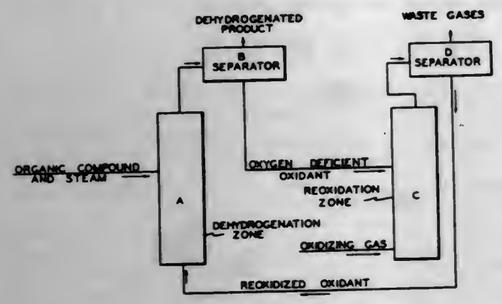
DEHYDROGENATION PROCESS USING MAGNESIUM FERRITE

Marvin Z. Woskow, Philip M. Colling, and Olin C. Karkalits, Jr., Houston, Tex., assignors to Petro-Tex Chemical Corporation, Houston, Tex., a corporation of Delaware

Filed Jan. 27, 1967, Ser. No. 612,205
Int. Cl. C07c *5/18, 11/22, 15/10*
U.S. Cl. 260—680 **23 Claims**

Dehydrogenation of organic compounds by reacting

hydrogen removed from the organic compound with oxygen to form water. Oxygen is supplied by solid oxidant



comprising magnesium ferrite which releases oxygen and is thereby converted to a composition diminished in oxygen.

3,440,300

DYNAMIC STABILIZATION OF A PLATINUM-ALUMINA CATALYST IN AN ISOMERIZATION REACTION

John H. Estes, Wappingers Falls, and John M. Crone, Jr., Fishkill, N.Y., assignors to Texaco Inc., New York, N.Y., a corporation of Delaware

No Drawing. Filed Sept. 27, 1966, Ser. No. 582,221

Int. Cl. C07c *5/30*

U.S. Cl. 260—683.68 **9 Claims**

A platinum-alumina catalyst activated with a halogenated hydrocarbon is stabilized by (a) heating the platinum-alumina at a temperature of 600–1200° F. with a non-reactive gas, such as nitrogen, air, oxygen, or helium flowing through the catalyst, (b) adjusting the temperature to 150–700° F. in the presence of a non-reactive gas and (c) contacting the catalyst at a temperature of 150–700° F. with either an organic chloride of at least 2 carbon atoms in an oxygen atmosphere or with a compound from the group: carbon tetrachloride, chloroform, methylene chloride, phosgene or trichloroacetyl chloride to provide a stabilized catalyst having a chlorine content of 3–10 wt. percent. The catalyst may be stabilized in situ during an isomerization reaction.

3,440,301

DYNAMIC STABILIZATION OF A PLATINUM-ALUMINA CATALYST IN AN ISOMERIZATION REACTION

William L. Lafferty, Jr., and Edward T. Child, Fishkill, and John H. Estes, Wappingers Falls, N.Y., and George W. Vachuda, Houston, Tex., assignors to Texaco Inc., New York, N.Y., a corporation of Delaware

No Drawing. Filed Sept. 27, 1966, Ser. No. 582,250

Int. Cl. C07c *5/30*

U.S. Cl. 260—683.68 **10 Claims**

A platinum-alumina catalyst activated with a halogenated hydrocarbon is stabilized by heating the halogenated catalyst at a temperature of 600–1200° F. with a non-reactive gas, such as air, nitrogen, hydrogen or helium flowing through said catalyst, adjusting the temperature to 150–700° F. and thereafter contacting the catalyst with hydrogen chloride or hydrogen bromide for at least 0.5 hour at 150–700° F. The catalyst may be stabilized in situ and utilized in an isomerization reaction.

3,440,302

ROOM TEMPERATURE CURABLE COPOLYMERS OF UNSATURATED ORGANIC POLYMERS AND MERCAPTOSILANES

John L. Speier and Joseph W. Kell, Midland, and William G. Gowdy, Freeland, Mich., assignors to Dow Corning Corporation, Midland, Mich., a corporation of Michigan

No Drawing. Continuation-in-part of application Ser. No. 420,090, Dec. 21, 1964. This application Mar. 22, 1965, Ser. No. 441,842

Int. Cl. C08d *9/00*; C09k *3/10*

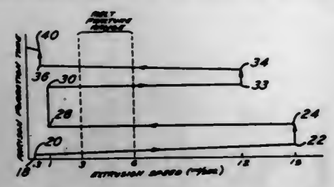
U.S. Cl. 260—825 **8 Claims**

Room temperature, air curable, solvent-resistant sealant composition consisting essentially of copolymers of unsaturated organic polymers and mercaptosilanes.

An illustrative example: to 20 weight percent solution of polybutadiene of sufficient molecular weight to be vulcanizable to a rubber, dissolved in xylene, is added 0.02 g. of

$$(CH_3O)_3SiCH_2CHCH_2SH$$
$$\quad\quad\quad

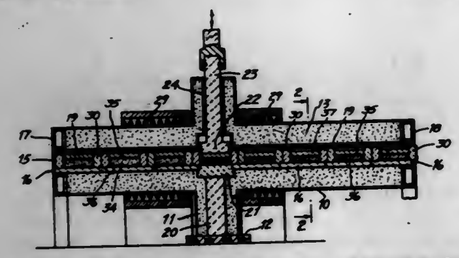
a manner so that one portion of the parison is extruded at a speed below the melt fracture range. Another portion of the parison is extruded at a speed above the melt fracture range.



3,440,311
METHOD FOR PREPARING COMPRESSED VERMICULAR GRAPHITE STRUCTURES
Franciszek Olstowski, Freeport, and Oliver Osborn, Lake Jackson, Tex., assignors to The Dow Chemical Company, Midland, Mich., a corporation of Delaware
No Drawing. Filed Mar. 30, 1966, Ser. No. 538,600
Int. Cl. C04b 35/54
U.S. Cl. 264—115 5 Claims

This invention relates to a process for producing relatively high density integral structures of compressed vermicular graphite by intermingling strands of compressed vermicular graphite having a density of between about 0.3 gm./cc. and about 1.8 gm./cc. and compressing the intermingled strands under a compressive force of about 30 p.s.i.

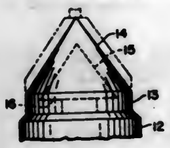
3,440,312
METHOD OF PREPARING PLATES OF BORON CARBIDE POWDER
Richard A. Allegro, Holden, Mass., assignor to Norton Company, Worcester, Mass., a corporation of Massachusetts
Filed July 30, 1965, Ser. No. 475,940
Int. Cl. B29f 5/02
U.S. Cl. 264—125 4 Claims



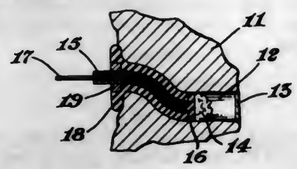
A method of preparing a refractory molded plate from boron carbide powder in which the powder is placed within a shallow graphite mold between confining elements, and introduced into a preheating zone of a furnace and brought to a temperature of between 2200 and 2230° C., then subjected to compacting pressure of 1000–2000 p.s.i. for 3–5 minutes to form the powder into a molded plate, which is then slowly cooled as the plate leaves the furnace.

3,440,313
PROCESS OF MAKING RUBBER-TIPPED VALVE ELEMENT
Walter E. Schmocker, Chagrin Falls, Ohio, assignor to Industrial Electronic Rubber Company, Twinsburg, Ohio, a corporation of Ohio
Filed Feb. 27, 1967, Ser. No. 618,725
Int. Cl. B29f 1/10
U.S. Cl. 264—162 10 Claims

A method of making a valve element by transfer or injection molding on the end of a rigid body a rubber tip of compound shape, the tip having a right cylindrical section adjacent the body end and an outer section of truncated cone shape, the length of the thus molded tip being greater than the finished length desired, and grinding the tip uniformly to reduce the outer section to cone shape at the same included angle as that of the original truncated cone form and to reduce the length of the tip of the desired end length.

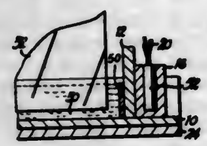


3,440,314
METHOD OF MAKING CUSTOM-FITTED EAR-PLUGS FOR HEARING AIDS
Eldon E. Frisch, Midland, Mich., assignor to Dow Corning Corporation, Midland, Mich., a corporation of Michigan
Filed Sept. 30, 1966, Ser. No. 583,166
Int. Cl. A61f 11/00; B28b 7/28, 7/16
U.S. Cl. 264—222 3 Claims



A method is disclosed for forming in situ a resilient custom-fitted earplug for a hearing aid. The earplug has a continuous auditory path through its center which is formed by inserting a flexible tube into the ear canal before a curable material is injected into the ear canal. A removable plug can be attached to the flexible tube as a means for centering that tube in the ear canal, and a reinforcing member can be inserted into that tube to center and to prevent it from collapsing when the curable material is injected around it.

3,440,315
METHOD OF BEDDING PANELS INTO FRAMES
Howard J. Shockey, Elkhart, Ind., assignor to Excel Corporation, Elkhart, Ind., a corporation of Indiana
Filed Mar. 29, 1966, Ser. No. 538,301
Int. Cl. B32b 31/06
U.S. Cl. 264—261 8 Claims



The method relates to the bedding of a panel into a frame which has interior surfaces defining a recess for receiving a marginal edge of the panel. In the method, the recess is dammed at two places spaced from each other along the length of the frame. The recess is filled with liquid bedding material between the dams, and a marginal edge of the panel is immersed thereinto. The damming bodies are then heated to cure liquid bedding material immediately adjacent thereto. The liquid bedding material cures to a solid form and thus serves as additional dams. The original damming bodies are then removed and the remaining bedding material is cured to a solid form by heating.

3,440,316
METHOD OF MANUFACTURING IMPROVED POLYVINYL ALCOHOL FILMS
Shunji Miyake and Katsuaki Hirano, Kurashiki-shi, Japan, assignors to Kurashiki Rayon Co., Ltd., Okayama Prefecture, Japan, a corporation of Japan
No Drawing. Filed Nov. 24, 1964, Ser. No. 413,618
Claims priority, application Japan, Dec. 5, 1963, 38/65,270
Int. Cl. B29d 7/24; B29g 7/00
U.S. Cl. 264—288 6 Claims

A method for manufacturing improved polyvinyl alcohol film is provided wherein the film is preheated, stretched at a temperature above 120° C. to a film area increase of 200% to 1000% and then heat set and wherein the film contains less than 5% by weight of water after preheating.

3,440,317
CELL COLORING PROCESS AND COMPOSITION FOR CYTOLOGICAL EXAMINATION
Arfillo J. Martinez, Caracas, Venezuela, assignor of ten percent to John E. Marshall, Jr., and twenty percent to Donald L. Day, both of Caracas, Venezuela
No Drawing. Filed Nov. 9, 1964, Ser. No. 409,975
Int. Cl. G01m 33/16
U.S. Cl. 424—3 5 Claims

An improved process for preparing cellular material for detailed cytological microscopic examination is provided. A novel cell coloring composition is utilized in the process which consists essentially of suitable quantities of Fast Green FCF, Bismark Brown, Eosin Yellowish, Orange G, phosphotungstic acid, and lithium carbonate dissolved in a solvent comprising ethyl alcohol and water. Results are achieved which are in all respects comparable to those achieved by the use of the more complex and time consuming PAP technique which is widely practiced throughout the world.

3,440,318
METHODS FOR ENHANCING THE EFFECTIVENESS OF DRUGS, WHICH EMPLOY AN ALKYLATED PHENOXY (POLYETHANOL)
Herbert S. Polin, Veyrier pres Geneve, Geneva, Switzerland
No Drawing. Filed Feb. 12, 1964, Ser. No. 344,223
Int. Cl. A61k 27/00, 9/00
U.S. Cl. 424—182 10 Claims

Methods and compositions are disclosed for parenteral administration, which include the administration of a drug, such as a stimulant, blocking agent or vasoconstrictor, in conjunction with a surface active agent, such as an alkylated phenoxy (polyethanol), for enhancing the effectiveness of the drug.

3,440,319
GERMICIDAL COMPOSITION
James H. Wilson, Demarest, N.J., assignor to Lever Brothers Company, New York, N.Y., a corporation of Maine
No Drawing. Filed Dec. 29, 1964, Ser. No. 422,001
Int. Cl. A61k 27/00
U.S. Cl. 424—230 16 Claims

Aqueous germicidal compositions having improved stability against discoloration by light which comprise an aqueous medium containing a halogenated organic germicide and a stabilizer therefor which is either hydrogen peroxide or hydrogen peroxide plus a water-soluble inorganic sulfite.

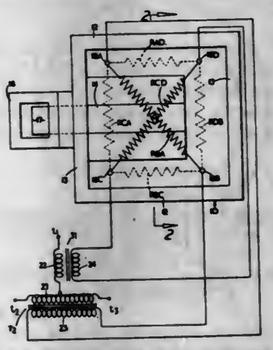
3,440,320
CHELATED SUPPOSITORY AND METHOD OF USING SAME
Raymond R. Sackler, Roslyn, N.Y., assignor to Mortimer D. Sackler and Raymond R. Sackler, Yonkers, N.Y., a copartnership
No Drawing. Continuation-in-part of application Ser. No. 376,260, June 18, 1964. This application Oct. 11, 1966, Ser. No. 585,987
Int. Cl. A61k 9/02, 17/00, 27/00
U.S. Cl. 424—230 16 Claims

A hydrogen bonded compound as a suppository vehicle comprising a compound of the group gum guar, pectin, algin, carboxymethylcellulose or mixtures of these and a polyoxyethyleneglycol having a molecular weight of from 200 to 6000 or mixtures of these, as a carrier for pharmacologically active substances to be administered by the rectal route when shaped into suppositories, or for rectal administration to provide an anorectal lubricant mucosal film or a laxative action.

ELECTRICAL

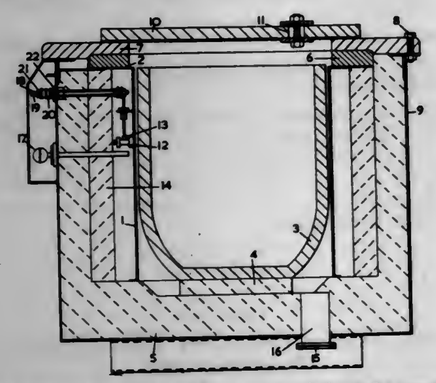
3,440,321
FURNACES FOR HEATING GLASS ELECTRICALLY
Philip Anthony Maunsell Gell, Enville, Stourbridge, Worcester, and Thomas Hugill Waterworth, Danesford, near Bridgnorth, Salop, England, assignors to Elemelt Limited, Bilston, England, a British company
Filed July 6, 1966, Ser. No. 565,651
Claims priority, application Great Britain, June 18, 1966, 27,314/16
Int. Cl. C03b 5/02
U.S. Cl. 13—6 9 Claims

A glass melting furnace in which rod-like electrodes project upwardly through raised block elements in the bottom wall of a substantially rectangular furnace chamber at positions spaced apart around a peripheral wall of the chamber and inset therefrom, there being electrodes at least at the corners. The glass is heated by alternating electric current applied to the electrodes from a supply circuit having a plurality of separate transformer windings for feeding respective phase voltages to peripherally non-adjacent electrodes. Intra-phase current flows along cross-current paths through the molten body of glass between peripherally non-adjacent electrodes while flow of current along peripheral current paths between peripherally adjacent electrodes is inter-phase current flowing between respective voltage sources. The



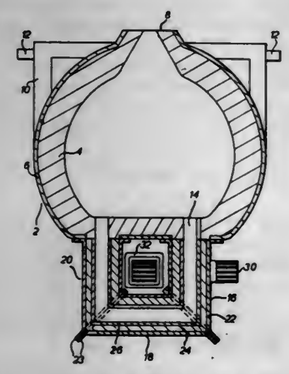
glass is withdrawn downwardly through an opening of substantial area within the figure bounded by the electrodes.

3,440,322
ELECTRICAL RESISTANCE FURNACES
Stuart Gerald Young, Esher, England, assignor, by mesne assignments, to Heatlock Industrial Furnaces Limited, Ruislip, Greater London, England
Filed June 6, 1967, Ser. No. 643,882
Int. Cl. H05b *3/66, 3/62*
U.S. Cl. 13—20 5 Claims



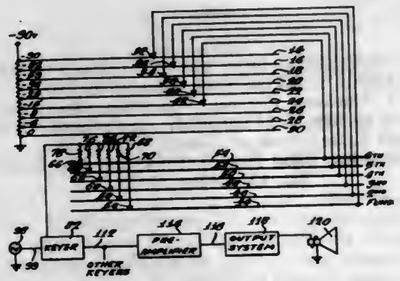
An electrical resistance furnace consisting of a crucible, heat-resisting steel shield surrounding the crucible, a series of electrical heating elements mounted on the outside of the shield, refractory material located around and beneath the shield, and a top closure coupled with an outer casing which forms a sealed enclosure about the crucible. If the crucible breaks the heat resisting steel shield will prevent the molten material from contacting the heating elements, and preferably a conduit having a fusible diaphragm bottom closure communicates the space between the crucible and shield with the outside of the furnace to allow escape of the molten material.

3,440,323
REFRACTORY CRUCIBLES
John Christie Howard, Curbar, near Sheffield, England, assignor to Associated Electrical Industries Limited, London, England
Filed July 6, 1966, Ser. No. 563,256
Int. Cl. H05b *5/14*
U.S. Cl. 13—30 18 Claims



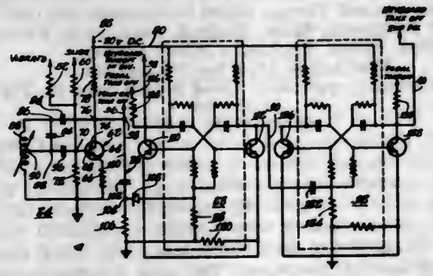
In a furnace crucible of the kind having a duct which communicates with two spaced apart regions of the crucible and threads an annular magnetic core, the duct is formed by a plurality of parts each including an outer metal sheath and an inner refractory lining, the parts being releasably connected to each other and to the crucible so that the duct can be removed and replaced without dismantling the magnetic core.

3,440,324
ELECTRIC ORGAN AND PROPORTIONAL KEYING SYSTEM THEREFOR
Ray B. Schrecongost, Park Ridge, and William C. Ring, Mundelein, Ill., assignors to Hammond Corporation, Chicago, Ill., a corporation of Delaware
Filed Oct. 1, 1965, Ser. No. 491,974
Int. Cl. G10h *1/06*
U.S. Cl. 84—1.22 9 Claims



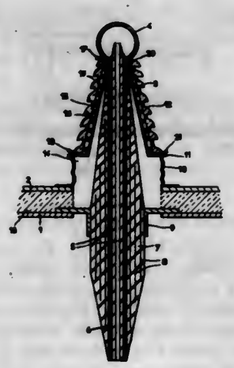
A synthesis type organ in which the individual tone generators are connected to the output through proportional keyers and in which the conduction or gain through the keyers depends upon the potential applied thereto. The keyer potential depends in turn upon the additive voltage effect of the combinations of playing keys simultaneously actuated, each of the playing keys having multiple contact connections to various voltage buses which when keys are actuated contribute additively to the instantaneous keyer voltages.

3,440,325
TRANSISTORIZED HARTLEY OSCILLATOR TONE GENERATOR CIRCUIT PRODUCING GLISSANDO AND VIBRATO EFFECTS BY VOLTAGE DETUNING
Harold O. Schwartz and William V. Machanian, North Tonawanda, N.Y., assignors to The Wurlitzer Company, Chicago, Ill., a corporation of Ohio
Filed Jan. 27, 1964, Ser. No. 340,274
Int. Cl. G10h *1/04*
U.S. Cl. 84—1.25 4 Claims



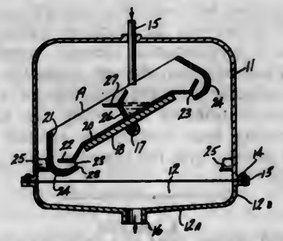
An electronic musical instrument, such as an organ, having transistorized tone generators and having provision for varying the voltage applied to the base of each master oscillator to detune the oscillators to produce vibrato and glissando or slide effects.

3,440,326
FEED-THROUGH BUSHING FOR CRYOGENIC TRANSFORMERS
Philippe C. Lair, Puteaux, France, assignor to Alsthom-Savoisienne, St. Ouen, France, a corporation of France
Filed Dec. 6, 1967, Ser. No. 688,470
Claims priority, application France, Dec. 8, 1966, 2,718
Int. Cl. H01b *17/26, 7/34*
U.S. Cl. 174—9 5 Claims



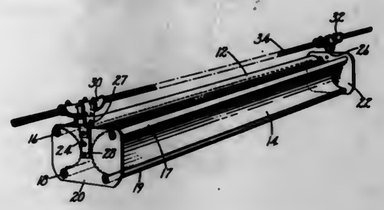
A hollow cylindrical central conductor has a tube disposed therearound at the outside, soldered to the conductor at both ends, with the space between the conductor and the tube evacuated; an electrically insulating sleeve encircles the outside tube, the sleeve being fixed to a cryogenic transformer. An insulator is secured at its upper end to a reservoir, in communication with the hollow central conductor, and connected by a tight connection to the wall of the cryogenic transformer, the space between the insulator and the insulating sleeve surrounding the central conductive assembly being evacuated.

3,440,327
CURRENT FLOW INTERRUPTER UTILIZING A TILTABLE CHAMBER
Bernard H. Nicolaisen, Stamford, Conn., assignor to Olin Mathieson Chemical Corporation
Filed Jan. 30, 1967, Ser. No. 612,647
Int. Cl. H01b *7/34, 9/06*
U.S. Cl. 174—15 12 Claims



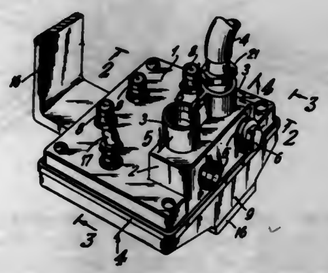
Apparatus for interrupting the flow of electrical current through flowing liquid electrical conductors wherein a chambered cup tilts alternately in opposite directions to interrupt periodically the flow of liquid conductor and to form electrically separated portions and then recombining the portions.

3,440,328
MEANS FOR DAMPING VIBRATIONS OF POWER TRANSMISSION LINES
Albert S. Richardson, Jr., Lexington, Mass., assignor to Sandamp Systems, Inc., Watertown, Mass., a corporation of Massachusetts
Filed Dec. 29, 1967, Ser. No. 694,746
Int. Cl. H02g *7/14*
U.S. Cl. 174—42 11 Claims



An aerodynamic damper is provided for suppressing wind induced galloping vibrations of suspended lines, such as overhead electric transmission lines, the damper having improved characteristics of lift and drag for enhancing its damping action. The damper comprises body means rigidly defining an elongated surface and means for attaching the body means to a suspended line. Suitably the body means defines channels opening in opposite directions.

3,440,329
COUPLER HOUSING WITH INTEGRAL CABLE RECEPTACLES
Eric Winston, Melrose Park, Pa., assignor to Jerrold Electronics Corporation, Hatboro, Pa., a corporation of Delaware
Filed Mar. 2, 1967, Ser. No. 620,118
Int. Cl. H05k *5/00*
U.S. Cl. 174—52 5 Claims



A compact coupler housing containing circuitry for the distribution of CATV signals. The cable attachments are an integral part of the housing. Cooperating access ports permit attachment of signal and subscriber cables and circuit testing, without disassembly of the basic housing.

3,440,330
METER BOX LOCKING ASSEMBLY
Clifford E. Sloop, 2230 10th St., Columbus, Ga. 31906
Filed Oct. 30, 1967, Ser. No. 678,975
Int. Cl. H05k *7/14*
U.S. Cl. 174—52 10 Claims

A meter box locking assembly for use with an electricity meter and socket box which has abutting annular flanges. The locking assembly comprises an apertured cover plate for insertion over the cylindrical body of the

meter and against the outer surface of the annular flange of its circular base, and a locking bracket extending from one edge of the cover plate and arranged to extend over an arc of the abutting flanges and grip the rear surface of the flange of the socket box. A slot is formed in the cover plate on the opposite side of the aperture of the cover

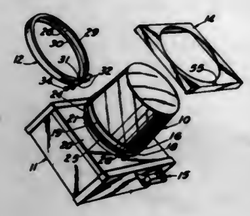
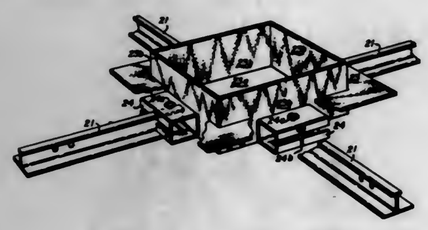


plate from the locking bracket and a keeper element is inserted about an arc of the abutting flanges and the cover plate is inserted over the keeper element. The portion of the keeper element protruding through the cover plate receives a lock, or similar fastening means, to prevent the locking assembly from being removed from the meter, or the meter from being removed from its socket box.

3,440,331
CEILING FIXTURE ADAPTER
David A. Cohen, 744 Foothill Drive, San Mateo, Calif. 94402
Filed Feb. 14, 1967, Ser. No. 616,098
Int. Cl. H02b 1/10
U.S. Cl. 174—61 6 Claims



An adapter plate member for suspending electrical boxes and fixtures from lowered ceilings. The adapter plate has a plurality of connecting members which have a cross sectional shape corresponding to the cross sectional shape of the ends of the beams supporting the lowered ceiling. The ends of the beams engage these connecting members by virtue of the matching cross sectional shapes to rigidly connect the beam ends and to suspend the adapter plate from the beam ends.

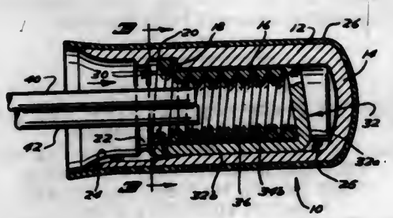
3,440,332
CONNECTOR WITH GROOVED SLEEVE AND HELICALLY WOUND SPRING FOR GRIPPING WIRES WHEN RELEASED
John H. Blomstrand, 214 Hazel Drive, Corona Del Mar, Calif. 92625
Filed Feb. 2, 1967, Ser. No. 613,508
Int. Cl. H02g 15/08; F16b 37/12
U.S. Cl. 174—87 7 Claims

A tubular shell is formed with a groove extending longitudinally along its bore or passage. A coil spring with first and second transversely projecting ends is placed in the passage at the factory by locating the first spring end in the groove and then advancing the coil spring longitudinally. The coil spring is somewhat shorter in length than the passage and groove so that when it is fully received in the passage the first spring end remains in the groove at the opposite end from that in which it was initially placed when assembling the spring. The second spring end can then be twisted or angularly rotated to torsionally cock the spring, a notch being formed in the shell at this particular end so that the second spring



end can be retained therein and the coil spring thus maintained in its cocked relationship. A section of the first spring end partially blocks the passage so that when the user inserts a plurality of wires sufficiently, at least one of the wires will abut the blocking section and continued movement of the inserted wires will dislodge the first spring end from the groove and the spring immediately contracts against and thereby grips the wires that have been inserted.

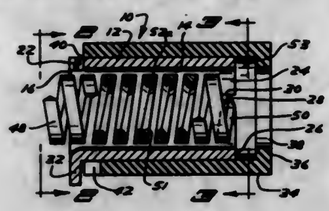
3,440,333
CONNECTOR WITH HELICALLY WOUND SPRING AND INTERNAL MEANS FOR RELEASING THE SPRING TO CAUSE GRIPPING OF WIRES
John H. Blomstrand, 214 Hazel Drive, Corona Del Mar, Calif. 92625
Filed Feb. 2, 1967, Ser. No. 613,514
Int. Cl. H02g 15/04, 15/08
U.S. Cl. 174—87 8 Claims



An elongated hollow shell contains a coil spring retained in a torsionally cocked condition by a latch arrangement. In one embodiment, the spring itself is configured so as to provide the latching action; in a second embodiment, a supplemental element supplies this feature. In each embodiment, though, when the coil spring is released or unlatched by the insertion of a plurality of wires, the convolutions of the spring that have been enlarged by having been torsionally twisted immediately contract and thereby grip the inserted wires and thus hold them together.

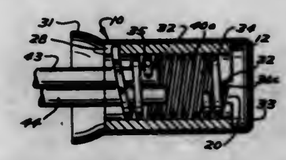
3,440,334
CONNECTOR WITH HELICALLY WOUND SPRING AND EXTERNAL MEANS FOR RELEASING THE SPRING TO CAUSE GRIPPING OF WIRES
John H. Blomstrand, 214 Hazel Drive, Corona Del Mar, Calif. 92625
Filed Feb. 2, 1967, Ser. No. 613,515
Int. Cl. H02g 15/08
U.S. Cl. 174—87 8 Claims

An elongated hollow shell is notched at opposite ends for the purpose of maintaining a coil spring in a torsionally cocked condition, one end of the spring being held in one notch and the other end of the spring in the other notch. When one spring end is disengaged from its notch



by relative movement of an outer sleeve, the enlarged convolutions of the spring immediately contract against and thereby grip the wires that have been inserted into the spring, either or both ends thereof.

3,440,335
CONNECTOR WITH HELICALLY WOUND SPRING FOR GRIPPING WIRES WHEN RELEASED
John H. Blomstrand, 214 Hazel Drive, Corona Del Mar, Calif. 92625
Filed Feb. 2, 1967, Ser. No. 613,516
Int. Cl. H02g 15/08
U.S. Cl. 174—87 21 Claims



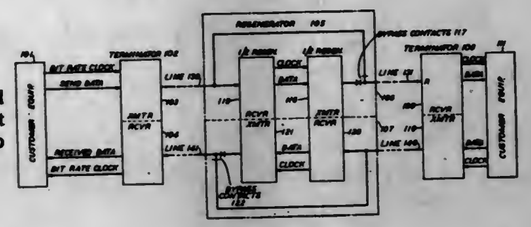
An elongated hollow shell is notched at opposite ends for the purpose of maintaining a coil spring in a torsionally cocked condition, one end of the spring being held in one notch and the other end of the spring in the other notch. When one spring end is disengaged from its notch, the enlarged convolutions of the spring immediately contract against and thereby grip the wires that have been inserted into the spring.

3,440,336
WEB-SHAPED SUPERCONDUCTOR
Gunther Bogner, Erlangen, Germany, assignor to Siemens Aktiengesellschaft, a corporation of Germany
Filed Oct. 14, 1966, Ser. No. 586,712
Claims priority, application Germany, Oct. 16, 1966, S 100,093
Int. Cl. H01b 5/08, 5/02, 11/02
U.S. Cl. 174—128 5 Claims



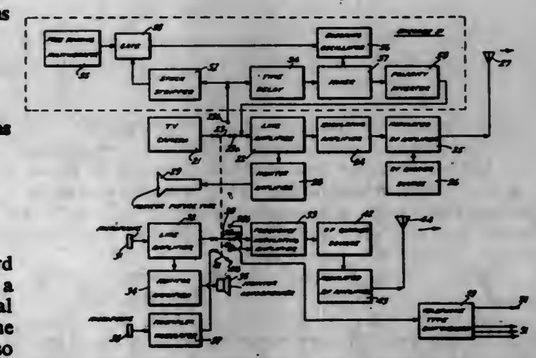
Web-shaped superconductor has a plurality of hard web-shaped superconductive individual conductors, a coating of metal having good heat and normal electrical conductivity surrounding the conductors respectively, the metal-coated conductors being mutually superimposed so that the coatings of mutually adjacent conductors are in relatively good electrical and heat transfer contact with one another, the metal coatings at least at mutually adjacent contact surfaces thereof having a thin layer of metal of high purity and low melting point, of good heat conductivity and, during operation of the superconductor, of good normal electrical conductivity by which the conductors are soldered to one another.

3,440,337
SYNCHRONOUS DATA REPEATER HAVING NON-COMPATIBLE SIGNAL BYPASS
Fred K. Creasy, Matawan, Robert L. Horlacher and Mason A. Logan, Colts Neck, Larrabee M. Smith, Holmdel, and William Rae Young, Jr., Middletown, N.J., assignors to Bell Telephone Laboratories, Incorporated, Murray Hill, N.J., a corporation of New York
Filed Dec. 28, 1966, Ser. No. 605,305
Int. Cl. H04l 15/00
U.S. Cl. 178—4 3 Claims



1. In a synchronous data signalling system wherein synchronizing signals separated by fixed time intervale are recoverable from the data signals, a transmitter for sending said synchronous data signals, a data signal receiver, at least one repeater between said transmitter and receiver for regenerating said signals, said repeater inherently providing a delay of said regenerated signals, intermittently operated means having a negligible inherent delay for passing said signals from the input of said repeater to the output thereof to by-pass said repeater, and delay means external to and connected in series with said repeater between said input and said output for delaying said regenerated signals to provide an accumulative delay interval with the inherent delay of said repeater which exceeds the delay of said intermittently operated means by an interval equal to an integral multiple of said fixed time intervals.

3,440,338
SUBSCRIPTION TELEVISION SYSTEM
Harold R. Walker, Metuchen, N.J., assignor to Teleglobe Pay-TV System, Inc., New York, N.Y.
Filed Nov. 15, 1963, Ser. No. 324,010
Int. Cl. H04n 1/44
U.S. Cl. 178—5.1 10 Claims

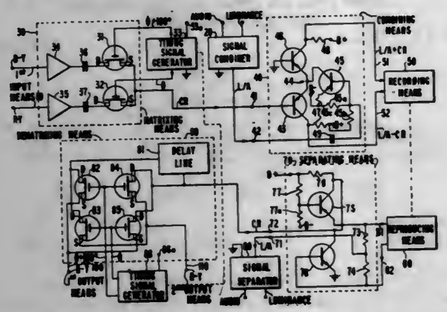


The transmitted signals are coded by setting some selected front porch portions to white level, and polarity inverting the video signal. The back porch is undisturbed for color signals, but may be removed for black and white. Audio may be multiplexed on a key subcarrier. The receiver reinverts the video signal and restores proper synch signals.

3,440,339
COLOR TELEVISION RECORDING SYSTEM

Wayne R. Johnson, Woodland Hills, Calif., assignor, by mesne assignments, to United Control Corporation, Redmond, Wash., a corporation of Delaware

Filed June 10, 1966, Ser. No. 556,695
Int. Cl. H04n *1/46, 5/44, 9/02*
U.S. Cl. 178—5.2 19 Claims

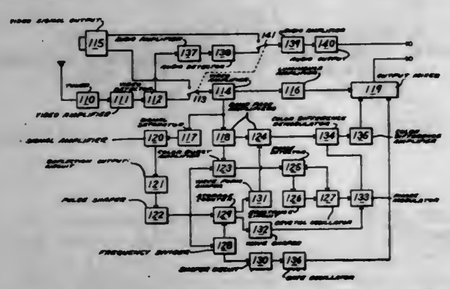


There is disclosed a recording system for recording color television signals including means for converting these signals to signals better adapted for recording and reconverting them into their original form for display. Means for matrixing color difference signals and for combining the matrixed and luminance signals is disclosed.

3,440,340
COLOR TELEVISION SIGNAL RECORDING AND REPRODUCING SYSTEM

Yasumasa Sugihara, Kawasaki-shi, Japan, assignor to The General Corporation, Kawasaki-shi, Japan, a corporation of Japan

Filed Aug. 3, 1965, Ser. No. 476,827
Claims priority, application Japan, Aug. 19, 1964, 39/46,172
Int. Cl. H04n *5/38, 5/44*
U.S. Cl. 178—5.4 4 Claims



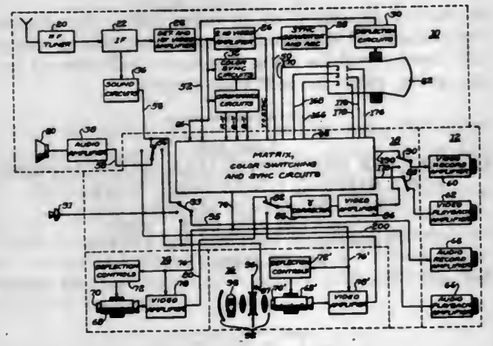
The present invention relates to a line-sequential system of color television, which includes no sub-carriers and has a characteristic substantially similar to a monochrome television signal, and hence this signal may be recorded like a simple monochrome signal. This permits compatible recording/reproducing apparatus. The color switching frequency may be 5 kc.

The color image reproducing unit comprises a voltage generator to receive the standard instruction signal, and convert it into a line-sequential signal, a video recording reproducing apparatus for recording the translated line-sequential signal, and a line-sequential type color image reproducing monitor for reproducing the color image signal. Individual amplifiers and modulators are provided for performing the specific functions. A magnetic recording and reproducing unit is provided for recording the color instruction signals. Synchronized control switches are provided. This system makes it possible to employ a usual monochrome video tape recorder for recording and reproducing a color television signal, and this recording equipment together with the monitoring device or receiver, may be built compactly and of light weight so as to be suitable for the home.

3,440,341
TWO-COLOR DISPLAY FROM LINE SEQUENTIAL COLOR RECORDING

James Reekie, Wilmette, and Edward G. Thurston, Chicago, Ill., assignors to Bell & Howell Company, Chicago, Ill., a corporation of Illinois

Filed Mar. 30, 1966, Ser. No. 538,815
Int. Cl. H04n *5/44, 1/46, 9/02*
U.S. Cl. 178—5.4 13 Claims



There is disclosed a method and apparatus for converting a standard NTSC color television signal to line sequential signals, recording the line sequential signals, and after playback, displaying the signals so that each signal is displayed during two consecutive line scan periods and two signals are displayed during each line scan period.

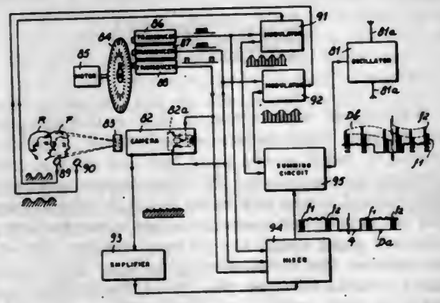
ERRATUM

For Class 178—6 see:
Patent No. 3,439,753

3,440,342
TELEVIDEOPHONIC BROADCASTING AND RECEIVING SYSTEM

Aurelio Beltrami, Via Circo No. 4, Milan, Italy

Original application Feb. 19, 1963, Ser. No. 259,525, now Patent No. 3,263,027. Divided and this application June 15, 1965, Ser. No. 464,058
Claims priority, application Italy, Dec. 11, 1962, 29,814/62
Int. Cl. H04n *3/04, 7/04*
U.S. Cl. 178—6.8 7 Claims

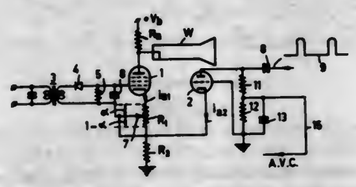


Disclosed herein is a television broadcasting system in which the video signal is accompanied by a plurality of sound signals all of which are transmitted on a single modulated signal.

3,440,343
CONTRAST CONTROL CIRCUIT FOR A TELEVISION RECEIVER

Peter Johannes Hubertus Janssen, Emmasingel, Eindhoven, Netherlands, assignor, by mesne assignments, to U.S. Philips Corporation, New York, N.Y., a corporation of Delaware

Filed Mar. 24, 1966, Ser. No. 537,609
Claims priority, application Netherlands, Apr. 6, 1965, 6504351
Int. Cl. H04n *3/16, 5/58*
U.S. Cl. 178—7.3 2 Claims

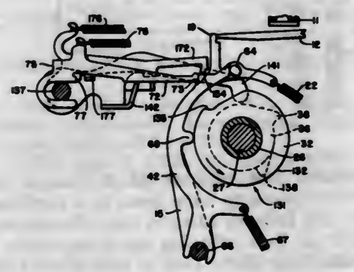


A direct coupled video output amplifier for a television receiver in which the diode detector is connected between the control grid of the output tube and a tapping of a contrast control potentiometer in the cathode circuit. The tapping is also connected to the cathode of an AGC tube to the anode of which flyback pulses are applied. The common control of the contrast bias of the output tube and the cathode potential of the AGC tube ensures that the black level of the video output signal remains substantially at a constant value throughout the contrast control range.

3,440,344
TELEGRAPH SELECTOR

Raymond R. Smessaert, Chicago, Ill., assignor to Teletype Corporation, Skokie, Ill., a corporation of Delaware

Filed Feb. 17, 1966, Ser. No. 528,155
Int. Cl. H04l *17/16*
U.S. Cl. 178—17.5 8 Claims

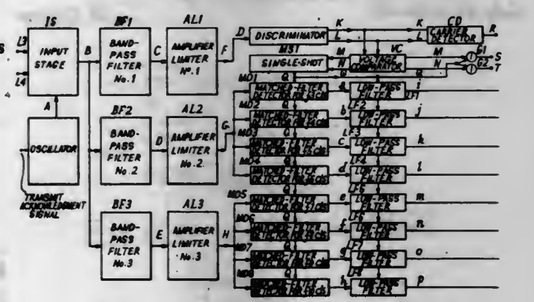


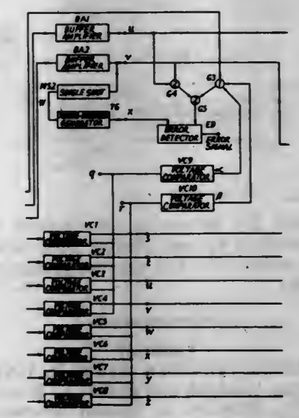
A telegraph selector mechanism for receiving characters comprised of bits including a plurality of selector members that are individually moved to selected positions in response to received bits and that are collectively restored to unselected positions at the start of each character and an auxiliary selector member for storing the condition of a bit received during restoration of the selector members and for transferring the condition of that bit to one of the selector members.

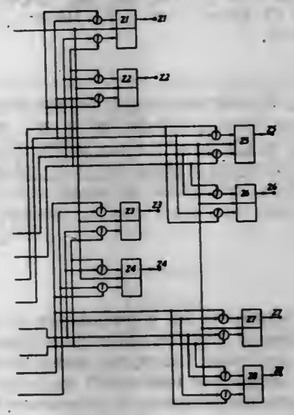
3,440,345
DATA RECEIVER FOR DIGITAL CHARACTER DIVIDED INTO TWO HALVES, EACH HALF EMPLOYING QUATERNARY FREQUENCY MODULATION

Adrian Percy Clark, Taplow, England, assignor to British Telecommunications Research Limited, Taplow, England, a British company

Filed Jan. 29, 1965, Ser. No. 428,934
Claims priority, application Great Britain, Jan. 30, 1964, 4,015/64
Int. Cl. H04l *5/00, 27/00;* H04b *1/06*
U.S. Cl. 178—50 10 Claims



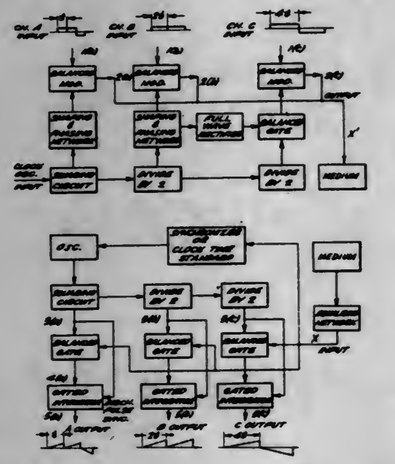




A receiver for an electrical signalling system employing frequency modulation in which 8-bit characters are transmitted over two data channels each of which uses four fixed frequency signals each of which represents a

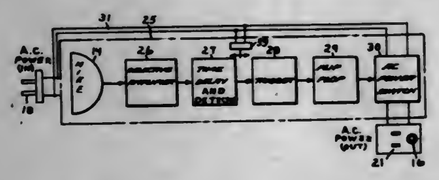
different pair of bits. A further two frequencies are used for timing signals. The receiver uses tuned circuit detectors.

3,440,346
METHOD OF MULTIPLEX REPRESENTATION OF SAMPLED DATA
Harold A. Norby, 19031 Citronia St., Northridge, Calif. 91324
Continuation-in-part of application Ser. No. 48,230, Aug. 8, 1960. This application Nov. 24, 1965, Ser. No. 509,595
Int. Cl. H04l *27/24*
U.S. Cl. 178—67 29 Claims



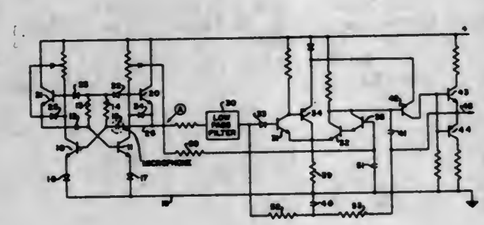
Arrangement for increasing the capacity of a communication medium by multiplexing pulse data in two or more signal series with different but synchronized pulse repetition rates.

3,440,347
REMOTE CONTROL PLUG-IN UNIT
Joel V. Spencer, Adelphi, and Robert K. Kopsidas, Silver Spring, Md., assignors to Spenko International Inc., Adelphi, Md., a corporation of Maryland
Filed Feb. 2, 1966, Ser. No. 524,400
Int. Cl. H04m *1/00, 1/72*; H02b *1/24*
U.S. Cl. 179—1 3 Claims



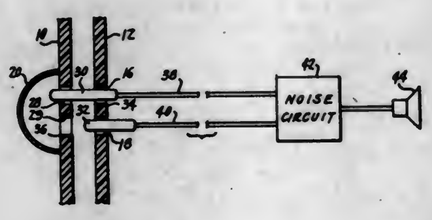
A power control unit for household use to control the on-off operations of electrical apparatus within the household such as appliances, lamps, etc., comprises a portable hand carried transmitter unit which transmits a control signal of a particular frequency to a receiver unit located within a casing adapted to be plugged into a standard wall outlet. In response to a reception of the signal from the transmitter, the receiver functions to turn on or off a switch controlling the electrical apparatus which is also plugged into a socket on the casing and which receives its power from the wall outlet by way of the switch.

3,440,348
MULTIVIBRATOR CAPACITOR MICROPHONE CIRCUIT
James W. Merrick, El Paso, Tex., assignor to Shell Oil Company, New York, N.Y., a corporation of Delaware
Continuation-in-part of application Ser. No. 466,909, June 25, 1965. This application May 26, 1966, Ser. No. 553,156
Int. Cl. H04r *3/02*; H04b *3/02*; H03k *3/282*
U.S. Cl. 179—1 9 Claims



A capacitor microphone circuit is utilized as part of the frequency determining cross-coupling network of an astable multivibrator. The square wave output from the multivibrator is passed through two parallel connected low-pass filters to a difference amplifier. The output voltage signal has an amplitude related to the acoustical signal of the capacitor microphone. A plurality of the multivibrators, including the capacitor microphones may be used in an array wherein only a single filter and amplifier circuit is required. The individual multivibrators are coupled to the filtering circuit through suitable resistances to balance the circuit.

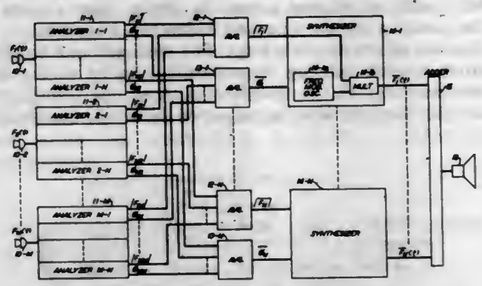
3,440,349
NOISE LEVEL VISUAL INDICATOR
Charles H. Gibbs, 1847 Idlewood St., East Cleveland, Ohio 44112
Filed July 5, 1966, Ser. No. 562,754
Int. Cl. H04m *1/00*; A63h *33/26*
U.S. Cl. 179—1 12 Claims



An animated face structure which changes facial expressions in response to noise levels in a surrounding environment and includes adjacent light illuminating layers having different light reflecting mood expression grooves that are selectively illuminated by light sources which are selectively actuated by a sound pickup responsive means.

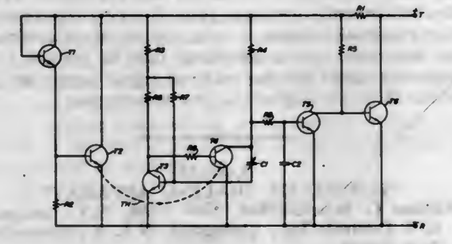
3,440,350
RECEPTION OF SIGNALS TRANSMITTED IN A REVERBERANT ENVIRONMENT
James L. Flanagan, Warren Township, Somerset County, N.J., assignor to Bell Telephone Laboratories, Incorporated, Murray Hill, N.J., a corporation of New York
Filed Aug. 1, 1966, Ser. No. 569,292
Int. Cl. H04r *3/02*
U.S. Cl. 179—1 8 Claims

To correct distortions introduced by reverberation, multiple microphones spaced from one another are used to receive sound. Phase coherence is attained by the use of



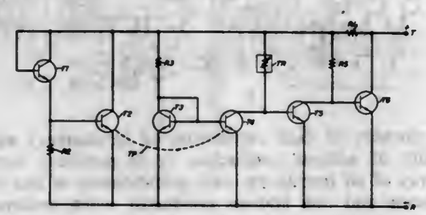
phase-vocoders, the outputs of which are averaged and then combined.

3,440,351
TELEPHONE TRANSMITTER CIRCUIT EMPLOYING VARIABLE CAPACITANCE MICROPHONE
Harry J. Boll, Berkeley Heights, N.J., assignor to Bell Telephone Laboratories, Incorporated, Murray Hill, N.J., a corporation of New York
Filed Sept. 9, 1966, Ser. No. 578,267
Int. Cl. H04m *1/00*
U.S. Cl. 179—1 10 Claims



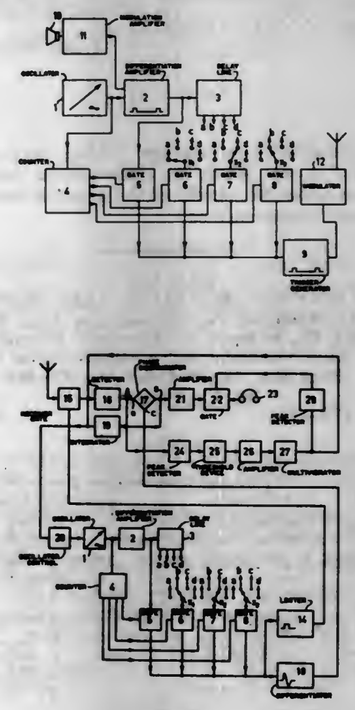
An amplifier for increasing the detected output of a capacitive-microphone-modulated carrier is made insensitive to instantaneous line voltage variations by a decoupling arrangement that utilizes part of the carrier oscillator, with a thermally responsive path to maintain the balance between decoupling stages.

3,440,352
PIEZORESISTANCE ELEMENT MICROPHONE CIRCUIT
Harry J. Boll, Berkeley Heights, N.J., assignor to Bell Telephone Laboratories, Incorporated, Murray Hill, N.J., a corporation of New York
Filed Sept. 9, 1966, Ser. No. 578,268
Int. Cl. H04m *1/00*
U.S. Cl. 179—1 10 Claims



A telephone amplifier for use with a piezoelectric microphone is rendered insensitive to line voltage variations by a feedback path that operates thermally by depositing separate stages of the amplifier on one substrate.

3,440,353
RADIO-TRANSMISSION SYSTEM
Gaston Salmet, St. Maur, France, assignor, by mesne assignments, to U.S. Philips Corporation, New York, N.Y., a corporation of Delaware
Filed June 18, 1965, Ser. No. 465,025
Claims priority, application France, June 26, 1964, 979,700
Int. Cl. H04j *1/04*; H04b *7/00*; H03k *7/04*
U.S. Cl. 179—15 11 Claims

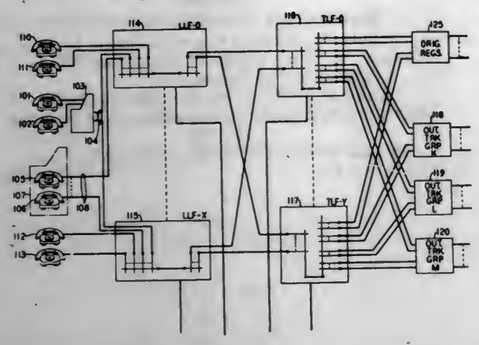


A pulse code modulation transmission system in which intelligence is transmitted in the form of pulse position modulation. The pulses are also coded to form a continuously transmitted address, by providing predetermined delays between the pulses of pulse sequences. The receiver includes coding means to inhibit the reception of pulse sequences that do not have the correct predetermined delays in the pulses.

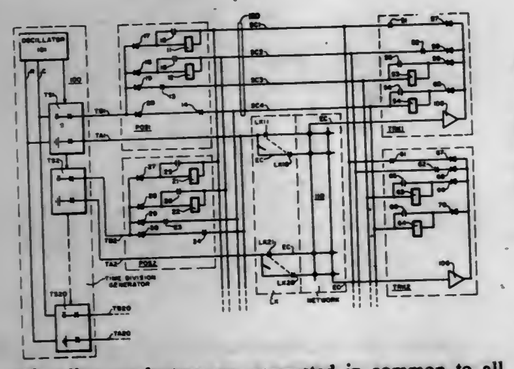
3,440,354
TRAFFIC CONTROLLED SWITCHING CIRCUITRY FOR LIMITING ACCESS TO A GROUP OF COMMUNICATION PATHS
William H. Scheer, Granville, Ohio, assignor to Bell Telephone Laboratories, Incorporated, New York, N.Y., a corporation of New York
Filed June 14, 1965, Ser. No. 463,599
Int. Cl. H04m *3/38*; H04q *3/64*
U.S. Cl. 179—18 12 Claims

A circuit is disclosed for limiting access to common equipment by a group of lines. A counter is employed

which is incremented each time a call is initiated over the common equipment by one of the lines of the group. Call termination is not used to reduce the count. Rather, the counter is decremented at predetermined time intervals, representative of average holding time for calls within the group. When the stored count reaches the maximum allowable, access of the group is barred until the counter is decremented.



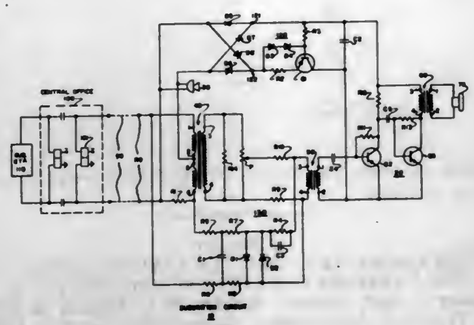
3,440,355
TIME DIVISION SIGNALING ARRANGEMENT
Robert M. Schildgen, Northbrook, and John S. Young, Addison, Ill., assignors to Automatic Electric Laboratories, Inc., Northlake, Ill., a corporation of Delaware
Filed Mar. 18, 1966, Ser. No. 535,404
Int. Cl. H04q *3/42*
U.S. Cl. 179—27 **10 Claims**



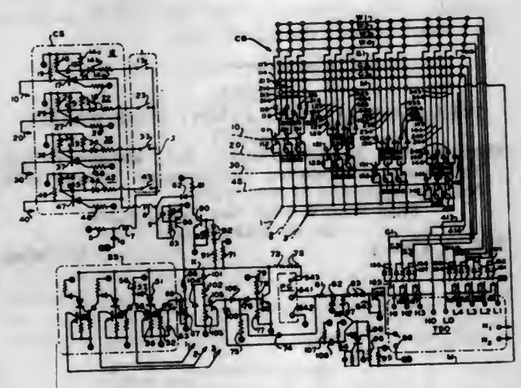
Signaling conductors are connected in common to all of the terminating circuits of two groups, and a time division generator supplies enabling signals in recurring time slots. The terminating circuits of one group are permanently associated with respective time slots. The particular embodiment shown is for special operator circuit. Provision is made to display and to change the class of call.

3,440,356
AUTOMATICALLY COMPENSATING TELEPHONE SUBSTATION
Franz Joseph Ghislain Lebrun, Celles-sur-Lesse, Houyet, Belgium, assignor to Automatic Electric Laboratories, Inc., Northlake, Ill., a corporation of Delaware
Filed Sept. 22, 1965, Ser. No. 489,152
Int. Cl. H04m *1/02*
U.S. Cl. 179—81 **8 Claims**

An anti-side tone bridge type subscriber station circuit, wherein the telephone line and the balancing impedance form two arms of a bridge, with two windings of the first transformer forming the other two arms. A transmitter is inserted across the bridge from a point at the junction at the line and balancing impedance to a junction of the two windings. The receiver input is taken from a third winding magnetically coupled to the first two windings of the transformer. A second transformer couples the third winding output of the bridge transformer to an amplifier, for amplifying the received signal, prior to supplying it to the receiving transducer. A non-linear impedance element is connected into the circuit whereby its characteristic operating point is set by the direct current potential supplied to the circuit, as determined by the impedance at the telephone line, to provide a compensatory shunt for the received signal across the input of the third winding of the first transformer.

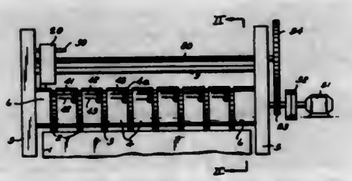


3,440,357
AUTOMATIC DIALING APPARATUS
William C. Broekhuysen, New York, N.Y., assignor to G-V Controls Inc., Livingston, N.J., a corporation of New Jersey
Continuation of application Ser. No. 448,093, Apr. 14, 1965. This application June 10, 1968, Ser. No. 739,896
Int. Cl. H04m *1/26*
U.S. Cl. 179—90 **7 Claims**



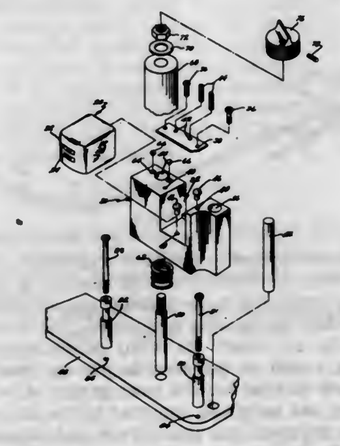
A plurality of digit conductors (*d* in number) and a plurality of address conductors (*c* in number) control an array of *cd* transistors, each combination of one digit conductor and one address conductor when contemporaneously activated rendering conductive a respective one of those transistors. As an incident to activation of an address conductor the digit conductors are successively activated thereby successively to render conductive *d* of the transistors. A plurality of local circuits are respectively connected with the terminals of an electrical system which transmits integer-representing signals as determined by the terminal interconnection, and each circuit has associated therewith a respective control means, to which the collector of one of the transistors may be connected, for closing that circuit when that transistor is conductive. Means are interposed between the collectors and the control means for establishing preselected connections therebetween.

3,440,358
ANNOUNCING INDICATOR FOR CONTINUOUS READOUT OF DIFFERENT VARIABLES
Walter H. Stenby, 98 Riverside Drive, New York, N.Y. 10024
Continuation-in-part of application Ser. No. 174,357, Feb. 14, 1962. This application Apr. 12, 1966, Ser. No. 547,705
Int. Cl. G11c *15/08*; G08b *7/00*
U.S. Cl. 179—100.1 **6 Claims**



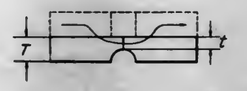
Measuring instruments continuously measure different physical values represented by recorded announcements. The recordings of any selected measuring instrument are repeatedly read out and the respective varying values audibly announced over a speaker when a key associated with the respective measuring instrument is selected and actuated by the pilot of an aircraft whose visual attention is concentrated on another task.

3,440,359
SHIFTABLE MOUNTING MEANS FOR TRANSDUCERS
Leo W. Page, Potterville, and Thomas A. Emery and Lewis C. Sowers, Charlotte, Mich., assignors, by mesne assignments, to VSI Corporation, Pasadena, Calif., a corporation of Illinois
Filed Nov. 2, 1964, Ser. No. 408,099
Int. Cl. G11b *5/56*
U.S. Cl. 179—100.2 **5 Claims**



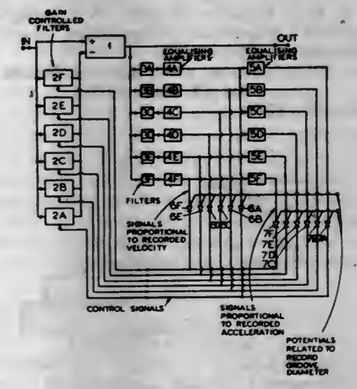
Apparatus for mounting transducer heads in multiple channel type recording systems, wherein the mounting block is provided having a recess in which the transducing head is located. Adjustment means is associated with the mounting block for adjusting the azimuth of the head relative to the block and means is provided for moving the entire block so as to adjust the head for picking up different channels on the tape.

3,440,360
MAGNETIC HEAD WITH NOTCHED POLE TIPS
Hiroshi Sugaya, Ashiya-shi, Japan, assignor to Matsushita Electric Industrial Co., Ltd., Osaka, Japan, a corporation of Japan
Filed Sept. 29, 1965, Ser. No. 491,146
Claims priority, application Japan, Oct. 3, 1964 (utility model), 39/78,332; Oct. 31, 1964 (utility model), 39/85,517
Int. Cl. G11b *5/24*
U.S. Cl. 179—100.2 **2 Claims**



A magnetic head comprising a core having spaced pole tips defining a signal gap therebetween and a head tip mounted adjacent the core bridging the gap. The head tip has a width thicker than that of the recording track and on the side opposite the gap is provided with a notch formed at substantially right angles to the gap.

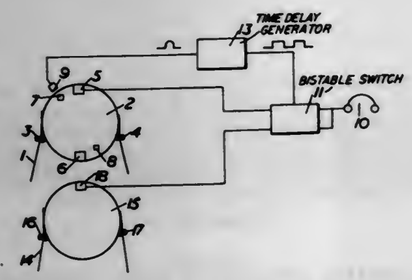
3,440,361
SELECTIVE FREQUENCY BAND COMPRESSION FOR MODULATED GROOVE SOUND RECORDING
Michael Batchelor, St. Peter, and Donald William Harley Paine, London, England, assignors to Electric & Musical Industries Limited, Hayes, England, a company of Great Britain
Filed Jan. 25, 1965, Ser. No. 427,851
Claims priority, application Great Britain, Jan. 29, 1964, 3,729/64; Oct. 10, 1964, 41,437/64
Int. Cl. G11b *3/00*
U.S. Cl. 179—100.4 **6 Claims**



This specification describes circuit arrangements for effecting compression of a sound signal for modulated groove disc recording in which the signal is divided into a number of frequency bands and the amplitude of the

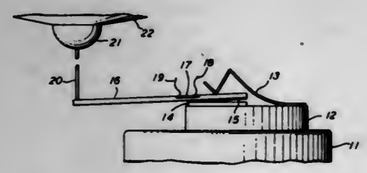
signal in the different frequency bands is separately controlled by variable gain amplifiers in response to the excess over threshold values of the groove modulation slope and curvature corresponding to the signal components in the respective frequency bands. The bandwidth of the signal components from which each control signal is derived may be the same as or greater than that of the signal controlled.

3,440,362
MAGNETIC TAPE RECORD EDITING APPARATUS
Hugh Spence Leman, George John Preston Barnes, and John Uvedale Green, London, England, assignors to International Standard Electric Corporation, New York, N.Y., a corporation of Delaware
Filed Feb. 25, 1965, Ser. No. 435,372
Claims priority, application Great Britain, Mar. 12, 1964, 10,469/64
Int. Cl. G11b *27/02, 5/06*
U.S. Cl. 179—100.2 **7 Claims**



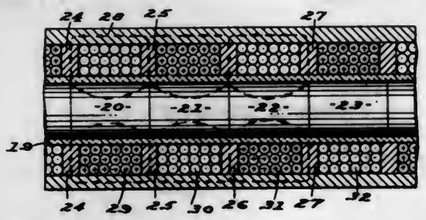
A magnetic tape record editing apparatus wherein a stationary tape is held in contact with a rotating drum and the beginning and the end of a defective portion of the tape is marked by controlling variably timed pulses which in turn control a switch having as input signals the output of a magnetic record/playback head, and either an erase signal or correct data from another tape which is to be inserted into the isolated portion of the tape.

3,440,363
SHOCK-RESISTANT MICROPHONE
Harry J. Boll, Berkeley Heights, N.J., assignor to Bell Telephone Laboratories, Incorporated, New York, N.Y., a corporation of New York
Filed Nov. 26, 1965, Ser. No. 509,887
Int. Cl. H04r *19/04*
U.S. Cl. 179—121 **8 Claims**



1. A shock-resistant electroacoustic transducer comprising, a first means for translating sound energy to mechanical energy, second means for trnaslating mechanical energy to electrical energy, third means for transmitting force from said first to said second means including a bar member having an unsupported first end and a supported second end, further including coupling means connecting said first means to said first end for transmitting force therebetween, and support means for said second end which is fixed when the force transmitted is just below that which would damage said second means, and which is resilient when the force is greater.

3,440,364
SPEAKER MAGNET HAVING CURVED PREFERRED DIRECTION OF MAGNETIZATION
Rollin J. Parker, Greenville, Mich., assignor to General Electric Company, a corporation of New York
Filed Dec. 21, 1965, Ser. No. 515,401
Int. Cl. H04r *9/02, 11/00*
U.S. Cl. 179—117 **4 Claims**



A permanent magnet has a preferred direction of magnetization along a curved path, the open ends of which intersect the side surfaces of the magnet. The magnet is particularly useful in permanent magnet speakers as it simplifies the magnetic circuit in such speakers and concentrates the magnetic flux at the air gap.

3,440,365
TELEPHONE HEADSET WITH ADJUSTABLE SPEECH TUBE
Herbert W. Bryant, Middletown, Norman C. Hazell, Freehold, and Lionel W. Mosing, Springfield, N.J., assignors to Bell Telephone Laboratories, Incorporated, New York, N.Y., a corporation of New York
Filed Nov. 4, 1965, Ser. No. 506,310
Int. Cl. H04m *1/05*
U.S. Cl. 179—156 **6 Claims**



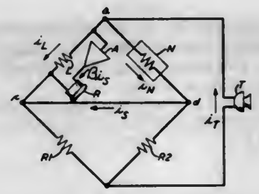
A telephone headset is disclosed consisting of a housing, containing the transmitter and receiver, a two-piece speech tube connected to the housing, and an acoustic ear insert on which the housing is mounted. The housing can rotate on the ear insert, the fitting permitting this also constituting a part of the acoustic passage between the inner ear and the receiver. The inner portion of the speech tube is rigid and swivelably mounted to the housing. The outer piece is curved and also slidable and turnable with respect to the inner portion. The geometry allows adjustment of the headset to almost any wearer's head configuration.

3,440,366
TELEPHONE SWITCHHOOK MECHANISM
John L. Samios, Hazlet, N.J., assignor to Bell Telephone Laboratories, Incorporated, New York, N.Y., a corporation of New York
Filed Jan. 4, 1966, Ser. No. 518,645
Int. Cl. H04m *1/08*
U.S. Cl. 179—164 **5 Claims**



In a telephone switchhook two springs are connected on opposite sides of the lever mechanism's pivot axis, and so anchored and biased that the net spring rate is negative. The contacts advantageously are closed with an increasing spring force, and the lever-bearing reaction can be reduced toward zero.

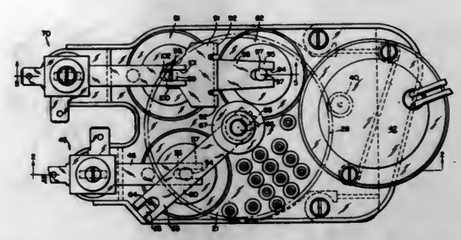
3,440,367
NONREACTIVE ANTISIDETONE NETWORK FOR A TELEPHONE SET
Roger E. Holtz, Freehold Township, Monmouth County, N.J., assignor to Bell Telephone Laboratories, Incorporated, New York, N.Y., a corporation of New York
Filed May 6, 1966, Ser. No. 548,274
Int. Cl. H04b *1/12;* **H04m** *1/19*
U.S. Cl. 179—170 **11 Claims**



A telephone station network eliminates the conventional need for reactive circuit elements by employing a circuit configuration that employs only transistors and resistive elements or diodes. Availability of adequate gain allows the use of a high impedance network to produce the desired trans-hybrid loss and results in a higher transmitting efficiency than that typically associated with an inductive antisidetone circuit.

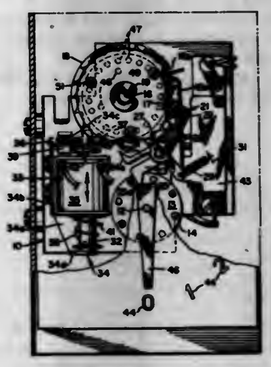
3,440,368
PROGRAMMER MEANS AND PARTS THEREFOR
Robert L. Golden, Greensburg, Pa., assignor to Robertshaw Controls Company, Richmond, Va., a corporation of Delaware
Filed Feb. 10, 1966, Ser. No. 526,483
Int. Cl. H01h *7/08, 43/10*
U.S. Cl. 200—38 **18 Claims**

This disclosure relates to a program controlling means wherein a reading sheet is moved relative to a reading head by a timer motor that is energized by an electrical switch mounted on the reading head base plate, the "on-off" shaft for the program member initially closing the electrical switch when moved to its "on" position. A pneumatically operated actuator is operated by the program member to hold the electrical switch in its "on" position after the initial staring operation of the timer motor. In addition, pneumatically operated electrical



switches are mounted on the rear side of the reading head base plate with the pneumatic actuator controlling pivotally mounted lever means that operate the electrical switches.

3,440,369
ELAPSED TIME INDICATING MECHANISM
Morton H. Wolfgang, 615 Fern St., West Hartford, Conn. 06107
Filed Nov. 14, 1966, Ser. No. 594,228
Int. Cl. H01h *3/60, 7/08, 43/10*
U.S. Cl. 200—38 **9 Claims**

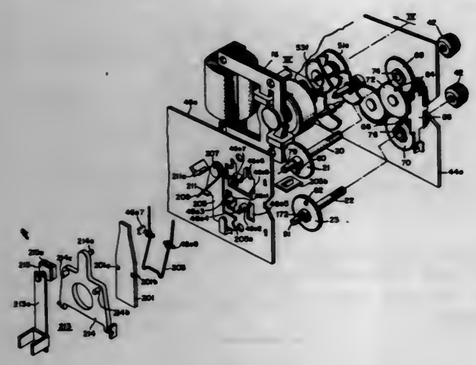


6. Elapsed time measuring apparatus comprising; a constant speed motor; a shaft connected to said motor; a sequencing member connected to said motor to be driven thereby; a detent wheel; first means for setting detent wheel to a first predetermined relative position; second means controlled by said sequencing member for controlling movement of said detent wheel to a second relative position; a switch; third means controlled by said detent wheel to actuate said switch in one sense when said detent wheel is in said first predetermined relative position and to actuate said switch in the opposite sense when said detent wheel reaches said second relative position at the end of an interval of time being measured; and an indicator connected to said shaft to indicate the time remaining before the end of the interval of time being measured.

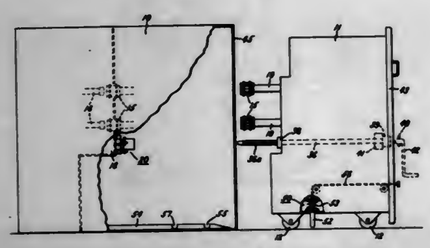
3,440,370
INTERVAL TIMER
Thomas G. Willis and Eugene C. Knecht, Raleigh, N.C., assignors to Westinghouse Electric Corporation, Pittsburgh, Pa., a corporation of Pennsylvania
Filed Jan. 30, 1967, Ser. No. 612,705
Int. Cl. H01h *7/08, 43/04, 43/10*
U.S. Cl. 200—38 **13 Claims**

Two shafts move axially to start and stop a time interval measurement. The shafts are rotatable for adjusting the

starting and stopping times. The shafts control a switch through a single-lever arrangement. On movement of a timing disc to an interval-completed position, a window in the disc releases an indicator device.



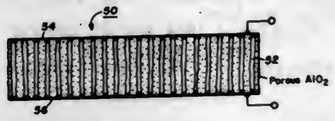
3,440,371
JACKSCREW TYPE RACKING MECHANISM FOR DRAWOUT SWITCHGEAR
Philip C. Netzel, Milmont Park, and William E. Stewart, Ardmore, Pa., assignors to General Electric Company, a corporation of New York
Filed Mar. 10, 1967, Ser. No. 622,160
Int. Cl. H01h 9/20, 33/46
U.S. Cl. 200—50 7 Claims



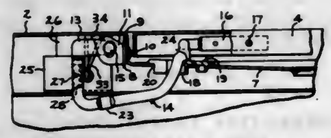
Racking mechanism for driving a movable switchgear unit into and out of a fully-inserted position inside an enclosure. Comprises a spring-mounted nut supported on the enclosure and a jackscrew disengageable from the nut and supported on the movable switchgear unit for meshing with the nut to provide racking force when the jackscrew is rotated. An additional nut positively connected to the enclosure also meshes with the jackscrew to lock the movable switchgear unit in place when in or near its fully-inserted position.

3,440,372
ALUMINUM OXIDE HUMIDITY SENSOR
Olin B. Cecil, Richardson, Tex., assignor to Texas Instruments Incorporated, Dallas, Tex., a corporation of Delaware
Filed Mar. 31, 1966, Ser. No. 539,134
Int. Cl. H01h 29/00; H01c 13/00
U.S. Cl. 200—61.04 2 Claims

1. A humidity sensor comprising a body of porous aluminum oxide having conductive electrodes on opposing faces thereof, at least one of the electrodes being pervious to water vapor whereby equilibrium can be maintained between water in the pores of the body of porous aluminum oxide and water in the atmosphere around the sensor.

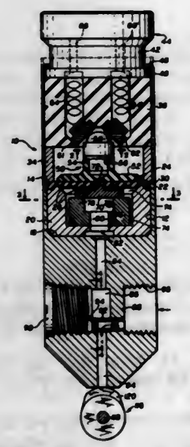


3,440,373
COMBINED HINGE AND SWITCH MECHANISM WITH PIN AND SLOT CONNECTION
George W. Blewitt, Jr., Louisville, Ky., assignor to General Electric Company, a corporation of New York
Filed Apr. 26, 1967, Ser. No. 633,941
Int. Cl. H01h 3/16
U.S. Cl. 200—61.7 7 Claims



A combined hinge and switch mechanism to operate the immediately upon the hinge switch being moved from a first position. The hinge has a pin and slot mounting which provides an initial, essentially linear movement to free the switch when the hinge member is initially moved, the switch being biased for operation when freed.

3,440,374
FLUID PRESSURE OPERATED SWITCH
George Wintriss, Carversville, Pa., assignor to Industrionics Controls, Inc., New York, N.Y., a corporation of New York
Filed Oct. 18, 1966, Ser. No. 587,547
Int. Cl. H01h 35/24, 35/34, 35/40
U.S. Cl. 200—81 7 Claims



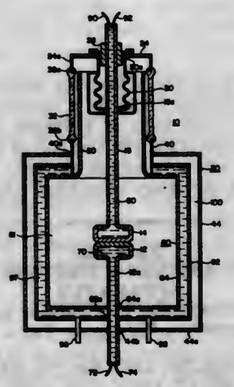
The flow responsive switch disclosed herein has a pressure chamber closed at one end by a diaphragm to which a movable contact of the switch is connected. A snap action is obtained by a magnet armature attached to the diaphragm and movable toward and from a magnet located at a relatively fixed position. A pressure chamber under the diaphragm connects with a passage through which fluid flows and the pressure of fluid in the passage varies in accordance with deflection of the flow at a passage discharge. The preferred embodiment has an aspirator in the flow passage at a location which creates a partial vacuum in the present chamber and this produces a wider variation of pressure for otherwise equal variations in the rate of fluid flow.

3,440,375
FLOAT-TYPE MERCURY SWITCH WITH STABILIZING MEANS
James P. Wood, 11005 NW. Flagler Lane, Miami, Fla. 33114
Filed Sept. 9, 1966, Ser. No. 578,329
Int. Cl. H01h 35/18, 29/04
U.S. Cl. 200—84 4 Claims



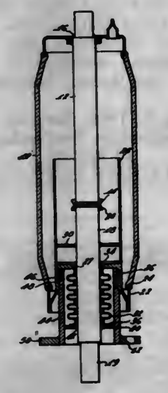
A floatable mercury switch particularly adapted for use in a ship's bilge, or the like, adjustably suspended from a support by a flexible cable; the switch being enclosed in a spherical float including opposed, antipodal stabilizing wings to maintain the switch stable despite wave movement.

3,440,376
LOW-TEMPERATURE OR SUPERCONDUCTING VACUUM CIRCUIT INTERRUPTER
Mario Rabinowitz, Menlo Park, Calif., assignor to Westinghouse Electric Corporation, Pittsburgh, Pa., a corporation of Pennsylvania
Filed Mar. 14, 1966, Ser. No. 534,239
Int. Cl. H01h 9/30, 33/66
U.S. Cl. 200—144 10 Claims



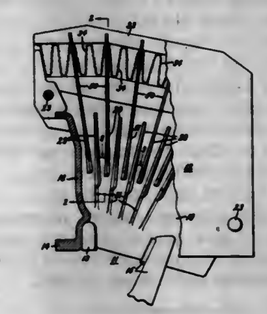
A vacuum-type circuit interrupter is provided to cool the separate contacts and/or the condensing shield to a low temperature of at least —30° C. The temperature may be even lower to provide superconducting conditions.

3,440,377
REMOVABLE SHIELD MEANS FOR VACUUM SWITCH BELLOWS
Henry J. Wesoloski, Milton, Mass., assignor to Allis-Chalmers Manufacturing Company, Milwaukee, Wis.
Filed Aug. 8, 1966, Ser. No. 571,019
Int. Cl. H01h 9/30, 33/00
U.S. Cl. 200—144 2 Claims



A vacuum interrupter comprises a cylindrical glass envelope with an opening at one end. A first cylindrical metal ring is bonded to the envelope around the opening. A second cylindrical ring, internally threaded, is secured to the first ring and extends back into the envelope. A movable contact rod extends into the envelope through the opening. A cylindrical bellows surrounds the rod and extends beyond the glass envelope and the first ring. One end of the bellows is joined to the second ring inside the envelope and to the rod outside of the envelope. An externally threaded cylindrical shield attaches to the threads on the second ring and surrounds and protects the bellows. Flanged attachment means for the vacuum interrupter are provided on the shield.

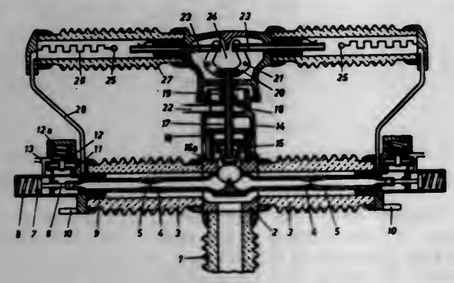
3,440,378
METAL PLATE TYPE OF ARC-EXTINGUISHING DEVICE
Leslie L. Baird, Swarthmore, Pa., assignor to General Electric Company, a corporation of New York
Filed Apr. 5, 1966, Ser. No. 540,288
Int. Cl. H01h 9/36, 33/08
U.S. Cl. 200—144 5 Claims



An arc chute comprising spaced-apart sidewalls of insulating material for enclosing the arc. Spaced-apart metal plates between the sidewalls are disposed across the path of the arc to chop the arc into series-related arclets between the plates. Each plate contains a channel that extends from its exposed edge in a direction away from the arc-initiation region. The sidewalls of each channel are located to intercept arc-liberated metal

particles projected in straight line paths from the bottom of the channel toward said insulating sidewalls. V-notches in the exposed edges of the plates direct the arc onto the plates in a location between the channel sidewalls.

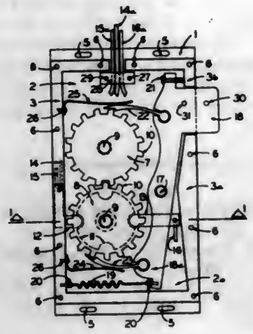
3,440,379
GAS-BLAST CIRCUIT BREAKER WITH MULTIPLE INTERRUPTION
Carl-Dieter Flöessel, Fislisbach, and Gerhard Mauthe, Neuenhof, Switzerland, assignors to Aktiengesellschaft Brown, Boveri & Cie, Baden, Switzerland, a joint-stock company
Filed Aug. 9, 1966, Ser. No. 571,290
Claims priority, application Switzerland, Sept. 6, 1965, 12,395/65
Int. Cl. H01h *33/80, 33/83*
U.S. Cl. 200—148 **4 Claims**



1. In a circuit breaker of the gas-blast type, the combination comprising at least two pairs of relatively movable power switching contact members located within a gas-pressurized main switching chamber and interconnected to establish two series connected power switching points, one of said contact members of each pair being stationary and of the nozzle tube type with its nozzle end adapted to be engaged with and disengaged from the other contact member, the other ends of said stationary nozzle tubes terminating in a common exhaust valve through which the gases in said switching chamber are exhausted to atmosphere when said contact members disengage, an auxiliary switching point for each power switching point, each said auxiliary switching point being constituted by a pair of relatively movable auxiliary contact members located within a gas-pressurized auxiliary switching chamber, one of said auxiliary contact members of each auxiliary switching point being of the tubular type with one end thereof adapted to be engaged with and disengaged from the other auxiliary contact member, a resistor connected in a series circuit with said auxiliary contact members and which series circuit is connected in parallel with the contact members of the corresponding power switching point, and means mechanically coupling said common exhaust valve with said tubular auxiliary contact members to effect simultaneous actuation thereof so that said auxiliary contact members engage when said exhaust valve is opened, said coupling means including a tubular rod having one end thereof in communication with the interior of said tubular auxiliary contact members and other end in communication with the atmosphere by way of said exhaust valve when opened.

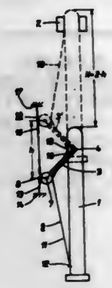
3,440,380
ELECTRICAL SWITCHES
Joseph Harasymiak, 235 Stagg Walk, Apt. 1433, Brooklyn, N.Y. 11206
Filed Dec. 28, 1966, Ser. No. 610,209
Int. Cl. H01h *43/02*
U.S. Cl. 200—156 **4 Claims**

A switch with a pivoted actuating lever rotates two toothed wheels to alternately make and break a circuit upon completion of a pre-determined number of movements of said toothed wheels. A circular conducting bridge



is concentrically attached to one of said wheels and performs the switching operation.

3,440,381
ELECTRIC SWITCH ACTUATED BY A CRANK-FLEXIBLE STRAND DEVICE
Willi Olsen, Siegfried Ochla, and Manfred Lieske, Berlin, Germany, assignors to Siemens Aktiengesellschaft, Berlin, Germany, a corporation of Germany
Filed Dec. 14, 1966, Ser. No. 601,817
Claims priority, application Germany, Dec. 15, 1965, S 10,098
Int. Cl. H01h *15/10, 17/16*
U.S. Cl. 200—163 **3 Claims**

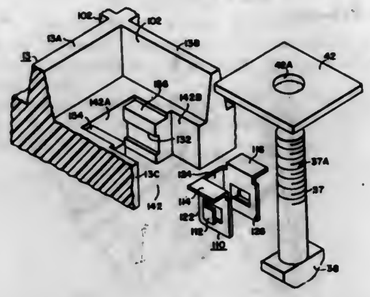


Electric switch having a movable switch member connected to an actuating crank by a connecting link transmission device in the form of a flexible strand or cable disposed around the crank pin, one end of the strand being secured to the movable switch member and the other end thereof to a stationary suspension point.

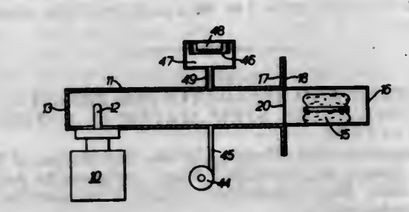
3,440,382
CONTACT ASSEMBLY FOR ELECTRICAL APPARATUS
Paul Silvius, Murraysville, Pa., assignor to Westinghouse Electric Corporation, Pittsburgh, Pa., a corporation of Pennsylvania
Filed Sept. 29, 1967, Ser. No. 671,689
Int. Cl. H01h *3/00, 9/00*
U.S. Cl. 200—166 **7 Claims**

A plurality of threaded electrical contact terminals are supported on a generally tubular housing formed from electrically insulating material and disposed to pass through a plurality of corresponding recesses in the housing which are each open at one of the axial ends of the

housing. A reinforcing member is disposed in each recess to withstand the stresses which result when a nut is tightened on each contact terminal to secure the terminal to the associated housing.



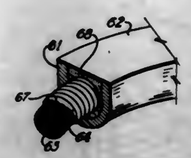
3,440,383
HEATING OF ARTICLES
Peter Harold Smith, Maidenhead, England, assignor to Microtherm Limited
Filed Nov. 4, 1966, Ser. No. 592,108
Claims priority, application Great Britain, Nov. 4, 1965, 46,842/65
Int. Cl. H05b *9/06*
U.S. Cl. 219—10.55 **8 Claims**



A microwave heating device for heating food articles has a microwave source and a waveguide connected to the source and with a normally open end adjacent the food article. The food articles are contained in individual disposable containers including a conductive sheet surrounding all but one side of each container, the latter being permeable to the microwave energy. The containers are positioned with the permeable side adjacent the open end of the waveguide, to extend the waveguide and enclose it around the food article, which serves as a load for the microwave energy. In one embodiment, a pressure sensitive device is connected to the waveguide to furnish a signal indicating when an air-tight coupling exists between the waveguide and the container.

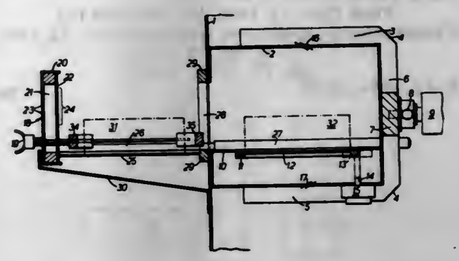
3,440,384
ELECTROMAGNETIC UNIT
Charles F. Schroeder, 2317 Valleybrook Drive, Toledo, Ohio 43615
Original application July 30, 1962, Ser. No. 241,208, now Patent No. 3,265,851, dated Aug. 9, 1966. Divided and this application Oct. 23, 1965, Ser. No. 503,739
Int. Cl. H05b *5/08, 9/00*
U.S. Cl. 219—10.49 **16 Claims**

A heating unit including a resistance heating element within a sheath of electrically conductive material, both the resistance and the sheath being electrically energizable



such that the sheath will provide a heat in addition to that provided by the resistance heating element.

3,440,385
ELECTRONIC OVENS
Peter Harold Smith, Jangada, England, assignor to Microtherm Limited
Filed Oct. 13, 1966, Ser. No. 586,429
Claims priority, application Great Britain, Oct. 13, 1965, 43,522/65; Nov. 4, 1965, 46,841/65
Int. Cl. H05b *9/06*
U.S. Cl. 219—10.55 **10 Claims**

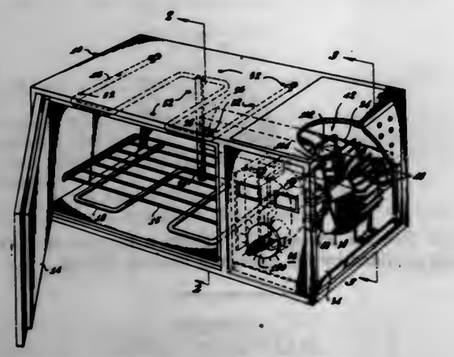


This disclosure relates to a microwave oven having a turntable for rotating a food article to be heated, and a shelf connected to the front wall of the oven. An opening in the front wall is adapted to be closed by a door which is slidable relative to the shelf. A pair of spaced apart bars are connected to the door and are adapted to move therewith between a position inside the oven and a position in which the bars are withdrawn from the oven. A food article is adapted to be moved by the bars from the shelf to the turntable, and back, during a heating operation. Air is forced past the microwave source, and into the oven in order to pressurize the oven and remove excess moisture.

3,440,386
MICROWAVE HEATING APPARATUS
Helmut Boehm, Newbury Park, Calif., assignor to Technology Instrument Corporation of California, Newbury Park, Calif., a corporation of California
Filed Nov. 21, 1966, Ser. No. 595,995
Int. Cl. H05b *9/06*
U.S. Cl. 219—10.55 **10 Claims**

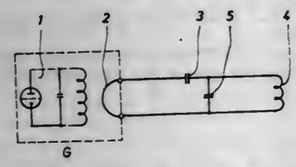
A waveguide has one opening into an oven chamber and a second opening for the output probe of a magnetron releasably attached thereto. Antenna elements in the chamber are connected to an output probe from said one opening. Adjacent said second waveguide opening, cooling means operates to cool the magnetron and direct air through the waveguide so as to force vapor in the cham-

ber out of openings in its top wall. The antenna elements can be heated by electric current, and switch means con-



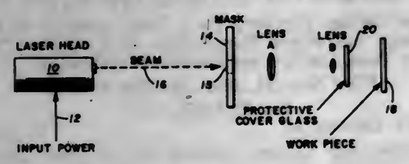
trols connections of a power supply to the magnetron and an electric current source to the elements.

3,440,387
HIGH FREQUENCY HEATING SYSTEM WITH INDUCTIVE PLASMA
Werner Gärtner, Garstadt, Germany, assignor, by mesne assignments, to U.S. Philips Corporation, New York, N.Y., a corporation of Delaware
Filed Nov. 14, 1966, Ser. No. 594,114
Claims priority, application Germany, Nov. 12, 1965, P 38,111
Int. Cl. H05b *9/06*
U.S. Cl. 219—10.75 3 Claims



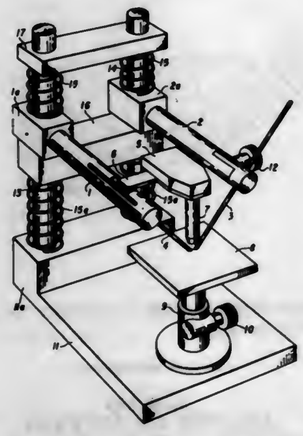
A high frequency plasma induction heating system in which ignition of the gas is produced by means of first and second capacitors that form a resonant circuit with the induction coil. The usual priming electrode of prior art systems is thereby eliminated.

3,440,388
METHOD FOR MACHINING WITH LASER BEAM
Roger S. Otstot, Raleigh, and Durwood Gene Bland and James W. Meeks, Durham, N.C., assignors to Monsanto Company, St. Louis, Mo., a corporation of Delaware
Filed Apr. 4, 1966, Ser. No. 539,885
Int. Cl. B23k *9/00, 15/00, 9/16*
U.S. Cl. 219—69 2 Claims



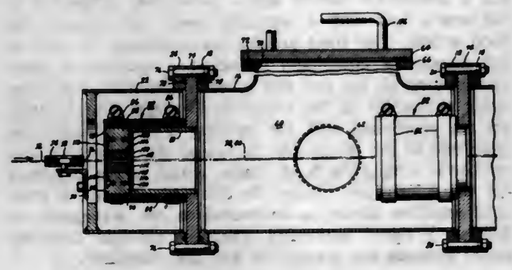
A method for drilling holes through hard, solid materials, such as steel and tungsten, with a laser includes the improvements of coating the light entrance and exit surfaces of the material with paraffin oil and silicone grease.

3,440,389
BONDING MACHINE
Lawrence L. Meyer, Houston, Tex., assignor to Texas Instruments Incorporated, Dallas, Tex., a corporation of Delaware
Filed Feb. 1, 1966, Ser. No. 524,097
Int. Cl. B23k *1/02*
U.S. Cl. 219—85 4 Claims



Disclosed is an apparatus for controlling the energy applied to the electrodes of a bonding machine by monitoring the infrared radiation from the bonding area. This apparatus comprises an infrared detector, a tuning fork means for chopping and directing the infrared radiation from the bonding area to the detector and means responsive to the output of the detector to control the amount of energy applied to the electrodes of the bonding machine.

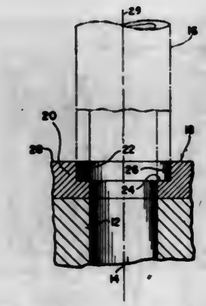
3,440,390
METHOD AND APPARATUS FOR TREATING CONTINUOUS STRIP MATERIAL UNDER VACUUM
John Engstrom McCullough, Carlisle, and Raymond William Moore, Jr., Brookline, Mass., assignors to Arthur D. Little, Inc., Cambridge, Mass., a corporation of Massachusetts
Filed Apr. 20, 1966, Ser. No. 543,901
Int. Cl. B23k *15/00*
U.S. Cl. 219—121 17 Claims



An apparatus for electron beam welding of a pair of continuous strip materials positioned in edge abutting relationship under a vacuum includes receiving and discharging assemblies through which the strip passes and each comprised of a plurality of vacuum chambers with the air pressure decreasing towards the vacuum processing chamber between the receiving and discharging assemblies. Between the adjacent vacuum chambers is a pair of split housing members providing a mounting aperture in which is disposed a pair of sealing members with resilient

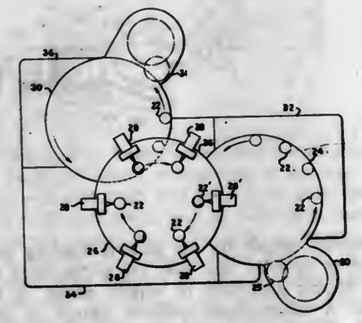
means therebetween to provide a resilient support for the sealing members. The sealing members provide an aperture therebetween for passage of the strip therethrough.

3,440,391
INTERNAL TUBE WELDING
William R. Apblett, Metuchen, N.J., assignor to Foster Wheeler Corporation, New York, N.Y., a corporation of New York
Continuation-in-part of application Ser. No. 531,953, Mar. 9, 1966. This application July 11, 1966, Ser. No. 564,211
Int. Cl. B23k *9/02*
U.S. Cl. 219—137 6 Claims



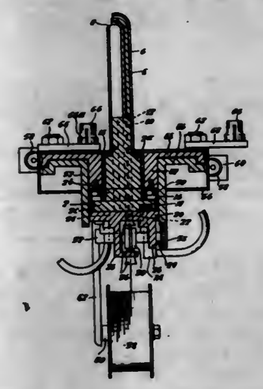
A method for welding tubes to a tube sheet including the steps of forming a hole through the tube sheet with a socket of a depth in one surface so as to leave a tube thickness approximately equal to the thickness of the tube, thereby resulting in a tube and tube sheet substantially equal weld thickness then telescoping the tube within the socket and fusion welding the tube to the tube sheet within the inside diameter of the tube and tube sheet hole along the zone of abutment of the tube end and socket base.

3,440,392
CONTAINER FABRICATION MEANS UTILIZING AN ELECTRON BEAM
Paul M. Erlandson, Palos Park, and Warren F. Howeler, Oak Lawn, Ill., assignors to Continental Can Company, Inc., New York, N.Y., a corporation of New York
Filed Dec. 2, 1964, Ser. No. 415,341
Int. Cl. B23k *9/12*; B21d *19/00*
U.S. Cl. 219—124 19 Claims



Methods and apparatus for container fabrication including electron beam welding provisions for joining container bodies with container ends. Electron beam welding devices are employed in cooperation with production container handling apparatus for serially and continually applying electron beam welding techniques in container formation. Each of the containers in advanced to a work station and an electron beam is applied to a seam portion of the container to effect a line of weld along the full length of the seam portion. The beam may be directed to impinge upon an outer overlying edge portion of either the container body or container end to provide a weld nugget which extends through the overlying portion and into an underlying portion of the container.

3,440,393
INTERNAL TUBE ARC WELDER
Leslie Henderson, Whitley Bay, Northumberland, and Leslie Hasson, Wrekenton, Gateshead, England, assignors to Clarke, Chapman & Co. Limited, Gateshead, England, a company of Great Britain and Northern Ireland
Filed Nov. 14, 1966, Ser. No. 594,136
Claims priority, application Great Britain, Nov. 15, 1965, 48,464/65
Int. Cl. B23k *9/12*
U.S. Cl. 219—125 9 Claims

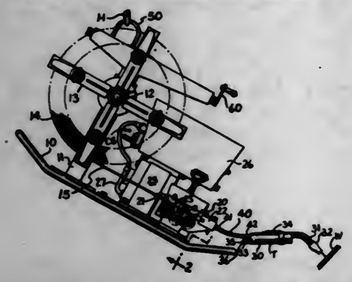


An apparatus that can be used for the internal welding of tubes to a tube place by such processes as M.I.G. or T.I.G. welding is constructed wherein in the apparatus, the welding head comprises a hollow guide that can be aligned with the tube and that is carried by a first drive ring that also carries welding wire feed means. A second drive ring coaxial with the first ring has drive means connected to the wire feed means and rotation of the two drive rings at different speed operates the feed means through the agency of said drive means.

3,440,394
ELECTRIC WELDING ASSEMBLY
Gilbert F. Meyer, Milwaukee, Wis., assignor to Machinery and Welder Corporation, Skokie, Ill., a corporation of Missouri
Filed Oct. 11, 1965, Ser. No. 494,486
Int. Cl. B23k *9/00, 9/12*
U.S. Cl. 219—130 6 Claims

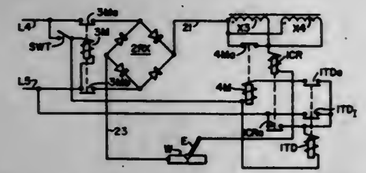
An electric welding assembly includes a frame having a reel mounted thereon for feeding welding wire in a continuous length to a torch. A drive system is mounted on the frame and a semi-flexible wire conduit is connected at one end to the drive system and is connected at its other end to the torch. A suspension eye is secured to the frame and engages a hook for pivotally maintaining the frame in an elevated position. A means is attached to the suspension eye for changing the longitudinal position of eye with respect to the frame to adjust the frame

in the elevated position and to maintain the frame in the elevated position as the welding wire is fed to the torch



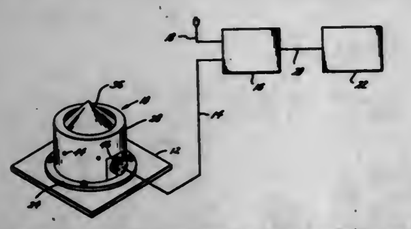
to compensate for a shift in the center of gravity of the assembly so that bending of the semi-flexible conduit is minimized.

3,440,395
ARC WELDING METHOD AND APPARATUS
Martin Rebuffoni and Edward R. Gamberg, Williamsville, N.Y., assignors to Westinghouse Electric Corporation, Pittsburgh, Pa., a corporation of Pennsylvania
Filed Mar. 9, 1965, Ser. No. 438,268
Int. Cl. B23k *9/06, 9/10*
U.S. Cl. 219—131 1 Claim



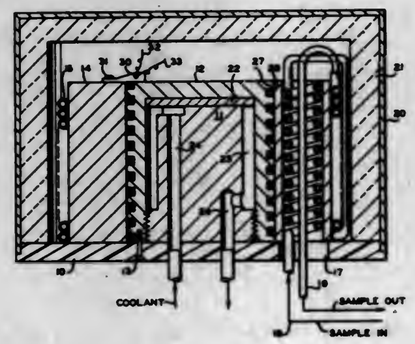
An apparatus and a method for welding with low current densities in which a substantially constant potential source of direct current energy is supplied through an inductive reactance of variable magnitude; the welding magnitude of the reactance being sufficient so that during a welding operation the increase in current caused by short circuiting of the electrode to the work will not cause spattering and of sufficient magnitude to refire the welding arc and means for reducing the magnitude of the reactance prior to the initiation of the welding arc to a sufficiently lower value to permit a substantially increased current to flow at the initiation of the arc after which the magnitude of the reactance is increased to the welding magnitude.

3,440,396
MOISTURE AND SNOW DETECTOR
George J. Greene, Jr., Shreveport, La., assignor, by mesne assignments, to UGC Industries, Inc., a corporation of Texas
Filed Nov. 22, 1965, Ser. No. 508,915
Int. Cl. H05b *1/02*
U.S. Cl. 219—201 10 Claims



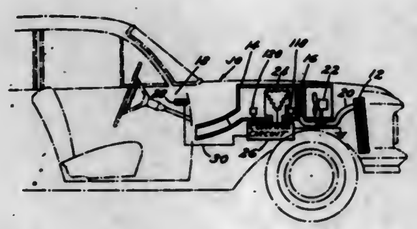
A moisture detecting device having a member with an anodized surface, a pair of leads, one lead being connected to the member and the other being in contact with the anodized surface so that wetting of the anodized surface provides an electrical connection between the leads. When used as a snow detector, a thermostat is included to activate the leads when temperatures fall to approximately 34° F.

3,440,397
TEMPERATURE CONTROLLER
Daniel M. Vesper and Harold M. Neer, Bartlesville, Okla., assignors to Phillips Petroleum Company, a corporation of Delaware
Filed Apr. 27, 1966, Ser. No. 545,743
Int. Cl. G05d *23/24*; H05b *1/02*
U.S. Cl. 219—209 10 Claims



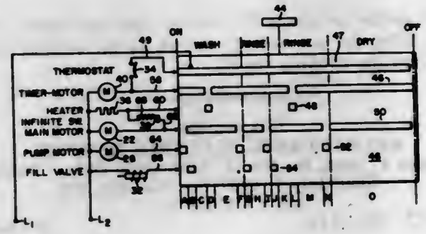
The regulation of temperature in a housing by using temperature sensitive detectors to activate a control circuit which in turn regulates the current flowing through heating elements. Heating and heat-exchange fluid circulating means are disclosed for lowering as well as raising temperature in the housing.

3,440,398
CONTROL CIRCUIT FOR AN ELECTRIC HEATING SYSTEM USED IN AUTOMOTIVE VEHICLES
Ole K. Nilssen, Livonia, Mich., assignor to Ford Motor Company, Dearborn, Mich., a corporation of Delaware
Filed Jan. 30, 1967, Ser. No. 612,453
Int. Cl. B60l *1/02*
U.S. Cl. 219—279 9 Claims



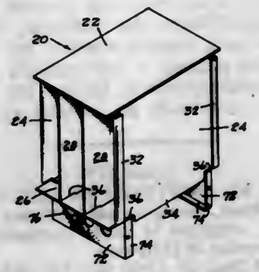
A control circuit for an electric heating system for automotive vehicles that uses the unregulated operation of an electric generator to supply power to a heating element. A temperature sensitive switch in series with a voltage regulating relay switches the generator into a regulated or a nonregulated state. In parallel with the temperature sensitive switch is a manually actuated switch that is operated by the vehicle driver to switch the temperature sensitive switch into and out of a controlling relationship with the voltage regulating relay. If desired, a thermistor can be positioned in parallel with the temperature sensitive switch to coordinate the amount of heat supplied by the electric heating element with the amount of heat supplied by the engine cooling system.

3,440,399
DOMESTIC DISHWASHER AND CONTROL
Joseph H. Reifenberg, Columbus, Ohio, assignor to Westinghouse Electric Corporation, Pittsburgh, Pa., a corporation of Pennsylvania
Filed Jan. 12, 1966, Ser. No. 520,118
Int. Cl. F24h *1/00*
U.S. Cl. 219—334 5 Claims



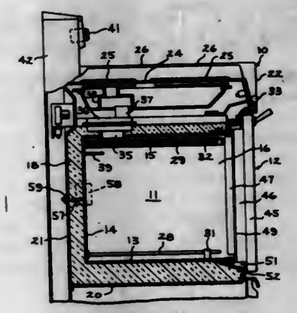
A domestic dishwasher control arrangement in which a heating element of relatively high wattage is cyclically energized during certain portions of the operating cycle to provide an effectively low wattage output, and during other portions of the operating cycle is continuously energized to provide high wattage output.

3,440,400
ELECTRIC DUCT HEATER
Louis C. Cotts, 2512 Oak St., Michigan City, Ind. 46360
Filed Sept. 27, 1966, Ser. No. 582,370
Int. Cl. H05b *3/06, 1/00, 11/00*
U.S. Cl. 219—367 9 Claims



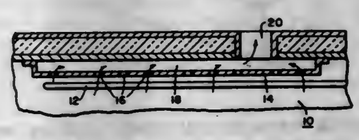
1. An electric duct heater adapted to be connected to inlet and outlet air ducts, comprising a housing having top, bottom and side walls and open at its ends for communication with said ducts, one of said walls having an aperture therein spaced from its ends, a heater carrier mounted in said housing spaced from three of the walls thereof, said carrier defining an open ended heating passage therethrough and cooperating with said housing to define a second passage, and an electric heating element secured to said carrier and positioned within said heating passage, said electric duct heater further having a plurality of carriers mounted in said housing, side by side, to provide a plurality of said heating passages, each adapted to have a heating element therein, and to independently secure each carrier to said housing.

3,440,401
THERMAL BREAKING MEANS FOR FRONT OF BAKING OVEN
Raymond L. Dills, Louisville, Ky., assignor to General Electric Company, a corporation of New York
Filed Aug. 30, 1967, Ser. No. 664,486
Int. Cl. F27d *11/00*
U.S. Cl. 219—393 8 Claims



A thermal breaking means at the front of a baking oven to reduce the conduction of heat to the outside of the oven body. The oven has a cooking cavity formed by a box-like oven liner and a front-opening access door. In order to obtain generally uniform wall temperatures for the cooking cavity, especially during a high temperature self-cleaning cycle, it is well to replenish the heat lost through and around the door. Hence, there is provided an additional heating means adjacent the front of the oven. However, it is important to hold down the operating temperature of the front walls of the oven body so that they do not become uncomfortable to the human touch. The oven liner is mounted through a front opening in the oven body, and the oven liner is provided along its front edge with an outwardly turned flange that is opposed to the peripheral edge of the front opening of the oven body. The thermal breaking means comprises a plurality of widely separated ceramic spacers strung upon a tie member that is wrapped around and fastened behind the front flange of the oven liner. Sleeves are threaded onto the tie member between adjacent spacers, and these sleeves may either be of gasket material or of expendable plastic material.

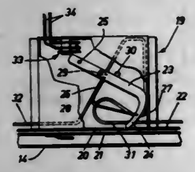
3,440,402
OVEN HEATER CONTROL
Calvin J. Holtkamp, Mansfield, Ohio, assignor to Westinghouse Electric Corporation, Pittsburgh, Pa., a corporation of Pennsylvania
Filed Mar. 4, 1966, Ser. No. 531,858
Int. Cl. F27d *11/02*; A21b *1/22*
U.S. Cl. 219—412 6 Claims



An oven heating and control arrangement in a heat cleaning oven in which the upper heater is located closely

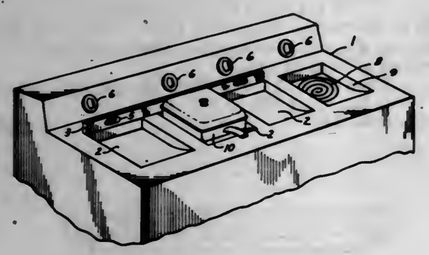
below vent openings through which gaseous products generated during the heat cleaning operation pass, the heater being cyclically energized through circuit interrupting means at a rate to maintain the heater surface temperature in a range effective to eliminate the gaseous products flowing by the heater and to provide substantially all of the heat for heat cleaning in the oven.

3,440,403
DOOR LATCHING MECHANISM
Jean-Claude René Lafforgue, St. Laurent, Quebec, Canada, assignor to Canadian General Electric Company Limited, Toronto, Ontario, Canada, a corporation of Canada
Filed Aug. 14, 1967, Ser. No. 660,465
Claims priority, application Canada, Aug. 20, 1966, 968,313
Int. Cl. F21d *11/00*; A21b *1/22*
U.S. Cl. 219—413 **7 Claims**



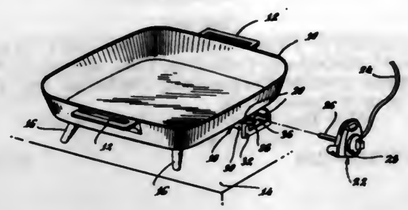
A door latch mechanism as for use with a kitchen appliance such as a self-cleaning baking oven. The mechanism includes a support means disposed in a door frame forming a door opening. A latch means is mounted on the support means for movement between door latched and door unlatched positions. A bimetallic strip has one end attached to the support means and the opposite end secured to the latch means. An electric heating element is arranged adjacent the bimetallic strip so that when it is energized the strip will move the latch means into the door latched position. An electric interlock switch means is operatively associated with the latch means so as to be actuated when the latch means is in its door latched position.

3,440,404
ELECTRIC STOVE
Norma E. Prescott, 5080 Fieldwood Drive, Houston, Tex. 77027
Filed July 20, 1967, Ser. No. 654,872
Int. Cl. F27d *11/02*
U.S. Cl. 219—432 **3 Claims**



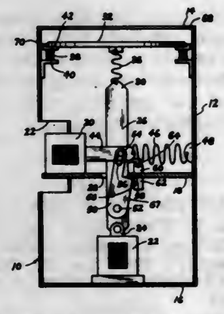
An electric stove having utensil receiving wells and electrical connections to receive electrically heated utensils and means for selectively determining the degree of heat to be attained in said utensils.

3,440,405
COOKING VESSEL PROBE EJECTOR
Glen P. Fowler, Fort Smith, Ark., assignor to General Electric Company, a corporation of New York
Filed May 19, 1967, Ser. No. 639,755
Int. Cl. F27d *11/00*
U.S. Cl. 219—441 **6 Claims**



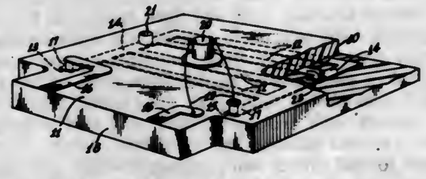
An ejector structure for use on cooking vessels, such as a skillet, for convenient removal of the control member from the cooking vessel.

3,440,406
RETRACTABLE ELECTRIC BURNER
James T. Sego, Jr., Rte. 2, Tahlequah, Okla. 74464
Filed July 5, 1967, Ser. No. 651,276
Int. Cl. H05b *3/68*
U.S. Cl. 219—444 **9 Claims**



An electric heating element for a cook stove reciprocally supported within the stove in a manner whereby the heating element is automatically elevated when electric current is applied thereto for facilitating support of and supplying heat to a cooking vessel in the usual manner, and the heating element is automatically lowered upon cessation of electric current thereto for removing the element from contact with the cooking vessel.

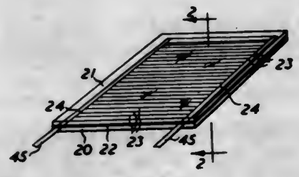
3,440,407
TEMPERATURE CONTROLLED CIRCUIT BOARDS
Costas E. Goltsos, Newton, and Anthony Amato, Bedford, Mass., assignors to Radio Corporation of America, a corporation of Delaware
Filed Dec. 29, 1966, Ser. No. 605,877
Int. Cl. H05b *1/02*
U.S. Cl. 219—494 **1 Claim**



A circuit board having a grid of resistance heating elements embedded in an insulating substrate. The heating

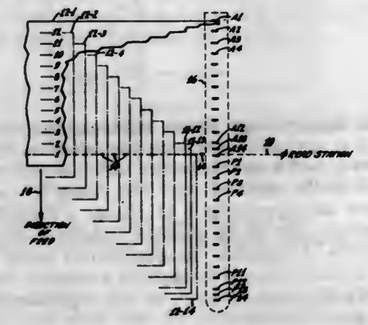
of the board can be localized by severing the grid at strategic points. A thermostat is orientated to control the temperature at selected portions of the board.

3,440,408
LAMINATED TRANSPARENT PANELS INCORPORATING HEATING WIRES
Kenneth Walter Brittan, Great Abington, near Cambridge, England, assignor to Triplex Safety Glass Company Limited, London, England, a British company
Original application July 15, 1963, Ser. No. 294,821, now Patent No. 3,378,919, dated Apr. 23, 1968. Divided and this application Oct. 10, 1967, Ser. No. 705,867
Claims priority, application Great Britain, July 16, 1962, 14,526/62
Int. Cl. H05b *3/06*
U.S. Cl. 219—522 **14 Claims**



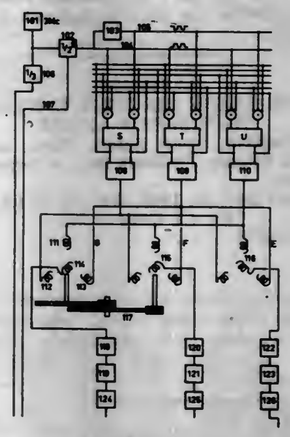
A panel consists of transparent sheets laminated together and containing heating wires extending between common feed conductors. Neither the wires nor the strips constituting the feed conductors are more than 0.003 inch thick. The wires lie against an even surface of one sheet while the feed conductor strips also lie against that surface except where they arch over the wires. The reflectivity of those parts of the wires between the strips may be reduced.

3,440,409
CARD PROCESSING APPARATUS
Murray F. Kaminsky and Gerald Spector, Philadelphia, Pa., assignors to Radio Corporation of America, a corporation of Delaware
Filed Jan. 4, 1966, Ser. No. 518,656
Int. Cl. G06k *7/01*
U.S. Cl. 235—61.11 **11 Claims**



1. In a processor for documents having M lines of data storage positions, the combination:
a transport path along which documents are fed singly in a direction transverse to the lines of data storage positions;
a row of processing elements transverse to the direction of feed for processing the documents a line at a time;
a first set of M radiation responsive means disposed along said path at different distances from said processing elements on the anterior side thereof, each of the radiation responsive means in said first set being functionally related to a different one of the M lines on a document being processed;
a second set of M corresponding radiation responsive means disposed along said path at different distances from said processing elements on the posterior side thereof;
a source of radiation for said radiation responsive means, said document passing between said source and said radiation responsive means;
each of the M radiation responsive means of the first set and the corresponding radiation responsive means of said second set being so located relative to each other and to said processing elements that both of the two corresponding radiation responsive means receive radiation from said source when the related line on the document being processed is in position to be processed by said processing elements, and with that document interrupting the radiation path to one of said two radiation responsive means when any other line on that document is in position to be processed; and
M coincidence gate means each including a separate corresponding pair of said radiation responsive means.

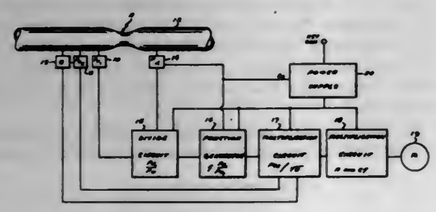
3,440,410
ARRANGEMENT FOR DIGITALLY ESTABLISHING THE POSITION OF A MOVABLE OBJECT
Rienk Pieter Offereins, Hengelo, Netherlands, assignor to N. V. Hollandse Signaalapparaten, Hengelo (Overijsel), Netherlands, a firm of the Netherlands
Filed Mar. 14, 1966, Ser. No. 534,204
Claims priority, application Netherlands, Mar. 12, 1965, 6503145
Int. Cl. G06g *7/22*
U.S. Cl. 235—92 **5 Claims**



1. Arrangement for digitally establishing the position of a movable object, provided with a system for fine reading and a system for coarse reading coupled thereto, each of these systems comprising an electronic counter that counts pulses or square-wave voltages during a time interval comprised between the moments of occurrence of two electric phenomena, the moment of occurrence of at least one of which is determined by the position to be established, wherein the counter of the coarse system and the counter of the fine system comprise at least one overlapping position, whilst after the counting opera-

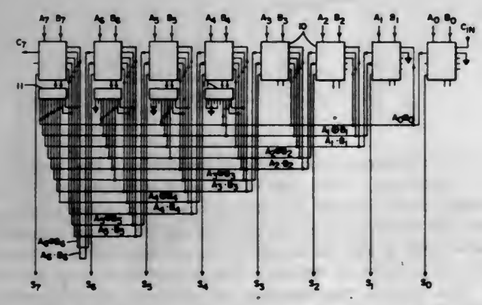
tion of these counters has been completed a programming arrangement controls the execution of a comparison of the settings reached by the overlapping parts of these counters, and if inequality has been established, also controls a correction in the adjustment of the setting of the counter of the coarse system by causing at least the non-overlapping part of this counter to step backwards or forwards.

3,440,411
GAS WEIGHT FLOW COMPUTER FOR PROVIDING THE RATIO OF TWO PRESSURES
Sam P. Ragsdale, 1125 Potter Blvd., Tullahoma, Tenn. 37388
Original application Nov. 6, 1962, Ser. No. 235,694. Divided and this application Mar. 30, 1966, Ser. No. 538,932
Int. Cl. G06g *7/57*
U.S. Cl. 235—151.34 **1 Claim**



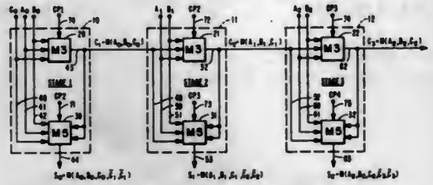
A device for providing the ratio of two pressures has a pair of substantially equal resistance elements connected in series. One resistor is connected to the movable tap on one pressure potentiometer and the other resistor is connected to the movable tap of a second pressure potentiometer. The lower end of the two potentiometers are connected at ground potential. A reference voltage is connected to the ungrounded terminal of the first potentiometer. An operational amplifier, having an infinite gain and an infinite input impedance, has its input connected to the junction between the two resistance elements and its output connected to the ungrounded end of the second potentiometer.

3,440,412
TRANSISTOR LOGIC CIRCUITS EMPLOYED IN A HIGH SPEED ADDER
John J. Kardash, South Acton, Mass., assignor to Sylvania Electric Products Inc., a corporation of Delaware
Filed Dec. 20, 1965, Ser. No. 514,928
Int. Cl. G06f *7/385*
U.S. Cl. 235—175 **9 Claims**



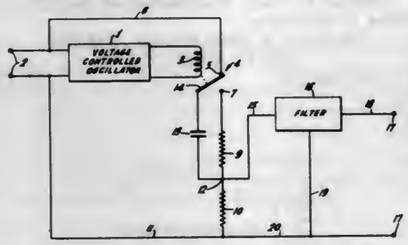
Full adder circuit amenable to fabrication as a monolithic integrated circuit network. The adder circuit receives an augend and an addend input signal and information signals related to the augend and addend signals of preceding stages, and is operable to produce a sum output signal and either independent carry signals when used as a look ahead fast carry adder stage or a dependent carry signal when used to consolidate all previous carry information.

3,440,413
MAJORITY LOGIC BINARY ADDER
Robert Betts, Vestal, N.Y., assignor to International Business Machines Corporation, Armonk, N.Y., a corporation of New York
Filed Nov. 17, 1965, Ser. No. 508,215
Int. Cl. G06f *7/385*
U.S. Cl. 235—176 **7 Claims**



A majority logic binary adder having a plurality of stages with each stage having a first majority circuit which responds to inputs A_x, B_x, and C_x and provides an output carry signal C_{x+1} to the next higher order stage, a majority circuit which responds to inputs A_x, B_x, C_x, C_{x+1}, and C_{x+1} and provides an output sum signal S_x, and means coupling the output carry signal C_{x+1} as a double input to the second majority circuit.

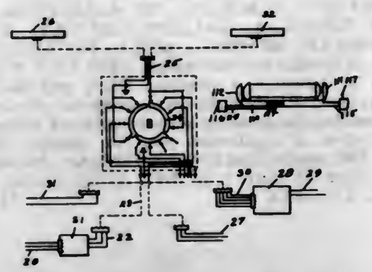
3,440,414
ANTI-LOGARITHMIC COMPUTING CIRCUIT
Robert L. Miller, Horsham, Pa., assignor to Honeywell Inc., Minneapolis, Minn., a corporation of Delaware
Filed Dec. 14, 1964, Ser. No. 417,891
Int. Cl. G06g *7/24*
U.S. Cl. 235—197 **4 Claims**



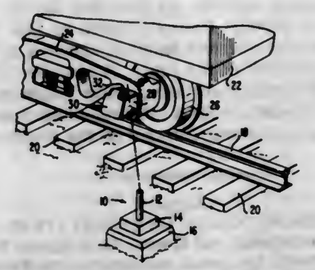
An input voltage whose anti-logarithm is to be computed is applied to a voltage controlled oscillator, which drives a switch at a frequency which is inversely proportional to the input voltage. The switch in one condition applies the input voltage to charge a capacitor through a resistor, and in its alternate condition discharges the capacitor. A capacitor charging current signal taken from the resistor is passed through an averaging filter to form an output voltage which is the anti-logarithm of the input voltage.

3,440,415
TRAILER LIGHTING ARRANGEMENT
Joseph Spiteri, Erie, Pa., assignor to Morlite Equipment Company, Girard, Pa., a corporation of Pennsylvania
Filed Dec. 5, 1966, Ser. No. 599,240
Int. Cl. B60q *3/06*
U.S. Cl. 240—7.1 **1 Claim**

A trailer arrangement having fluorescent and incandescent lamps. A switching device is provided to selectively operate the incandescent and fluorescent lamps. The incandescent and fluorescent lamps are both operated by direct or alternating current.



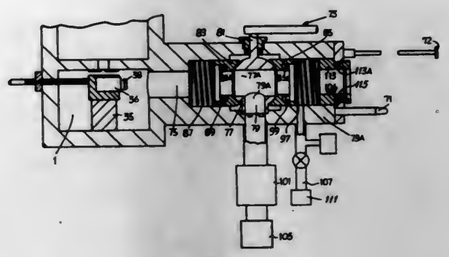
3,440,416
HOTBOX DETECTOR SYSTEM
William M. Pelino, Richmond, Va., assignor to Railtron Corporation, Richmond, Va., a corporation of Virginia
Filed Feb. 9, 1966, Ser. No. 526,129
Int. Cl. B61l *3/02*; **B61k** *9/06*
U.S. Cl. 246—169 **6 Claims**



A new means for detecting hotboxes or overheated bearings in railroad cars is disclosed herein, by means of which the temperature of the vertical face of the arch bars of the wheel trucks is detected as a greatly improved indication of overheated journals or bearings.

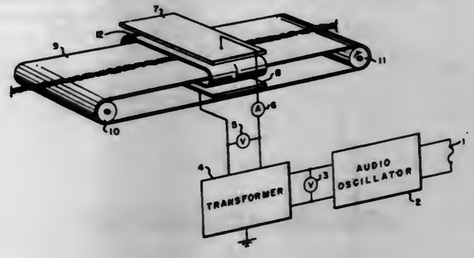
3,440,417
VACUUM LOCK SAMPLE INSERTION PROBE FOR A MASS SPECTROMETER
John Stewart Heath, Sale, England, assignor to Associated Electrical Industries Limited, London, England, a British company
Filed June 1, 1965, Ser. No. 460,392
Claims priority, application Great Britain, June 3, 1964, 23,023/64
Int. Cl. H01j *39/34*
U.S. Cl. 250—41.9 **17 Claims**

A vacuum lock shaft insertion arrangement for evacuable apparatus such as a mass spectrometer, which arrangement comprises a body part having a shaft passageway formed therethrough for reciprocal insertion and withdrawal of the shaft, a rotary valve member disposed athwart said passageway and rotatable about a transverse axis and having both a through-bore formed transversely of said axis and an axial bore extending laterally from the through-bore. The body part has an exhaust duct which remains in communication with the through bore of the valve member via the axial bore both in the passageway-opened and the passageway-closed positions of the valve. The body part also contains in the passageway, on opposite sides of the valve member, sealing members each having a sealing surface conforming to and sealingly engaging the facing surface of the valve member,



and also having a radially resilient tubular part concentrically disposed with respect to the passageway for passing the shaft and sealingly engaging it with radial resilience.

3,440,418
METHOD AND APPARATUS FOR TREATING FIBROUS MATERIALS BY EXPOSURE TO AN ELECTRICAL DISCHARGE THROUGH A MOVING DIELECTRIC
Carlo Piazza, Spartanburg, S.C., assignor to Deering Milliken Research Corporation, Spartanburg, S.C., a corporation of Delaware
Filed July 26, 1965, Ser. No. 474,878
Int. Cl. H01j *37/26*
U.S. Cl. 250—49.5 **10 Claims**

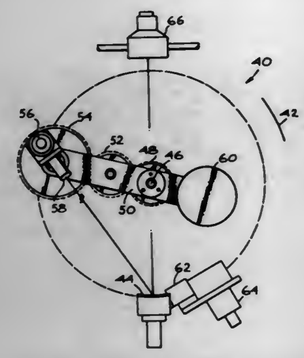


A method and apparatus for treating fibrous materials comprising exposing the materials, while shielded by a relatively moving dielectric, to an electrical discharge of about 5 to 30 kilovolts at positive pressures.

3,440,419
DUAL PURPOSE OPTICAL INSTRUMENT CAPABLE OF SIMULTANEOUSLY ACTING AS SPECTROMETER AND DIFFRACTOMETER
Kamalaksha Das Gupta, Pasadena, Calif., Herbert W. Schnopper, Ithaca, N.Y., and Albert E. Metzger, Sierra Madre, Calif., assignors to California Institute Research Foundation, Pasadena, Calif., a corporation of California
Filed Feb. 3, 1966, Ser. No. 524,746
Int. Cl. G01n *23/20*
U.S. Cl. 250—51.5 **7 Claims**

A dual purpose optical instrument capable of simultaneously acting as a spectrometer and diffractometer to

respectively perform elemental and structural analysis of an unknown sample. The diffractometer portion of the instrument employs a modified form of Seeman-Bohlin focusing which involves providing a line source of X-rays,



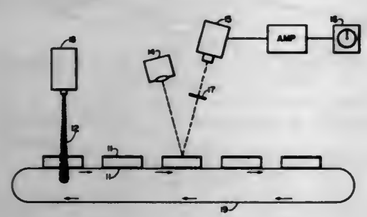
a sample, and a detector, all on the same focal circle. The spectrometer portion of the instrument employs a fixedly mounted X-ray energy detector mounted outside of the plane of the focal circle.

3,440,420

METHOD OF DETERMINING RADIATION DOSE THROUGH A PACKAGE AND DOSIMETER THEREFOR

Frank H. Attix, 2125 27th Ave., Hillcrest Heights, Md. 20031

Filed Apr. 30, 1965, Ser. No. 452,411
Int. Cl. G01t *1/02*
U.S. Cl. 250—83 9 Claims



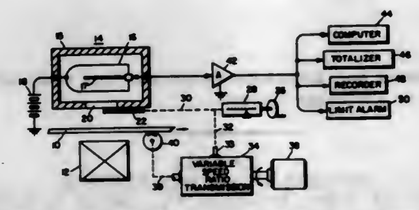
The subject matter of the present invention is directed to a radiation detection system and method for accurately determining radiation dose received by a substance subjected to a radiation source such as an electron beam from an accelerator. The items to be irradiated are placed on a conveyor belt or such similar device on which the items pass through the radiation source. Subsequent to being irradiated, the items are checked to determine the proper amount of radiation dose. Strips of material affected by a radiation source are applied to each, the upper and lower surfaces of each item, thus each dosimeter is examined on the item by an optical system in which the amount of light from a light source passing through the radiation dose material is reflected back to a detector. The reading of the detector indicates whether the item was subjected to sufficient radiation or whether too little or too much radiation was incident on the item. Each item is checked across the width and length of the upper and lower side to insure that the items have been irradiated entirely across the width and length thereof.

3,440,421

STATISTICAL SAMPLING OF A MOVING PRODUCT USING A GAUGING DEVICE WITH A VARIABLE SENSING AREA FUNCTIONALLY RELATED TO A VARIABLE PRODUCT SPEED

Walker B. Lowman, Columbus, Ohio, and Richard D. Felty, Fort Lauderdale, Fla., assignors to Industrial Nucleonics Corporation, a corporation of Ohio

Continuation of application Ser. No. 106,037, Apr. 27, 1961. This application Feb. 15, 1965, Ser. No. 436,713
Int. Cl. G01t *1/18*; H01j *39/28, 39/30*
U.S. Cl. 250—83.6 16 Claims



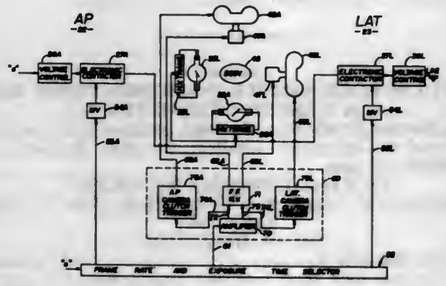
Disclosed herein is a device for statistical quality control analysis of an elongated product such as a cigarette rod. The product is transported past a beta or gamma radiation gauge having an adjustable-length gauging aperture, and coacting controls are provided for the aperture length and the product transport speed so that the ratio of the speed to the aperture length is constant for a given frequency bandwidth of the gauge. A radiation absorbing wedge may be coupled to the aperture length control so that, for a constant product, the radiation received by the detector also remains constant as the aperture length is varied.

3,440,422

BIPLANE X-RAY IMAGE SYSTEM

Jack Ball, Chesterland, and Gunter G. Wilkens, Wickliffe, Ohio, assignors, by mesne assignments, to Picker Corporation, White Plains, N.Y., a corporation of New York

Filed June 24, 1965, Ser. No. 466,725
Int. Cl. H05g *1/00*; G01n *23/04*; H01j *37/22*
U.S. Cl. 250—93 17 Claims



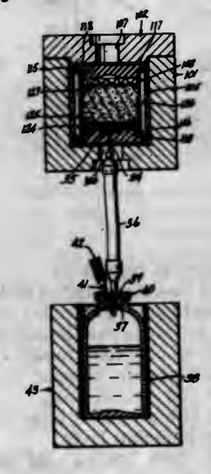
Operation of an image amplifier tube is controlled so that it operates as an electronic shutter. The tube photocathode is normally biased positively to prevent electron flow to the anode output phosphor. The image amplifier tube is turned on in synchronism with an X-ray tube. Thus, no electrons traverse the image amplifier tube except when the X-ray tube is turned on.

3,440,423

PROCESS FOR PREPARING STERILE RADIOACTIVE MATERIAL OF THE PARENT-DAUGHTER TYPE

Gerald A. Bruno, Shrewsbury, Thomas A. Haney, East Brunswick, Paul Numerof, Highland Park, and Karl Reinhardt, Milltown, N.J., assignors to E. R. Squibb & Sons, Inc., New York, N.Y., a corporation of Delaware

Continuation-in-part of application Ser. No. 540,689, Apr. 6, 1966. This application Apr. 10, 1967, Ser. No. 629,782
The portion of the term of the patent subsequent to Feb. 13, 1985, has been disclaimed and dedicated to the Public
Int. Cl. G21h *5/00*; C09k *1/28*; C01g *1/00*
U.S. Cl. 250—106 10 Claims



This invention relates to a new process for preparing sterile radioactive material and essentially entails using a closed sterile system for the preparation of radioactive material and its recovery. To achieve this a column of elutable radioactive material, closed at both ends by pierceable closures, preferably made from resilient material is maintained in a sterile condition. By use of a closed system such as one consisting of the column, a hypodermic syringe containing a sterile eluting solution, a hypodermic needle therefor, that is used to pass through the aperture in the closure and pierce the top of the column so that the solution can be introduced into the top of the column, a tube containing hypodermic needles at both ends, one needle of which is inserted into the bottom of the column and the other needle through the closure of an empty scealed vial which is also pierced by another hypodermic needle open to the atmosphere through a sterile plug of cotton, a sterile system for eluting the column and recovering the eluate containing the desired radioactive material is achieved. The preferred radioactive material contains the element Mo^{99}, yielding radioactive technetium as the eluted radioactive material.

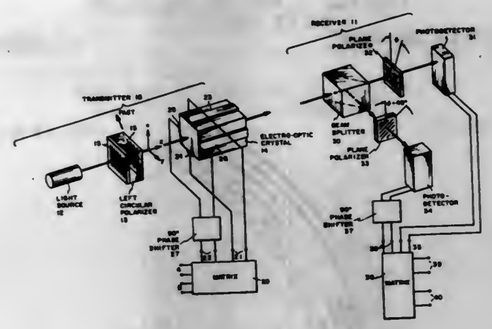
3,440,424

OPTICAL SYSTEM FOR TRANSMITTING AND RECEIVING TWO INDEPENDENT SIGNALS OVER A SINGLE ELECTROMAGNETIC CARRIER WHEREIN THE ROTATIONAL ORIENTATION OF THE RECEIVER IS INDEPENDENT OF THE ANGULAR POSITION OF THE TRANSMITTER

Carl F. Buhrer, West Hempstead, N.Y., assignor to General Telephone and Electronics Laboratories, Inc., a corporation of Delaware

Filed July 16, 1964, Ser. No. 383,126
Int. Cl. H04b *9/00*; H01s *3/00*
U.S. Cl. 250—199 3 Claims

An optical system for transmitting and receiving two independent signals wherein the rotational orientation of the receiver is independent of the angular position of the transmitter. At the transmitter, voltages proportional to the sum and difference of the signals are applied to a light modulator producing transmission of a circularly polarized carrier having sidebands circularly polarized in the opposite sense such that one signal appears as an



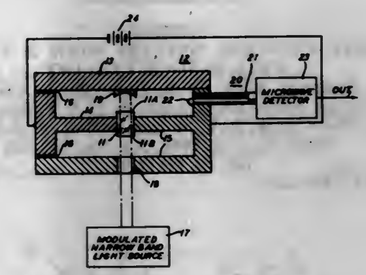
upper sideband and the other signal appears as a lower sideband. At the receiver, the beam is split into two components, the components passed through plane polarizers displaced 45° with respect to each other, and detected. The outputs of the detector are phase shifted 90° with respect to each other and applied to a sum and difference matrix which generates two output voltages corresponding respectively to the independent input signals.

3,440,425

GUNN-EFFECT DEVICES

Andrew R. Hutson, Summit, and Ping K. Tien, Chatham Township, Morris County, N.J., assignors to Bell Telephone Laboratories, Incorporated, New York, N.Y., a corporation of New York

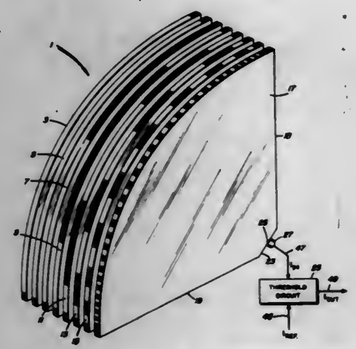
Filed Apr. 27, 1966, Ser. No. 545,756
Int. Cl. H04b *9/00*
U.S. Cl. 250—199 7 Claims



Controllable microwave oscillations are shown to be producible in negative conductance semiconductive devices biased by a near-threshold direct-current voltage and illuminated by light in a wavelength range that produces free electron energy absorption without exciting lattice vibrations. In a frequency-shifting detector a bias of about 3,000 volts per centimeter is applied to a gallium arsenide device and the amplitude-modulated illumination is converted to an amplitude-modulated microwave output that is readily detected. In two other embodiments, the microwave oscillator frequency is varied either by controlling the intensity of the illumination so that the direct-

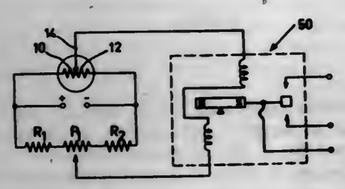
current voltage may be varied or by scanning a narrow region of illumination across the device to control its effective length.

3,440,426
SOLAR ATTITUDE ENCODER
George B. Bush, Clarksville, Md., assignor to the United States of America as represented by the Secretary of the Navy
Filed Jan. 11, 1966, Ser. No. 520,309
Int. Cl. H01j *39/12*
U.S. Cl. 250—209 19 Claims



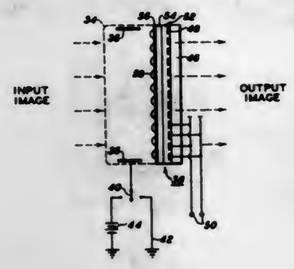
The present invention relates to apparatus for detecting the relative attitude of a satellite with respect to the sun and comprises a plurality of masked precision angle sensing elements mounted on a satellite in three mutually perpendicular planes; a plurality of solar cells each attached to one of said precision angle sensing elements for receiving cyclical illumination and for converting said illumination to electrical energy; means connected to each of said solar cells for comparing the cell outputs with a reference signal level and providing an output signal dependent upon this comparison; and a plurality of mask-coded optical sensing elements for identifying which of the said masks on said precision angle sensing elements caused a particular one of said cyclical illuminations.

3,440,427
REMOTE CONTROL SYSTEM WITH A UNITARY CELL BRIDGE CIRCUIT
Franz Kammer, Blair Athol, Queensland, Australia, assignor, by mesne assignments, to U. S. Philips Corporation, New York, N.Y., a corporation of Delaware
Filed Apr. 12, 1966, Ser. No. 542,140
Int. Cl. H01j *39/12*
U.S. Cl. 250—210 7 Claims



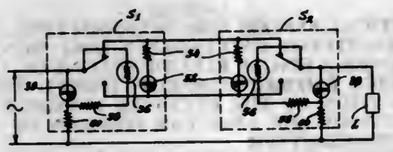
A control system for remotely operating a device, such as a television receiver, by means of a polarized light beam. The system includes a bridge circuit having at least two light-sensitive resistance arms in a unitary structure, and polarized filter means with different polarization regions aligned with the areas of the light-sensitive regions corresponding to different arms of the bridge circuit.

3,440,428
IMAGE CONVERTER USING CHARGED PHOTOEMISSIVE LAYER
Benjamin Kazan, Pasadena, Calif., assignor to Xerox Corporation, Rochester, N.Y., a corporation of New York
Filed Sept. 29, 1966, Ser. No. 582,859
Int. Cl. H01j *31/50*
U.S. Cl. 250—213 8 Claims



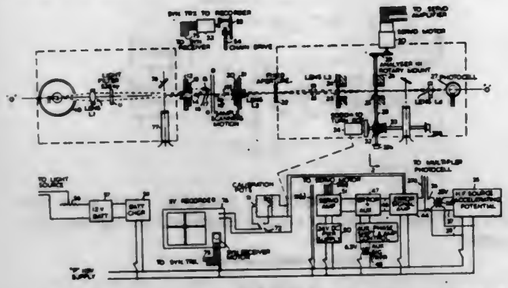
1. An image converter comprising:
(a) a transparent insulating support plate,
(b) a set of interdigital conducting transparent electrodes on the surface of said insulating support plate,
(c) a voltage source connected to said electrodes,
(d) an electroluminescent phospor layer coating said electrodes and said support plate,
(e) a field effect semiconductor layer coating said electroluminescent phosphor layer,
(f) an insulator layer coating said field effect semiconductor layer,
(g) a mosaic of photoemitting elements adjacent said insulator layer, and
(h) collector means adjacent said mosaic of photoemitting elements to attract and capture emitted electrons from said mosaic whereby said mosaic will acquire a charge pattern on exposure of said mosaic to an electromagnetic input pattern and will by its field effect on said semiconductor layer alter the local conductivity of said semiconductor to allow current flow in said electroluminescent phosphor layer causing it to emit a light pattern corresponding to said input pattern.

3,440,429
THREE-WAY SWITCH WITH PILOT LIGHT CONTROLLED BY A PHOTOCELL CIRCUIT
Robert M. Murphy, Fairfield, John W. Holland, Trumbull, and Thomas M. McDonald, Monroe, Conn., assignors to Harvey Hubbell, Incorporated, Bridgeport, Conn., a corporation of Connecticut
Filed Mar. 17, 1967, Ser. No. 623,953
Int. Cl. H01j *39/12*
U.S. Cl. 250—215 7 Claims



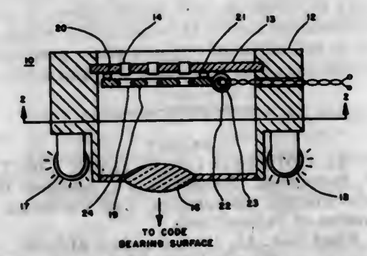
An illuminated three-way switch having a pilot light controlled by a shunting light dependent resistor connected in parallel therewith which in turn is controlled by an optically coupled trigger neon lamp responsive to the state of the load.

3,440,430
STRESS INSPECTION APPARATUS WITH SINE WAVE MODULATION OF THE PHOTOMULTIPLIER TUBE OUTPUT
Donald R. Tansley, Oshawa, Ontario, Canada, assignor to Pittsburgh Plate Glass Company, Pittsburgh, Pa.
Filed Dec. 27, 1965, Ser. No. 516,624
Int. Cl. G01n *21/30*
U.S. Cl. 250—219 3 Claims



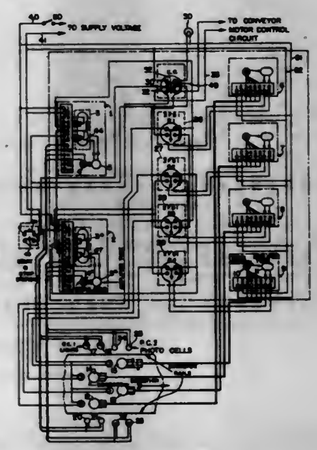
Apparatus for detecting and recording stresses and their distribution in the sheet of transparent material. The instrument consists basically of a Senarmont compensator in which the analyzer element is automatically rotated to the balanced position by means of a servo system. The system includes a servo motor adapted to drive an optical analyzer. The servo motor is responsive to the resultant of a signal produced by a photomultiplier tube which receives light passing through the analyzer, and an auxiliary signal having a frequency equal to the frequency of the error signal but having a phase opposite thereto. The servo motor responds to the resultant signal by rotating the analyzer in a direction determined by whether the error signal increases or decreases in amplitude relative to the auxiliary signal. The system is thereby capable of distinguishing between tension and compression stresses in the transparent sheet material being analyzed. The system provides for fluctuation of the multiplier phototube output by superimposing a relatively small alternating voltage on the direct current accelerating potential supplied to the multiplier phototube. The net output signal of the phototube has the same frequency as the signal superimposed on the accelerating potential and an amplitude proportional to the light incident thereon.

3,440,431
PHOTOELECTRIC CODE READING APPARATUS HAVING AUXILIARY LIGHT SOURCE FOR BIAS AND INCLUDING EDGE ILLUMINATED PLATE
Frank N. Cicchiello, Norristown, Pa., assignor to General Atronics Corporation, Wyndmoor, Pa., a corporation of Pennsylvania
Filed July 1, 1966, Ser. No. 562,377
Int. Cl. G01n *21/30*
U.S. Cl. 250—219 10 Claims



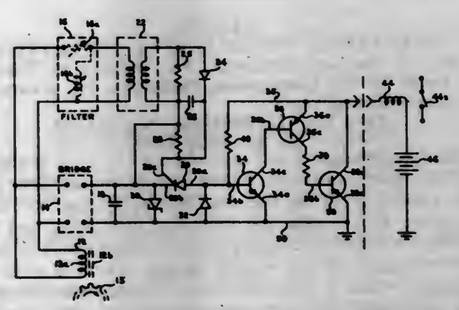
Photoelectric code reading apparatus employing photosensitive elements to sense the passage of code markings is equipped with two separate sources of illumination. One source illuminates the code markings and, through light reflected therefrom, the photosensitive elements. The other, much weaker source, illuminates the photosensitive element directly, without relying on reflection from the code markings. The spectral characteristics of the sources are also different.

3,440,432
MISSING BOTTLE DETECTOR
Luther E. Justis, Ellicott City, Md., assignor to Carling Brewing Company Incorporated, Cleveland, Ohio, a corporation of Virginia
Filed Sept. 17, 1965, Ser. No. 488,143
Int. Cl. H01j *39/12*; G06m *5/10*
U.S. Cl. 250—223 6 Claims



Apparatus for detecting a missing capped bottle or a missing bottle cap in a longitudinally extending row of bottles in a carrier case is disclosed. Photoelectric means are used to sense the presence of cases moved along a fixed path and sensor heads and associated electrical control means are connected to the photoelectric means whereby when a sensor head detects a missing bottle or bottle cap, the main drive circuit for moving the cases in the fixed path can be interrupted.

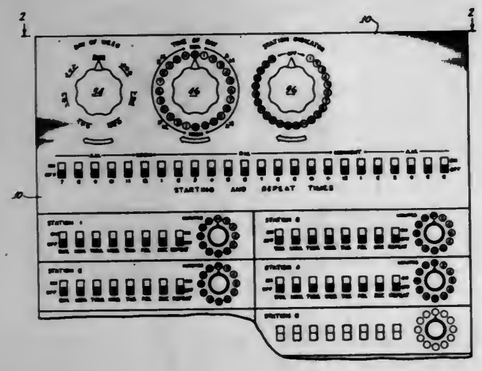
3,440,433
AIRCRAFT STARTER CONTROL
William E. Coman, Newport, N.Y., assignor to The Bendix Corporation, a corporation of Delaware
Filed May 19, 1966, Ser. No. 551,371
Int. Cl. H02p *9/04*
U.S. Cl. 290—38 10 Claims



An aircraft starter control employing a solid state switching device and a magnetic pick-up which has both

a power and a frequency output. When the frequency output reaches a predetermined level, indicative of engine start, the signal is passed through a filter to close a circuit and establish a command signal to turn off the starter.

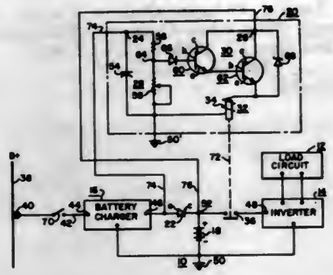
3,440,434
APPARATUS FOR PROGRAMMING CYCLIC ACTUATION OF VALVES
Harry D. Yates, North Hollywood, and Calvin A. Lieding, Glendora, Calif., assignors to Griswold Controls, Santa Ana, Calif., a corporation of California
Continuation of application Ser. No. 460,007, June 1, 1965. This application Feb. 26, 1968, Ser. No. 708,429
Int. Cl. H02j *1/00, 3/00, 3/14*
U.S. Cl. 307—41 **11 Claims**



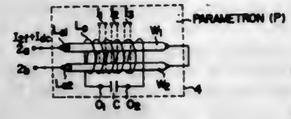
An automatic valve control apparatus for programming the cyclic actuation of a plurality of valves includes a control station for each valve each control station having a plurality of manually operable "day" switches corresponding to the day of the week for selecting the days of the week on which the associated valve is to be actuated, a manually operable "time interval" switch for selecting any of a plurality of time intervals for which the valve is to remain actuated and a manually operable "repeat" switch for selecting whether or not the valve is to be actuated during the repeat cycles on the same day. Associated with the control stations as a group is a set of manually operable "start and repeat time" switches corresponding to the hours of the day. An automatic control means responsive to the manual settings of the "day," "time interval" and "repeat" switches of each control station and to the manual settings of the "start and repeat time" switches cyclically actuates the associated valves in accordance with the program set with the switches.

3,440,435
ELECTRICAL POWER SUPPLY APPARATUS
Terry D. Sanders, Pittsburgh, Pa., assignor to Westinghouse Electric Corporation, Pittsburgh, Pa., a corporation of Pennsylvania
Filed Dec. 12, 1966, Ser. No. 601,186
Int. Cl. H02j *9/00*
U.S. Cl. 307—66 **8 Claims**

This invention relates to new and improved power supply apparatus for the electrical lighting systems on transit vehicles, and to new and improved time delay and low voltage recognition circuitry for such apparatus. The main power supply for the vehicle lighting system is a battery charger, which is connected to the lighting system through an asymmetrically conductive device and the normally open contacts of an electromagnetic switching device. A time delay circuit is connected across the electrodes of the asymmetrically conductive device, which allows the battery to supply electrical energy to the lighting system for a predetermined period of time after the battery charger ceases to supply electrical energy for this purpose.



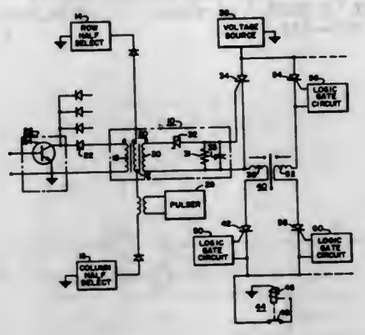
3,440,436
PARAMETRON USING HOLLOW TUBULAR FERROMAGNETIC THIN FILM CORES
Shintaro Oshima, Musashino-shi, Tokyo-to, Tetsusaburo Kamibayashi, Shinza-machi, Kitaadachi-gun, and Kitsutaro Amano, Sagamihara-shi, Japan, assignors to Kokusai Denshin Denwa Kabushiki Kaisha, Tokyo-to, Japan, a joint-stock company of Japan
Filed Apr. 12, 1966, Ser. No. 541,999
Claims priority, application Japan, Apr. 12, 1965, 40/21,210; Apr. 26, 1965, 40/24,296
Int. Cl. H03k *3/47*
U.S. Cl. 307—88 **10 Claims**



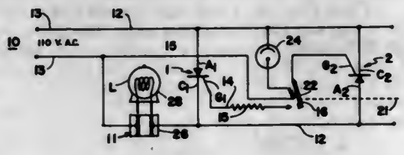
1. A parametron element, comprising: a pair of hollow tubular thin films of high permeability material arranged in parallel each having an easy direction of magnetization; a pair of first conductors each threaded through said hollow films; a second conductor consisting of a winding wound on said hollow films; tuning means connected to the second conductor to form a parallel resonance circuit having a resonance frequency f_0; means for passing an energizing alternating current having a frequency substantially equal to $2f_0$ through the first conductors in reverse direction to each other, thereby to cause voltages of the frequency $2f_0$ induced in the second conductor by the energizing alternating current flowing through the first conductors to nullify each other in the resonance circuit; input means for applying to the resonance circuit at least one information signal having the frequency f_0 and either of opposite phase positions in accordance with binary information; and output means for deriving from the resonance circuit an output signal which has the frequency f_0 and either of opposite phase positions in accordance with the phase position of the information signal.

3,440,437
SIGNAL COUPLED LOGIC GATE CIRCUIT
James F. Sutherland, Pittsburgh, Pa., assignor to Westinghouse Electric Corporation, East Pittsburgh, Pa., a corporation of Pennsylvania
Filed Nov. 12, 1964, Ser. No. 410,640
Int. Cl. H03k *19/00*
U.S. Cl. 307—88 **3 Claims**

There is disclosed computer signal control apparatus, including a signal coupled logic gate circuit including a pulse transformer having a plurality of coupled windings, with one such winding having a selected one of a high impedance or a low impedance to determine the effective coupling between two other windings for controlling an output signal.



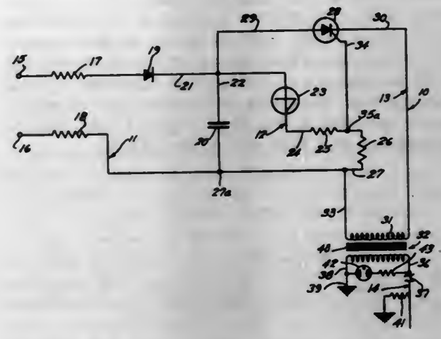
3,440,438
SEMICONDUCTOR CONTROLLED RECTIFIER CURRENT CONTROL
Donald E. Bull, Northlake, Ill., assignor to Webcor, Inc., Chicago, Ill., a corporation of Illinois
Filed Nov. 17, 1965, Ser. No. 508,309
Int. Cl. H01h *19/64, 31/10*
U.S. Cl. 307—113 **4 Claims**



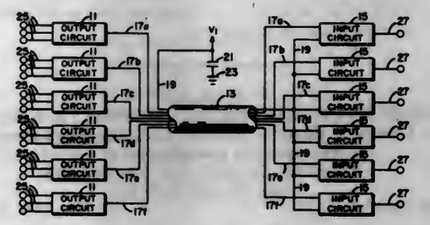
A forward connected semiconductor controlled rectifier has its cathode junction forward biased by the saturation reverse current of a reverse biased semiconductor controlled rectifier across a source of alternating potential in circuit parallel with a mechanical switch employed, when desired, to close last in the circuit for a large current and the circuit is opened by the semiconductor controlled rectifiers before the mechanical switch is opened.

3,440,439
TIME CONTROL FENCE CHARGER
William M. Nellis, St. Paul, Minn., assignor to International Electric Fence Co., Inc., Albert Lea, Minn., a corporation of Washington
Filed Mar. 16, 1966, Ser. No. 534,708
Int. Cl. H01h *51/34*
U.S. Cl. 307—132 **3 Claims**

A time control fence charger circuit including a DC supply means and an SCR for delivering pulses through a transformer to a fence. The SCR has a control circuit which includes a four-layer diode coupled to the gate thereof. A capacitor is coupled across the input circuit and is charged and discharged according to the breakdown loads of the four-layer diode thereby delivering the pulse input which is coupled thereto.



3,440,440
INPUT-OUTPUT CIRCUIT
LeRoy A. Prohofsky, Minneapolis, and Peter R. Tierney, Bloomington, Minn., assignors to Sperry Rand Corporation, New York, N.Y., a corporation of Delaware
Filed Apr. 29, 1966, Ser. No. 546,314
Int. Cl. H03k *19/08, 19/12*
U.S. Cl. 307—208 **6 Claims**



1. An electrical signal cable transmission apparatus comprising:
- a transmission cable including a bias wire and a plurality of signal wires each having first and second ends;
- a plurality of output circuits;
- the first end of each of said signal wires connected to one of said output circuits;
- the first end of said bias wire adapted for connection to a source of bias voltage;
- a plurality of input circuits;
- the second end of each of said signal wires connected to one of said plurality of input circuits; and
- the second end of said bias wire connected to all of said plurality of input circuits.

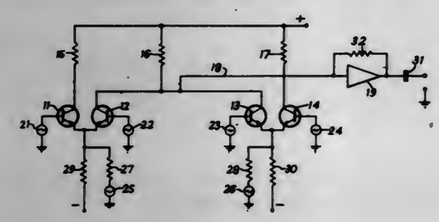
3,440,441
MULTIPLICATIVE MODULATORS
Anthony J. Ley, Farnborough, England, assignor to The Solartron Electronic Group Limited, Farnborough, England, a corporation of the United Kingdom
Filed Mar. 1, 1966, Ser. No. 530,949
Claims priority, application Great Britain, Mar. 11, 1965, 10,420/65
Int. Cl. G06g *7/16*
U.S. Cl. 307—229 **9 Claims**

1. Apparatus for producing a voltage the arithmetic representation of which is proportional in magnitude to the product of arithmetic representations of two input signal voltages comprising the combination of

a first pair of transistors connected in a common emitter pair circuit, each transistor of said pair having a base electrode, an emittter electrode and a collector electrode, the emitter electrodes of said first pair of transistors being connected together;

a second pair of transistors connected in a common emitter pair circuit, each transistor of said second pair having a base electrode, an emitter electrode and a collector electrode, said emitter electrode of said second pair of transistors being connected together;

means for applying a first input signal to the emitter electrodes of said first pair of transistors;



means for applying said first input signal in inverted form to the emitter electrodes of said second pair of transistors;

means for applying a second signal to the base electrodes of one transistor from each of said pairs;

means for applying said second signal in inverted form to the base electrodes of the remaining transistors of said first and second pairs; and

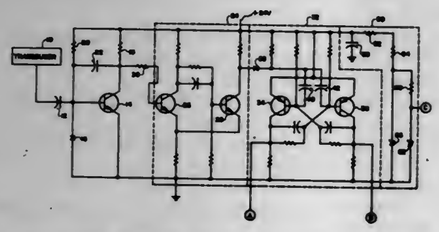
output circuit means coupled to the collector electrodes of two of said transistors each of which constitutes one of the transistors of a different one of said pairs of transistors.

3,440,442

FREQUENCY THRESHOLD SENSITIVE CIRCUIT

George J. Ehni III, Dallas, Tex., assignor to Beta Corporation, a corporation of Texas

Filed Oct. 7, 1965, Ser. No. 493,695
Int. Cl. H03k *5/20*
U.S. Cl. 307—233 5 Claims



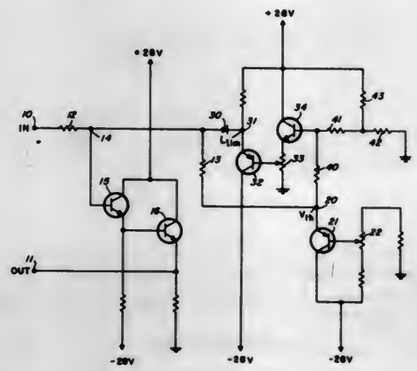
A frequency threshold sensitive circuit including a bistable circuit which generates first and second series of signals, each having a frequency which is a function of the frequency of the input signal, a monostable circuit which generates a third signal of a duration not greater than a period of a threshold frequency in response to signals from the first series of signals, an "AND" gate responsive to coincidence between the third signal and signals of the second series for providing an output signal indicating that the frequency of the input signals has become equal to a threshold frequency in combination with a pair of silicon controlled rectifiers, one of which is switched on when the "AND" gate provides an output and the other of which is switched on in the absence of an output from the "AND" gate subsequent to the first silicon controlled rectifier being switched on.

3,440,443

THRESHOLD AND LIMITING CIRCUIT WITH AUTOMATIC LEVEL CONTROL

Alfred E. Popodi, Glen Burnie, Md., assignor, by mesne assignments, to the United States of America as represented by the Secretary of the Navy

Filed Feb. 5, 1965, Ser. No. 430,782
Int. Cl. H03k *5/08*; G06g *7/12*; H03b *3/02*
U.S. Cl. 307—235 2 Claims



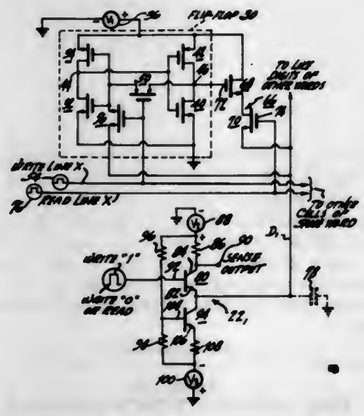
To pass video signals above a "threshold" voltage and below a "limiting" voltage, controls of the two voltages are interconnected to keep nearly constant the ratio of the two voltages.

3,440,444

DRIVER-SENSE CIRCUIT ARRANGEMENT

Adolph Karl Rapp, Princeton, N.J., assignor to Radio Corporation of America, a corporation of Delaware

Filed Dec. 30, 1965, Ser. No. 517,701
Int. Cl. H03k *19/08, 19/22, 19/30*
U.S. Cl. 307—238 10 Claims



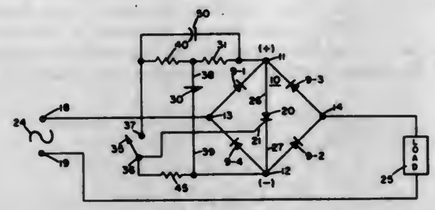
A driver-sense arrangement for a storage cell. A common input-sense line is coupled to the input point of the cell and is also coupled to the conduction path of a coincidence gate, the impedance of which is controlled jointly by the output of the cell and by a control signal. A low impedance current sensor is coupled to the line for sensing the output of the cell via the gate.

3,440,445

CIRCUIT FOR SUBSTANTIALLY ELIMINATING RADIO FREQUENCY INTERFERENCE

Henry J. Kusa, Cleveland, Ohio, assignor to Clevite Corporation, a corporation of Ohio

Filed Apr. 25, 1966, Ser. No. 545,158
Int. Cl. H03k *17/16, 17/74*
U.S. Cl. 307—252 7 Claims



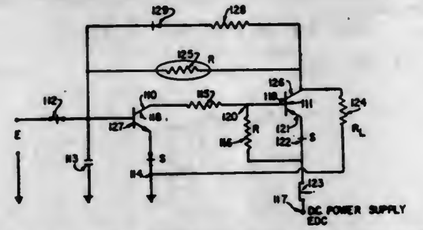
3. A system for controlling RFI when turning on and off an alternating current circuit from a two-line power source to a load, comprising, a full wave rectifier bridge having DC and AC terminals, the DC terminals being plus and minus, a controlled rectifier having a gate connected across the DC terminals of said bridge, the AC terminals of said bridge being connected in one of said lines between said power source and said load, a four-layer diode connected across the DC terminals of said bridge, first resistor means connected between said four-layer diode and the plus DC terminal of said bridge to limit current through said four-layer diode, circuit means connected across said controlled rectifier including switch means one terminal of which is connected to the gate of said controlled rectifier, and another terminal of which is connected to the plus DC terminal of said bridge.

3,440,446

COMPLEMENTARY-TRANSISTOR LOW-LEVEL TEMPERATURE-STABILIZED REGENERATIVE SWITCH CIRCUIT UTILIZING STABISTOR INVERSE BIAS

John W. Higginbotham, Bel Air, Md., assignor to Martin-Marietta Corporation, a corporation of Maryland

Application May 15, 1963, Ser. No. 280,643, now Patent No. 3,214,678, dated Oct. 26, 1965, which is a division of application Ser. No. 756,920, now Patent No. 3,105,198, dated Aug. 25, 1958. Divided and this application Mar. 24, 1965, Ser. No. 449,914
Int. Cl. H03k *17/14, 17/60*
U.S. Cl. 307—255 4 Claims



1. A regenerative switching circuit stabilized against temperature effects comprising a first transistor having a base, an emitter, and a collector electrode, a first input circuit means for said first transistor connected to apply an input switching signal between said base and emitter electrodes, a first output circuit means for said first transistor including a first load resistor and a D.C. power source connected to derive an output signal from said collector electrode, a second transistor complementary to said first transistor and having a base, an emitter, and a collector electrode, a second input circuit means connected across the base and emitter electrodes of said second transistor and to the collector electrode of said first transistor to be responsive to the output signal therefrom, a second output circuit means for said second transistor including a second load resistor connected to derive an output signal from the collector electrode of said second transistor, a feedback network including a feedback resistive element connecting the collector electrode of said second transistor to the said first input circuit to make the said first transistor responsive to the output signal from said second transistor thereby to regeneratively produce an output voltage across said second load resistor in response to the input switching signal at said first input circuit, and inverse biasing networks for stabilizing the operation of each of said transistors with variations in temperature, a separate one of said inverse biasing networks being connected in series circuit relation between the base and emitter electrodes of each said transistor and including a resistive element S connected to said emitter electrode, the value of said resistive element R being preselected to make the term defined by $I_{CL}(RR_1+R_1r_b+Rr_b)$ substantially equal to or smaller than the term $E_B(R_1+R)$ at a given upper operating temperature for the said transistor associated therewith,

where:

I_{CL}=the collector leakage current of said transistor,

R_1=the resistance of the input circuit means of said transistor,

r_b=the base resistance of said transistor, and

E_B=the D.C. voltage developed across the emitter to base and the stabistor element S of said transistor,

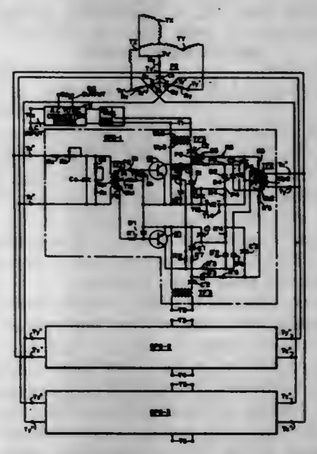
the resistive element R for said first transistor including the said load resistor of said second transistor and the said feedback resistive element, and the resistive element R for said second transistor including the load resistor of said first transistor.

3,440,447

GATE PULSE GENERATOR

Robert E. Hull, Amherst, and Loren F. Stringer, Clarence, N.Y., assignors to Westinghouse Electric Corporation, Pittsburgh, Pa., a corporation of Pennsylvania

Filed Jan. 3, 1966, Ser. No. 518,325
Int. Cl. H03k *5/153*
U.S. Cl. 307—261 6 Claims



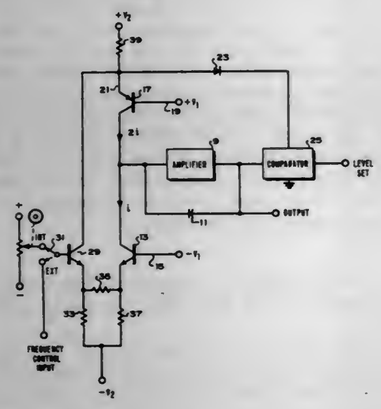
Gate pulse generating circuits are disclosed wherein gating pulses having predetermined characteristics are generated in response with alternating input signals after a predetermined time delay as determined by a control signal input. With polyphase alternating input signals being utilized, gating pulses are developed at predetermined timed intervals.

3,440,448

GENERATOR FOR PRODUCING SYMMETRICAL TRIANGULAR WAVES OF VARIABLE REPETITION RATE

Robert L. Dudley, Loveland, Colo., assignor to Hewlett-Packard Company, Palo Alto, Calif., a corporation of California

Filed Nov. 1, 1965, Ser. No. 505,796
Int. Cl. H03k *1/10*
U.S. Cl. 307—271 5 Claims



A waveform generator for producing symmetrical triangular waves of variable repetition rate includes an integrator circuit connected to receive the currents from a pair of current sources which are switched at set levels of amplitude of the generated triangular wave. The repetition rate of the triangular waveform is varied by altering the amplitude of both current sources in a fixed ratio.

3,440,449

GATED DC COUPLED J–K FLIP-FLOP

Ury Priel, Phoenix, and Walter C. Seelbach and Ronald L. Treadway, Scottsdale, Ariz., assignors to Motorola, Inc., Franklin Park, Ill., a corporation of Illinois

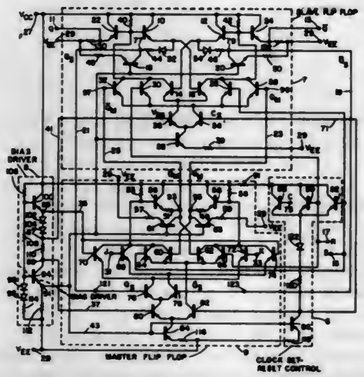
Filed Dec. 7, 1966, Ser. No. 599,948
Int. Cl. H03k *3/286*
U.S. Cl. 307—291 16 Claims

1. A DC coupled J–K flip-flop including in combination:

(a) a slave bistable flip-flop portion having an internal bistable switching element and first and second inputs coupled thereto for receiving binary logic information capable of changing the conductive state of the flip-flop, said slave flip-flop portion further including first and second control terminals which alternately exist at high and low logical levels depending upon the conductive state of the flip-flop,

(b) a master bistable flip-flop portion having an internal bistable switching element and first and second input terminals coupled thereto, said last named first and second input terminals also connected respectively to the first and second control terminals of the slave portion of the flip-flop for receiving therefrom binary logic information for controlling the conductive state of the master bistable flip-flop portion, said master bistable flip-flop portion further having first and second output terminals which are connected respectively to said first and second input terminals of the slave portion of the flip-flop and which exist alternately at high and low logical levels depending upon the conductive state of the master portion of the flip-flop, and

(c) clocking means coupled to the internal bistable switching elements of the slave and master flip-flop portions and connectable to a source of clock signals for holding said master portion of the flip-flop in a fixed conductive state and for enabling the conductive state of the slave portion of the flip-flop to be freely changed by binary signals applied thereto when clock signals are at a first predetermined logical level, said clocking means enabling the binary logic levels at the first and second control terminals of the slave portion of the flip-flop to control the conductive state of the master portion of the flip-flop only when clock



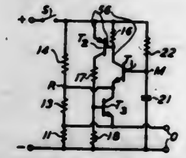
signals applied thereto are shifted to a second predetermined logical level, said clocking means holding said slave portion of said flip-flop in a fixed conductive state and simultaneously enabling J and K binary information to be shifted into the master portion of the flip-flop and change the conductive state thereof when said clock signals are at said second predetermined logical level, said binary logical levels existing at the first and second output terminals of the master portion of the flip-flop thereafter being shifted into the slave portion of said flip-flop to change the conductive state thereof when said clock signals return to said first predetermined logical level.

3,440,450

ELECTRONIC TIMER

William C. Broekhuysen, New York, N.Y., assignor to G-V Controls Inc., Livingston, N.J., a corporation of New Jersey

Filed July 28, 1965, Ser. No. 475,436
Int. Cl. H03k *17/26*
U.S. Cl. 307—293 9 Claims



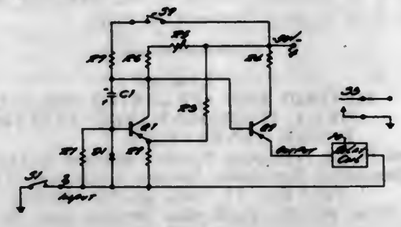
The base-emitter path of a sensing transistor is connected between the ratio and timing junctions of a bridge whose terminals are connectible with a unidirectional current source, and the transistor collector is connected with one bridge terminal. Variable-impedance means, connected between the transistor emitter and the other bridge terminal and including a normally open electronic switch, are effective when that switch is closed to reduce the impedance to total emitter current lying between the emitter and that other terminal, and that switch is closed in response to the flow of collector current in the transistor.

3,440,451

TIME DELAY CIRCUIT

Steven Honig, Milan, Tenn., assignor to International Telephone and Telegraph Corporation, New York, N.Y., a corporation of Maryland

Filed Oct. 12, 1965, Ser. No. 495,292
Int. Cl. H03k *17/28, 17/26*
U.S. Cl. 307—293 4 Claims



1. A time delay circuit comprising

a resistor, a capacitor and a first transistor coupled together between a voltage supply and a switch, said transistor having a base, a collector and an emitter terminal,

means connecting said base terminal to said switch,

means connecting said collector terminal and said base terminal to separate terminals of said capacitor,

means connecting said resistor between said collector terminal and said voltage supply,

a second transistor having a base terminal and a collector terminal,

means connecting the collector terminal of said first transistor to the base terminal of said second transistor, and

a relay coil connected between the emitter terminal of said second transistor and the switch,

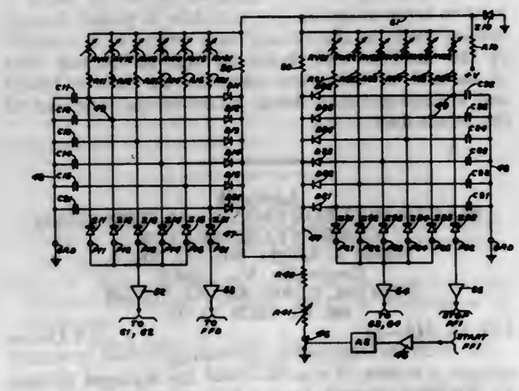
whereby the first transistor functions to multiply the delay time inherent in the combination of the resistor and the capacitor by a magnitude proportional to the current gain of the first transistor, and the second transistor functions to isolate a signal applied to its input terminal from the signal appearing on its output terminal.

3,440,452

TIMING CIRCUIT

Guenter J. Boehm, Emerson, N.J., assignor to International Telephone and Telegraph Corporation, Nutley, N.J., a corporation of Maryland

Filed Oct. 31, 1966, Ser. No. 590,595
Int. Cl. H03k *17/26, 17/28, 19/08*
U.S. Cl. 307—294 6 Claims



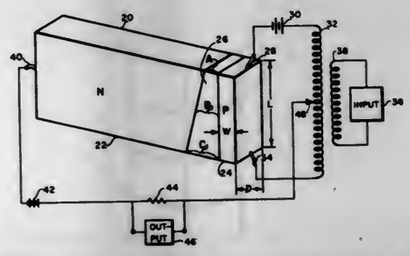
The arrangement provides a simple and reliable timer which starts a desired number of independently determinable overlapping time intervals from a common start instant, and which ends the started intervals individually in response to the action of respective critical-potential breakdown devices, from each of the devices a separate control pulse is transmitted to mark the end of its corresponding time interval.

3,440,453

THIN FILM TUNNELING DEVICE

Winston E. Kock, Beverly Farms, Mass., assignor to The Bendix Corporation, Southfield, Mich., a corporation of Delaware

Continuation-in-part of application Ser. No. 80,455, Jan. 3, 1961. This application May 11, 1965, Ser. No. 461,577
Int. Cl. H03k *19/10*; H01l *3/00, 11/00*
U.S. Cl. 307—298 19 Claims



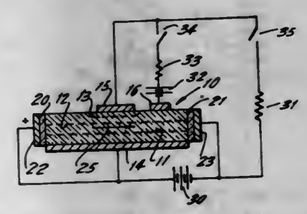
A thin film device, having a tunneling barrier of finite length and of varying effective thickness between a pair of noninsulative plates, with a voltage being applied between the plates to establish a carrier current flow across the barrier and with conductivity of the device being controlled by varying a potential gradient which is established along the length of the barrier via one of the plates. The purpose of the foregoing abstract is to enable the Patent Office and the public generally, and especially the scientists, engineers, or practitioners in the art who are not familiar with patent or legal terms or phraseology, to determine quickly from a cursory inspection the nature and essence of the technical disclosure of the application. The abstract is neither intended to define the invention of the application, which is measured by the claims, nor is it intended to be limiting as to the scope of the invention in any way.

3,440,454

HIGH RISE OF CURRENT SWITCHING CONTROLLED RECTIFIER

Yigal Yanai, Givataim, Israel, assignor to International Rectifier Corporation, El Segundo, Calif., a corporation of California

Filed Aug. 18, 1966, Ser. No. 573,235
Int. Cl. H03k *3/35*
U.S. Cl. 307—309 3 Claims

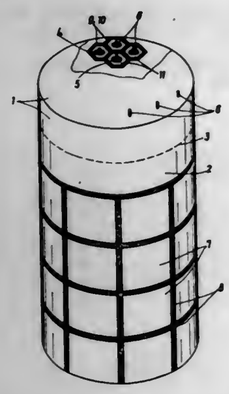


An electric or magnetic field is established perpendicular to the direction of normal current flow through a controlled rectifier to cause a spreading of current carriers which begin to flow upon firing of the device in order to increase the *dI/dt* of the controlled rectifier.

3,440,455
NUCLEAR REACTOR WITH THERMIONIC CONVERTERS

Kurt Stahl, Morlenbach, Reinhart Langpape, Mannheim, Germany, and Ned S. Rasor, Dayton, Ohio, assignors to Brown, Boveri & Cie, A.G., Mannheim-Kafertal, Germany, a German corporation

Filed May 11, 1967, Ser. No. 637,822
Claims priority, application Germany, May 13, 1966, B 87,104
Int. Cl. H02n 3/00
U.S. Cl. 310—4 10 Claims

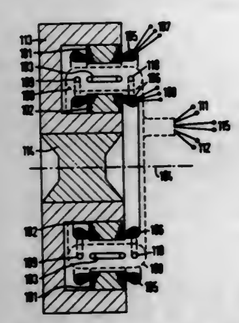


This invention relates to a nuclear reactor with thermionic converters for direct conversion into electrical energy of heat produced by nuclear fission. The novel thermionic converters (4 and 5) are arranged within a reactor core (2) perpendicularly to an imaginary plane passing through the center of the core and specularly arranged relative to each other, i.e. with surfaces facing toward one another, and sealed vacuum-tightly relative to each other. The thermionic converters are provided with outlet pipes (6) for the fission gases, and coolers (7) for the thermionic converters are provided, located at the front face of the reactor core.

3,440,456
COMMUTATING ARRANGEMENT FOR ELECTRIC MACHINES WITH SUPERCONDUCTING ARMATURE COILS

Erich Grunwald, Erlangen, and Wilhelm Kafka, Tennenlohe, Germany, assignors to Siemens Aktiengesellschaft, a corporation of Germany

Filed Mar. 11, 1966, Ser. No. 533,474
Claims priority, application Germany, Apr. 15, 1965, S 96,551
Int. Cl. H02k 47/04
U.S. Cl. 310—10 3 Claims

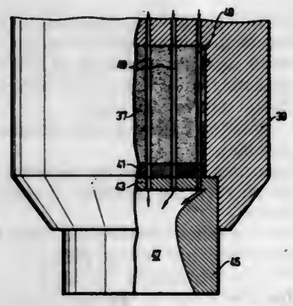


Two electric machines are coupled to each other by a DC circuit common to both machines to provide a coupling converter unit for AC lines. Each machine comprises a superconducting armature winding which comprises a plurality of loops. Each of the loops includes a portion which operates as a switching path which is alternately switched between the normally conducting and superconducting states. A multi-phase rotating magnetic field is provided which has a superimposed DC field and which is movable relative to the switching paths for switching the paths between the states.

3,440,457
METHOD AND APPARATUS FOR MAGNETO-HYDRODYNAMIC ELECTRIC POWER GENERATION

Josef Braun, Nykoping, Sweden, assignor to Aktiebolaget Atomenergi, Stockholm, Sweden, a company of Sweden

Filed Dec. 17, 1964, Ser. No. 418,956
Claims priority, application Sweden, Dec. 20, 1963, 14,381/63
Int. Cl. H02k 45/00; G21d 7/02
U.S. Cl. 310—11 10 Claims



A magneto-hydrodynamic power plant of the closed cycle type comprises an MHD duct through which a hot ionized gas is passed to directly generate an electrical power output. A portion of the thermal energy in the hot ionized gas also passes through a heat exchanger to produce steam for driving a steam turbine coupled to a compressor and a conventional rotary type electric generator for using up the remainder of the energy. The compressor compresses the gases exhausted from the MHD duct and recirculates them to a reactor for reheating and thence re-entry to the MHD duct to initiate a new cycle. A noble gas such as He^4 having an additive of He^3 or Li^6 or B^{10} or a mixture of two or more of these to serve as an ionizing substance is passed through cooling ducts in the reactor core where it is reheated by fast neutrons and thence through an ionizing zone of thermal or epithermal neutrons, the now re-heated and ionized gas then being passed to the inlet end of the MHD duct.

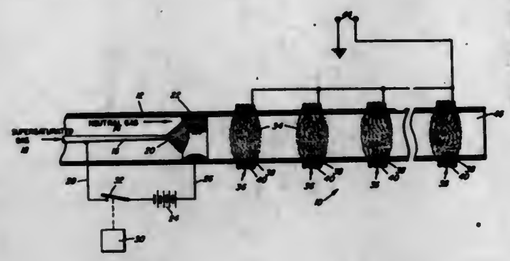
3,440,458
ELECTROHYDRODYNAMIC ALTERNATING CURRENT GENERATOR

Milton A. Knight, Box 113, Rte. 1, Centreville, Va. 22020

Filed Jan. 4, 1966, Ser. No. 518,745
Int. Cl. H02k 45/00
U.S. Cl. 310—11 8 Claims

An electrohydrodynamic alternating current generator wherein a stream of supersaturated gas is passed through an elongated channel, the gas being formed into ionized groups by an oscillator. As the ionized groups pass along the length of the channel they act on a plurality of coils

which are wound around the outside of the channel. Electromagnetic flux caused by the ionized gas groups induces

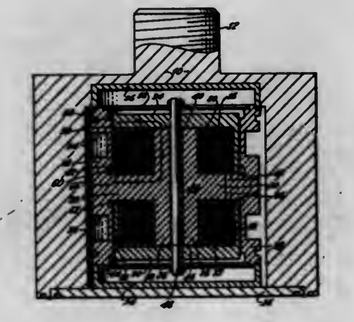


a potential in the coils, the coils being connected in parallel to a load.

3,440,459
TRANSDUCER PICKUP

Howard Pitt, Glendora, and Marshall Cantor, Van Nuys, Calif., assignors to Physical Sciences Corporation, Arcadia, Calif., a corporation of California

Filed Mar. 3, 1966, Ser. No. 531,478
Int. Cl. H02k 33/00, 35/00
U.S. Cl. 310—15 5 Claims



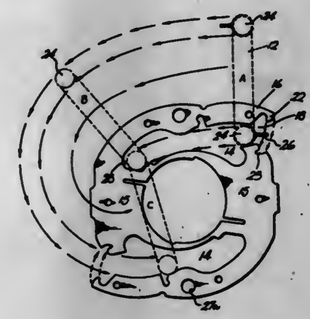
The present invention is directed to a transducer pickup which may include one or two coils. In the two-coil construction a cross-section through the transducer pickup produces a double figure-8 configuration for the magnetic structure. The double figure-8 configuration is composed of a pair of concentric cylindrical members joined by a central web and a pair of core members closing off the ends of the cylindrical members. The electrical coils are disposed within the recesses defined by the cylindrical members, the central web and the core members. The core members additionally have portions which are extended into the recesses to produce a better magnetic path for the magnetic flux.

3,440,460
LAMINATED MOTOR STATOR WITH FORMED COILS AND SHADED POLES AND METHOD OF MAKING

James R. Postema, Owosso, Mich., assignor to Universal Electric Company, Owosso, Mich., a corporation of Michigan

Filed Aug. 30, 1967, Ser. No. 664,378
Int. Cl. H02k 15/02
U.S. Cl. 310—42 23 Claims

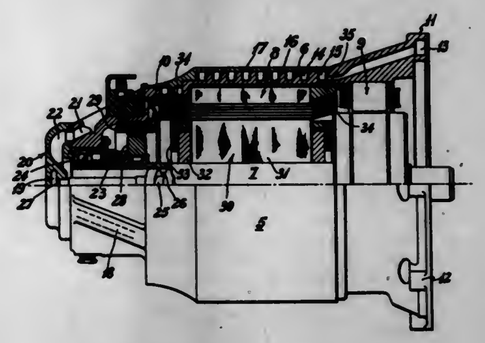
A formed coil motor stator comprising a plurality of laminations wherein each lamination comprises an annular body having circumferentially spaced coil receiving areas with intervening pole defining portions. As each lamination is stamped, a portion of the periphery of the lamination adjacent one edge of each coil receiving opening is spaced from the remainder of the lamination to define an access opening for a coil. A coil is inserted through the access opening with a portion of the coil exteriorly of the lamination and is moved to the circumferential end of the coil receiving area which is remote from the access opening. Each coil is then swung into straddling or encircling relation with the respective pole defining portion to bring the other end thereof within the access opening of the adjacent coil receiving area. The free ends of the spaced portions of the laminations are then deformed inwardly into engagement with the remainder of the laminations to close the coil access openings. Finally, the central portions of the coils are bent radially outwardly so that they are clear of the central opening of the laminations.



3,440,461
OIL-COOLED GENERATORS

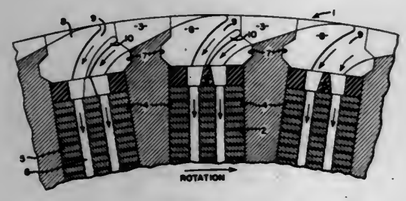
Frederick Milton Potter, Little Silver, N.J., assignor to The Bendix Corporation, Eatontown, N.J., a corporation of Delaware

Filed Sept. 20, 1966, Ser. No. 580,648
Int. Cl. H02k 9/00, 1/20, 1/32
U.S. Cl. 310—54 6 Claims



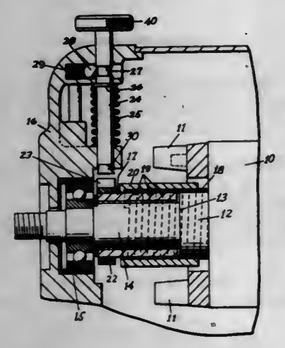
A liquid-cooled generator having fluid conducting channels in the rotor and stator for cooling the generator. A heat exchange member is positioned in intimate contact with the stator winding to conduct heat from the stator winding to the fluid. A pair of heat exchange members also are mounted on the rotor in intimate contact with the end turns of the rotor winding to conduct heat from the rotor winding to the fluid.

3,440,462
DYNAMOELECTRIC MACHINE GAP PICK ROTOR WEDGES
David M. Willyoung, Scotia, N.Y., assignor to General Electric Company, a corporation of New York
Filed Mar. 3, 1966, Ser. No. 531,587
Int. Cl. H02k 1/32, 9/00
U.S. Cl. 310—61 7 Claims



Rotor wedges for gas cooled dynamoelectric machine having recessed arcuate passages and a flow separator milled into their end faces, so that two wedges together provide a gas pick-up inlet.

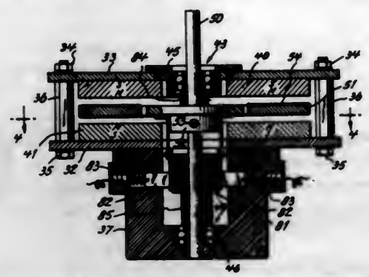
3,440,463
SPRING BRAKE FOR SAW MOTOR
Timothy W. Hennessey, Springfield, Ohio, assignor to Robbins & Myers, Inc., Springfield, Ohio, a corporation of Ohio
Filed Jan. 13, 1967, Ser. No. 609,196
Int. Cl. H02k 7/102
U.S. Cl. 310—77 6 Claims



A spring brake for a saw motor wherein a spring embraces the motor shaft and a sleeve rotatable on the motor shaft, the sleeve being of slightly smaller diameter than the motor shaft and elastic means for stopping rotation of the sleeve when the motor is deenergized so that friction between the spring and the sleeve slows the motor down rapidly but without an abrupt jerk.

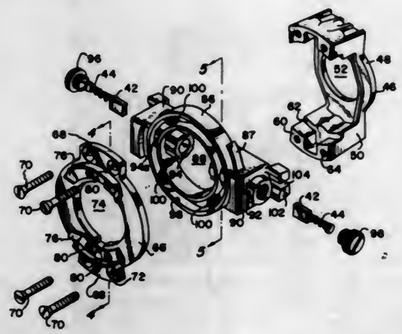
3,440,464
ELECTROMAGNETIC APPARATUS
Robert J. Tolmie, Fairfield, Conn., assignor to Sperry Rand Corporation, New York, N.Y., a corporation of Delaware
Filed Aug. 2, 1965, Ser. No. 476,472
Int. Cl. H02k 21/30
U.S. Cl. 310—154 11 Claims

An electric motor wherein linear or rotary motion is imparted to an armature by an interacting magnetic field and which magnetic field includes spaced and parallel permanent magnets defining an air gap therebetween within which is disposed the armature with the confronting



pole faces of the spaced magnets being of like polarity to impart a force on the armature parallel to the magnet faces.

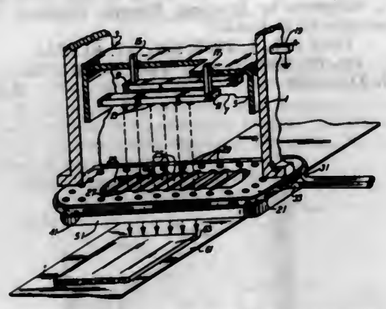
3,440,465
REVERSING MECHANISM FOR ELECTRIC MOTORS
Leonard C. Pratt, Greenfield, John R. Provost, Jr., Turners Falls, and James Alfred De Carteret, Bernardston, Mass., assignors to Millers Falls Company, Greenfield, Mass., a corporation of Massachusetts
Filed Oct. 1, 1965, Ser. No. 492,063
Int. Cl. H02k 13/10, 23/18
U.S. Cl. 310—230 14 Claims



A reversible electric motor provided with a reversing mechanism comprising a support carrying a pair of arcuate blade contacts and a rotatable carrier supporting the commutator brushes. The support and carrier cooperate to enclose the blade contacts and electrically conductive portions of the brush holders from dirt and other foreign matter; and convex projections cooperate with the blade contacts to prevent creepage of the carrier.

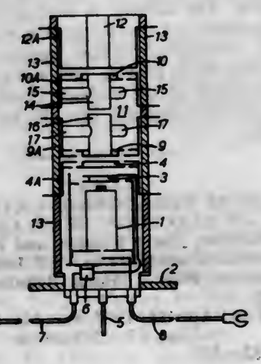
3,440,466
WINDOW SUPPORT AND HEAT SINK FOR ELECTRON-DISCHARGE DEVICE
Alex D. Colvin and Ole K. Nilssen, Livonia, and Allen H. Turner, Ann Arbor, Mich., assignors to Ford Motor Company, Dearborn, Mich., a corporation of Delaware
Filed Sept. 30, 1965, Ser. No. 491,716
Int. Cl. H01j 7/26
U.S. Cl. 313—35 8 Claims

For an electron-discharge device wherein a stream of high-energy electrons are passed through a thin metal window, an improved window support and heat sink for such window. The window support and heat sink has a thermal conductivity "not substantially below that of copper," such term being defined to include aluminum. The window support is positioned between the metal window and the emission means of the electron-discharge device and comprises a plurality of window-contacting support members in contact with said window at a plurality of spaced-apart sites intermediate the periphery thereof. The heat sink is in contact with said window-contacting



support members and has a sufficient mass and surface area to continuously absorb significant amounts of heat generated in said window by said electrons.

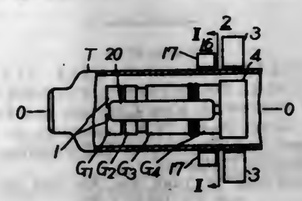
3,440,467
GAS FILLED THYRATRONS HAVING IMPROVED ELECTRODE COOLING PROVISIONS
Hugh Menown and Eric Jones, Essex, England, assignors to English Electric Valve Company Limited, London, England, a British company
Filed Aug. 8, 1966, Ser. No. 570,879
Claims priority, application Great Britain, Sept. 14, 1965, 39,085/65
Int. Cl. H01j 61/52, 5/48, 7/24
U.S. Cl. 313—42 9 Claims



A gas filled thyratron having a cathode, at least one grid, an anode and a succession of spaced further electrodes providing a plurality of breakdown gaps which are effectively in series. A thermally conductive member is provided which is connected to the further electrode nearest the anode and which provides a conducting path for heat from that electrode to the outside of the tube envelope.

3,440,468
THREE ELECTRON GUN COLOR PICTURE TUBE
Hirofumi Suzuki, Michiharu Koike, and Hisashi Fujiwara, Kawasaki-shi, Japan, assignors to Nippon Columbia Kabushikikaisha (Nippon Columbia Co., Ltd.), Tokyo, Japan, a corporation of Japan
Filed Nov. 29, 1966, Ser. No. 597,777
Claims priority, application Japan, Dec. 2, 1965, 40/74,292; Dec. 9, 1965, 40/75,978
Int. Cl. H01j 29/50, 29/70
U.S. Cl. 313—70 14 Claims

A system for adjusting the color in a multi gun television picture tube wherein the convergence units are mounted between the screen and the main electron lens system of the electron gun so that the electron beam incident on



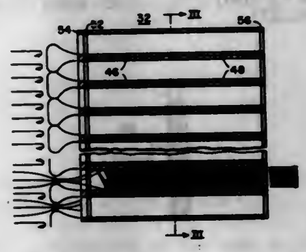
the screen does not deviate from the axis of the lens system as the convergence system is adjusted.

3,440,469
FLAT SCREEN ATTACHMENT INSIDE CATHODE-RAY TUBE BY SNAP RING AND CLIP ASSEMBLY
Georges Bradu, 34 Rue Benoist, 77 Nemours, France, and Jean-Pierre Driffort, 21 Rue E. Durckheim, 92 Chatenay-Malabry, France
Filed Aug. 29, 1967, Ser. No. 664,167
Claims priority, application France, Sept. 1, 1966, 74,936
Int. Cl. H01j 29/24
U.S. Cl. 313—89 3 Claims



A flat screen is easily attached with precision to the inside forward face of a bulb of a cathode-ray tube by connecting the flat screen to a retainer ring placed in V-shaped grooves formed in cast bosses which are provided on the inside skirt of the forward face of the bulb. The plane of the retainer ring determines the plane of the flat screen, and the plane of the retainer ring is held by the precision of the V-shaped grooves which have lines bisecting the angle of each groove in a plane parallel to the plane of attachment of the forward face portion to the cone of the bulb and perpendicular to a longitudinal axis of the bulb.

3,440,470
IMAGE STORAGE TUBE MULTIPLIER ELEMENT
Richard W. Decker, Baltimore, Md., assignor to Westinghouse Electric Corporation, Pittsburgh, Pa., a corporation of Pennsylvania
Filed Sept. 14, 1965, Ser. No. 487,228
Int. Cl. H01j 43/00
U.S. Cl. 313—103 3 Claims



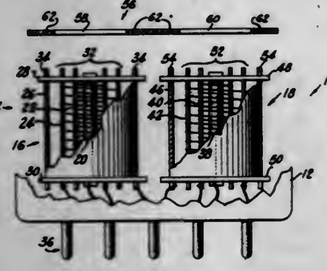
This invention is directed to a storage multiplier electrode which may be incorporated into an image storage device for storing a pattern of charges and intensifying the output signal derived from said pattern of charges.

The electron multiplier includes a plurality of tubular elements with the storage surface disposed on one end thereof.

3,440,471
ELECTROLUMINESCENT CELL MATRIX MATERIAL OF IMPROVED STABILITY
Alexander Baczewski, Kew Gardens, and Donato J. Bracco, Great Neck, N.Y., assignors to General Telephone and Electronics Laboratories, Inc., a corporation of Delaware
Filed Mar. 16, 1966, Ser. No. 534,689
Int. Cl. H01j 1/62
U.S. Cl. 313—108 8 Claims

A matrix for use in electroluminescent lamps which comprises a layer of an organic non-vitreous medium, such as cyanoethylcellulose, having electroluminescent phosphor particles of the zinc sulfide type suspended therein. An organic zinc salt, such as zinc acetylacetonate or zinc dithio carbamate, is dispersed within the dielectric medium.

3,440,472
ELECTRON TUBE MOUNT COMPRISING A PLURALITY OF ELECTRODE CAGES
Martin Rudolph Benson and Anson Clark Burwell, Jr., Emporium, Pa., assignors to Sylvania Electric Products Inc., a corporation of Delaware
Filed Aug. 18, 1966, Ser. No. 573,763
Int. Cl. H01j 1/88, 19/42
U.S. Cl. 313—260 3 Claims



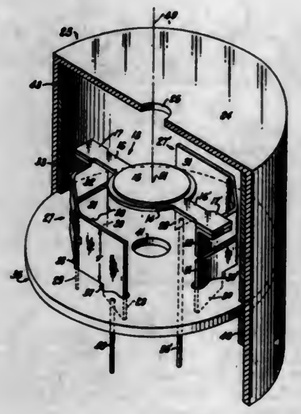
An electron tube mount having plural electron cages wherein each of the cages is formed as a separate and distinct entity including top and bottom micas and the mount is formed by tying the cages together by a single, common mica.

3,440,473
LAMP FILAMENT JOINT FOR INCANDESCENT LAMPS
Richard E. Smith, Lexington, and Raymond T. Fleming, Winchester, Ky., assignors to Sylvania Electric Products Inc., a corporation of Delaware
Filed Dec. 14, 1966, Ser. No. 601,721
Int. Cl. H01j 1/88, 19/42; H01k 1/18
U.S. Cl. 313—271 4 Claims



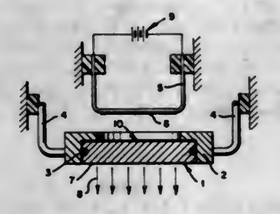
A projector lamp mount structure in which each of the coiled end segments is slipped over a spud and urged into abutting relationship against a flat formed in said spud intermediate the ends thereof.

3,440,474
RESILIENT MEANS FOR SUPPORTING A DIRECTLY HEATED PLANAR CATHODE
Stanley L. Pawlikowski and Donald L. Say, Seneca Falls, N.Y., assignors to Sylvania Electric Products Inc., a corporation of Delaware
Filed Feb. 1, 1967, Ser. No. 613,722
Int. Cl. H01j 1/94, 19/48; H01k 1/18
U.S. Cl. 313—278 6 Claims



Plural upstanding metallic means are spacedly secured to a planar insulative positioning means to support a substantially planar directly heated rapid warm-up cathode relative to an associated electrode in a cathode ray tube electron gun. The cathode is resiliently supported at its terminal portions in a free suspension manner between two electrically conductive resilient members having definite bending moments to provide sufficient tension to maintain constant tautness of the cathode during tube operation, the tension value being less than the hot yield strength of the cathode.

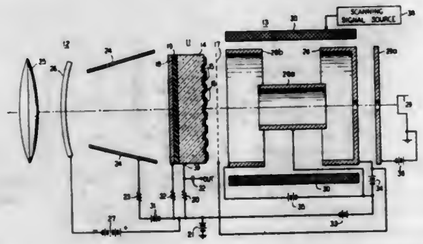
3,440,475
LANTHANUM HEXABORIDE CATHODE SYSTEM FOR AN ELECTRON BEAM GENERATOR
Siegfried Schiller, Harry Förster, and Peter Lenk, Dresden, Germany, assignors to VEB Lokomotivbau-Elektrotechnische Werke "Hans Beimler," Oranienburg, Germany
Filed Apr. 11, 1967, Ser. No. 629,951
Int. Cl. H01j 19/20
U.S. Cl. 313—337 10 Claims



A massive cathode body comprising lanthanum hexaboride has a large surface area and is supported by a tantalum enclosure and support wires in an electron beam generator. A primary cathode, which is a filament structure of tantalum coated with lanthanum hexaboride, is mounted in the electron beam generator in operative proximity with the cathode body. An electrical energizing circuit connected to the primary cathode provides a flow of direct current through the primary cathode

to heat it to emit electrons and thereby to heat the cathode body by electron bombardment to emit electrons from the large surface area of the cathode body.

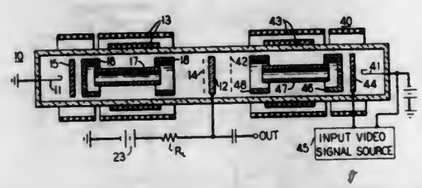
3,440,476
ELECTRON BEAM STORAGE DEVICE EMPLOYING HOLE MULTIPLICATION AND DIFFUSION
Merton H. Crowell, Morristown, and Eugene I. Gordon, Convent Station, N.J., assignors to Bell Telephone Laboratories, Incorporated, Berkeley Heights, N.J., a corporation of New York
Filed June 12, 1967, Ser. No. 645,333
Int. Cl. H01j 31/26, 39/12
U.S. Cl. 315—10 7 Claims



Opposite sides of a planar diode array are scanned by a low-energy reading electron beam and a high-energy writing electron beam that creates a plurality of electron-hole pairs in the substrate, a plurality of the holes serving to discharge the nearest diode through a process termed secondary hole diffusion.

Proposed uses for the tube include uses as a scan converter or a camera tube with current gain. Inasmuch as memory can be built into the target by the use of appropriate traps for the holes, for example, use of a heterojunction, the tube can also be used for scan compression and repeat, for random access memories, and for study of physical processes in silicon.

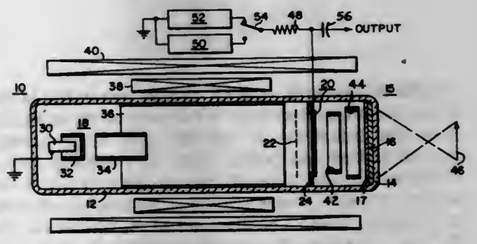
3,440,477
MULTIPLE READOUT ELECTRON BEAM DEVICE
Merton H. Crowell, Morristown, and Eugene I. Gordon, Convent Station, N.J., assignors to Bell Telephone Laboratories, Incorporated, Murray Hill, Berkeley Heights, N.J., a corporation of New York
Filed Oct. 18, 1967, Ser. No. 676,133
Int. Cl. H01j 31/48
U.S. Cl. 315—11 5 Claims



A television scan converter of the general type having a target including reversed-biased p-n junctions successively scanned by an electron beam includes improved means for providing multiple readout of the stored information. The improved means comprises a mutual adaptation of a semi-insulating layer on the target and the remainder of the target that makes the layer capacitances much less than the underlying series-connected junction capacitances. Capacitive voltage division between these series-connected capacitances then enables the multiple readout.

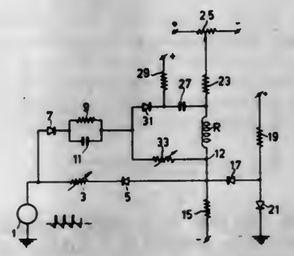
In addition, such a semi-insulating overlay could provide multiple readout in vidicon-type scan converters employing a continuous photoconductive thin film target.

3,440,478
IMAGE STORAGE DEVICE
Martin Green and Alvin H. Boerio, Elmira, N.Y., assignors to Westinghouse Electric Corporation, Pittsburgh, Pa., a corporation of Pennsylvania
Filed Aug. 2, 1965, Ser. No. 476,529
Int. Cl. H01j 29/41
U.S. Cl. 315—12 8 Claims



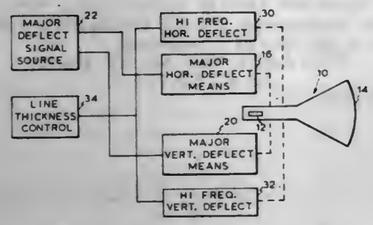
A scan converter tube which includes a target element incorporating a porous dielectric storage material having a density of less than 10% of the material in bulk form and in which one surface of the target facing the reading gun has conductive portions surrounding elements of a dielectric material to permit a non-destructive read-out of information written onto the target from the opposite side by a writing electron gun.

3,440,479
COLOR TELEVISION DISPLAY DEVICE
Hans-Jürgen Brockmann, Hamburg, Germany, assignor, by mesne assignments, to U.S. Philips Corporation, New York, N.Y., a corporation of Delaware
Filed June 7, 1967, Ser. No. 644,326
Claims priority, application Germany, June 11, 1966, P 39,675; Sept. 2, 1966, P 40,320
Int. Cl. H01j 29/50
U.S. Cl. 315—13 10 Claims



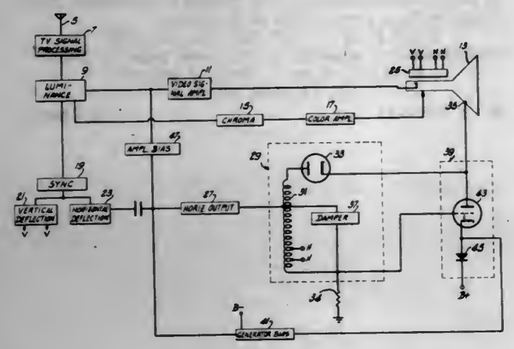
In a convergence circuit for a color television system, current is applied by way of a diode to the convergence coils during the last half of the deflection period. The current flow is integrated by the coils to form a substantially parabolic current. The stored energy produces an exponential current during the first half of the deflection period, and the amplitude of the exponential current is controlled by pulses applied to the coil during the flyback period.

3,440,480
DISPLAY APPARATUS INCLUDING MEANS FOR VARYING LINE WIDTH
Martin C. Henderson, Canoga Park, Calif., assignor to The Bunker-Ramo Corporation, Canoga Park, Calif., a corporation of Delaware
Filed Jan. 20, 1967, Ser. No. 610,623
Int. Cl. H01j 29/70
U.S. Cl. 315—18 8 Claims



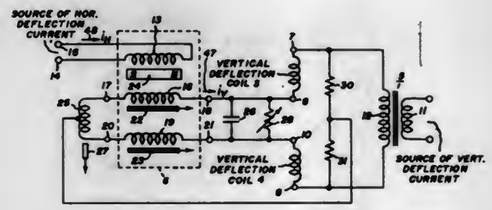
Cathode ray tube (CRT) display apparatus including means for displaying lines of different width or thickness. Lines are drawn by moving the CRT beam between a pair of desired end points while very rapidly deflecting the beam through a small circular path. Thus, a line is formed actually comprised of a multitude of identical overlapping circles. The diameter of the circles establishes the line thickness. The beam is deflected in a circular path in response to signals applied to horizontal and vertical deflection coils, each of which forms part of an oscillator or tuned circuit.

3,440,481
FAULTY COMPONENT PROTECTION SYSTEM
Dong W. Rhee, Williamsville, and Robert Charles Wheeler, Batavia, N.Y., assignors to Sylvania Electric Products Inc., a corporation of Delaware
Filed Jan. 26, 1968, Ser. No. 700,759
Int. Cl. H01j 29/70
U.S. Cl. 315—22 10 Claims



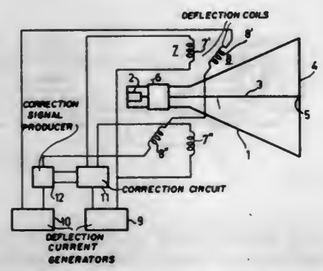
In a cathode ray tube high voltage system having a signal amplifier means coupled to a cathode ray tube and a current generator means coupled by a high voltage rectifier means to the cathode ray tube, a faulty component protection system including a shunt regulating means having a shunt regulator tube and a unidirectional conduction device series coupled intermediate the high voltage rectifier means and a voltage reference source and a current generator bias means including a D.C. potential source coupling the shunt regulating means to the current generator means whereby failure of the shunt regulator tube tends to cause an undesired increase in potential available from the high voltage rectifier means which is opposed by application of an increased bias potential to the current generator means. Also, failure of the shunt regulator tube causes disablement of the cathode ray tube by way of a signal amplifier bias means coupled intermediate the current generator means and the signal amplifier means.

3,440,482
RASTER DISTORTION CORRECTION TRANSFORMER
John W. Lister, Syracuse, and Lawrence E. Smith, North Syracuse, N.Y., assignors to General Electric Company, a corporation of New York
Filed Feb. 14, 1966, Ser. No. 528,017
Int. Cl. H01j 29/72
U.S. Cl. 315—24 12 Claims



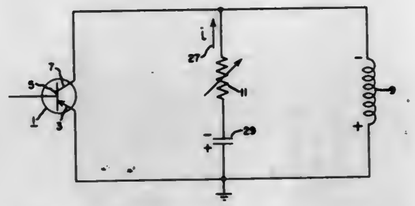
A raster distortion correction transformer including a primary and a pair of secondary windings to provide a properly proportioned component of current at horizontal frequency in the vertical deflection circuit to correct either "pin cushioning" or "barreling" effects in the vertical deflection of a color TV receiver. A primary winding encircles a pair of secondary windings each of which has a separately adjustable variable reluctance core. The secondary windings are connected in series opposing relationship with respect to the voltage induced therein by current flow in the primary winding. A bias magnet is also included within the primary winding.

3,440,483
COLOR TELEVISION DISPLAY DEVICE
Johannes Kaashoek, Johannes Willem Versluis, and Piet Gerard Joseph Barten, Emmasingel, Eindhoven, Netherlands, assignors, by mesne assignments, to U.S. Philips Corporation, New York, N.Y., a corporation of Delaware
Filed Mar. 21, 1968, Ser. No. 714,874
Claims priority, application Netherlands, Mar. 22, 1967, 6704218
Int. Cl. H01j 29/70
U.S. Cl. 315—24 15 Claims



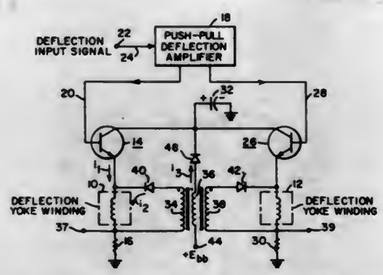
A deflection system for a color television display device having two deflection coil systems orthogonal beam deflection, in which the coils for one direction of deflection have two symmetrical halves. Opposite correction currents are applied to the two halves in order to correct for anisotropic astigmatism. The correction currents are a function of the product of the deflection currents of the two coil systems.

3,440,484
RETRACE PULSE SHAPING IN A TRANSISTOR VERTICAL DEFLECTION CIRCUIT
Walter Truskalo, Liverpool, N.Y., assignor to General Electric Company, a corporation of New York
Filed May 21, 1965, Ser. No. 457,572
Int. Cl. H01j 29/70
U.S. Cl. 315—27 7 Claims



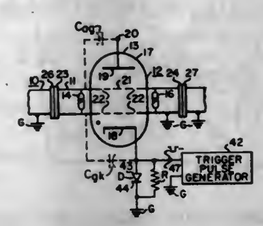
To modify the waveshape of a large induced voltage developed across an inductive output element when a signal is removed therefrom, a voltage dependent resistive element is placed across the inductive output element. The magnitude of the induced voltage initially is decreased but thereafter remains at a higher level for a longer time interval. If an energy storage element, such as a capacitor, is placed in series with the voltage dependent resistive element, the induced voltage attains an almost square waveshape. When used in a transistor deflection circuit of a television receiver wherein the inductive output element comprises a magnetic deflection yoke, this circuit allows shaping the vertical retrace pulse for use as a blanking pulse.

3,440,485
PPI DEFLECTION AMPLIFIER UTILIZING ENERGY RECOVERY
Lawrence A. Nix, Jr., Ellicott City, and Albin M. Surkovich, Baltimore, Md., assignors to Westinghouse Electric Corporation, Pittsburgh, Pa., a corporation of Pennsylvania
Filed Feb. 24, 1967, Ser. No. 618,453
Int. Cl. H01j 29/70, 29/76
U.S. Cl. 315—27 10 Claims



A resonant energy recovery system for magnetic deflection apparatus used in conjunction with random access or PPI displays. The reactive power stored in the deflection yoke is fed to a storage capacitor whenever the energy level in the deflection yoke changes from a high value to a lower value resulting in a recovery of the energy which is later used as a boost voltage for the driver amplifier as opposed to dissipating the energy in the form of heat by means of damping resistors and/or other output means.

3,440,486
GROUNDED-GRID CATHODE-DRIVEN TRIGGERED WAVEGUIDE SWITCH
Harry Goldie, Randallstown, Herbert W. Cooper, Hyattsville, and Lawson F. Cooper, Baltimore, Md., assignors to Westinghouse Electric Corporation, Pittsburgh, Pa., a corporation of Pennsylvania
Filed Feb. 13, 1967, Ser. No. 615,507
Int. Cl. H01j 7/46, 19/80
U.S. Cl. 315—39 4 Claims

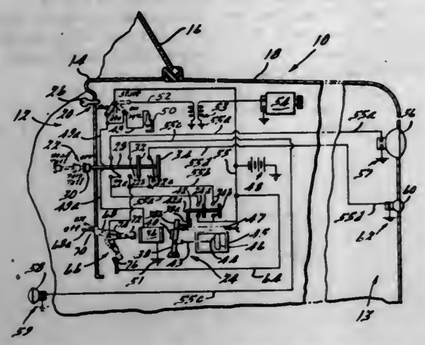


The triggered waveguide switch, hereinafter referred to as TWS, was developed as a grounded-cathode driven-grid tube and it was operated in a manner similar to that of an ordinary hydrogen thyratron. A triggered waveguide switch employs a thyratron-type of electron discharge having the usual cathode and anode but with a section of waveguide sealed to the envelope and serving as the control grid of the electron discharge device. The section of microwave guide which serves as the grid is provided with appropriate pressure windows sealed across the walls of the waveguide and the broad walls of the waveguide section have suitable perforations therein to permit the passage of electrons from the cathode to the anode. When operated as a transmission line component it was isolated by two insulating spacers located between the connecting flanges. Since it was not operated at a common potential with the waveguide transmission line serious disadvantages limited the usefulness of the TWS. Since the waveguide section was operated above ground potential a large grid-to-grid ground capacitance caused waveform distortion and a decrease of the voltage of the trigger signal. Another consequence of the large grid-ground capacitance is a large current spike which appears across the trigger generator at commutation. This creates the need for a grid de-spiking network. The microwave flanges had to be separated by an electric insulator impervious to voltage puncture by the total voltage of the spike superimposed on the trigger pulse. The insulator can lead to RF flange leakage; another deleterious effect of the insulator is the degradation of the slope of the leading edge of the trigger pulse. This decrease due to the flange capacitance led to excessive anode commutation jitter. Herein is disclosed a conventional triggered waveguide switch operating in a unique grounded-grid cathode driven circuit configuration which avoids the necessity for electrically isolating the microwave section grid from the remainder of the waveguide transmission line.

3,440,487
LIGHTING SYSTEM FOR MOTOR VEHICLE
Kuang-Wei G. Wu and Charles E. Wontrobski, Detroit, Mich., assignors to Chrysler Corporation, Highland Park, Mich., a corporation of Delaware
Filed Dec. 27, 1965, Ser. No. 516,430
Int. Cl. B60q 1/04
U.S. Cl. 315—77 6 Claims

An automatic headlight cutoff device wherein a solenoid actuated time delay switch in series relation with the headlights is de-energized in response to turning off the ignition switch and thereafter functions to break the headlight circuits a predetermined length of time after such de-energization. The device also includes provision to maintain at least some of the vehicle lights on in-

definitely irrespective of the operation of the time delay switch as well as provision to extinguish certain lights



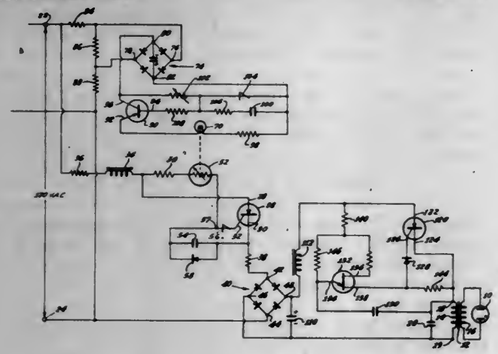
after a time delay while allowing other lights to remain on indefinitely.

3,440,488

SYSTEM FOR PRODUCING ILLUMINATION OF PROGRESSIVE PORTIONS OF A GAS-FILLED LUMINESCENT TUBE

Clifford D. Skirvin, Pomona, Calif., assignor to Microdot, Inc., South Pasadena, Calif., a corporation of California

Filed June 24, 1965, Ser. No. 466,604
Int. Cl. H05b *37/02, 39/04, 41/36*
U.S. Cl. 315—209 29 Claims



This invention relates to a system for illuminating a portion of the lentgh of a luminescent tube and for varying the illuminated portion of the length of the luminescent tube on a progressive basis. The tube has a gas at a reduced pressure relative to the pressure required to produce arcing of the gas in the tube so that ionization of the gas in the tube occurs. The system varies the excitation voltage applied to the tube, the current through the tube and the frequency of such voltage and current in a particular manner to provide a luminescence of progressive portions of the length of the tube.

3,440,489

BIDIRECTIONAL SWITCHING MEANS FOR ELECTRICAL LAMPS

Ralph Davidson and David R. Greenberg, Old Bethpage, N.Y., assignors to Sperry Rand Corporation, a corporation of Delaware

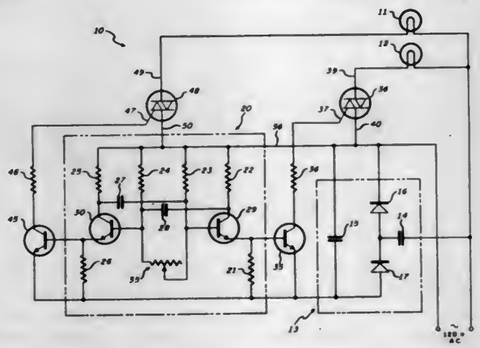
Filed Oct. 21, 1966, Ser. No. 588,631
Int. Cl. H05b *39/02, 41/16*
U.S. Cl. 315—209 9 Claims

1. Lamp flashing apparatus comprising:

(a) power supply means of the type suitable for class A loads adapted to be connected to an A.C. source for providing a D.C. voltage,

(b) symmetrical astable multivibrator means coupled to said power supply means and responsive to said D.C. voltage for cyclically providing first and second output signals of opposite states with respect to each other,

(c) first and second gated bidirectional switching means having first and second gating electrodes respectively, and adapted to control first and second lamp means respectively; and



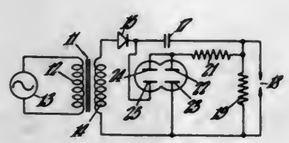
(d) first and second power amplifying means each responsive to said first and second multivibrator output signals and connected to said first and second gating electrodes respectively for controlling said switching means in accordance with a predetermined state of said output signals whereby a constant load current is drawn from said power supply during all phases of operation of said apparatus.

3,440,490

IGNITION CIRCUITS

Norman Arthur Parish, Hemel Hempstead, England, assignors to Rotax Limited, London, England, a British company

Filed Feb. 9, 1966, Ser. No. 526,236
Claims priority, application Great Britain, Feb. 10, 1965, 5,729/65
Int. Cl. H05b *41/16, 41/24*
U.S. Cl. 315—273 4 Claims



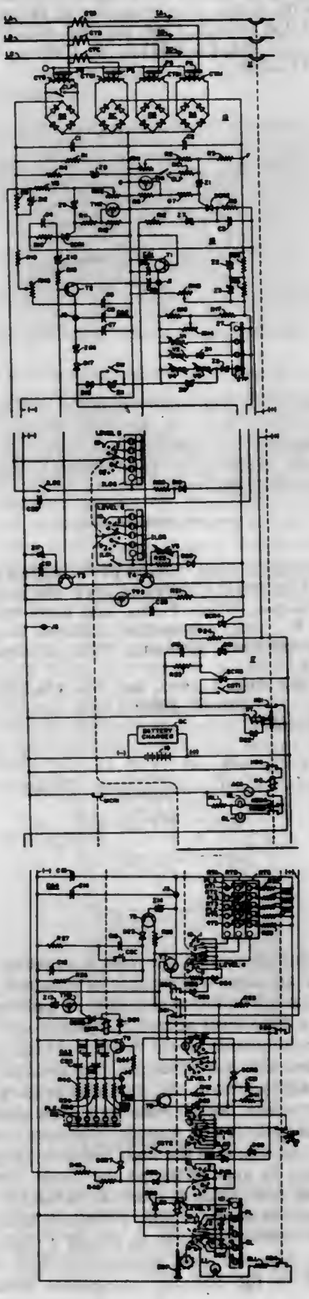
In a spark ignition circuit a source of power is used to provide pulses of current at the secondary of a transformer, these pulses of current charging a capacitor through a diode and a spark gap so that low energy sparks are produced at the spark gap each time the capacitor is charged. The increase in charge on the capacitor serves eventually to break down a control gap, which in turn breaks down another control gap of higher break down voltage to provide a discharge path for the capacitor through the spark gap, so producing a spark of higher energy.

3,440,491

CIRCUIT-CONTROLLING SYSTEMS

Nathaniel D. Tenenbaum, Middlesex, and Gino J. Mariani, Parsippany, N.J., assignors to Westinghouse Electric Corporation, East Pittsburgh, Pa., a corporation of Pennsylvania

Filed June 5, 1962, Ser. No. 200,129
Int. Cl. H02h *5/00*
U.S. Cl. 317—22 17 Claims



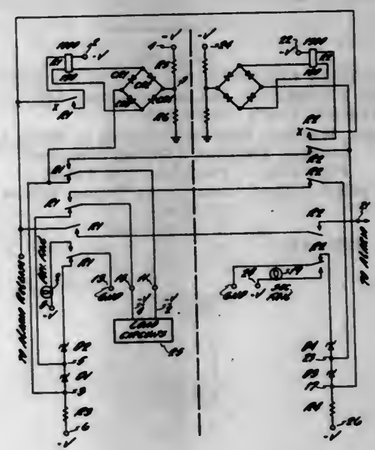
This disclosure relates to a static type reclosing circuit breaker operator in which a stepping switch is actuated upon each opening operation to time the interval between opening and reclosing, means is provided to prevent further reclosing after a desired number of openings, and means is provided to reset the operator at the end of a predetermined time interval after any closure of the breaker when the breaker remains closed.

3,440,492

VOLTAGE REGULATOR AND FAILURE CIRCUITS

Doyle V. Carmody, Milan, Tenn., assignor to International Telephone and Telegraph Corporation, New York, N.Y., a corporation of Maryland

Filed Sept. 1, 1966, Ser. No. 576,674
Int. Cl. H02h *3/28*
U.S. Cl. 317—27 7 Claims



1. A voltage regulator incorporating a protection and warning circuit, comprising:

a first terminal upon which a voltage is applied,

a second terminal at ground potential,

means for dividing said voltage into two lower voltages for supply to a load circuit,

said means including a resistor and two Zener diodes coupled in series between said first terminal and said second terminal,

means supplying a reference potential,

a bridge circuit connected to sense one of the two lower voltages and compare it with said reference potential, and

means responsive to imbalance in said bridge circuit to disconnect said two lower voltages from said load circuit.

3,440,493

ERROR DETECTION CIRCUIT

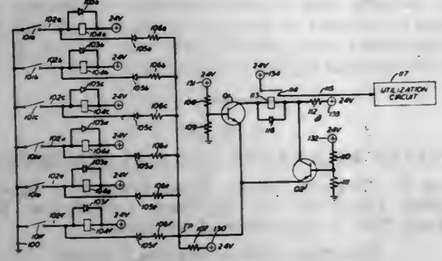
Lionel Caron, Matawan, N.J., assignor to Bell Telephone Laboratories, Incorporated, New York, N.Y., a corporation of New York

Filed Feb. 15, 1966, Ser. No. 527,557
Int. Cl. H01h *47/32*
U.S. Cl. 317—148.5 8 Claims

A checking circuit is disclosed for indicating when signals are concurrently applied to either less than or more than a predetermined number of input conductors.

A first normally off transistor turns on when signals are concurrently applied to at least the predetermined

number of conductors. The turn of this transistor operates an output relay.



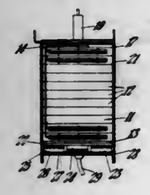
A second normally-off transistor turns on and inhibits the operation of the relay when signals are applied to more than the predetermined number of conductors.

3,440,494

CAPACITOR COMPRISING A SEALED HOUSING AND PRESSURE MAINTAINING MEANS ON STACKED UNIT THEREIN

Eric Wade, Watford, England, assignor to Rotax Limited, London, England, a British company

Filed Feb. 3, 1966, Ser. No. 524,891
Claims priority, application Great Britain, Feb. 4, 1965, 4,835/65
Int. Cl. H01g *9/08*
U.S. Cl. 317—230 **3 Claims**



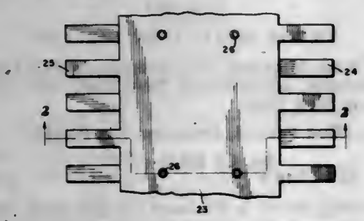
The capacitor unit includes a capacitor stack housed within a container slidable in a sealed housing. Terminals are supported on the exterior of the housing and are electrically connected within the housing to the capacitor stack. Resilient means act between a wall of the housing and the stack to resist movement of the stack relative to the housing and the walls of the housing include outwardly bulged portions which increase the volume of the housing.

3,440,495

HERMETICALLY SEALED ELECTROLYTIC CAPACITOR

Lowell F. Howard and Charles G. Sturgill, Indianapolis, Ind., assignors to P. R. Mallory & Co., Inc., Indianapolis, Ind., a corporation of Delaware

Filed Nov. 7, 1966, Ser. No. 592,486
Int. Cl. H01g *9/05, 9/06*
U.S. Cl. 317—230 **9 Claims**



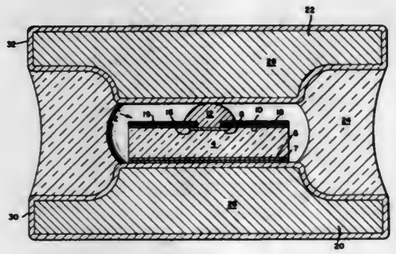
An electrolytic capacitor having an anode plate disposed at the open end of a container so as to partially close the container and an anode terminal plate attached to the outer surface of the anode plate closing the open end of the container and extending beyond the outer edge of the anode plate.

3,440,496

SURFACE-PROTECTED SEMICONDUCTOR DEVICES AND METHODS OF MANUFACTURING

Frank J. Saia, Costa Mesa, and John G. Quetsch, Anaheim, Calif., assignors to Hughes Aircraft Company, Culver City, Calif., a corporation of Delaware

Filed July 20, 1965, Ser. No. 473,374
Int. Cl. H01l *3/00, 5/00*
U.S. Cl. 317—234 **9 Claims**



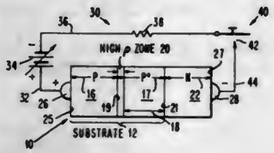
Planar junction type semiconductor device having a protective coating over the junction surface formed in the order named by superimposed layers of thermally grown silicon oxide, glass (borosilicate), and pyrolytically deposited silicon oxide.

3,440,497

SEMICONDUCTOR NEGATIVE RESISTANCE ELECTROLUMINESCENT DIODE

Robert W. Keyes, White Plains, and Kurt Weiser, Millwood, N.Y., assignors to International Business Machines Corporation, Armonk, N.Y., a corporation of New York

Filed Aug. 2, 1965, Ser. No. 476,275
Int. Cl. H01l *15/06*
U.S. Cl. 317—234 **8 Claims**



An electroluminescent diode with a negative resistance characteristic at room temperature is obtained by establishing a host semiconductor substrate of gallium arsenide crystal with a deep level acceptor impurity such as manganese as the dominant dopant thereby obtaining a p-type semiconductor. On a surface of the gallium arsenide there is epitaxially grown, e.g., by vapor epitaxy, a region of gallium arsenide doped with an n-type dopant, e.g., tellurium. The latter region provides injection of electrons, the minority carriers, into the high resistivity region when suitable voltage is applied across the diode. On another surface of the host gallium arsenide substrate removed from the tellurium doped region, a shallow level impurity such as zinc is diffused therein to obtain a region dominated thereby. The diffusion produces a high resistivity zone bounded by the zinc and manganese dominant regions.

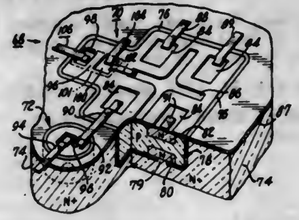
At room temperature, e.g., 20° centigrade, and below, the diode shows a high series resistance at voltages beyond approximately one volt. When a critical breakdown voltage is reached, a negative resistance is obtained in which the current goes up with decreasing voltage. The switching speed of the diode from low to high current operation is less than ten nanoseconds for an over-voltage of the order of one volt.

3,440,498

CONTACTS FOR INSULATION ISOLATED SEMICONDUCTOR INTEGRATED CIRCUITRY

Walter B. Mitchell, Danbury, Conn., assignor to National Semiconductor Corporation, Danbury, Conn.

Filed Mar. 14, 1966, Ser. No. 534,007
Int. Cl. H01j *5/06, 19/00*
U.S. Cl. 317—234 **5 Claims**



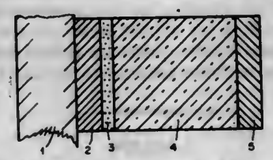
A monolithic semiconductor apparatus including a plurality of transistor-like devices, the emitters of which are all commonly connected by means of a conductive substrate, upon which the transistor-like devices are formed. In a preferred embodiment of the invention the conductive substrate includes a plurality of cup-shaped recesses lined with an insulative coating for insulating all but one region of each transistor-like device from the conductive substrate, thus providing a built-in interconnection between the transistor-like elements.

3,440,499

THIN-FILM RECTIFYING DEVICE COMPRISING A LAYER OF CeF_3 BETWEEN A METAL AND CdS LAYER

Germano Fasano, Via Privata Fonzaso 3, Milan, Italy; Giorgio Sacchi, Piazzale Gerbetto 7, Como, Italy; and Claude Pons, Via Giovanni XXIII, Bresso, Milan, Italy

Filed Mar. 21, 1967, Ser. No. 624,914
Claims priority, application Italy, Mar. 21, 1966, 15,747/66
Int. Cl. H01l *3/00*
U.S. Cl. 317—234 **2 Claims**



A thin-film, vacuum deposited rectifier device comprising a layer of cerium fluoride layer interposed between a metal film and a cadmium sulfide layer.

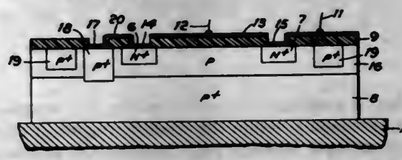
3,440,500

HIGH FREQUENCY FIELD EFFECT TRANSISTOR

Peter J. Coppen, Sunnyvale, Calif., assignor to International Telephone and Telegraph Corporation, Nutley, N.J., a corporation of Maryland

Filed Sept. 26, 1966, Ser. No. 581,949
Int. Cl. H01l *11/14*
U.S. Cl. 317—235 **7 Claims**

This is a field effect transistor which provides for improved high frequency response by eliminating the external lead inductance normally associated with the device when the source region is grounded. This is accomplished by placing the low resistive portion of a body on a conductive substrate which can be directly connected to ground. The source and drain regions of the device are formed within the high resistive portion of the body, said high resistive portion being disposed on



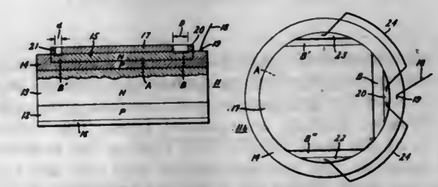
said low resistive portion. A low resistive contact region is inset into the high resistive portion and extends into the low resistive portion. Thus when a metallic surface layer electrically shorts the surface portion of the contact and source regions, the source is electrically connected to the conductive substrate thereby providing a direct ground connection for the source region.

3,440,501

DOUBLE-TRIGGERING SEMICONDUCTOR CONTROLLED RECTIFIER

Dante E. Piccone, Philadelphia, and Istvan Somos, Lansdowne, Pa., assignors to General Electric Company, a corporation of New York

Filed Feb. 2, 1967, Ser. No. 613,612
Int. Cl. H01l *11/00, 15/00*
U.S. Cl. 317—235 **10 Claims**



This is an improved form of the unique high-power multilayer semiconductor controlled rectifier that was heretofore described and claimed in a co-pending U.S. patent application Ser. No. 514,734, DeCecco, Piccone & Somos, filed Oct. 22, 1965, and assigned to the assignee of the present application now Patent No. 3,408,545. Our idea is to further increase the turn-on *di/dt* capability of such a device by providing a second auxiliary region in one of its end layers at a location remote from the original auxiliary region (both auxiliary regions being free of the main electrode that is connected to the adjacent main region of that end layer), and by conductivity interconnecting these regions in such a manner that the second step of the turn-on process takes place in the vicinity of the additional auxiliary region which is relatively far removed from the initial pinpoint area of conduction.

3,440,502

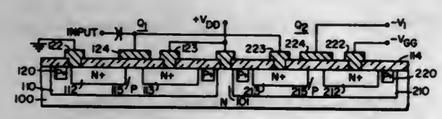
INSULATED GATE FIELD EFFECT TRANSISTOR STRUCTURE WITH REDUCED CURRENT LEAKAGE

Hung C. Lin, Silver Spring, Md., and Philip S. Shiota, Santa Clara, Calif., assignors to Westinghouse Electric Corporation, Pittsburgh, Pa., a corporation of Pennsylvania

Filed July 5, 1966, Ser. No. 562,591
Int. Cl. H01l *11/14*
U.S. Cl. 317—235 **4 Claims**

An insulated gate field effect transistor that includes, in addition to the usual elements, an additional region of material of conductivity type opposite to that of the

source and drain regions and with appreciably higher impurity concentration than the material in which the source and drain regions are disposed wherein the additional



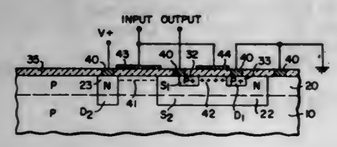
region has a configuration surrounding the source and drain and extending within the channel region to prevent an inversion layer leakage path between the source and drain regions.

3,440,503

INTEGRATED COMPLEMENTARY MOS-TYPE TRANSISTOR STRUCTURE AND METHOD OF MAKING SAME

Robert C. Gallagher and Irving F. Barditch, Baltimore, Md., assignors to Westinghouse Electric Corporation, Pittsburgh, Pa., a corporation of Pennsylvania

Filed May 31, 1967, Ser. No. 642,471
Int. Cl. H01l *19/00*
U.S. Cl. 317—235 **10 Claims**



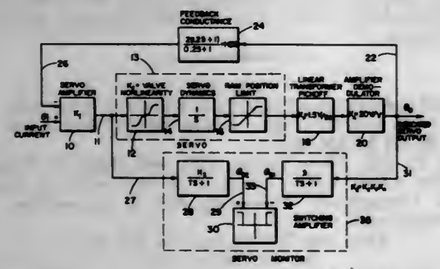
A complementary MOS transistor structure including one element in a principal region having a positive impurity concentration gradient from the surface produced by out diffusion through an epitaxial layer. The epitaxial layer is of the same conductivity type as the underlying bulk material. The principal region may also serve as a source or drain region of the other transistor element. Source and drain regions are formed in the principal region by diffusion after the out diffusion step.

3,440,504

MONITORING CONTROL FOR A SERVOMECHANISM INCLUDING A DEADBAND

Boris Boskovich, Fridley, John H. Lindahl, Wayzata, Edward W. Mehelich, Fridley, and David L. Mellen, Wayzata, Minn., assignors to Honeywell Inc., Minneapolis, Minn., a corporation of Delaware

Continuation of application Ser. No. 197,524, May 24, 1962. This application Mar. 28, 1966, Ser. No. 538,103
Int. Cl. G05b *6/02*
U.S. Cl. 318—18 **13 Claims**



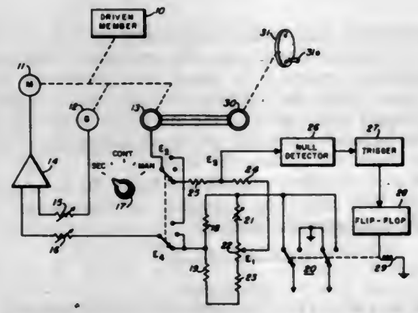
A motor direction rate monitor. A first signal in accordance with a motor direction rate demand is algebraically summed with a second signal in accordance with the motor actual direction rate. A monitor responds to the sum of the two signals. The monitor has a threshold of operation or a dead spot that exceeds the magnitude of either first or second signal, but is less than their sum, when they are of opposite sign or inconsistent. Consequently, when the signals are of opposite sign or the rate signals are inconsistent, they actually provide a sum overcoming the threshold. Operation of the monitor renders the motor ineffective to operate a condition control device in response to the said command signal.

3,440,505

SERVOMECHANISM DRIVE SYSTEM

Robert W. Nielsen, Sepulveda, Calif., assignor, by mesne assignments, to the United States of America as represented by the Secretary of the Navy

Filed Feb. 21, 1966, Ser. No. 531,631
Int. Cl. G05b *13/02*; G01s *3/02*
U.S. Cl. 318—30 **6 Claims**



A reversible servomechanism drive system is disclosed in which the sector scan mode of operation may be selectively adjusted to scan a desired azimuthal sector about any desired bearing chosen as the sector scan. When the driven member reaches the maximum selected sector excursion, a null is developed between an electrical input signal and an electrical signal generated as a function of the position of the driven member. The null signal causes a change in phase of the electrical input signal thereby driving the driven member in the opposite direction toward the opposite point of maximum selected sector excursion. A means is also provided to control the speed of scan together with the selected sector and bearing.

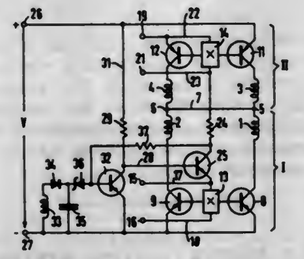
3,440,506

SPEED CONTROL CIRCUIT FOR ELECTRONICALLY COMMUTATED DC MOTOR

Erich Krestel, Erlangen, and Erich Rainer, Nuremberg, Germany, assignors to Siemens Aktiengesellschaft, a corporation of Germany

Filed Nov. 8, 1966, Ser. No. 592,775
Claims priority, application Germany, Nov. 12, 1965, S 100,472
Int. Cl. H02k *29/02*; H02p *1/18*
U.S. Cl. 318—138 **10 Claims**

1. A speed control circuit for an electronically commutated DC motor having a first phase and a second phase, a first phase stator winding and a second phase stator winding, said first phase stator winding being divided into two winding portions, said second phase stator winding being divided into two winding portions, first connecting means connecting one of the winding portions of said first phase stator winding to one of the winding portions of said second phase stator winding, second connecting means connecting the other of the winding portions of said first phase stator winding to the other of the winding portions of said second phase stator winding, third connecting means connecting a common point of said first connecting means with a common point of said second connecting means, a plurality of switching transistors each having emitter, collector and base electrodes, an emitter-collector path and an emitter-base path, a first of said transistors being connected with its emitter-collector path in series with one of the winding portions of said first phase stator winding, a second of said transistors being connected with its emitter-collector path in series with the other of the winding portions of said first phase stator winding, a third of said transistors being connected with its emitter-collector path in series with one of the winding portions of said second phase stator winding, a fourth of said transistors being connected with its emitter-collector path in series with the other of the winding portions of said second phase stator winding, operating voltage means for applying a DC operating voltage between one of said first and second transistors and one of said third and fourth transistors, first and second Hall generators positioned in determined relation in a magnetic field of said DC motor



and each having a pair of Hall voltage electrodes and a pair of control electrodes in spaced determined relation to said pair of Hall voltage electrodes, fourth connecting means connecting the base electrodes of said first and second transistors to each other via the Hall voltage electrodes of said first Hall generator, fifth connecting means connecting the base electrodes of said third and fourth transistors to each other via the Hall voltage electrodes of said second Hall generator, a resistor, sixth connecting means connecting a control electrode of said first Hall generator to a corresponding control electrode of said second Hall generator via said resistor in a manner whereby a current flows through the emitter-base paths of said switching transistors when the Hall voltage of said Hall generators permits such current flow, said speed control circuit comprising

a fifth transistor having emitter, collector and base electrodes, an emitter-collector path and an emitter-base path connected in said sixth connecting means with its emitter-collector path connected in series with said resistor between said corresponding control electrodes of said first and second Hall generators; and

control means connected to the base electrode of said fifth transistor for controlling the conductive condition of said fifth transistor thereby controlling the circuit condition of said sixth connecting means to control the operative condition of electronic commutation of said DC motor.

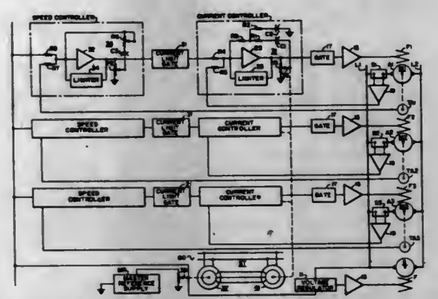
3,440,507

VARIABLE SPEED ELECTRIC DRIVE HAVING GAIN COMPENSATION

Robert P. Derrick, Decatur, Ga., and Hermann Eisele, Amherst, Willliamsville, N.Y., assignors to Westinghouse Electric Corporation, Pittsburgh, Pa., a corporation of Pennsylvania

Filed Mar. 17, 1967, Ser. No. 623,930
Int. Cl. H02p *5/20, 7/34, 7/66*
U.S. Cl. 318—152 **9 Claims**

Variable-speed drive including motors M1, M2, M3, whose armatures A1, A2, A3 are supplied from a generator G controlled, to deliver different voltages for different motor speeds, by setting a master reference MR. The motors are regulated by current loops and speed loops which control the field currents F1, F2, F3. The



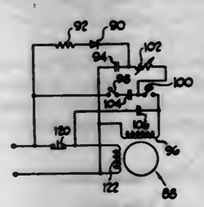
parameters of the current loop, P1, or of the speed loop R6 and P2, for each motor automatically follow the setting of the master reference so that variations of the gain at different speeds are compensated for.

3,440,508

SPEED CONTROL SYSTEM FOR A HYSTERESIS MOTOR

Katsushiro Fujita, Tokyo, Japan, assignor to Victor Company of Japan, Limited, Yokohama, Japan

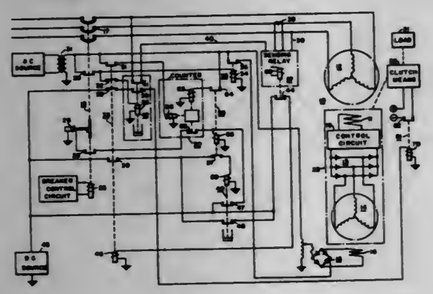
Filed Sept. 28, 1966, Ser. No. 582,585
Claims priority, application Japan, Sept. 30, 1965, 40/59,480
Int. Cl. H02p *5/28, 7/36*; H02k *19/02*
U.S. Cl. 318—166 **3 Claims**



The invention provides a system for controlling the speed of a hysteresis motor by controlling the voltage applied to the motor. Heretofore, it has not been possible to so control the speed because it has been difficult to obtain a stabilized low speed revolution. The invention does achieve stability by providing a series circuit containing a capacitor and a variable resistor connected in parallel with an auxiliary winding of a hysteresis motor. A phase-shift capacitor is connected in series with the auxiliary winding. A direct current is supplied to a point between the capaci-

tor and resistor so that the direct current flowing through the auxiliary winding is controlled by said variable resistor.

3,440,509
RESYNCHRONIZING MEANS FOR BRUSHLESS SYNCHRONOUS MOTORS
Anthony Tomeo, Pittsburgh, John Allison Nelson, Wilmerding, and Arthur H. Hoffmann, Monroeville, Pa., assignors to Westinghouse Electric Corporation, Pittsburgh, Pa., a corporation of Pennsylvania
Filed Nov. 21, 1966, Ser. No. 595,726
Int. Cl. H02p 3/18; H02h 7/08
U.S. Cl. 318—167 **7 Claims**



1. A synchronous motor control arrangement for attempting resynchronization of the motor after pullout, and for turning the motor off after a predetermined number of attempts at resynchronization, the arrangement comprising

means for controlling the energization of the motor,

time delay means connected to be energized upon energization of the motor,

the time delay means being adapted to apply a load to the motor after the motor has started to run and after a period of time sufficient to allow synchronization of the motor,

means for sensing the synchronous condition of the motor,

relay means for deenergizing the time delay means to effect removal of the load when the sensing means senses an out-of-step condition in the motor,

a counting device,

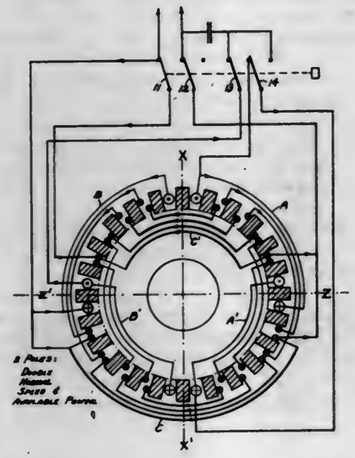
the relay means being further adapted to actuate the counting device, and thereafter to cause reenergization of the time delay means,

the time delay means being again effective to reload the motor after the period of time sufficient to allow synchronization of the motor,

the counting device being effective to count the number of times the load is removed from the motor, and to cause actuation of the control means to deenergize the motor when the counting device counts a preset number of times.

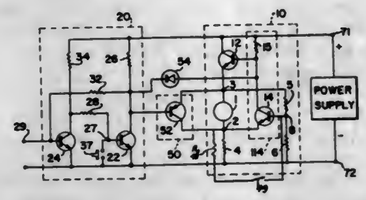
3,440,510
ASYNCHRONOUS SINGLE-BIPHASE MOTOR WITH POWER AND POLARITY SWITCHING
Luciano Canadelli, Via Varesina, 71/B, Como, Italy
Filed June 29, 1967, Ser. No. 649,950
Int. Cl. H02k 17/06; H02p 1/42
U.S. Cl. 318—224 **6 Claims**

An asynchronous motor fed by single-phase A.C. supply current, the motor having a stator provided with two separate multiple-segment winding circuits. One of the circuits is purely inductive. The other circuit is intended as a capacitive winding, to be used in series with a capacitor to provide leading phase relative to the current in the inductive circuit. The single-phase supply is connected to these stator circuits through a duplex four-pole, double-throw switch, with wiring to provide respective series configurations of the winding segments of both circuits in a first position of the switch, and parallel configuration of the segments of the inductive winding circuit, with inversion of one of the segments thereof,



and series configuration with a reversal of order of certain of the segments of the capacitive winding circuit in the second position of the switch. This switching (to the second position) shifts the stator flux vectors (or alters the flux distribution) to provide doubling of motor speed, with substantially constant available torque, and hence doubles the available power.

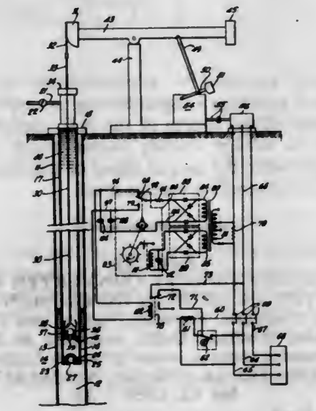
3,440,511
D.C. MOTOR CONTROL SYSTEM
Yoshiaki Igarashi and Kazutsugu Kobayashi, Kadoma-shi, Japan, assignors to Western Electric Company, Incorporated, New York, N.Y., a corporation of New York
Filed Feb. 14, 1967, Ser. No. 615,969
Claims priority, application Japan, Feb. 16, 1966, 41/9,856; May 7, 1966, 41/29,258
Int. Cl. H02p 5/00, 7/00
U.S. Cl. 318—269 **11 Claims**



A D.C. motor control system adapted for auto-tuning radio receivers comprising a speed control circuit, a braking circuit and a bistable circuit, the speed control circuit making it possible for a D.C. motor to rotate at a substantially constant speed, the braking circuit stopping the motor immediately with only a negligible over running in response to a weak signal, said speed control circuit comprising a bridge circuit formed of the D.C. motor and three resistors as well as an amplifying circuit and a power control circuit, said braking circuit

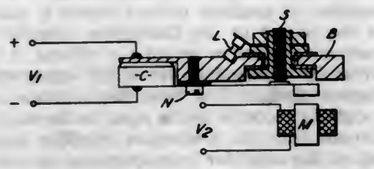
comprising a transistor, and said bistable circuit having a flip-flop means for controlling said speed control circuit and said braking circuit.

3,440,512
ELECTRIC MOTOR CONTROL SYSTEM FOR A BEAM TYPE PUMPING LOAD
Laurence M. Hubby, Bellaire, Tex., assignor to Texaco Inc., New York, N.Y., a corporation of Delaware
Filed Dec. 28, 1965, Ser. No. 516,949
Int. Cl. H01p 1/04, 3/06; H02h 7/08
U.S. Cl. 318—474 **8 Claims**



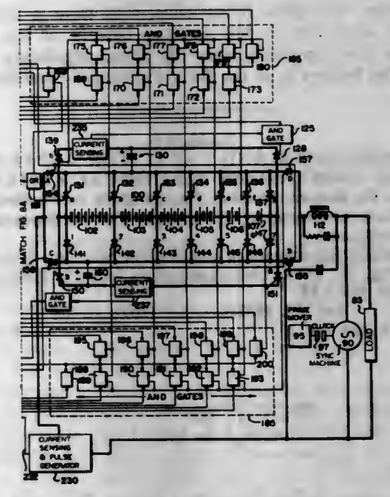
An electric motor control system where the motor has a normal load that has long period cyclic variation and the abnormal load has substantial flattening of every other maximum load peak only. A relay for controlling shut down of the motor under abnormal load conditions is actuated by a predetermined difference in successive maximum load peaks.

3,440,513
PULSE SUPPLY FOR LASER OPERABLE AT ROOM TEMPERATURES
Ronald Francis Johnston Broom, Buntingford, England, assignor, by mesne assignments, to National Research Development Corporation, London, England, a corporation of Great Britain
Filed July 6, 1965, Ser. No. 486,580
Claims priority, application Great Britain, July 4, 1964, 27,661/64
Int. Cl. H02j 7/04; H01h 53/015
U.S. Cl. 320—1 **13 Claims**



A pulse supply for lasers whereby the laser may be operated at room temperatures without the necessity of cooling the same to produce appreciable light emission therefrom; the laser being connected to low inductance capacitor means through a low inductance electrical path including switching means whereby the connection between the laser and said capacitor means may be rapidly made and broken repeatedly to discharge said capacitor means through said laser.

3,440,514
STATIC INVERTER
Thomas D. Fenley, Box 370A, R.D. 1, Hightstown, N.J. 08520
Filed May 3, 1966, Ser. No. 547,328
Int. Cl. H02j 7/02, 7/10
U.S. Cl. 320—6 **11 Claims**

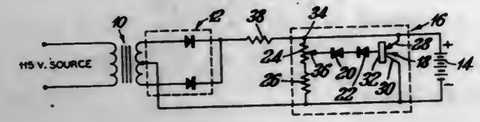


A static inverter for charging a group of series-connected batteries from an A.C. power source and for discharging the batteries to supply A.C. power to a load includes a plurality of switches coupling the batteries to the power source so that activation of each switch causes the charging of a distinct and different battery or group of batteries from that charged upon activation of any other switch, and a further plurality of switches coupling the batteries to the load so that activation of each of the latter switches causes power to be supplied to the load from a distinct and different battery or group of batteries from that supplying power upon activation of any other switch of the latter switches. The charge and discharge mode switches are respectively activated in sequence such that the batteries are effectively supplied with a D.C. charging current during operation in the charge mode, and provide an A.C. staircase output waveform during operation in the discharge mode. Logic circuitry is provided to effect charge and discharge mode selection according to conditions existing in the overall inverter system.

3,440,515
SHUNT REGULATOR BATTERY CHARGER
Donald E. Swartz, Berea, Ohio, assignor to Union Carbide Corporation, a corporation of New York
Continuation-in-part of application Ser. No. 465,102, June 18, 1965. This application Apr. 12, 1968, Ser. No. 733,201
Int. Cl. H02j 7/00, 7/04
U.S. Cl. 320—24 **3 Claims**

A battery charger for charging a battery from a substantially unidirectional voltage source comprising a voltage attenuating means connected in series with the voltage source and the battery, and a shunt regulating circuit including a transistor having its emitter-collector path connected across the terminals of the battery, resistance

means having an adjustable tap connected across the emitter-collector path of the transistor and across the battery and at least one semi-conductor diode connected in series between the adjustable tap and the base of the



transistor, the diode being chosen to have a threshold voltage such that it will conduct current at the lowest voltage level applied across the shunt regulating circuit when the battery is in the fully discharged condition.

3,440,516

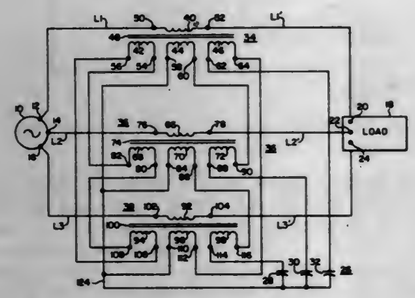
TRANSFORMER AND CAPACITOR APPARATUS FOR THREE-PHASE ELECTRICAL SYSTEMS

Francis D. Kaiser, Sharon, Pa., assignor to Westinghouse Electric Corporation, Pittsburgh, Pa., a corporation of Pennsylvania

Continuation-in-part of application Ser. No. 393,169, Aug. 31, 1964. This application July 11, 1966, Ser. No. 564,147

Int. Cl. H02m *1/12;* **H02p** *13/04*

U.S. Cl. 321—9 **9 Claims**



Electrical apparatus for three-phase operation, including a transformer and a three-phase capacitor bank. The transformer includes first, second and third windings connected serially in the three phases of an electrical power system, respectively, a three-phase delta connected winding, and a three-phase zig-zag connected winding. The three-phase capacitor bank is connected to the three-phase zig-zag connected winding, to eliminate the third harmonic in the magnetizing current, which reduces capacitor current during a system line-to-ground fault by at least one-third, and reduces the incidence of ferroresonance, which often occurs at the third harmonic.

3,440,517

CIRCUIT EMPLOYING SILICON CONTROLLED RECTIFIERS FOR REGULATING THE RMS VALUE OF AN A.C. SIGNAL ACROSS A LOAD

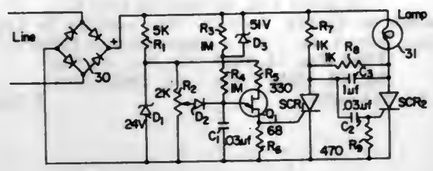
Archer G. Page, Fremont, and Alan W. Carter, Newark, Calif., assignors to Beckman Instruments, Inc., a corporation of California

Filed June 17, 1966, Ser. No. 558,477

Int. Cl. H02m *5/06;* **H05b** *41/36*

U.S. Cl. 321—18 **10 Claims**

A circuit for regulating the RMS value of an A.C. signal across a load including a first silicon controlled rectifier which is triggered at the beginning of each half cycle of the signal to couple the load to the A.C. signal source and a second silicon controlled rectifier which is triggered at a predetermined time at each half cycle of the signal to effectively decouple the load from the A.C. signal source. The second control rectifier is triggered by a



gating signal provided by a combination of a shaping means which produces a signal having an amplitude which is a function of the square of the A.C. signal being regulated and a voltage sensing means which produces a gating signal when the output signal of the shaping means reaches a predetermined voltage level.

3,440,518

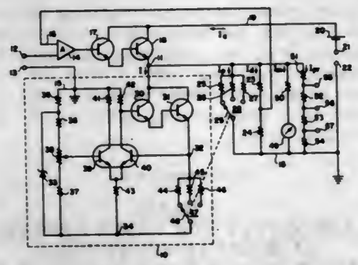
VOLTAGE-TO-CURRENT CONVERTER FOR USE WITH MEASURING INSTRUMENTS

Arnie L. Cliffgard, Fountain Valley, and David G. Boynton, Whittier, Calif., assignors to Beckman Instruments, Inc., a corporation of California

Filed Oct. 24, 1966, Ser. No. 589,037

Int. Cl. G05f *1/44*

U.S. Cl. 323—4 **5 Claims**



A voltage-to-current converter adapted to add a known controllable amount of offset current to the current proportional to the parameter being measured in such a converter. The input voltage signal to be measured is connected to the input of an operational amplifier connected to a Darlington emitter-follower transistor amplifier. The output of the amplifier is applied across a potential divider from which is taken the feedback for the operational amplifier. A constant current source is also connected to the output of the Darlington amplifier. If a current measuring meter or recorder is utilized, it is connected across the emitter-follower of the output stage of the Darlington configuration. Since the collector current flows through the recorder and is equal to the sum of the output currents from the Darlington amplifier and since the output of the amplifier is proportional to the input voltage minus the error voltage, the output current is likewise proportional thereto and has added thereto the offset current established by the constant current generator. By varying the constant current and the potential divider across the output of the amplifier proper scaling to the recorder is produced. Outputs are provided to different measuring instruments such as potentiometric recorders.

3,440,519

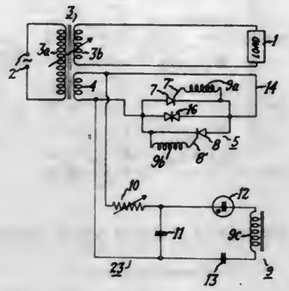
CONSTANT CURRENT REGULATOR WITH MOVING COIL TRANSFORMER

Herbert J. Macemon, Hendersonville, N.C., assignor to General Electric Company, a corporation of New York

Filed Nov. 16, 1966, Ser. No. 594,911

Int. Cl. G05f *1/16*

U.S. Cl. 323—6 **5 Claims**



A constant current regulator to control lighting systems or heating devices. The regulator has a moving coil transformer wherein the primary winding or a main secondary winding connected to the load are movable relative to each other. An auxiliary secondary winding has a controlled rectifier switching circuit connected across it to control the current in the main secondary winding.

3,440,520

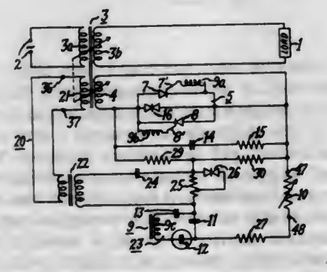
CONSTANT CURRENT REGULATOR WITH MOVING COIL TRANSFORMER

Howard T. Jones, Flat Rock, and Joe A. Nuckolls, Hendersonville, N.C., assignors to General Electric Company, a corporation of New York

Continuation-in-part of application Ser. No. 594,910, Nov. 16, 1966. This application Sept. 26, 1967, Ser. No. 674,079

Int. Cl. G05f *1/26*

U.S. Cl. 323—6 **17 Claims**



Current regulator device comprises a moving coil transformer having a main secondary winding connected to an illuminating load and an auxiliary secondary winding associated with the main secondary winding, and phase control means connected to the auxiliary secondary winding for controlling the current therein and thereby the current in the main secondary winding and the load, the phase control means comprising controlled rectifier switching means and an actuating circuit connected to a stable primary voltage source for controlling the operation of the switching means. The regulator is used in lighting circuits to control lamp brightness. The regulator can be operated from a remote location.

3,440,521

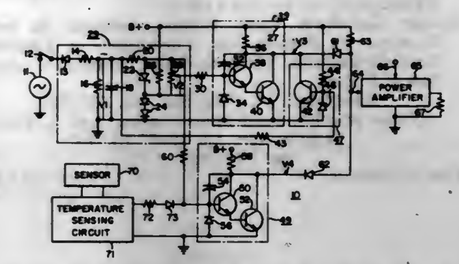
TEMPERATURE CONTROL MEANS

Leland L. Kessler, Lima, Ohio, assignor to Westinghouse Electric Corporation, Pittsburgh, Pa., a corporation of Pennsylvania

Filed Jan. 23, 1967, Ser. No. 610,913

Int. Cl. G05f *1/44*

U.S. Cl. 323—19 **6 Claims**



A circuit arrangement for gradually controlling the supply of power to the heater of a windowpane of an aerospace vehicle in response to the sensed window temperature. The arrangement includes two ramp generators, an AND circuit, and a power amplifier. One of the ramp generators is designed to produce a voltage having slowly rising ramp while the other generator functions to produce a more rapidly rising and falling ramp voltage in response to a digital signal from a temperature sensing circuit. The AND circuit applies the lower of the two ramp voltages to the power amplifier as the control bias therefor. The power amplifier is thereby controlled to apply power to the heater at a rate of increase corresponding to the slowly rising ramp voltage when the window is cool, and to apply and remove power at the rate of the more rapidly rising and falling ramp voltage when the window is warm.

3,440,522

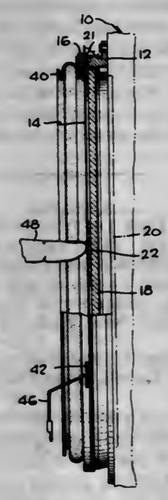
CONDUCTIVE PLASTIC OVERLAY FOR TARGET DISPLAY

James A. Kruse, Woodland Hills, Calif., assignor to Litton Systems, Inc., Beverly Hills, Calif., a corporation of Maryland

Filed Apr. 3, 1967, Ser. No. 628,136

Int. Cl. G01s *9/02*

U.S. Cl. 323—63 **16 Claims**



A voltage sensor having a flexible diaphragm selectively deformable for contacting an opposed surface to receive

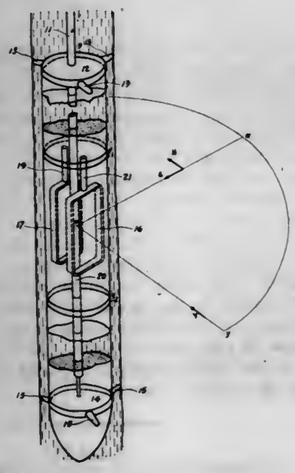
electrical signals corresponding to the location of points of contact in a predetermined coordinate system.

3,440,523

METHOD AND APPARATUS FOR ELECTROMAGNETIC DETERMINATION OF THE POSITION OF BOUNDARIES OF AND DISCONTINUITIES IN A GEOLOGICAL FORMATION

Robert Gabillard, Lille, France, assignor to Institut Francais du Petrole, des Carburants et Lubrifiants, Rueil-Malmaison, Hauts-de-Seine, France, a corporation of France

Filed Mar. 28, 1966, Ser. No. 537,795
Claims priority, application France, Apr. 2, 1965, 11,837; Apr. 16, 1965, 13,718
Int. Cl. G01v *3/12*
U.S. Cl. 324—6 **10 Claims**



The positions of discontinuities in a geological formation are determined by propagating electromagnetic waves from a station in the formation through the formation and receiving waves reflected from the discontinuities at the station. The station has a rectinlinear emitter for the waves and at least one receiving frame for the reflected waves mounted to rotate around the emitter tangentially to a cylindrical surface of revolution about the emitter. Saturation of the receiver by the emitted waves is thereby prevented and only the waves reflected by the discontinuities are received and the direction of the discontinuities are determined.

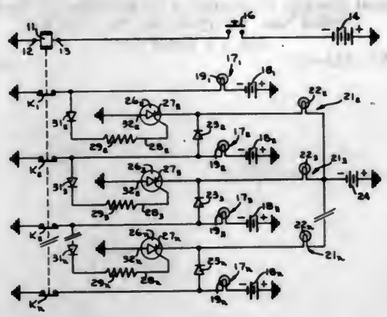
3,440,524

TEST CIRCUIT FOR DETERMINING WHETHER A PLURALITY OF ELECTRICAL SWITCHES OPERATE IN A PRESCRIBED BREAK SEQUENCE

Norman L. De Jarld, Lockport, and Laurence R. Martin, Westchester, Ill., assignors to Western Electric Company Incorporated, New York, N.Y., a corporation of New York

Filed June 3, 1964, Ser. No. 372,225
Int. Cl. G01r *31/02*
U.S. Cl. 324—28 **8 Claims**

A relay, having a plurality of contact pairs that are opened in sequence upon energization of the relay, is checked for (1) the opening of each contact pair and (2) the sequence in which the contact pairs open. If the pairs of contacts open in the correct sequence, a switching circuit remains disabled. However, if any pair of contacts open before the pair of contacts which are arranged to open immediately prior to them is open, the corresponding switching circuit is enabled to light an indicator lamp



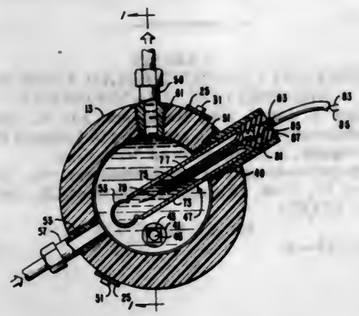
and identify the pair of contacts which opened out of sequence.

3,440,525

pH METER AND CONTROL SYSTEM

Charles P. Cardeiro, Santa Ana, Calif., assignor, by mesne assignments, to Universal Interloc, Inc., Trevose, Pa., a corporation of Pennsylvania

Filed Apr. 13, 1966, Ser. No. 542,351
Int. Cl. G01r *11/44, 1/30;* **H03f** *3/14*
U.S. Cl. 324—30 **15 Claims**



The pH sensitive electrode has a field effect transistor (FET) mounted on or in close proximity to the probe structure with its gate terminal connected to the internal conductor of the electrode to transmit a low impedance output indicative of pH to a remote location. The reference half cell employs a sealed chamber containing a substantial excess of undissolved salt crystals immersed in a saturated salt bridge solution that communicates through a liquid junction device, such as a wooden dowel or porous ceramic plug, having substantial cross sectional area to provide numerous capillaries extending between the chamber and the test solution.

3,440,526

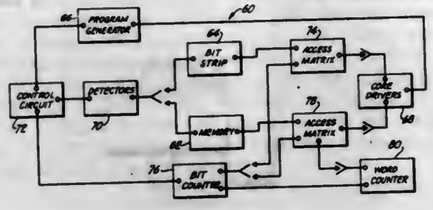
TEST CIRCUIT FOR EVALUATING MAGNETIC MEMORY DEVICES

William H. Kastning, Aurora, Ill., assignor to Western Electric Company, Incorporated, New York, N.Y., a corporation of New York

Filed Aug. 26, 1964, Ser. No. 392,140
Int. Cl. G01v *33/12, 15/12*
U.S. Cl. 324—34 **26 Claims**

Apparatus for testing individual magnetic core response and wiring in partially wired bit strips and completed memories. In testing bit strips including cores

linked by a common sense winding to provide alternately poled response signals, the cores are sequentially driven through individual probes and an access matrix, and alternate ones of pairs of detectors coupled to the common sense winding evaluate the core response. The access



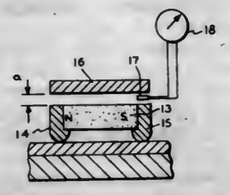
matrix for testing complete memories includes bit and word counters for selecting each of the cores in sequence. Manual controls are provided for varying the tests performed on the cores, for repeating tests, and for selecting desired cores out of sequence.

3,440,527

MAGNETIC THICKNESS GAUGE HAVING SHIELDED MAGNET

Erich Steingroever, 33 Flensburger Strasse, Bonn, Germany

Filed July 8, 1966, Ser. No. 563,814
Claims priority, application Germany, July 19, 1965, N 27,058
Int. Cl. G01r *33/02, 33/06*
U.S. Cl. 324—34 **1 Claim**



A magnetic thickness gauge for measuring the thickness of a non-metallic material on a ferromagnetic support including a permanent magnet having its polar axis disposed parallel to the axis of the material to be measured, pole pieces on each end of the magnet having hemispherical surfaces projecting from one end towards the material to be measured for contact therewith, the other ends of the pieces defining an air gap for completing the magnetic circuit and a Hall effect device is disposed in such air gap to measure the magnetic flux therein.

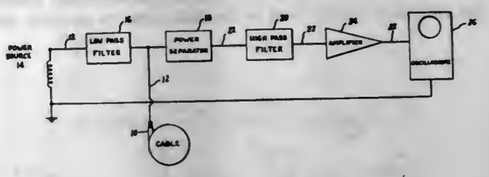
3,440,528

METHOD AND APPARATUS FOR LOCATING VOIDS IN AN INSULATED ELECTRICAL CABLE

Harry C. Anderson, Stratford, Conn., assignor to General Electric Company, a corporation of New York

Filed June 14, 1967, Ser. No. 645,954
Int. Cl. G01r *31/08*
U.S. Cl. 324—52 **14 Claims**

In an ionization site locator, power frequency applied from a source to the cable is transmitted through a filter which attenuates higher frequencies. The filter includes means for stepping down the impedance to match the impedance of the cable. The high frequency pulses resulting from ionization at a void site in the cable are separated from the power frequency, and a signal applied by the high frequency pulses is detected by an oscilloscope or other suitable indicator means.

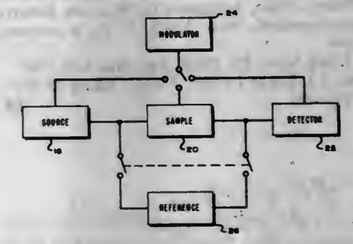


3,440,529

A METHOD FOR SPECTROSCOPICALLY ANALYZING A SAMPLE BY DETECTING A RADIATION FIELD CHANGE AS A FUNCTION OF THE RADIATION POWER DENSITY IN THE SAMPLE

Richard H. Bauhaus, Howard W. Harrington, and Howard C. Poulter, Palo Alto, Calif., assignors to Hewlett-Packard Company, Palo Alto, Calif., a corporation of California

Filed Feb. 21, 1966, Ser. No. 528,854
Int. Cl. G01r *27/04*
U.S. Cl. 324—58.5 **9 Claims**



Electromagnetic radiation is applied to a sample of matter to produce a spectroscopic transition that causes a change in each field component of the applied electromagnetic radiation. The change in each field component is varied by varying the power density of the electromagnetic radiation applied to the sample. Variations in the change of a selected field component are detected as a function of the variations in power density under power saturated conditions to determine the maximum change of the selected field component.

3,440,530

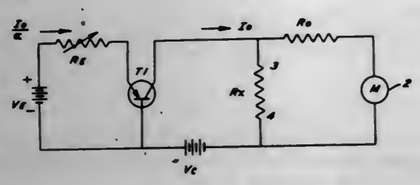
METHOD AND APPARATUS FOR MEASURING THE RESISTANCE OF AN ELECTRICAL COMPONENT WHICH MAY BE SHUNTED BY A SEMICONDUCTOR DEVICE

Bernard Reich, Yonkers, Michael A. Benanti, Mamaroneck, and William R. Orloff, Tarrytown, N.Y., assignors to Molecular Electronics, Inc., New Rochelle, N.Y., a corporation of New York

Continuation of application Ser. No. 118,132, June 19, 1961. This application Nov. 22, 1966, Ser. No. 596,348
Int. Cl. G01r *27/14*
U.S. Cl. 324—62 **16 Claims**

A method and apparatus for measuring the resistance of an electrical component which may be shunted by a semiconductor device which comprises the steps and apparatus for connecting a high impedance constant current

source to current measuring means of low impedance, driving a constant current through said current measuring means to produce a voltage across said means which is too small to turn on any semiconductor device connected in circuit with said electrical component, placing the electrical component to be measured in parallel with



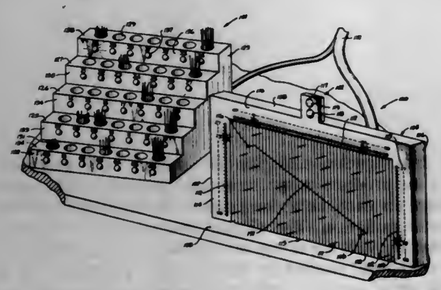
said current measuring means, and measuring the new current flowing through said means; whereby the resistance of said electrical component is determined directly by the value of said new current, and no error is introduced by any semiconductor device connected to said electrical component.

3,440,531

SURFACE WIRING ASSIST DEVICE FOR SELECTING WIRE LENGTHS AND TERMINAL PAIRS TO BE INTERCONNECTED THEREBY WITH CONNECTION STATUS INDICATION

Larry P. Jasorka, Columbus, and Edward E. Richards III, New Albany, Ohio, assignors to Western Electric Company Incorporated, New York, N.Y., a corporation of New York

Filed Mar. 29, 1965, Ser. No. 443,530
Int. Cl. G01r *19/00, 31/02;* **B23q** *17/00*
U.S. Cl. 324—66 **10 Claims**



A surface wiring assist device includes a frame which supports a row of lamps along one horizontal edge thereof and a pair of columns of lamps along opposite vertical edges thereof. An electrical device having terminals extending from one side thereof is positioned within the frame so that each terminal is associated with one of the lamps in the row of lamps and one of the lamps in an associated one of the columns of lamps. Selected lamps of the row and columns of lamps are illuminated to indicate the selection of an associated pair of terminals which are to be connected by a surface wire.

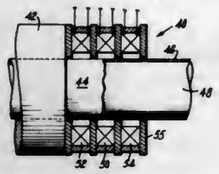
A wire supply includes a plurality of receptacles for supporting precut lengths of wire and includes a lamp adjacent to each receptacle for indicating the length of wire to be connected between the selected pair of terminals. When the wire is connected between the selected pair of terminals, an indicator is operated to indicate the proper connection.

3,440,532

SPEED SENSOR FOR LINEAR INDUCTION MOTORS

Kwangho Chung, Hartford, Conn., assignor to Skinner Precision Industries, Inc., New Britain, Conn., a corporation of Connecticut

Filed May 7, 1965, Ser. No. 454,773
Int. Cl. G01r *11/00, 33/14;* **G01p** *3/22*
U.S. Cl. 324—70 **2 Claims**



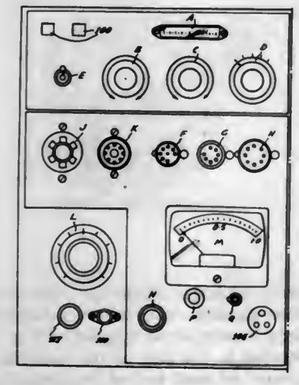
Velocity sensor for linear induction motor armature including an eddy current inducing winding surrounding the armature and a pair of oppositely wound, series connected pick-up windings adjacent the first winding for inducing in the pick-up windings a voltage proportional in magnitude to the speed of the armature.

3,440,533

PORTABLE POTENTIOMETRIC RECORDER TESTING AND CALIBRATING DEVICE

Bert Earley, Bristol, England, assignor to Central Electricity Generating Board, London, England, a company of Great Britain

Filed Apr. 1, 1966, Ser. No. 546,471
Int. Cl. G01r *15/12, 35/04, 11/32*
U.S. Cl. 324—73 **7 Claims**



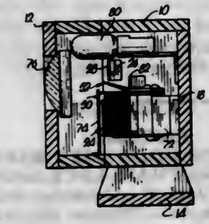
Portable testing equipment for testing the functioning of single and multi-point potentiometric recorders, comprising in combination, a voltage divider having a plurality of outputs, all of which differ from each other in a defined known manner, the voltage range of these outputs covering the voltage range of the multi-point recorder to be tested; means for varying the range of the voltage outputs of said divider; a multi-lead cable, one end of each lead being connected to an output of the divider; a housing provided at the other end of the cable for separately housing the other end of each lead, said housing being constructed so that the leads can be extracted therefrom for simultaneously connecting a desired plurality of outputs to the input channels of the recorder under test; a micro-volt output device, the output of which is fed into the amplifier of the recorder for testing the servo-system of the recorder; a tube tester for testing the electron emission of amplifier tubes used in the recorder under test; a converter testing unit having a socket for receiving and testing the converter of the recorder for the percentage of contact dwell; a contact pressure testing device which is demountable from the device for making a test; a torque tester comprising a chuck, a dial and a memory needle; a plurality of interchangeable torque bars, one of which is coupled to a suitable point of the recorder mechanism, the torque required for rotating the mechanism indicating the friction of the system; and a constant voltage unit testing means comprising at least a pair of resistors, one being of larger value than the other, connected across the output from the constant voltage of the recorder, the values of the resistors being such that the voltage across the resistor of smaller value can be read by balancing a potentiometer with the aid of a galvanometer.

3,440,534

DUAL REED COMB FILTER

Horace G. Miller, 4800 W. 55th Terrace, Mission, Kans. 66611

Filed Aug. 12, 1965, Ser. No. 479,265
Int. Cl. G01r *23/00*
U.S. Cl. 324—80 **1 Claim**



A frequency indicator, particularly adapted for use by musicians, employs groups of vibratory reeds corresponding to the octaves of the frequency spectrum to be monitored by the device. Each group of reeds comprises a bank of vibratory members, each of the latter having a longitudinal opening therein extending from its free end to a point spaced from a clamp which provides cantilever support for the members. Each member, therefore, is split into a pair of vibratory reeds joined adjacent the clamp by an integral web which serves as a mechanical coupling for transmitting vibratory motion from one reed of the pair to the other. Only one reed of each pair is electromagnetically driven, thus the frequency response of the composite reed pair is affected by the integral web coupling, with the result that a relatively flat comb filter frequency response characteristic with sharp skirt selectivity is produced. A filter is coupled with the electromagnet associated with the lowest frequency reed group to prevent second mode response when the fundamental frequency of the input signal is in the octave range of the third lowest frequency reed group.

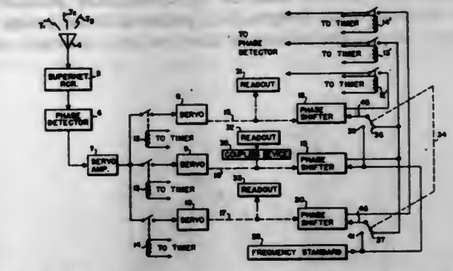
3,440,535

PHASE LOCKED LOOP SERVO SYSTEM FOR DIRECT MEASUREMENT OF RELATIVE PHASE

Alexander F. Thornhill, Accokeek, Md., assignor to the United States of America as represented by the Secretary of the Navy

Filed July 28, 1966, Ser. No. 569,007
Int. Cl. G01r *25/04*
U.S. Cl. 324—83 **4 Claims**

A phase measuring system having a first mode, for use in circular radio navigation systems, and a second mode, for use in hyperbolic radio navigation systems, comprising three phase locked loops each including a phase detector, a servo, a phase shifter and a readout device. In the first mode all three loops are referenced to a frequency



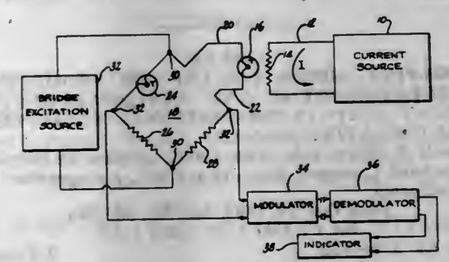
standard. In the second mode two of the loops are referenced to the third to give a direct readout of relative phase.

3,440,536

PASSIVE CIRCUIT INCLUDING A THERMISTOR FOR PROVIDING HIGH LEVEL VOLTAGE VARIATIONS IN RESPONSE TO LOW LEVEL CURRENT VARIATIONS

William L. Ronci, Ann Arbor, Mich., assignor to The Bendix Corporation, a corporation of Delaware

Filed Oct. 11, 1965, Ser. No. 494,548
Int. Cl. G01r *5/26, 23/04, 25/02*
U.S. Cl. 324—106 **2 Claims**



An electrical circuit for providing high level voltage variations in response to low level current variations having a resistor connected in series with the source of current to be measured, a thermistor thermally coupled with the resistor, and a Wheatstone bridge having the first thermistor as one arm of the bridge and a second ambient temperature compensating thermistor as an adjacent arm of the bridge.

3,440,537

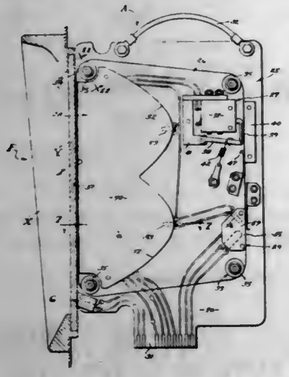
BAR-GRAPH DISPLAY INSTRUMENT

Robert T. Warner, Poway, and Robert R. Christy, Lemon Grove, Calif., assignors to Non-Linear Systems, Inc., Del Mar, Calif., a corporation of California

Filed Aug. 20, 1963, Ser. No. 303,283
Int. Cl. G01r *13/04, 17/06;* **H03k** *5/20*
U.S. Cl. 324—113 **2 Claims**

1. A bar-graph display instrument comprising, means sensitive to various classes of input voltage, and a multiplicity of like and adjacently related visible bar producing units and each including, a fixed carriage with a narrow and elongated observation edge disposed in a common plane from a common base line, a partially visible and continuous loop-shaped element movable longitudinally and advancively only and incrementally over said observation edge and with a discernable light transmitting portion thereon, a first light source and uniformly reflective element within the carriage and disposed to project light coextensive of said observation edge and forwardly therefrom, a drive means for the element and operable to advance only said element in response to a pulse, and means associated with said unit and drive means therefor

to sense a predetermined class of input voltage from the first mentioned means and to deliver a pulse to the drive means and thereby advance the discernable portion of the element to a longitudinal position, there being an opaque and light reflective area on said element, and



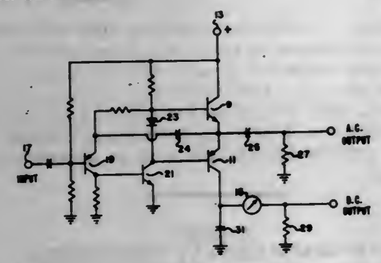
means positioned on the carriage at said common base line and sensitive to a second light source to control said drive means and thereby limit repositioning of said element upon traverse of said opaque and reflective area relative to said last mentioned means.

3,440,538

PUSH-PULL METER CIRCUIT FOR PRODUCING DIRECT-CURRENT AND ALTERNATING-CURRENT OUTPUTS PROPORTIONAL TO APPLIED ALTERNATING SIGNAL

Russell B. Riley, Palo Alto, Calif., assignor to Hewlett-Packard Company, Palo Alto, Calif., a corporation of California

Filed Oct. 29, 1965, Ser. No. 505,686
Int. Cl. G01 *1/30;* **H03f** *3/68*
U.S. Cl. 324—123 **2 Claims**



A meter circuit includes a pair of complementary conductivity type transistors connected in a circuit which produces a D.C. output, an A.C. output and a meter indication proportional to the amplitude of an applied signal.

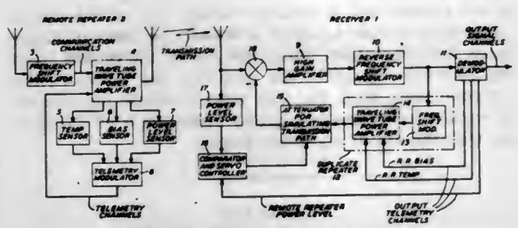
3,440,539

REMOTE CONTROLLED SYSTEM FOR REDUCING DISTORTION

Richard W. Hamming, Chatham Township, Morris County, N.J., assignor to Bell Telephone Laboratories, Incorporated, New York, N.Y., a corporation of New York

Filed Dec. 16, 1964, Ser. No. 418,634
Int. Cl. H04b *1/10, 15/00*
U.S. Cl. 325—65 **9 Claims**

In a multiple channel communications system, a remote repeater in addition to relaying communications signals is caused to transmit data concerning ambient conditions and operating characteristics in the repeater which effect distortion in the signals. Signals received from the remote repeater are connected in a receiver to a feedback arrangement which includes a duplicate of the remote repeater. By adjusting the duplicate repeater in accordance with the received data concerning ambient conditions and operating characteristics, distortion is produced in the



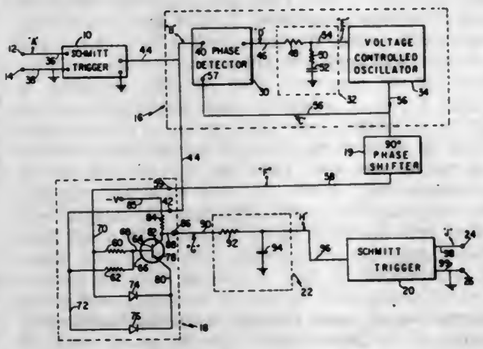
feedback loop which is substantially identical to the distortion produced by the remote repeater, and the distortion in the communications signals is effectively cancelled. Also included in the feedback loop is an attenuator which is adjusted in accordance with the received power level of the signals and the power output level of the remote repeater. This adjustable attenuator simulates attenuation introduced by the transmission path.

3,440,540

FREQUENCY ENCODED DATA RECEIVER EMPLOYING PHASE-LOCK LOOP

Walter E. Hane and Jack F. Alexander, Sanford, Fla., assignors to Ortronix, Inc., Orlando, Fla., a corporation of Florida

Filed Feb. 14, 1964, Ser. No. 344,856
Int. Cl. H04b *1/16, 1/00, 7/00*
U.S. Cl. 325—320 **5 Claims**



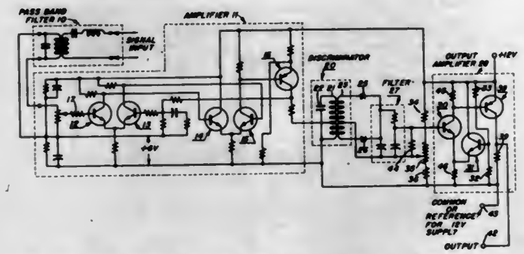
This invention discloses a tone burst analyzer which is connectable to the output of a data receiver and comprises a Schmitt trigger circuit connected at its input side to receive an intermittent incoming signal from the data receiver which has its frequency encoded with intelligence. The analyzer is connected at its output side to drive a phase lock loop. A data generator is connected at its input side to the output of the phase lock loop through a 90° phase shifter and also to the output of the Schmitt trigger circuit. The output of the data generator is connected to drive another Schmitt trigger circuit through a filter. A data signal representative of the intelligence at the output of the data receiver appears on the output terminals of the last mentioned Schmitt trigger.

3,440,541

FREQUENCY SHIFT RECEIVER WITH SINGLE DISCRIMINATOR TUNED TO ONE SIDE OF BOTH SIGNAL FREQUENCIES

Everett A. Gilbert, Denville, and George L. King, Morris Plains, N.J., assignors to RFL Industries, Inc., Boonton, N.J., a corporation of New Jersey

Filed Apr. 9, 1965, Ser. No. 447,010
Int. Cl. H04b *1/18;* **H04l** *27/26, 17/16*
U.S. Cl. 325—320 **2 Claims**



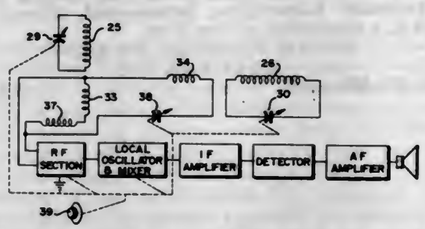
A receiver providing a two state control function in correspondence with MARK and SPACE input signals comprised of pulses having different carrier frequencies. The receiver includes a single discriminator tuned to resonance at a frequency lying to one side of both of the input signal frequencies and provides two output voltages of different magnitudes, which voltages are rectified to control an output circuit.

3,440,542

OMNIDIRECTIONAL LOOP ANTENNA

George E. Gautney, Annandale, Va., assignor to Gautney & Jones Communications, Inc., Washington, D.C., a corporation of the District of Columbia

Filed Mar. 9, 1965, Ser. No. 438,253
Int. Cl. H04b *1/16;* **H01q** *7/08*
U.S. Cl. 325—373 **11 Claims**



A loop antenna for omnidirectional reception of RF signals comprising a pair of mutually orthogonal loops wound respectively about the crossed arms of a magnetic core, each loop including a first and second winding inductively coupled, the first winding of each loop being connected in resonant circuit, and the second winding of each loop being provided with reactive impedance components to produce a phase quadrature relationship between currents induced in the two loops in the presence of an external field about the antenna.

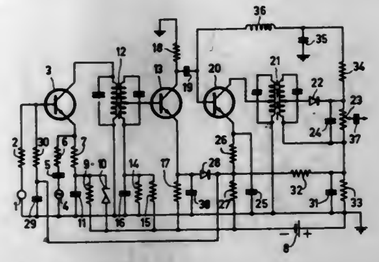
3,440,543

DELAYED AUTOMATIC GAIN CONTROL SYSTEM

Reinhard Anton Polzl, Emmasingel, Eindhoven, Netherlands, assignor, by mesne assignments, to U.S. Philips Corporation, New York, N.Y., a corporation of Delaware

Filed Oct. 22, 1965, Ser. No. 501,603
Claims priority, application Netherlands, Oct. 24, 1964, 6412422
Int. Cl. H03g *3/30;* **H04b** *1/16*
U.S. Cl. 325—404 **10 Claims**

A delayed automatic gain control system for a transistor receiving circuit comprising two amplifier transistors having their emitter circuits coupled together by a diode which is poled so as to be conductive at low signal levels. The signal detector is connected to the second amplifier transistor with such a polarity that the emitter current increases with increasing signal strength. As a consequence the emitter current and gain of the first transistor decrease with increasing signal strength. At increasing input signal levels the interconnecting diode becomes non-conductive, the gain of the first amplifier attains a stabilized value and the voltage across the emitter of the second amplifier transistor is applied to a preceding stage of the receiver.

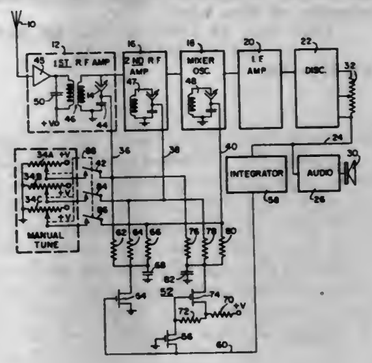


3,440,544

MANUAL, AUTOMATIC, AND SEMIAUTOMATIC TUNING CIRCUITS UTILIZING VOLTAGE VARIABLE CAPACITANCE DIODES

Frank L. Pampel, Watseka, Ill., assignor to Motorola, Inc., Franklin Park, Ill., a corporation of Illinois

Filed Nov. 1, 1966, Ser. No. 591,200
Int. Cl. H04b *1/16;* **H03b** *3/04*
U.S. Cl. 325—422 **11 Claims**

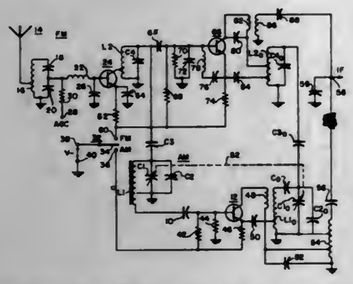


A plurality of tuned circuits each comprising a voltage variable capacitance diode in series with a large capacitance DC blocking capacitor. Manual tuning is derived by a variable voltage selectively connected to the diode-capacitor function. AFC is provided by a pair of field effect (FET) transistors connected to the same function whereby the output voltage from a discriminator is applied to the FET transistors for adjusting the DC blocking capacitor voltage. Semi-automatic tuning is provided by a pair of circuits including manual switches respectively connected to the pair of FET transistors.

3,440,545
TUNING CIRCUITS FOR TUNING TO AT LEAST TWO SEPARATE FREQUENCY BANDS

Dirk J. Bloomgaard, Murrysville, Monroeville, Pa., assignor to Westinghouse Electric Corporation, Pittsburgh, Pa., a corporation of Pennsylvania

Filed July 11, 1966, Ser. No. 564,202
Int. Cl. H04b 1/06
U.S. Cl. 325—460 10 Claims

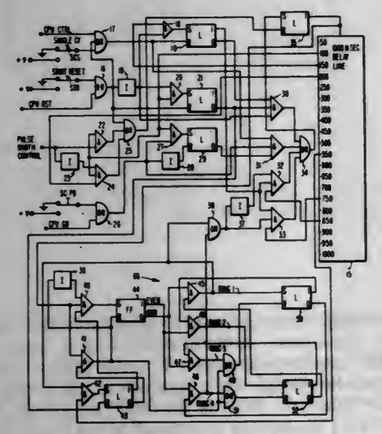


A simplified tuning circuit with an input tuning stage and a frequency converter tuning stage, both the input and converter stages having tow inductive devices, a tuning capacitive device, and at least one additional capacitive device for tuning to two separate frequency bands. During operation in frequency band one, inductive devices two in the input and the converter stages do not affect tuning. During operation in frequency band two, inductive devices one in the input and the converter stages do not affect tuning. The input tuning capacitive device and the converter capacitive device are ganged together so that the input stage and the converter stage are tuned coincidently.

3,440,546
VARIABLE PERIOD AND PULSE WIDTH DELAY LINE PULSE GENERATING SYSTEM

Paul E. Nelson, Rochester, Minn., assignor to International Business Machines Corporation, Armonk, N.Y., a corporation of New York

Filed Nov. 15, 1965, Ser. No. 507,844
Int. Cl. H03k 5/159
U.S. Cl. 328—56 9 Claims

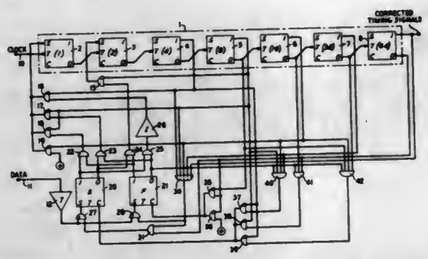


Apparatus is provided for controlling the application of pulses onto a delay line in either a single cycle or oscillator mode with the facility for selecting or varying the oscillator frequency from cycle to cycle and for selectively varying the pulse width.

3,440,547
SYNCHRONIZER FOR MODIFYING THE ADVANCE OF TIMING WAVE COUNTDOWN CIRCUITS

George P. Houcke, Tenafly, N.J., assignor to Bell Telephone Laboratories, Incorporated, New York, N.Y., a corporation of New York

Filed Apr. 11, 1966, Ser. No. 541,707
Int. Cl. H03k 3/04, 1/00
U.S. Cl. 328—63 12 Claims

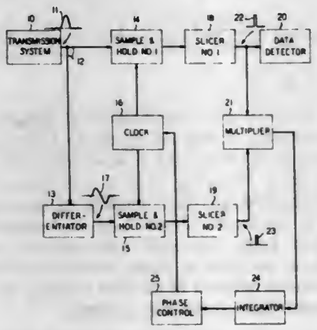


A clock driven seven-stage binary counter is phase-locked to incoming data signals by feedback gates pulsed by various counter stages to advance the count. Some of the gates are normally enabled to cycle the counter in response to 100 clock pulses instead of 128. Disabling any normally enabled gate, therefore, retards the phase of the counter while enabling other ones of the gates advances the phase of the counter. Control of the gates is provided by flip-flops which register which portion of the counter cycle coincides with the incoming data signal transition.

3,440,548
TIMING RECOVERY CIRCUIT USING TIME DERIVATIVE OF DATA SIGNALS

Burton R. Saltzberg, Middletown, N.J., assignor to Bell Telephone Laboratories, Incorporated, Murray Hill, N.J., a corporation of New York

Filed Oct. 6, 1966, Ser. No. 584,893
Int. Cl. H03k 5/18
U.S. Cl. 328—151 8 Claims



1. A timing recovery circuit for synchronous digital data comprising

means taking the time derivative of the received data train,

means detecting the polarity of the symbols in the received data train,

means correlating time-spaced simultaneous samples of the outputs of said taking and detecting means to form a product wave,

means integrating said product wave to form a control wave,

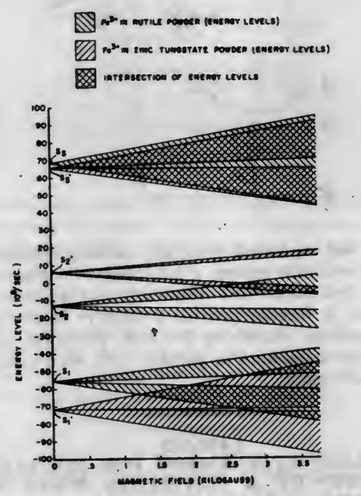
a clock source supplying simultaneous sampling pulses to said taking and detecting means, and

phase control means responsive to said control wave causing said clock source to generate sampling pulses at instants of the optimum response of said data train.

3,440,549
WIDE BANDWIDTH MILLIMETER MASER

Wayne E. Hughes, Glen Burnie, Md., assignor to Westinghouse Electric Corporation, Pittsburgh, Pa., a corporation of Pennsylvania

Continuation-in-part of application Ser. No. 442,967, Mar. 26, 1965. This application Mar. 9, 1967, Ser. No. 621,824
Int. Cl. H01s 1/02
U.S. Cl. 330—4 11 Claims



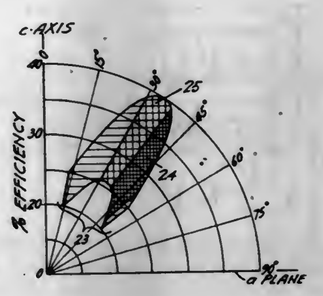
A broad band maser is described in which the maximum amplifying bandwidths may be increased by orders of magnitude by utilizing negative temperature media that have at least three discrete metastable states and are therefore capable of continuous wave maser operation. The orientation of the electron spins of some crystals give discrete energy levels. In general, the energy levels are functions of the host crystalline field orientation and the magnitude of any external magnetic field present. If such material is used in powdered form the crystal axes then have completely random orientations. By applying a magnetic field to such polycrystalline material the energy levels will be split into a continuum and the number of allowable transitions frequencies are greatly increased and the bandwidth of operation is increased accordingly. Two or more polycrystalline (powdered) media are mixed together to get a larger bandwidth. The specific materials used are Fe^{3+} doped $ZnWO_4$ and Fe^{3+} doped TiO_2. Other materials that may be used are Fe^{3+} in $MgWO_4$, $CdWO_4$ and $CaWO_4$. Also two different kinds of dopant ions may be incorporated into the same crystalline host.

3,440,550
ZINC OXIDE MAXIMUM EFFICIENCY TRANSVERSE WAVE CRYSTALS AND DEVICES

Arthur R. Moore, Somerset Township, St. Croix County, Wis., assignor to Minnesota Mining and Manufacturing Company, St. Paul, Minn., a corporation of Delaware

Filed Oct. 25, 1966, Ser. No. 589,303
Int. Cl. H03f 3/04; H02n 1/00
U.S. Cl. 330—5.5 15 Claims

A piezoelectric device comprising at least one element consisting of a piezoelectric zinc oxide crystal having an axis passing through the crystallographic *c* axis and inclined at an angle theta relative to such crystallographic *c* axis wherein theta ranges from 13° to 53° and wherein

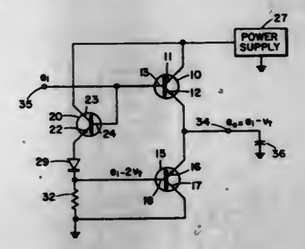


the crystal has a resistivity between about 0.1 and 10^{12} ohm-cm. and means for making electrode contact with said element on at least one face is shown.

3,440,551
LINE DRIVER CIRCUITS ADAPTED TO DRIVE HIGHLY CAPACITIVE LOADS

Jan A. Narud and Walter C. Seelbach, Scottsdale, Ariz., assignors to Motorola, Inc., Franklin Park, Ill., a corporation of Illinois

Filed Nov. 26, 1965, Ser. No. 509,778
Int. Cl. H03f 3/18
U.S. Cl. 330—13 9 Claims



Disclosed are line driver circuits for driving highly capacitive loads, and these circuits include output complementary transistors which are connected to an output terminal. The complementary transistors conduct to alternately charge and discharge capacitive loads connected to the output terminal. DC level shifting circuit means are connected between the inputs of the complementary transistors so that the complementary transistors conduct in the steady state and present a low impedance charge and discharge path for capacitive loads connected to the output terminal.

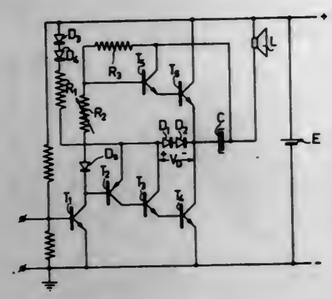
3,440,552
PUSH-PULL AMPLIFIER INCLUDING TRANSISTOR

Alphonsus Maria Peters and Jacobus Johannes Rongen, Mollenhutseweg, Nijmegen, Netherlands, assignors, by mesne assignments, to U.S. Philips Corporation, New York, N.Y., a corporation of Delaware

Filed June 7, 1967, Ser. No. 644,272
Claims priority, application Netherlands, June 10, 1966, 6608051
Int. Cl. H03f 3/26
U.S. Cl. 330—15 9 Claims

A push-pull transistor amplifier is described in which the supply current flows serially in the collector-emitter

paths of the two output transistors. One of the drivers has its emitter connected to the base of the corresponding output transistor, and its collector connected to the junc-



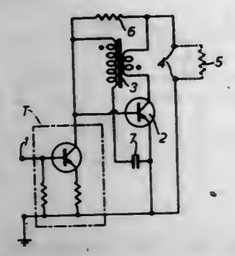
tion of a resistor and diode means connected serially in that order between a supply source and the collector of the corresponding output transistor.

3,440,553

TRANSISTOR AMPLIFIERS HAVING BOTH CURRENT AND VOLTAGE RESPONSIVE FEEDBACK PROVISIONS

Roger Edwin John Gerard, London, England, assignor to The Marconi Company Limited, London, England, a British company

Filed Dec. 8, 1965, Ser. No. 512,494
Claims priority, application Great Britain, Jan. 6, 1965, 654/65
Int. Cl. H03f *1/08, 1/34*
U.S. Cl. 330—28 **5 Claims**



A transistor amplifier having a current feedback loop provided by a current transformer with its primary in series with the load terminals in the output electrode circuit of the transistor and its secondary included in a circuit between the remaining two electrodes of the transistor and a voltage feedback loop including a matching impedance. The transistor amplifier is driven from a suitably selected current source, the current feedback loop providing stabilized current gain and the voltage feedback loop providing impedance matching.

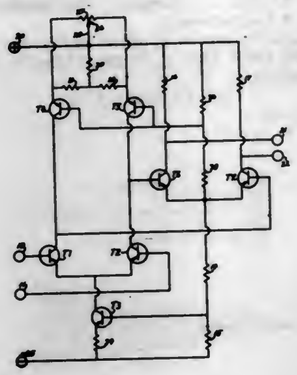
3,440,554

DIFFERENTIAL DC AMPLIFIER

Donald R. McGraw and Jerald G. Graeme, Tucson, Ariz., assignors to Burr-Brown Research Corporation, Tucson, Ariz., a corporation of Arizona

Filed Sept. 14, 1966, Ser. No. 579,340
Int. Cl. H03f *3/04, 3/68, 1/32*
U.S. Cl. 330—30 **10 Claims**

1. In a transistor differential amplifier having: a first and a second connection means for connection to a potential bias source, a pair of input transistors for receiving an input signal between the base electrodes thereof, and a common mode negative feedback path, said path including a negative feedback resistor connected to said second connection means, the improvement comprising: a pair of dynamic load transistors each having the emitter-collector circuits thereof connected in series with the emitter-collector circuits of a different one of said input



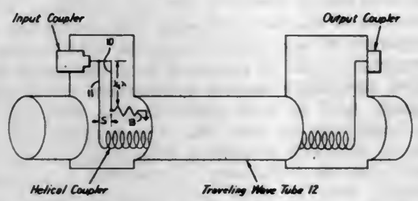
transistors and connected through a variable resistance to said first connection means; a bias resistor connected between said first connection means and said negative feedback resistor to thereby provide a negative feedback bias loop; and means connecting the base electrodes of said dynamic load transistors in parallel with each other and to said bias resistor.

3,440,555

SHAPED-LOSS ATTENUATOR FOR EQUALIZING THE GAIN OF A TRAVELING WAVE TUBE AMPLIFIER

Herbert J. Wolkstein, Livingston, N.J., assignor, by mesne assignments, to the United States of America, as represented by the Secretary of the Navy

Filed Mar. 21, 1966, Ser. No. 537,618
Int. Cl. H03f *3/58, 3/10, 3/12*
U.S. Cl. 330—43 **3 Claims**



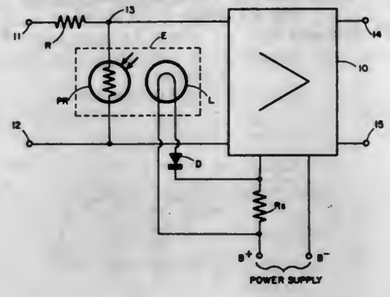
A shaped-loss attenuator for equalizing the gain of a traveling wave tube amplifier throughout its intended frequency range by reducing or eliminating excessive peaking of the gain in the mid-band region. The invention is comprised of a passive quarter wavelength terminated line having one end directly coupled to the amplifier transmission line and having the length of the terminated line placed in parallel with the transmission line at a distance or spacing therefrom determined by the amount of attenuation desired. The line is terminated at its other end by a suitable resistance such as a lossy wire placed at right angles to the quarter wave line. This gain equalizer may be coupled to the transmission line leading to the traveling wave tube, or it may be incorporated within the envelope of the tube as an integral part thereof.

3,440,556

PROTECTIVE SYSTEM FOR AMPLIFIERS

Ronon M. Cambridge, Ottawa, Ontario, and Allan K. Gardiner, Belleville, Ontario, Canada, assignors to Northern Electric Company Limited, Montreal, Quebec, Canada

Filed June 13, 1966, Ser. No. 557,075
Int. Cl. H03f *1/02, 17/00*
U.S. Cl. 330—59 **8 Claims**



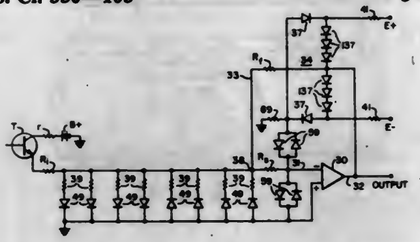
A protection system for class B and C transistor amplifiers employing a series resistor in the power supply input to the amplifier, and a diode and a light source in parallel with the resistor. A photo-resistor is connected in shunt across the amplifier input terminals. A power supply current exceeding a predetermined value due to a short circuit in the amplifier output illuminates the light source to lower the resistance of the photo-resistor and by-pass an appropriate portion of the input signal to the amplifier to prevent damage to the amplifier.

3,440,557

AMPLIFIER APPARATUS WITH MEANS TO AVOID SATURATION

Gunnar F. Sundeen, Jr., Pinehurst, Pasadena, Md., assignor to Westinghouse Electric Corporation, Pittsburgh, Pa., a corporation of Pennsylvania

Filed Sept. 14, 1965, Ser. No. 487,236
Int. Cl. H03f *1/34*
U.S. Cl. 330—103 **3 Claims**



In an amplifier circuit a feedback loop is connected from the output to a summing point isolated from the amplifier input while a clamping circuit is connected directly back to the input to avoid saturation of the amplifier.

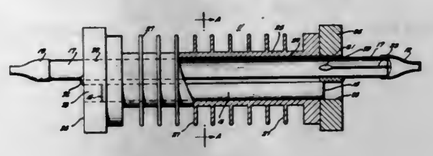
3,440,558

HIGH REPETITION RATE LASER

Harold A. Cameron, Inglewood, Calif., assignor to Hughes Aircraft Company, Culver City, Calif., a corporation of Delaware

Filed Nov. 12, 1964, Ser. No. 410,507
Int. Cl. H01s *1/06*
U.S. Cl. 331—94.5 **2 Claims**

This is a laser wherein a solid-state active element is rapidly cooled to allow relatively high power-rapid rate pulse operation by partially embedding the active element along its length in a longitudinal polished groove in the inner surface of one of two longitudinal half sections of a pump cavity structure. A flash lamp is partial-



ly embedded in the opposite half section and a relatively thin heat insulated gasket is disposed between the two sections of the pump cavity to isolate the heat dissipated by the lamp from the active laser element.

3,440,559

KRYPTON-XENON FLASH TUBE FOR PUMPING A RUBY LASER

Ronald Ernest Lake and Donald Rees, Chelmsford, Essex, England, assignors to English Electric Valve Company Limited, London, England, a British company

Filed May 8, 1964, Ser. No. 366,011
Claims priority, application Great Britain, June 17, 1963, 23,943/63
Int. Cl. H01s *3/09;* **H01j** *17/20, 61/16*
U.S. Cl. 331—94.5 **3 Claims**



A ruby laser arrangement is provided in which the ruby laser is stimulated by a light source including a flash tube in which the filling is of xenon and krypton. From 25% and 50% of krypton and between 25% and 50% of xenon is envisaged but in preferred embodiments xenon predominates. In one embodiment the flash tube is straight and included within a reflector shaped to concentrate light upon the ruby laser while in another embodiment the flash tube is helical and encircles the ruby laser.

3,440,560

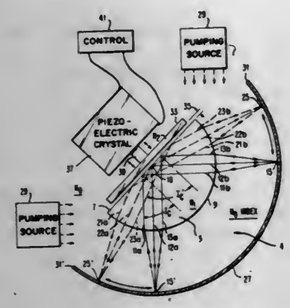
APPARATUS FOR CONTROLLING THE EMISSION OF LASER LIGHT

Robert V. Pole, Yorktown Heights, N.Y., assignor to International Business Machines Corporation, New York, N.Y., a corporation of New York

Filed Nov. 25, 1964, Ser. No. 413,704
Int. Cl. H01s *1/06*
U.S. Cl. 331—94.5 **2 Claims**

An active laser element having the form of a right semicircular cylinder is arranged to internally reflect laser light striking the diametric surface of the laser element within a given range of angles of incidence. A resonant cavity is created by placing a mirror about the laser element which is concentric with the semicircular surface. The light internally reflected from the laser surface is reflected by the mirror back along the same path thereby

setting up a plurality of resonant paths, each having different angles of incidence. By striking the diametric surface of the laser element at less than a given critical angle, light is transmitted through such surface instead of being internally reflected to form a resonant path. The



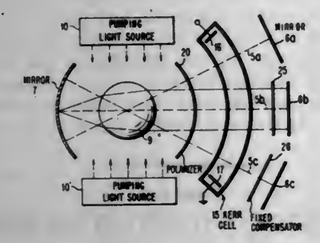
critical angle of incidence is adjustable by providing a transparent member juxtaposed with and spaced from the diametric surface, the latter member having a greater index of refraction than that of the laser element to thereby "frustrate" the internal reflection of the laser element.

3,440,561

APPARATUS EMPLOYING ELECTRONIC LIGHT SHUTTERS FOR SWITCHING THE DIRECTION OF A LASER BEAM ALONG DISCRETE PATHS

Robert V. Pole, Yorktown Heights, Robert A. Myers and Euval S. Barrekette, New York, and Jaen Nunez, Flushing, N.Y., assignors to International Business Machines Corporation, New York, N.Y., a corporation of New York

Filed June 25, 1964, Ser. No. 377,957
Int. Cl. H01s *3/05*
U.S. Cl. 331—94.5 **3 Claims**



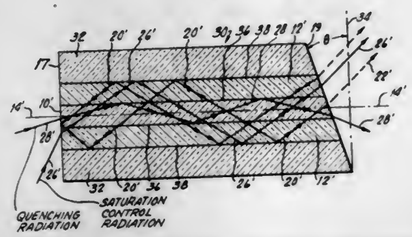
A laser apparatus is described containing an active laser element shaped in the form of a lens. A plurality of plane mirrors are placed around the active element, each one aligned perpendicular to a path from the active element to the mirror. A concave mirror is located concentrically about the active element lens in the focal surface of the lens thereby forming a resonant cavity between each plane mirror and the concentric mirror. Electronic light shutters are placed in each of the paths and when activated diminish the intensity of the light reflected along selected ones of the paths. The laser emits light along the path or paths having the lowest loss of light, that is, the highest quality factor Q. Thus, the laser beam can be switched from one path to another at very high speeds with only small control power.

3,440,562

BISTABLE LASER STRUCTURE

Charles J. Koester, South Woodstock, Conn., assignor, by mesne assignments, to Warner-Lambert Pharmaceutical Company, Morris Plains, N.J., a corporation of Delaware

Filed June 15, 1964, Ser. No. 375,041
Int. Cl. H01s *3/05, 3/10*
U.S. Cl. 331—94.5 **8 Claims**



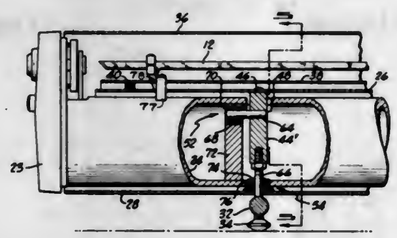
Bistable laser structure including light-controlled saturable absorbing means and controllable quenching radiation means for producing and extinguishing laser operation thereof.

3,440,563

KINEMATIC MOUNTING STRUCTURE FOR LASER RESONATOR

Carl J. Clement, Palo Alto, Calif., assignor to Spectra-Physics, Inc., Mountain View, Calif., a corporation of California

Filed Apr. 19, 1966, Ser. No. 543,653
Int. Cl. H01s *3/02*
U.S. Cl. 331—94.5 **7 Claims**



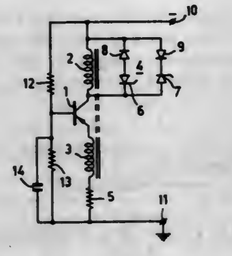
1. In combination with a laser of the type having an elongate active medium and an optical element at each end of the active medium for reflecting energy back into the longitudinal ends of the active medium, a supporting structure for said optical elements comprising an elongate rigid member, means mounting said optical elements on said rigid member, a structure circumscribing said rigid member, and means for mounting said rigid member within said circumscribing structure, said last-named mounting means comprising first, second and third spaced apart bearing members forming the connections between said rigid member and said circumscribing structure, each said bearing member having an associated axis and being arranged to resist movement of said rigid member relative said circumscribing structure only in directions normal to the associated axis, said first and second bearing members being oriented with their associated axes generally parallel to the longitudinal axis of said rigid member, said third bearing member being oriented with its axis transversely of the longitudinal axis.

3,440,564

ASTABLE RELAXATION OSCILLATOR INCLUDING A BILATERAL LIMITER IN THE OUTPUT CIRCUIT

Wilhelmus Gerardus Kuiper, Hilversum, Netherlands, assignor, by mesne assignments, to U.S. Philips Corporation, New York, N.Y., a corporation of Delaware

Filed May 15, 1967, Ser. No. 638,363
Claims priority, application Netherlands, May 14, 1966, 6606653
Int. Cl. H03k *3/16, 3/30*
U.S. Cl. 331—112 **16 Claims**



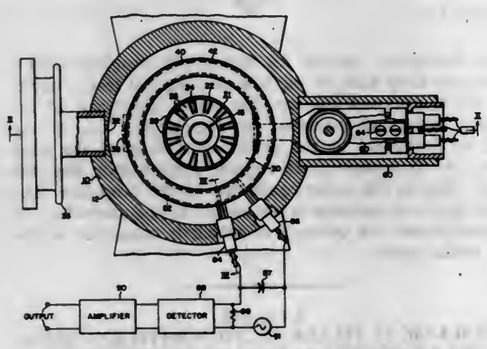
An astable relaxation oscillator is provided having a transistor connected in a common base circuit. A transformer is connected with its primary winding in the collector circuit and its secondary winding in the emitter circuit, in order to provide positive feedback. A bilateral limiter is connected in parallel with the primary winding.

3,440,565

SENSOR FOR DETECTION OF FREQUENCY OF A REED MODULATED MAGNETRON

Carl H. Scullin, Breesport, N.Y., and Kenneth D. Powell, Lancaster, Pa., assignors to Westinghouse Electric Corporation, Pittsburgh, Pa., a corporation of Pennsylvania

Filed Mar. 17, 1966, Ser. No. 535,201
Int. Cl. H03c *1/30, 3/32, 5/04*
U.S. Cl. 332—5 **6 Claims**



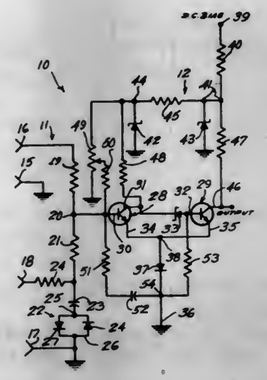
A sensing system for a magnetron of the type in which a vibrating tuning member having a moving conductive plate is utilized to modulate the frequency of the magnetron. A stationary sensing coil is provided adjacent the conductive plate to sense the movement of the conductive plate and thereby derive a signal representative of the varying frequency of the magnetron.

3,440,566

PULSE DURATION MODULATOR HAVING TRIGGER CIRCUIT UTILIZING A MODIFIED TRIANGULAR WAVEFORM

Hilmer I. Swanson, Quincy, Ill., assignor to Gates Radio Company, Quincy, Ill., a corporation of Illinois

Filed Feb. 10, 1966, Ser. No. 526,444
Int. Cl. H03k *7/08*
U.S. Cl. 332—9 **10 Claims**



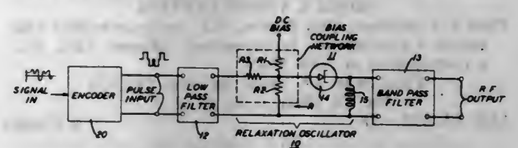
A pulse duration modulator having a trigger circuit for developing a substantially triangular waveform and having switching means for pulse modulating an audio signal in accordance with the comparative magnitudes of the audio and trigger signals. The pulse duration modulator has means for modifying the substantially triangular trigger signal in the form of a pair of parallel diodes connected to have opposite polarities and which diodes develop a square wave having the same frequency as the triangular trigger signal. The square wave is superimposed on the triangular trigger signal for developing a substantially spiked configuration at peaks of the triangular waveform.

3,440,567

HIGH-SPEED FREQUENCY MODULATION DEVIATOR

James E. Goell, Middletown, N.J., assignor to Bell Telephone Laboratories, Incorporated, Murray Hill, N.J., a corporation of New York

Filed Sept. 28, 1966, Ser. No. 582,733
Int. Cl. H03c *3/06*
U.S. Cl. 332—16 **4 Claims**



1. In a frequency modulated pulse code modulation system;

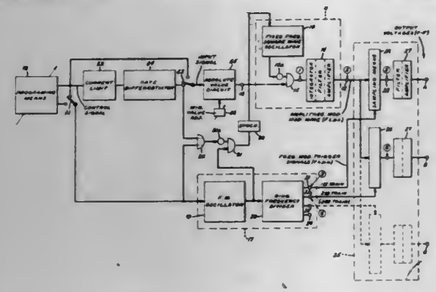
a signal encoder for encoding information into a sequence of pulses;

a frequency modulation deviator comprising a voltage-controlled relaxation oscillator;

means for coupling said encoder to said oscillator to vary the frequency thereof in accordance with said sequence of pulses; and

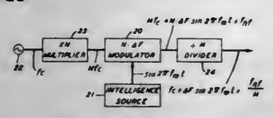
means including a bandpass filter tuned to said oscillator frequency for coupling out of said deviator.

3,440,568
GENERATOR FOR AMPLITUDE AND FREQUENCY MODULATED LOW-FREQUENCY ALTERNATING VOLTAGES
Georges R. E. Lezan, Cherry Hill, N.J., assignor to General Electric Company, a corporation of New York
Filed May 31, 1966, Ser. No. 553,922
Int. Cl. H03c *3/00, 1/00, 5/00*
U.S. Cl. 332—17 **22 Claims**



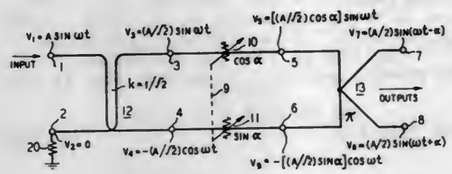
7. A variable low-frequency sine wave generator comprising, in combination:
(a) first means for generating a sinusoidal voltage of relatively fixed high frequency and variable amplitude;
(b) second means for providing a train of intermittent trigger signals of variable frequency;
(c) third means adapted to be energized by a variable magnitude D-C control signal for varying the amplitude of said sinusoidal voltage as a function of the control signal magnitude;
(d) an output terminal; and
(e) fourth means connected to said output terminal for supplying thereto an alternating output voltage, said fourth means including periodically operative sampling means connected to said first means and controlled by said second means for progressively adjusting the value of said output voltage to reflect the instantaneous magnitude and the polarity of said sinusoidal voltage on the incidence of successive trigger signals, whereby said output voltage approximates a sine wave the frequency of which is equal to the difference between said fixed frequency and said variable frequency and the amplitude of which depends on said sinusoidal voltage amplitude.

3,440,569
NOISE REDUCTION IN FREQUENCY MODULATION SYSTEM
Paul T. Hutchison, Fair Haven, N.J., assignor to Bell Telephone Laboratories, Incorporated, Murray Hill, N.J., a corporation of New York
Filed Sept. 29, 1966, Ser. No. 582,953
Int. Cl. H03c *3/08, 3/10, 3/20*
U.S. Cl. 332—18 **6 Claims**



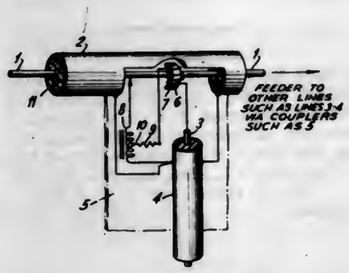
1. A modulation system for producing a given intelligence bearing frequency deviation about a given center frequency comprising means for deriving a carrier of frequency N times said center frequency, means for deviating the frequency of said carrier N times said given deviation, and means for frequency dividing said deviated carrier by N to produce a signal having said given deviation and center frequency.

3,440,570
MICROWAVE PHASE SHIFTER
Francis J. Kasper, Morristown, N.J., assignor to Bell Telephone Laboratories, Incorporated, Murray Hill, N.J., a corporation of New York
Filed Oct. 12, 1967, Ser. No. 674,786
Int. Cl. H01p *5/12, 5/14*
U.S. Cl. 333—10 **6 Claims**



A phase shifter circuit having two ports of a directional coupler coupled to two ports of a hybrid junction through two variable attenuators arranged to introduce attenuation in the coupled paths. An alternating signal introduced in a third port of the directional coupler results in voltages at the remaining two hybrid junction ports, one voltage advanced and the other retarded in phase through angles controlled by the attenuators.

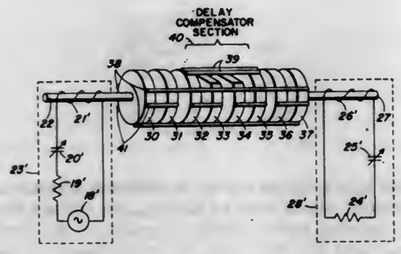
3,440,571
INDUCTIVELY COUPLED UNIDIRECTIONAL TAPS
Keneth A. Simons, Bryn Athyn, Pa., assignor to Jerrold Electronics Corporation, Philadelphia, Pa., a corporation of Delaware
Filed Aug. 24, 1966, Ser. No. 574,712
Int. Cl. H01p *5/14*
U.S. Cl. 333—10 **14 Claims**



A directional coupler for inductively coupling CATV subscribe drop lines or the like to a coaxial feeder cable. A coil is disposed adjacent the center conductor of the feeder cable; but insulated therefrom. One side of the coil is connected to the center conductor of the drop line, and to a back-match resistor for the drop line, the other side to the outer conductor of the drop line. The back-match impedance is connected to the secondary of a transformer the primary of which is connected across the feeder cable.

3,440,572
MECHANICAL FILTER SECTION WITH ENVELOPE DELAY COMPENSATION CHARACTERISTIC
Donald L. Bise, Costa Mesa, Calif., assignor to Collins Radio Company, Cedar Rapids, Iowa, a corporation of Iowa
Filed May 27, 1966, Ser. No. 553,520
Int. Cl. H03h *7/30*
U.S. Cl. 333—30 **13 Claims**

1. A mechanical filter section having an inverted U-shaped group delay characteristic and comprising:
first, second, third, and fourth circular mode discs arranged in a stacked relation in the order named with their axes lying along a common line and spaced apart a distance less than a half wavelength of their natural resonant frequency;
a plurality of wire-like coupling means extending along said stack of discs and secured to the perimeters of said discs to hold the discs in their relative positions;

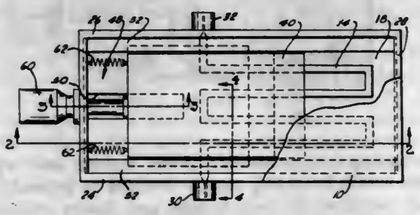


said second and third discs having segments thereof removed from their perimeters;
wire-like bridging means secured to the perimeters of said first disc and said fourth disc and passing across the segmented portions of said second and third discs;
said mechanical filter section having a group delay in accordance with the expression:

$$t_g = t_{g0}\frac{y_b[(1-2y_b)y^2+2y_b-y_b^2]}{(2-y_b)[(1-2y_b)y^2+y_b^2]\sqrt{1-y^2}}$$

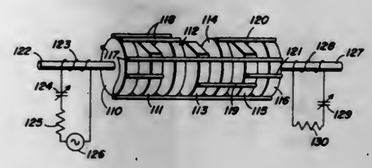
where t_g is the group phase delay, t_{g0} is the phase delay at the pass-band center frequency, y and y_b are as defined in the specification, and where $0<y_b<\frac{1}{2}$.

3,440,573
ELECTRICAL TRANSMISSION LINE COMPONENTS
Jesse L. Butler, Groton Road, R.F.D. 2, Nashua, N.H. 03104
Filed Aug. 19, 1964, Ser. No. 390,573
Int. Cl. H01p *3/08*
U.S. Cl. 333—31 **14 Claims**



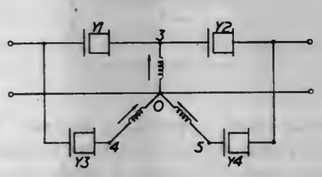
A stripline phase shifter includes two ground planes and two one mil copper center conductors laminated to a dielectric support sheet. The center conductors are formed to provide four parallel sections of equal length. Two dielectric slabs, one on each side of the support sheet, each has an impedance transformer section of two stepped levels. The two dielectric slabs are slid along the center conductors by a micrometer screw to shift phase.

3,440,574
MECHANICAL FILTER HAVING GENERAL STOPBAND CHARACTERISTICS
Robert A. Johnson, Tustin, and Roger J. Teske, Santa Ana, Calif., assignors to Collins Radio Company, Cedar Rapids, Iowa, a corporation of Iowa
Filed May 5, 1966, Ser. No. 547,947
Int. Cl. H03h *7/12, 7/24*
U.S. Cl. 333—72 **16 Claims**



1. A mechanical filter structure comprising:
a diameter mode disk;
a first circular mode disk;
a second circular mode disk positioned between said diameter mode disk and said first circular mode disk and having a segment of the edge thereof removed;
first coupling wire-like means secured rigidly to the perimeters of said diameter mode disk and said first and second circular mode disks to hold said disks in a fixed position with their axes lying along a common line and spaced apart a distance less than one-half wavelength of the natural resonant frequency of said disks;
said coupling wire-like means being secured to the perimeter of said diameter mode disk at points all having a first phase of vibration.

3,440,575
MULTI-CRYSTAL FILTERS EMPLOYING TRIFILAR OR DOUBLE BIFILAR WOUND WINDING TRANSFORMERS
Peter Kenneth Wall, London, England, assignor to International Standard Electric Corporation, New York, N.Y., a corporation of Delaware
Filed Mar. 10, 1967, Ser. No. 622,198
Int. Cl. H01p *1/20*
U.S. Cl. 333—72 **2 Claims**

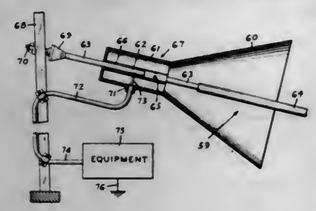


A transformer having three trifilar wound windings or two pairs of bifilar wound windings is employed in a crystal filter circuit to provide improved band-pass characteristics.

3,440,576
COMMUNICATION SYSTEMS FOR HIGH VOLTAGE POWER LINE
Theodore Hafner, 1501 Broadway, New York, N.Y. 10036
Continuation of application Ser. No. 473,035, June 19, 1965. This application Mar. 21, 1967, Ser. No. 624,961
Int. Cl. H01p *3/12*
U.S. Cl. 333—95 **2 Claims**

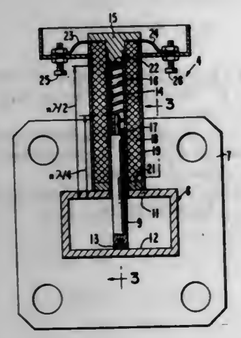
The invention consists of a surface wave conductor, including a steel core, a conducting layer, surrounding said

steel core and a dielectric coating surrounding said conducting layer, and defining a surface wave of predetermined field diameter, said surface wave conductor forming at least one end, near one tower the inner conductor of a coaxial line which is closed at its outer end, from



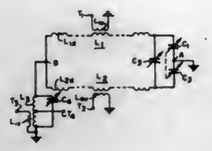
which said surface wave conductor emerges after having passed through it; and means for grounding at said tower the conducting layer of said surface wave conductor emerging from said coaxial line while attaching its steel core to said tower.

3,440,577
MICROWAVE SHUTTER
Thomas J. Pappalardo, Bradford, Mass., assignor to Varian Associates, Palo Alto, Calif., a corporation of California
Filed Dec. 27, 1965, Ser. No. 516,605
Int. Cl. H01p *1/20*
U.S. Cl. 333—98 **8 Claims**



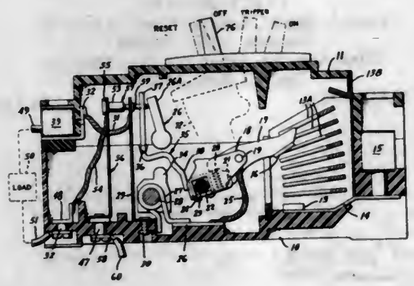
A microwave shutter apparatus is disclosed. The shutter includes a waveguide having first and second mutually opposed broad conductive walls. A conductive rod is insertable through one of the broad walls and across the waveguiding structure into electrically non-contacting relation with the opposed broad wall to form a capacitance between the non-contacting end of the rod and the adjacent broad wall. The rod is dimensioned to provide an inductance which is series resonated with the capacitance of the rod to the broad wall at a certain resonance frequency within the passband of the waveguide. When inserted into the waveguide, the rod forms a series resonant element in shunt across the waveguide for reflecting wave energy back along the waveguide which is incident upon the rod and which is within a certain passband of frequency centered at the resonant frequency of the rod. A solenoid is provided externally of the waveguide for selectively retracting and inserting the rod within the waveguide. When the rod is retracted out of the waveguide, the waveguide passes energy within the certain passband of frequencies.

3,440,578
DUAL MODE TUNING CIRCUITS
Arnt P. Arntsen, Manchester, Mass., assignor to Westinghouse Electric Corporation, Pittsburgh, Pa., a corporation of Pennsylvania
Filed July 12, 1965, Ser. No. 471,174
Int. Cl. H03j *3/28*
U.S. Cl. 334—45 **5 Claims**



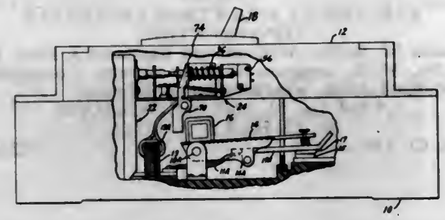
A dual mode tuning circuit is disclosed wherein a pair of capacitors, which may be ganged, are utilized for tuning into separate tuning bands, for example, the very high frequency and the ultra high frequency bands. A pair of inductive elements are utilized having one end commonly connected and the pair of capacitors connected across the other end. The inductive elements are so selected to provide tuning inductance in one of the frequency bands but negligible inductive reactance in a second of the bands. A third inductive element is provided and is selected to provide tuning inductance in the second of the tuning bands while not affecting operation tuning in the first of the bands. This third inductor may for example be connected to point of common potential of the pair of inductive elements.

3,440,579
ELECTRIC CIRCUIT BREAKER WITH OVERCURRENT AND GROUND FAULT PROTECTION
William W. Smith, West Hartford, Conn., assignor to General Electric Company, a corporation of New York
Filed June 19, 1967, Ser. No. 646,984
Int. Cl. H01h *73/22*
U.S. Cl. 335—18 **5 Claims**



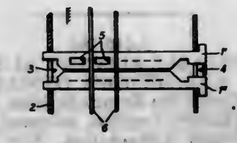
A unitary circuit breaker of the molded case type includes within its casing means sensitive to ground faults, means sensitive to overcurrents and means sensitive to short circuit currents, all of which act on a common trip latch of the breaker to cause automatic opening. The overcurrent sensitive means comprises thermal current-responsive means which includes a bimetallic strip connected electrically in series with the breaker contacts. The short circuit sensitive means comprises magnetic current-responsive means, also in series with the contacts. The ground fault sensitive means comprises a second bimetallic strip connected in the "ground" or "return" line from the load, but physically located within the breaker casing and arranged to oppose the tripping force of the bimetallic strip of the thermal current-responsive means.

3,440,580
ELECTRICAL PROTECTIVE DEVICE
Charles Richard Molenaar, Saginaw, Mich., assignor to General Electric Company, a corporation of New York
Filed June 19, 1967, Ser. No. 646,985
Int. Cl. H01h *75/12*
U.S. Cl. 335—18 **6 Claims**



A unitary circuit breaker of the molded case type includes within the casing means sensitive to ground faults, means sensitive to overcurrents and means sensitive to short circuit currents, all of which act on a common trip latch of the breaker to cause automatic opening. The overcurrent sensitive means comprises thermal current-responsive means. The short-circuit sensitive means comprises magnetic current responsive means. The ground fault sensitive means comprises a current unbalance detecting coil which energizes a tripping solenoid, releasing a normally latched plunger to cause tripping.

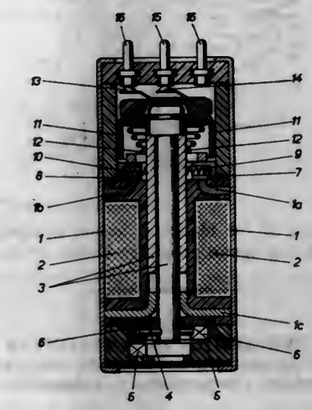
3,440,581
MEANS TO THROUGH-CONNECT AND CANCEL THE THROUGH-CONNECTION OF CROSSPOINTS IN A CROSSBAR SWITCH
Kurt Strunk, Markgroningen, Germany, assignor to International Standard Electric Corporation, New York, N.Y., a corporation of Delaware
Filed Aug. 3, 1966, Ser. No. 569,955
Claims priority, application Germany, Aug. 10, 1965, St 24,244
Int. Cl. H01h *67/14*
U.S. Cl. 335—112 **5 Claims**



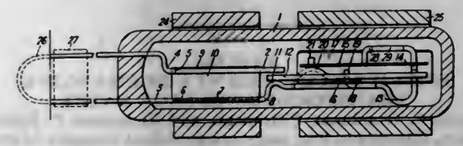
A crossbar switch having means for completing and locking connection between crosspoints and for unlocking previously established connections. All the pairs of contact springs in each horizontal of a cross-bar switch are subject to mechanical control by straps individual to that horizontal. Through-connections of pairs of contact springs with appropriate contact wires (vertical) are made and broken by successive actuation of selecting bars and holding bar armatures. Locking and release of through-connections is made by adhesive springs under control of the selecting bar.

3,440,582
STEP-BY-STEP SWITCH
Wolfram Gerspach, Weilbrunnstrasse 22, Frankfurt am Main, Germany
Filed Sept. 14, 1966, Ser. No. 579,397
Claims priority, application Germany, Sept. 16, 1965, E 30,108
Int. Cl. H01h *51/08, 9/54*
U.S. Cl. 335—138 **6 Claims**

A magnetically operated stepping switch wherein the switching member comprises a turnable spring-biased solenoid core arranged for both rotary and axial movement. The core has a radial pin alternately engagebale with opposed cam teeth to effect its rotary movement as it is axially reciprocated by energization and deenergization of the solenoid. Magnetic blocking members normally block the core against axial movement, and are shifted to unblock the core by the flux of the solenoid.



3,440,583
REED RELAY EMPLOYING FLUX COLLECTORS AND A PIVOTED ARMATURE
Harry Stanley Woodhead, Harlow, England, assignor to International Standard Electric Corporation, New York, N.Y., a corporation of Delaware
Filed May 2, 1966, Ser. No. 546,653
Claims priority, application Great Britain, May 14, 1965, 20,432/65, 20,433/65
Int. Cl. H01h *51/28, 1/66, 9/02*
U.S. Cl. 335—154 **17 Claims**

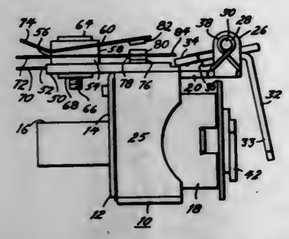


A magnetic reed switch is equipped with internal flux collectors in the form of magnetic channel sections which reduce the reluctance of the switch and which are shaped to conform to the curvature of a protective tube. The reed, or armature, is centrally pivoted over a dome shaped supporting surface and is biased by a leaf spring to a selected position against that surface and other supporting surfaces.

3,440,584
CONTACT BLADE ASSEMBLY FOR RELAYS
Arthur T. Ellis, Jr., Levittown, Pa., assignor to Heinmann Electric Company, Trenton, N.J., a corporation of New Jersey
Filed Jan. 10, 1967, Ser. No. 608,316
Int. Cl. H01h *1/00, 1/12, 1/50*
U.S. Cl. 335—196 **10 Claims**

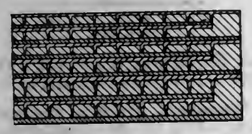
A contact blade assembly for an electric relay having

a wedge shaped insulator providing an angular mounting surface for one of the contact blades to increase the area



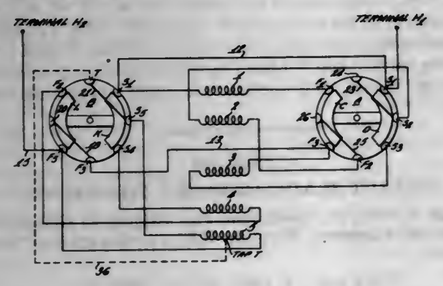
of the contacts of the blades in actual engagement with each other during operation of the blades of the relay.

3,440,585
SUPERCONDUCTING MAGNETS
Donald C. Freeman, Jr., Indianapolis, Ind., assignor to Union Carbide Corporation, a corporation of New York
Continuation-in-part of application Ser. No. 613,682, Feb. 2, 1967. This application Feb. 21, 1968, Ser. No. 729,836
Int. Cl. H01f *1/18*
U.S. Cl. 335—216 **20 Claims**



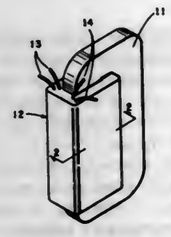
A superconducting magnet formed of layers of serially connected helices of superconducting material on non-superconducting substrates. Each superconducting layer is deposited upon a non-superconducting layer in a manner such that alternate ends form superconducting joints. The superconducting materials are microscopic platelets of metallic particles bonded to each other and to the non-superconducting substrate.

3,440,586
SWITCH ARRANGEMENT FOR CHANGING TRANSFORMER VOLTAGE RATIO
Ernest A. Goodman, Pittsburgh, and Richmond P. Johnston, Glenshaw, Pa., assignors to Allis-Chalmers Manufacturing Company, Milwaukee, Wis.
Filed Mar. 21, 1967, Ser. No. 624,872
Int. Cl. H01f *21/02*
U.S. Cl. 336—147 **10 Claims**



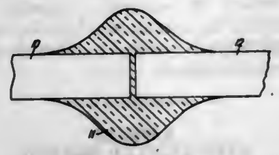
An arrangement for connecting sections of the primary winding of a distribution transformer alternately in series or parallel to change the transformer voltage in a ratio greater than three-to-one utilizes a pair of series-multiple switches having stationary contacts connected to a different plurality of winding sections and a parallel crank linkage for simultaneously operating both switches.

3,440,587
ELECTRICAL INDUCTION APPARATUS CONSTRUCTION
Donald M. Bartos, Midland, and Raymond J. Price, Bay City, Mich., assignors to Dow Corning Corporation, Midland, Mich., a corporation of Michigan
Filed Apr. 11, 1967, Ser. No. 629,955
Int. Cl. H01f *27/30, 27/32*
U.S. Cl. 336—206 **7 Claims**



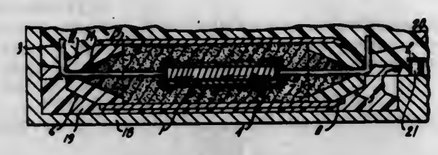
Electrical induction apparatus, such as a transformer, having an insulative spacer between adjacent pairs of winding layers, the insulating spacer comprising a sheet of electrical insulating material having a flexible coating of insulating material on the surface of the sheet. The interstices between turns in each layer and between the layers of turns and said spacers are filled with an insulative impregnant having a substantially greater rigidity than the rigidity of the flexible coating. The flexible coating on the insulative spacer absorbs stresses caused by thermal cycling of the unit and prevents cracking of the relatively rigid impregnant which may be a cheaper material.

3,440,588
GLASSY BISTABLE ELECTRICAL SWITCHING AND MEMORY DEVICE
Cyril Francis Drake, Ian Francis Scanlan, and John Henry Alexander, Harlow, England, assignors to International Standard Electric Corporation, New York, N.Y., a corporation of Delaware
Filed Sept. 26, 1966, Ser. No. 582,124
Claims priority, application Great Britain, Nov. 10, 1965, 47,656/65
Int. Cl. H01c *7/10*
U.S. Cl. 338—20 **4 Claims**



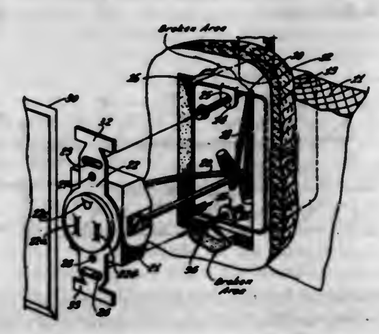
This is a glassy bistable switching device which can be switched from a state of high impedance to a state of low impedance and vice versa. The device comprises a thin layer of glassy material formed between two electrodes. The composition of the glassy material is about 46% boric oxide, about 15% calcium oxide and about 39% copper oxide.

3,440,589
RESISTOR UNIT AND METHOD OF MAKING SAME
Floyd M. Minks, Campbellsport, Wis., assignor to Brunswick Corporation, Chicago, Ill., a corporation of Delaware
Filed Apr. 1, 1966, Ser. No. 539,531
Int. Cl. H01c *7/04*
U.S. Cl. 338—22 **13 Claims**



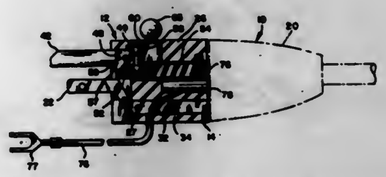
This disclosure is directed to a nickel wire wound on and covered with ceramic to form a resistor embedded in a controlled thermal impedance mass. The impedance mass includes hollow alumina bubbles which are mixed with a silicone rubber binder to maintain good thermal contact and controlled heat transfer. The resistor is enclosed within an outer tubular shell, one end of which is rolled over. A plastic member having an inner conical surface is inserted in the shell and held therein by the rolled end. The shell is filled with the mixture of the alumina bubbles and the silicone rubber. The resistor is then inserted into the tube with the conical inner surface of the plastic end directing the resistor lead through the assembly. The opposite end is then closed with a plastic member.

3,440,590
FASTENER DEVICE
David C. Post, 3717 Barcelona Drive, Santa Barbara, Calif. 93105
Continuation-in-part of application Ser. No. 369,466, May 22, 1964. This application Mar. 10, 1966, Ser. No. 533,346
Int. Cl. H01r *3/06;* **H02b** *1/02;* **F16b** *39/00*
U.S. Cl. 339—14 **7 Claims**



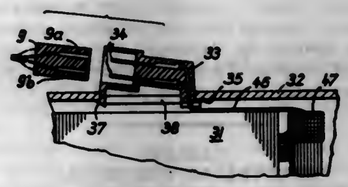
An electrical outlet receptacle is mounted to an outlet box, being installed in a wall, by means of locking screws threadedly received in the box. The screws each have shoulders and from a shoulder extend upstanding portions respectively defining a screwdriver slot. The receptacle has two fastener lugs ("plaster ears") with elongated slots, through which are passed the upstanding portions. These upstanding portions are spread to clinch the lugs against the shoulders. Turning of a screw by 90° permits release of the receptacle. The lugs may be connected to a ground terminal in the receptacle and when clinched provide electric connection to the grounded box.

3,440,591
COLLAPSIBLE TYPE ELECTRICAL CONNECTOR
Robert A. Whalen, 9330 W. Barnard Ave., Milwaukee, Wis. 53228
Filed Nov. 15, 1966, Ser. No. 594,522
Int. Cl. H01r *3/06, 29/00*
U.S. Cl. 339—14 **10 Claims**



Disclosed herein is an electric plug cap adaptor having a three-terminal receptacle to receive a three-terminal plug cap, the receptacle including female contacts positioned to receive male contact blades with the female contacts being adapted to be interlocked with the male contacts of the plug cap and a pair of male contact blades and a ground terminal blade which is movable from an operative position to an inoperative position in the face of the adaptor with a releasable spring biased member mounted to bias the ground terminal blade to the operative position and to hold the ground terminal blade locked in the operation position.

3,440,592
ELECTRIC PLUG-IN CONNECTOR
Edgar Zelle, Rastede, Germany, assignor to Licentia Patent-Verwaltungs-G.m.b.H., Frankfurt am Main, Germany
Filed Sept. 19, 1967, Ser. No. 668,889
Claims priority, application Germany, Apr. 15, 1968, L 56,257
Int. Cl. H01r *3/06;* **H02b** *1/16;* **H02k** *5/22*
U.S. Cl. 339—14 **8 Claims**

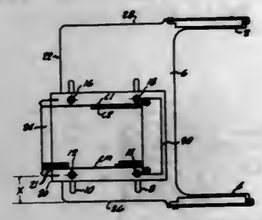


A multiple-pole plug-in connector for connecting the winding of an electric motor to a power supply. A casing mounted on the motor housing holds the stationary contacts. The means for holding the stationary contacts as well as at least part of the means for securing the casing to the motor housing are parts of the casing itself. The portions of the stationary contacts which are attached to winding-connected power leads as well as the respective end portions of the power leads themselves are embedded within said casing.

3,440,593
CARD EXTENDER
Ernest C. Karras, Chicago, and Renualdas P. Dicius, Hinsdale, Ill., assignors to International Telephone and Telegraph Corporation, New York, N.Y., a corporation of Maryland
Filed May 4, 1967, Ser. No. 636,124
Int. Cl. H05k *1/04, 7/00;* **H01r** *19/00*
U.S. Cl. 339—17 **3 Claims**

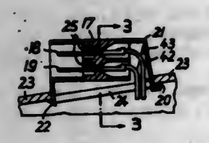
An extender is provided to support a printed circuit card in a position outside a rack while providing electri-

cal connections to circuits in the rack. By providing support for a card outside the rack in this manner, direct



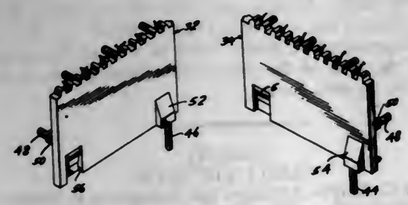
inspection and testing of circuits on the card under operating conditions is possible.

3,440,594
ELECTRIC PLUG-IN CONNECTOR
Helmut Hopp, Oldenburg, and Edgar Zelle, Rastede, Germany, assignors to Licentia Patent-Verwaltungs-G.m.b.H., Frankfurt am Main, Germany
Filed July 24, 1967, Ser. No. 667,018
Claims priority, application Germany, July 22, 1966, L 54,137
Int. Cl. H01r *13/04, 13/46;* H02k *11/00*
U.S. Cl. 339—59 6 Claims



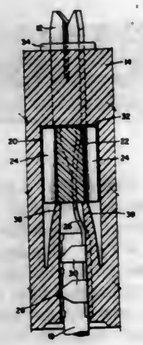
A multiple-pole electric plug-in connector for connecting an electric motor to a power supply. A casing mounted on the motor housing holds the stationary contacts. The means for holding the stationary contacts as well as at least part of the means for securing the casing to the motor housing are parts of the casing itself.

3,440,595
ELECTRICAL TERMINALS
Donald J. Smith, Mercer Island, Wash., assignor to Smith-Schreyer & Assoc., Inc., a corporation of California
Filed Sept. 3, 1965, Ser. No. 485,044
Int. Cl. H01r *9/00*
U.S. Cl. 339—198 5 Claims



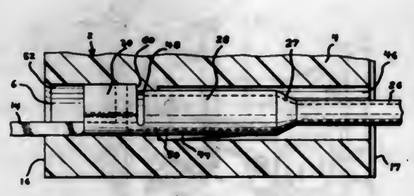
Terminal blocks have sections mounted by posts in tandem or side-by-side, with lead wires imbedded in them and connected to connector posts. Humps are provided where the wires extend into the block sections to lessen the collection of moisture thereat.

3,440,596
INSULATOR FEATURE WITH CONTACT RETENTION FINGERS
Frank J. Frompovicz, Cornwells Heights, Pa., assignor to Elco Corporation, Willow Grove, Pa., a corporation of Delaware
Filed Mar. 17, 1966, Ser. No. 535,146
Int. Cl. H01r *13/50, 25/02, 13/20*
U.S. Cl. 339—206 5 Claims



A connector has an insulated body with a contact chamber that receives at least one contact mounted in an insulated base. Integral with the insulated body is a resilient retention finger that has a free end cooperable with the insulated base when the latter is inserted into said contact chamber for releasably retaining the base in the chamber.

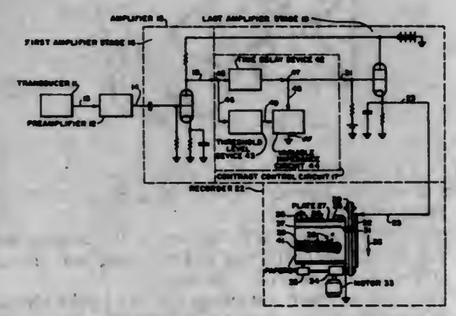
3,440,597
ELECTRICAL CONNECTOR HAVING CONTACT TERMINALS WITH TERMINAL POSTS
Charles Edward Baker II, Middletown, and Albert Casciotti, Hershey, Pa., assignors to Amp Incorporated, Harrisburg, Pa.
Filed Oct. 9, 1967, Ser. No. 673,650
Int. Cl. H01r *9/08, 5/00*
U.S. Cl. 339—221 9 Claims



Multi-contact electrical connector comprises connector block having cavities with pin and socket type contact terminals therein. Each terminal has a cylindrical contact end, an intermediate cylindrical portion, a force-fit portion, and a terminal post extending from the force-fit portion. The force-fit portion is laterally offset with respect to the axes of the intermediate cylindrical portion and the contact end portion. The contact-receiving cavities in the block have a constricted intermediate portion and an entrance portion through which the terminals are inserted. The entrance portion is offset with respect to the constricted intermediate portion so that the terminals can be inserted into the cavities when they are in only one orientation. The force-fit portions of the terminals have a force-fit in this entrance portion of the cavity so that the terminal posts which extend from the rearward side of the block

are rigidly supported and accurately located. Because of this accurate location and rigid support of the terminal posts, the connector block can be automatically wired with clip-type or wrap-type connections made by an automatic wiring machine.

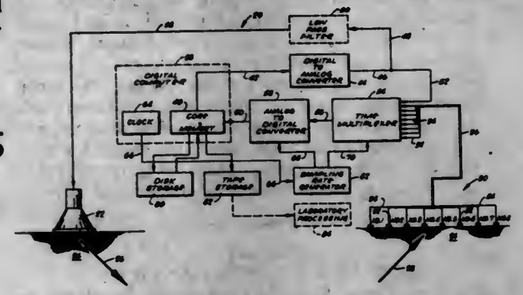
3,440,598
CONTRAST CONTROL CIRCUIT FOR THE INDICATION PROVIDED BY UNDERWATER SOUND APPARATUS
Hans Dronkelfort, Kiel-Elmschenhagen, and Siegfried Thieme, Schleswig-Holstein, Germany, assignors to Electroacustic G.m.b.H., Kiel, Germany, a corporation of Germany
Filed Nov. 17, 1966, Ser. No. 595,256
Claims priority, application Germany, Nov. 29, 1965, E 30,560
Int. Cl. G01s *9/66*
U.S. Cl. 340—3 14 Claims



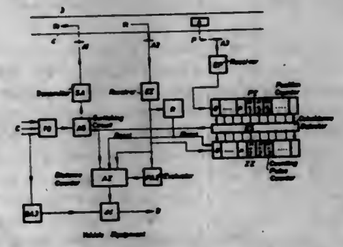
A contrast control circuit connected with the amplifier stages of an amplifier comprises a time delay connected to the one of the amplifier stages for delaying the amplified object echo electrical signals and the amplified bottom echo electrical signals in time to provide time-delayed object echo electrical signals and time-delayed bottom echo electrical signals. A control unit is connected between the time delay and a record medium and reduces the magnitudes of the time-delayed bottom echo electric signals of amplified bottom echo electrical signals having magnitudes greater than a determined threshold level thereby reducing the magnitude of electricity applied to the record medium via the stylus thereof so that the shade of bottom echo indications on the echogram is lighter than and distinctly contrasted with the shade of floating object echo indications on the echogram. The control unit comprises a variable impedance connected between the time delay and the last of the amplifier stages for amplifying time-delayed electrical signals. The variable impedance reduces the magnitude of the time-delayed bottom echo electrical signals when the amplified electrical signals corresponding thereto and applied to the control unit have magnitudes greater than the determined threshold level.

3,440,599
DIGITALLY CONTROLLED VIBRATIONAL SEISMIC PROSPECTING
Kenneth H. Waters and Billy J. Heath, Ponca City, Okla., assignors to Continental Oil Company, Ponca City, Okla., a corporation of Delaware
Filed June 22, 1966, Ser. No. 559,460
Int. Cl. G01v *1/22*
U.S. Cl. 340—15.5 18 Claims

Method and apparatus for seismic prospecting wherein a vibrational seismic energy input device is controlled in response to an optimum sweep signal which may be constructed by digital techniques. A series of digital electrical values representing a predetermined seismic input signal are derived from a computer, digital record or whatever and passed through a digital to analog converter, whereupon the output analog signal is applied to drive the seismic vibrator device.



3,440,600
METHOD FOR CONTROL SUPERVISION AND PROTECTION OF VEHICLES
Günther Frech, Stuttgart-Sonnenberg, Wolfgang Kaiser, Stuttgart-Vaihingen, and Herbert Rahn, Viernheim, Germany, assignors to International Standard Electric Corporation, New York, N.Y., a corporation of Delaware
Filed May 5, 1966, Ser. No. 547,941
Int. Cl. B61l *27/00, 25/02;* G08g *1/01*
U.S. Cl. 340—23 8 Claims



5. Apparatus for the control and supervision of vehicles along a route comprising:
- means subdividing said route into predetermined sections;
- first detecting means aboard said vehicle for detecting said subdividing means passed over by said vehicle;
- first counting means coupled to said first detecting means for counting said subdividing means passed over by said vehicle;
- a central control station coupled to said route at one end thereof;
- pulse generating means at said central control station for generating a train of counting pulses;
- first transmitting means at said central control station coupled to said pulse generating means and to said route for transmitting said counting pulses along said route to said vehicles;
- first receiving means aboard said vehicle for receiving said counting pulses;
- second counting means coupled to said first receiving means for counting said received counting pulses;
- comparing means aboard said vehicle coupled to said first and second counting means for detecting when the number of counting pulses received is equal to the number of subdividing means passed over by said vehicle;
- second transmitting means aboard said vehicle coupled to said comparing means and to said route for transmitting a signal to said central control station when said number of counting pulses received is equal to

said number of subdividing means passed over by said vehicle;

second receiving means located at said central control station coupled to said route for receiving said signal;

first interrupting means at said central control station coupled to said second receiving means and to said pulse generating means for interrupting the generation of said counting pulses for a predetermined interval responsive to the receipt of said signal; and

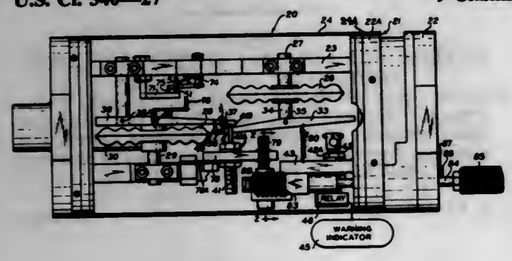
means coupled to said pulse generating means for causing said pulse generating means to start generating said counting pulses after a predetermined interval.

3,440,601

AIRSPEED WARNING DEVICE

Emil Knapp, Floral Park, N.Y., assignor, by mesne assignments, to Lear Siegler, Inc., Santa Monica, Calif., a corporation of Delaware

Filed Jan. 27, 1966, Ser. No. 523,450
Int. Cl. G08g 5/00; G01c 21/00; G01l 7/08
U.S. Cl. 340—27 9 Claims



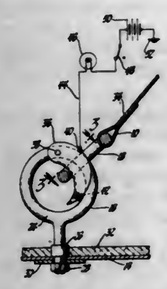
An airspeed warning indicator having a pair of normally closed contacts within a housing, one operable in response to airspeed, the other operable in response to altitude whereby the contacts open upon a predetermined airspeed being achieved at any particular altitude, and including means operable from outside the housing for adjusting the airspeed at which said contacts open at any given altitude. The device further includes circuit means for energizing an indicator upon said predetermined airspeed being achieved at a preselected altitude and upon a given airspeed being achieved irrespective of altitude and means for rendering inoperative the means for causing the indicator to operate at said given airspeed irrespective of altitude.

3,440,602

SEAT BELT TENSION INDICATOR

Gerald E. Frig, Warren, Mich., assignor to General Motors Corporation, Detroit, Mich., a corporation of Delaware

Filed Apr. 26, 1966, Ser. No. 545,432
Int. Cl. B60q 9/00
U.S. Cl. 340—52 2 Claims



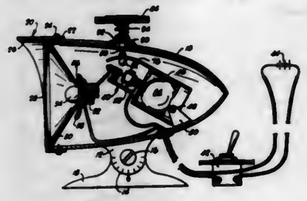
A triangular ring attached to a seat belt is passed through the eyelet of an eyebolt secured to the floor pan of a vehicle. Pivotally attached to the eyelet and located between the triangular ring and the eyelet is the actuator of a normally closed switch electrically connected to an indicating light and the ignition switch. If the ignition switch is on and the occupant is not using his seat belt, the switch operates the indicating light to remind the occupant to fasten his seat belt. When the seat belt is fastened, the triangular ring presses the actuator of the switch against the eyelet, opening the switch and extinguishing the light.

3,440,603

VEHICLE ACCELERATION INDICATING DEVICE

Herman V. Cochran, 7245 NW. 21st St., Bethany, Okla. 73008

Filed July 8, 1966, Ser. No. 563,884
Int. Cl. B60q 1/26; G01p 15/04
U.S. Cl. 340—52 15 Claims



1. An acceleration indicating device comprising:

an elongated channel having an axis inclined with respect to the horizontal;

means for adjusting the inclination of the channel with respect to the horizontal and retaining said channel in the attitude to which adjusted;

a spherical member rollably positioned in the channel for straight linear rolling movement therealong;

a stop means positioned in the channel in the path of rolling movement of the spherical member for limiting the movement of the spherical member in the channel;

switch means secured to the channel in the path of rolling movement of the spherical member and spaced horizontally along the channel from said stop means and on the other side of the spherical member therefrom;

an electrically energized illuminable element; and

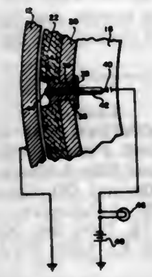
electrical circuitry including said switch means and said illuminable element.

3,440,604

WEAR INDICATOR FOR BRAKES

William L. Phillips, 4821 Forman Ave., North Hollywood, Calif. 91601

Filed Nov. 24, 1967, Ser. No. 685,359
Int. Cl. B60q 1/44
U.S. Cl. 340—52 6 Claims



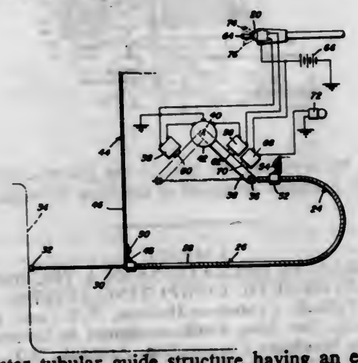
A warning device to indicate excessive lining wear on a brake shoe, which includes a rivet having a counterbored head extending into a portion of the lining with an insulated wire extending through the rivet and beyond the rivet head for contact with the brake drum upon a predetermined amount of wear of the lining.

3,440,605

RETRACTABLE CURB FEELER

Walter H. Maloney, 520 Ascot Ridge, Rock Hill, S.C. 29730

Filed Apr. 25, 1966, Ser. No. 544,983
Int. Cl. B60q 5/00
U.S. Cl. 340—61 3 Claims



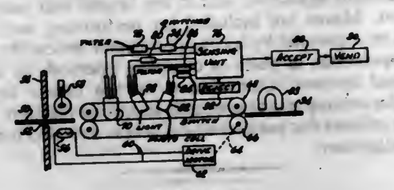
An outer tubular guide structure having an elongated flexible feeler member disposed therein for longitudinal reciprocation between limit positions with one end of the feeler member extending and retracted relative to the corresponding end of the guide structure and a motor is drivingly connected between the tubular guide and the feeler member for shifting the latter between its limit positions. A main control is provided and operable to effect operation of the motor and the main control includes a secondary control operative to terminate operation of the motor in either direction and, upon the feeler member being shifted to one limit position, to cause the motor to operate in the opposite direction next time the main control is actuated.

3,440,606

NONMONETARY VENDING TOKEN AND VERIFICATION APPARATUS

Jack E. Bayha, Chesterland, Ohio, assignor to Transmarine Corporation, Chesterland, Ohio, a corporation of Ohio

Filed Jan. 29, 1965, Ser. No. 428,957
Int. Cl. H04q 1/00; G07f 1/06
U.S. Cl. 340—149 8 Claims



A nonmonetary vending token and apparatus in the form of a ticket which can be imprinted and suitably combined with a magnetic recording tape to provide at least three authentication tests in an associated acceptance apparatus. Specifically, the tests provide comparison of tones or frequency signals in a multitude of combinations to secure a validation indication. A magnetic sensitive tape, a photocell readout, and a determination of reflected light from a specialized coating provide the three tests for authentication.

3,440,607

CYCLICALLY SCANNED REMOTE ELEMENT OPERATING SYSTEM WITH ANSWER BACK

Paul Abramson, Yorktown Heights, and George R. Stilwell, Jr., West Nyack, N.Y., assignors to International Business Machines Corporation, New York, N.Y., a corporation of New York

Filed Dec. 29, 1964, Ser. No. 421,885
Int. Cl. H04q 9/14
U.S. Cl. 340—163 11 Claims



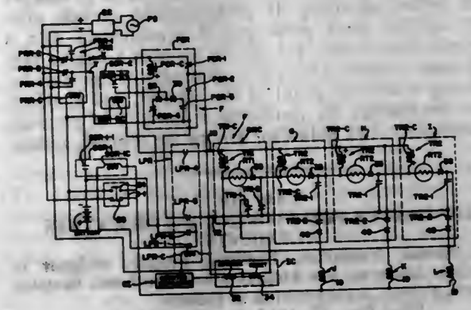
A system for operating elements at a remote station from a central station which includes a contact at the central station for each of the elements to be operated. A corresponding gate is provided at the remote station for each of the elements to be operated. The contacts are cyclically scanned and a signal is applied to the remote station each time a closed contact is sensed, the signal conditioning all of the gates at the remote station. The latter gates are then cyclically scanned in synchronism with the scanning of the contacts at the central station and an element is operated each time the associated gate is conditioned when it is scanned. A contact is also provided at the remote station for each of the elements, and this contact is closed when the associated element is operated. The closing of the latter contact permits an answer-back signal to be sent to the central station, the receipt of which provides an indication that the element has been successfully operated.

3,440,608

REMOTE RELAY CONTROL CIRCUIT

Foster E. Weld, Newton Highlands, Mass., assignor to E. W. Bliss Company, Canton, Ohio, a corporation of Delaware

Filed July 7, 1965, Ser. No. 470,067
Int. Cl. H04g 1/16
U.S. Cl. 340—168 11 Claims



A circuit is disclosed herein for sequentially controlling the operation of a plurality of remotely located devices, such as relays and the like, wherein the circuit includes a plurality of remote station bistable devices, such as toggle relays, each having first and second stable states in

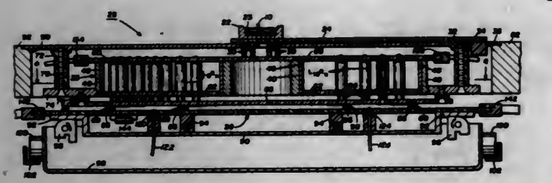
response to alternate application thereto of opposite polarity pulses; a like plurality of switching means, such as relay contacts, each associated with one of the bistable devices and each having first and second conditions in response to the first and second stable states, respectively, of its associated bistable device; each bistable device being connected in series with a switching means associated with a different polarity bistable device and a source of alternating polarity pulses; every other bistable device being normally in the first stable state and the intermediate bistable devices being normally in the second stable state; apparatus, such as a pulse reversal relay, for alternately applying alternate polarity pulses to the bistable devices, whereby the stable states of the bistable devices will be sequentially changed from a normal first state to a second state; and, time delay means, such as a thermistor connecting each bistable device in series with its associated switching means for delaying restoration to a normal stable state of the bistable device until a succeeding bistable device has been actuated to its second stable state through the switching means associated with the first bistable device.

3,440,609

DIGITAL SYNCHRONIZATION SYSTEM

William E. Bray, Houston, Tex., assignor to Texas Instruments Incorporated, Dallas, Tex., a corporation of Delaware

Filed Dec. 7, 1965, Ser. No. 512,148
Int. Cl. G11b *13/00*
U.S. Cl. 340—172.5 44 Claims



A very high speed digital synchronization system for producing a train of reference clock pulses of uniform minimum time spacing, a series of reset clock pulses defining periods of a predetermined number of reference clock pulses, a series of sample clock pulses occurring once each period in synchronism with substantially any programably selected reference pulse, a series of variable clock pulses occurring at uniform periods at a much higher rate than the sample clock rate and in synchronism with the reference clock pulses, and a series of delayed clock pulses occurring at predetermined periods after each variable clock pulse and in synchronism with a reference clock pulse. The system includes a unique very high speed counter, a unique programable comparator for detecting a selected count of the counter, and a unique pulse transformer for producing a plurality of precisely synchronized clock pulses for driving the complex system.

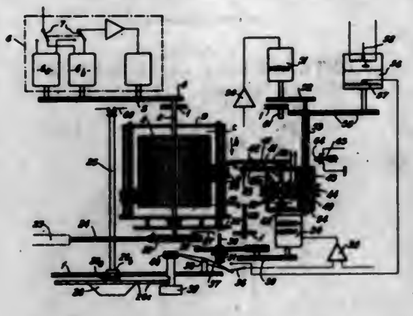
3,440,610

APPARATUS FOR STORING INFORMATION ELEMENTS

Jean Pierrat, Versailles, Yvelines, France, assignor to Societe Anonyme des Ateliers d'Aviation Louis Breguet, Paris, France, a corporation of France

Filed Dec. 17, 1965, Ser. No. 514,576
Claims priority, application France, Dec. 22, 1964, 999,614
Int. Cl. G11b *13/00*
U.S. Cl. 340—172.5 12 Claims

The invention relates to an apparatus for storing arbitrarily selected instantaneous data elements such as the coordinates of the projection of a silhouette on a screen by recording the geometric positions of nuts relative to worms with the possibility of recalling the information at



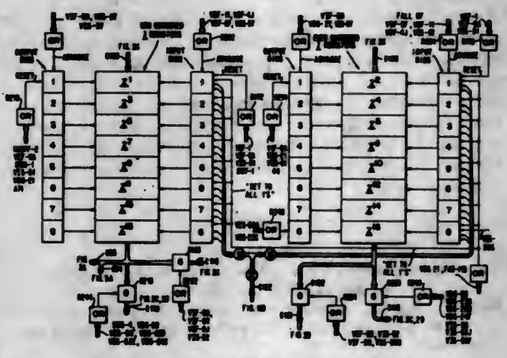
any time by restoring the nuts in the places corresponding to the positions occupied at the time of write-in.

3,440,611

PARALLEL OPERATIONS IN A VECTOR ARITHMETIC COMPUTING SYSTEM

Adin D. Falkoff, Croton-on-Hudson, N.Y., and Donald N. Senzig, San Jose, Calif., assignors to International Business Machines Corporation, Armonk, N.Y., a corporation of New York

Filed Jan. 14, 1966, Ser. No. 520,553
Int. Cl. G11b *13/00*; G06f *7/38*
U.S. Cl. 340—172.5 14 Claims



A vector arithmetic multiprocessor computing system for performing multiword-parallel vector operations such as sum reduction, search for largest and search for smallest. Means are included for performing such operations in a parallel-by-bit fashion rather proceeding with such operations in pairs of complete operands as in conventional systems. Control and storage means are provided for storing plural operands in special registers which can be utilized for parallel-by-bit access and also for radix point alignment.

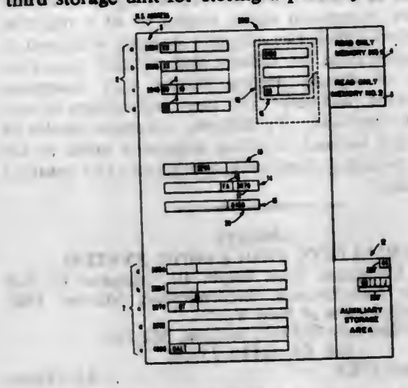
3,440,612

PROGRAM MODE SWITCHING CIRCUIT

Karl K. Womack, Endwell, N.Y., assignor to International Business Machines Corporation, Armonk, N.Y., a corporation of New York

Filed Feb. 28, 1966, Ser. No. 530,634
Int. Cl. G06f *1/00*; H04l *11/00*
U.S. Cl. 340—172.5 10 Claims

A program mode switching circuit in a data processing system for switching between two modes of operation of the data processing system, a normal mode and a substituted mode, comprising a first storage means for storing a plurality of programs associated with either the normal mode or substitute mode of operation, a second storage unit for storing a plurality of control signals to direct a data processing system in the normal mode of operation, a third storage unit for storing a plurality of control signals to direct the data processing system in a substituted mode of operation and a first addressing means for selecting the mode of operation under which the data processing system will operate.

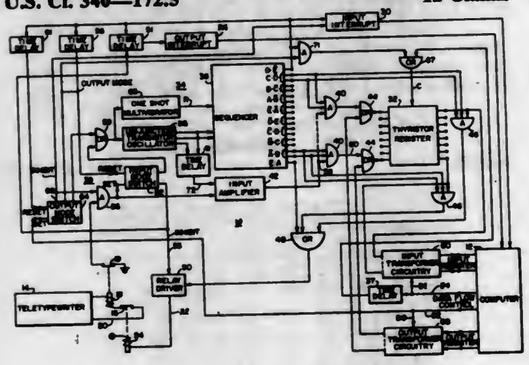


3,440,613

INTERFACE SYSTEM FOR DIGITAL COMPUTERS AND SERIALLY OPERATED INPUT AND OUTPUT DEVICES

Leonard C. Vercellotti, Verona, and Richard J. Madden, Pittsburgh, Pa., assignors to Westinghouse Electric Corporation, Pittsburgh, Pa., a corporation of Pennsylvania

Filed Mar. 25, 1966, Ser. No. 537,522
Int. Cl. G06f *3/10*
U.S. Cl. 340—172.5 12 Claims



Input and output buffer storage is commonly provided by a thyristor register during interfacing operations between a teletypewriter and a computer. Electronic transfer of character bits between the register and the teletypewriter is performed serially under the control of a gated unijunction transistor oscillator.

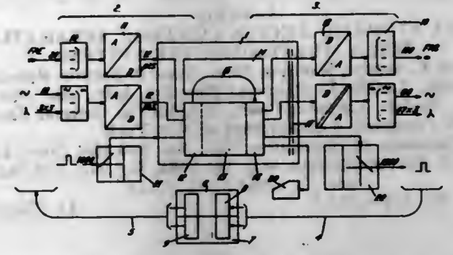
3,440,614

INPUT LINKING DEVICE BETWEEN ANALOG FUNCTIONS AND A NUMERICAL COMPUTER

Roland Camille Pagel, Chatou, France, assignor to International Standard Electric Corporation, New York, N.Y., a corporation of Delaware

Filed July 18, 1966, Ser. No. 566,093
Claims priority, application France, Aug. 10, 1965, 27,829
Int. Cl. G11b *13/00*
U.S. Cl. 340—172.5 6 Claims

This invention relates to an input linking device for a computer which processes in real time the values of a plurality of time-variable input functions and delivers corresponding output functions. The computer operates in recurrent cycles, each comprising input operations, computing operations and output operations. The cycles are



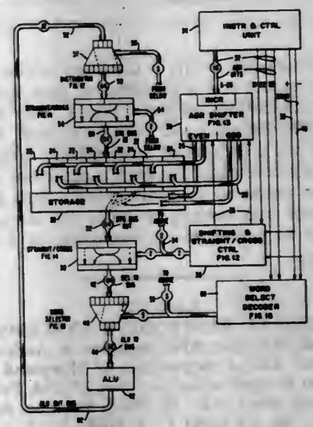
so quick that the output values delivered in each cycle can be smoothed into continuous time-variable output functions which can act again on the input functions (outside the computer) almost as if this action were instantaneous.

3,440,615

OVERLAPPING BOUNDARY STORAGE

Richard S. Carter, Poughkeepsie, N.Y., assignor to International Business Machines Corporation, Armonk, N.Y., a corporation of New York

Filed Aug. 22, 1966, Ser. No. 574,210
Int. Cl. G11b *13/00*
U.S. Cl. 340—172.5 18 Claims



Disclosed is a method and apparatus for use in a data processing system utilizing a plurality of storage units having physically fixed storage location boundaries. The system includes at least two independently operable storage units which are independently addressable. Addresses are sequentially located in the storage units so that, for an exemplary system having two such storage units, even addresses are found in one unit and odd addresses are found in the other. For operations such as VFL (variable field length) requiring accessing of a plurality of sequentially located storage words, the method and apparatus operate to access from the addressed storage unit the currently addressed word and also to access the next-in-sequence word from the other storage device. In this manner, each addressing by the system in fact accesses the addressed location and also an overlap location where the overlap location is the next required location in the addressing sequence. The overlap location accessed along with the current address location is the next address in the sequence whether the system is operating in a positive or a negative scan of addresses, that is, whether increasing addresses or decreasing addresses, respectively, comprise the sequence. Of

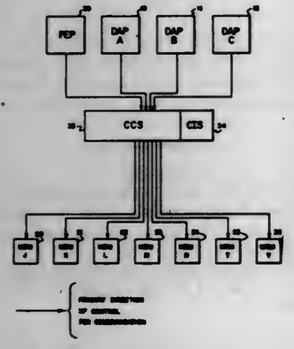
course, if more than two storage units are employed, more than one overlap location may be accessed in each cycle along with the currently addressed location.

3,440,616

DATA STORAGE ACCESS CONTROL APPARATUS FOR A MULTICOMPUTER SYSTEM

Steven F. Aranyi, Woburn, Mass., Jesse P. Barlow, Reseda, Calif., Laszlo L. Rakoczi, Phoenix, Ariz., and Mark A. Torfeh, Tarzana, Calif., assignors to General Electric Company, a corporation of New York

Continuation of application Ser. No. 508,168, Nov. 16, 1965. This application May 16, 1966, Ser. No. 550,562
Int. Cl. G06f *1/02, 15/16*
U.S. Cl. 340—172.5 11 Claims



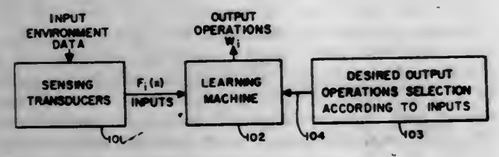
A data processing system is disclosed having a plurality of data processors and a plurality of data storage members. Communications of data words, both instructions and operands, between the processors and the storage members is via a data word transmission member which is sequentially connected between a processor and a storage member prepared to communicate with each other. The processor and storage member are connected only long enough to permit the transmission of a data word therebetween.

3,440,617

SIGNAL RESPONSIVE SYSTEMS

Arnold Lesti, Wheaton, Md., assignor to Andromeda Inc. Kensington, Md., a corporation of Maryland

Continuation of application Ser. No. 87,204, Feb. 6, 1961. This application Mar. 31, 1967, Ser. No. 641,717
Int. Cl. G06f *3/14*; G06g *7/22*
U.S. Cl. 340—172.5 70 Claims



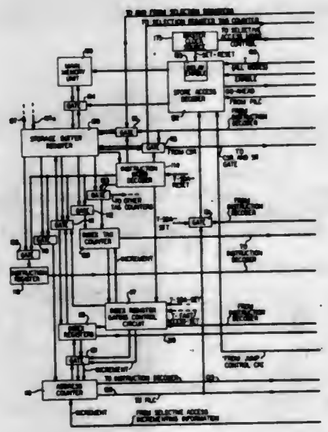
Analog and hybrid vector signal-classifying systems with inter alia (1) position, duration, amplitude, normalizing; (2) frequency and feedback transformations; (3) linear and nonlinear correlation of received signals with one or more vector memory functions to provide a scalar signal or signals indicative by polarity and/or magnitude either of a classifying of received signal in one of two or more recognized signal classes or of a rejection of the received signal; (4) adaptive learning in respect to desired classification of signals and desired numerical distribution of signals among classes; (5) automatic control of error parameter; (6) trees and ladders of vector memory functions; (7) different selectable modes of classifying and learned switching from one mode to another; (8) cascaded classifying operations; (9) centroid image scanning.

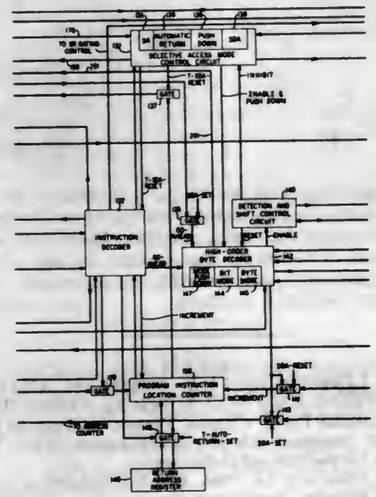
3,440,618

INFORMATION PROCESSING SYSTEM

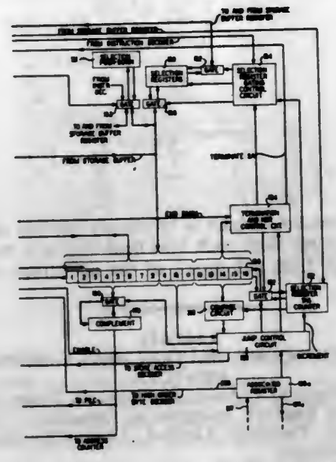
Thomas J. Chinlund, Glen Ellyn, Ill., assignor to Bell Telephone Laboratories, Incorporated, Murray Hill, N.J., a corporation of New York

Filed July 7, 1967, Ser. No. 651,723
Int. Cl. G11b *13/00*
U.S. Cl. 340—172.5 26 Claims





By modifying a basic selective access system, a system characterized by unique data reordering capabilities is realized. In particular, the modified system is adapted to selectively access sequential or permuted subsets of data words stored in the main memory unit of the system and to transfer the selected data words to specified banks of fast-access registers.

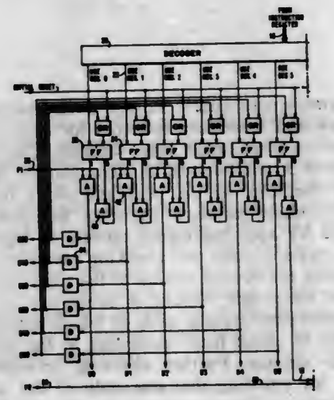


3,440,619

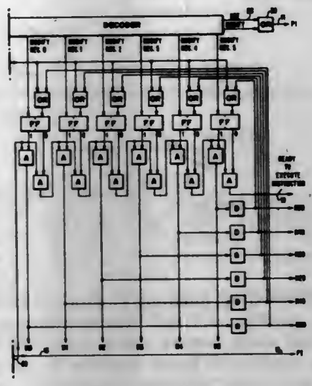
CONTROL SYSTEM FOR MAINTAINING REGISTER CONTENTS DURING INTERRUPT AND BRANCH CONDITIONS IN A DIGITAL COMPUTER

Meir M. Lehman, Bronx, and Jack L. Rosenfeld, Tarrytown, N.Y., assignors to International Business Machines Corporation, Armonk, N.Y., a corporation of New York

Filed July 14, 1967, Ser. No. 653,367
Int. Cl. G11b *13/00*
U.S. Cl. 340—172.5 7 Claims



A control system in a digital computer which effects the storing of the contents of only those registers that are being used in the execution of a program and that are required by an interrupting program. The control system causes the automatic restoring of the contents of only those registers whose contents have been modified and are later to be used again in the execution of the program. The programmer need not be aware of such control operation but can assume that all of the registers' contents are stored and restored automatically. Substantially none of the registers' contents are unnecessarily stored or restored. Because the control operation is performed by hardware controls, no instruction fetch time is required for the performance of such operation. The storing and restoring are performed dynamically as a particular register becomes involved in an instruction.

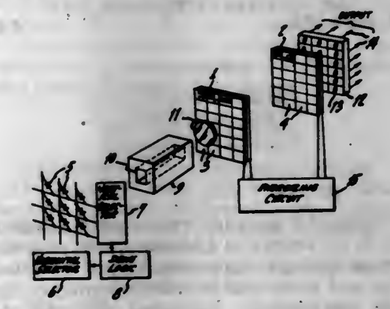


3,440,620

ELECTRO-OPTICAL MEMORY

Larry J. French, East Brunswick, N.J., assignor to Radio Corporation of America, a corporation of Delaware

Filed Jan. 10, 1966, Ser. No. 519,615
Int. Cl. G11b *11/10*
U.S. Cl. 340—173 4 Claims

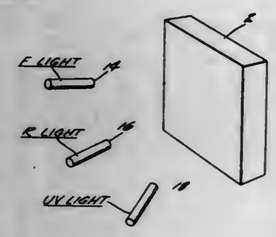


1. An optical memory comprising a matrix of selectively energizable radiation producing devices, means operative to form a plurality of separate images of said matrix in a predetermined plane, information storage means comprising a plurality of storage cells arranged in a matrix, each of said cells having preselected incremental storage areas arranged to be transparent at all times to said radiation, said storage cells being operative under the influence of an applied field to provide an opaque condition to said radiation in the areas outside of said preselected areas, energizing means arranged to selectively apply said field to said storage cells and sensing means operative to provide separate output signals for each of said storage cells indicative of said radiation passing therethrough.

3,440,621
COLOR CENTER INFORMATION STORAGE AND RETRIEVAL SYSTEM

Richard A. Knapp, Bristol, Conn., assignor to Carson Laboratories, Inc., Bristol, Conn., a corporation of Connecticut

Filed Feb. 11, 1966, Ser. No. 526,870
Int. Cl. G11b 7/02
U.S. Cl. 340—173 14 Claims

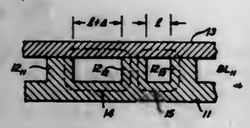


8. An information handling system comprising a crystal having color centers and hydrogen atoms therein external of said color centers, color centers in said crystal having the capacity to group together in the presence of hydrogen, means for selectively illuminating at least part of said crystal with a first light of selected wavelength to cause pluralities of color centers in said illuminated part to group together to form information centers representing stored information, and means for illuminating at least part of said crystal with a second light of ultraviolet wavelength to reestablish color centers from said information centers in said ultraviolet illuminated part to erase stored information therein.

3,440,622
TWO-CORE-PER-BIT WAFFLE IRON MEMORY

James L. Smith, Bedminster, N.J., assignor to Bell Telephone Laboratories, Incorporated, New York, N.Y., a corporation of New York

Filed May 7, 1964, Ser. No. 365,589
Int. Cl. G11c 11/02; G11b 5/64
U.S. Cl. 340—174 5 Claims



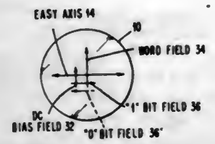
Two-core-per-bit operation is achieved on a single polarity mode in the absence of a biasing circuit. A waffle iron arrangement having a high permeability or low reluctance base plate and posts with an overlay having rectangular hysteresis characteristics juxtaposed with the posts is adapted to this end by making different the distances between the first and second and the second and third posts of each bit.

3,440,623
MAGNETIC FILM MEMORY WITH CREEP PREVENTION MEANS

Hsu Chang, Peekskill, and Charles Denis Mee, Yorktown Heights, N.Y., Otto Voegeli, West Lafayette, Ind., and Simon Middelhoek, Kilchberg, Switzerland, assignors to International Business Machines Corporation, New York, N.Y., a corporation of New York

Filed Jan. 13, 1964, Ser. No. 337,199
Int. Cl. G11b 5/64; G11c 11/14, 11/10
U.S. Cl. 340—174 16 Claims

Wall creeping effects caused by stray alternating magnetic fields in the hard direction of magnetization are apt to render magnetic film storage devices unduly disturb-sensitive. To prevent wall creep, it is proposed herein to subject each magnetic storage film to a constant

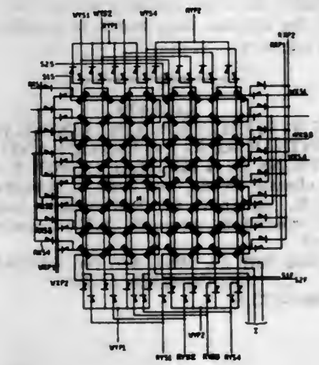


magnetic bias field which is effectively applied along the hard axis of the film, such bias field having a magnitude in the range from 0.2 to 0.3 of the anisotropy field H_K of the film.

3,440,624
MAGNETIC CORE MATRIX DATA STORAGE DEVICES

James F. Sherlock, Malvern, and Kenneth Forbes Rankin, Liverpool, England, assignors to Automatic Telephone & Electric Company Limited, Liverpool, England, a British company

Filed Oct. 26, 1964, Ser. No. 406,235
Int. Cl. G11b 5/06; G06f 11/04
U.S. Cl. 340—174 3 Claims

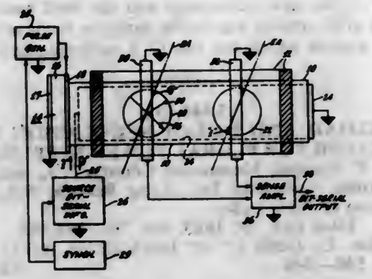


A magnetic core matrix storage device includes X and Y primary and secondary selectors for core selection by coincident current single wire working. The method of operation is asynchronous, the completion of one step initiating the start of the next and delay lines are included for timing certain of the steps. Selection of a core is effected by applying binary signals to input leads to activate toggle circuits and checking means are provided for checking the correct setting of the toggle circuits. The setting of the toggle circuits is converted by binary to linear conversion circuits, each of which activates one of a plurality of outlet leads according to the activation of the toggle circuits. Further checking arrangements are provided for ensuring that one only of the outlet leads of each binary to linear converted is activated. Four binary to linear converters are provided and the activation of one outlet lead of a first converter selects an X primary selector, of a second converter selects an X secondary selector, of a third converter selects a Y primary selector and of a fourth converter selects a Y secondary selector, thereby defining a particular core of the matrix. Arrangements are described for reading from and rewriting into and for writing into the storage device.

3,440,625
STRESS-WAVE THIN-FILM MEMORY

Hillel Weinstein, Kendall Park, N.J., assignor to Radio Corporation of America, a corporation of Delaware

Filed May 5, 1965, Ser. No. 453,323
Int. Cl. G11b 5/00
U.S. Cl. 340—174 2 Claims

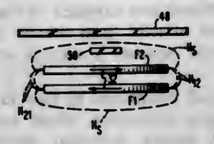


A stress-wave memory in which a propagated stress wave causes rotation of magnetization in anisotropic thin magnetic film spots. An elongated quartz stress wave conductor has magnetic thin film spots on the top side and a write conductor on the bottom side. Propagated stress causes partial rotation of magnetization. Write current in "1" direction in write conductor causes additional rotation of magnetization to "1" direction. To read out information, a stress wave is propagated to cause momentary rotation of magnetization in magnetic spots, which induces sense signals in air-spaced sense conductors.

3,440,626
MAGNETIC MEMORY EMPLOYING TWO THIN FILMS

Ralph F. Penoyer, Poughkeepsie, N.Y., and Otto Voegeli, West Lafayette, Ind., assignors to International Business Machines Corporation, Armonk, N.Y., a corporation of New York

Filed June 30, 1965, Ser. No. 468,314
Int. Cl. G11b 5/00
U.S. Cl. 340—174 4 Claims



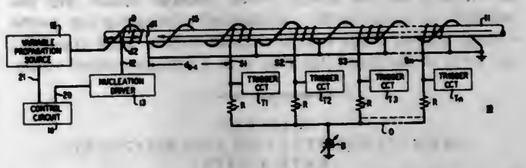
The magnetic thin film storage element includes two thin films having uniaxial anisotopy mounted one above the other with their easy axes parallel. When storing binary information the films are magnetized along their easy axis in opposite directions. One film has a higher uniaxial anisotropy field than the other and the films are tightly coupled so that their fields interact. Writing and nondestructive reading is accomplished using word and bit conductors arranged completely external to the storage element formed by the two films. In both writing and nondestructive reading switching is by the high speed rotational switching.

3,440,627
DOMAIN WALL PROPAGATION DELAY LINE

David H. Smith, Summit, N.J., assignor to Bell Telephone Laboratories, Incorporated, New York, N.Y., a corporation of New York

Filed Oct. 21, 1965, Ser. No. 499,849
Int. Cl. G11b 5/00
U.S. Cl. 340—174 7 Claims

The provision of an accelerating localized bias field at each of a plurality of output positions along a domain wall propagation delay line permits the period of delay for

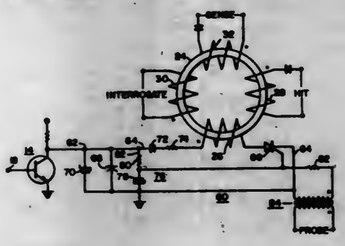


information in the channel to be varied without varying the output level.

3,440,628
COMPUTER INTERRUPT CIRCUIT

Leonard C. Vercellotti, Penn Hills Township, Verona, and Auseklis Brastins, Wilkinsburg, Pa., assignors to Westinghouse Electric Corporation, Pittsburgh, Pa., a corporation of Pennsylvania

Filed Mar. 1, 1966, Ser. No. 530,923
Int. Cl. G11b 5/00, 5/44
U.S. Cl. 340—174 7 Claims

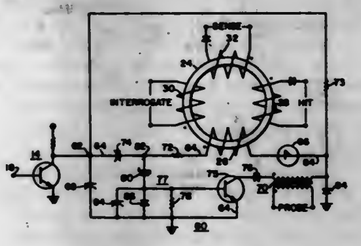


1. A computer interrupt circuit coupled to a magnetic core output and actuable by an interrupt drive voltage at an input junction, said circuit comprising a circuit branch connected between the input junction and a common junction, said circuit branch including a switch in series with a winding of said core, an element across which computer probe voltage pulses are developed, means for causing said switch to become conductive in response to the input drive and probe pulse voltages only after the drive voltage has reached a predetermined level.

3,440,629
COMPUTER INTERRUPT CIRCUIT

Leonard C. Vercellotti, Penn Hills Township, Verona, and Richard A. Johnson, Monroeville, Pa., assignors to Westinghouse Electric Corporation, Pittsburgh, Pa., a corporation of Pennsylvania

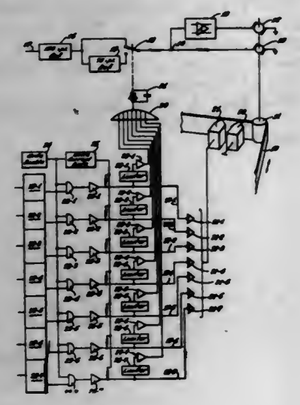
Filed Mar. 1, 1966, Ser. No. 530,924
Int. Cl. G11b 5/44
U.S. Cl. 340—174 7 Claims



1. A computer interrupt circuit coupled to a magnetic core output and actuable by an interrupt drive voltage at an input junction, said circuit comprising a threshold circuit branch connected between the input junction and

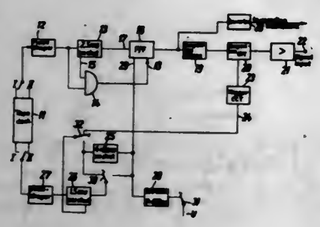
a common junction, said circuit branch including a threshold switch and a core winding connected in series with an element across which probe voltage pulses are developed, and means for substantially isolating the probe voltage pulses from said threshold switch until the voltage level at the input junction is at a predetermined value.

3,440,630
DATA GAP PREDICTOR FOR MAGNETIC TAPE UNITS
Reaman Paul Niquette, Palos Verdes Estates, Calif., assignor to Scientific Data Systems, Santa Monica, Calif., a corporation of Delaware
Filed Jan. 8, 1965, Ser. No. 424,399
Int. Cl. G11b 5/78; G11c 11/02
U.S. Cl. 340—174.1 12 Claims



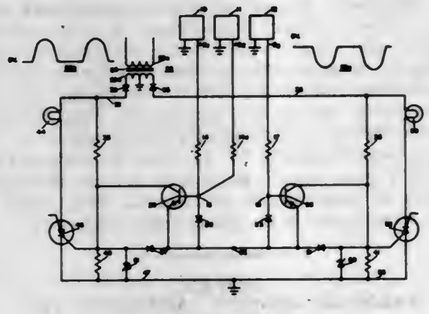
In a magnetic tape system with separated reading and recording transducers scanning the same track and a relatively leading record transducer in the read mode, the record transducer is operated for auxiliary reading for predicting occurrence of a data gap to control slow-down of the tape.

3,440,631
METHOD AND SYSTEM FOR CLEARING REPETITIVE VOLTAGE WAVEFORMS OF STATISTICAL INTERFERENCES
Arthur Bodmer, Windisch, Switzerland, assignor to Varian International AG, Zug, Switzerland
Filed Sept. 29, 1965, Ser. No. 491,190
Claims priority, application Germany, Sept. 30, 1964, V 26,879
Int. Cl. G11b 5/02, 5/44
U.S. Cl. 340—174.1 13 Claims



1. A method for clearing repetitive voltage waveforms, which show the dependence of a quantity represented as a voltage, of another quantity, of statistical interferences (noise), in which method the average values of short sections of the voltage waveform are converted into pulse-pairs having amplitude-proportional spacing and the pulse-pairs are recorded during one run, and the average values of the same short sections of the voltage waveform during successive runs are also converted into new pulse-pairs having amplitude-proportional spacing and the spacing of the recorded pulse-pairs is increased by the spacing of the new pulse-pairs and the final spacings arrived at after several successive runs are reconverted into voltage signals which are fed to a recording instrument.

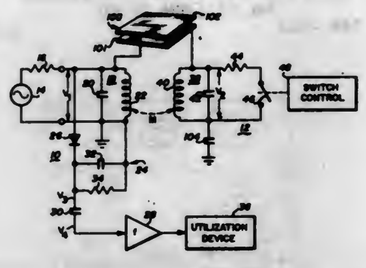
3,440,632
OVERLOAD AND OUT-OF-REGULATION INDICATOR FOR PLURAL POWER SUPPLIES
George F. Tempel, Monmouth County, N.J., assignor to Electronic Associates Inc., Long Branch, N.J., a corporation of New Jersey
Filed Oct. 18, 1965, Ser. No. 497,356
Int. Cl. G08b 21/00; H01h 83/06, 83/12
U.S. Cl. 340—248 16 Claims



1. A system for indicating an alarm condition when one or more of a plurality of regulated power supplies vary from their predetermined supply potential comprising
current loop means including at least two unidirectional devices,
means connecting supplies of one polarity to one end of said loop means and supplies of the other polarity to another end of said loop means to provide at a junction of said devices a virtual reference potential,
a first alarm circuit connected to said junction for producing an alarm indication when variation in said predetermined supply potential provides a change in potential in a positive-going direction beyond a predetermined tolerance, and
a second alarm circuit connected to said junction for producing an alarm indication when variation in said predetermined supply potential provides a change in junction potential in a negative-going direction beyond a predetermined tolerance.

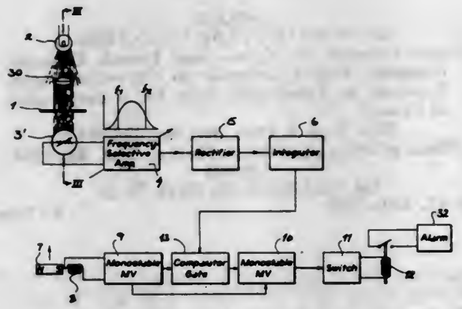
3,440,633
INTERROGATOR-RESPONDER IDENTIFICATION SYSTEM
Jorgen P. Vinding, 18780 Withey Road, Monte Sereno, Calif. 95030
Continuation-in-part of application Ser. No. 453,939, May 7, 1965. This application Oct. 18, 1965, Ser. No. 497,181
Int. Cl. G01s 9/58
U.S. Cl. 340—258 5 Claims

An interrogator-responder system for identifying objects in which an interrogator is provided with a substantially nonradiative tuned circuit, a signal source for exciting the tuned circuit to oscillate at the interrogator frequency, and an amplitude detector for sensing the amplitude of the signal excited in the tuned circuit, and for providing an output signal when the amplitude changes in accordance with a predetermined pattern. The responder likewise is provided with a substantially nonradiative tuned circuit which is tuned to the interrogator



frequency, and a detuning means which is coupled to the tuned circuit through a programmed switch whose switching rate follows the predetermined pattern to thereby identify the responder when the tuned circuits are capacitively coupled to one another.

3,440,634
SYSTEM FOR MONITORING MOVING THREADS IN TEXTILE MACHINERY
Siegfried Maurmann and Werner Maurmann, Wulfrath, Germany, assignors to August Engels G.m.b.H., Velbert, Germany, a corporation of Germany
Filed Oct. 8, 1965, Ser. No. 494,060
Claims priority, application Germany, Apr. 14, 1965, E 29,117
Int. Cl. G08b 21/00
U.S. Cl. 340—259 9 Claims

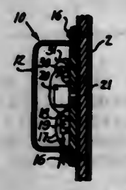


Thread-monitoring device in which a timing system periodically enables a comparator to match a reference pulse against the integrated output of a photoelectric or other transducer sensing the vibrations or recurrent surface deformations of a thread, rupture of that thread causing the vibrations to cease and resulting in the actuation of an alarm by the comparator.

3,440,635
POLICE ALARM
Harris B. Hull, 5409 Duvall Drive, Washington, D.C. 20016
Filed June 28, 1965, Ser. No. 467,596
Int. Cl. G08b 13/02, 1/08; H04b 1/02
U.S. Cl. 340—277 18 Claims

Disclosed herein are methods and apparatus of the alarm type, specifically for alerting police or the like to the location of a robbery or other criminal act taking place with regard to a victim. A surreptitiously activated alarm responding to an unobtrusive movement of a victim to a crime sends out radio signals, preferably in coded form, to indicate the general location of the victimized, and a plurality of direction finders which receive the signal determine the location of the victim more accurately. Even if the radio equipment is removed from the victim's person after he has actuated the alarm signal, the alarm signal continues, even if the activating switch is removed. Other details of the invention are further disclosed.

3,440,636
SENSING RESISTANCE DEVICE
Michael T. Sliman, 826 W. Capitol, West Sacramento, Calif. 95691
Filed Jan. 11, 1966, Ser. No. 519,990
Int. Cl. G08b 21/00
U.S. Cl. 340—280 9 Claims



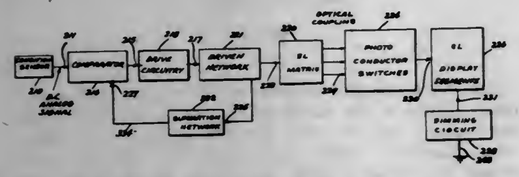
1. In a system for protecting normally unobserved articles such as television receivers and the like in locations accessible to the public such as hotel or motel rooms, from theft or tampering wherein a remote signal is produced by removal or excessive movement of the article by an unauthorized person comprising at least one television receiver having disposed therein a sensing resistance device and remotely located means for detecting changes with respect to said sensing resistance device and giving an alarm in response to such changes with respect to said sensing resistance device due to movement of or tampering with said television receiver the improvement wherein said television receiver has disposed therein
a sensing resistance device comprising
a resistance element and at least one switch for effecting a change in the over-all electrical resistance of said sensing resistance device in response to movement of or tampering with said television receiver;
said sensing resistance device including a switch having an automatically returning compressible operating member, said resistance device being attached to said television receiver thereby causing said switch operating member to be held in the compressed position only while said resistance device is properly attached to said television receiver,

and wherein said sensing resistance comprises a Wheatstone bridge normally balanced with said resistance element connected therein as an arm thereof.

3,440,637
SOLID STATE DISPLAY WITH ELECTRONIC DRIVE CIRCUITRY INCLUDING FEEDBACK CONTROL

Robert J. Molnar, New York, N.Y., and Walter Parfomak, Wallington, N.J., assignors to The Bendix Corporation, Teterboro, N.J., a corporation of Delaware

Continuation-in-part of application Ser. No. 467,391, June 28, 1965. This application Mar. 21, 1966, Ser. No. 535,745
Int. Cl. G06f 3/14
U.S. Cl. 340—324 18 Claims

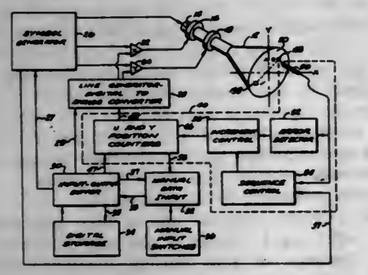


A solid state display system with electronic drive circuitry including a condition sensor to effect an output signal proportional to a sensed condition, together with a comparator for comparing the output signal and a feedback signal from a driven network, and an optoelectronic matrix operated by the driven network including electroluminescent photoconductor circuitry having memory portions for coarse and fine control for driving electroluminescent display segments, together with means to control intensity of illumination of the driven electroluminescent display segments.

3,440,638
DATA DISPLAY SYSTEM WITH LATERAL PHOTOCELL FOR DIGITAL REPOSITIONING OF DISPLAYED DATA

Ernest S. Van Valkenburg, Ann Arbor, Mich., assignor to The Bendix Corporation, Ann Arbor, Mich, a corporation of Delaware

Filed Apr. 8, 1965, Ser. No. 446,590
Int. Cl. G08b 23/00; G01s 9/00; H01j 29/70
U.S. Cl. 340—324 2 Claims

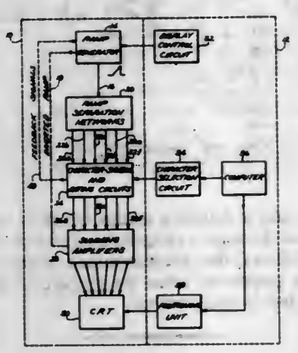


A data display system having a display screen with a plurality of visible items displayed sequentially thereon, a hand held lateral photocell for providing a pair of output signals corresponding to the displacement along orthogonal axes between the photocell and item. A coincidence detector to identify the item according to the time at which it is displayed, and an error detector and increment control to reposition the identified item to correspond with the position of the pencil.

3,440,639
CHARACTER AND SYMBOL GENERATOR WITH RAMP VOLTAGE INPUT

Wendell B. Sander, Palo Alto, and Raymond Van den Heuvel, Los Angeles, Calif., assignors to Tasker Instruments Corporation, Van Nuys, Calif., a corporation of California

Filed Dec. 30, 1966, Ser. No. 606,095
Int. Cl. G08b 23/00
U.S. Cl. 340—324 15 Claims

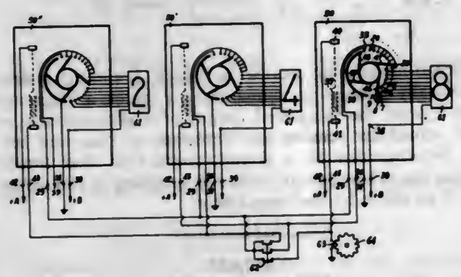


An electronic symbol generator for a CRT in which a single ramp voltage is divided into a plurality of secondary ramp voltages which are displaced in time and whose slopes equal the slope of the first ramp voltage. The secondary ramp voltages are selectively altered as to slope by character symbol and gating circuitry in response to a character selection input. The altered secondary ramps are then summed to provide composite signals to generate a symbol on a CRT.

3,440,640
SLOW RATE PULSE COUNTERS

Daniel Droniou, St. Egreve, and Francis Consolin, Grenoble, France, assignors to CSF—Compagnie Generale de Telegraphie Sans Fil, a corporation of France

Filed Sept. 7, 1965, Ser. No. 485,391
Claims priority, application France, Sept. 23, 1964, 989,001
Int. Cl. G08c 9/08; H01h 19/28
U.S. Cl. 340—325 8 Claims

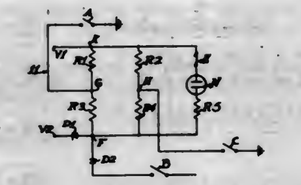


Pulse counter having a slow rate uses indicator tubes and comprises the combination of an electromagnetic motor and a guasi-universal printed circuit. The counter is capable of being adapted to varied applications by very slight modifications, for instance: decimal counters, remote controlled switches, clocks.

3,440,641
INDICATING DEVICE

William E. Poulos, 533 Clairmont Circle, #1, Decatur, Ga. 30033

Filed Sept. 23, 1966, Ser. No. 581,574
Int. Cl. G08b 5/22; H04m 11/02
U.S. Cl. 340—332 10 Claims

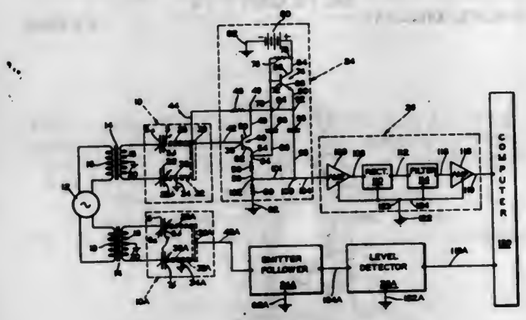


A signalling device comprising three sets of a plurality of switches and remotely located therefrom a plurality of indicator lamps. Actuation of a combination of one switch from each set will operate a particular indicator lamp. Each remote indicator lamp has a corresponding switch at the remote location which deactivates the indicator lamp.

3,440,642
ELECTROSTATICALLY DIGITIZED TAPE DISPLAY MEANS

Alfred L. Levine, Waldwick, N.J., assignor to The Bendix Corporation, Teterboro, N.J., a corporation of Delaware

Filed Oct. 27, 1964, Ser. No. 406,680
Int. Cl. H04l 3/00; G06k 7/08, 19/06
U.S. Cl. 340—347 4 Claims



An electrically digitized tape display means including an elongated tape with a functional scale and a plurality of metallic channels disposed laterally and longitudinally according to the functional scale. A sensing device including a plurality of electrically energized capacitive means is arranged for relative longitudinal motion with the tape for providing digital signals corresponding to the functional scale.

3,440,643
ANALOG TO DIGITAL CONVERTER

Herbert M. Teager, Belmont, Mass., assignor to Massachusetts Institute of Technology, Cambridge, Mass., a corporation of Massachusetts

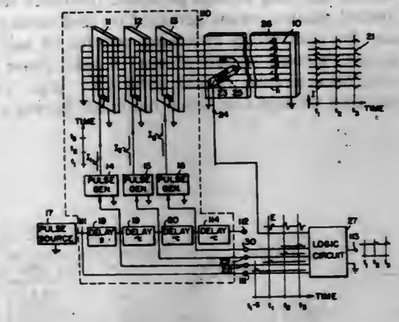
Filed Dec. 19, 1963, Ser. No. 331,687
Int. Cl. H03k 13/243; H04l 3/00
U.S. Cl. 340—347 16 Claims

1. Apparatus for providing an analog to digital converter comprising:

a plurality of conductors spaced from each other and substantially transverse to a coordinate direction,

each conductor having a known position in said coordinate direction,

means for electromagnetically coupling to each conductor a known different serial binary pulse train of energy,



each conductor radiating said energy,

means for detecting said radiated energy to provide an output signal,

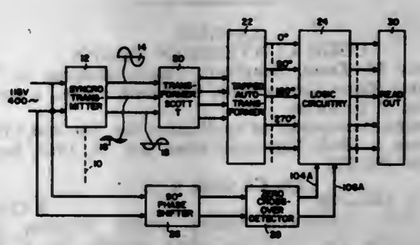
said output signal pulse train corresponding to the pulse train of the conductor to which it is adjacent,

whereby the location of said detector along said coordinate direction is determined.

3,440,644
SYNCHRO-TO-DIGITAL CONVERTER

Clare N. Burgis, Granada Hills, and Roy Y. Kakuda, Los Angeles, Calif., assignors to General Precision Systems Inc., a corporation of Delaware

Filed Apr. 21, 1965, Ser. No. 449,693
Int. Cl. H04l 3/00; H03k 13/00; G08c 9/00
U.S. Cl. 340—347 23 Claims



A shaft position to digital converter in which synchro signal voltages are transformed into two-phase signals that are applied to a four-legged autotransformer connected in a bridge configuration. The autotransformer is multi-tapped and digital logic circuitry coupled to each tap senses the tap at which the signal output registers a null when compared with the reference signal applied to the synchro input.

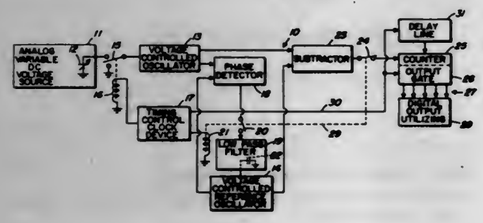
3,440,645
ANALOG-TO-DIGITAL CONVERTER

Charles O. Feigleson, Marion, Iowa, assignor to Collins Radio Company, Cedar Rapids, Iowa, a corporation of Iowa

Filed Aug. 4, 1965, Ser. No. 477,111
Int. Cl. H04l 3/00
U.S. Cl. 340—347 13 Claims

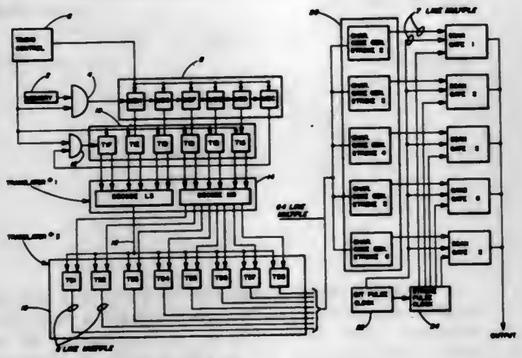
1. In an analog-to-digital converter for conversion of an analog varying D.C. signal from an analog variable D.C. voltage source to digital output form: a first voltage

controlled oscillator; a phase controlled oscillator circuit connected to receive an input from said first voltage controlled oscillator; a voltage potential reference source; first switch means connected to the input of said first voltage controlled oscillator, and constructed to alternately switch connection between said analog variable D.C. voltage source and said voltage potential reference source; timing control means; means actuated by said timing control means for controlling switching control of said first switch means; second switch means in said phase controlled oscillator circuit; digital subtractor logic circuit means; said first voltage controlled oscillator having a connection for feeding the frequency output signal thereof as a first input to said digital subtractor logic circuit means; said phase controlled oscillator circuit having a connection for applying the output thereof as a second input to said digital subtractor logic circuit means; counter means connected for receiving the output of said digital subtractor logic circuit means as an input through means controlled for passing or blocking the signal path; output utilizing circuitry connected for receiving the output of said counter circuit through timing controlled gate means; and reset signal timing control input means, of said counter means, connected to said timing control circuit means for timed reset of said counter.

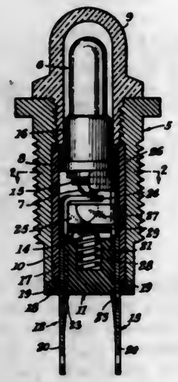


3,440,646
CODE CONVERSION MEANS
Erasmus M. Dean, Stamford, Conn., assignor to The Bunker-Ramo Corporation, Stamford, Conn., a corporation of Delaware
Continuation-in-part of application Ser. No. 460,307, June 1, 1965. This application Oct. 15, 1965, Ser. No. 496,279
Int. Cl. G08c 9/00
U.S. Cl. 340—347 9 Claims

A code conversion means which includes register means for receiving data signals in a first code format having a predetermined bit count for each of a plurality of characters which are to be represented, which register means is effective to double the bit count of the signals applied thereto. The output from the register means is applied in parallel to a decoding translator means which is made up of a first stage translator and a second stage translator. The first stage translator includes at least two decoder matrices with different selected combinations of the outputs from the register means being connected to each of the matrices. Each of the matrices has a plurality of output leads which corresponds in number to the maximum number of distinct permutational arrangements of the bit supplied thereto and includes means for selecting and energizing a single one of the output leads for each permutational arrangement of the bit supplied thereto. The second stage translator includes a plurality of gating means connected to the first stage translator for permutationally ANDing each of the output leads of at least one of the matrices with each output lead of the other of the matrices. The second stage translator has a plurality of output leads corresponding in number to the number of characters to be represented. The plurality of gating means in the second stage translator serve as means for selecting and energizing a selected one of the second stage translator output leads for each permutational arrangement of bits applied to the second stage translator.

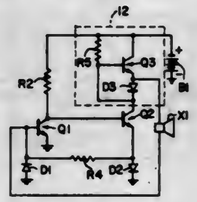


3,440,647
TWO-TERMINAL INDICATOR LIGHT HAVING SPRING-BIASED TERMINALS
Charles S. Sloan, Burbank, Calif. (7704 San Fernando Road, Sun Valley, Calif. 91352)
Filed Dec. 14, 1966, Ser. No. 601,582
Int. Cl. G09f 7/14
U.S. Cl. 340—381 6 Claims



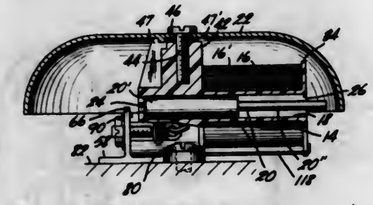
1. In an indicator light having a body adapted to be fitted with a lamp that has two longitudinally spaced contacts:
(a) an insulator mounted in said body in spaced relation to said contacts,
(b) two spaced electrically-conducting terminals carried by and longitudinally movable in said insulator,
(c) each terminal being provided with an end to be engaged by one of the lamp contacts,
(d) a finger on each terminal, said fingers being transversely spaced and extending from one terminal toward and spaced from the other terminal, and
(e) spring-biased means carried by said insulator and biased into engagement with said fingers of the terminals to longitudinally move one of said terminals to engage one of the lamp contacts in response to pressure applied on the finger of a terminal engaged by the other lamp contact.

3,440,648
INTEGRATED-CIRCUIT AMPLIFIER AND OSCILLATOR
Hans R. Camenzind, Los Altos, Calif., assignor to P. R. Mallory & Co. Inc., Indianapolis, Ind., a corporation of Delaware
Continuation-in-part of application Ser. No. 640,148, May 22, 1967. This application May 9, 1968, Ser. No. 727,879
Int. Cl. H03b 5/00
U.S. Cl. 340—388 9 Claims



A two-stage transistor amplifier, suitable for use as an oscillator with a resonant load, is disclosed. Base bias for the input transistor is derived from a diode in the output transistor emitter lead and a resistor. A third transistor having a base-biasing resistor and an emitter diode form a variable-impedance collector load circuit for the output transistor. This load circuit has a high impedance when the output transistor conducts and a low impedance when the output transistor does not conduct.

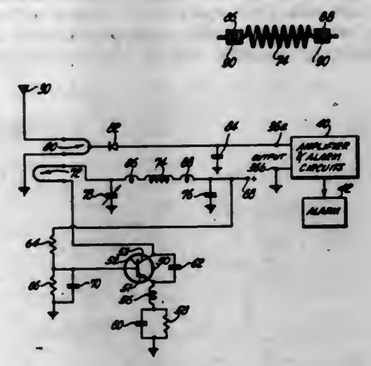
3,440,649
BELL AND STRIKER MOUNTING APPARATUS
Stanley W. Teeple, Toms River, N.J., assignor to Wheelock Signals, Inc., Long Branch, N.J., a corporation of New Jersey
Filed July 14, 1967, Ser. No. 653,541
Int. Cl. G08b 3/02, 3/10; G10k 1/064
U.S. Cl. 340—396 4 Claims



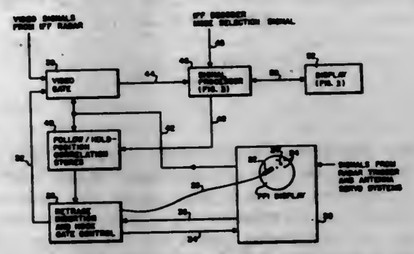
A one-piece molded plastic device includes a universal mounting bracket, a bell-mounting support, and a flanged tube. The exterior constitutes a bobbin for a winding and the interior constitutes a housing for a striker.

3,440,650
DOPPLER SYSTEM OSCILLATOR CIRCUIT
Peter G. Kimball, Southington, Conn., assignor to Metalite, Inc., Meriden, Conn., a corporation of Connecticut
Filed Dec. 29, 1967, Ser. No. 694,605
Int. Cl. G01s 9/42
U.S. Cl. 343—5 4 Claims

An ultrastable oscillator circuit for a Doppler system having filter means for removing unwanted signal components so that the output at the detector stage of the system is representative only of a moving object in the field of radiation and substantially insensitive to the presence of such signal components.



3,440,651
IFF ACTIVE READOUT CONTROL AND DISPLAY SYSTEM
Frederick R. Fluhr, Oxon Hill, Md., and Donald J. McLaughlin, Washington, D.C., assignors to the United States of America as represented by the Secretary of the Navy
Filed Sept. 1, 1966, Ser. No. 577,116
Int. Cl. G01s 9/56
U.S. Cl. 343—6.5 23 Claims

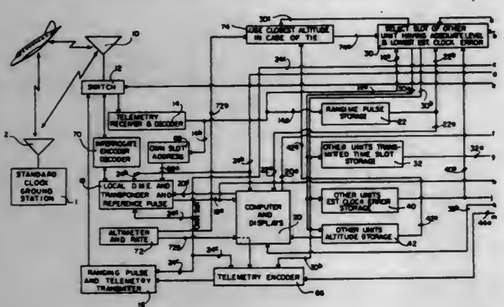


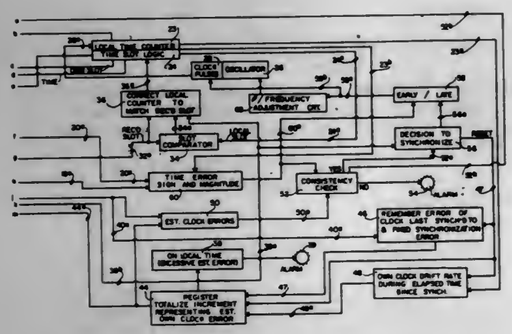
IFF display and processing system wherein replies from a selected target are compared and the agreement between the replies is evaluated and displayed with color coding indicative of the degree of agreement.

3,440,652
HIERARCHY CLOCK SYNCHRONIZATION
Martin R. Bates, Kenmore, Johannes W. Prast, Grand Island, and William V. Scott, Depew, N.Y., assignors to Sierra Research Corporation, a corporation of New York
Filed Oct. 2, 1967, Ser. No. 672,357
Int. Cl. G01s 9/52
U.S. Cl. 343—7.5 18 Claims

An aircraft navigation and collision avoidance system of the type using accurately synchronized time clocks in the various aircraft units, wherein each local aircraft estimates the probable error of its time clock and telemeters this estimate to other aircraft within radio range, and wherein the local aircraft receives from other aircraft the estimates of their local time clock errors. Each aircraft compares its own estimated error with those of other aircraft, and resynchronizes its clock to match the clock in another aircraft which appears to be higher

in the synchronization hierarchy by virtue of estimating a smaller local error, whereby the clocks in the various aircraft tend to approach closer synchronization not only with each other, but operate in a system which provides means whereby a suitably equipped aircraft entering a synchronized hierarchy with no initial synchronism whatever can become synchronized therewith. The system includes means for accomplishing coarse and fine synchronization of local time clocks, for estimating local clock errors, for telemetering information between aircraft, and for exchanging pulses for the purpose of measuring ranges between aircraft both for navigational purposes and for purposes of determining signal transit times incident to determining mutual clock errors. The system employs such refinements as consistency checking means, alarms to warn of excessive local clock errors, circuits for selecting another aircraft having a better synchronized clock, and means for breaking a tie between several well-synchronized aircraft.





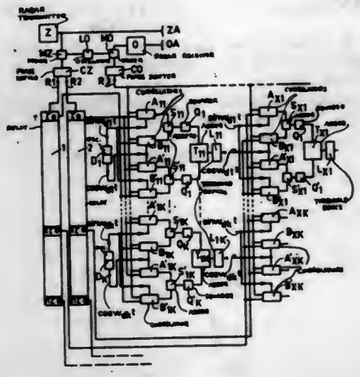
3,440,653

RADAR SYSTEM

Willem le Mair, Johannes Bernard Heinrich Peek, and Frederik Valster, Emmasingel, Eindhoven, Netherlands, assignors to U. S. Philips Corporation, New York, N.Y., a corporation of Delaware

Filed Apr. 29, 1968, Ser. No. 724,715
Claims priority, application Netherlands, Apr. 29, 1967, 6706096
Int. Cl. G01s 9/44, 9/04
U.S. Cl. 343—9 3 Claims

A radar system is provided with a signal processor which provides both range and radial velocity information without the use of Doppler filter banks thereby permitting ready microminaturization. The processor includes a multitap delay device which provides signals proportional to a delayed transmitted signal. The number of taps correspond to the number of range intervals to be measured. For each tap there is provided a plurality of correlator pairs each of which receives signals proportional to the delayed transmitted signal, the received signal, and a Doppler signal, there being a different Doppler signal for each correlator pair and the number of which corresponds to the number of expected Doppler frequencies. The outputs of the correlator pairs are supplied to summing devices and further processing circuitry including a threshold device. An output of a particular threshold device is an indication of a target radial velocity corresponding to the Doppler signal supplied to that threshold device's associated correlator pair.

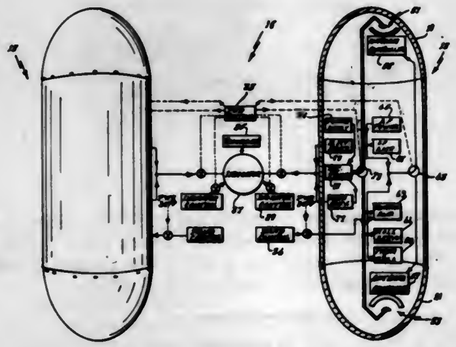


3,440,654

AIRBORNE INTERCEPTOR RADAR TESTING SYSTEM

Charles A. Neuendorf, San Diego, and Donald C. Black, Upland, Calif., assignors to the United States of America as represented by the Secretary of the Air Force

Filed Mar. 12, 1968, Ser. No. 712,400
Int. Cl. G01s 7/40
U.S. Cl. 343—17.7 3 Claims



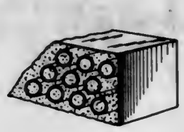
A system for testing the jamming ability of an aircraft using two pods mounted on the wings of a testing aircraft, each pod containing a radar, a forward and aft antenna, the choice of antenna and the mode of operation of the chosen antenna being controlled by the testing aircraft's radar operator.

3,440,655

SPACE ABSORBERS FOR ELECTROMAGNETIC WAVES

Ludwig Wesch, Heidelberg, and Hartmut Fromme, Igelsbach, Germany, assignors to Electro G.m.b.H. & Co., Heidelberg, Germany

Filed Feb. 23, 1967, Ser. No. 618,133
Claims priority, application Germany, Feb. 26, 1966, E 31,114
Int. Cl. H01q 17/00
U.S. Cl. 343—18 9 Claims



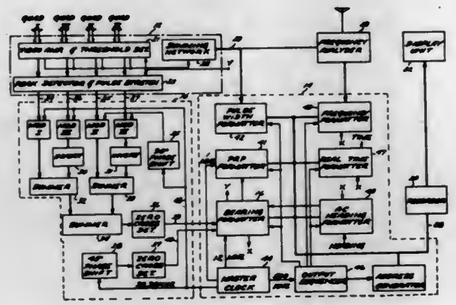
An absorber construction for blocking propagated electromagnetic waves comprising a plurality of spaced flat or tube-like walls arranged parallel to the direction of propagation of said waves and having a conductive material on their external surfaces which has an increasing conductivity in the direction of propagation, all spaces within the walls and between adjacent walls being filled with a foam material.

3,440,656

SIGNAL EVALUATION SYSTEMS

Frank Wong, Los Angeles, John Cline Carpenter, Reseda, and Robert Clark Sanford, Costa Mesa, Calif., assignors, by mesne assignments, to Babcock Electronics Corporation, Costa Mesa, Calif., a corporation of Delaware

Filed June 12, 1967, Ser. No. 645,411
Int. Cl. G01s 5/04
U.S. Cl. 343—121 15 Claims



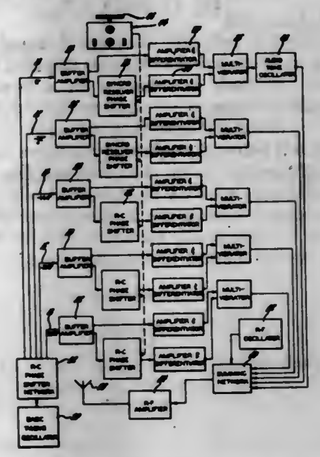
The accompanying application describes a system sensitive to a number of electrical input signals which have the same shape and occur at the same time, but which differ in amplitude, and which provides an output signal which by its duration may be interpreted as the vector direction of the composite of the state of a condition in segments of compass direction represented by the several input signals. Such a system has obvious application in locating the direction to a radio or radar transmitter and it is specifically described in this application as an element of an electromagnetic signal bearing and signature detection and recording system. Other elements of the larger system include apparatus for processing pulse duration, pulse repetition period, signal frequency, real or civil time, and true heading information and logic apparatus for arranging and recording that information.

3,440,657

MULTICHANNEL MULTIPLEX COMMUNICATION SYSTEM USING PULSE WIDTH MODULATION AND AN AUDIO SYNC ON ONE PULSE

Roy S. Cataldo, Birmingham, Mich., assignor to General Motors Corporation, Detroit, Mich., a corporation of Delaware

Filed Aug. 5, 1965, Ser. No. 477,500
Int. Cl. H04g 7/00
U.S. Cl. 343—225 2 Claims



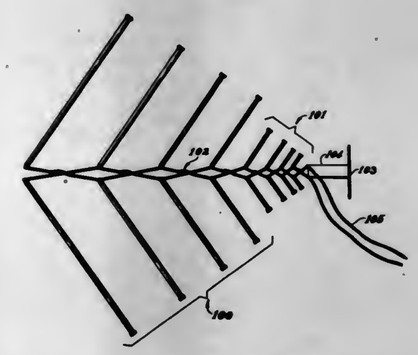
A multichannel communication system in which the transmitter produces individually duration-modulated pulses in each of a plurality of separate and sequential time intervals, the first of which carries a tone to indicate its identity. In the receiver, the tone is directed through a filter and subsequent circuitry which decodes the signal in the first time interval and feeds a plurality of gate signal generators which, after sequential delays correlated to the transmitter intervals, open individual decoding channels in a fixed sequence to receive the other transmitted pulses.

3,440,658

DUAL BAND COPLANAR DIPOLE ARRAY WITH DISC TYPE DIRECTOR

Richard D. Bogner, 4 Hunters Lane, Roslyn, N.Y. 11576

Continuation-in-part of application Ser. No. 503,238, Oct. 23, 1965. This application Apr. 17, 1967, Ser. No. 642,989
Int. Cl. H01q 11/10
U.S. Cl. 343—792.5 7 Claims

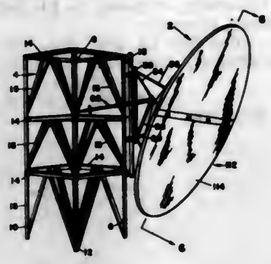


Disc-rod antennas suitable for UHF-TV reception and combined UHF-VHF-TV antennas employing disc-rod directors are disclosed. At least one disc between a quarter

and a half of a wavelength in diameter is placed in front of an end fire dual band antenna to improve directivity.

3,440,659
TOWER SUPPORTED MICROWAVE REFLECTOR WITH ADJUSTABLE MOUNT
James S. Kreitzberg, Butte, Mont., assignor to Microflect Co., Inc., Salem, Oreg., a corporation of Oregon
Filed Jan. 24, 1966, Ser. No. 522,592
Int. Cl. H01q *3/02*
U.S. Cl. 343—882 10 Claims

A microwave reflector assembly adapted for installation on a rigid support includes an elliptical reflector disk optionally separable into halves on a mounting frame. The mounting frame is attached to the rigid support and includes a horizontal member adjacent the horizontal axis, and two pairs of supporting members connecting the horizontal member to the rigid support. One pair of supporting members extends from one location on the support to opposite ends of the horizontal member while the other pair of supporting members extends from another location on the support to the opposite ends of the horizontal member. This provides a gimbal support. Separate adjusting means alter the azimuth and elevation relation of the frame to the support. Spars are hinged to the

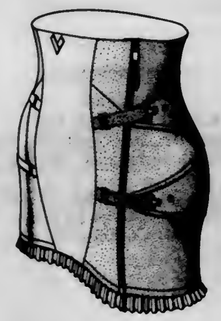


mounting frame and there are ribs between the face and back skin of the disk. The gimbal mounting supports the weight of the reflector assembly without substantial aid from either adjusting means.

DESIGNS

APRIL 22, 1969

213,856
GIRDLE
Marguerita R. Williams, 500 Plattsville Road Trumbull, Conn. 06611
Original design application May 8, 1967, Ser. No. 7,015, now Patent No. 211,233, June 4, 1968. Divided and this application Mar. 5, 1968, Ser. No. 12,194
Term of patent 14 years
Int. Cl. D2—*02*
U.S. Cl. D2—2



213,857
GLOVE
Thomas L. Cullinan, Jr., 2152 S. 1st St., San Jose, Calif. 94512
Filed Sept. 25, 1967, Ser. No. 8,727
Term of patent 14 years
Int. Cl. D2—*07*
U.S. Cl. D2—373



213,858
AIR HAMMER TOOL PIECE
George O. Fortenberry, 6323 Moonglow Drive, Dallas, Tex. 75217
Filed Apr. 13, 1965, Ser. No. 84,758
Term of patent 14 years
Int. Cl. D8—*02*
U.S. Cl. D8—70



213,859
CAN
Stanley Belitzky, Ville St. Laurent, Quebec, Canada, assignor to Bell Designs, Inc., Montreal, Quebec, Canada
Filed Mar. 4, 1968, Ser. No. 10,817
Term of patent 14 years
Claims priority, application Canada Mar. 2, 1968
Int. Cl. D9—*01, 07*
U.S. Cl. D9—43



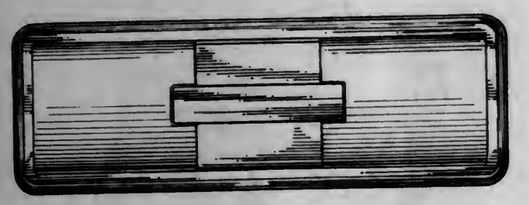
213,860
PACKAGING TRAY
David T. Dittman, Atlanta, Ga., assignor to Pet Incorporated, St. Louis, Mo., a corporation of Delaware
Filed Apr. 3, 1968, Ser. No. 11,288
Term of patent 14 years
Int. Cl. D9—*04*
U.S. Cl. D9—187



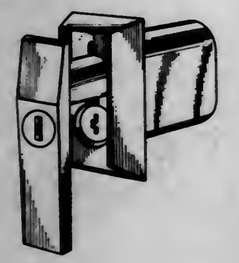
213,861
CAP FOR A PRESSURIZED CAN OR THE LIKE
Gary L. Kollberg, 1100 Parsippany Blvd., Parsippany, Troy Hills, N.J. 07054
Filed Apr. 2, 1968, Ser. No. 11,265
Term of patent 14 years
Int. Cl. D9—*99*
U.S. Cl. D9—258



213,862
PAINT CAN LID
Thomas V. O'Leary, 1722 Martins Lane, Gladwyne, Pa. 19035
Original design application Mar. 16, 1967, Ser. No. 6,252, now Patent No. 212,185, dated Sept. 10, 1968. Divided and this application Oct. 13, 1967, Ser. No. 9,450
Term of patent 14 years
Int. Cl. D9—*99*
U.S. Cl. D9—264



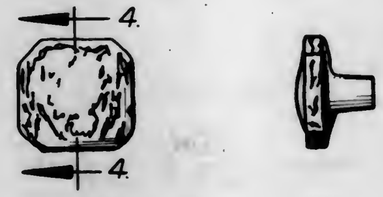
213,863
POP-OUT HANDLE AND LOCK UNIT
Robert K. Unter, Rockford, Ill., assignor to Keystone Consolidated Industries, Inc., a corporation of Delaware
Filed Mar. 18, 1968, Ser. No. 11,015
Term of patent 14 years
Int. Cl. D8—*03*
U.S. Cl. D8—138



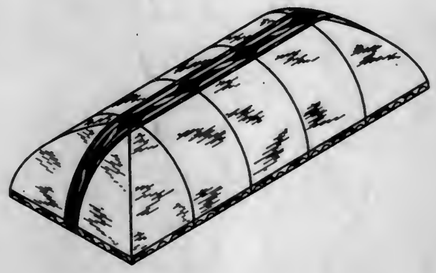
213,864
BAIL PULL OR THE LIKE
George R. Sonnenleiter, Rockford, Ill., assignor to Keystone Consolidated Industries, Inc., a corporation of Delaware
Filed May 24, 1968, Ser. No. 12,065
Term of patent 14 years
Int. Cl. D8—*03*
U.S. Cl. D8—159



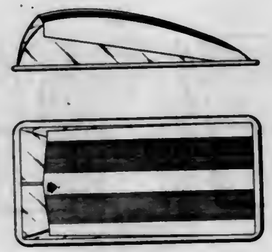
213,865
KNOB OR THE LIKE
George R. Sonnenleiter, Rockford, Ill., assignor to Keystone Consolidated Industries, Inc., a corporation of Delaware
Filed May 27, 1968, Ser. No. 12,099
Term of patent 14 years
Int. Cl. D8—*03*
U.S. Cl. D8—139



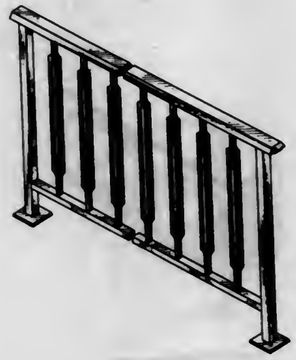
213,866
AIR-SUPPORTED STRUCTURE
Robert J. Redden and Robert T. Pruett, Dover, Del., assignors to ILC Industries, Inc., Dover, Del., a corporation of Delaware
Filed May 19, 1967, Ser. No. 7,191
Term of patent 14 years
Int. Cl. D25—*04*
U.S. Cl. D13—1



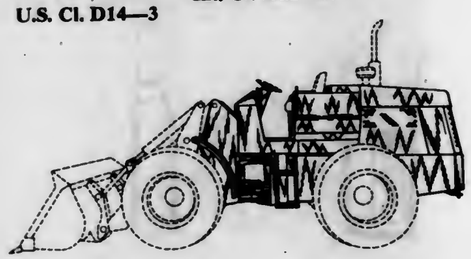
213,867
INFLATABLE POOL COVER
Harold Perlman, West Covina, and Joseph Poltorak, La Puente, Calif., assignors to Spartan-Aqualon Corporation, South El Monte, Calif., a corporation of California
Filed May 6, 1968, Ser. No. 11,784
Term of patent 14 years
Int. Cl. D25—*99*
U.S. Cl. D13—1



213,868
HANDRAILING
Wenzel W. Thom, Wichita, Kans., assignor of one-half to Fannie May Jones, Wichita, Kans.
Filed Apr. 4, 1968, Ser. No. 11,299
Term of patent 14 years
Int. Cl. D25—*02*
U.S. Cl. D13—7



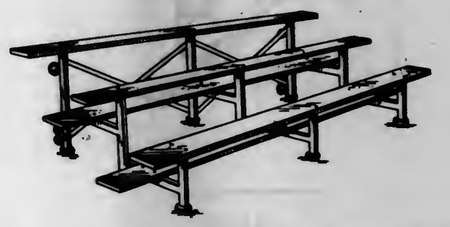
213,869
ARTICULATED TRACTOR
Henry Dreyfuss and James M. Conner, South Pasadena, Calif., and Harold G. Borsheim, Lyle E. Miller and Leland G. Gilbert, Dubuque, Iowa, assignors to Deere & Company, Moline, Ill., a corporation of Delaware
Filed Aug. 12, 1968, Ser. No. 13,084
Term of patent 14 years
Int. Cl. D12—*09*
U.S. Cl. D14—3



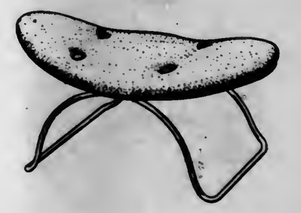
213,870
ADJUSTABLE INFANT'S CHAIR
Clarence O. Hamilton II, Columbus, Ind., Robert C. Winters, Ridgefield, and Raymond R. Spilman, Stamford, Conn., assignors to Hamilton Cosco, Inc., Columbus, Ind., a corporation of Indiana
Filed Apr. 18, 1968, Ser. No. 11,514
Term of patent 14 years
Int. Cl. D6—*01*
U.S. Cl. D15—1



213,871
BLEACHER
Bill W. Sorenson, Jefferson, Iowa 50129
Filed Dec. 18, 1967, Ser. No. 9,822
Term of patent 14 years
Int. Cl. D25—*99*
U.S. Cl. D15—8



213,872
VANITY BENCH
Gerard K. Leistikow, Columbus, Ind., assignor to Hamilton Cosco, Inc., Columbus, Ind., a corporation of Indiana
Filed Jan. 22, 1968, Ser. No. 10,249
Term of patent 14 years
Int. Cl. D6—*01*
U.S. Cl. D15—8



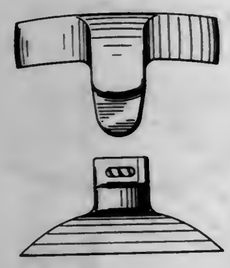
213,873
VITAMIN TABLET OR SIMILAR ARTICLE
Hugh D. Bryan, Evansville, Ind., assignor to Mead Johnson & Company, a corporation of Indiana
Filed May 12, 1967, Ser. No. 7,095
Term of patent 14 years
Int. Cl. D24—*05*
U.S. Cl. D16—3



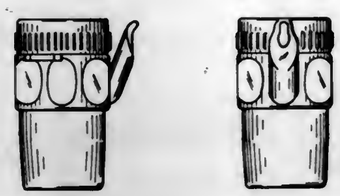
213,874
SINK FAUCET
Harper Landell, 6024 Sheaff Lane, Whitemarsh, Pa., and Thomas J. De Paul, Broomall, Pa. (528 Brookhurst Road, Narberth, Pa. 19072)
Filed Feb. 15, 1968, Ser. No. 10,586
Term of patent 14 years
Int. Cl. D23—*01*
U.S. Cl. D23—23



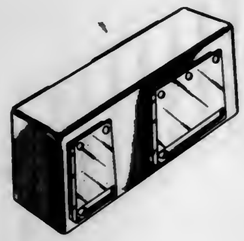
213,875
SINGLE LEVER LAVATORY SHELL OR THE LIKE
Stephen A. Young, Monticello, Ind. (Flora, Ind. 46929)
Filed Nov. 30, 1967, Ser. No. 9,602
Term of patent 14 years
Int. Cl. D23—*01*
U.S. Cl. D23—32



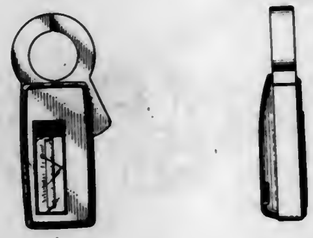
213,876
COMBINED AERATOR AND DRINKING FOUNTAIN ATTACHMENT FOR FAUCETS AND THE LIKE
Buckley Crist, Plainfield, N.J., assignor to Jaclo, Inc., Brooklyn, N.N.Y., a corporation of New York
Filed July 3, 1968, Ser. No. 12,626
Term of patent 14 years
Int. Cl. D23—*01*
U.S. Cl. D23—35



213,877
PNEUMATIC TUBE DISPATCH TERMINAL
Ross Cook, Rolling Hills, Calif., assignor to Ross Cook, Inc., Los Angeles, Calif., a corporation of California
Filed Apr. 12, 1968, Ser. No. 11,424
Term of patent 14 years
Int. Cl. D23—*99*; D20—*99*
U.S. Cl. D23—167



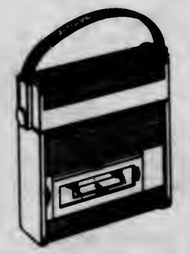
213,878
VOLTAMMETER
Yoshiharu Alan Shimasaki, 5–12, 3-chome, Minami-Azabu, Minato-ku, Tokyo, Japan
Filed Nov. 14, 1967, Ser. No. 9,393
Term of patent 14 years
Claims priority, application Japan June 21, 1967
Int. Cl. D10—*10*
U.S. Cl. D26—1



213,879
RECEPTACLE PLATE OR THE LIKE
Lionel C. Algoren, Evanston, Ill., assignor to Keystone Consolidated Industries, Inc., a corporation of Delaware
Filed Apr. 22, 1968, Ser. No. 11,559
Term of patent 14 years
Int. Cl. D8—*03*
U.S. Cl. D26—13



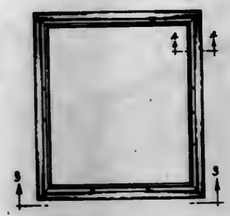
213,880
PORTABLE DICTATING MACHINE
William Lansing Plumb, New York, N.Y., assignor to Dictaphone Corporation, Bridgeport, Conn., a corporation of New York
Filed July 23, 1968, Ser. No. 12,858
Term of patent 14 years
Int. Cl. D14—*01*
U.S. Cl. D26—14



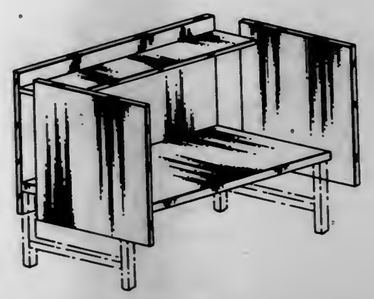
213,881
BADGE
Donald Librande, 98 Hazard Road, Carpentersville, Ill. 60110
Filed July 30, 1968, Ser. No. 12,959
Term of patent 14 years
Int. Cl. D11—*03*
U.S. Cl. D29—6



213,882
SHADOW BOX PICTURE FRAME TRIM
Arnold Gregory Sonnenblick, Flushing, N.Y. (% AGS Associates, Inc., 45 W. 45th St., New York, N.Y. 10036)
Filed July 21, 1967, Ser. No. 7,928
Term of patent 14 years
Int. Cl. D6—*06*
U.S. Cl. D29—20



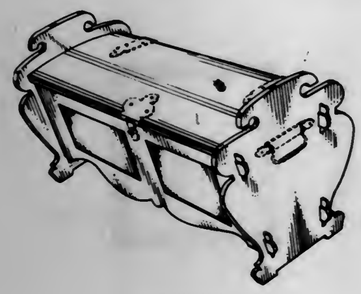
213,883
STUDY CARREL
Albert A. Canfield, Royal Oak, Mich., assignor to Oakland Community College, Bloomfield Hills, Mich., a corporation of Michigan
Filed Mar. 14, 1968, Ser. No. 10,983
Term of patent 14 years
Int. Cl. D6—*01*
U.S. Cl. D33—11



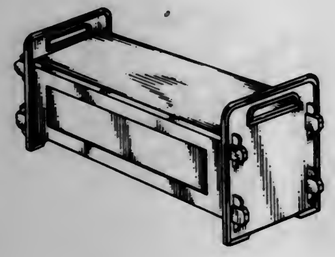
213,884
TOILET TISSUE ROLL COVER
Archie E. Warnberg, P.O. Box 12647, Oklahoma City, Okla. 73112
Continuation-in-part of design application Ser. No. 8,630, Sept. 18, 1967. This application Feb. 29, 1968, Ser. No. 11,041
Term of patent 14 years
Int. Cl. D6—*01*
U.S. Cl. D33—17



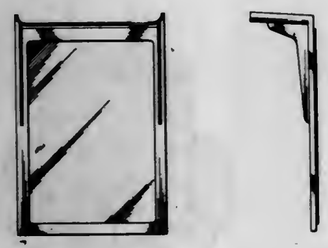
213,885
FURNITURE CHEST
Borge H. Jensen, P.O. Box 699, Brookings, Oreg. 97415
Filed Jan. 8, 1968, Ser. No. 10,093
Term of patent 3½ years
Int. Cl. D6—*01*
U.S. Cl. D33—19



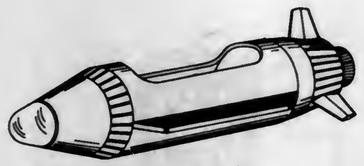
213,886
CHEST
Borge H. Jensen, P.O. Box 699, Brookings, Oreg. 97415
Filed Feb. 21, 1968, Ser. No. 10,674
Term of patent 3½ years
Int. Cl. D6—*01*
U.S. Cl. D33—19



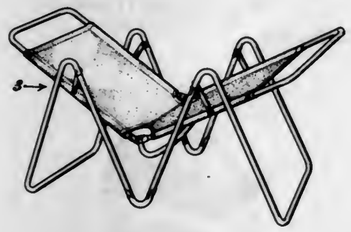
213,887
COMBINED MIRROR AND SHELF FOR TOILET ARTICLES
Jack R. Findlay, 3534 Lathrop Ave., Santa Susana, Calif. 93063
Filed May 8, 1968, Ser. No. 11,844
Term of patent 14 years
Int. Cl. D6—*01*
U.S. Cl. D33—26



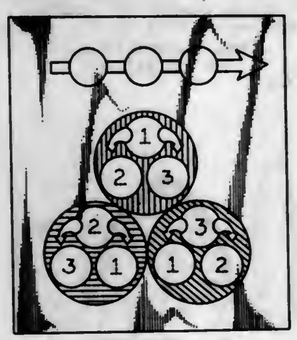
213,888
ROCKET AMUSEMENT RIDE CAR
Robert H. Gurr, Newport Beach, Calif., assignor to Wed Enterprises, Inc., Glendale, Calif., a corporation of California
Filed Nov. 15, 1967, Ser. No. 9,417
Term of patent 14 years
Int. Cl. D21—*04*
U.S. Cl. D34—5



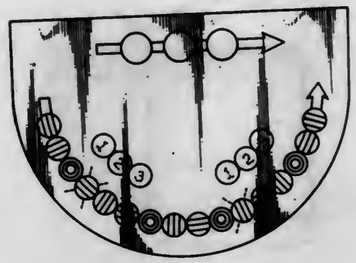
213,889
EXERCISING DEVICE
Goodwin Lyon, 524 N. Bundy Drive, Los Angeles, Calif. 90049
Filed May 2, 1968, Ser. No. 11,750
Term of patent 14 years
Int. Cl. D21—*03*
U.S. Cl. D34—5



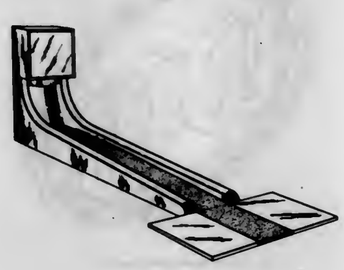
213,890
GAME BOARD
Charles J. Schultz, P.O. Box 5324, Reno, Nev. 89503
Filed May 31, 1968, Ser. No. 12,159
Term of patent 14 years
Int. Cl. D21—*01*
U.S. Cl. D34—5



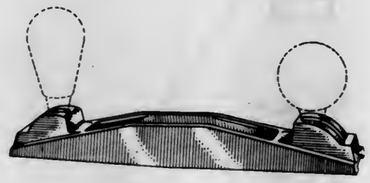
213,891
GAME BOARD
Charles J. Schultz, P.O. Box 5324, Reno, Nev. 89503
Filed June 7, 1968, Ser. No. 12,267
Term of patent 14 years
Int. Cl. D21—*01*
U.S. Cl. D34—5



213,892
GOLF PUTTING GAME DEVICE
Arthur F. Bostrom, 1140 Muirlands Vista Way, La Jolla, Calif. 92037
Filed July 31, 1968, Ser. No. 12,978
Term of patent 14 years
Int. Cl. D21—*04*
U.S. Cl. D34—5



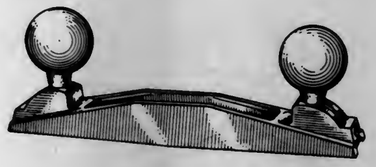
213,893
BODY FOR FILE FRAME OR THE LIKE
Wilfred M. McCord, Louisville, Ky., assignor to Vermont American Corporation, Louisville, Ky., a corporation of Delaware
Filed Jan. 2, 1968, Ser. No. 10,011
Term of patent 14 years
Int. Cl. D8—*02*
U.S. Cl. D37—1



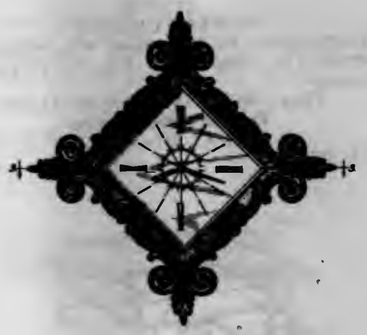
213,894
ADJUSTABLE HANDLE FILE FRAME OR THE LIKE
Wilfred M. McCord, Jr., Louisville, Ky., assignor to Vermont American Corporation, Louisville, Ky., a corporation of Delaware
Filed Jan. 2, 1968, Ser. No. 10,025
Term of patent 14 years
Int. Cl. D8—*02*
U.S. Cl. D37—1



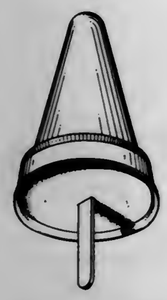
213,895
ADJUSTABLE HANDLE FILE FRAME OR THE LIKE
Wilfred M. McCord, Jr., Louisville, Ky., assignor to Vermont American Corporation, Louisville, Ky., a corporation of Delaware
Filed Jan. 2, 1968, Ser. No. 10,027
Term of patent 14 years
Int. Cl. D8—*02*
U.S. Cl. D37—1



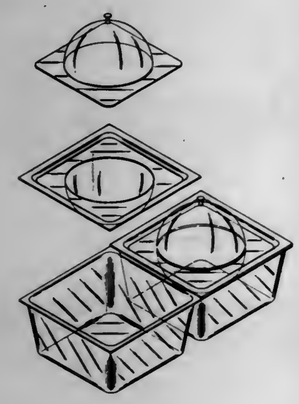
213,896
CLOCK
Walter B. Herbst, Evanston, and Ralph M. La Zar, Skokie, Ill., assignors to Sunbeam Corporation, Chicago, Ill., a corporation of Illinois
Filed Apr. 19, 1968, Ser. No. 11,531
Term of patent 14 years
Int. Cl. D10—*01*
U.S. Cl. D42—7



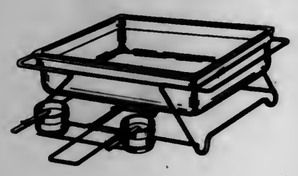
213,897
MOLD FOR FROZEN CONFECTION
Paul Davis, Swampscott, Mass., assignor to Sweetheart Plastics, Inc., Wilmington, Mass., a corporation of Maryland
Filed Apr. 23, 1968, Ser. No. 11,576
Term of patent 14 years
Int. Cl. D15—*12*; D1—*99*
U.S. Cl. D44—1



213,898
FOOD SERVER
Foster Monaco and Rosario Monaco, both of 43—10 23rd St., Long Island City, N.Y. 11101
Filed Jan. 25, 1968, Ser. No. 10,307
Term of patent 14 years
Int. Cl. D7—*01*
U.S. Cl. D44—15



213,899
BUFFET CHAFER
Carl H. Rickmeier, Jr., Sheboygan, Wis., assignor to The Vollrath Co., Sheboygen, Wis., a corporation of Wisconsin
Filed Aug. 12, 1968, Ser. No. 13,089
Term of patent 14 years
Int. Cl. D7—*01, 02*
U.S. Cl. D44—15



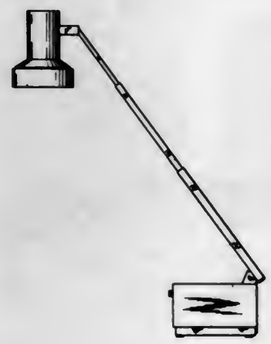
213,900
INSULATED BEVERAGE SERVER
Irwin Schneider, Lincolnwood, Ill., assignor to Imperial Arts Corporation, Chicago, Ill., a corporation of Illinois
Filed Sept. 18, 1968, Ser. No. 13,586
Term of patent 14 years
Int. Cl. D7—*01*
U.S. Cl. D44—21



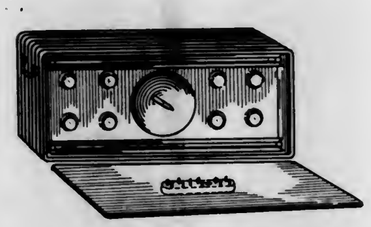
213,901
BROOCH
Rosanne Beringer, Memphis, Tenn., assignor to Welcome Wagon International, Inc., Memphis, Tenn., a corporation of Delaware
Filed Nov. 30, 1967, Ser. No. 9,601
Term of patent 14 years
Int. Cl. D11—*01*
U.S. Cl. D45—19



213,902
DESK LAMP
Henry P. Muller, Rego Park, N.Y., assignor to Lightolier Incorporated, Jersey City, N.J., a corporation of New York
Filed Apr. 13, 1967, Ser. No. 6,679
Term of patent 7 years
Int. Cl. D26—*02*
U.S. Cl. D48—20



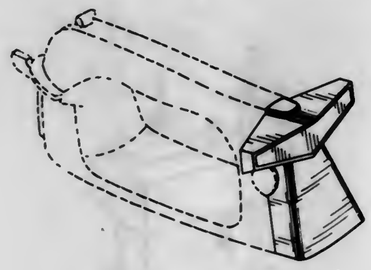
213,903
STAGE LIGHTING SYSTEM UNIT OR THE LIKE
Charles A. Ross, 1010 W. Chestnut, Chanute, Kans. 66720
Filed Dec. 26, 1967, Ser. No. 9,907
Term of patent 14 years
Int. Cl. D26—*03*
U.S. Cl. D48—20



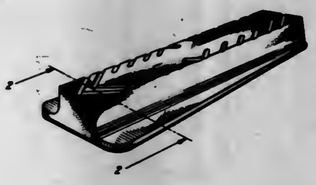
213,904
CIGARETTE LIGHTER
Seymour Rappoport, 6 Rohallion Drive, Rumson, N.J. 07760
Original design application July 27, 1966, Ser. No. 3,232, now Patent No. 209,319, dated Nov. 21, 1967. Divided and this application Aug. 25, 1967, Ser. No. 10,734
Term of patent 14 years
Int. Cl. D27—*05*
U.S. Cl. D48—27



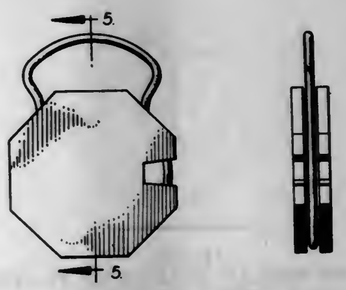
213,905
END CAP FOR AN ELECTRIC PRESSING IRON HANDLE
Moises B. Lorenzana, Glen Ellyn, Ill., assignor to Sunbeam Corporation, Chicago, Ill., a corporation of Illinois
Filed May 1, 1968, Ser. No. 11,734
Term of patent 14 years
Int. Cl. D7—*06*
U.S. Cl. D49—6



213,906
SNOW SCRAPER FOR SKIS
James F. Moore and Fritz B. Hansen, both of 4796 S. Broadway, Englewood, Colo. 80110
Filed Apr. 19, 1968 Ser. No. 11,526
Term of patent 14 years
Int. Cl. D21—*99*
U.S. Cl. D49—24



213,907
KEYHOLDER
Cecil B. Woofter, 603 E. 18th N. Newton, Iowa 50208
Filed Nov. 29, 1967, Ser. No. 9,585
Term of patent 14 years
Int. Cl. D8—*03*
U.S. Cl. D87—8



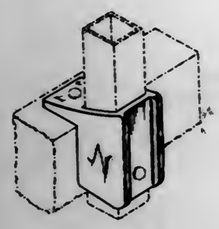
213,908
BACKPLATE OR THE LIKE
Bernie Bill Baker, Dixon, Ill., assignor to Keystone Consolidated Industries, Inc., a corporation of Delaware
Filed May 24, 1968, Ser. No. 12,064
Term of patent 14 years
Int. Cl. D8—*03*
U.S. Cl. D8—179



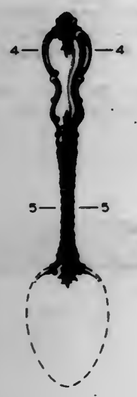
213,909
CONDITION CONTROL DEVICE
Wallace A. Monson, Golden Valley, Minn., assignor to Honeywell Inc., Minneapolis, Minn., a corporation of Delaware
Filed Feb. 2, 1968, Ser. No. 10,420
Term of patent 14 years
Int. Cl. D10—*07, 09*
U.S. Cl. D52—7



213,910
SIDE RAILING MOUNT
Sherman J. Shore, Pittsburgh, Pa., assignor to Napco, Inc., Pittsburgh, Pa., a corporation of Pennsylvania
Filed Apr. 5, 1968, Ser. No. 11,313
Term of patent 14 years
Int. Cl. D8—*03*
U.S. Cl. D54—1



213,911
SPOON OR SIMILAR ARTICLE OF FLATWARE
Siro R. Toffolon, 206 Tulip Drive, Meriden, Conn. 06450
Filed Apr. 22, 1968, Ser. No. 11,556
Term of patent 14 years
Int. Cl. D7—*03*
U.S. Cl. D54—12



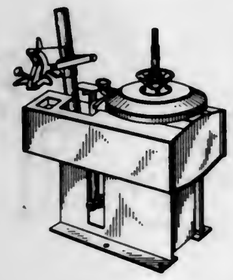
213,912
SPOON OR SIMILAR ARTICLE OF FLATWARE
Frank K. Guodace, 149 Summer St., Meriden, Conn. 06450
Filed Apr. 10, 1968, Ser. No. 11,395
Term of patent 14 years
Int. Cl. D7—*03*
U.S. Cl. D54—12



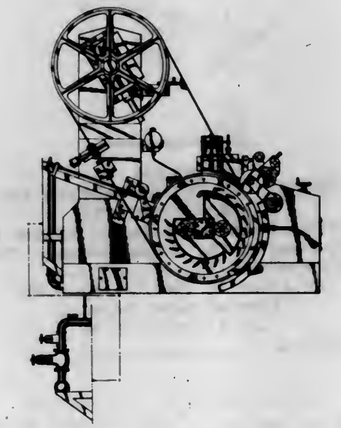
213,913
TOOL FOR HEATING TUBING AND THE LIKE
Josef U. Berkl, Redondo Beach, and Dee Lane Jenner, La Canada, Calif., assignors to Hi-Shear Corporation, Torrance, Calif., a corporation of California
Filed June 2, 1967, Ser. No. 7,342
Term of patent 14 years
Int. Cl. D8—*02*
U.S. Cl. D54—13



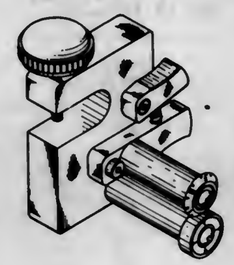
213,914
TIRE CHANGER
Terry J. Simpkins, Dublin, Ohio, assignor to Studebaker Corporation, a corporation of Delaware
Filed May 8, 1968, Ser. No. 11,835
Term of patent 14 years
Int. Cl. D15—*05*
U.S. Cl. D54—13



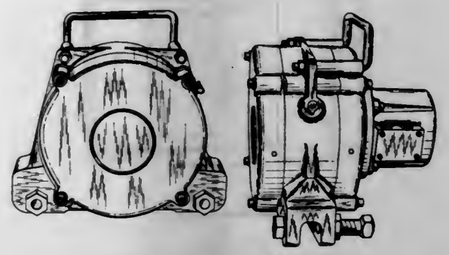
213,915
METAL CASTING MACHINE
Daniel B. Cofer, Carrollton, Ga., and Thomas L. Bray, Birmingham, Ala., assignors to Southwire Company, Carrollton, Ga., a corporation of Georgia
Filed Apr. 10, 1968, Ser. No. 11,402
Term of patent 14 years
Int. Cl. D15—*05*
U.S. Cl. D55—1



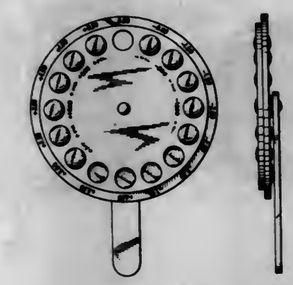
213,916
PERFORATOR
Harris Goldberg, 1976 Matthews Ave., Bronx, N.Y. 10462
Filed Apr. 30, 1968, Ser. No. 11,712
Term of patent 7 years
Int. Cl. D15—*05*
U.S. Cl. D55—1



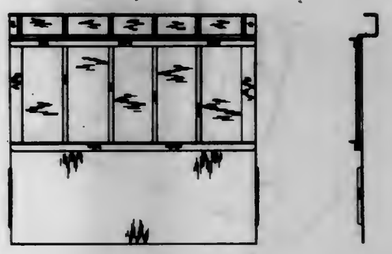
213,917
VIBRATOR FOR MATERIAL HANDLING OR THE LIKE
Edwin F. Peterson, 119 Main St., Neponset, Ill. 61345
Filed June 11, 1968, Ser. No. 12,305
Term of patent 14 years
Int. Cl. D15—*05*
U.S. Cl. D55—1



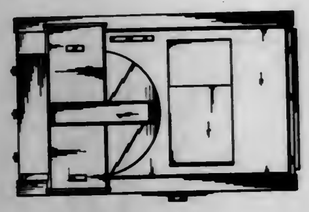
213,918
POCKET REFRACTOR
Samuel W. Cohen, 522 Ocean Ave. 11226, and Leon Mandelbaum, 1640 Ocean Ave. 11230, both of Brooklyn, N.Y
Filed Nov. 16, 1967, Ser. No. 9,447
Term of patent 14 years
Int. Cl. D16—*08*
U.S. Cl. D57—1



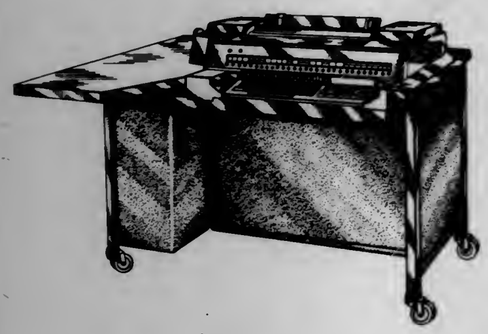
213,919
ROLL FILM FEED ADAPTER
Robert Nast, 942 Glenridge Ave., North Woodmere, N.Y. 11598
Filed Apr. 5, 1968, Ser. No. 11,319
Term of patent 14 years
Int. Cl. D16—*07*
U.S. Cl. D61—1



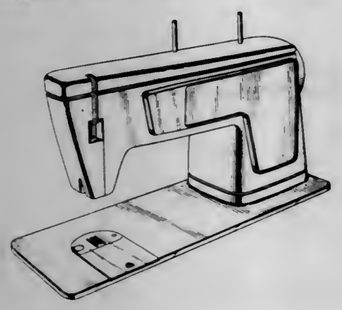
213,920
COPYING MACHINE
Fritz Blank, Hollywood, Fla., assignor to Copystatics Manufacturing Corp., Miami Lakes, Fla., a corporation of New York
Filed May 6, 1968, Ser. No. 11,793
Term of patent 14 years
Int. Cl. D18—*03*
U.S. Cl. D61—1



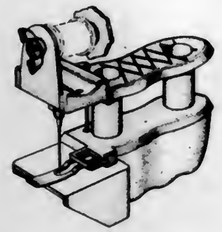
213,921
COMPUTER OR THE LIKE
Kenneth A. Hopkins, Farmington, and George A. Connor, Detroit, Mich., assignors to Burroughs Corporation, Detroit, Mich., a corporation of Michigan
Continuation-in-part of design application Ser. No. 6,563, Apr. 3, 1967. This application Feb. 16, 1968, Ser. No. 10,599
Term of patent 14 years
Int. Cl. D14—*02*
U.S. Cl. D64—11



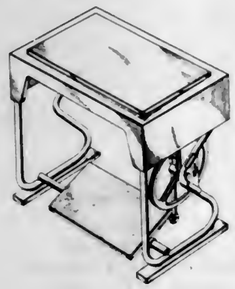
213,922
SEWING MACHINE
Henry Dreyfuss, South Pasadena, Calif., assignor to The Singer Company, New York, N.Y., a corporation of New Jersey
Filed Feb. 8, 1968, Ser. No. 10,500
Term of patent 14 years
Int. Cl. D15—*09*
U.S. Cl. D70—1



213,923
HAND-OPERATED SEWING MACHINE
Nathan K. Morris, Neptune City, N.J. 07753
Filed Mar. 13, 1968, Ser. No. 10,949
Term of patent 7 years
Int. Cl. D15—*09*
U.S. Cl. D70—1



213,924
SEWING MACHINE CABINET OR SIMILAR ARTICLE
Henry J. Milan, Clark, and William G. Hauser, Fanwood, N.J., assignors to The Singer Company, New York, N.Y., a corporation of New Jersey
Filed Nov. 21, 1967, Ser. No. 9,495
Term of patent 14 years
Int. Cl. D15—*08, 09*
U.S. Cl. D70—2



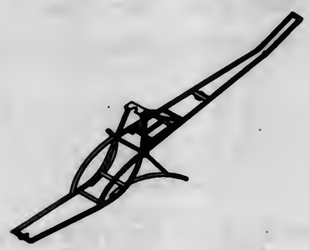
213,925
TRAFFIC SIGNAL
Edward P. Cheslock, Kennett Square, Pa., assignor to E. W. Bliss Company, a corporation of Delaware
Filed Mar. 27, 1968, Ser. No. 11,153
Term of patent 14 years
Int. Cl. D29—*99*
U.S. Cl. D72—1



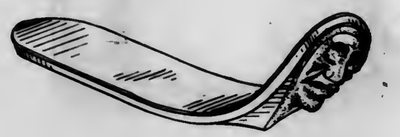
213,926
HELICOPTER
Buford J. Schramm, Mesa, Ariz., assignor to Monarch Luggage Co., Inc., Brooklyn, N.Y., a corporation of New York
Filed Oct. 3, 1967, Ser. No. 8,848
Term of patent 14 years
Int. Cl. D12—*07*
U.S. Cl. D71—1



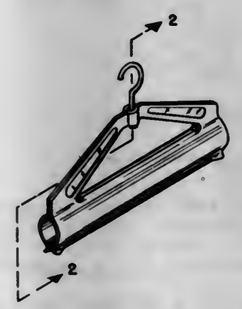
213,927
FRAME FOR A HELICOPTER
Buford J. Schramm, 244 N. County Club Drive, Mesa, Ariz. 85201
Filed Oct. 3, 1967, Ser. No. 8,847
Term of patent 14 years
Int. Cl. D12—*07*
U.S. Cl. D71—1



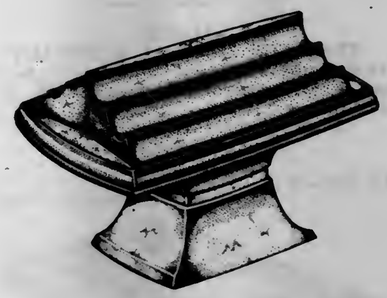
213,928
WATERCRAFT
Roy Earl Mooneyhan, Columbia, S.C., assignor to Sea Island Industries, Columbia, S.C., a corporation of South Carolina
Filed Apr. 1, 1968, Ser. No. 11,235
Term of patent 14 years
Int. Cl. D12—*06*
U.S. Cl. D71—1



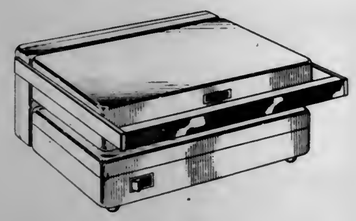
213,929
GARMENT HANGER
Jack C. Cauthen, 3004 Kerria Way, Sacramento, Calif. 95821
Filed May 21, 1968, Ser. No. 12,022
Term of patent 14 years
Int. Cl. D6—*07*
U.S. Cl. D80—8



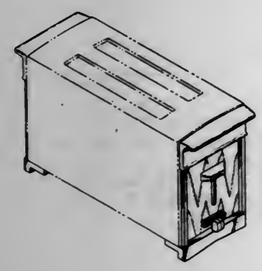
213,930
DISPLAY STAND
John A. Plessinger, 1725 Wesleyan Road, Dayton, Ohio 45406
Filed May 21, 1968, Ser. No. 12,024
Term of patent 14 years
Int. Cl. D20—*02*; D6—*01*
U.S. Cl. D80—9



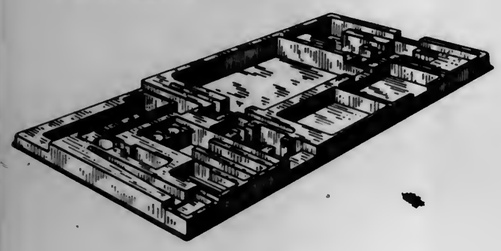
213,931
SANDWICH GRILL
William M. Bardeau, Islington, Ontario, Canada, assignor to John J. Connolly, New York, N.Y.
Filed Jan. 5, 1968, Ser. No. 10,064
Term of patent 14 years
Int. Cl. D7—*04*
U.S. Cl. D81—10



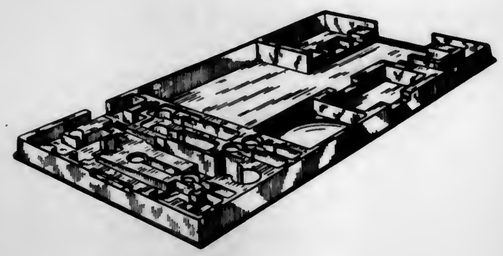
213,932
ELECTRIC BREAD TOASTER
Pierre Leon Decrouez, Ridley Township, Delaware County, Pa., assignor to Proctor-Silex Incorporated, Philadelphia, Pa., a corporation of New York
Filed Feb. 8, 1968, Ser. No. 10,506
Term of patent 14 years
Int. Cl. D7—*04*
U.S. Cl. D81—10



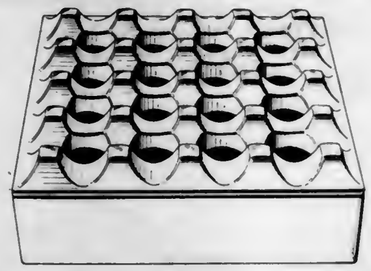
213,933
TRAY FOR MEDICAL EQUIPMENT
Bern D. Folkman, Van Nuys, Calif., assignor to American Hospital Supply Corporation, Evanston, Ill., a corporation of Illinois
Filed July 11, 1968, Ser. No. 12,693
Term of patent 14 years
Int. Cl. D24—*99*
U.S. Cl. D83—1



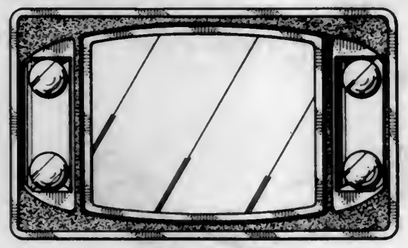
213,934
TRAY FOR MEDICAL EQUIPMENT
Bern D. Folkman, Van Nuys, Calif., assignor to American Hospital Supply Corporation, Evanston, Ill., a corporation of Illinois
Filed July 11, 1968, Ser. No. 12,700
Term of patent 14 years
Int. Cl. D24—*99*
U.S. Cl. D83—1



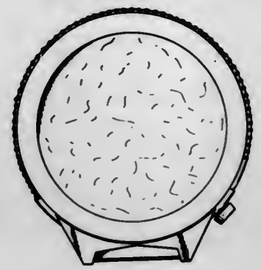
213,935
ASHTRAY
Bo Lennart Ljungberg, 23 L. Sodergatan, Lund, Sweden
Filed Apr. 25, 1968, Ser. No. 11,610
Claims priority, application Sweden Oct. 27, 1967, 303/67
Term of patent 14 years
Int. Cl. D27—*03*
U.S. Cl. D85—2



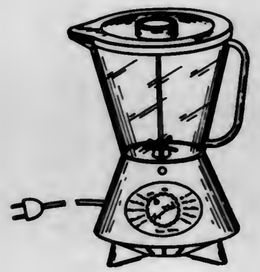
213,936
ELECTRICALLY ILLUMINABLE PORTABLE COSMETIC MIRROR
Melville Dorfman, Beverly Hills, Calif., assignor, by mesne assignments, to Hartman Products, North Hollywood, Calif., a corporation of California
Filed Feb. 15, 1968, Ser. No. 10,590
Term of patent 14 years
Int. Cl. D28—*03*; D26—*99*
U.S. Cl. D86—10



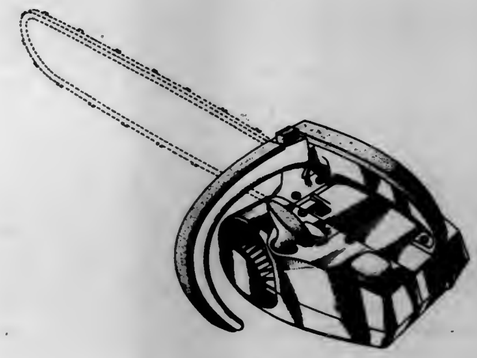
213,937
ELECTRIC HAIR DRYER
Pierre Leon Decrouez, Ridley Township, Delaware, Pa., assignor to Proctor-Silex Incorporated, Philadelphia, Pa., a corporation of New York
Filed Feb. 8, 1968, Ser. No. 10,507
Term of patent 14 years
Int. Cl. D28—*03*
U.S. Cl. D86—10



213,938
BLENDER
Ralph Morris, St. Paul, Minn., assignor to Fingerhut Manufacturing Co., Minneapolis, Minn., a corporation of Minnesota
Filed Jan. 22, 1968, Ser. No. 10,254
Term of patent 14 years
Int. Cl. D7—*05*
U.S. Cl. D89—1



213,939
CHAIN SAW
Wilford B. Burkett, Pacific Palisades, Anthony J. Carsello, Palos Verdes Peninsula, and Harry I. Hazzard, Los Angeles, Calif., assignors to McCulloch Corporation, Los Angeles, Calif., a corporation of Wisconsin
Filed Apr. 2, 1968, Ser. No. 11,260
Term of patent 14 years
Int. Cl. D8—*02*
U.S. Cl. D93—3



213,940
COMBINED SIGN AND CLOCK
Theophile L. de Zinno, Miami, Fla., assignor to Advertime Corporation, Miami, Fla., a corporation of Florida
Filed Dec. 28, 1967, Ser. No. 9,955
Term of patent 14 years
Int. Cl. D10—*04*; D20—*03*
U.S. Cl. D96—12



LIST OF DEFENSIVE PUBLICATIONS

APPLICANTS TO WHOM

DEFENSIVE PUBLICATIONS WERE ISSUED ON THE 22ND DAY OF APRIL, 1969

"Published at the request of the applicant or owner in accordance with the Notice of April 11, 1968, 849 O.G. 1221. Identification is by serial number of the application."

Bader, James J.: *See*—
Titchenal, Oliver R., Bader, and Hoyle. 742,410.
Beavers, Dorothy J.: *See*—
Smith, William F., and Beavers. 788,071.
Kalenda, Norman W., and Beavers. 788,076.
Brunson, Marion O. Modified polyethylene. 775,578, 4–22–69, Cl. 260—29.6.
Christensen, Howard V., to Ford Motor Co. Laminated glass assembly with tapered inner layers. 739,939, 4–22–69, Cl. 350—319.
Du Pont de Nemours, E. I., and Co.: *See*—
Patterson, Hugh T., and Segrave. 705,283.
Eastman Kodak Co.: *See*—
Gonzalez, Donald E. 649,025.
Feild, George B., to Hercules Inc. Foam compositions for gaskets. 764,909, 4–22–69, Cl. 260—2.5.
Ford Motor Co.: *See*—
Christensen, Howard V. 739,939.
Gonzalez, Donald E., to Eastman Kodak Co. Curtain coating process. 649,025, 4–22–69, Cl. 99—169.
Gross, George P., W. A. Herbst, and A. Lagani, Jr. Microencapsulated fire extinguishing agent. 685,682, 4–22–69, Cl. 169—4.
Hemminger, Charles E., and S. Stahl. Process for making liquid fuels from coal. 700,485, 4–22–69, Cl. 208—10.
Herbst, Walter A.: *See*—
Gross, George P., Herbst, and Lagani. 685,682.
Hercules Inc.: *See*—
Feild, George B. 764,909.
Hoyle, Wallis I.: *See*—
Titchenal, Oliver R., Bader, and Hoyle. 742,410.
Kalenda, Norman W., and D. J. Beavers. Hexahydro-4,6-diimino-s-triazine-2-thione derivatives as antifoggants for photographic materials. 788,076, 4–22–69, Cl. 96—109.
Lagani, Anthony, Jr.: *See*—
Gross, George P., Herbst, and Lagani. 685,682.
Moore, William H.: *See*—
Newland, Gordon C., and Moore. 563,097.
Newland, Gordon C., and W. H. Moore. Phototropic anthraquinone containing compositions. 563,097, 4–22–69, Cl. 252—300.
Newland, Gordon C.: *See*—
Tamblyn, John W., and Newland. 788,993.
Patterson, Hugh T., and H. J. E. Segrave, to E. I. du Pont de Nemours and Co. Textile lubricants for shaped condensation polymers. 705,283, 4–22–69, Cl. 8—115.5.
Segrave, Harold J. E.: *See*—
Patterson, Hugh T., and Segrave. 705,283.
Smith, William F., and D. J. Beavers. Photographic materials stabilized with benzene seleninic acid and tetraazaindene antifoggants. 788,071, 4–22–69, Cl. 96—109.
Stahl, Seymour: *See*—
Hemminger, Charles E., and Stahl. 700,485.
Tamblyn, John W., and G. C. Newland. Synergistic stabilizers for polyolefins. 788,993, 4–22–69, Cl. 260—886.
Titchenal, Oliver R., J. J. Bader, and W. I. Hoyle. Master shipping and storage container for prepacked meat products. 742,410, 4–22–69, Cl. 99—174.

LIST OF REISSUE PATENTEES

TO WHOM

PATENTS WERE ISSUED ON THE 22ND DAY OF APRIL, 1969

NOTE.—Arranged in accordance with the first significant character or word of the name (in accordance with city and telephone directory practice).

Anderson, Frederic W., to Reedley Nursery, Inc. Apricot tree. 2,880, 4–22–69, Cl. 39.
Patterson, John W. Rose. 2,881, 4–22–69, Cl. 21.
Reedley Nursery, Inc.: *See*—
Anderson, Frederic W. 2,880.

LIST OF DESIGN PATENTEES

Advertime Corp.: *See*—
De Zinno, Theophile L. 213,940.
Algoren, Lionel C., to Keystone Consolidated Industries, Inc. Receptacle plate or the like. 213,879, 4–22–69, Cl. D26—13.
American Hospital Supply Corp.: *See*—
Folkman, Bern D. 213,933.
Folkman, Bern D. 213,934.
Baker, Bernie B., to Keystone Consolidated Industries, Inc. Backplate or the like. 213,908, 4–22–69, Cl. D50—6.
Bardeau, William M., to J. J. Connolly. Sandwich grill. 213,931, 4–22–69, Cl. D81—10.
Belitzky, Stanley, to Bell Designs, Inc. Can. 213,859, 4–22–69. Cl. D9—43.
Bell Designs, Inc.: *See*—
Belitzky, Stanley. 213,859.
Beringer, Rosanne, to Welcome Wagon International Inc. Brooch. 213,901, 4–22–69, Cl. D45—19.
Berkl, Josef U., and D. L. Jenner, to Hi-Shear Corp. Tool for heating tubing and the like. 213,913, 4–22–69, Cl. D54—13.
Blank, Fritz, to Copystatics Mfg. Corp. Copying machine. 213,920, 4–22–69, Cl. D61—1.
Bliss, E. W., Co.: *See*—
Cheslock, Edward P. 213,925.
Borsheim, Harold G.: *See*—
Dreyfuss, Henry, Conner, Borsheim, Miller, and Gilbert. 213,869.
Bostrom, Arthur F. Golf putting game device. 213,892, 4–22–69, Cl. D34—5.
Bray, Thomas L.: *See*—
Cofer, Daniel B., and Bray. 213,915.
Bryan, Hugh D., to Mead Johnson & Co. Vitamin tablet or similar article. 213,873, 4–22–69, Cl. D16—3.
Burkett, Wilford B., A. J. Carsello, and H. I. Hazzard, to McCulloch Corp. Chain saw. 213,939, 4–22–69, Cl. D93—3.
Burroughs Corp.: *See*—
Hopkins, Kenneth A., and Connor. 213,921.
Canfield, Albert A., to Oakland Community College. Study carrel. 213,883, 4–22–69, Cl. D33—11.
Carsello, Anthony J.: *See*—
Burkett, Wilford B., Carsello, and Hazzard. 213,939.
Cauthen, Jack C. Garment hanger. 213,929, 4–22–69, Cl. D80—8.
Cheslock, Edward P., to E. W. Bliss Co. Traffic signal. 213,925, 4–22–69, Cl. D72—1.
Cofer, Daniel B., and T. L. Bray, to Southwire Co. Metal casting machine. 213,915, 4–22–69, Cl. D55—1.
Cohen, Samuel W., and L. Mandelbaum. Pocket refractor. 213,918, 4–22–69, Cl. D57—1.
Conner, James M.: *See*—
Dreyfuss, Henry, Conner, Borsheim, Miller, and Gilbert. 213,869.
Connolly, John J.: *See*—
Bardeau, William M. 213,931.
Connor, George A.: *See*—
Hopkins, Kenneth A., and Connor. 213,921.
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Breukink, Carel J., and Vermeulen, Jacob, to Shell Oil Company. Production of expanded thermoplastic products. 3,440,309, 04-22-69, Cl. 264-053.

Brilmyer, Harold G., to Ford Motor Company. Safety instrument panel. 3,439,769, 04-22-69, Cl. 180-090.

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Beighton, George William, and Britcher, Arthur Iden 3,439,729.

British Aircraft Corporation(Operating)Limited: *See*—
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British Oxygen Company Limited, The: *See*—
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British Petroleum Company Limited, The: *See*—
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Brittan, Kenneth Walter, to Triplex Safety Glass Company Limited. Laminated transparent panels incorporating heating wires. 3,440,408, 04-22-69, Cl. 219-522.

Brockmann, Hans-Jurgen, to Philips Corporation, mesne. Color television display device. 3,440,479, 04-22-69, Cl. 315-013.

Broekhuysen, William C., to G-V Controls Inc. Automatic dialing apparatus. 3,440,357, 04-22-69, Cl. 179-090.

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McFadden, Thomas F., and Schueler, Theodore A., 3,440,056.
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Brownyer, Nelson R., to North American Rockwell Corporation. Method of making tapered spring leaf. 3,439,400, 04-22-69, Cl. 029-173.

Bruno, Gerald A., Haney, Thomas A., Numerof, Paul, and Reinhardt, Karl, to Squibb, E. R., & Sons, Inc. Process for preparing sterile radioactive material of the parent-daughter type. 3,440,423, 04-22-69, Cl. 250-106.

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Bruun, Knud I.: *See*—
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Bryan, Leonard Thomas Frank: *See*—
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Bucholz, Allan A., to Tacoma Millwork Supply Company. Semiconcealed cabinet door hinge. 3,439,377, 04-22-69, Cl. 016-135.

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Bull, Donald E., to Webcor, Inc. Semiconductor controlled rectifier current control. 3,440,438, 04-22-69, Cl. 307-113.

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Kallenbach, Rudolf, and Bungardt, Walter 3,440,041.

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Burdick, Donald L., and Lyons, Harold D., to Gulf Oil Corporation. Aqueous-based polish comprising ethylene arcylate styrene and/or acrylate esters. 3,440,188, 04-22-69, Cl. 260-008.

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Burgis, Clare N., and Kakuda, Roy Y., to General Precision Systems, Inc. Synchro-to-digital converter. 3,440,644, 04-22-69, Cl. 340-347.

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Burnett, Peter P. A., to Ford Motor Company. Coated fabrics having high stretch ratios. 3,440,133, 04-22-69, Cl. 161-089.

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Burr-Brown Research Corporation: *See*—
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California Institute Research Foundation: *See*—
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Campagna, Philip J., to Allied Chemical Corporation. Oil-modified alkyd emulsion coatings. 3,440,193, 04-22-69, Cl. 260-002.

Campbell, Donald K., Jr. Positive displacement internal combustion engine. 3,439,654, 04-22-69, Cl. 123-012.

Canadelli, Luciano. Asynchronous single-biphase motor with power and polarity switching. 3,440,510, 04-22-69, Cl. 318-224.

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Caparone, Michael J., and Dykzeul, Theodore J., to Robertshaw Controls Company. Integral valve and diaphragm assembly for a pressure regulator. 3,439,699, 04-22-69, Cl. 137-315.

Capitano, Peter J., and Angelkorte, Johannes W., to Union Carbide Corporation. Para-xylylene preparation using hydrogen scavenger. 3,440,295, 04-22-69, Cl. 260-668.

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Carbary, Richard J., and Harder, Arthur J., to General Electric Company. Method of making a refrigerator cabinet assembly. 3,440,308, 04-22-69, Cl. 264-045.

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Cardoso, Carlos Duarte, to Sodescal-Sociedade de Maquinas de Descasque. Cashew-nut peeling machine. 3,439,719, 04-22-69, Cl. 146-010.

Carlevaro, Ugo. Hauling device for ski lifts. 3,439,627, 04-22-69, Cl. 104-173.

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Carlson, Robert S.: *See*—
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Carmody, Doyle V., to International Telephone and Telegraph Corporation. Voltage regulator and failure circuits. 3,440,492, 04-22-69, Cl. 317-027.

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Carter, Alan W.: *See*—
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Carter, Claud W., Jr., to Duo-Vend Corporation. Card dispensing apparatus. 3,439,834, 04-22-69, Cl. 221-007.

Carter, Richard S., to International Business Machines Corporation. Overlapping boundary storage. 3,440,615, 04-22-69, Cl. 340-172.5

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Cassan, Michel, to Societe Anonyme Dupont. Ignition system for gas lighters. 3,439,994, 04-22-69, Cl. 431-254.

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Caterpillar Tractor Company: *See*—
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Chadha, Rajendra Nath, Pande, Kailash Chandra, and Ridenour, Richard Eugene, to Stauffer Chemical Company. Room temperature curing organopolysiloxane elastomers. 3,440,205, 04-22-69, Cl. 260-037.

Chaille, James L., and Reed, Samuel F., Jr., to Rohm & Haas Company. Process for the preparation of acrylamide and methacrylamide perchlorates. 3,440,280, 04-22-69, Cl. 260-561.

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Chandler, Wesley M., Heuser, Paul F., and Juba, Bernard T., to Wilbert, Inc. Burial vaults. 3,439,461, 04-22-69, Cl. 052-139.

Chang, Hsu, Mee, Charles Denis, Voegeli, Otto, and Middelhoek, Simon, to International Business Machines Corporation. Magnetic film memory with creep prevention means. 3,440,623, 04-22-69, Cl. 340-174.

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Chin, Leslie S. F., and Grayson, Carl L., to Westinghouse Electric Corporation. Apparatus for combing component leads. 3,439,402, 04-22-69, Cl. 029-203.

Chinlund, Thomas J., to Bell Telephone Laboratories, Incorporated. Information processing system. 3,440,618, 04-22-69, Cl. 340-172.5

Chisholm-Ryder Company, Inc.: *See*—
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Orton, Joseph Roy, 3,439,478.

Cholger, Herbert W.: *See*—
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Christiansen, Thorbjorn N. Machine for cutting bait fish. 3,439,721, 04-22-69, Cl. 146-099.

Christman, Ralph E., to Westinghouse Electric Corporation. Refrigeration defrost control responsive to operation of condenser fan. 3,439,511, 04-22-69, Cl. 062-155.

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Chung, Kwangho, to Skinner Precision Industries, Inc. Speed sensor for linear induction motors. 3,440,532, 04-22-69, Cl. 324-070.

Chung, Raymond, to Kimberly-Clark Corporation. Process for crosslinking cellulosic fibers during gas suspension of fibers. 3,440,135, 04-22-69, Cl. 162-157.

Churches, Dave F. Leg stabilizer for skiers. 3,439,387, 04-22-69, Cl. 024-073.

Chu, Simon, to Polychrome Corporation. Lithographic plate. 3,440,050, 04-22-69, Cl. 096-075.

Cicchiello, Frank N., to General Atronics Corporation. Photoelectric code reading apparatus having auxiliary light source for bias and including edge illuminated plate. 3,440,431, 04-22-69, Cl. 250-219.

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Clark, Adrian Percy, to British Telecommunications Research Limited. Data receiver for digital character divided into two halves, each half employing quaternary frequency modulation. 3,440,345, 04-22-69, Cl. 178-050.

Clarke, Chapman & Co. Limited: *See—*
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Clark, Gaylor J. Brush structure. 3,439,373, 04-22-69, Cl. 015-182.

Clark, Joseph A. Furnace grate construction. 3,439,652, 04-22-69, Cl. 122-374.

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Class, Jean, to Les Ateliers de Constructions Mercaniques C. & A. Holweg, S.A.R.L. Process and machine for the manufacture of bags having attached handles. 3,439,591, 04-22-69, Cl. 093-035.

Claypoole, Stewart A., and Mertsoc, Martin M., to Corning Glass Works. Method of attaching leads to electrical components. 3,439,395, 04-22-69, Cl. 029-025.42

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Cleary, William A., and Sartoretto, Paul A., to Cleary, W. A., Corporation. Novel lecithins and chocolate containing the same. 3,440,055, 04-22-69, Cl. 099-023.

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Clement, Carl J., to Spectra-Physics, Inc. Kinematic mounting structure for laser resonator. 3,440,563, 04-22-69, Cl. 331-094.5

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Coats Company, Inc., The: *See—*
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Cochran, Herman V. Vehicle acceleration indicating device. 3,440,603, 04-22-69, Cl. 340-052.

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Cohen, Martin B. Percussion instrument. 3,439,572, 04-22-69, Cl. 084-402.

Cohen, Martin Bruce, to Becton Dickinson and Company. Deformable needle assembly. 3,439,675, 04-22-69, Cl. 128-239.

Cohn, Johann G. E., Adlhart, Otto J., and Hever, Keith O., to Engelhard Industries, Inc. Fuel cell and cathode including platinum alloy with cobalt or niobium. 3,440,103, 04-22-69, Cl. 136-086.

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Coontz, John. Angle dozer. 3,439,752, 04-22-69, Cl. 172-805.

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Cooper, Kenneth R., to Contemporary Walls Limited. Terminal exit for forced air circulating systems. 3,439,601, 04-22-69, Cl. 098-090.

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Cope, Geoffrey W., to Symington Wayne Corporation. Hydraulically dampered cross equalized trucks. 3,439,630, 04-22-69, Cl. 105-196.

Cope, Geoffrey W., to Symington Wayne Corporation. Hydraulically dampened cross-equalized truck. 3,439,631, 04-22-69, Cl. 105-197.

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Crossen, William P., and Yarrison, Walter W., to USM Corporation. Molding with tread inserts. 3,439,384, 04-22-69, Cl. 018-036.

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Crovatt, Lawrence W., Jr., and Huffman, William A. H., deceased (by Huffman, Ernestine H., executrix), to Monsanto Company. Polycarbonamides resistant to acid dyes. 3,440,226, 04-22-69, Cl. 260-078.

Crowell, Merton H., and Gordon, Eugene I., to Bell Telephone Laboratories, Incorporated. Electron beam storage device employing hole multiplication and diffusion. 3,440,476, 04-22-69, Cl. 315-010.

Crowell, Merton H., and Gordon, Eugene I., to Bell Telephone Laboratories, Incorporated. Multiple readout electron beam device. 3,440,477, 04-22-69, Cl. 315-011.

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Culpepper, Alan L., to Dow Corning Corporation. Fluid aromatic siloxane block copolymers. 3,440,262, 04-22-69, Cl. 260-448.2

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Cushing, Donald S., to General Electric Company. Control system for an automatic dishwasher. 3,439,687, 04-22-69, Cl. 134-057.

Cushman, Robert H., to Western Electric Company, Incorporated. Pressure sealing. 3,439,731, 04-22-69, Cl. 164-108.

Cushman, Robert Holbrook, to Western Electric Company, Incorporated. Sensing device. 3,439,536, 04-22-69, Cl. 073-159.

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Cuthill, James Caithness, and Thompson, James Mc Allan Cormack, to Imperial Chemical Industries Limited. Diorganopolysiloxane compositions. 3,440,191, 04-22-69, Cl. 260-018.

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Dapolito, Joseph J., and Te Grootenhuis, William D., to Sylvania Electric Products, Inc. Method of fabricating a color cathode ray tube screen. 3,440,077, 04-22-69, Cl. 117-018.

Darda, Helmut. Pressure breaker. 3,439,954, 04-22-69, Cl. 299-022.

Dart, Rodger W., and Smythe, Richard E., to Sinclair Research, Inc., mesne. Method of and apparatus for imparting a seismic pulse to the earth. 3,439,773, 04-22-69, Cl. 181-000.5

Das Gupta, Kamalaksha, Schnopper, Herbert W., and Metzger, Albert E., to California Institute Research Foundation. Dual purpose optical instrument capable of simultane- ously acting as spectrometer and diffractometer. 3,440,419, 04-22-69, Cl. 250-051.5

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Daubenspeck, Benjamin K., and Rickey, Edward A., to Remington Arms Company, Inc. Cartridge wad and process for the manufacture thereof. 3,440,072, 04-22-69, Cl. 106-200.

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Deibel, Raymond A., and Riester, William C., to Trico Products Corporation. Pneumatic actuator having a pressure differential operated latching mechanism. 3,439,580, 04-22-69, Cl. 091-045.

De Jarld, Norman L., and Martin, Laurence R., to Western Electric Company, Incorporated. Test circuit for determining whether a plurality of electrical switches operate in a prescribed break sequence. 3,440,524, 04-22-69, Cl. 324-028.

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Divine, Ralph Dettmer, to American Cyanamid Company. Process for upgrading malathion. 3,440,305, 04-22-69, Cl. 260-990.

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Krestel, Erich, and Rainer, Erich, to Siemens Aktiengesellschaft. Speed control circuit for electronically commutated DC motor. 3,440,506, 04-22-69, Cl. 318-138.

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Kube, Leonard J., to Smith, A. O., Corporation. Method of removing scale from ferrous articles prior to coating. 3,440,082, 04-22-69, Cl. 117-049.

Kubilius, Mary, to Kubilius, Theodore J. Christmas ornament. 3,440,128, 04-22-69, Cl. 161-005.

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Kuhne, Rudolf, Meininger, Fritz, and Frolich, Heinrich, to Farbwerke Hoechst Aktiengesellschaft vormals Meister Lucius & Bruning. Reactive azo-dyestuffs. 3,440,240, 04-22-69, Cl. 260-187.

Kuhnle, Paul, to Hesser, Fr., Maschinenfabrik, A.G. Packaging bag. 3,439,866, 04-22-69, Cl. 229-062.

Kuhnle, Paul, to Hesser, Fr., Maschinenfabrik, A.G. Packaging bag with brochure. 3,439,868, 04-22-69, Cl. 229-062.

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Kunevicius, Alex, to Custom Trim Products Inc. Resilient bumper strip. 3,439,950, 04-22-69, Cl. 293-001.

Kuntscher, Gerhard, to Orthopedic Equipment Company, Inc. Instrument for spiking fractured bones. 3,439,671, 04-22-69, Cl. 128-083.

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Lafforgue, Jean-Claude Rene, to Canadian General Electric Company Limited. Door latching mechanism. 3,440,403, 04-22-69, Cl. 219-413.

Lageson, Per Stephen. Cord pull for louvered or slatted shutters or blinds. 3,439,726, 04-22-69, Cl. 160-170.

Laguinia, Enrique L: Apparatus for producing combustible gas. 3,439,998, 04-22-69, Cl. 431-353.

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Lair, Philippe C., to Alsthom-Savoisienne. Feed-through bushing for cryogenic transformers. 3,440,326, 04-22-69, Cl. 174-009.

Lai, William, to United Aircraft Corporation. Hybrid flare. 3,439,612, 04-22-69, Cl. 102-037.8

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Lawson, John E., Jr., to Esso Research and Engineering Company. Retorting of oil shale. 3,440,162, 04-22-69, Cl. 208-011.

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Lee, Sen L., to North American Rockwell Corporation. Cooling of gas generators. 3,439,502, 04-22-69, Cl. 060-258.

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Le Mair, Willem, Peek, Johannes Bernard Heinrich, and Valster, Frederik, to U. S. Philips Corporation. Radar system. 3,440,653, 04-22-69, Cl. 343-009.

Leman, Hugh Spence, Barnes, George John Preston, and Green, John Uvedale, to International Standard Electric Corporation. Magnetic tape record editing apparatus. 3,440,362, 04-22-69, Cl. 179-100.2

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Lezan, Georges R. E., to General Electric Company. Generator for amplitude and frequency modulated low-frequency alternating voltages. 3,440,568, 04-22-69, Cl. 332-017.

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Lindemann, Martin K., and Volpe, Rocco P., to Air Reduction Company, Incorporated, mesne. Treatment of woven fabrics with aqueous dispersion of interpolymer of vinyl acetate, ethylene and glycidyl acrylate. 3,440,200, 04-22-69, Cl. 260-029.6

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Lindh, Torsten Lennartson, and Lindblad, Lars Olof Ingemar, to AB Tetra Pak. Device for use in machines for manufacturing plastic foil covered paper. 3,440,125, 04-22-69, Cl. 156-498.

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Matthews, Rudolph, Blakewell, Roland F., and Simpson, Frank E., to Atlas-Pacific Engineering Company. Machine for feeding apricots one at a time single file from a bulk supply. 3,439,791, 04-22-69, Cl. 198-033.

Matthews, William R., to Microlite Corporation, The. Boat construction. 3,439,366, 04-22-69, Cl. 009-006.

Maurmann, Siegfried, and Maurmann, Werner, to August Engels G.m.b.H. System for monitoring moving threads in textile machinery. 3,440,634, 04-22-69, Cl. 340-259.

Maurmann, Werner: *See—*
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Mayes, Nathan, to Thiokol Chemical Corporation. Novel polymer intermediates. 3,440,260, 04-22-69, Cl. 260-448.2

McAusland, John R. Conector for water stop material or the like. 3,439,592, 04-22-69, Cl. 094-018.

McCallum, David Livingston. Three-dimensional models. 3,439,578, 04-22-69, Cl. 090-013.

McCormick, Harold E., to Ramsey Corporation. Static seal and method of making same. 3,440,122, 04-22-69, Cl. 156-329.

McCray, Floyd D., to Phillips Petroleum Company. Pneumatic amplifier sampling valve for chromatographic analyzers. 3,439,542, 04-22-69, Cl. 073-422.

McCulloch, Robert P. Method and apparatus for agitating material and in particular for tossing salads. 3,439,901, 04-22-69, Cl. 259-089.

McCullough, John Engstrom, and Moore, Raymond William, Jr., to Little, Arthur D., Inc. Method and apparatus for treating continuous strip material under vacuum. 3,440,390, 04-22-69, Cl. 219-121.

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McFadden, Thomas F., and Schueler, Theodore A., 1/3 to Brown, Samuel E. Fermented malt beverages chemically preserved. 3,440,057, 04-22-69, Cl. 099-048.

McFarland, Donald L., and Robinson, Glen, to Westinghouse Electric Corporation, mesne. Steaming and pressing device. 3,439,437, 04-22-69, Cl. 038-071.

Mc Gowan, Raymond J.: *See—*
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McGraw, Donald R., and Graeme, Jerald G., to Burr-Brown Research Corporation. Differential D.C. amplifier. 3,440,554, 04-22-69, Cl. 330-030.

McKay, William R., to Alexander Manufacturing Company. Automatic-releasing cable control for harrow. 3,439,750, 04-22-69, Cl. 172-581.

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McLamore, William M., and Laubach, Gerald D., to Pfizer, Chas. & Co., Inc. 3,6-Disubstituted-7-sulfamyl-1,2,4-benzthiazide-1, 1-dioxides. 3,440,244, 04-22-69, Cl. 260-243.

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McLeerey, Rowland. Snow plow. 3,439,436, 04-22-69, Cl. 037-043.

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McMaster, Arnold L., and Davis, Kenneth E., to Wyandotte Chemicals Corporation. Preparation of xylylene diisocyanate from xylylene dichloride and alkali metal cyanate using a quenching solvent. 3,440,270, 04-22-69, Cl. 260-453.

McMurry, Everett D.: *See—*
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McNeely, Senate W., and Montgomery, Hoyt G., to American Enka Corporation. Device for measuring machine pressure. 3,439,535, 04-22-69, Cl. 073-141.

McPherren, Merle L. Water cleaner. 3,439,809, 04-22-69, Cl. 210-249.

McRae, Wayne A., and Katz, William E., to Ionics, Incorporated. Separation of un-ionized substances by electro-osmosis. 3,440,159, 04-22-69, Cl. 204-180.

McVannel, Donald E., to Dow Corning Corporation. Fractionation of organic compounds of high molecular weight. 3,440,264, 04-22-69, Cl. 260-448.2

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Melby, Lester R., to Du Pont de Nemours, E. I., and Company. Oligonucleotide compositions and the process for the preparation thereof. 3,440,190, 04-22-69, Cl. 260-017.4

Melconian, Jerry Chanes, to Rolls-Royce Limited. Gas turbine engine combustion chamber. 3,439,498, 04-22-69, Cl. 060-039.37

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Merrick, James W., to Shell Oil Company. Multivibrator capacitor microphone circuit. 3,440,348, 04-22-69, Cl. 179-001.

Merrill, Ralph K., Jr., Burnett, Edward N., and Sparks, Thomas B., to Gerber Products Co. Sterile nursing bottle package. 3,439,824, 04-22-69, Cl. 215-011.

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Pomper, Seymour, and Akerman, Emanuel, to Standard Brands Incorporated. Active dry yeast. 3,440,058, 04-22-69, Cl. 099-096.

Pomper, Seymour, and Akerman, Emanuel, to Standard Brands Incorporated. Active dry yeast. 3,440,059, 04-22-69, Cl. 099-096.

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Popodi, Alfred E., to United States of America, Navy, mesne. Threshold and limiting circuit with automatic level control. 3,440,443, 04-22-69, Cl. 307-235.

Port, Morton I., and Schwartz, Bernard L., to Parker Pace Corporation. Woven plastic bags. 3,439,865, 04-22-69, Cl. 229-053.

Poschel, Alfred B. Photo-engraving apparatus for printing cylinders. 3,439,984, 04-22-69, Cl. 355-085.

Poss, Richard F: *See—*
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Post, David C. Fastener device. 3,440,590, 04-22-69, Cl. 339-014.

Postema, James R., to Universal Electric Company. Laminated motor stator with formed coils and shaded poles and method of making. 3,440,460, 04-22-69, Cl. 310-042.

Potter, Frederick Milton, to Bendix Corporation, The. Oil-cooled generators. 3,440,461, 04-22-69, Cl. 310-054.

Poulos, William E. Indicuting device. 3,440,641, 04-22-69, Cl. 340-332.

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Prescott, Norma E. Electric stove. 3,440,404, 04-22-69, Cl. 219-432.

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Preston, Martin. Mechanical torque converter. 3,439,561, 04-22-69, Cl. 074-751.

Preston, Norman J., to Esso Research and Engineering Company. Refuelling aircraft. 3,439,700, 04-22-69, Cl. 137-351.

Prete, Ernest, Jr., to Tridair Industries, mesne. Snaphook device. 3,439,390, 04-22-69, Cl. 024-201.

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Priel, Ury, Seelbach, Walter C., and Treadway, Ronald L., to Motorola, Inc. Gated DC coupled J-K flip-flop. 3,440,449, 04-22-69, Cl. 307-291.

Priese, Werner K., and Robbins, Vernon E., to Hills-McCanna Company. Ball valve assembly with both high and low pressure side seals. 3,439,897, 04-22-69, Cl. 251-170.

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Probst, Richard O., Thatcher, Charles R., and Zupan, Norbert M., to Ransburg Electro-Coating Corp. Electrostaic coating apparatus. 3,439,649, 04-22-69, Cl. 118-634.

Procter & Gamble Company, The: *See—*
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Pullen, Charles R., to McDonald, A. Y., Mfg. Co. Gasoline storage tank vent. 3,439,831, 04-22-69, Cl. 220-044.

Pullos, Vlash A., to North American Rockwell Corporation. Underwater vehicles. 3,439,537, 04-22-69, Cl. 073-170.

Purkhiser, Rawlins E., to Air Reduction Company, Incorporated. Stabilization of servosystem against backlash. 3,439,554, 04-22-69, Cl. 074-409.

Pyne, Humphrey Walter, Horwood, Bruce, and Wilson, Robin Burnell, to National Research Development Corporation. Apparatus for gas filtration. 3,439,477, 04-22-69, Cl. 055-231.

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Radio Corporation of America: *See—*
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Ravault, Frank Ernest George, to Foseco International Limited. Composition for protective treatment of metals. 3,440,112, 04-22-69, Cl. 148-022.

Ravve, Abraham, and Fitko, Chester W., to Continental Can Company, Inc. Stabilized polyvinylchloride compositions. 3,440,303, 04-22-69, Cl. 260-847.

Reames, Robert L. Cooking utensil. 3,439,603, 04-22-69, Cl. 099-355.

Reaux, Donald J., to General Electric Company. Impeller for food waste disposer. 3,439,878, 04-22-69, Cl. 241-046.08

Rebuffoni, Martin, and Gamberg, Edward R., to Westinghouse Electric Corporation. Arc welding method and apparatus. 3,440,395, 04-22-69, Cl. 219-131.

Rech, Raymond G., to Arens Controls Inc. Cable apparatus. 3,439,555, 04-22-69, Cl. 074-501.

Reed, M. T. Construction Co.: *See—*
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Reifenberg, Joseph H., to Westinghouse Electric Corporation. Domestic dishwasher and control. 3,440,399, 04-22-69, Cl. 219-334.

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Richards, Sterling J., to University of California, The Regents of the. Porous block for conserving soil moisture. 3,439,450, 04-22-69, Cl. 047-009.

Rich, William W., to Du Pont de Nemours, E. I., and Company. Sequential batch manufacture of tetramethyl lead. 3,440,256, 04-22-69, Cl. 260-437.

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Riley, Orvel K., to Surgical Eng. and Research Corp. Cooling apparatus for dental anesthetization. 3,439,681, 04-22-69, Cl. 128-401.

Riley, Russell B., to Hewlett-Packard Company. Push-pull meter circuit for producing direct- current and alternating-current outputs proportional to applied alternating signal. 3,440,538, 04-22-69, Cl. 324-123.

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Roberts, Jeremy Brown, Jones, Dallas E., and Badran, Adnan M., to United Fruit Company. Method of preparing enzymes from plant tissues containing phenols. 3,440,143, 04-22-69, Cl. 195-066.

Robertson, Thomas M., Overbeck, Charles J., and Hickey, James J., to Nalco Chemical Company. Chelometric titration method. 3,440,014, 04-22-69, Cl. 023-230.

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Roinestad, Gerald C., Rodman, John F., Jr., and Burnett, John S., to Ashworth Bros., Inc. Flat wire conveyor belt having slotted bar links. 3,439,795, 04-22-69, Cl. 198-193.

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Rosscup, Robert J., Zletz, Alex, and Schaap, Luke A., to Standard Oil Company (Indiana). Hydration of olefins to alcohols. 3,440,293, 04-22-69, Cl. 260-641.

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Rouanet, Jean, and Berthet, Aristide, to Institut de Recherches de la Siderurgie Francaise. Method and apparatus for obtaining a constant predetermined flow of liquid, especially molten metal. 3,439,759, 04-22-69, Cl. 177-001.

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Ryan, John W., and Baginski, Albert, to Mattel, Inc. String monorail. 3,439,448, 04-22-69, Cl. 046-243.

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Saam, John C., to Dow Corning Corporation. Silicones containing an amido group and method of preparing same. 3,440,261, 04-22-69, Cl. 260-448.2

Sabet, Huschang. Transmission with automatically varying ratio. 3,439,549, 04-22-69, Cl. 074-070.

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Saia, Frank J., and Quetsch, John, to Hughes Aircraft Company. Surface-protected semiconductor devices and methods of manufacturing. 3,440,496, 04-22-69, Cl. 317-234.

Sair, Louis, to Griffith Laboratories, Inc., The. Production of proteinates. 3,440,054, 04-22-69, Cl. 099-014.

Saito, Hikotaro. Constant speed drive control system for automobiles. 3,439,770, 04-22-69, Cl. 180-105.

Salmet, Gaston, to U. S. Philips Corporation, mesne. Radio-transmission system. 3,440,353, 04-22-69, Cl. 179-015.

Saltzberg, Burton R., to Bell Telephone Laboratories, Incorporated. Timing recovery circuit using time derivative of data signals. 3,440,548, 04-22-69, Cl. 328-151.

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Sander, Wendell B., and Van Den Heuvel, Raymond, to Tasker Instruments Corporation. Character and symbol generator with ramp voltage input. 3,440,639, 04-22-69, Cl. 340-324.

Sandhage, Ellsworth R.: *See—*
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Sandy Hill Corporation: *See—*
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Stenby, Walter H. Announcing indicator for continuous readout of different variables. 3,440,358, 04-22-69, Cl. 179-100.1

Stephan, John Thomas. Plywood adhesive and process of forming same. 3,440,071, 04-22-69, Cl. 106-154.

Stephens, Charles R., Jr., and Allingham, Robert P., to Pfizer, Chas. & Co., Inc. 2-Ethylpyromeconic acid as an aroma enhancer for perfumes. 3,440,183, 04-22-69, Cl. 252-094.

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Stratford, Henry Ralph, to York Gears Limited. Shock absorber. 3,439,499, 04-22-69, Cl. 060-054.5

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Tenenbaum, Nathaniel D., and Marieni, Gino J., to Westinghouse Electric Corporation. Circuit-controlling systems. 3,440,491, 04-22-69, Cl. 317-022.

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CLASSIFICATION OF PATENTS

ISSUED APRIL 22, 1969

NOTE.—First number, class; second number, subclass; third number, patent number

2—155	3,439,360	30— 8.5	3,439,418	61— 12	3,439,506	91— 45	3,439,580	112—219	3,439,638	137— 26	3,439,693
4— 10	3,439,361	162	3,439,419	28	3,439,507	55	3,439,581	242	3,439,639	53	3,439,694
172	3,439,362	294	3,439,420	45	3,439,508	99	3,439,582	113—116	3,439,640	81.5	3,439,695
5—109	3,439,363	32— 14	3,439,421	62— 3	3,439,509	420	3,439,583	121	3,439,641	108	3,439,696
6— 2	3,439,364	27	3,439,422	78	3,439,510	443	3,439,584	114— 37	3,439,642	119	3,439,697
8— 15	3,439,999	62	3,439,423	155	3,439,511	92—130	3,439,585	63	3,439,643	268	3,439,698
25	3,440,000	33— 8	3,439,424	65— 99	3,440,030	169	3,439,586	210	3,439,644	315	3,439,699
62	3,440,001	23	3,439,425	152	3,440,031	93— 1.3	3,439,587	115— 25	3,439,645	351	3,439,700
115.5	3,440,002	32	3,439,426	160	3,440,032	35	3,439,591	116—124	3,439,646	359	3,439,701
151	3,439,365	61	3,439,427	66— 14	3,439,512	36.9	3,439,588	129	3,439,647	478	3,439,702
9— 6	3,439,366	137	3,439,428	154	3,439,513	52	3,439,589	135	3,439,648	480	3,439,703
12—142	3,439,367	174	3,439,429	70—147	3,439,514	55.1	3,439,590	117— 13	3,440,076	498	3,439,704
13— 6	3,440,321	178	3,439,430	288	3,439,515	94— 18	3,439,592	18	3,440,077	543.23:	3,439,705
20	3,440,322	34— 1	3,439,431	383	3,439,516	44	3,439,593	21	3,440,078	554	3,439,706
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4	3,439,370	72	3,439,435	101	3,439,518	.5	3,439,597	34	3,440,081	612	3,439,710
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	3,439,372	38— 71	3,439,437	338	3,439,520	.5	3,439,599	63	3,440,083	138— 30	3,439,712
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354	3,439,375	42— 75	3,439,441	73— 1	3,439,524	27	3,440,046	132	3,440,087	336	3,439,716
16—135	3,439,377	43— 36	3,439,442	15.4	3,439,525	36.3	3,440,047	138.8	3,440,088	141— 91	3,439,717
159	3,439,378	42.12:	3,439,443	37.9	3,439,526	41	3,440,048	155	3,440,089	156	3,439,718
18— 1	3,439,379	44— 69	3,440,028	40.5	3,439,527	66	3,440,049	201	3,440,090	146— 10	3,439,719
5	3,439,380	75	3,440,029	53	3,439,528	75	3,440,050	216	3,440,091	57	3,439,720
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13	3,439,383	51	3,439,446	86	3,439,531		3,440,053	119— 21	3,439,651	22	3,440,112
36	3,439,384	175	3,439,447	88.5	3,439,533	98— 90	3,439,601	122—374	3,439,652	187	3,440,113
19— .35:	3,439,385	243	3,439,448	89	3,439,532	99— 14	3,440,054	510	3,439,653		3,440,114
129	3,439,386	47— 1.4	3,439,449	117	3,439,534	23	3,440,055	123— 12	3,439,654	149— 4	3,440,115
21— 58	3,440,003	9	3,439,450	141	3,439,535	48	3,440,056	32	3,439,655	151— 14	3,439,722
23— 51	3,440,004	49— 33	3,439,451	159	3,439,536		3,440,057		3,439,656	41.73:	3,439,723
52	3,440,005	143	3,439,452	170	3,439,537	96	3,440,058	41.31:	3,439,657	156— 70	3,440,116
91	3,440,006	204	3,439,453	230	3,439,538		3,440,059	75	3,439,658	73	3,440,117
119	3,440,007	362	3,439,454	301	3,439,539	135	3,440,060	90	3,439,659		3,440,118
123	3,440,008	381	3,439,455	344	3,439,540	192	3,440,061		3,439,660	99	3,440,119
154	3,440,009	51—125	3,439,456	398	3,439,541	285	3,439,602		3,439,661	162	3,440,120
165	3,440,010	165	3,439,457	422	3,439,542	355	3,439,603	97	3,439,662	293	3,440,121
219	3,440,011	216	3,439,458	431	3,439,543	431	3,439,604	149	3,439,663	329	3,440,122
225	3,440,012	52— 18	3,439,459	517	3,439,544	100— 7	3,439,605	125— 23	3,439,664	384	3,440,123
230	3,440,013	81	3,439,460	74— 1.5	3,439,545	26	3,439,606	126— 21	3,439,665	423	3,440,124
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	3,440,015	223	3,439,462	.6	3,439,546	38	3,439,608	165	3,439,667	505	3,440,126
253	3,440,016	288	3,439,463		3,439,547	101—366	3,439,609	190	3,439,668	583	3,440,127
254	3,440,017	479	3,439,464		3,439,556	102— 4	3,439,610	200	3,439,669	159— 13	3,439,724
283	3,440,018	584	3,439,465	70	3,439,549	24	3,439,611	127— 58	3,440,093	160— 84	3,439,725
285	3,440,019	624	3,439,466	89.15:	3,439,550	37.8	3,439,612	128— 80	3,439,670	170	3,439,726
288	3,440,020	632	3,439,467	243	3,439,551	38	3,439,635	83	3,439,671	188	3,439,727
289	3,440,021	53— 14	3,439,468	353	3,439,552	49.3	3,439,613	88	3,439,672	193	3,439,728
292	3,440,022	21	3,439,469	409	3,439,553	64	3,439,614	133	3,439,673	161— 5	3,440,128
297	3,440,023	70	3,439,470		3,439,554	65.2	3,439,615	233	3,439,674		3,440,129
300	3,440,024	182	3,439,471	501	3,439,555	70.2	3,439,616	239	3,439,675		3,440,130
301	3,440,025	226	3,439,472	531	3,439,557		3,439,617	268	3,439,676	53	3,440,131
308	3,440,026	234	3,439,473	573	3,439,558	86.5	3,439,618	283	3,439,677	87	3,440,132
24— 73	3,439,387	55— 16	3,439,474	720.5	3,439,559	92.7	3,439,619		3,439,679	89	3,440,133
197	3,439,388	90	3,439,475	732	3,439,560	93	3,439,620	284	3,439,678	162— 8	3,440,134
201	3,439,389	120	3,439,476	751	3,439,561	103— 2	3,439,621	303.1	3,439,680	157	3,440,135
	3,439,390	231	3,439,477	804	3,439,562		3,439,624	401	3,439,681	275	3,440,136
28— 1	3,439,391	56— 1	3,439,478	810	3,439,563	35	3,439,622	460	3,439,682	306	3,440,137
	3,439,392	16	3,439,479	866	3,439,564	42	3,439,623	130— 27	3,439,683	351	3,440,138
72	3,439,393	121.4	3,439,480	75— .5	3,440,035	126	3,439,625		3,439,684	163— 5	3,439,729
	3,439,394	328	3,439,481	117	3,440,036	232	3,439,626	131— 9	3,439,685	164— 82	3,439,730
29— 25.42:	3,439,395	330	3,439,482	128	3,440,037	104—173	3,439,627	132— 40	3,439,686	108	3,439,731
	3,439,396	57— 6	3,439,483		3,440,038	105— 50	3,439,628	134— 1	3,440,094	112	3,439,732
91	3,439,397	16	3,439,484	134	3,440,039	133	3,439,629	3	3,440,095	200	3,439,733
95.1	3,439,398	34	3,439,485	152	3,440,040	196	3,439,630	24	3,440,096	213	3,439,734
156.4	3,439,399	58.49:	3,439,486		3,440,041	197	3,439,631	37	3,440,097	259	3,439,735
173	3,439,400	.89:	3,439,487	206	3,440,042	106— 1	3,440,062	57	3,439,687	273	3,439,736
193.5	3,440,027	.95:	3,439,488	208	3,440,043	8	3,440,063	104	3,439,688	165—109	3,439,737
200	3,439,401	140	3,439,489	76— 82	3,439,565	15	3,440,064		3,439,689	143	3,439,738
203	3,439,402		3,439,490	77— 73.5	3,439,566	35	3,440,065	135— 26	3,439,690	164	3,439,739
205	3,439,403	160	3,439,491	81— 53	3,439,567	38.35:	3,440,066		3,439,691	166—250	3,439,740
208	3,439,404	58— 1	3,439,492	84— 1.01:	3,439,568	39	3,440,067	136— 6	3,440,098	272	3,439,741
407	3,439,405	58	3,439,493	.22:	3,440,324	47	3,440,068		3,440,099		3,439,742
450	3,439,406	59— 78	3,439,494	.25:	3,440,325	53	3,440,069	26	3,440,100		3,439,743
455	3,439,407	60— 39.02:	3,439,495	.26:	3,439,569	67	3,440,070	83	3,440,101	287	3,439,744
470.1	3,439,408	.16:	3,439,496	293	3,439,570	154	3,440,071	86	3,440,102	170—160.21:	3,439,745
.3	3,439,409	.28:	3,439,497	312	3,439,571	200	3,440,072		3,440,103	172— 1	3,439,746
472.7	3,439,410	.37:	3,439,498	402	3,439,572	273	3,440,073	103	3,440,104	42	3,439,747
499	3,439,411	54.5	3,439,499	411	3,439,573	279	3,440,074	108	3,440,105	269	3,439,748
509	3,439,412		3,439,500	422	3,439,574	291	3,440,075	114	3,440,106	572	3,439,749
558	3,439,413	203	3,439,501	85— 1	3,439,575	107— 1	3,439,632	120	3,440,107	581	3,439,750
580	3,439,414	258	3,439,502	79	3,439,576	54	3,439,633	145	3,440,108	634	3,439,751
600	3,439,415	267	3,439,503	89— 1	3,439,577	108— 27	3,439,634	161	3,440,109	805	3,439,752
625	3,439,416	271	3,439,504	90— 13	3,439,578	111— 7	3,439,636	166	3,440,110	173— 12	3,439,754
30— 4	3,439,417	61— 12	3,439,505	91— 44	3,439,579	112— 2	3,439,637	137— 15.2	3,439,692	119	3,439,755

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(U.S. States, Territories and Armed Forces, the Commonwealth of Puerto Rico, and the Canal Zone)

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(First number in listing denotes location according to above key. Refer to patent number in body of the Official Gazette to obtain details as to inventor name, location, etc.)

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48 : 3,440,389	51 : 3,439,635	52 : 3,440,435	53 : 3,439,867	55 : 3,439,586	55 : 3,440,137
3,440,404	3,439,795	53 : 3,439,366	3,440,071	3,439,708	3,440,394
3,440,442	3,439,827	3,439,377	3,440,595	3,439,709	3,440,550
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49 : 3,439,664	3,440,130	3,439,460	3,440,171	3,439,846	56 : 3,439,505
3,439,817	3,440,416	3,439,525	3,440,180	3,439,876	3,439,506
50 : 3,439,570	3,440,458	3,439,706	3,440,192	3,440,076	3,439,710
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51 : 3,439,396	52 : 3,439,466	3,439,815	55 : 3,439,429	3,440,135	57 : 3,439,392
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Design Patents

4 : 213,926	6 : 213,934	17 : 213,865	20 : 213,868	34 : 213,876	40 : 213,884
213,927	213,936	213,879	213,903	213,904	41 : 213,885
6 : 213,857	213,939	213,881	21 : 213,893	213,924	213,886
213,867	8 : 213,906	213,896	213,894	36 : 213,880	42 : 213,862
213,869	9 : 213,856	213,900	213,895	213,882	213,874
213,877	213,911	213,905	25 : 213,897	213,898	213,910
213,887	213,912	213,908	26 : 213,883	213,902	213,925
213,888	10 : 213,866	213,917	213,921	213,916	213,932
213,889	12 : 213,920	18 : 213,870	27 : 213,909	213,918	213,937
213,892	213,940	213,872	213,938	213,919	45 : 213,928
213,913	13 : 213,860	213,873	32 : 213,890	213,923	47 : 213,901
213,922	213,915	213,875	213,891	39 : 213,914	48 : 213,858
213,929	17 : 213,863	19 : 213,871	34 : 213,861	213,930	55 : 213,899
213,933	213,864	213,907			

Plant Patents

6 : 2,880	48 : 2,881				

U.S. DEPARTMENT OF COMMERCE
OFFICIAL GAZETTE of the UNITED STATES PATENT OFFICE
April 22, 1969 Volume 861 Number 4

TRADEMARKS

NOTICES

Trademark Suits

Notices under 15 U.S.C. 1116; Trademark Act of July 5, 1946

Reg. No. 75,365 (ALLIGATOR BRAND AND REPRESENTATION OF AN ALLIGATOR), The Alligator Company, Oiled clothing; **Reg. No. 233,719** (ALLIGATOR), same, Waterproof cloth, awnings, and tarpaulins; **Reg. No. 706,041**, same, Raincoats, water repellent coats, topcoats, coats with zip-in warmers, and suburban coats for men, women, and children; inner linings for men's, women's and children's coats; sportswear for men—namely, jackets, golf, fishing, and sport shirts, parkas, water repellent pants, waterproof protectors for trousers, and hats; **Reg. No. 706,680** (GROTESQUE OF ALLIGATOR), same, Raincoats, water repellent coats, topcoats, coats with zip-in warmers, and suburban coats for men, women, and children; inner linings for men's, women's and children's coats; sportswear for men—namely, jackets, parkas, water repellent pants, waterproof protectors for trousers, and hats; **Reg. No. 707,572** (GROTESQUE OF ALLIGATOR IN CIRCULAR DESIGN), same, Raincoats, water repellent coats, topcoats, coats with zip-in warmers, and suburban coats for men, women and children; inner linings for men's, women's and children's coats; sportswear for men—namely, jackets, golf shirts, fishing shirts, parkas, water repellent pants, waterproof protectors for trousers, and hats; **Reg. No. 707,823** (GROTESQUE OF ALLIGATOR), same, Raincoats, water repellent coats, topcoats, coats with zip-in warmers, and suburban coats for men, women, and children; inner linings for men's, women's, and children's coats; sportswear for men—namely, jackets, parkas, water repellent pants, waterproof protectors for trousers, and hats; **Reg. No. 720,031**, same, Raincoats, water repellent coats, topcoats, coats with zip-in warmers, and suburban coats for men, women, and children; inner linings for men's, women's, children's coats; sportswear for men—namely, jackets, golf shirts, fishing shirts, parkas, water repellent pants, waterproof protectors for trousers, and hats; **Reg. No. 720,032**, same, **filed** Jan. 29, 1969, D.C.N.J. (Trenton), Doc. 101–69, *The Alligator Company, Inc. et al.* v. *Sportempos, Inc.*

Reg. No. 233,719. (See Reg. No. 75,365.)

Reg. No. 306,582 (CALGON), Calgon, Inc., Water softening and water conditioning chemical for industrial, laundry, and semi-industrial use; **Reg. No. 323,524** (CALGON WORKS WONDERS WITH WATER), same; **Reg. No. 570,365** (MAKES WATER SOFTER THAN RAIN CALGON), same, Water softening and water conditioning chemicals for industrial, laundry, wet cleaning, and home use; **Reg. No. 598,065** (CALGON MAKES ANY WATER SILKY WATER), same; **Reg. No. 629,970** (BRUNER), Bruner Corporation, Water conditioning and filtering apparatus for both home and commercial ion-exchange type; filters for removing sediment, apparatus for chemically treating water supply systems generally and for treating boiler and hot water supply systems, for

CONDITION OF TRADEMARK APPLICATIONS AS OF FEBRUARY 28, 1969

Total number of applications awaiting action [excluding renewals and Sec. 12(c)]	16,090
Date of oldest new application	January 23, 1968
Date of oldest amended application (filing date)	June 4, 1963

C. M. WENDT, Director, Trademark Examining Operation TRADEMARK EXAMINING DIVISIONS, EXAMINERS AND TRADEMARK CLASSES UNDER EXAMINATION	Oldest Application: New	Oldest Application: Amended
(I) L. J. BETTENDORF, Classes 2, 3, 4, 5, 7, 9, 10, 11, 27, 28, 30, 32, 33, 37, 38, 39, 40, 41, 42, 43, 50; Certification Marks, Classes A and B	6-24-68	6-4 -63
(II) F. H. WETHERBEE, Classes 1, 6, 15, 18, 45, 46, 47, 48, 49, 51, 52; Collective Membership Mark, Class 200	5-13-68	3-4 -66
(III) P. S. BALL, Classes 19, 21, 23, 26, 31, 34, 35, 36	6-19-68	1-21-66
(IV) M. E. ABRAMSON, Classes 8, 12, 13, 14, 16, 17, 20, 22, 24, 25, 29, 44; Service Marks, Classes 100, 101, 102, 103, 104, 105, 106, and 107	1-23-68	3-18-66
Renewals (All Classes)	1-3 -69	.....
Sec. 12(c) Publications (All Classes)	1-16-69	.....

Applications filed during the month of February 1969—2,344

Registrations Issued ..... 262—No. 868,292 to No. 868,553
Renewals Issued 120

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supplying chemicals to water supply systems; and automatic water flow control devices; **Reg. No. 629,971** (BRUNER AND DESIGN), same, Water conditioning and filtering apparatus for both home and commercial use—namely, water softening apparatus of the ion-exchange type; filters for removing sediment, iron, sulfur, tastes and odors from water; and apparatus for chemically treating water supply systems generally and for treating boiler and hot water supply systems, for supplying chemicals to water supply systems; and automatic water flow control devices; **Reg. No. 640,807** (BRUNER), same, Chemical compound for cleaning and restoring capacity of iron-fouled water softeners; **Reg. No. 640,808** (BRUNER AND DESIGN), same; **Reg. No. 763,930** (BRUNER-MATIC AND DESIGN), same, Valves for automatically controlling softening and regenerating cycles on water softening equipment, filed Jan. 28, 1969, D.C.N.J. (Trenton), Doc. 100–69, *Calgon Corporation* v. *Automatic Water Conditioning Co., Inc. and John L. Madden.*

Reg. No. 323,524. (See Reg. No. 306,582.)

Reg. No. 398,874 (PROGRESSO AND DESIGN), Uddo & Taormina Corporation, Canned vegetables; **Reg. No. 620,471**, same, Canned vegetables, canned fruits, canned olives, canned pork and beans, canned spaghetti, canned fish, canned egg plant appetizer, canned tomato paste, and canned citrus fruit, juices and tomato juice; **Reg. No. 706,478** (PROGRESSO), same, Canned and bottled edible olive oil and olives, macaroni, canned ravioli, spaghetti, tomato paste, canned vegetables, pizza sauce, clam sauce, tomato sauce, spaghetti sauce, canned fish, canned fruits, canned soups, cheese, coffee, dried beans, vinegar, spices, olive appetizer consisting of olives, celery, capers, oregano, vinegar, oil and spices; egg plant appetizer consisting of egg plant, tomato sauce, celery, olives, capers, onions, oils, vinegar, sugar and spices, filed Jan. 27, 1969, D.C., S.D.N.Y., Doc. 69–C–316, *Uddo & Taormina Corp.* v. *Pizza Paverna, Inc. et al.*

Reg. No. 570,965. (See Reg. No. 306,582.)

Reg. No. 598,065. (See Reg. No. 306,582.)

Reg. No. 620,471. (See Reg. No. 398,874.)

Reg. No. 629,970. (See Reg. No. 306,582.)

Reg. No. 629,971. (See Reg. No. 306,582.)

Reg. No. 630,211 (SARDO ETC. AND DESIGN), Sardeau Inc., Bath oils, filed Jan. 28, 1969, D.C., S.D.N.Y., Doc. 69–346, *Sardeau Inc.* v. *Kerkoff Parfumeurs Inc. et ano.*

Reg. No. 640,807. (See Reg. No. 306,582.)

Reg. No. 640,808. (See Reg. No. 306,582.)

Reg. No. 706,041. (See Reg. No. 75,365.)

Reg. No. 706,680. (See Reg. No. 75,365.)

Reg. No. 707,572. (See Reg. No. 75,365.)

Reg. No. 707,823. (See Reg. No. 75,365.)

Reg. No. 706,478. (See Reg. No. 398,874.)

Reg. No. 720,631. (See Reg. No. 75,365.)

Reg. No. 720,632. (See Reg. No. 75,365.)

Reg. No. 750,297 (DREAMCLEAN), A. B. Leigh, Antifoggant wiping sheets, filed Jan. 24, 1969, D.C., S.D.N.Y., Doc. 69–282, *Arthur B. Leigh* v. *Fred S. Karaman.*

Reg. No. 763,930. (See Reg. No. 306,582.)

Reg. No. 852,639 (DI-T), TRW Inc., Miniature transformers primarily used in transistor circuitry, filed Dec. 4, 1968, D.C., S.D.N.Y., Doc. 68–C–4817, *TRW Inc.* v. *Pico Electronics, Inc. et ano.*

MARKS PUBLISHED FOR OPPOSITION

SECTION 1

The following marks are published in compliance with section 12(a) of the Trademark Act of 1946. Application for the registration of these marks in more than one class has been filed as provided in section 30 of said act as amended by Public Law 772, 87th Congress, approved Oct. 9, 1962, 76 Stat. 769. Opposition under section 13 may be filed within thirty days of this publication. See Rules 2.101 to 2.105.

A separate fee of twenty-five dollars for each class opposed must accompany the opposition.

[NOTE: For publication of marks presented in applications for registration in one class, see section 2.]

SN 240,079. Daniel Industries, Inc., Houston, Tex., assignee of Daniel Orifice Fitting Company, Houston, Tex. Filed Mar. 3, 1966.

DANIEL

Class 13—Hardware and Plumbing and Steam-Fitting Supplies

For Check Valves, Mercury Traps, Seal and Condensate Chambers, Orifice Flanges, Meter Leveling Saddles and Pipe Supports (Int. Cl. 6).

Class 26—Measuring and Scientific Appliances

For Fluid Metering, Measurement and Control Devices Including: Metering Valves, Orifice Fittings, Flow Computers, Indicators, Recorders and Printers, Orifice Plates, Edge Gages, Orifice Seals, Meter Tubes, Meter Stations, Straightening Vanes, Flow Sections and Parts Thereof (Int. Cl. 9).

First use in or before 1930.

SN 248,191. The Ohmart Corporation, Cincinnati, Ohio. Filed June 16, 1966.

OHMART

Class 21—Electrical Apparatus, Machines, and Supplies

For Electronic Amplifiers and Electrical Circuit Assemblies (Int. Cl. 9).

First use Jan. 31, 1956.

Class 26—Measuring and Scientific Appliances

For Radiation Density Gauges, Level Gauges, Thickness Gauges, Gauges for Weighing Material on Belts, and Radiation Detector Assemblies and Parts Thereof—Namely, Radiation Detectors, Radiation Source Holders and Radiation Source Storage Containers (Int. Cl. 9).

First use August 1955.

SN 250,172. Packard-Bell Electronics Corporation, Los Angeles, Calif. Filed July 13, 1966.

ANTIGUA

Class 21—Electrical Apparatus, Machines, and Supplies

For Television Receivers and Radio Receivers (Int. Cl. 9).

Class 36—Musical Instruments and Supplies

For Phonographs (Int. Cl. 9).

First use May 9, 1966.

SN 268,278. Advance Electronics Limited, Hainault, Ilford, Essex, England. Filed Apr. 4, 1967.

XETEX

Priority claimed under Sec. 44(d) on British Reg. No. 904,478, dated Jan. 23, 1967.

Class 21—Electrical Apparatus, Machines, and Supplies

For Attenuators, Static Inverters, Laboratory Power Supplies, Modular Power Supplies, Magnetic Transducers and Proximity Transducers (Int. Cl. 9).

Class 26—Measuring and Scientific Appliances

For Timer Counters, Function Generators, Oscilloscopes, Analogue Voltmeters, Pulse Generators, Component Testers, Batch Counters, Signal Generators, Frequency Synthesizers, Digital Voltmeters, Tacho Ratiometers and Rotation Monitors (Int. Cl. 9).

First use January 1967; in commerce January 1967.

SN 273,906. Jay Sebring, d.b.a. Sebring Product Division, Los Angeles, Calif. Filed June 14, 1967.

SEBRING

Class 51—Cosmetics and Toilet Preparations

For Hair Preparations—Namely, Hair Dressing (Int. Cl. 3).

Class 52—Detergents and Soaps

For Hair Shampoo (Int. Cl. 3).

First use Sept. 7, 1959.

SN 274,681. Cadillac Shoe Products, Inc., Detroit, Mich. Filed June 26, 1967.

CADILLAC

Owner of Reg. Nos. 807,796 and 827,536.

Class 3—Baggage, Animal Equipments, Portfolios, and Pocketbooks

For Shoe Accessories—Namely, Shoe Mittens for Protecting Shoes, and Tote Bags for Shoes (Int. Cl. 18).

First use September 1966.

Class 6—Chemicals and Chemical Compositions

For Shoe Deodorant, Chemical Preparation To Soften Stiff Leather, and Shoe and Leather Dressing (Int. Cls. 1 and 5).

First use November 1966.

Class 29—Brooms, Brushes, and Dusters

For Shoe Shine Cloths (Int. Cl. 21).

First use June 1964.

Class 39—Clothing

For Hose Saving and Heel Cushion Inserts for Shoes (Int. Cl. 25).

First use June 1966.

Class 50—Merchandise Not Otherwise Classified

For Shoe Stretchers (Int. Cl. 21).

First use May 1964.

Class 52—Detergents and Soaps

For Chemical Dry Cleaner for Shoes, Leather, and Other Goods (Int. Cl. 3).
First use November 1966.

SN 287,927. Walter Maguire Company, Inc., Westfield, Mass., Filed Jan. 2, 1968.

tekoa

Class 12—Construction Materials

For Resilient Terrazzo Tiles (Int. Cl. 19).
First use November 1967.

Class 16—Protective and Decorative Coatings

For Synthetic Plastic Coatings Composition for Forming Seamless Flooring (Int. Cl. 2).
First use October 1966.

SN 288,252. Vari-Light Corporation, Blue Ash, Ohio. Filed Jan. 8, 1968.

VARI-LIGHT

Class 6—Chemicals and Chemical Compositions

For Phototropic Solution and Thermochromic Solution (Int. Cl. 1).
First use on or about Sept. 20, 1961.

Class 16—Protective and Decorative Coatings

For Lacquers (Int. Cl. 2).
First use on or about Sept. 20, 1961.

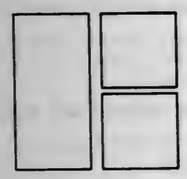
Class 26—Measuring and Scientific Appliances

For Phototropy Kit, Phototropic Glass, Phototropic Plastic, Sensitized Phototropic Paper, and Thermochromic Film (Int. Cls. 1 and 9).
First use on or about Sept. 20, 1961.

Class 33—Glassware

For Phototropic Glass and Thermochromic Glass (Int. Cl. 21).
First use on or about Sept. 20, 1961.

SN 293,038. Illinois Tool Works Inc., Chicago, Ill. Filed Mar. 12, 1968.



Class 2—Receptacles

For Portable Carriers for Containers (Int. Cl. 20).

Class 50—Merchandise Not Otherwise Classified

For Printed Lids for Food Containers (Int. Cl. 20).
First use January 1964.

SN 294,089. Stanley Home Products, Inc., Westfield, Mass. Filed Mar. 25, 1968.

TEMPTRESS

Class 29—Brooms, Brushes, and Dusters

For Hairbrushes (Int. Cl. 21).

Class 40—Fancy Goods, Furnishings, and Notions

For Combs (Int. Cl. 21).
First use Oct. 6, 1967.

SN 295,220. Cunningham Art Products, Inc., Stone Mountain, Ga. Filed Apr. 9, 1968.

Royal Coat

Class 5—Adhesives

For Decoupage Glue (Int. Cl. 1).
First use February 1967.

Class 13—Hardware and Plumbing and Steam-Fitting Supplies

For Decoupage Hardware—Namely, Hinges, Hasps, Catches, Keyholes, Solid Brass Foot and Plaque Hangers (Int. Cl. 6).
First use May 1968.

Class 16—Protective and Decorative Coatings

For Decoupage Finish, Decoupage Thinner, Decoupage Base Color (29 Colors), Decoupage Liquid Finish in Cans; Finishing Oils, Antiquing Material and Spray Sealer; Decoupage Spray Finish in Aerosol Cans and Decoupage Varnish in Cans (Int. Cl. 2).
First use February 1967.

Class 50—Merchandise Not Otherwise Classified

For Decoupage Kit, Decoupage Gold Borders and Ornaments (Int. Cl. 16).
First use October 1967.

SN 297,053. A. M. Fiering, Inc., New York, N.Y. Filed May 1, 1968.

PANELS PLASTIC PRINTS POSTERS P^2

The words "Panels in Plastic for Prints and Posters" are disclaimed apart from the mark as shown.

Class 50—Merchandise Not Otherwise Classified

For Plastic Structures Used in Displaying Prints and Posters Without the Use of Frames or Glass (Int. Cl. 20).

Class 103—Construction and Repair

For Custom Making of Display Mountings for Advertising Material, Posters, Prints, Graphic Arts, Drawings and Photographs (Int. Cl. 37).
First use Mar. 1, 1968.

SN 303,866. Ultramatic Equipment Co., Addison, Ill. Filed July 22, 1968.



Class 4—Abrasives and Polishing Materials

For Finishing Media for Use in Vibratory and Rotary Finishing Machines and the Like (Int. Cl. 3).
First use February 1966.

Class 23—Cutlery, Machinery, and Tools, and Parts Thereof

For Vibratory and Rotary Finishing Machines for Finishing Materials Such as Ferrous and Non-Ferrous Metal Castings, Extrusions, and Stampings, Other Metal Parts, Glassware, Ceramic Ware, Plastic Ware, Leather Ware, and the Like (Int. Cl. 7).
First use Apr. 21, 1960.

SN 306,421. Hi-Telac Co., Ltd., Kita-ku, Osaka, Japan. Filed Sept. 3, 1968.

hi-Telac

Owner of Japanese Reg. Nos. 715,888, dated Aug. 9, 1966; and 722,794, dated Oct. 12, 1966.

Class 1—Raw or Partly Prepared Materials

For Synthetic Leather (Int. Cl. 18).

Class 39—Clothing

For Shoes (Int. Cl. 25).

SN 308,641. Symmons Engineering Company, Boston, Mass. Filed Oct. 1, 1968.

SYMMONS

Class 13—Hardware and Plumbing and Steam-Fitting Supplies

For Plumbing Accessories—Namely, Hot and Cold Water Mixing Valves for Bath and Shower Rooms, Shower Heads, Duplex Hot and Cold Water Supply Valves for Washing Machines (Int. Cl. 11).
First use 1950.

Class 26—Measuring and Scientific Appliances

For Wall Thermometers for Bath Systems (Int. Cl. 9).
First use April 1966.

SN 310,013. Piece O'Pizza of America, Inc., Arlington, Mass. Filed Oct. 21, 1968.

PAPA GINO'S

Class 46—Foods and Ingredients of Foods

For Pizza (Int. Cl. 30).

Class 100—Miscellaneous

For Restaurant Services (Int. Cl. 42).
First use April 1957.

SECTION 2

The following marks are published in compliance with section 12(a) of the Trademark Act of 1946. Opposition under section 13 may be filed within thirty days of publication. See Rules 2.101 to 2.105.
A fee of twenty-five dollars must accompany the opposition.

[NOTE: For publication of marks presented in a combined application for registration in more than one class, see section 1.]

Class 1—Raw or Partly Prepared Materials

SN 279,117. Textron Inc., Providence, R.I., by merger from Textron Electronics, Inc., Providence, R.I. Filed Aug. 25, 1967.

ISOMODE

Owner of Reg. No. 433,094.
For Molded Sheets of Rubber or Synthetic Rubber Material for Vibration Absorption and Isolation (Int. Cl. 17).
First use at least as early as November 1946.

SN 292,092. GAF Corporation, New York, N.Y., by change of name from General Aniline & Film Corporation, New York, N.Y. Filed Feb. 28, 1968.

GAFCOTE

Owner of Reg. Nos. 789,523, 845,669, and others.
For Water-Soluble Synthetic Polymeric Resins (Int. Cl. 1).
First use Feb. 6, 1968.

SN 296,243. Standard Oil Company, Flemington, N.J. Filed Apr. 23, 1968.

EDCO

For Synthetic Rubber and Rubber-Like Materials for General Use in the Industrial Arts (Int. Cl. 17).
First use Oct. 5, 1967.

SN 296,247. Standard Oil Company, Flemington, N.J. Filed Apr. 23, 1968.

EDCO

For Thermoplastic Polyolefin Film and Fibers (Int. Cls. 17 and 22).
First use Oct. 13, 1967.

SN 299,645. Wm. T. Burnett & Co., Incorporated, Baltimore, Md. Filed June 4, 1968.

TRI-FUSED

For Cotton Batting (Int. Cl. 22).
First use May 28, 1946.

SN 299,848. I.T.S. Industria Tessuti Speciali, Legnano, Milan, Italy. Filed June 6, 1968.



The drawing is lined for the color red.
For Imitation Leather on a Nylon Fabric (Int. Cl. 18).
First use Nov. 30, 1966; in commerce December 1966.

SN 300,844. The Richardson Company, Melrose Park, Ill. Filed June 19, 1968.

RICON

For Synthetic Resins (Int. Cl. 1).
First use Mar. 25, 1968.

Class 2—Receptades

SN 292,809. Packaging Products and Design Corp., Newark, N.J. Filed Mar. 8, 1968.

POLYMAID

For Liners for Trash Cans and Bags for Wrapping Food All Made of Polyethylene (Int. Cl. 20).
First use Aug. 30, 1967.

SN 297,322. Alcon Plastics, Inc., Townsend, Mass., assignee of United Plastic Company, Townsend, Mass. Filed May 3, 1968.

Sterilite

Owner of Reg. No. 563,930.
For Holloware and Small, Domestic Containers All Made of Plastic (Int. Cl. 21).
First use on or about July 1, 1955.

SN 305,809. Cargo Packers, Incorporated, Springfield Gardens, N.Y. Filed Aug. 23, 1968.

CONTAINAIR

For Collapsible Reusable Bulk Shipping Containers, Particularly Suited for Aircraft Use. (Int. Cl. 20).
First use Dec. 8, 1967.

SN 308,112. Iron-Jac Products, Washington, D.C. Filed Sept. 24, 1968.

IRON-JAC

For Bottle Racks (Int. Cl. 20).
First use Aug. 15, 1968.

SN 309,054. M. Korn Packaging Co., Inc., New York, N.Y. Filed Oct. 7, 1968.

FANTASTIC

For Plastic Film Bags (Int. Cl. 20).
First use Sept. 24, 1968.

SN 314,853. Harte & Company, Inc., New York, N.Y. Filed Dec. 19, 1968.

DUMP-EZE

For Utility Bags and Liners Made of Plastic for Use as Waste Receptacles for Leaf, Trash, Garbage, and Like Refuse (Int. Cl. 21).
First use June 28, 1968.

Class 3—Baggage, Animal Equipments, Portfolios, and Pocketbooks

SN 295,041. Gladys A. Mair, Provincetown, Mass. Filed Apr. 5, 1968.

GAMBELLA

For Handbags (Int. Cl. 18).
First use Oct. 1, 1952.

Class 4—Abrasives and Polishing Materials

SN 307,401. American Cyanamid Company, Wayne, N.J. Filed Sept. 16, 1968.

THE END

For Floor Wax (Int. Cl. 3).
First use Sept. 10, 1968.

Class 5—Adhesives

SN 286,920. The Firestone Tire & Rubber Company, Akron, Ohio. Filed Dec. 14, 1967.

PERMA LASTIC

Owner of Reg. Nos. 615,629 and 647,281.
For Adhesive Sealing Compounds, Rubber Cement, Synthetic and Natural Resin Cement for Sealing Openings Between and Mounting Metal, Rubber, Glass, and Other Parts of Items (Int. Cl. 1).
First use Oct. 30, 1967.

Class 6—Chemicals and Chemical Compositions

SN 264,911. Chemtek Corporation, Los Angeles, Calif. Filed Feb. 17, 1967.

STAT FREE

The words "No Shock With" are disclaimed apart from the mark as shown.
For Aerosol Spray To Neutralize and Prevent the Buildup of Static Electricity on Various Materials—Namely, Shoes, Rugs, Upholstery, Garments, Pets, Plastics and Other Materials (Int. Cl. 1).
First use Jan. 7, 1967.

SN 285,313. Detrex Chemical Industries, Inc., Detroit, Mich. Filed Nov. 21, 1967.

BETTY BRITE

The name "Betty Brite" is fictitious. Owner of Reg. No. 730,058.
For Filter Powder (Int. Cl. 1).
First use Mar. 7, 1962.

SN 287,471. Vulcan Laboratories Inc., Pontiac, Mich. Filed Dec. 22, 1967.

BIOLYTE

For Chemicals for Controlling Bacteria, Fungi and Algae and for Removing Mud, Silt and Solutes From Cooling Equipment, Heated Exchangers, Piping and Other Circulatory Water Systems (Int. Cl. 1).
First use Apr. 30, 1965.

SN 291,094. Philadelphia Quartz Company, Philadelphia, Pa. Filed Feb. 14, 1968.

METSO PENTABEAD

Owner of Reg. Nos. 295,751, 832,792, and others.
For Soluble Alkali Silicates (Int. Cl. 1).
First use on or about Feb. 9, 1968.

SN 291,621. Madison Chemical Corporation, Maywood, Ill. Filed Feb. 21, 1968.

AWARE

For Air Freshening Room Deodorant for Industrial, Commercial and Institutional Use (Int. Cl. 5).
First use Jan. 15, 1965.

SN 293,364. Drew Chemical Corporation, New York, N.Y. Filed Mar. 15, 1968.

SANILON

For Sanitizing Agents for Food Processing Equipment (Int. Cl. 5).
First use August 1962.

SN 296,936. Amicon Corporation, Lexington, Mass. Filed Apr. 30, 1968.

MHOLYTE

For Electrically Conductive, Acid-Bearing Polymer-Based Compositions (Int. Cl. 1).
First use Apr. 15, 1968.

SN 297,929. Standard Oil Company, Flemington, N.J. Filed May 13, 1968.

WILTZ

For Harvesting Aid in the Nature of an Emulsifiable Concentrate for Use in Preparing Crops for Processing (Int. Cl. 1).
First use Oct. 13, 1967.

SN 298,508. Du-Tone Chemical Co., Inc., Waukegan, Ill. Filed May 20, 1968.

DU COPPER

Applicant disclaims all rights in the word "Copper" aside from the mark as shown. Owner of Reg. Nos. 732,029, 748,617, and others.
For Liquid Chemical Added to Electroplating Solution To Produce Grain-Refined Copper Deposits on Electroplated Metals (Int. Cl. 1).
First use Oct. 29, 1964.

SN 298,509. Du-Tone Chemical Co., Inc., Waukegan, Ill. Filed May 20, 1968.

DU DRY

Applicant disclaims all rights in the word "Dry" aside from the mark as shown. Owner of Reg. Nos. 732,029, 748,617, and others.
For Liquid Chemical Added to Water To Produce a Water Repellent and Protective Film on Articles Dipped Therein (Int. Cl. 1).
First use June 6, 1961.

SN 299,530. American Home Products Corporation, New York, N.Y. Filed June 3, 1968.

EASY-ON

Owner of Reg. No. 720,204.
For Fabric Finish for Use During Ironing To Restore Body Without Stiffness (Int. Cl. 3).
First use May 22, 1968.

SN 300,757. Texas Aquarium Manufacturing and Supply Co., Dallas, Tex. Filed June 18, 1968.

ZIP drops

No claim is made to the word "Drops" apart from the mark as shown.
For Chlorine Remover for Aquarium Use (Int. Cl. 1).
First use at least as early as May 1960.

SN 302,053. William Cooper & Nephews, Incorporated, Chicago, Ill. Filed July 5, 1968.

The drawing is lined for the colors red, pink and orange.
For Flea, Tick and Fungus Preparations for Animals (Int. Cl. 5).
First use Sept. 1, 1965.

SN 302,853. Marine Colloids, Inc., Springfield, N.J. Filed July 16, 1968.

SeaSpen

For Polysaccharide Base Industrial Suspension Agent (Int. Cl. 1).
First use Apr. 25, 1968.

SN 302,925. Desowag-Chemie Gesellschaft mit beschrankter Haftung, Solingen-Ohligs, Germany. Filed July 17, 1968.

INCIDIN

Owner of German Reg. No. 759,611, dated Oct. 5, 1961.
For Agents for Destroying Germs and Sterilizing Agents (Disinfectants) (Int. Cl. 5).

SN 302,995. Universal Oil Products Company, Des Plaines, Ill. Filed July 17, 1968.

UNICOR PL

Owner of Reg. Nos. 595,376, 749,990, and others.
For Inhibitor to Organic Substances (Int. Cl. 1).
First use Apr. 5, 1968.

SN 303,073. Sel-Rex Corporation, Nutley, N.J. Filed July 18, 1968.

CUPYR-EX

For Acid Pyrophosphate Concentrate (Int. Cl. 1).
First use Oct. 20, 1967.

SN 303,519. Foseco International Limited, Birmingham, England. Filed July 24, 1968.

ESRAKON

Owner of British Reg. No. 916,827, dated Nov. 6, 1967.
For Chemical Products, Being Starter Tablets for Use in Electrical Metallurgical Refining or Welding Processes (Int. Cl. 1).

SN 303,532. Kewanee Oil Company, d.b.a. The Harshaw Chemical Company, Cleveland, Ohio. Filed July 24, 1968.

ChromOnyx

For Chromium Electroplating Baths and Chemical Addition Agents for Use in Chromium Electroplating Baths (Int. Cl. 1).
First use July 18, 1968.

SN 303,677. I.G. Corporation, Detroit, Mich. Filed July 26, 1968.



For Industrial Gases Such as Those Used for Welding, Cutting and the Like (Int. Cl. 4).
First use Jan. 31, 1968.

SN 303,839. Tack Room Products, Inc., Bryan, Tex. Filed July 29, 1968.



For Preservatives for Leather Products (Int. Cl. 1).
First use June 4, 1968.

SN 310,826. Chas. Pfizer & Co., Inc., New York, N.Y. Filed Oct. 30, 1968.

STROMA-LYSE

For Laboratory Diagnostic Lysing Agent for White Blood Cell Counts (Int. Cl. 1).
First use Oct. 11, 1968.

Class 8 — Smokers' Artides, Not Including Tobacco Products

SN 299,355. Ishimitsu Kinzoku Kogyo, Ltd., Arakawa-ku, Tokyo, Japan. Filed May 29, 1968.

im corona

For Gas Lighters and Spark Lighters Including Parts Thereof for Cigarettes and Cigars (Int. Cl. 34).
First use on or about Nov. 1, 1954; in commerce on or about Nov. 12, 1955.

SN. 305,734. Paul Garrity, Stamford, Conn. Filed Aug. 22, 1968.



For Cigar, Cigarette and Pipe Lighter and Smoking Pipes (Int. Cl. 34).
First use July 2, 1968.

Class 10 — Fertilizers

SN 300,202. Kamlar Corporation, Winston-Salem, N.C. Filed June 11, 1968.

KAMBARK

For Mulch for Soil Covering, Decorating and Conditioning (Int. Cl. 1).
First use Jan. 18, 1967.

Class 11 — Inks and Inking Materials

SN 283,366. Tenneco Chemicals, Inc., New York, N.Y. Filed Oct. 25, 1967.

mira jet

For Printing Ink (Int. Cl. 2).
First use on or about June 12, 1958.

Class 12 — Construction Materials

SN 269,455. Ranco Industrial Products Corporation, Cleveland, Ohio. Filed Apr. 18, 1967.

STAIRCRETE

For Magnesite Resurfacer for Worn Concrete, Wood, Slate, Marble and Terrazzo Stair Treads (Int. Cl. 19).
First use on or about Mar. 18, 1948.

SN 271,742. Weatherking Products, Inc., East Greenwich, R.I. Filed May 15, 1967.



For Swimming Pools and Accessories Therefor—Namely, Diving Boards, Ladders, and Slides (Int. Cl. 19).
First use on or about Oct. 18, 1966.

SN 276,201. Zeston, Inc., Fords, N.J. Filed July 17, 1967.

ZESTON

For Thermal Insulation Materials for Covering Pipes and the Like—Namely, Heat Transfer Cements, Insulation Jacketing, Insulation Fitting Covers, and Wrapping Tapes Bonded With a Thermal Resistant Adhesive (Int. Cl. 17).
First use Dec. 6, 1963.

SN 301,103. The Tremco Manufacturing Co., Cleveland, Ohio. Filed June 21, 1968.

DYMERIC

For Two-Part Sealant Composition for Building Joints and the Like (Int. Cl. 19).
First use at least as early as Mar. 25, 1968.

SN 301,403. Burke Rubber Company, Inc., San Jose, Calif. Filed June 26, 1968.

CONDULITE

For ...uductive Tile (Int. Cl. 19).
Firs.. use Apr. 10, 1968.

SN 303,294. Epic Metals Corporation, Pittsburgh, Pa. Filed July 22, 1968.

EPIC

For Metal Roof Deck, Metal Corrugated Roofing, and Metal Formed Roofing (Int. Cl. 6).
First use at least as early as July 11, 1968.

SN 303,650. Minnesota Mining and Manufacturing Company, St. Paul, Minn. Filed July 26, 1968.

LUBRI-CAST

For Self-Lubricating Resin Composition for Use in Repairing Worn Ball Joints of Motor Vehicles (Int. Cl. 17).
First use Apr. 17, 1968.

SN 315,017. Porta Aluminum Inc., Old Bethpage, N.Y. Filed Dec. 23, 1968.

PORTALUME

For Aluminum Windows, Doors and Curtain Walls (Int. Cl. 6).
First use January 1957.

Class 13 — Hardware and Plumbing and Steam-Fitting Supplies

SN 282,709. L'Etain a la Rose, Nangis, France. Filed Oct. 17, 1967.



L'ETAIN A LA ROSE

The mark means "The pewter of the rose."
For Kitchenware Made of Pewter, Tin, or Both (Int. Cl. 21).
First use July 1962; in commerce Sept. 7, 1964.

SN 285,018. Grant Pulley & Hardware Corporation, West Nyack, N.Y. Filed Nov. 16, 1967.

SHELFMATES

For Shelf and Shelf Support Hardware, Including Brackets, Arms and Wall and Pole Bracket Supports (Int. Cl. 6).
First use Nov. 2, 1967.

SN 285,216. Elsan Limited, London, England. Filed Nov. 20, 1967.

ELSAN

For Portable Chemical Toilets (Int. Cl. 11).
First use Sept. 1, 1923; in commerce Aug. 25, 1967.

SN 285,898. Americana Cookware Company, d.b.a. Four Seasons Cookware, Skokie, Ill. Filed Nov. 30, 1967.

COLOR-LAST

Owner of Reg. No. 824,753.
For Cookware—Namely, Pots and Pans Including Skillets, Sauce Pans, Griddles, Dutch Ovens, Chicken Fryers, and the Like (Int. Cls. 11 and 21).
First use Oct. 25, 1967.

SN 291,201. Standard Screw Company, Hartford, Conn. Filed Feb. 15, 1968.

SWING N SPRAY

For Water Faucet Attachment (Int. Cl. 11).
First use Jan. 5, 1968.

SN 292,785. Honetreat Company, Brea, Calif. Filed Mar. 8, 1968.

HONETREAT

For Internally Honed Metal Tubing (Int. Cl. 6).
First use Feb. 16, 1968.

SN 292,958. Pontiac Plastic Products, Inc., Hazel Park, Mich. Filed Mar. 11, 1968.

PPP

For Plastic Products—Namely, Pipe Fittings and Attachments (Int. Cl. 17).
First use in or about August 1966.

SN 295,318. Des Roches-Hurlburt Industries, Inc., Edmeston, N.Y. Filed Apr. 10, 1968.

MINI PUMP

For Toothpaste Dispensers (Int. Cl. 21).
First use on or about Oct. 15, 1967.

SN 297,389. Control Components, Inc., Los Alamitos, Calif. Filed May 6, 1968.

DRAG

For Valves (Int. Cl. 6).
First use on or about May 16, 1967.

SN 297,654. Clickeze Corporation, Abington, Pa. Filed May 8, 1968.

CLICKEZE

For Traverse Drapery System Hardware—Namely, Molded Drapery Heading Stiffeners, Drapery Track Master Carriers, Heading Stiffener Coupler/Carriers and Spacers Therefor, Drapery Ceiling Track, Track Pulley Housings, and Cord Guides (Int. Cls. 6 and 20).
First use Aug. 15, 1967.

SN 298,834. Machining Technology Corporation, South Windsor, Conn. Filed May 22, 1968.

TURBOTEC

For Helically Corrugated Tubes (Int. Cl. 6).
First use May 1, 1968.

SN 300,610. Nylok-Detroit Corporation, Troy, Mich. Filed June 17, 1968.

TWIST-LOK

Owner of Reg. Nos. 439,351, 784,700, and others.
For Locking Threaded Fasteners (Int. Cl. 6).
First use June 21, 1963.

SN 303,035. Cerilean Products Company, Inc., South Bend, Ind. Filed July 18, 1968.

Lavitopp

For One-Piece Vanity Tops Made of Molded Synthetic Marble; Embodying Integral Bowls and Merchandised Without Faucets and Bowl-Drains (Int. Cl. 11).
First use May 22, 1968.

SN 305,521. Acorn Engineering Company, City of Industry, Calif. Filed Aug. 20, 1968.

SAFTI-THERM

For Control Valves for Shower Systems (Int. Cl. 11).
First use June 23, 1962.

SN 307,002. Stanley G. Barker, Joliet, Ill. Filed Sept. 10, 1968.

BATH BUDDY

No claim is made to the term "Bath" apart from the mark as shown.
For Tray for Bathtubs (Int. Cl. 6).
First use July 29, 1968.

SN 307,136. Jay R. Smith Manufacturing Co., Piscataway, N.J. Filed Sept. 11, 1968.

TWIS-TO-FLOOR

For Cleanout for Floor Embedded Pipe (Int. Cl. 6).
First use on or about June 1, 1968.

SN 307,137. Jay R. Smith Manufacturing Co., Piscataway, N.J. Filed Sept. 11, 1968.

SAFETY-TOP

For Floor Drain (Int. Cl. 6).
First use on or about June 1, 1968.

SN 307,263. Abcor, Inc., Cambridge, Mass. Filed Sept. 13, 1968.

FLOKOR

For Inline Flow Control Baffle Devices, Particularly for Use in Liquid and Gas Chromatographic Columns (Int. Cl. 6).
First use Aug. 9, 1968.

SN 311,274. KMS Industries, Incorporated, Ann Arbor, Mich. Filed Nov. 4, 1968.

CLIPETTE

For All Purpose Plastic Clip (Int. Cl. 20).
First use May 27, 1968.

Class 14—Metals and Metal Castings and Forgings

SN 269,937. Southeastern Tool and Die Co., Inc., Birmingham, Ala. Filed Apr. 24, 1967.

BON-AIRE

For Aluminum Extrusions for the Fabrication of Screen Doors (Int. Cl. 6).
First use Apr. 6, 1967.

Class 15—Oils and Greases

SN 290,940. Astro Industries Inc., Fort Worth, Tex. Filed Feb. 13, 1968.

ASTROSEAL

For Thread Sealant and Lubricating Compound (Int. Cl. 4).
First use Jan. 15, 1968.

SN 297,244. Chemical Testing Corporation, Long Island City, N.Y. Filed May 3, 1968.

STOP-SOOT

Owner of Reg. No. 745,594.
For Fuel Oil Additive (Int. Cl. 1).
First use July 15, 1961.

SN 314,144. Diamond Shamrock Corporation, Cleveland, Ohio. Filed Dec. 11, 1968.

EQUA FLOW

For Motor Oil (Int. Cl. 4).
First use May 15, 1962.

Class 16—Protective and Decorative Coatings

SN 266,983. Melvin T. Ash, d.b.a. A & B Waterproofers, Durham, Conn. Filed Mar. 17, 1967.

STUK-KOAT

For Cement Block Finish and Waterproofer (Int. Cl. 2).
First use June 21, 1958.

SN 285,533. Eureka Chemical Company, South San Francisco, Calif. Filed Nov. 24, 1967.

PERMA FILM

The word "Film" is disclaimed apart from the mark as a whole.
For Resinous Surface Coating Used for Rust and Corrosion Control (Int. Cl. 2).
First use Feb. 28, 1966.

SN 292,672. D. William Barnes, d.b.a. Olde Artiste Products Company, Galesburg, Ill. Filed Mar. 7, 1968.



For Antiquing and Woodgraining Finishes (Int. Cl. 2).
First use Nov. 6, 1967.

SN 295,529. International Paint Company, Inc., New York, N.Y. Filed Apr. 12, 1968.

NUTRA-BASE

For Paint (Int. Cl. 2).
First use Dec. 4, 1967.

SN 310,075. Fuller Laboratories, Inc., Eden Prairie, Minn. Filed Oct. 21, 1968.

PERMA

For Brass Black Liquid, Aluminum Black Liquid, Gun Bluing Liquid, Gun Bluing Paste, Gun Bluing Kits (Including Gun Bluing, Gun Cleaner-Degreaser, Bluing and Rust Remover, Bluing Remover Cloth, Steel Wool Pads, Bluing Applicators, Service Cloth and Silicone Cloth) (Int. Cl. 2).
First use 1953.

Class 17—Tobacco Products

SN 314,239. Liggett & Myers Incorporated, New York, N.Y. Filed Dec. 11, 1968.

EVE

For Cigarettes (Int. Cl. 34).
First use Nov. 27, 1968.

Class 18—Medicines and Pharmaceutical Preparations

SN 274,044. Bristol-Myers Company, New York, N.Y. Filed June 16, 1967.

FORMULA AM

The word "Formula" is disclaimed apart from the mark as shown.
For Analgesic for the Relief of Headache Pain (Int. Cl. 5).
First use Jan. 6, 1967.

SN 278,275. Bristol-Myers Company, New York, N.Y. Filed Aug. 15, 1967.

CELLETTES

For Antibiotic (Int. Cl. 5).
First use Apr. 25, 1967.

SN 279,389. Forest Laboratories, Inc., Elizabeth, N.J. Filed Aug. 30, 1967.

S-1

For Dermatological Preparation for Use on Humans Having Fungicidal and Anti Viral Properties (Int. Cl. 5).
First use Aug. 24, 1967.

SN 280,245. Neotis S.p.A., Villaguardia, Como, Italy, by change of name from Neotis S.a.s., Villaguardia, Como, Italy. Filed Sept. 13, 1967.

ASEPTICON

Owner of Italian Reg. No. 177,361, dated Apr. 18, 1966.
For Skin Disinfectants (Int. Cl. 5).

SN 297,335. Lander Co., Inc., New York, N.Y. Filed May 6, 1968.

LANDER

Owner of Reg. No. 650,237 and others.
For Petroleum Jelly for Medicinal Purposes and Mouthwash and Gargle (Int. Cl. 5).
First use October 1965.

SN 297,846. Corio-Dobbins Laboratories, Phoenix, Ariz. Filed May 10, 1968.



The representation of a horse is disclaimed apart from the mark.
For Veterinary Preparation for Use as an Aid in the Prevention, Treatment and Control of Girth Disease, Dermatitis and Related Skin Conditions (Int. Cl. 5).
First use June 20, 1967.

SN 300,949. Merck & Co., Inc., Rahway, N.J. Filed June 20, 1968.

MODECRIN

For Diuretic Preparation (Int. Cl. 5).
First use May 25, 1968.

SN 301,219. Fisons Pharmaceuticals Limited, Loughborough, England. Filed June 24, 1968.

INTAL

Owner of British Reg. No. 911,469, dated July 1, 1967.
For Pharmaceutical Drugs for Administration by Inhalation (Int. Cl. 5).

SN 301,261. Sherman Laboratories, Inc., Detroit, Mich. Filed June 24, 1968.

THEOVESS

For Effervescent Theophylline Preparation (Int. Cl. 5).
First use Apr. 19, 1968.

SN 301,276. Tilden-Yates Laboratories, Inc., Worcester, Mass. Filed June 24, 1968.

CYSTORRHOL

For Internal Medication for the Treatment of Certain Urinary Infections (Int. Cl. 5).
First use October 1927.

SN 301,360. Rowell Laboratories, Inc., Baudette, Minn. Filed June 25, 1968.

GOURMASE PB

For Digestive Enzymes With Phenobarbital and Belladonna (Int. Cl. 5).
First use May 21, 1968.

SN 302,062. Eli Lilly and Company, Indianapolis, Ind. Filed July 5, 1968.

ESTROSTAT

For Hormone Preparation for Animal Use (Int. Cl. 5).
First use June 10, 1968.

SN 302,125. The Purdue Frederick Company, Yonkers, N.Y. Filed July 5, 1968.

ARGISTHENE

For Metabolic Stimulant and Nutritional Aid (Int. Cl. 5).
First use May 13, 1968.

SN 314,028. Organon Inc., West Orange, N.J. Filed Dec. 10, 1968.

PAVULON

Owner of Reg. No. 673,416.
For Neuromuscular Blocking Agent for Medicinal Use (Int. Cl. 5).
First use Oct. 25, 1968.

Class 19—Vehicles

SN 237,921. Barreiros Diesel, S.A., Villaverde, Madrid, Spain. Filed Feb. 3, 1966.

BARREIROS

Owner of Spanish Reg. No. 467,391, dated July 2, 1965.
For Automobiles, Motorcycles, Bicycles, and Truck-Tractors (Int. Cl. 12).

SN 237,922. Barreiros Diesel, S.A., Villaverde, Madrid, Spain. Filed Feb. 3, 1966.



Owner of Spanish Reg. No. 467,397, dated July 2, 1965.
For Automobiles, Motorcycles, Bicycles, and Truck-Tractors (Int. Cl. 12).

SN 307,342. National Glas-Car, Inc., Oldsmar, Fla. Filed Sept. 13, 1968.

SAND FLEA

For Automobiles, Trucks and Parts Thereof (Int. Cl. 12).
First use Aug. 6, 1967.

SN 310,377. Winslow Homes, Inc., Arley, Ala. Filed Oct. 23, 1968.



For Mobile Homes (Int. Cl. 12).
First use on or about Aug. 1, 1968.

SN 311,273. W. I. Hudson Company, Houston, Tex. Filed Nov. 4, 1968.



For Boats (Int. Cl. 12).
First use Jan. 6, 1961.
Subj. to Intf. with SN 314,831.

SN 313,378. McCoy Manufacturing and Sales Co., Indianola, Iowa. Filed Dec. 2, 1968.

HAWKEYE

For Pickup Camper Coaches (Int. Cl. 12).
First use January 1966.

Class 21—Electrical Apparatus, Machines, and Supplies

SN 269,655. General Electric Company, Louisville, Ky. Filed Apr. 20, 1967.

POWER SHOWER

For Dishwashers (Int. Cl. 7).
First use on or about Oct. 21, 1959.

SN 276,650. Dolby Laboratories, London, England. Filed July 24, 1967.



For Noise Suppressor Which Combats Noise in High Quality Transmission and Recording Systems by Attenuating the Usual Type Noises Encountered in Tape Recording, Dubbing, Motion Picture Production, Video Tape Recording, Landlines, and the Like (Int. Cl. 9).
First use August 1965; in commerce November 1966.

SN 283,038. Scovill Manufacturing Company, Waterbury, Conn. Filed Oct. 20, 1967.

SCOVILL

Owner of Reg. Nos. 284,266, 804,997, and others.
For Magnets and Electrical Appliances—Namely, Food Mixers, Food Blenders, Coffee Makers, Food Grinders, Toasters, and Irons (Int. Cls. 7 and 11).
First use at least as early as Apr. 23, 1962.

SN 284,622. Continental Telephone Supply Co., Inc., New York, N.Y. Filed Nov. 13, 1967.

ASTRO-TEL 2000

For Wireless Paging Systems Comprising Transmitters and Receivers (Int. Cl. 9).
First use Mar. 7, 1967.

SN 289,619. Sentron, Inc., Somerville, Mass. Filed Jan. 25, 1968.

SONAGUARD

For Burglar Alarm Systems (Int. Cl. 9).
First use at least as early as July 5, 1963.

SN 290,430. Dialtron Corporation, Brooklyn, N.Y. Filed Feb. 5, 1968.

DIALTRON

Owner of Reg. No. 725,296.
For Electronic and Electrical Relays (Int. Cl. 9).
First use Nov. 9, 1956.

SN 292,993. Web Press Engineering, Inc., Addison, Ill. Filed Mar. 11, 1968.

SPEEDPAK

For Electrical Apparatus—Namely, Adjustable Electric Motor Operative Condition Control Apparatus (Int. Cl. 9).
First use at least as early as March 1963.

SN 293,842. Molex Products Company, Downers Grove, Ill. Filed Mar. 21, 1968.

EDGECON

For Electrical Connectors (Int. Cl. 9).
First use Mar. 1, 1968.

SN 294,798. Anderson Power Products Inc., Boston, Mass. Filed Apr. 3, 1968.

CPJ

For Industrial, High Current Electrical Switches (Int. Cl. 9).
First use Jan. 15, 1966.

SN 296,474. UID Electronics Corporation, Hollywood, Fla. Filed Apr. 24, 1968.



Owner of Reg. No. 746,511.
For Electronic Components—Namely, Switches and Sockets (Int. Cl. 9).
First use at least as early as November 1967.

SN 296,648. Cory Corporation, Chicago, Ill. Filed Apr. 26, 1968.

CROWN JEWEL

For Electric Beverage Brewing Device Principally for Domestic Use (Int. Cl. 11).
First use October 1953.

SN 299,549. Dynamic Instrument Corp., Plainview, N.Y. Filed June 3, 1968.



For Battery Chargers (Int. Cl. 9).
First use at least as early as May 13, 1968.

SN 299,979. Goodway, Inc., Philadelphia, Pa. Filed June 7, 1968.



For Portable, FM Radio (Int. Cl. 9).
First use Mar. 11, 1968.

SN 300,945. MSL Industries, Inc., Chicago, Ill. Filed June 20, 1968.

HOWARD

For Electrical Motors (Int. Cl. 7).
First use in or about March 1946.

SN 301,899. American Metal Climax, Inc., New York, N.Y. Filed July 3, 1968.

SWINGMATIC

For Electrically Operated Door Units (Int. Cl. 9).
First use May 10, 1967.

SN 302,739. Gulf General Atomic Incorporated, San Diego, Calif. Filed July 15, 1968.



For Machines for Forming Articles by Magnetic Fields and Parts Therefor (Int. Cl. 9).
First use Apr. 25, 1968.

SN 303,603. Empire Products, Inc., Cincinnati, Ohio. Filed July 25, 1968.

LEKTRALINK

For Electrical Cable Connectors (Int. Cl. 9).
First use Feb. 27, 1968.

SN 304,112. Owens-Illinois, Inc., Toledo, Ohio. Filed Aug. 1, 1968.



Owner of Reg. Nos. 620,864, 729,739, and others.
For Cathode Ray Tube Envelopes (Int. Cl. 9).
First use July 3, 1968.

SN 304,773. General Electric Company, Hudson Falls, N.Y. Filed Aug. 9, 1968.

SLIMVAR

For Electric Capacitors (Int. Cl. 9).
First use during June 1968.

SN 304,799. Kenwood Electronics, Inc., Los Angeles, Calif. Filed Aug. 9, 1968.

KENWOOD

Owner of Reg. Nos. 735,246 and 842,769.
For Radio and Audio Equipment—Namely, AM and FM Receivers, Tuners, Amplifiers and Loudspeakers (Int. Cl. 9).
First use Mar. 1, 1968.

SN 304,928. The Kelly-Springfield Tire Company, Cumberland, Md. Filed Aug. 12, 1968.

ASTROSTAR

Owner of Reg. No. 837,952.
For Storage Batteries (Int. Cl. 9).
First use May 2, 1968.

SN 305,118. Edwards Company, Inc., Norwalk, Conn. Filed Aug. 14, 1968.

PUSH-VUE

For Hospital Registers—Namely, Electrically Operated "In and Out" Call Boards With Panels With Buttons That Are Illuminated To Indicate Physicians' Attendance, and Consoles and Switchboards Used Therewith (Int. Cl. 9).
First use during August 1968.

SN 305,999. Tokyo Shibaura Electric Co., Ltd., Kawasaki-shi, Japan. Filed Aug. 26, 1968.

HANDY PACK

For Electric Fans (Int. Cl. 11).
First use February 1968; in commerce February 1968.

SN 314,145. Electro Materials Corporation, San Diego, Calif. Filed Dec. 11, 1968.

EMCON

For Capacitors and Parts Thereof and Electrical Filters (Int. Cl. 9).
First use Dec. 6, 1968.

SN 314,146. Electro Materials Corporation, San Diego, Calif. Filed Dec. 11, 1968.

EMCRON

For Capacitors and Parts Thereof and Electrical Filters (Int. Cl. 9).
First use Dec. 6, 1968.

Class 22—Games, Toys, and Sporting Goods

SN 268,629. N. A. Taylor Co., Inc., Gloversville, N.Y. Filed Apr. 7, 1967.

GAZEBOE

For Umbrella Tent-Type Shelter for Use in the Yard and Like Places (Int. Cl. 22).
First use Feb. 20, 1967.

SN 289,675. Gentex Corporation, New York, N.Y. Filed Jan. 26, 1968.

RELIABLE

For Life Jackets (Int. Cl. 9).
First use May 21, 1964.

SN 293,437. Mattel, Inc., Hawthorne, Calif. Filed Mar. 18, 1968.

TIPPEE-TOES

Owner of Reg. No. 687,510.
For Dolls, Doll Clothing, and Doll Accessories (Int. Cl. 28).
First use Mar. 11, 1968.

SN 293,787. Apparel Corporation of America, Knoxville, Tenn. Filed Mar. 21, 1968.

WIN BILT

Owner of Reg. Nos. 539,034 and 541,116.
For Football, Baseball and Basketball Uniforms, Including Football Pants, Pads and Helmets; Blocking and Tackling Dummies (Int. Cls. 25 and 28).
First use Sept. 6, 1966.

SN 296,513. Milton Bradley Company, East Longmeadow, Mass. Filed Apr. 25, 1968.

GAME OF DESTINY

No claim of exclusive right is made to "Game of" for the goods recited.
For Equipment for Playing a Card Game Comprising Cards Having Numerological and Astrological Data Thereon (Int. Cl. 28).
First use Mar. 1, 1968.

SN 305,892. Mattel, Inc., Hawthorne, Calif. Filed Aug. 26, 1968.

BABY TWIRLY-TOES

No claim of exclusive right is made to "Baby" for the goods recited.
For Dolls, Doll Accessories, and Doll Clothing (Int. Cl. 28).
First use July 30, 1968.

SN 305,901. Rainbow Crafts, Inc., Cincinnati, Ohio. Filed Aug. 26, 1968.

dip dots

For Toy Paint Set (Int. Cl. 28).
First use on or prior to Nov. 15, 1967.

SN 307,276. Mattel, Inc., Hawthorne, Calif. Filed Sept. 13, 1968.

MARENGO

The mark "Marengo" is fanciful.
For Toy Automobiles (Int. Cl. 28).
First use Aug. 30, 1968.

SN 312,396. Mattel, Inc., Hawthorne, Calif. Filed Nov. 15, 1968.

MAURICE

For Dolls, Doll Clothing, and Doll Accessories (Int. Cl. 28).
First use Oct. 11, 1968.

SN 312,397. Mattel, Inc., Hawthorne, Calif. Filed Nov. 15, 1968.

ZOOFIE-GOOFIES

For Make and Play Toys Comprising Toy Parts and Means for Making Toy Parts Including Plastic Materials and Molds (Int. Cl. 28).
First use Oct. 7, 1968.

Class 23—Cutlery, Machinery, and Tools, and Parts Thereof

SN 272,467. Borgs Fabriks Aktiebolag, Norrkoping, Sweden. Filed May 26, 1967.

CARTRAC

Owner of Swedish Reg. No. 117,322, dated Aug. 26, 1966.
For Automatic Track Type Conveyor System for Transporting and Handling Goods (Int. Cl. 7).

SN 272,473. Compactor Corporation, New York, N.Y. Filed May 26, 1967.

WASTE → PACTOR

For Garbage, Refuse, and Waste Compacting Units (Int. Cl. 7).
First use Apr. 19, 1967.

SN 273,516. The F. E. Myers & Bro. Co., Ashland, Ohio. Filed June 9, 1967.

MYERS HIGH VELOCITY

Owner of Reg. Nos. 527,640, 748,393, and others.
For Hydraulically Powered Sewer Cleaning Machines (Int. Cl. 7).
First use Apr. 13, 1965.

SN 283,347. Landis Tool Company, Waynesboro, Pa. Filed Oct. 25, 1967.

SIZEFINDER

For Tool Slide Positioner for Grinding Machines (Int. Cl. 7).
First use Oct. 9, 1967.

SN 283,835. Wilkerson Corporation, Englewood, Colo. Filed Oct. 31, 1967.

ECONOMIST

Owner of Reg. Nos. 655,243, 828,717, and others.
For Lubricators Having an Oil Reservoir Associated With an Air Line and Functioning Upon the Flow of Air Therethrough for Lubricating Air Units Connected to the Line (Int. Cl. 7).
First use July 14, 1967.

SN 285,065. SCM Corporation, New York, N.Y. Filed Nov. 16, 1967.

WHISPER-MATIC

For Carriage Return Incorporated as a Component Part of a Typewriter (Int. Cl. 16).
First use Sept. 29, 1967.

SN 288,449. Rotek Incorporated, Ravenna, Ohio. Filed Jan. 9, 1968.

SAFTI-CIRCLE

Owner of Reg. No. 836,669.
For Ball Bearing Units for Slewing Rings and the Like (Int. Cl. 7).
First use May 3, 1966.

SN 289,135. Southern Gage Company, Erin, Tenn. Filed Jan. 18, 1968.

ACCU-FLEX

For Inspection Arbors (Int. Cl. 7).
First use Jan. 13, 1965.

SN 291,966. Clyde Corporation, Troy, Mich. Filed Feb. 27, 1968.

HOPPERAL

For Parts Feeder Machine (Int. Cl. 7).
First use 1953.

SN 292,140. Star Cutter Company, Farmington, Mich. Filed Feb. 28, 1968.

STAR CUT

For Metal Cutting Tools—Namely, Drills, Reamers, and Hobs (Int. Cl. 7).
First use June 1, 1967.

SN 294,255. Isaac Braithwaite & Son Engineers Limited, Kendal, England. Filed Mar. 27, 1968.

IBIS

Owner of U.S. Reg. Nos. 249,047 and 249,333.
For Machinery—Namely, Fusion Pressing Machines for the Manufacture and Assembly of Clothing and Parts of Such Machines (Int. Cl. 7).
First use Oct. 9, 1964; in commerce Jan. 27, 1968.

SN 294,307. Pivot Punch Corporation, North Tonawanda, N.Y. Filed Mar. 27, 1968.

SELECTIVE

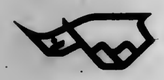
For Punches and Dies for Use in Metal Working Machinery and Parts Thereof (Int. Cl. 7).
First use on or about Jan. 1, 1968.

SN 298,145. Oneida Ltd., Oneida, N.Y. Filed May 14, 1968.

PASTEL

For Stainless Steel Flatware (Int. Cl. 8).
First use May 3, 1968.

SN 299,962. Federal-Mogul Corporation, Southfield, Mich. Filed June 7, 1968.



For Bearings and More Specifically for Sleeve Type Bearings (Int. Cl. 7).
First use May 15, 1968.

SN 300,845. S & S Corrugated Paper Machinery Co., Inc., Brooklyn, N.Y. Filed June 19, 1968.



The lining in the drawing is not to indicate a particular color, but is an integral part of the mark. Owner of Reg. No. 648,194.
For Machinery for Making Corrugated Paper; Machinery for Making Paper Boxes; Machinery for Making, Combining, Treating, Fabricating, Cutting, Slitting, Scoring, Creasing, Slotting and Otherwise Treating Paper and Accessories and Parts for Said Machinery Including Corrugating Machines, Combining Machines, Single Facers, Double Facers, Bridges, Conveyors, Pre-Heaters, Steam Tables, Steam Showers, Paper Conditioners, Cutters, Cut-Offs, Shears, Slitters, Scorers, Slitter-Scorers, Printers, Slotters, Printer-Slotters, Mill Roll Stands, Folders, Tapers, Stitchers, Gluers, Folder-Tapers, Folder-Stitchers, Folder-Gluers, Stackers, Counters, Ejectors, Partition Makers, Partition Assemblers, Blank Feeding Devices, Blank and Box Delivery Devices, Cutting and Creasing Presses, Dies, Sample Machines, Sheet Choppers, Flap Cutters (Int. Cl. 7).
First use during July 1957.

SN 302,333. Houdaille Industries, Inc., Buffalo, N.Y. Filed July 9, 1968.

VANDUCTOR

For Eductors and Systems Incorporating the Same Used Particularly in the Mixing, Diluting and Transporting of Pulp (Int. Cl. 7).
First use Jan. 31, 1968.

SN 303,585. Aero-Motive Manufacturing Company, Kalamazoo, Mich. Filed July 25, 1968.

POW-R-PAC

For Spring Motor Assembly and Parts Thereof for Resisting Rotation of a Rotary Member, Such as a Reel Drum, in One Rotational Direction (Int. Cl. 7).
First use June 21, 1968.

SN 303,621. The Manitowoc Company, Inc., Manitowoc, Wis. Filed July 25, 1968.

RINGER

For Cranes and Crane Assemblies Including Lift Cranes, Power Shovels, Draglines, Trench Hoes and Other Hoisting and Excavating Equipment (Int. Cl. 7).
First use March 1967.

SN 304,836. The Henry G. Thompson Company, New Haven, Conn. Filed Aug. 9, 1968.

REZIST-ALLOY

Owner of Reg. No. 808,010.
For Saw Blades (Int. Cl. 7).
First use in September 1967.

SN 304,441. Lee Healey Company, Inc., Sun Valley, Calif. Filed Aug. 6, 1968.

DRAINMISTRESS

Owner of Reg. No. 563,251.
For Plumbing Augers.
First use on or about May 16, 1960.

SN 305,001. Washington Forge, Incorporated, Englishtown, N.J. Filed Aug. 12, 1968.

TIKI

For Stainless Steel Flatware (Int. Cl. 8).
First use on or about Apr. 1, 1968.

SN 305,003. Washington Forge, Incorporated, Englishtown, N.J. Filed Aug. 12, 1968.

NANTUCKET

For Stainless Steel Flatware (Int. Cl. 8).
First use on or about May 1, 1968.

SN 305,004. Washington Forge, Incorporated, Englishtown, N.J. Filed Aug. 12, 1968.

NORWOOD

For Stainless Steel Flatware (Int. Cl. 8).
First use on or about May 1, 1968.

SN 305,005. Washington Forge, Incorporated, Englishtown, N.J. Filed Aug. 12, 1968.

MONMOUTH

For Stainless Steel Flatware (Int. Cl. 8).
First use on or about May 1, 1968.

SN 305,008. Washington Forge, Incorporated, Englishtown, N.J. Filed Aug. 12, 1968.

FAIRHAVEN

For Stainless Steel Flatware (Int. Cl. 8).
First use on or about May 1, 1968.

SN 305,261. Universal American Corporation, New York, N.Y. Filed Aug. 15, 1968.

IN-FORMER

For Taps (Int. Cl. 8).
First use on or about July 31, 1967.

SN 308,668. Upson Tools, Inc., Rochester, N.Y. Filed Oct. 2, 1968.

UPSON

For Screw Drivers and Nut Drivers (Int. Cl. 8).
First use on or about Sept. 30, 1957.

SN 314,165. Wanskuck Company, Providence, R.I. Filed Dec. 11, 1968.

ROLLOBLIQUE

For Stock Feeder for a Cylindrical Grinder (Int. Cl. 7).
First use Nov. 7, 1968.

Class 24—Laundry Appliances and Machines

SN 296,235. The Maytag Company, Newton, Iowa. Filed Apr. 23, 1968.

PORTA DRYER

The term "Dryer" is disclaimed apart from the mark as shown. Owner of Reg. No. 702,535.
For Laundry Appliances—Namely, Dryers (Int. Cl. 7).
First use Apr. 1, 1968.

Class 25—Locks and Safes

SN 301,147. Advance Manufacturing Corporation, Milwaukee, Wis. Filed June 24, 1968.

LCA

For Locks, Keys and Accessories Therefor (Int. Cl. 6).
First use May 28, 1968.

SN 301,865. Thomas & Betts Corporation, Elizabeth, N.J. Filed July 2, 1968.

FLEX-CUF

For Loop Type Straps in the Form of a Restraining Tie Used for Law Enforcement (Int. Cl. 22).
First use in or about May 1968.

Class 26—Measuring and Scientific Appliances

SN 246,957. Simplicity Pattern Co. Inc., New York, N.Y. Filed May 31, 1966.

IF I CAN SEW, YOU CAN SEW

For Garment Paper Patterns (Int. Cl. 16).
First use February 1965.

SN 261,742. Moore & Perk Company, Indianapolis, Ind. Filed Dec. 30, 1966.

WEIGH BOAT

Applicant disclaims the word "Boat" apart from the mark as a whole.
For Receptacles for Use in Weighing Materials in the Laboratory (Int. Cl. 9).
First use on or before Aug. 1, 1966.

SN 280,776. A.V. Electronics, Inc., Fresno, Calif. Filed Sept. 20, 1967.

MULTIMEDIA

For Learning System Laboratories Consisting of Electrically Controlled Audio-Visual Teaching Devices Including Telephone-Type Crossbar Switching Units, Audio Tape Recorders, Video Tape Recorders, Manually Operated Multiple Switching Panels, Audio Amplifiers, Video Amplifiers, Remotely Operated Switching and Dialing Boxes, Studio Video Switching and Control Consoles, Headphones, Microphones, Television Receivers and Monitors, and Associated Enclosures and Other Electronic Components Supplied With the Teaching and Learning Systems, All of the Above Items Being Sold as a Unit (Int. Cl. 9).
First use Aug. 17, 1967.

SN 288,630. Litton Business Systems, Inc., Orange, N.J. Filed Jan. 11, 1968.

150

For Business Machines—Namely, Adding Machines (Int. Cl. 9).
First use not later than Dec. 28, 1967.

SN 291,578. Becton, Dickinson and Company, East Rutherford, N.J. Filed Feb. 21, 1968.

MICROTEST

For Laboratory Equipment—Namely, Multi Well Plates for Microbiological Procedures (Int. Cl. 9).
First use on or about June 22, 1967.

SN 297,113. Viewlex, Inc., Holbrook, N.Y. Filed May 1, 1968.

VIEWFAXSEVEN

Owner of Reg. No. 815,810.
For Heat Copy Machine for Copying Written Material (Int. Cl. 9).
First use Nov. 1, 1967.

SN 298,450. Information Instruments Incorporated, Ann Arbor, Mich. Filed May 17, 1968.



For Computer Interface Equipment—Namely, Apparatus for Converting Process Data Supplied Thereto to a Computer-Compatible Form and Vice Versa (Int. Cl. 9).
First use Aug. 8, 1967.

SN 299,821. Ameritone Color Key Corporation, Compton, Calif. Filed June 6, 1968.

COLORFIER

For Color Testing Filters and Sets of Filters Used To Determine How Colors React or Change Under All Types of Lighting (Int. Cl. 9).
First use Feb. 5, 1968.

SN 300,040. Revenue Systems, Inc., Plainview, N.Y. Filed June 10, 1968.

AUDITROL

For Vehicle Parking and Revenue Control Systems Comprising Vehicle Detector, Ticket Validator, Fee Indicator, Audit Recorder, Unauthorized Operation Mode Alarm and Control Computer Therefor (Int. Cl. 9).
First use January 1967.

SN 301,650. Textron Inc., Rochester, N.Y. Filed June 28, 1968.

VISA-BLOCK

For Lens Block Adapters and Parts Therefor Used in Blocking Lenses (Int. Cl. 9).
First use Apr. 29, 1968.

SN 303,493. Atlas Supply Company, Springfield, N.J. Filed July 24, 1968.

ATLAS

Owner of Reg. Nos. 572,627, 623,423, and 837,520.
For Testers for Anti-Freeze, Air Filters and Vacuum Advance Chamber, for Use on Motor Vehicles (Int. Cl. 9).
First use June 11, 1968.

SN 306,212. Analog Technology Corporation, Pasadena, Calif. Filed Aug. 29, 1968.



For Pulse Height Analyzers and Gas Chromatographs (Int. Cl. 9).
First use Dec. 5, 1966.

SN 306,353. Datacraft Corporation, Fort Lauderdale, Fla. Filed Aug. 30, 1968.

DATACRAFT

For Computers and Computer Memories (Int. Cl. 9).
First use June 6, 1967.

SN 306,556. Fisher Scientific Company, Pittsburgh, Pa. Filed Sept. 4, 1968.

HEM-ALYZER

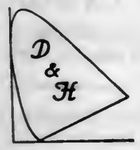
For Instrument for Analyzing Whole Blood (Int. Cl. 9).
First use Nov. 25, 1967.

SN 309,480. Right-Gard Corporation, Philadelphia, Pa. Filed Oct. 11, 1968.

PROTEX-SPECS

For Eyeglass Holders (Int. Cl. 9).
First use Sept. 20, 1968.

SN 311,089. Davidson and Hemmendinger, Inc., Easton, Pa. Filed Nov. 1, 1968.



For Colorant Mixture Computer for Color Shade Matching and Production Color Control (Int. Cl. 9).
First use April 1959.

SN 311,654. Parke, Davis & Company, Detroit, Mich. Filed Nov. 8, 1968.

PREQUEST

Owner of Reg. No. 842,331.
For Kit Composed of Chemical Material and Apparatus for Test of Pregnancy (Int. Cl. 9).
First use on or before Nov. 1, 1968.

SN 312,320. Nu-Vision Optical Studio, Inc., Flint, Mich. Filed Nov. 15, 1968.

GLARE TAMER

For Photochromic Lenses for Eyeglasses (Int. Cl. 9).
First use Aug. 12, 1968.

SN 314,755. Dictophone Corporation, Rye, N.Y. Filed Dec. 18, 1968.

DICTAPHONE

Owner of Reg. No. 66,997 and others.
For Electronic Calculators (Int. Cl. 9).
First use July 1968.

Class 27 — Horological Instruments

SN 273,438. Y.E.M.A., S.A., Bescancon, France. Filed June 8, 1967.

YEMA
YACHTINGRAF

Owner of French Reg. No. 715,468, dated Oct. 25, 1966; and U.S. Reg. No. 802,692.
For Watches, Clocks and Parts Thereof (Int. Cl. 14).

SN 307,749. Mido G. Schaeren & Co. S.A., Bienne, Switzerland. Filed Sept. 19, 1968.

RADIOTIME

For Watches, Watch Casings and Parts of Watches (Int. Cl. 14).
First use May 1937; in commerce May 1937.

SN 309,610. Nivada S.A., Grenchen, Switzerland. Filed Oct. 14, 1968.

PROFUNDIMATIC

Owner of Swiss Reg. No. 179,743, dated Mar. 10, 1960.
For Watches and Watch Parts (Int. Cl. 14).

Class 29 — Brooms, Brushes, and Dusters

SN 301,420. H & G Industries, Inc., Belleville, N.J. Filed June 26, 1968.

TRIM-RIDER

Owner of Reg. No. 847,364.
For Paint Brushes for Trim Work (Int. Cl. 16).
First use Apr. 9, 1968.

Class 31 — Filters and Refrigerators

SN 286,677. Illinois Water Treatment Co., Rockford, Ill. Filed Dec. 11, 1967.



Applicant disclaims registrations rights in the words "Ion" and "Changer" when used apart from the mark as shown in a descriptive manner to refer to equipment for effecting ion exchanger, with reservation of all common law rights.
For Disposable Cartridge Deionizers for Treating of Water (Int. Cl. 11).
First use 1954.

SN 287,757. Pharmacia Fine Chemicals, Inc., Piscataway, N.J. Filed Dec. 28, 1967.

PHASEDEX

For Mixture of at Least Two Water Soluble Polymers for Use in Industry and Science in the Separation of Biological Substances by Liquid-Liquid Distribution (Int. Cl. 1).
First use November 1967.

SN 296,690. HPE, Inc., Colton, Calif. Filed Apr. 26, 1968.

ANTHRASAND

For Swimming Pool Filters (Int. Cl. 11).
First use Feb. 12, 1968.

Class 32 — Furniture and Upholstery

SN 290,874. New York Feather Co., Inc., New York, N.Y. Filed Feb. 12, 1968.

REPOSE

For Pillows and Cushions (Int. Cl. 20).
First use July 15, 1967.
Subj. to Intf. with SN 293,696.

SN 291,225. Estudio 501 S.A., Lima, Peru. Filed Jan. 2, 1968.

ESTUDIO 501 S.A.

The word "Estudio" is in the Spanish language and may be translated as "studio." Owner of Peruvian Reg. No. 69,161, dated Aug. 20, 1964.
For Upholstered and Unupholstered Wooden Furniture for Homes and Offices—Namely, Tables, Chairs, Ottomans, Benches, Sofas, Beds, Dressers, Chests, Cabinets, Sideboards, Serving Tables, Shelves, Wall Furniture, Bookcases, Room Dividers, Television Cabinets, and Radio Cabinets (Int. Cl. 20).

SN 293,696. Dayco Corporation, Dayton, Ohio. Filed Mar. 20, 1968.



The drawing is lined for the color blue but color is not an essential feature of the present mark, and no claim is made to any specific color.
For Sleeping Pillows (Int. Cl. 20).
First use on or about Feb. 1, 1968.
Subj. to Intf. with SN 290,874.

Class 34 — Heating, Lighting, and Ventilating Apparatus

SN 286,663. Graham Manufacturing Co., Inc., Batavia, N.Y. Filed Dec. 11, 1967.

MINI. CHANGER

For Heat Exchangers for Transferring Heat Between Any Two Fluids (Int. Cl. 11).
First use at least as early as Nov. 6, 1967.

SN 292,987. Vitreous Steel Products Company, Cleveland, Ohio. Filed Mar. 11, 1968.

SAFARI

For Gas Cooking Ranges for Use in Land Vehicles (Int. Cl. 11).
First use at least as early as Feb. 13, 1968.

SN 301,736. Foster Wheeler Corporation, Livingston, N.J. Filed July 1, 1968.

DETNAFORM

For Steam Generating Equipment—Namely, Expanded Tubes (Int. Cl. 11).
First use as early as May 31, 1968.

SN 303,184. Midland-Ross Corporation, Cleveland, Ohio. Filed July 19, 1968.

AIR FERNO

For Air and Fuel Manifold Systems for Trash and Garbage Incinerators (Int. Cl. 11).
First use on or about June 24, 1968.

SN 304,007. Midland Manufacturing Corp., Deer Park, N.Y. Filed July 31, 1968.

ESTEAM

For Vapor Baths and Generators Therefor (Int. Cl. 11).
First use June 26, 1968.

SN 306,067. Multicore Solders Limited, London, England. Filed Aug. 27, 1968.

EXTRUSOL

Owner of British Reg. No. 914,457, dated Sept. 14, 1967.
For Solder (Int. Cl. 6).

SN 307,030. International Processes Limited, Nassau, Bahamas. Filed Sept. 10, 1968.

CALCIMATIC

For Lime Kilns (Int. Cl. 11).
First use Apr. 1, 1962.

SN 307,361. Swartwout, Inc., Kokomo, Ind. Filed Sept. 13, 1968.

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Owner of Reg. Nos. 514,490, 597,042, and others.
For Gravity and Powered Roof Ventilators, Power Driven Fan Ventilators, Wall Ventilators, Exhausters Including Smoke Exhausters and Parts Thereof (Int. Cl. 11).
First use in or about January 1960.

Class 35 — Belting, Hose, Machinery Packing, and Nonmetallic Tires

SN 294,182. The Goodyear Tire & Rubber Company, Akron, Ohio. Filed Mar. 26, 1968.

HARD ROCK

For Truck Tires and Heavy Equipment Tires (Int. Cl. 12).
First use as early as 1952.

SN 295,567. Strick Corporation, Fairless Hills, Pa. Filed Apr. 12, 1968.

VAL-PAR

For Brake Linings for Trailers, Semi-Trailers, and Tractors (Int. Cl. 12).
First use Dec. 19, 1967.

SN 304,087. The Goodyear Tire & Rubber Company, Akron, Ohio. Filed Aug. 1, 1968.

MICRO SPARE

The word "Spare" is disclaimed apart from the mark as shown.
For Tires (Int. Cl. 12).
First use June 10, 1968.

SN 309,451. The Goodyear Tire & Rubber Company, Akron, Ohio. Filed Oct. 11, 1968.

ARRIVA

For Tires (Int. Cl. 12).
First use Sept. 3, 1968.

SN 310,990. Southern Stores, Inc., Jacksonville, Fla. Filed Oct. 31, 1968.

POLY RIDE

For Tires (Int. Cl. 12).
First use in or about February 1968.

Class 37 — Paper and Stationery

SN 277,439. Colonial Carbon Company, Skokie, Ill. Filed Aug. 3, 1967.

REPRO-FAX

For Thermo Master Units for Use in a Thermographic Printing Process (Int. Cl. 16).
First use June 2, 1967.

SN 281,618. Perfax Corporation, Fort Lee, N.J. Filed Oct. 2, 1967.

Perfax

For Copy Paper (Int. Cl. 16).
First use on or about Sept. 8, 1967.

SN 289,774. Butler Paper Company, Port Edwards, Wis. Filed Jan. 29, 1968.

Butler

Owner of Reg. Nos. 553,332 and 781,008.
For Fine and Industrial Papers—Namely, Coated and Uncoated Book Papers, Writing and Printing Papers, Paperboard, Blotting Papers, Gummed Papers, Tag Papers, Carbon Papers, Grease-Proof and Glassine Papers, Parchment Papers, Kraft Papers, Tympan Papers, Tissue Papers and Envelopes (Int. Cl. 16).
First use at least as early as Dec. 1, 1967.

SN 293,414. Sperry Rand Corporation, New York, N.Y. Filed Mar. 15, 1968.

KARD-UP

For Vertical File Pockets Employing Visible Signalling Principles and Which Raise Vertical Cards Into a Protected Upper Visible Margin (Int. Cl. 16).
First use May 29, 1957.

SN 295,192. Sperry Rand Corporation, New York, N.Y. Filed Apr. 8, 1968.

REM RAND

Owner of Reg. No. 365,241.
For Bond and Ledger Paper Stock (Int. Cl. 16).
First use prior to 1940.

SN 299,441. Denney-Reyburn Company, West Chester, Pa. Filed May 31, 1968.

PEEL ON

Owner of Reg. No. 765,507.
For Pressure Sensitive Labels (Int. Cl. 16).
First use Apr. 23, 1963.

Class 38 — Prints and Publications

SN 291,832. Button World Mfg., Inc., Brooklyn, N.Y. Filed Feb. 26, 1968.

Kooky Tatoo-Ons

For Peelable Design Stickers for Application to the Face, Hands, Arms and Legs, and to Articles (Int. Cl. 16).
First use Feb. 9, 1968.

SN 293,789. Artistic Weaving Company, Pompton Lakes, N.J. Filed Mar. 21, 1968.

Encore

For Labels (Int. Cl. 16).
First use Jan. 3, 1967.

SN 294,490. John C. Gilmore, Westport, Conn. Filed Mar. 29, 1968.

"Mr. ClubWoman"

For Newspaper Column (Int. Cl. 16).
First use Feb. 15, 1967.

SN 294,509. Tyler G. Kaus, d.b.a. Heads-Up Headlines, New York, N.Y. Filed Mar. 29, 1968.

HEADS-UP HEADLINES

For Booklet Issued From Time to Time (Int. Cl. 16).
First use Feb. 7, 1968.

SN 297,620. Louis F. Vonville, d.b.a. Fament, Columbus, Ohio. Filed May 7, 1968.

EMB

For Decals (Int. Cl. 16).
First use Feb. 1, 1968.

SN 299,109. Computag Inc., New York, N.Y. Filed May 27, 1968.

COMPUTAG

For Printed Labels (Int. Cl. 16).
First use Apr. 4, 1968.

SN 303,139. Cast Iron Pipe Research Association, Chicago, Ill. Filed July 19, 1968.

cipra

For Educational and News Publications Concerning the Manufacture, Use, and Installation of Cast Iron Pipes—Namely, Bulletins, Catalogs, Pamphlets, and Brochures (Int. Cl. 16).
First use August 1964.

SN 303,926. Putman Publishing Company, Chicago, Ill. Filed July 30, 1968.

READER ACTION

For Magazine (Int. Cl. 16).
First use Feb. 1, 1968.

SN 305,959. Tracor, Inc., Austin, Tex., assignee of Micro Tek Instruments Corporation, Austin, Tex. Filed Aug. 25, 1968.

THE DeTektor

For Publication in the Form of a Scientific Newsletter Directed Primarily to Gas Chromatography and Detection Methods To Be Used in Conjunction Therewith (Int. Cl. 16).
First use at least as early as March 1968.

SN 310,737. TCR Service, Inc., New York, N.Y. Filed Oct. 29,1968.

TRADEMARK ALERT

Applicant disclaims the word "Trademark" apart from the mark as shown.
For Periodic Report of All Trademark Applications Filed in the United States Patent Office (Int. Cl. 16).
First use Oct. 18, 1968.

SN 310,965. The Irving-Cloud Publishing Company, Chicago, Ill. Filed Oct. 31, 1968.

MCAC

For Reports Which Analyze Circulation and Advertising Results of Advertising in Applicant's Magazine (Int. Cl. 16).
First use Oct. 1, 1968.

Class 39 — Clothing

SN 248,756. Endicott Johnson Corporation, Endicott, N.Y. Filed June 23, 1966.

d'Amour

The English translation of "d'Amour" is "of love."
For Women's Shoes (Int. Cl. 25).
First use Dec. 28, 1965.

SN 262,589. The Jo-An Shoe Mfg. Co., Inc., Paterson, N.J. Filed Jan. 16, 1967.

SWIVEL FIT ACTION

For Shoes and Moccasins (Int. Cl. 25).
First use 1955.

SN 277,747. Wilkinson & Macleod Limited, London, England. Filed Aug. 7, 1967.

SHAR CLEOD

For Pullovers, Cardigans, Dresses, Skirts, Slacks and Knitted Suits (Int. Cl. 25).
First use Jan. 20, 1953; in commerce Nov. 10, 1966.

SN 280,447. Michaels Stern & Company, Incorporated, Rochester, N.Y. Filed Sept. 15, 1967.

MICHAELS/STERN

Owner of Reg. Nos. 771,330 and 799,136.
For Men's Tailored Clothing—Namely, Suits, Sports Coats, Sports Jackets, Slacks, Top Coats and Overcoats (Int. Cl. 25).
First use at least as early as Dec. 15, 1965.

SN 283,590. Phillips-Van Heusen Corporation, New York, N.Y. Filed Oct. 27, 1967.

SUBURBAN OXFORD

The word "Oxford" is disclaimed apart from the mark as shown.
For Men's and Boys' Shirts, Cuffs, Collars, Pajamas, Sports Shirts, Underwear, Knit Shirts and Slacks and Sweaters (Int. Cl. 25).
First use Aug. 2, 1967.

SN 284,502. Renfro Hosiery Mills Company, Mount Airy, N.C. Filed Nov. 9, 1967.

FITSAGE

For Socks (Int. Cl. 25).
First use Oct. 24, 1967.

SN 285,207. Crosley Shoe Corporation Limited, Toronto, Ontario, Canada. Filed Nov. 20, 1967.

Crostolino's

Priority claimed under Sec. 44(d) on Canadian application filed Oct. 16, 1967; Reg. No. 158,557, dated Oct. 4, 1968. Applicant disclaims, apart from the mark as shown, all right in the representation of the boot and all right in the reading matter appearing in the mark with the exception of the word "Crostolinos."
For Boots, Shoes and Slippers (Int. Cl. 25).

SN 285,999. Consolidated National Shoe Corporation, Norwood, Mass. Filed Dec. 1, 1967.

her's

Owner of Reg. No. 796,798.
For Women's and Misses' Shoes (Int. Cl. 25).
First use October 1967.

SN 291,426. Puritan Fashions Corporation, New York, N.Y. Filed Feb. 19, 1968.

TINA MARINA JUNIORS

Applicant disclaims the word "Juniors" apart from the mark as shown, while retaining all common law rights therein.
For Women's Clothing Apparel—Namely, Dresses (Int. Cl. 25).
First use Jan. 23, 1968.

SN 292,718. Sabra Shoe Co., Inc., New York, N.Y. Filed Mar. 7, 1968.

Sabra

For Shoes and Slippers for Men, Women, Boys, Girls and Children (Int. Cl. 25).
First use May 25, 1967.

SN 293,823. Hanes Corporation, Winston-Salem, N.C. Filed Mar. 21, 1968.

TRIPLE-T'EASE

For Ladies' Hosiery and Garters Therefor, Including Garter Belts and Panty Garters of the Types Where the Hosiery Is Integral and Detachable Therefrom (Int. Cl. 25).
First use Feb. 9, 1968.

SN 296,095. Barrow Manufacturing Company, Winder, Ga. Filed Apr. 22, 1968.

4·EVER·WEAR the KNEE with 8 lives

Applicant disclaims the words "4-Ever-Wear" apart from the mark as shown.
For Boys' and Girls' Jeans and Outer Pants (Int. Cl. 25).
First use Mar. 1, 1968.

SN 296,511. Albert L. Blum Associates Inc., New York, N.Y. Filed Apr. 25, 1968.

FLORINE BY CANAT

"Canat" identifies "Charles H. Canat," a living individual whose consent is of record.
For Slips, Pettipants, Brassieres, Girdles, Chemises, Dressing Robes, Dressing Gowns, Tea Gowns, Bath Robes, Dresses, Ladies' Suits, Peignoir, Negligees, Bikinis, Panties, Pajamas, Nightgowns, Nightshirts, Culottes, Bloomers, Bermudas and Slippers (Int. Cl. 25).
First use Mar. 28, 1968.

SN 297,370. Bilamco, Inc., New York, N.Y. Filed May 6, 1968.

BUDMACK

For Men's Jackets, Coats and Shirts (Int. Cl. 25).
First use September 1963.

SN 297,448. The Status Shoe Corporation, New York, N.Y. Filed May 6, 1968.



Owner of Reg. No. 755,134.
For Infant Children's Shoes (Int. Cl. 25).
First use Dec. 13, 1967.

SN 297,571. Mattingly Brothers Stores Company, Lexington, Mo. Filed May 7, 1968.

BEAUTI STEP

The term "Beauti" is disclaimed apart from the mark as shown.
For Hosiery (Int. Cl. 25).
First use Apr. 4, 1968.

SN 298,339. L & M Fashions, Inc., New York, N.Y. Filed May 16, 1968.

MR. TURTLENECK

The word "Turtleneck" is disclaimed apart from the mark as shown.
For Men's Turtleneck Shirts (Int. Cl. 25).
First use Mar. 1, 1968.

SN 298,699. Catalina, Inc., Los Angeles, Calif. Filed May 21, 1968.

erasures

For Foundation Garments and Bathing Suits (Int. Cl. 25).
First use June 18, 1963.

SN 299,759. Cupid Foundations, Inc., New York, N.Y. Filed June 5, 1968.



For Foundation Garments—Namely, Girdles (Int. Cl. 25).
First use 1944.

SN 299,844. Genesco Inc., Nashville, Tenn. Filed June 6, 1968.

TRAVELERS' TRUNKS

Applicant disclaims the word "Trunks" apart from the mark as shown.
For Swim Wear (Int. Cl. 25).
First use July 9, 1964.

SN 300,313. H. A. Satin & Co., Inc., Chicago, Ill. Filed June 13, 1968.

MARSATTI

For Dresses (Int. Cl. 25).
First use June 10, 1968.

SN 300,632. The Status Shoe Corp., New York, N.Y. Filed June 17, 1968.

Gold Crowns

Owner of Reg. No. 755,134.
For Shoes (Int. Cl. 25).
First use Jan. 15, 1968.

SN 302,822. Joseph Asch Company, Inc., New York, N.Y. Filed July 16, 1968.

REPLACELETTES

For Panty Girdles and Ladies' Hosiery (Int. Cl. 25).
First use June 21, 1968.

SN 303,034. Boe Jests Inc., Stamford, Conn. Filed July 18, 1968.

SALLY FORTH

The mark is a fanciful name that to applicant's knowledge is not the name of any known individual. Owner of Reg. No. 561,454.
For Children's Sportswear—Namely, Shirts, Skirts, Sweaters, Bathing Suits, Coats, Suits, Belts, Sandals, Hosiery, Slacks, Shorts, Gowns and Dresses (Int. Cl. 25).
First use Oct. 16, 1967.

SN 303,523. Ullah Garp and Cindy M. Smith (joint owners), d.b.a. Cinulla, Philadelphia, Pa. Filed July 24, 1968.

CINULLA

For Ready To Wear Clothing for Men, Women and Children—Namely, Coats, Jackets, Pants, Footwear, Parkas, Shirts, Knickers, Shirts and Blouses, Gloves and Mittens, Hats, Muffs, Earmuffs, Collars and Ascots and Scarves, Dresses, Underwear, Belts, Bathing Suits, Capes and Ponchos (Int. Cl. 25).
First use May 1, 1968.

SN 303,940. Uche Akuba, Inc., New York, N.Y. Filed July 30, 1968.

AFRICOSTUME

For Robes for Indoor and Outdoor Use (Int. Cl. 25).
First use September 1967.

SN 304,257. Serbin, Inc., Miami, Fla. Filed Aug. 2, 1968.

DOLLIE

For Women's Dresses and Blouses (Int. Cl. 25).
First use Apr. 5, 1966.

SN 304,331. Fort Howard Paper Company, Green Bay, Wis. Filed Aug. 5, 1968.

TRIM

For Disposable Aprons (Int. Cl. 25).
First use June 11, 1968.

SN 304,463. Gold, Inc., d.b.a. T.V. Bootees by Patee, Inc., Denver, Colo. Filed Aug. 6, 1968.

STAY ON

Owner of Reg. No. 844,330.
For Cloth Bootees for Infants and Children (Int. Cl. 25).
First use on or about Jan. 15, 1954.

SN 304,558. The Next Collection, Ltd., New York, N.Y. Filed Aug. 7, 1968.

Limbo

For Men's Clothing—Namely, Suits, Coats, Pants, Slacks and Jackets (Int. Cl. 25).
First use June 1, 1965.

SN 304,805. Munsingwear, Inc., Minneapolis, Minn. Filed Aug. 9, 1968.

SLIP-OF-A-BRA

For Bra-Slips (Int. Cl. 25).
First use July 29, 1968.

SN 305,376. National Cooperatives, Inc., Albert Lea, Minn. Filed Aug. 19, 1968.

CO-OP

For Belts, Bow Ties, Caps, Coveralls, Hosiery, Jackets, Shirts, Shopcoats, Surcoats, Trousers and Uniforms for Feed Mill and Store Employees, Service Station Attendants and Petroleum Truck Drivers (Int. Cl. 25).
First use at least as early as 1939.

SN 305,689. Spartans Industries, Inc., New York, N.Y. Filed Aug. 21, 1968.



For Shirts (Int. Cl. 25).
First use on or before June 17, 1968.

SN 306,053. Gary-Allen Sportswear, Painesville, Ohio. Filed Aug. 27, 1968.



For Men's and Boys' Suits, Sportjackets, and Trousers Made Out of Wool, Leather, or Synthetic Fabrics (Int. Cl. 25).
First use July 1967.

SN 306,120. Carlyle Shirt Co., Inc., New York, N.Y. Filed Aug. 28, 1968.

NOAH'S ARK

For Men's and Ladies' Shirts, Dresses and Sportswear—Namely, Shirts, Vests, Jackets, and Slacks (Int. Cl. 25).
First use July 10, 1968.

SN 306,561. The Green Shoe Manufacturing Company, Boston, Mass. Filed Sept. 4, 1968.

Nowl BY NOBER

For Shoes for Misses, Girls, Children and Infants (Int. Cl. 25).
First use July 17, 1968.

SN 306,615. Maidenform, Inc., New York, N.Y. Filed Sept. 5, 1968.

PRINTS CHARMING

The word "Prints" is disclaimed apart from the mark as shown. Owner of Reg. No. 836,774.
For Foundation Garments and Lingerie (Int. Cl. 25).
First use Aug. 9, 1968.

SN 306,701. Ward's Folly, Inc., Philadelphia, Pa. Filed Sept. 5, 1968.



The drawing is lined for the colors red and blue, such colors are essential features of the mark, and claim is made to color.
For Wearing Apparel—Namely, Slacks, Shirts, Jackets, Coats, Vests, Capes and Scarfs (Int. Cl. 25).
First use Dec. 12, 1967.

SN 307,055. Uniroyal, Inc., New York, N.Y. Filed Sept. 10, 1968.

TIGER PAW

Owner of Reg. No. 828,596.
For Shoes (Int. Cl. 25).,
First use Aug. 5, 1968.

SN 307,493. Marlboro Shirt Company, Inc., New York, N.Y. Filed Sept. 16, 1968.

MARLBORO

Owner of Reg. Nos. 210,352, 785,270, and others.
For Women's Dresses (Int. Cl. 25).
First use Aug. 26, 1968.

SN 310,467. Kimberly-Clark Corporation, Neenah, Wis. Filed Oct. 24, 1968.

KOTEX

For Sanitary Panties (Int. Cl. 5).
First use Sept. 25, 1968.

SN 310,820. Barberini, Ltd., New York, N.Y. Filed Oct. 30, 1968.

BARBELLA

For Ladies' Apparel—Namely, Suits, Coats and Dresses (Int. Cl. 25).
First use on or about Oct. 25, 1968.

SN 311,047. 10-X Manufacturing Company, Des Moines, Iowa. Filed Oct. 31, 1968.

ISU

For Rifleman's Coats and Rifleman's Gloves and Mittens (Int. Cl. 25).
First use Oct. 10, 1968.

SN 311,189. Town n' Terrace, Ltd., Brooklyn, N.Y. Filed Nov. 1, 1968.

TOWN N' TERRACE

For Ladies' and Misses' Shifts, Dusters, Housedresses, Day Time Dresses and Casual Dresses (Int. Cl. 25).
First use Oct. 1, 1968.

SN 311,203. Blair Fashions, Inc., Chicago, Ill. Filed Nov. 4, 1968.

GIRTH CONTROL

The word "Control" is disclaimed apart from the mark as shown.
For Pantie Girdle (Int. Cl. 25).
First use Oct. 28, 1968.

SN 311,224. Automotive Distributors, Inc., Kansas City, Mo. Filed Nov. 4, 1968.

HY-PO

For Men's and Boys' Caps, Jackets and Blazers (Int. Cl. 25).
First use May 25, 1968.

SN 311,524. Sakowitz, Inc., Houson, Tex. Filed Nov. 6, 1968.

STUART REED

"Stuart Reed" is a fictitious name, and not the name of any particular living individual.
For Men's Suits, Sport Coats, Slacks, Topcoats and Rainwear (Int. Cl. 25).
First use Sept. 1, 1931.

SN 312,464. Hanes Corporation, Winston-Salem, N.C. Filed Nov. 18, 1968.

Panty Pair

Owner of Reg. No. 832,963.
For Ladies' Hosiery (Int. Cl. 25).
First use Nov. 13, 1968; Aug. 3, 1966, in a different form.

SN 312,854. Charles A. Eaton Company, Brockton, Mass. Filed Nov. 22, 1968.

ETONIC

Owner of Reg. No. 766,756.
For Men's and Women's Street and Sport Shoes and Sports Clothing—Namely, Shirts, Sweaters, Slacks, Shorts, Skirts, Sport Coats, Dresses, Culottes, Hosiery and Rainwear (Int. Cl. 25).
First use February 1912.

SN 312,858. The Lovable Company, Atlanta, Ga. Filed Nov. 22, 1968.

SHAPE-IN

For Women's Foundation Garments (Int. Cl. 25).
First use Nov. 12, 1968.

SN 313,304. Jantzen Inc., Portland, Oreg. Filed Nov. 29, 1968.



Owner of Reg. Nos. 423,812, 701,425, and others.
For Articles of Clothing for Women and Girls—Namely, Swimsuits, Jackets, Socks, Vests, Robes, Pajamas, Tights, Sandals, Boots, Shoes, Gloves, Mittens, Dresses, Skirts, Cardigans, Pullovers, Parkas, Shorts, Blouses, Shirts, Pants, Hats, Caps, Stockings, Suits, Coats; and Clothing for Men and Boys—Namely, Robes, Caps, Hats, Pajamas, Jackets, Trousers, Boots, Shoes, Shirts, Socks, Gloves, Parkas, Cardigans, Pullovers, Shorts, Swim Trunks, Coats, Sandals, Vests, and Suits (Int. Cl. 25).
First use Nov. 1, 1958.

SN 313,419. Gold Medal Hosiery Co., Inc., New York, N.Y. Filed Dec. 2, 1968.

AMERIGOLD

For Ladies' Hosiery (Int. Cl. 25).
First use Oct. 21, 1968.

SN 313,558. Chadbourn Gotham, Inc., Charlotte, N.C. Filed Dec. 4, 1968.

SHEER-UP

For Panty Hose (Int. Cl. 25).
First use Nov. 20, 1968.

Class 40—Fancy Goods, Furnishings, and Notions

SN 283,465. James F. Simons, Park Forest, Ill. Filed Oct. 26, 1967.

SOX-LOX

For Clips for Fastening Pairs of Hosiery, Gloves, and Like Articles Together (Int. Cl. 26).
First use on or prior to July 1, 1966.

SN 285,459. William Prym, Inc., Dayville, Conn. Filed Nov. 22, 1967.



The words "Quality Assured" and "For That Professional Look" are disclaimed apart from the mark as shown. Owner of Reg. Nos. 503,047, 505,607, and 692,586.
For Common Pins, Safety Pins, Snap Fasteners, Hooks, Eyes, and Loops; Buttons, Buckles, Eyelets, T-Pins, Plastic Headed Pins, Skirt Pins, Hand and Machine Needles, Thimbles, Seam Rippers, and Stitch Pins (Int. Cl. 26).
First use Nov. 7, 1958.

Class 42—Knitted, Netted, and Textile Fabrics, and Substitutes Therefor

SN 288,512. Gitkin Company, Totowa, N.J. Filed Jan. 10, 1968.

MINI-STRIPE

For Cafe Curtains, Valances, Shower Curtains, and Portieres, Made From Plastic (Int. Cl. 24).
First use Nov. 1, 1967.

SN 288,813. Hafo Distributors, Inc., Winston-Salem, N.C. Filed Jan. 15, 1968.

SALEM

For Carpets (Int. Cl. 27).
First use Mar. 25, 1966.

SN 289,931. Maurice Stein, d.b.a. Stuart Kingston Company, Rehoboth Beach, Del. Filed Jan. 30, 1968.

ROYAL SHAH

For Rugs and Carpets (Int. Cl. 27).
First use Dec. 22, 1967.

SN 300,807. Dylan Carpet Inc., New York, N.Y. Filed June 19, 1968.

NATURAL COLLECTION

The word "Collection" is disclaimed apart from the mark as shown.
For Carpets Made of Synthetic Materials and Mixtures of the Same (Int. Cl. 27).
First use on or about May 15, 1968.

SN 303,934. Sweetwater Rug Corp., New York, N.Y. Filed July 30, 1968.

LEISURE LAWN

For Carpets and Carpeting (Int. Cl. 27).
First use June 5, 1968.
Subj. to Intf. with SN 312,102.

SN 312,102. E. T. Barwick Industries, Inc., Chamblee, Ga. Filed Nov. 14, 1968.

LEISURE LEA

For Carpets (Int. Cl. 27).
First use Sept. 29, 1967.
Subj. to Intf. with SN 303,934.

SN 312,123. E. T. Barwick Industries, Inc., Chamblee, Ga. Filed Nov. 14, 1968.

GUILDTUFT

For Carpets (Int. Cl. 27).
First use Nov. 14, 1966.

SN 312,128. E. T. Barwick Industries, Inc., Chamblee, Ga. Filed Nov. 14, 1968.

GRACIOUS LADY

For Carpets (Int. Cl. 27).
First use June 16, 1966.

SN 312,135. E. T. Barwick Industries, Inc., Chamblee, Ga. Filed Nov. 14, 1968.

PARK FOREST

For Carpets (Int. Cl. 27).
First use June 8, 1967.

SN 312,136. E. T. Barwick Industries, Inc., Chamblee, Ga. Filed Nov. 14, 1968.

ONDANTE

For Carpets (Int. Cl. 27).
First use Dec. 4, 1967.

SN 312,137. E. T. Barwick Industries, Inc., Chamblee, Ga. Filed Nov. 14, 1968.

DORAL

For Carpets (Int. Cl. 27).
First use Apr. 22, 1965.

SN 312,138. E. T. Barwick Industries, Inc., Chamblee, Ga. Filed Nov. 14, 1968.

SPICE O'LIFE

For Carpets (Int. Cl. 27).
First use May 17, 1968.

SN 312,140. E. T. Barwick Industries, Inc., Chamblee, Ga. Filed Nov. 14, 1968.

NEW RETENTION

For Carpets (Int. Cl. 27).
First use June 18, 1968.

SN 312,143. E. T. Barwick Industries, Inc., Chamblee, Ga. Filed Nov. 14, 1968.

LURALI

For Carpets (Int. Cl. 27).
First use May 25, 1966.

SN 312,146. E. T. Barwick Industries, Inc., Chamblee, Ga. Filed Nov. 14, 1968.

NEWCOMER

For Carpets (Int. Cl. 27).
First use Dec. 28, 1967.

SN 312,148. E. T. Barwick Industries, Inc., Chamblee, Ga. Filed Nov. 14, 1968.

RUSTIC

For Carpets (Int. Cl. 27).
First use June 3, 1966.

Class 43—Thread and Yarn

SN 286,697. Merino Wool Co., Inc., New York, N.Y. Filed Dec. 11, 1967.

laines du BOIS JOLI

Applicant disclaims the word "Laines" apart from the mark as shown. The mark is translated as "wool of the pretty forest."
For Yarn Made Wholly or in Substantial Part of Wool (Int. Cl. 23).
First use May 15, 1963.

Class 44—Dental, Medical, and Surgical Appliances

SN 277,939. Societe des Poudres Metalliques et des Alliages Speciaux Ugine-Carbone, Paris, France. Filed Aug. 9, 1967.

DUCINIUM

Priority claimed under Sec. 44(d) on French Reg. No. 720,650, dated Feb. 24, 1967.
For Dental Alloys (Int. Cl. 5).

SN 290,376. Beltx Corporation, St. Louis, Mo. Filed Feb. 6, 1968.

TAM-PANTY

Owner of Reg. No. 613,633.
For Panty Garments To Wear With Tampons (Int. Cl. 10).
First use Jan. 22, 1968; Oct. 26, 1966, in a different form.

SN 306,731. Maurice G. Lussier, Lynn, Mass. Filed Sept. 6, 1968.

SIMPLI-CAP

For Double Chambered Capsules Containing Dental Filling Material (Int. Cl. 5).
First use on or before Aug. 15, 1968.

SN 306,959. Surgical Appliance Industries, Inc., Cincinnati, Ohio. Filed Sept. 9, 1968.

CORONATION

For Women's Therapeutic Garments—Namely, Back-Supporting Garments (Int. Cl. 10).
First use Apr. 22, 1967.

SN 313,250. Akwell Industries Incorporated, Dothan, Ala. Filed Nov. 29, 1968.

HUGGER

For Rubber Prophylactic Articles for the Prevention of Contagious Diseases (Int. Cl. 10).
First use Oct. 24, 1968.

SN 313,262. Codman & Shurtleff, Inc., Randolph, Mass. Filed Nov. 29, 1968.

PACER

For Surgical Instruments, Especially Forceps and Scissors (Int. Cl. 10).
First use Aug. 30, 1968.

SN 313,320. Medical Supply Company, Rockford, Ill. Filed Nov. 29, 1968.

SETS

For Disposable Thermometer Sleeves (Int. Cl. 5).
First use Nov. 11, 1968.

SN 313,388. Scientific Equipment Manufacturing Corporation, New York, N.Y. Filed Dec. 2, 1968.

PED-O-JET

For Hypodermic Injection Apparatus (Int. Cl. 10).
First use Oct. 21, 1968.

Class 45—Soft Drinks and Carbonated Waters

SN 298,633. The Southland Corporation, Dallas, Tex. Filed May 20, 1968.

KISS ME YOU FOOL

For Fruit Flavored, Semi-Frozen Soft Drinks (Int. Cl. 32).
First use at least as early as Feb. 1, 1968.

SN 298,634. The Southland Corporation, Dallas, Tex. Filed May 20, 1968.

THE BLUE BLUNDER

Applicant disclaims the word "Blue" apart from the mark as shown.
For Fruit Flavored, Semi-Frozen Soft Drinks (Int. Cl. 32).
First use at least as early as Mar. 1, 1968.

SN 298,635. The Southland Corporation, Dallas, Tex. Filed May 20, 1968.

GULLY WASHER

For Fruit Flavored, Semi-Frozen Soft Drinks (Int. Cl. 32).
First use at least as early as Mar. 1, 1968.

SN 298,637. The Southland Corporation, Dallas, Tex. Filed May 20, 1968.

FOR ADULTS ONLY

For Fruit Flavored, Semi-Frozen Soft Drinks (Int. Cl. 32).
First use at least as early as Mar. 1, 1968.

SN 298,638. The Southland Corporation, Dallas, Tex. Filed May 20, 1968.

AWA-AWA-UKULELE

For Fruit Flavored, Semi-Frozen Soft Drinks (Int. Cl. 32).
First use at least as early as Mar. 1, 1968.

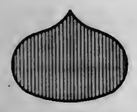
SN 304,189. Holland House Brands, Inc., Woodside, N.Y. Filed Aug. 2, 1968.

WHITE SOUR

Applicant does not claim the exclusive right to the use of the word "Sour" apart from the mark as shown.
For Non-Alcoholic Cocktail Mix (Int. Cl. 32).
First use July 2, 1968.

Class 46—Foods and Ingredients of Foods

SN 209,008. Gaymont Laboratories, Inc., Chicago, Ill. Filed Dec. 29, 1964.



The drawing is lined for the color red, but no claim is made to color.
For Sour Cream, Cottage Cheese, Sour Cream Dips, and Yogurt (Int. Cl. 29).
First use September 1960.

SN 230,422. Lewis J. Ort, La Vale, Md. Filed Oct. 18, 1965.

BONO ITALIE

For Bread (Int. Cl. 30).
First use Oct. 19, 1964.

SN 255,892. The Griffith Laboratories, Inc., Chicago, Ill. Filed Oct. 6, 1966.



Owner of Reg. No. 708,154.
For Antioxidant Composition for Edible Fats and Oils, Batter and Breading Mixes; Seasonings and Flavorings Used in Processing of Foods; Dry and Liquid Spices and Spice Extractives; Food Flavoring Emulsions; Onion Powder and Onion Juice; Garlic Powder and Garlic Juice; Canned or Dehydrated Sweet Red Peppers; Soup Base Seasonings; Sauces for Meats; Compositions for Curing Meats; Flours; Edible Colloidal Stabilizers, Thickeners, and Emulsifying Agents; Gelatin Base Preparation for Coating Meats; Liquid and Dry Tenderizers for Meats; Edible Monosodium Glutamate; Vegetable Dry Shortening; Sausage Binders; Flavoring Sugars for Bakery Products; Yeast Food; Coloring Compositions for Food Products; Seasonings for Dog Foods and Cattle Feeds; Cereals Used as an Ingredient in Processing Food Products; Compressed Unit Containing Spice Products and Other Flavoring Ingredients for Flavoring Smoke When Smoking Meat Products; Phosphate-Containing Preparations for Use in Meat Products; Food Preservatives; Edible Protein Concentrates; Sodium Caseinate, Calcium Caseinate, Ascorbic Acid, Sodium Iso-Ascorbate, and Isoascorbic Acid, All for Use in Foods; Rye Sour for Use in Making Rye Bread; Antioxidant Salt; Antioxidant Seasonings; Liquid Smoke Flavors; Hydrolyzed Plant Proteins; and Artificial Food Flavoring Compositions (Int. Cls. 1, 29, 30, and 31).
First use Jan. 2, 1965.

SN 270,033. Burger Chef Systems, Inc., Indianapolis, Ind. Filed Apr. 26, 1967.

BRITTANY BEEF

Applicant disclaims the word "Beef" apart from the mark as shown and without waiving any of its common law rights. Owner of Reg. No. 857,209.
For Thin Sliced Roast Beef Sandwiches (Int. Cl. 29).
First use Jan. 4, 1967.

SN 270,081. Quincy Produce Co., Inc., Quincy, Wash. Filed Apr. 26, 1967.

QP

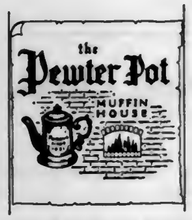
For Fresh Potatoes (Int. Cl. 31).
First use June 1955.

SN 270,676. Anthony Guerriero, Fresno, Calif. Filed May 4, 1967.

O'CAPRO

The mark is an Italian word designating a species of mountain goat found in Italy.
For Fresh Grapes (Int. Cl. 31).
First use September 1966.

SN 272,478. Famous Foods, Inc., Malden, Mass. Filed May 26, 1967.



Without prejudice to its common law rights, applicant disclaims the word "Muffin" and the words "Famous Since 1831." Owner of Reg. No. 793,462.
For Bakery Products—Namely, Muffins (Int. Cl. 30).
First use Oct. 20, 1964.

SN 272,479. Famous Foods, Inc., Malden, Mass. Filed May 26, 1967.



Without prejudice to its common law rights, applicant disclaims the words "Famous Since 1831."
For Bakery Products—Namely, Muffins (Int. Cl. 30).
First use Oct. 20, 1964.

SN 276,431. Fruen Milling Company, Minneapolis, Minn. Filed July 20, 1967.

AZTEC

For Steam Flaked Whole Corn for Use as a Feed for Horses and Cattle (Int. Cl. 31).
First use June 22, 1967.

SN 284,378. The Li'l' Red Barn, Incorporated, Des Moines, Iowa. Filed Nov. 8, 1967.



The drawing is lined for the color red. Owner of Reg. No. 652,818.
For Milk (Fluid), Cottage Cheese, Butter, Eggs (Fresh), Ice Cream, Potato Chips, Peanut Butter, Salad Dressing, Sausage, Frankfurters, Bologna, Ground Beef, Popcorn, Bread, Hamburger Buns, Hot Dog Buns, Doughnuts, and Pastries (Int. Cls. 29 and 30).
First use Dec. 21, 1962; May 29, 1956, in a different form.

SN 286,891. Pet Incorporated, St. Louis, Mo., assignee of Aunt Fanny's Baking Co., Atlanta, Ga. Filed Dec. 14, 1967.

CARAMEL NUT TWIRLS

Applicant disclaims exclusive right in "Caramel Nut" apart from the mark shown, but waives no common law rights therein. Owner of Reg. Nos. 767,652 and 811,425.
For Sweet Rolls (Int. Cl. 30).
First use on or about July 10, 1967.

SN 292,678. Calbee Seika Kabushiki Kaisha (Calbee Foods Co., Ltd.), Hiroshima, Japan. Filed Mar. 7, 1968.



The drawing is lined for the color red, but no claim is made to color.
For Crackers and Toasted Food Chips Made From Wheat Flour and Other Ingredients (Int. Cl. 30).
First use January 1960; in commerce October 1967.

SN 292,708. Pasquale Associates, Inc., d.b.a. King Priam, Chicago, Ill. Filed Mar. 7, 1968.

KING PRIAM

For Refrigerated Pizza Crust (Int. Cl. 30).
First use in or about January 1968.

SN 294,036. The Magic Pan Creperie, San Francisco, Calif. Filed Mar. 25, 1968.

The Magic Pan
creperie

For Crepe Mixes (Int. Cl. 30).
First use on or about Aug. 15, 1967.

SN 296,028. The Larsen Company, Green Bay, Wis. Filed Apr. 19, 1968.

MOTHER'S CHOICE

For Canned Vegetables (Int. Cl. 29).
First use Dec. 1, 1927.

SN 298,787. Arex Inc., Los Alamitos, Calif. Filed May 22, 1968.

TIKULS

For Flavored Liquid for Use as a Frozen Confection (Int. Cl. 29).
First use Apr. 11, 1968.

SN 300,058. Breaker Confections, Inc., Elk Grove Village, Ill. Filed June 10, 1968.

TINY TARTS

The word "Tiny" is disclaimed apart from the mark as shown.
For Candy (Int. Cl. 30).
First use May 15, 1968.

SN 301,185. Birdsey Flour Mills, Macon, Ga. Filed June 24, 1968.

4
BROTHERS

For Flour (Int. Cl. 30).
First use 1920.

SN 301,976. Tingo Dressing Company, Roanoke, Ind. Filed July 3, 1968.

TINGO

For Salad Dressing (Int. Cl. 29).
First use June 3, 1968.

SN 304,588. Cherokee Products Company, Haddock, Ga. Filed Aug. 7, 1968.

BOONE HALL

For Canned Fruits (Int. Cl. 29).
First use June 15, 1961.

SN 304,662. Barker & Dobson Limited, Everton, Liverpool, England. Filed Aug. 8, 1968.

BARKER & DOBSON

Owner of British Reg. No. 622,039, dated Feb. 9, 1943.
For Chocolates and Sweetmeats; Cakes, Biscuits (Other Than Biscuits for Animals), Confectionery (Not Medicated); Tea, Coffee, Cocoa, and Drinking Chocolate (Int. Cl. 30).

SN 304,980. Stayton Canning Company, Cooperative, Stayton, Oreg. Filed Aug. 12, 1968.

SILVER FALLS

For Canned and Frozen Fruits and Vegetables (Int. Cl. 29).
First use at least as early as July 1946.

SN 305,000. Vylactos Laboratories Inc., Des Moines, Iowa. Filed Aug. 12, 1968.

PELLET-LAS

For Livestock Feed Supplement Having a Molasses Base (Int. Cl. 31).
First use on or about July 8, 1968.

SN 305,865. Wilsey-Bennett Co., San Francisco, Calif. Filed Aug. 23, 1968.

TABLE MAID

For Margarine (Int. Cl. 29).
First use Oct. 27, 1964.

SN 311,794. Omstead Fisheries 1961 Limited, Wheatley, Ontario, Canada. Filed Nov. 12, 1968.



The word "Brand" is disclaimed apart from the mark as shown. Owner of Reg. Nos. 574,004, 750,274, and 750,657.
For Frozen Fish and Frozen Onion Rings (Int. Cl. 29).
First use November 1967; in commerce November 1967; May 1954 in a different form.

SN 313,382. Nebraska Consolidated Mills Company, Omaha, Nebr. Filed Dec. 2, 1968.

MINI-MIX

For Cornbread-Corn Muffin Mixes, Pancake-Waffle-Biscuit Mixes, Cake Mixes, and Frosting Mixes (Int. Cl. 30).
First use at least as early as Mar. 28, 1968.

SN 313,383. Nebraska Consolidated Mills Company, Omaha, Nebr. Filed Dec. 2, 1968.

OCCO-NEE-CHEE

For Cornbread-Corn Muffin Mixes, Pancake-Waffle-Biscuit Mixes, Cake Mixes, and Frosting Mixes (Int. Cl. 30).
First use at least as early as Mar. 28, 1968.

SN 313,384. Nebraska Consolidated Mills Company, Omaha, Nebr. Filed Dec. 2, 1968.

BEST OUT WEST

Owner of Reg. No. 794,515.
For Cornbread-Corn Muffin Mixes, Pancake-Waffle-Biscuit Mixes, Cake Mixes, and Frosting Mixes (Int. Cl. 30).
First use at least as early as Apr. 9, 1968.

Class 47 — Wines

SN 290,304. Lillet Freres, Podensac (Gironde), France. Filed Feb. 5, 1968.

LILLET

For Vermouth (Int. Cl. 33).
First use 1872; in commerce 1938.

SN 293,041. London Winery Limited, London, Ontario, Canada. Filed Mar. 12, 1968.



Applicant disclaims the words "Honey Wine" and "Mead" apart from the mark shown. Owner of Canadian Reg. No. 153,874, dated Oct. 27, 1967.
For Honey Wines (Int. Cl. 33).

Class 48 — Malt Beverages and Liquors

SN 293,717. Arthur Guinness Son & Company Limited, London, England. Filed Mar. 20, 1968.



Applicant disclaims the terms "Stout," "Cerveza," "Para Su Satisfaccion," "Completa," "Pida," and "Mucho Mas Que Una Cerveza." Owner of U.S. Reg. Nos. 63,040, 628,822, and others.
For Stout (Int. Cl. 32).
First use December 1966; in commerce December 1966.

Class 49 — Distilled Alcoholic Liquors

SN 293,212. Jay L. Ambrose, d.b.a. Leonardo Brandy Company, Santa Monica, Calif. Filed Mar. 14, 1968.

Leonardo

For Brandy (Int. Cl. 33).
First use January 1966.

SN 293,213. Jay L. Ambrose, d.b.a. Peter Velinoff et Cie, Santa Monica, Calif. Filed Mar. 14, 1968.

Velinoff

For Vodka (Int. Cl. 33).
First use Nov. 1, 1947.

SN 293,214. Joy L. Ambrose, d.b.a. Kentucky Wholesale Company, Santa Monica, Calif. Filed Mar. 14, 1968.

Scoresby

For Scotch Whisky (Int. Cl. 33).
First use October 1960.

SN 309,509. James B. Beam Distilling Co., Chicago, Ill. Filed Oct. 14, 1968.

BEAM'S CHOICE

The word "Choice" is disclaimed separate and apart from the mark as shown. Owner of Reg. Nos. 371,871, 847,434, and others.
For Whiskey (Int. Cl. 33).
First use Dec. 1, 1957.

SN 309,510. James B. Beam Distilling Co., Chicago, Ill. Filed Oct. 14, 1968.

Beam's PIN-BOTTLE

Owner of Reg. Nos. 371,871, 847,434, and others.
For Whiskey (Int. Cl. 33).
First use Feb. 1, 1949.

Class 50 — Merchandise Not Otherwise Classified

SN 268,970. Martin-Brower Corporation, Chicago, Ill. Filed Apr. 12, 1967.



The mark consists of the letters "MB" in distinctive block lettering. Owner of Reg. No. 817,202.
For Drinking Straws; and Novelties—Namely, Paper Hats and Headbands (Int. Cl. 20).
First use Jan. 16, 1967.

SN 296,600. Bruno E. Urban, Chicago, Ill. Filed Apr. 25, 1968.

COIRTEX

For Fiber Floor Mats (Int. Cl. 27).
First use Feb. 1, 1968.

SN 307,010. Data Products Incorporated, Southfield, Mich. Filed Sept. 10, 1968.

DATA SEAL

For Bands or Rings, and Parts Therefor, for Enclosing and Protecting Reels of Magnetic Tape or the Like (Int. Cl. 20).
First use at least as early as Apr. 10, 1968.

SN 310,963. Harte & Company, Inc., New York, N.Y. Filed Oct. 31, 1968.

WATASEAL

Owner of Reg. Nos. 441,303 and 527,252.
For Vinyl Bathtub Mats (Int. Cl. 27).
First use January 1965.

SN 310,964. Harte & Company, Inc., New York, N.Y. Filed Oct. 31, 1968.

Harte WATASEAL

Owner of Reg. Nos. 441,303 and 527,252.
For Vinyl Bathtub Mats (Int. Cl. 27).
First use January 1965.

Class 51 — Cosmetics and Toilet Preparations

SN 251,835. Mary Quant Limited, London, England, assignee of Mary Quant Cosmetics Limited, Surrey, England. Filed Aug. 5, 1966.

MARY QUANT

"Mary Quant" identifies a living individual whose consent is of record. Owner of U.S. Reg. No. 766,420.
For Astringents, Mouth Rinses, Skin Creams, Skin Lotions, Lip Creams, Lipsticks, Rouge, Rouge Boxes Containing Rouge; Nail Polish, Nail Polish Remover, Face Powder, Talcum Powder, Deodorants for Personal Use, Depilatory Preparation, Hair Dyes and Tints, Hair Grooming Preparations, Eyebrow Pencils, Eyeshadow With and Without Applicators, Mascara, Perfumes, and Sachets (Int. Cls. 3 and 5).
First use on or about Apr. 30, 1966; in commerce on or about June 30, 1966.

SN 282,025. Clairol Incorporated, New York, N.Y. Filed Oct. 9, 1967.

FASHION STARTS AT THE TOP

For Kit Containing Lip Color, Nail Color, Rouge, Face Powder, Moisture Make-Up, Blusher, Compact Face Powder, Eye Shadow, Perfume, Cologne, Hair Tinting, Dyeing and Coloring Preparations, Hair Lightener, Hair Conditioner, Hair Styling Lotion, Compact Foundation Make-Up, Cosmetic Blemish Covering, Eyebrow Make-Up, and Hair Shampoo (Int. Cl. 3).
First use Mar. 30, 1967.

SN 302,723. De Grasse et Cie., Incorporated, Wyndmoor, Pa. Filed July 15, 1968.

SHALL I

For Perfumes, Colognes, and Dusting Powders (Int. Cl. 3).
First use June 12, 1968.

SN 303,166. Houbigant, Inc., New York, N.Y. Filed July 19, 1968.

CHANTILLY SATIN POUFF

Owner of Reg. No. 506,919.
For Perfume, Eau de Cologne, Toilet Water, Bath Oil, Dusting Powder, Perfumed Bubble Bath, Foam Milk Bath Powder, Hand Lotion, Lipstick, Rouge, Face Powder, and Skin Cream (Int. Cl. 3).
First use June 3, 1968.

SN 303,255. Avon Products, Inc., New York, N.Y. Filed July 22, 1968.

CLOISONNE'

For Lipstick and Filled Powder Compact (Int. Cl. 3).
First use June 24, 1968.

SN 308,750. Shulton, Inc., Clifton, N.J. Filed Oct. 3, 1968.

VIVE LE BAIN

The translation of the French words "Vive le Bain" is "hurrah for the bath."
For Dusting Powder, Bubble Bath, Bath Oil, and Cologne (Int. Cl. 3).
First use Sept. 20, 1968.

SN 312,543. E. C. De Witt & Co., Inc., Chicago, Ill. Filed Nov. 19, 1968.

LADY CORA

For All Purpose Skin Lotion (Int. Cl. 3).
First use Oct. 23, 1968.

SN 312,642. The Sovera Company, Winter Haven, Fla. Filed Nov. 20, 1968.

Bloom of Beauty

For Hand and Body Lotion (Int. Cl. 3).
First use Sept. 16, 1968.

SN 313,244. Tom Fields, Ltd., Northvale, N.J. Filed Nov. 29, 1968.

SET-SO-NICE

For Hair Setting Gel (Int. Cl. 3).
First use Oct. 25, 1968.

SN 313,651. Ellen Kaye Laboratories, Inc., St. Paul, Minn. Filed Dec. 5, 1968.

GENIE

For Permanent Wave Solution and Neutralizer (Int. Cl. 3).
First use July 6, 1948.

SN 314,035. Royal Hawaiian Perfumes, Ltd., Honolulu, Hawaii. Filed Dec. 10, 1968.

ROYAL LEI

For Colognes (Int. Cl. 3).
First use Nov. 27, 1968.

SN 314,150. The Gillette Company, Boston, Mass. Filed Dec. 11, 1968.

BRONZE MASK

Applicant disclaims the word "Bronze" apart from the mark as shown.
For Bronzer (Int. Cl. 3).
First use Oct. 28, 1968.

SN 314,151. The Gillette Company, Boston, Mass. Filed Dec. 11, 1968.

DOWN EAST

For Hand Lotion (Int. Cl. 3).
First use Oct. 22, 1968.

SN 314,293. The Gillette Company, Boston, Mass. Filed Dec. 12, 1968.

LOBSTERMAN

For Hand Lotion (Int. Cl. 3).
First use Oct. 22, 1968.

SN 314,678. Colgate-Palmolive Company, New York, N.Y. Filed Dec. 17, 1968.

GUARD

Owner of Reg. No. 831,575.
For Hair Dressing (Int. Cl. 3).
First use Nov. 12, 1968.

Class 52 — Detergents and Soaps

SN 287,874. Bausch & Lomb Incorporated, Rochester, N.Y. Filed Jan. 2, 1968.

STAT BAN

For Spray for Cleaning Plastic Lenses and Making Them Static-Free and for Cleaning Glass Lenses and Making Them Fog-Free (Int. Cl. 3).
First use Dec. 13, 1967.

SN 293,980. Coral Chemical Company, Waukegan, Ill. Filed Mar. 25, 1968.

CORFLOAT

For Alkaline Based Compound and Liquid Solution Designed To Remove Over-Sprayed Finishes in Water Curtain Paint Booths (Int. Cl. 1).
First use Oct. 1, 1966.

SN 302,042. Clairol Incorporated, New York, N.Y. Filed July 5, 1968.

BREAK AWAY

For Anti-Dandruff Shampoo (Int. Cl. 3).
First use Mar. 22, 1968.

SN 303,288. Economics Laboratory, Inc., St. Paul, Minn. Filed July 22, 1968.

ELECTRASOL

Owner of Reg. Nos. 510,293 and 831,210.
For Dishwashing Compound for Use in Dishwashing Machines (Int. Cl. 3).
First use Sept. 10, 1947.

SN 303,962. Ball Industries, El Segundo, Calif. Filed July 31, 1968.

BALL

For Liquid Concentrate Detergent for Cleaning and Conditioning Floors; Wax Remover and Cleaner for Floors; General Purpose Cleaner for Use on Floors, Painted Walls and Polished Surfaces; Combination Liquid Concentrate for Cleaning, Disinfecting and Deodorizing; Wax Base All Purpose Concentrated Liquid Cleaner for General Floor Cleaning; Special Cleaner Designed for Use in Hospitals and Similar "Clean-Rooms"; Special Low Sudsing Detergent Formulated for Use With Automatic Scrubbing Equipment; Spray-Type Concentrated Multi-Purpose Cleaner and Grease Remover; Rug and Upholstery Shampoo; Liquid Toilet Bowl Cleaner; Specially Formulated Washroom Cleaner With Disinfectant and Descaling Properties; Special Cleaning Preparation for Cleaning Painted Walls and Woodwork; Tile and Marble Cleaner; Cleaner for Glass and Windows; Carburetor Cleaner; Cleaner for Ceramic Tile, Coving, Concrete and Grouting Around Swimming Pools; Cold Solvent Degreaser for Cleaning Electric Motors, Equipment and Components; Fabric and Rug Cleaner; Liquid Hand Soap; Medicated Surgical Liquid Soap; Mechanics' Hand Pumice and Paste Soap Combination; Borated Powdered Hand Soap; Oil Absorbent for Use on Garage Floors and Around Machinery and Equipment; Sweeping Compound for Use on Wood or Concrete Floors; Powder Detergent Cleaner for Use in Washing Automobiles and Trucks; Hand Dishwashing Compound; Machine Dishwashing Compound; Laundry Detergent; Concrete Cleaner and Etcher; Combination Disinfectant-Deodorant-Cleaner; and Paint and Varnish Remover (Int. Cl. 3).
First use at least as early as 1951.

SN 304,159. The Sinclair Manufacturing Company, Toledo, Ohio. Filed Aug. 1, 1968.

DEBBIE

Owner of Reg. Nos. 761,474 and 816,817.
For Liquid Detergent for General Household Use (Int. Cl. 3).
First use Sept. 28, 1959.

SN 309,654. American Cyanamid Company, Wayne, N.J. Filed Oct. 15, 1968.

THE END

For Laundry Detergent (Int. Cl. 3).
First use Sept. 19, 1968.

SN 314,494. Colgate-Palmolive Company, New York, N.Y. Filed Dec. 16, 1968.

JUST ONCE

Owner of Reg. No. 838,081.
For Hair Shampoo (Int. Cl. 3).
First use Nov. 12, 1968.

SN 314,677. Colgate-Palmolive Company, New York, N.Y. Filed Dec. 17, 1968.

GUARD

Owner of Reg. No. 831,575.
For Hair Shampoo (Int. Cl. 3).
First use Nov. 12, 1968.

SERVICE MARKS

Class 100 — Miscellaneous

SN 263,528. Boulder Junction Chamber of Commerce, Boulder Junction, Wis. Filed Jan. 30, 1967.

MUSKY CAPITAL OF THE WORLD

For Association Services—Namely, Promoting Boulder Junction, Wisconsin as a Resort Area, and Informing the General Public of the Desirability of Visiting the Area (Int. Cl. 42).
First use Apr. 18, 1950.

SN 273,747. Country Kitchen Incorporated, of Middletown, Ohio, Cincinnati, Ohio. Filed June 13, 1967.

The drawing is lined for the color orange.
For Restaurant Services (Int. Cl. 42).
First use May 18, 1967.

SN 277,928. Old Mother Hubbard, Inc., Garden City, Mich. Filed Aug. 9, 1967.

OLD MOTHER HUBBARD

For Carry-Out Restaurant Services (Int. Cl. 42).
First use July 12, 1967.

SN 282,171. Rev. Grover Boydston, Washington, D.C. Filed Oct. 10, 1967.

MENTAL HEALTH MINISTRY

The wording "Mental Health" is disclaimed apart from the mark as shown.
For Providing Psychotherapy and Group Therapy to Emotionally Disturbed Individuals (Int. Cl. 42).
First use Aug. 20, 1966.

SN 284,496. The O'Dowd Company, Inc., Kansas City, Mo. Filed Nov. 9, 1967.

BEQUESTITHE

Owner of Reg. No. 750,333.
For Counseling Charitable Fund Raising Campaigns (Int. Cl. 42).
First use Sept. 1, 1967.

SN 286,437. Michael Raymond Maslowski, d.b.a. Boston Oil Portrait Company, Boston, Mass. Filed Dec. 7, 1967.

YOU TAKE THE PHOTO—WE WILL MAKE IT LIVE FOREVER

For Hand Painting Oil Portraits From Photographs Upon the Order of Others (Int. Cl. 42).
First use Sept. 22, 1967.

SN 289,316. Nantucket, Inc., Chicago, Ill., assignee of Mayfair-Lennox Hotels, Inc., d.b.a. Nantucket, Inc., St. Louis, Mo. Filed Jan. 22, 1968.

NANTUCKET COVE

For Restaurant Services (Int. Cl. 42).
First use November 1959.

SN 289,779. Churchword, Milwaukee, Wis. Filed Jan. 29, 1968.

CHURCHWORD

For Professional Service Assisting Churches in Communicating With Their Members by Editing Periodicals, Providing Syndicated Articles, Preparing Individualized Kits for Every Member Canvases and Recurring Parish Events and Providing Personal Consultation (Int. Cl. 42).
First use Apr. 12, 1967.

SN 296,821. Farmer John's, Inc., Maitland, Fla. Filed Apr. 29, 1968.

FARMER JOHN'S

For Restaurant Services Featuring Fried Chicken (Int. Cl. 42).
First use May 21, 1964.

SN 299,944. Cabot Corporation, Boston, Mass. Filed June 7, 1968.

The drawing is lined for the color blue.
For Utility Services—Namely, the Transmission and Distribution of Natural Gas to the Public (Int. Cl. 42).
First use May 4, 1968.

SN 310,330. Holiday Inns of America, Inc., Memphis, Tenn. Filed Oct. 23, 1968.

THE WORLD'S INNKEEPER

Owner of Reg. Nos. 656,932 and 732,739.
For Motel Services—Namely, Providing Lodgings and Meals in Motels (Int. Cl. 42).
First use Sept. 11, 1968.

SN 313,330. Post Houses, Inc., Detroit, Mich. Filed Nov. 29, 1968.

POST HOUSE

Owner of Reg. Nos. 737,657, 794,596, and 797,350.
For Restaurant Services (Int. Cl. 42).
First use in or about 1940.

SN 315,242. Mr. Jims Steak House, Inc., Cincinnati, Ohio. Filed Dec. 26, 1968.

MR. JIMS

For Restaurant Services (Int. Cl. 42).
First use in or about January 1966.

Class 101 — Advertising and Business

SN 267,257. Robert E. Lasek, d.b.a. Decorators Walk, New York, N.Y. Filed Mar. 21, 1967.

DECORATORS WALK

For Promoting the Sale of the Goods of Others by Providing a Showroom and Display Service for Samples of Said Goods (Int. Cl. 35).
First use Feb. 14, 1964.

SN 270,113. Bradfute Corporation, Eastchester, N.Y. Filed Apr. 27, 1967.

WINNING WORDS

For Promoting the Sale of Goods and/or Services of Others by Assisting in the Operation of a Public Participation Game (Int. Cl. 35).
First use Feb. 6, 1967.

SN 272,228. Transcontinental Incentives, Inc., Kenilworth, Ill. Filed May 23, 1967.

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For Operating Sales Incentive Programs for Others (Int. Cl. 35).
First use Mar. 1, 1967.

SN 278,722. Modern Communications Corporation, Altoona, Pa. Filed Aug. 21, 1967.

AnswerETTE

For Telephone Answering Service (Int. Cl. 35).
First use June 4, 1965.

SN 280,698. G. Paul Des Jardins, d.b.a. Taxes, Limited, Bailey's Crossroads, Va. Filed Sept. 19, 1967.

TAXES LIMITED

Applicant claims exclusive right to the use of "Taxes" as a part of the mark shown herein, but not otherwise.
For Tax Accounting and Bookkeeping Services (Int. Cl. 35).
First use Apr. 14, 1967.

SN 283,896. Ideas Illustrated, New York, N.Y. Filed Nov. 1, 1967.



For Advertising Services—Namely, Preparing Advertising Materials for Others (Int. Cl. 35).
First use September 1964.

SN 286,491. Apartment Locators, Inc., Washington, D.C. Filed Dec. 8, 1967.



For Locating Apartments for Prospective Tenants (Int. Cl. 35).
First use November 1965.

SN 293,699. Anita Dowdle, d.b.a. California Girl, Los Angeles, Calif. Filed Mar. 20, 1968.



The word "Girl" is disclaimed apart from the mark as shown.
For Supplying Hostesses, Receptionists, and Secretaries to Others (Int. Cl. 35).
First use Feb. 15, 1967.

SN 295,673. Reproduction Laboratories, Inc., Elkhart, Ind. Filed Apr. 15, 1968.

REPRO-NUZ

For Printing Services (Int. Cl. 35).
First use Sept. 5, 1966.

SN 295,736. Hot-Line Credit Card Registry Service Inc., New York, N.Y. Filed Apr. 16, 1968.

HOT-LINE

For Registering Credit Card Numbers to the Issuees Thereof for the Purpose of Notifying Credit Card Issuers of the Loss or Theft of Such Cards in Order To Prevent Unauthorized Persons From Unlawfully Using Such Cards (Int. Cl. 35).
First use Mar. 20, 1968.

SN 295,897. Advance Personnel Services, Inc., Detroit, Mich. Filed Apr. 18, 1968.



The words "Engineers," "Doctors," "Lawyers," "Clerical," "Advertising," "Scientists," "College Trainees," "Secretarial," "Commercial" and "Sales" are disclaimed apart from the mark as shown. The horizontal lining on the drawing is for shading only. The horizontal characters shown on the drawing mean "opportunity" in Chinese.
For Professional Services in the Placing of People for Employment in Diverse Fields of Endeavor (Int. Cl. 35).
First use Mar. 1, 1964.

SN 295,898. Advance Personnel Services, Inc., Detroit, Mich. Filed Apr. 18, 1968.

ADVANCE

For Professional Services in the Placing of People for Employment in Diverse Fields of Endeavor (Int. Cl. 35).
First use Mar. 1, 1964.

SN 297,507. Lugene, Inc., New York, N.Y. Filed May 7, 1968.
Owner of Reg. No. 515,428.

LUGENE

For Retail Optical Store Services (Int. Cl. 35).
First use June 1, 1922.

SN 301,549. Quote Company of America, Inc., Floral Park, N.Y. Filed June 27, 1968.

PRIVILEGED INFORMATION FOR PRIVILEGED PEOPLE

For Quote Services Covering Stocks, Sports, News, and Travel (Int. Cl. 35).
First use Mar. 15, 1968.

SN 311,016. Communications Electronics, Inc., Oklahoma City, Okla. Filed Oct. 31, 1968.



For Retail Store Services Specializing in Tape Playing Equipment (Int. Cl. 35).
First use Jan. 1, 1965.
Subj. to Intf. with SN 310,270.

Class 102 — Insurance and Financial

SN 289,240. Financial Programs, Inc., Denver, Colo. Filed Jan. 22, 1968.



The mark comprises a fanciful representation of the letter "d."
For Operating a Mutual Investment Fund (Int. Cl. 36).
First use in or about August 1967.

SN 293,913. Credit Systems Incorporated, St. Louis, Mo. Filed Mar. 22, 1968.

Bankmark



For Bank Credit Card System and Services Related Thereto, Including Centralized Billing Operations and Extension of Credit to Card Holders Who Purchase at Subscribing Retail Establishments (Int. Cl. 36).
First use Jan. 18, 1968.

SN 293,914. Credit Systems Incorporated, St. Louis, Mo. Filed Mar. 22, 1968.

BANKMARK

For Bank Credit Card System and Services Related Thereto, Including Centralized Billing Operations and Extension of Credit to Card Holders Who Purchase at Subscribing Retail Establishments (Int. Cl. 36).
First use Jan. 18, 1968.

SN 294,275. Georgia International Life Insurance Company, Atlanta, Ga. Filed Mar. 27, 1968.

THE GROW COMPANY

No claim is made to the word "Company" apart from the mark as shown.
For Underwriting Retirement, Life, and Health Insurance (Int. Cl. 36).
First use Mar. 12, 1968.

SN 295,016. Colonial Penn Group, Inc., New York, N.Y. Filed Apr. 5, 1968.



The drawing is lined for yellow or gold.
For Underwriting Health and Life Insurance (Int. Cl. 36).
First use February 1967.

SN 296,400. Broad Street Sales Corporation, New York, N.Y. Filed Apr. 24, 1968.

INVEST-A-CHECK

For Providing Mutual Fund Investment on a Periodic Basis (Int. Cl. 36).
First use Sept. 22, 1967.

SN 305,921. The Citizens and Southern National Bank, Atlanta, Ga. Filed Aug. 26, 1968.

C&S

For Banking Services (Int. Cl. 36).
First use June 1, 1968.

Class 103 — Construction and Repair

SN 299,161. H. H. Robertson Company, Pittsburgh, Pa. Filed May 27, 1968.

ReNuAll

For Maintenance Services and Repair Services for Metal Buildings (Int. Cl. 37).
First use Mar. 8, 1968.

Class 105 — Transportation and Storage

SN 288,842. Missouri-Kansas-Texas Railroad Company, Dallas, Tex. Filed Jan. 15, 1968.

M-K-T LINES RAILROAD

For Railroad Transportation of Freight (Int. Cl. 39).
First use Dec. 1, 1889; 1870 in a different form.

SN 296,629. Air West, Inc., San Francisco, Calif. Filed Apr. 26, 1968.

AIR WEST

For Air Transportation of Persons, Property, and Mail (Int. Cl. 39).
First use Apr. 18, 1968.

SN 304,711. Rogal/Colpitts Travel Corp., d.b.a. Hawaiian Adventure, Boston, Mass. Filed Aug. 8, 1968.

HAWAIIAN ADVENTURE

Applicant disclaims the term "Hawaiian" apart from the mark as a whole.
For Tour-Operating and Travel-Agency Services (Int. Cl. 39).
First use Oct. 1, 1967.

Class 106 — Material Treatment

SN 245,288. Imperial Pelting Systems, Inc., Edmonds, Wash., assignee of Bolz Pelting Service, Inc., Edmonds, Wash. Filed May 10, 1966.

IMPERIAL

Owner of Reg. No. 535,630.
For Processing of Fur Pelts for Others (Int. Cl. 40).
First use Jan. 7, 1965.

SN 301,480. Ziebart Process Corporation, Detroit, Mich. Filed June 26, 1968.

ZIEBART

Owner of Reg. No. 843,858.
For Rustproofing Services for Vehicles (Int. Cl. 40).
First use Feb. 17, 1966.

Class 107 — Education and Entertainment

SN 281,862. Baker Drugs Ltd., Vancouver, British Columbia, Canada. Filed Oct. 5, 1967.

PHARMACY AND YOU

Priority claimed under Sec. 44(d) on Canadian application filed Apr. 8, 1967; Reg. No. 157,400, dated June 28, 1968.
For Informational Services Rendered by Means of a Radio Program Concerning Medical Subjects (Int. Cl. 41).

SN 297,099. Svend T. Simonsen, d.b.a. Coast Navigation School, Santa Barbara, Calif. Filed May 1, 1968.

For Providing Correspondence Courses in Marine Navigation (Int. Cl. 41).
First use on or about Nov. 24, 1965.

SN 301,491. Institute of International Education, Inc., New York, N.Y. Filed June 27, 1968.

INSTITUTE OF INTERNATIONAL EDUCATION

For Development and Administration of Educational Exchange Programs for Charitable Fundations, Governmental Agencies, Private and Public Educational and Cultural Organizations, and Corporations in the United States and Abroad (Int. Cl. 41).
First use in 1919.

COLLECTIVE MEMBERSHIP MARKS

Class 200

SN 293,813. The Explorers Club, New York, N.Y. Filed Mar. 21, 1968.

THE EXPLORERS CLUB

For Indicating Membership in Applicant.
First use December 1921.

TRADEMARK REGISTRATIONS ISSUED

PRINCIPAL REGISTER

Class 1—Raw or Partly Prepared Materials

868,292. BIRHOPTIX. Societe des Usines Chimiques Rhone-Poulenc. SN 292,138. Pub. 2-4-69. Filed 2-28-68.

868,293. ELPHANTO. Gold Brand Leather Co., Inc. SN 294,619. Pub. 2-4-69. Filed 4-1-68.

868,294. DESIGN OF PIG. Wolverine World Wide, Inc. SN 296,229. Pub. 2-4-69. Filed 4-22-68.

Class 2—Receptades

868,295. ALCO AND DESIGN. Al Nyman & Son, Inc. SN 278,403. Pub. 5-14-68. Filed 8-16-67.

868,296. HANDI-PAK. Geo. J. Ball, Inc. SN 293,219. Pub. 2-4-69. Filed 3-14-68.

868,297. DECOR. Singer Home Products Corp. MULTIPLE CLASS (Classes 2, 42, and 50). SN 294,674. Pub. 2-4-69. Filed 4-1-68.

868,298. MISCELLANEOUS DESIGN. Taiyo Kogyo Co., Ltd. MULTIPLE CLASS (Classes 2 and 50). SN 295,787. Pub. 2-4-69. Filed 4-17-68.

Class 3—Baggage, Animal Equipments, Portfolios, and Pocketbooks

868,299. TANO. Tano, Inc. MULTIPLE CLASS (Classes 3, 8, and 26). SN 270,090. Pub. 2-4-69. Filed 4-26-67.

868,300. DETACHE. St. Thomas, Incorporated. SN 280,891. Pub. 2-4-69. Filed 9-21-67.

868,301. BACK TO BACK SAC. Karavan Fashions, Inc. SN 305,517. Pub. 2-4-69. Filed 8-20-68.

Class 4—Abrasives and Polishing Materials

868,302. M AND DESIGN. Merit Products, Inc. SN 273,514. Pub. 2-4-69. Filed 6-9-67.

868,303. BESTLINE PRODUCTS, INC. AND DESIGN. Bestline Products, Inc. MULTIPLE CLASS (Classes 4 and 52). SN 283,088. Pub. 2-4-69. Filed 10-23-67.

868,304. PAULCRYLITE-1000. Paule Chemical Corp. SN 283,356. Pub. 2-4-69. Filed 10-25-67.

868,305. DOALL AND DESIGN. DoAll Company. SN 294,025. Pub. 2-4-69. Filed 3-25-68.

Class 5—Adhesives

868,306. NITTO. Nitto Electric Industrial Co. Ltd. MULTIPLE CLASS (Classes 5 and 12). SN 270,262. Pub. 2-4-69. Filed 4-28-67.

868,307. COPY CENTER AND DESIGN. Spaulding Company, Inc. MULTIPLE CLASS (Classes 5, 6, 11, 20, 21, 23, 26, 29, 37, 50, and 52). SN 294,770. Pub. 2-4-69. Filed 4-3-68.

868,308. FABSTIC. Wayne Adhesive and Container Co. SN 301,563. Pub. 2-4-69. Filed 6-27-68.

Class 6—Chemicals and Chemical Compositions

868,307. (See Class 5 for this trademark.)

868,309. HYKIL. W. T. Cox Company. SN 257,237. Pub. 2-4-69. Filed 10-26-66.

868,310. WASH 'N DRI. Colgate-Palmolive Company. SN 267,613. Pub. 2-4-69. Filed 3-27-67.

868,311. THIONOIR. Ugine Kuhlmann. SN 267,875. Pub. 2-4-69. Filed 3-29-67.

868,312. BOND-X. Salviam. SN 268,430. Pub. 2-4-69. Filed 4-5-67.

868,313. CROW-DEFEAT. United Co-Operatives, Inc. SN 274,906. Pub. 2-4-69. Filed 6-27-67.

868,314. HOSTALUX. Canadian Hoechst Limited. SN 279,799. Pub. 2-4-69. Filed 9-7-67.

868,315. OFNA-PON. Canadian Hoechst Limited. SN 279,800. Pub. 2-4-69. Filed 9-7-67.

868,316. REMARON. Canadian Hoechst Limited. SN 279,801. Pub. 2-4-69. Filed 9-7-67.

868,317. WEST AND W DESIGN. West Chemical Products, Inc. SN 280,284. Pub. 2-4-69. Filed 9-13-67.

868,318. HIBOND-B. Simplex Wire and Cable Company. SN 289,927. Pub. 2-4-69. Filed 1-30-68.

868,319. ADBOND. Simplex Wire and Cable Company. SN 289,929. Pub. 2-4-69. Filed 1-30-68.

868,320. ROLFITE. Rolfe Chemical Corporation. MULTIPLE CLASS (Classes 6 and 15). SN 296,925. Pub. 2-4-69. Filed 4-30-68.

868,321. VAPOROOTER. Fred F. Horne, d.b.a. Airrigation Engineering Company. SN 297,408. Pub. 2-4-69. Filed 5-6-68.

Class 8—Smokers' Artides, Not Including Tobacco Products

868,299. (See Class 3 for this trademark.)

868,322. DEAUVILLE. Shields, Inc. of Attleboro, Mass., d.b.a. Dante. SN 293,591. Pub. 2-4-69. Filed 3-18-68.

Class 9—Explosives, Firearms, Equipments, and Projectiles

868,323. TIGER AND DESIGN. Sierra Pyrotechnic Corporation. SN 286,318. Pub. 2-4-69. Filed 12-6-67.

868,324. THUNDERBOLT AND DESIGN. Sierra Pyrotechnic Corporation. SN 286,319. Pub. 2-4-69. Filed 12-6-67.

Class 10—Fertilizers

868,325. BREA AND DESIGN. Collier Carbon and Chemical Corporation. SN 298,430. Pub. 2-4-69. Filed 5-17-68.

Class 11—Inks and Inking Materials

868,307. (See Class 5 for this trademark.)

868,326. HYDRO-LINE. Tenneco Chemicals, Inc. SN 280,482. Pub. 2-4-69. Filed 9-15-67.

868,327. FIBER-JET. Tenneco Chemicals, Inc. SN 280,483. Pub. 2-4-69. Filed 9-15-67.

868,328. SNAP JET. Tenneco Chemicals, Inc. SN 280,485. Pub. 2-4-69. Filed 9-15-67.

868,329. CAL-SET. Tenneco Chemicals, Inc. SN 280,486. Pub. 2-4-69. Filed 9-15-67.

868,330. DYNA-FLEX. Tenneco Chemicals, Inc. SN 280,487. Pub. 2-4-69. Filed 9-15-67.

868,331. NEO-FLEX. Tenneco Chemicals, Inc. SN 280,488. Pub. 2-4-69. Filed 9-15-67.

868,332. TRANSLITE. Sun Chemical Corporation. SN 286,196. Pub. 2-4-69. Filed 12-4-67.

868,333. FOIL SHEEN. Sun Chemical Corporation. SN 292,629. Pub. 2-4-69. Filed 3-6-68.

868,334. VELVOPAKE. Sun Chemical Corporation. SN 296,213. Pub. 2-4-69. Filed 4-22-68.

868,335. CODO. Codo Manufacturing Corporation. MULTIPLE CLASS (Classes 11 and 37). SN 296,372. Pub. 2-4-69. Filed 4-24-68.

868,336. TRANSFAST. Graphic Controls Corporation. SN 296,825. Pub. 2-4-69. Filed 4-29-68.

Class 12—Construction Materials

868,306. (See Class 5 for this trademark.)

868,337. AJAX MAGNETHERMIC. Ajax Magnethermic Corporation. MULTIPLE CLASS (Classes 12, 21, and 34). SN 238,690. Pub. 2-4-69. Filed 2-14-66.

868,338. FLEX-O-FLASH. Flex-O-Glass, Inc., d.b.a. Warp Brothers. SN 263,313. Pub. 2-4-69. Filed 1-25-67.

868,339. FLUORO PLUS. Ekco Products, Inc. SN 271,035. Pub. 2-4-69. Filed 5-9-67.

868,340. MURAL STONE. Tapco Products Company, Inc. SN 274,783. Pub. 2-4-69. Filed 6-26-67.

868,341. NEWPORT. Doughboy Industries, Inc. MULTIPLE CLASS (Classes 12 and 22). SN 279,776. Pub. 2-4-69. Filed 9-7-67.

868,342. BUILDER MART AND DESIGN. Builder Marts of America, Inc. MULTIPLE CLASS (Classes 12, 13, 16, 21, 23, and 35). SN 280,908. Pub. 2-4-69. Filed 9-22-67.

868,343. INTERWALL AND DESIGN. Tieco Products. MULTIPLE CLASS (Classes 12 and 32). SN 302,023. Pub. 2-4-69. Filed 7-5-68.

868,344. BITUTHENE. W. R. Grace & Co. SN 302,072. Pub. 2-4-69. Filed 7-5-68.

868,345. NOR PAC. North Pacific Lumber Co. SN 304,011. Pub. 2-4-69. Filed 7-31-68.

868,346. LEHIGH AND DESIGN. Lehigh Portland Cement Company. SN 305,052. Pub. 2-4-69. Filed 8-13-68.

Class 13—Hardware and Plumbing and Steam-Fitting Supplies

868,342. (See Class 12 for this trademark.)

868,347. MISCELLANEOUS DESIGN. Valve Corporation of America. SN 280,291. Pub. 2-4-69. Filed 9-14-67.

868,348. PIXIE. The Bates Manufacturing Company. MULTIPLE CLASS (Classes 13 and 23). SN 285,386. Pub. 2-4-69. Filed 11-22-67.

868,349. FOWLER-PEM PEM F-P. Bowes Pacific Corporation, d.b.a. Fowler-Pem Co. MULTIPLE CLASS (Classes 13, 23, and 26). SN 289,264. Pub. 2-4-69. Filed 1-22-68.

868,350. CAPE COD CLASSIC. National Lock Co. SN 292,406. Pub. 2-4-69. Filed 3-4-68.

868,351. ROCK 'N' ROLLER. Rusco Industries, Inc. SN 294,974. Pub. 2-4-69. Filed 4-4-68.

868,352. MOR-ROOM. Lehman Specialty Company. SN 296,849. Pub. 2-4-69. Filed 4-29-68.

868,353. HUG NUT AND DESIGN. Applied Technology Inc. SN 299,421. Pub. 2-4-69. Filed 5-31-68.

868,354. TUFF-LITE. Dixon Valve & Coupling Company. SN 303,861. Pub. 2-4-69. Filed 7-30-68.

868,355. FLO-CLOZ. Acorn Engineering Company. SN 305,190. Pub. 2-4-69. Filed 8-15-68.

868,356. TEMPRESS. Danfoss Manufacturing Company Limited. SN 307,194. Pub. 2-4-69. Filed 8-12-68.

868,357. GLAS-GRIP. Preformed Line Products Company. SN 307,669. Pub. 2-4-69. Filed 9-18-68.

868,358. SEAL-LOCK. David Diperstein, d.b.a. United States Casting Repair Co. SN 308,173. Pub. 2-4-69. Filed 9-25-68.

868,359. FAIRCHILD HILLER. Fairchild Hiller Corporation. SN 308,850. Pub. 2-4-69. Filed 10-4-68.

Class 14—Metals and Metal Castings and Forgings

868,360. MISCELLANEOUS DESIGN. Kawasaki Steel Corporation. SN 282,901. Pub. 2-4-69. Filed 10-19-67.

868,361. RIVER. Kawasaki Steel Corporation. SN 282,902. Pub. 2-4-69. Filed 10-19-67.

868,362. KAWASAKI AND DESIGN. Kawasaki Steel Corporation. SN 282,903. Pub. 2-4-69. Filed 10-19-67.

Class 15—Oils and Greases

868,320. (See Class 6 for this trademark.)

Class 16—Protective and Decorative Coatings

868,342. (See Class 12 for this trademark.)

Class 18—Medicines and Pharmaceutical Preparations

868,363. E-PILO-2. Smith, Miller & Patch, Inc. SN 233,753. Pub. 7-19-66. Filed 12-1-65.

868,364. E-PILO-4. Smith, Miller & Patch, Inc. SN 233,754. Pub. 7-26-66. Filed 12-1-65.

868,365. ALKAFLUSH. Honeggers' & Co., Inc. SN 293,927. Pub. 2-4-69. Filed 3-22-68.

868,366. DRYGARD. The Upjohn Company. SN 293,963 Pub. 2-4-69. Filed 3-22-68.

868,367. CONTEND. Bristol-Myers Company. SN 294,258. Pub. 2-4-69. Filed 3-27-68.

868,368. SKELMA. Smith, Miller & Patch, Inc. SN 294,321. Pub. 2-4-69. Filed 3-27-68.

868,369. V IMMUNE. Carter-Wallace, Inc. SN 307,916. Pub. 2-4-69. Filed 9-23-68.

868,370. RU-EST. Rucker Pharmacal Co., Inc. SN 307,945. Pub. 2-4-69. Filed 9-23-68.

868,371. RU-VERT. Rucker Pharmacal Co., Inc. SN 307,947. Pub. 2-4-69. Filed 9-23-68.

868,372. SUL-V. Rucker Pharmacal Co., Inc. SN 307,948. Pub. 2-4-69. Filed 9-23-68.

Class 19—Vehides

868,373. MEYER. Meyer Products, Inc. SN 256,364. Pub. 4-30-68. Filed 10-13-66.

868,374. MEYERS MANX AND DESIGN. B. F. Meyers & Company. SN 258,564. Pub. 4-9-68. Filed 11-14-66.

Class 20—Linoleum and Oiled Cloth

868,307. (See Class 5 for this trademark.)

Class 21—Electrical Apparatus, Machines, and Supplies

868,307. (See Class 5 for this trademark.)
868,337. (See Class 12 for this trademark.)
868,342. (See Class 12 for this trademark.)

Class 22—Games, Toys, and Sporting Goods

868,341. (See Class 12 for this trademark.)
868,375. CONVERSE. Converse Rubber Corporation. MULTIPLE CLASS (Classes 22 and 39). SN 288,155. Pub. 2-4-69. Filed 1-5-68.

Class 23—Cutlery, Machinery, and Tools, and Parts Thereof

868,307. (See Class 5 for this trademark.)
868,342. (See Class 12 for this trademark.)
868,348. (See Class 13 for this trademark.)
868,349. (See Class 13 for this trademark.)

Class 26—Measuring and Scientific Appliances

868,299. (See Class 3 for this trademark.)
868,307. (See Class 5 for this trademark.)
868,349. (See Class 13 for this trademark.)
868,376. PEAK. Tokai Sangyo Kabushiki Kaisha. SN 271,860. Pub. 2-4-69. Filed 5-18-67.
868,377. PECO-PROFIA. Plaubel Feinmechanik und Optik. SN 276,203. Pub. 2-4-69. Filed 7-13-67.
868,378. AUTOSTART. Systematics, Inc. SN 283,175. Pub. 2-4-69. Filed 10-23-67.
868,379. PROPPER. Propper Manufacturing Company, Inc. MULTIPLE CLASS (Classes 26 and 44). SN 287,099. Pub. 2-4-69. Filed 12-18-67.
868,380. LEVEL-MATIC. Brittain Industries, Inc. SN 288,773. Pub. 2-4-69. Filed 1-15-68.
868,381. PANASONIC. Matsushita Electric Industrial Co., Ltd. SN 297,204. Pub. 2-4-69. Filed 5-2-68.
868,382. WATCHEMOKET EYE SAVERS. Watchemoket Optical Co., Inc. SN 300,145. Pub. 2-4-69. Filed 6-10-68.

Class 28—Jewelry and Precious-Metal Ware

868,383. THE MOTHER'S RING. Guertin Bros. Mfg. Corp. SN 286,928. Pub. 2-4-69. Filed 12-14-67.
868,384. CARLA. Carla Jewelry Corp. SN 295,109. Pub. 2-4-69. Filed 4-8-68.
868,385. INSTA-FIT. Cecil Cope, d.b.a. C & G Jewelers. SN 295,917. Pub. 2-4-69. Filed 4-18-68.
868,386. MARC AUREL AND DESIGN. David G. Steven, Inc. SN 295,964. Pub. 2-4-69. Filed 4-18-68.
868,387. UC AND DESIGN. Union Carbide Corporation. SN 302,354. Pub. 2-4-69. Filed 7-9-68.

Class 29—Brooms, Brushes, and Dusters

868,307. (See Class 5 for this trademark.)
868,388. WITH THE POWER STRIP. The Drackett Company. SN 288,287. Pub. 2-4-69. Filed 1-8-68.
868,389. SWEDISH SHAMBOY AND DESIGN. Import-Export Management Service, Inc. SN 295,236. Pub. 2-4-69. Filed 4-9-68.
868,390. BAK-O-NEL. Baker Brush Co., Inc. SN 300,797. Pub. 2-4-69. Filed 6-19-68.

Class 31—Filters and Refrigerators

868,391. SL. UMC Industries, Inc. SN 273,430. Pub. 2-4-69. Filed 6-8-67.
868,392. UMC (DESIGN). UMC Industries, Inc. SN 274,904. Pub. 2-4-69. Filed 6-27-67.
868,393. QUEEN. King Coffee Filter Co. Inc. SN 287,020. Pub. 2-4-69. Filed 12-15-67.
868,394. COLD PUMP AND DESIGN. Adler & Barbour Yacht Services Inc., assignee of R. (Ralph) Michael Adler. SN 289,755. Pub. 2-4-69. Filed 1-29-68.
868,395. DOLLINGER AND DESIGN. Dollinger Corporation. SN 291,595. Pub. 2-4-69. Filed 2-21-68.
868,396. FOODMASTER. Hupp, Inc. SN 298,006. Pub. 2-4-69. Filed 5-13-68.
868,397. VHQ. Borg-Warner Corporation. SN 298,686. Pub. 2-4-69. Filed 5-21-68.
868,398. PURECEL. Cambridge Filter Corporation. SN 300,222. Pub. 2-4-69. Filed 6-12-68.

Class 32—Furniture and Upholstery

868,343. (See Class 12 for this trademark.)

Class 33—Glassware

868,399. LAMISAFE. Asahi Glass Company Limited. SN 294,799. Pub. 2-4-69. Filed 4-3-68.
868,400. RED GARTER. Hillstrom Enterprises, Inc. SN 297,406. Pub. 2-4-69. Filed 5-6-68.
868,401. GEMGUARD. Saftee Glass Company, Inc. SN 302,975. Pub. 2-4-69. Filed 7-17-68.

Class 34—Heating, Lighting, and Ventilating Apparatus

868,337. (See Class 12 for this trademark.)
868,402. ELEKTRO-SAUNA. Charles K. Williams. SN 274,800. Pub. 2-4-69. Filed 6-26-67.
868,403. STA-KLEAN. Malleable Iron Range Company. SN 274,812. Pub. 2-4-69. Filed 6-26-67.
868,404. WOODLAND. Poloron Products, Inc. SN 276,950. Pub. 2-4-69. Filed 7-27-67.
868,405. AIREFLEX. United States Register Company, d.b.a. United States Register Co. SN 283,178. Pub. 2-4-69. Filed 10-23-67.

868,406. DYNA-DRIVE. The Lau Blower Company. SN 290,303. Pub. 2-4-69. Filed 2-5-68.
868,407. UNI-DOME. Loren Cook Company. SN 291,616. Pub. 2-4-69. Filed 2-21-68.
868,408. INSTANT-PAK. Raypak Company, Inc. SN 292,130. Pub. 2-4-69. Filed 2-28-68.
868,409. RESTAURANT-PAK. Raypak Company, Inc. SN 292,131. Pub. 2-4-69. Filed 2-28-68.
868,410. JENN-AIR. Jenn-Air Corporation. SN 296,694. Pub. 2-4-69. Filed 4-26-68.
868,411. VHQ. Borg-Warner Corporation. SN 298,688. Pub. 2-4-69. Filed 5-21-68.
868,412. QUIK-SHOT. The Kemode Mfg. Co. Inc. SN 307,583. Pub. 2-4-69. Filed 9-17-68.

Class 35—Belting, Hose, Machinery Packing, and Nonmetallic Tires

868,342. (See Class 12 for this trademark.)
868,413. MINI-T-PAK. Crane Packing Company. SN 299,948. Pub. 2-4-69. Filed 6-7-68.
868,414. GOLDEN FIFTY. Corduroy Rubber Company. SN 304,450. Pub. 2-4-69. Filed 8-6-68.
868,415. ANCHOR-SEAL. Remaco, Incorporated. SN 305,066. Pub. 2-4-69. Filed 8-13-68.
868,416. COOL CAT. The Hercules Tire & Rubber Company. SN 307,025. Pub. 2-4-69. Filed 9-10-68.

Class 36—Musical Instruments and Supplies

868,417. SWINGER. Kimball Piano & Organ Co. SN 289,992. Pub. 2-4-69. Filed 1-31-68.
868,418. PETZKE DRI-CANE AND DESIGN. Franklin J. Petzke, d.b.a. Frank Petzke Company. SN 298,038. Pub. 2-4-69. Filed 5-13-68.

Class 37—Paper and Stationery

868,307. (See Class 5 for this trademark.)
868,335. (See Class 11 for this trademark.)
868,419. WHATMAN W AND DESIGN. W. & R. Balston, Limited. SN 253,381. Pub. 2-4-69. Filed 8-29-66.
868,420. POLYALISON. Jeffco Industries, Inc. SN 284,784. Pub. 2-4-69. Filed 11-14-67.
868,421. 1234. The Dexter Corporation. SN 291,593. Pub. 2-4-69. Filed 2-21-68.

Class 38—Prints and Publications

868,422. HOMEMAKERS RESEARCH INSTITUTE AND DESIGN. Robert I. Gordon, d.b.a. Homemakers Research Institute. SN 263,270. Pub. 2-4-69. Filed 1-25-67.
868,423. COURIER ACTION. Buffalo Courier-Express, Inc. SN 272,349. Pub. 2-4-69. Filed 5-25-67.
868,424. COURIER ACTION AND DESIGN. Buffalo Courier-Express, Inc. SN 272,350. Pub. 2-4-69. Filed 5-25-67.
868,425. PAULA'S. The C. M. Paula Company. SN 275,293. Pub. 2-4-69. Filed 7-3-67.
868,426. THE NATURE CONSERVANCY NEWS. The Nature Conservancy. SN 278,342. Pub. 2-4-69. Filed 7-21-67.
868,427. IDIOPLASMIC PRECIPITATE. Fred Karl Scheibe. SN 278,843. Pub. 2-4-69. Filed 8-21-67.
868,428. BIOGRAF. Bernard J. Garber, d.b.a. Biograf Books. SN 278,890. Pub. 2-4-69. Filed 8-23-67.
868,429. IA AND DESIGN. Industrial Atlas Corporation. SN 279,653. Pub. 2-4-69. Filed 9-5-67.
868,430. TEXAS TEMPO. The Houston Post Company. SN 282,371. Pub. 2-4-69. Filed 10-12-67.
868,431. WEEKLY NEWS SPOTLIGHT AND DESIGN. A. B. Dick Company. SN 282,990. Pub. 2-4-69. Filed 10-20-67.
868,432. "YOU AND EVERY MAN IN BUSINESS ARE TRUSTEES OF THIS NATION AND THE WORLD." International Latex Corporation. SN 288,097. Pub. 2-4-69. Filed 1-4-68.
868,433. OUTLINE OF HUMAN HEAD. Seven Bridges Publishing Company. SN 289,215. Pub. 2-4-69. Filed 1-19-68.
868,434. FAMOUS ARTISTS PAINTING COURSE. Famous Artists Schools, Inc. SN 289,886. Pub. 2-4-69. Filed 1-30-68.
868,435. HOW 'BOUT THAT! Abraham R. Kamm Kaminsky. SN 290,735. Pub. 2-4-69. Filed 2-9-68.
868,436. WOODWORKING DIGEST. Hitchcock Publishing Company. SN 291,392. Pub. 2-4-69. Filed 2-19-68.
868,437. CRYSTALITE. Textron Inc. SN 292,442. Pub. 2-4-69. Filed 3-4-68.
868,438. SOWING AND REAPING. Guido Evangelistic Association, Inc. SN 293,034. Pub. 2-4-69. Filed 3-12-68.
868,439. EKW SINCE 1935 AND DESIGN. Edwin K. Williams & Co. SN 296,226. Pub. 2-4-69. Filed 4-22-68.
868,440. CHEMICAL PROCESSING ETC. AND DESIGN. Putman Publishing Company. SN 296,577. Pub. 2-4-69. Filed 4-25-68.
868,441. FRAN MAR MOPPETS AND DESIGN. Fran Mar Greeting Cards Ltd. SN 299,554. Pub. 2-4-69. Filed 6-3-68.
868,442. THE MBA THE MASTER IN BUSINESS ADMINISTRATION. MBA Enterprises, Inc. SN 310,521. Pub. 2-4-69. Filed 10-25-68.
868,443. ADVENTURE COMICS. National Periodical Publications, Inc. SN 310,523. Pub. 2-4-69. Filed 10-25-68.

Class 39—Clothing

868,375. (See Class 22 for this trademark.)
868,444. VUL-FLEX. Eagle Shoe Mfg. Company, Inc. SN 250,944. Pub. 11-14-67. Filed 7-25-66.
868,445. CATALINA MARTIN. Catalina, Inc. SN 278,553. Pub. 2-4-69. Filed 8-17-67.

Class 40—Fancy Goods, Furnishings, and Notions

868,446. TRAFALGAR. Marley Hodgson, Ltd. SN 302,682. Pub. 2-4-69. Filed 7-15-68.

Class 42—Knitted, Netted, and Textile Fabrics, and Substitutes Therefor

868,297. (See Class 2 for this trademark.)
868,447. SWIRLDOWN. Riegel Textile Corporation. SN 303,231. Pub. 2-4-69. Filed 7-22-68.
868,448. FLOCEL. Riegel Textile Corporation. SN 303,233. Pub. 2-4-69. Filed 7-22-68.

Class 44—Dental, Medical, and Surgical Appliances

868,379. (See Class 26 for this trademark.)

Class 46 — Foods and Ingredients of Foods

868,449. BIG SHEF. Burger Chef Systems, Inc. SN 248,388. Pub. 3-21-67. Filed 6-20-66.

868,450. EVANGELINE AND DESIGN. International Minerals & Chemical Corporation, assignee of Evangeline Pepper & Food Products, Inc. SN 278,290. Pub. 2-4-69. Filed 8-15-67.

868,451. PENN ETC. AND DESIGN. Gussie B. Yasgur. SN 296,624. Pub. 2-4-69. Filed 4-26-68.

868,452. KITCHEN KONVENIENT. Mark G. Gehlar, d.b.a. Oregon Fruit Products Co. SN 298,820. Pub. 2-4-69. Filed 5-22-68.

868,453. JOLLY CUPS. Yohay Baking Co., Inc. SN 298,888. Pub. 2-4-69. Filed 5-22-68.

868,454. SP AND DESIGN. A. H. Robins Company, Incorporated. SN 299,869. Pub. 2-4-69. Filed 6-6-68.

868,455. TOUGH TEX. Armour and Company. SN 299,936. Pub. 2-4-69. Filed 6-7-68.

868,456. CLARIDGE AND DESIGN. Claridge Food Co. Inc. SN 299,946. Pub. 2-4-69. Filed 6-7-68.

868,457. DESIGN OF MOON. Kellogg Company. SN 299,987. Pub. 2-4-69. Filed 6-7-68.

868,458. BLUE MOUNDS SMOKY. Stauffer & Sons, Inc. SN 300,214. Pub. 2-4-69. Filed 6-11-68.

868,459. TEDDY BEAR (DESIGN). Andes Candies Inc. SN 300,392. Pub. 2-4-69. Filed 6-14-68.

868,460. TOMCLAMO. Duffy-Mott Company, Inc. SN 300,436. Pub. 2-4-69. Filed 6-14-68.

868,461. HEARTLAND. Castle & Cooke, Inc., d.b.a. Dole Company. SN 307,167. Pub. 2-4-69. Filed 9-12-68.

868,462. GIBSON GIRL AND DESIGN. King Candy Company, d.b.a. Southern Candy Co. SN 307,712. Pub. 2-4-69. Filed 9-19-68.

868,463. MISCELLANEOUS DESIGN. Ralston Purina Company. SN 307,811. Pub. 2-4-69. Filed 9-20-68.

868,464. HIGH CHAPARRAL. Desert Produce, Inc. SN 307,925. Pub. 2-4-69. Filed 9-23-68.

868,465. FLAVOR LAND AND DESIGN. Sunset Packing Company of Oregon, d.b.a. Sunset Packing Company. SN 307,952. Pub. 2-4-69. Filed 9-23-68.

Class 49 — Distilled Alcoholic Liquors

868,466. TEQUI. Renfield Importers, Ltd. SN 297,594. Pub. 2-4-69. Filed 5-7-68.

868,467. WILD PECCARY. Medley Distilling Co., d.b.a. Wild Peccary Distilling Co. SN 297,689. Pub. 2-4-69. Filed 5-8-68.

868,468. HENNESSEY. Schieffelin & Co. SN 298,047. Pub. 2-4-69. Filed 5-13-68.

Class 50 — Merchandise Not Otherwise Classified

868,298. (See Class 2 for this trademark.)

868,297. (See Class 2 for this trademark.)

868,307. (See Class 5 for this trademark.)

Class 51 — Cosmetics and Toilet Preparations

868,469. LIFE GUARD. Sea & Ski Corporation. SN 247,263. Pub. 2-4-69. Filed 6-3-66.

868,470. BEAUTY COUNSELORS QUICK-UP. Rexall Drug and Chemical Company, assignee of Beauty Counselors, Inc. SN 258,036. Pub. 8-8-67. Filed 11-7-66.

868,471. TIMBERLINE. MEM Company, Inc. SN 289,821. Pub. 2-4-69. Filed 1-29-68.

868,472. LIFE-GLO. Samuel Bonat & Bro., Inc. SN 290,247. Pub. 2-4-69. Filed 2-5-68.

868,473. REASONS. Amway Corporation. SN 291,956. Pub. 2-4-69. Filed 2-27-68.

868,474. CALGON BOUQUET. Calgon Corporation. SN 292,758. Pub. 2-4-69. Filed 3-8-68.

868,475. ONID. Alberto-Culver Company. SN 294,124. Pub. 2-4-69. Filed 3-26-68.

868,476. WAR HOOPS. Helene Curtis Industries, Inc. SN 294,498. Pub. 2-4-69. Filed 3-29-68.

868,477. OUTRAGEOUS. Helene Curtis Industries, Inc. SN 294,499. Pub. 2-4-69. Filed 3-29-68.

868,478. HOMEWORK KIT. Helene Curtis Industries, Inc. SN 294,500. Pub. 2-4-69. Filed 3-29-68.

868,479. H-EYE EXPLOSIVES. Helene Curtis Industries, Inc. SN 294,502. Pub. 2-4-69. Filed 3-29-68.

868,480. CLAWS. Helene Curtis Industries, Inc. SN 294,503. Pub. 2-4-69. Filed 3-29-68.

868,481. MUCH. Helene Curtis Industries, Inc. SN 296,654. Pub. 2-4-69. Filed 4-26-68.

868,482. DERMA-DRI. Helene Curtis Industries, Inc. SN 296,668. Pub. 2-4-69. Filed 4-26-68.

868,483. ENLIGHTENED. Avon Products, Inc. SN 297,942. Pub. 2-4-69. Filed 5-13-68.

868,484. DAFFYDILLY. Avon Products, Inc. SN 297,945. Pub. 2-4-69. Filed 5-13-68.

868,485. PALMOLIVE. Colgate-Palmolive Company. SN 298,666. Pub. 2-4-69. Filed 5-16-68.

868,486. BAGATELLE. The Gillette Company, d.b.a. The Toni Company. SN 299,846. Pub. 2-4-69. Filed 6-6-68.

868,487. HONEY BEAR HAIR. Alberto-Culver Company. SN 302,186. Pub. 2-4-69. Filed 7-8-68.

868,488. BOSSA NOVA BROWNS. Alberto-Culver Company. SN 302,190. Pub. 2-4-69. Filed 7-8-68.

868,489. CRYSTAL LAC AND DESIGN. Gem, Incorporated. SN 304,543. Pub. 2-4-69. Filed 8-7-68.

868,490. HAND-MATE. Radiator Specialty Company. SN 305,677. Pub. 2-4-69. Filed 8-21-68.

868,491. KAUMA. Musher Laboratories, assignee of Musher Corporation. MULTIPLE CLASS (Classes 51 and 52). SN 306,416. Pub. 2-4-69. Filed 9-3-68.

868,492. LIQUI-SCREEN. Lanvin-Charles of the Ritz, Inc. SN 309,331. Pub. 2-4-69. Filed 10-10-68.

Class 52 — Detergents and Soaps

868,303. (See Class 4 for this trademark.)

868,307. (See Class 5 for this trademark.)

868,491. (See Class 51 for this trademark.)

868,493. HOSEMASTER. Robert A. Gilmour, d.b.a. Gilmour Manufacturing Co. SN 273,763. Pub. 2-4-69. Filed 6-13-67.

868,494. PAIR. General Foods Corporation. SN 289,588. Pub. 2-4-69. Filed 1-25-68.

868,495. DAFFYDILLY. Avon Products, Inc. SN 297,946. Pub. 2-4-69. Filed 5-13-68.

868,496. CORDUROY. Avon Products, Inc. SN 297,949. Pub. 2-4-69. Filed 5-13-68.

868,497. INTERMISSION. Avon Products, Inc. SN 298,192. Pub. 2-4-69. Filed 5-15-68.

Service Marks

Class 100 — Miscellaneous

868,498. SAVE—SPORTSMEN AGAINST VANDALISM EVERYWHERE AND DESIGN. Arizona Varmint Callers Association, Inc. SN 264,497. Pub. 2-4-69. Filed 2-13-67.

868,499. CHEM-FARM. Chem-Farm Inc. MULTIPLE CLASS (Classes 100, 101, and 103). SN 270,893. Pub. 2-4-69. Filed 5-8-67.

868,500. BR AND DESIGN. Brain Research Foundation. SN 275,509. Pub. 2-4-69. Filed 7-7-67.

868,501. RUBY REDS AND DESIGN. Ruby Red's, Inc. SN 279,682. Pub. 2-4-69. Filed 9-5-67.

868,502. MR. YUMSKI AND DESIGN. William J. Kurchak, Jr. SN 280,787. Pub. 2-4-69. Filed 9-20-67.

868,503. AUDIO CRAFT. Audio Craft Company, Inc. SN 283,610. Pub. 2-4-69. Filed 10-30-67.

868,504. AUDIO CRAFT AND DESIGN. Audio Craft Company, Inc. SN 283,611. Pub. 2-4-69. Filed 10-30-67.

868,505. ZABERIZE. Rerebaz, Inc. SN 286,181. Pub. 2-4-69. Filed 12-4-67.

868,506. VINCENT ET VINCENT (SCRIPT). Vincent A. Gesumaria. SN 289,295. Pub. 2-4-69. Filed 1-22-68.

868,507. FIREBIRD INN. Firebird Inns, Inc. SN 293,249. Pub. 2-4-69. Filed 3-14-68.

868,508. LONDON, Ltd. Robert M. Blackford, Inc. SN 295,802. Pub. 2-4-69. Filed 4-17-68.

Class 101 — Advertising and Business

868,499. (See Class 100 for this trademark.)

868,509. COPY CAT EDUCATIONAL SERVICES INC. AND DESIGN. Copy Cat Educational Services, Inc. SN 278,953. Pub. 7-9-68. Filed 8-24-67.

868,510. THE 26 DECORATION DAYS OF SPRING. Paint and Wallpaper Association of America, Inc. SN 307,279. Pub. 2-4-69. Filed 9-13-68.

Class 102 — Insurance and Financial

868,511. D. Delaware Management Company, Inc. SN 278,880. Pub. 2-4-69. Filed 8-23-67.

868,512. D AND DESIGN OF A QUAKER. Delaware Management Company, Inc. SN 278,881. Pub. 2-4-69. Filed 8-23-67.

868,513. DESIGN OF A QUAKER. Delaware Management Company, Inc. SN 278,882. Pub. 2-4-69. Filed 8-23-67.

868,514. BANKMANSHIP. Pacific National Bank of San Francisco. SN 281,999. Pub. 2-4-69. Filed 10-6-67.

868,515. FOODLAND. Foodland, Inc. SN 282,565. Pub. 2-4-69. Filed 10-16-67.

868,516. THE LISTENER. Security Life and Trust Company. SN 282,828. Pub. 2-4-69. Filed 10-18-67.

868,517. W.O.W. Woodmen of the World Life Insurance Society and/or Omaha Woodmen Life Insurance Society. SN 285,605. CONCURRENT USE. Pub. 4-23-68. Filed 11-24-67.

868,518. W.O.W. Woodmen of the World and/or Assured Life Association. SN 285,606. CONCURRENT USE. Pub. 4-23-68. Filed 11-24-67.

868,519. WOODMEN OF THE WORLD. Woodmen of the World and/or Assured Life Association. SN 285,607. CONCURRENT USE. Pub. 4-23-68. Filed 11-24-67.

868,520. WOODMEN OF THE WORLD. Woodmen of the World Life Insurance Society and/or Omaha Woodmen Life Insurance Society. SN 285,608. CONCURRENT USE. Pub. 4-23-68. Filed 11-24-67.

868,521. FIGURE OF A RAM. MidAmerica Mutual Fund, Inc. SN 291,992. Pub. 2-4-69. Filed 2-27-68.

868,522. PB AND DESIGN. Peoples Bank of Bloomington. SN 299,786. Pub. 2-4-69. Filed 6-5-68.

868,523. TOOTIN' FOR TREFRY. John T. Trefry Insurance Agency, Inc. SN 301,020. Pub. 2-4-69. Filed 6-21-68.

868,524. HERALD LIFE. Herald Life Insurance Company. SN 306,981. Pub. 2-4-69. Filed 9-9-68.

Class 103 — Construction and Repair

868,499. (See Class 100 for this trademark.)

868,525. CAPVAC. Capvac Industries, Inc. SN 248,772. Pub. 2-4-69. Filed 6-23-66.

868,526. BETTY BRITE. Detrex Chemical Industries, Inc. SN 276,548. Pub. 2-4-69. Filed 7-21-67.

868,527. THREE I DESIGN. Industrial Insulators International Corp., d.b.a. Industrial Insulators International. SN 292,849. Pub. 2-4-69. Filed 3-11-68.

Class 104 — Communication

868,528. HOTELEVISION. Visual Information Systems, Inc. SN 290,781. Pub. 2-4-69. Filed 2-9-68.

Class 105 — Transportation and Storage

868,529. MAA (DESIGN). Wimbish Aviation, Incorporated. SN 277,954. Pub. 2-4-69. Filed 8-9-67.

SUPPLEMENTAL REGISTER

These registrations are not subject to opposition.

Class 12 — Construction Materials

868,530. Elwin G. Smith & Co., Inc., Pittsburgh, Pa. SN 262,894. Filed P.R. 1-19-67; Am. S.R. 1-13-69.

FOAMWALL

For Industrial Metal Roofing and Siding for Making Buildings and Enclosures (Int. Cl. 6).
First use Aug. 8, 1966.

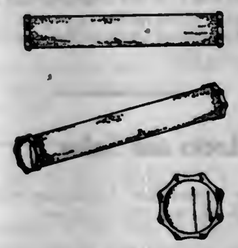
868,531. Vaughan Interior Walls, Inc., Los Angeles, Calif. SN 284,767. Filed P.R. 11-13-67; Am. S.R. 12-31-68.

WOOD WRAP

For Decorative Covering—Namely, for Architectural Veneer or Sheet Coverings for Interior Partitions (Int. Cl. 19).
First use Apr. 25, 1967.

Class 14 — Metals and Metal Castings and Forgings

868,532. Kaiser Aluminum & Chemical Corporation, Oakland, Calif. SN 244,712. Filed 5-2-66.



The mark consists of the configuration of the container for the goods.
For Aluminum Household Foil (Int. Cl. 6).
First use on or about Mar. 22, 1965.

Class 16 — Protective and Decorative Coatings

868,533. Cleware Industries, Incorporated, Cleveland, Ohio. SN 277,266. Filed P.R. 8–1–67; Am. S.R. 2–5–69.

EXACTA-COAT

For General Purpose and Automotive Aerosol Spray Paints (Int. Cl. 2).
First use July 24, 1967.

Class 22 — Games, Toys, and Sporting Goods

868,534. Robert S. Scheurer, d.b.a. Texas Water Crafters, Wichita Falls, Tex. SN 267,855. Filed P.R. 3–29–67; Am. S.R. 1–15–69.

SUPER-SOFT

For Life Jackets, Life Belts and the Like for Buoyantly Supporting the Wearer in Water (Int. Cl. 9).
First use on or about Aug. 31, 1962.

868,535. Lipe Specialty Co., Inc., Skaneateles, N.Y. SN 280,605. Filed P.R. 9–18–67; Am. S.R. 10–2–68.

LIPE Heel Check

For Pressure Testing and Checking Devices for Ski Bindings (Int. Cl. 28).
First use at least as early as Jan. 31, 1965.

868,536. Sprouse-Reitz Co., Inc., Portland, Oreg. SN 287,591. Filed P.R. 12–26–67; Am. S.R. 11–18–68.



The drawing is lined for the color red, but no claim is made to color as a feature of the mark.
For Stuffed Mouse-Type Animal Toy (Int. Cl. 28).
First use Oct. 27, 1967.

Class 25 — Locks and Safes

868,537. Lundy Corporation, Davenport, Iowa. SN 289,707. Filed P.R. 1–26–68; Am. S.R. 1–30–69.

LUNDY

For Gun-Locking Chains (Int. Cl. 6).
First use Dec. 14, 1967.

Class 39 — Clothing

868,538. A & M Rosenthal Bridal Veils Corp., New York, N.Y. SN 245,344. Filed P.R. 5–10–66; Am. S.R. 1–8–69.

DESSY Creation

For Hats, Bridal Veils and Bridal Headpieces (Int. Cl. 25).
First use Mar. 28, 1966.

868,539. Kaper-Jac, Inc., New York, N.Y. SN 295,647. Filed P.R. 4–15–68; Am. S.R. 1–3–69.

YOUNG JUNIORS

For Women's, Misses' and Children's Coats and Jackets (Int. Cl. 25).
First use Nov. 6, 1967.

Class 40 — Fancy Goods, Furnishings, and Notions

868,540. Continental Wig Supply, Inc., Bedford, Ohio, by change of name from Continental Wig Shoppe, Inc., Bedford, Ohio. SN 263,542. Filed P.R. 1–30–67; Am. S.R. 11–12–68.

SYLK TRYM

For Wigs (Int. Cl. 26).
First use Dec. 15, 1966.

868,541. Continental Wig Supply, Inc., Bedford, Ohio, by change of name from Continental Wig Shoppe, Inc., Bedford, Ohio. SN 263,748. Filed P.R. 2–1–67; Am. S.R. 11–12–68.

KOTTON TRYM

For Wigs (Int. Cl. 26).
First use Jan. 25, 1967.

Class 44 — Dental, Medical, and Surgical Appliances

868,542. United States Catheter & Instrument Corporation (Delaware corporation), Glens Falls, N.Y., assignee of United States Catheter & Instrument Corporation (New York corporation), Glens Falls, N.Y. SN 220,587. Filed P.R. 6–7–65; Am. S.R. 11–28–66.

GOODALE-LUBIN

For Cardiovascular Catheters (Int. Cl. 10).
First use about 1947.

868,543. Elbert Industries, Valley Stream, N.Y. SN 284,457. Filed P.R. 11–9–67; Am. S.R. 12–4–68.

Dri-stand

For Dental X-Ray Photographic Holders (Int. Cl. 10).
First use Sept. 20, 1967.

868,544. Pichon Freres, Saint-Etienne (Loire), France. SN 293,296. Filed 3–14–68.

DR. GIBAUD

"Dr. Gibaud" identifies "Maurice Gibaud," a living individual whose consent is of record.
For Bands for Supporting Varicose Veins, Medical Supports, Elastic Supports, Suspensories, Knee Bandages, Elbow Bandages, Wrist Bandages, Shoulder Bandages, and Ankle Bandages (Int. Cls. 5 and 10).
First use in 1937; in commerce July 1967.

Class 50 — Merchandise Not Otherwise Classified

868,545. Peco Ornament Co., Austell, Ga. SN 297,437. Filed P.R. 5–6–68; Am. S.R. 1–3–69.

AMERICAN FAMILY TREES

The drawing is lined for the colors red and green.
For Artificial Christmas Trees (Int. Cl. 28).
First use Feb. 18, 1967.

Class 52 — Detergents and Soaps

868,546. Harris Paint Company, d.b.a. Harris Standard Paint Company, Tampa, Fla. SN 253,437. Filed P.R. 8–30–66; Am. S.R. 2–13–68.

HARRIS

Surfa-Prep

For Surface Conditioners for the Purpose of Removing Grease, Wax, Polish, Dirt and Grime, as Well as Softening Old Paint To Ensure a Perfect Bond Thereby Preventing Subsequent Peeling and Chipping (Int. Cl. 3).
First use on or about Mar. 3, 1958.

Service Marks

Class 101 — Advertising and Business

868,547. Creative Marketing, Inc., Indianapolis, Ind. SN 267,497. Filed P.R. 3–24–67; Am. S.R. 12–27–68.

GREYHOUND DERBY

For Promoting the Sale of the Goods and Services of Others by a Contest Involving Cards Issued to Customers Which Are Used in Connection With the Weekly Televising of Greyhound Races (Int. Cl. 35).
First use Feb. 7, 1966.

868,548. Walter S. Taylor, d.b.a. The Winemaker's Shop, Hammondsport, N.Y. SN 277,729. Filed P.R. 8–7–67; Am. S.R. 9–24–68.

THE WINEMAKER'S SHOP

For Retail Mail Order Services Specializing in Wine-Making Equipment and of Appropriate Types of Grapes To Be Used Therewith (Int. Cl. 35).
First use March 1966.

868,549. R. E. L. Enterprises, Inc., Los Angeles, Calif. SN 287,950. Filed P.R. 1–2–68; Am. S.R. 12–19–68.

ACCOUNTANTS OVERLOAD

For Providing Specialized Temporary Accounting Personnel (Int. Cl. 35).
First use February 1966.

868,550. Commonwealth Trading Corporation, Newton, Mass. SN 297,137. Filed 5–2–68.

FASHION AT YOUR PRICE

For Retail Clothing Store Services (Int. Cl. 35).
First use Apr. 1, 1965.

Class 102 — Insurance and Financial

868,551. Utah State Employees Credit Union, Salt Lake City, Utah. SN 281,141. Filed 9–25–67.

PEOPLE HELPING PEOPLE

For State Government Employees Credit Union Services (Int. Cl. 36).
First use Apr. 1, 1964.

Class 107 — Education and Entertainment

868,552. International School of Memory Training, San Diego, Calif. SN 288,518. Filed 1–10–68.

INTERNATIONAL SCHOOL OF MEMORY TRAINING

For Memory Training Courses (Int. Cl. 41).
First use Feb. 21, 1966.

868,553. Institute for Computer Technology, Clifton, N.J. SN 308,255. Filed P.R. 9–26–68; Am. S.R. 12–6–68.

INSTITUTE FOR COMPUTER TECHNOLOGY

For Furnishing Education and Training in Computer Programming and Operations (Int. Cl. 41).
First use July 1967.

TRADEMARK REGISTRATIONS RENEWED

71,197. REPRESENTATION OF THE HUMAN EYE. Cl. 44 (Int. Cl. 10). 11–10–08.
72,681. "THE MULLEN TESTER" AND DESIGN. Cl. 26 (Int. Cl. 9). 2–9–09.
72,916. SUPREME. Cl. 46 (Int. Cl. 30). 3–2–09.
73,903. RIVERSIDE. Cl. 42 (Int. Cl. 24). 6–1–09.
74,182. SOLIGNUM. Cl. 16 (Int. Cl. 2). 6–22–09.
248,184. FREZRITE. Cl. 46 (Int. Cl. 30). 10–16–28.
248,187. STABILO. Cl. 46 (Int. Cl. 30). 10–16–28.
248,721. I. MILLER. Cl. 3 (Int. Cl. 18). 10–30–28.
248,813. ROBANESE. Cl. 39 (Int. Cl. 25). 10–30–28.
252,171. WYCLIFFE. Cl. 39 (Int. Cl. 25). 1–29–29.
252,199. SUPER D. Cl. 18 (Int. Cl. 5). 1–29–29.
252,234. VAMP-TOE. Cl. 39 (Int. Cl. 25). 1–29–29.

252,466. "BROADSTREET'S" AND DESIGN. Cl. 89 (Int. Cl. 25). 2–5–29.
252,517. "HOUSTON GIRL" AND PORTRAIT OF A GIRL. Cl. 51 (Int. Cl. 3). 2–12–29.
252,608. OHMITE. Cl. 21 (Int. Cl. 9). 2–12–29.
252,908. "GOLDEN ARROW" AND REPRESENTATION OF ARROW. Cl. 39 (Int. Cl. 25). 2–19–29.
253,162. LARKWOOD VAMP-TOE. Cl. 39 (Int. Cl. 25). 2–19–29.
253,871. TRANS-O-PAKE. Cl. 37 (Int. Cl. 16). 3–5–29.
255,360. "PRODAG" AND DESIGN. Cl. 1 (Int. Cl. 1). 4–23–29.
255,377. "BLUKO" AND DESIGN. Cl. 52 (Int. Cl. 3). 4–23–29.
255,568. PYROFILL. Cl. 12 (Int. Cl. 19). 4–23–29.
256,733. FISKE'S AND DESIGN. Cl. 15 (Int. Cl. 4). 5–21–29.
256,897. INSO BOARD. Cl. 12 (Int. Cl. 19). 5–28–29.
257,817. SODIUM AEROFLOAT. Cl. 6 (Int. Cl. 1). 6–18–29.
258,244. TRUE TEMPER. Cl. 22 (Int. Cl. 28). 7–2–29.
258,459. FLEXITE. Cl. 2 (Int. Cl. 21). 7–9–29.
259,185. "STA-TITE" ETC. AND REPRESENTATION OF SCYTHE. Cl. 23 (Int. Cl. 20). 7–23–29.
438,110. BIG CHIEF AND DESIGN. Cl. 37 (Int. Cl. 16). 4–6–48.
442,016. SHUR-MAC. Cl. 46 (Int. Cl. 30). 2–8–49.
442,073. SHERWIN-WILLIAMS. Cl. 6 (Int. Cl. 2). 2–8–49.
442,103. FIREMASTER. Cl. 13 (Int. Cl. 9). 2–22–49.
442,187. TUNG SOL. Cl. 38 (Int. Cl. 16). 3–8–49.
442,201. VENDORLATOR. Cl. 23 (Int. Cl. 9). 3–15–49.
442,507. MISCELLANEOUS DESIGN. Cl. 40 (Int. Cls. 14 and 26). 4–19–49.
442,525. S. Cl. 15 (Int. Cl. 4). 4–26–49.
442,841. TORRENT. Cl. 23 (Int. Cl. 7). 6–7–49.
442,875. SUNBEAM. Cl. 31 (Int. Cl. 11). 6–14–49.
442,884. CELCON. Cl. 37 (Int. Cl. 16). 6–14–49.
442,935. FOXIE. Cl. 38 (Int. Cl. 16). 6–21–49.
443,101. TRIANGULAR DESIGN. Cl. 37 (Int. Cl. 16). 7–19–49.
443,107. WILSON JONES RECORD KEEPING ESSENTIALS AND DESIGN. Cl. 37 (Int. Cl. 16). 7–19–49.
443,110. P AND DESIGN. Cl. 4 (Int. Cl. 1). 7–19–49.
443,116. TRIANGULAR DESIGN. Cl. 38. (Int. Cl. 16). 7–19–49.
502,991. PORO. Cl. 51 (Int. Cls. 3 and 5). 10–19–49.
503,856. ARKANSAS TRAVELER. Cl. 19 (Int. Cl. 12). 11–16–48.
504,847. SLUMBER. Cl. 42 (Int. Cl. 24). 12–14–48.
505,103. TRIONA. Cl. 6 (Int. Cl. 5). 12–21–48.
505,421. SAMSONBAK. Cl. 39 (Int. Cl. 16). 1–4–49.
505,782. THE HELBROS REGENCY. Cl. 27 (Int. Cl. 14). 1–18–49.
505,826. GARDEN PARTY. Cl. 51 (Int. Cl. 3). 1–18–49.
505,880. CARBOFILM. Cl. 21 (Int. Cl. 9). 1–18–49.
506,258. CATERPILLAR. Cl. 19 (Int. Cl. 12). 2–1–49.
506,285. STRONG-TIE. Cl. 7 (Int. Cl. 22). 2–1–49.
506,343. BATELLA. Cl. 43 (Int. Cl. 23). 2–1–49.
506,406. CORRECT CRAFT. Cl. 19 (Int. Cl. 12). 2–8–49.
506,419. ANATOLE ROBBINS. Cl. 51 (Int. Cl. 3). 2–8–49.
506,427. TROY. Cl. 23 (Int. Cl. 20). 2–8–49.
506,500. STANCOR. Cl. 21 (Int. Cl. 9). 2–8–49.
506,505. WEBSTER. Cl. 21 (Int. Cl. 9). 2–8–49.
506,618. B WITHIN O. Cl. 21 (Int. Cl. 9). 2–15–49.
506,670. MODULITE. Cl. 26 (Int. Cl. 9). 2–15–49.
506,688. NAPIER. Cl. 28 (Int. Cl. 14). 2–15–49.
506,724. HYVOL. Cl. 21 (Int. Cl. 9). 2–15–49.
506,726. MERCUHYDRIN. Cl. 18 (Int. Cl. 5). 2–15–49.
506,820. KNIGHT. Cl. 21 (Int. Cl. 9). 2–22–49.
506,826. GLASCOTE. Cl. 13 (Int. Cl. 6). 2–22–49.
506,964. NIPPY. Cl. 46 (Int. Cl. 29). 2–22–49.
507,233. HALLIE JR. Cl. 39 (Int. Cl. 25). 3–1–49.
507,537. FLEX-SPINNER. Cl. 21 (Int. Cl. 7). 3–15–49.
507,593. ARVIN. Cl. 21 (Int. Cls. 9 and 11). 3–15–49.
507,630. VANAH. Cl. 46 (Int. Cls. 3 and 30). 3–15–49.
507,637. AIR-FLITE. Cl. 22 (Int. Cl. 28). 3–15–49.
507,674. DOT. Cl. 22 (Int. Cl. 28). 3–15–49.
507,709. TENNANT. Cl. 4 (Int. Cl. 4). 3–15–49.
507,826. VIKING. Cl. 23 (Int. Cl. 7). 3–22–49.
507,853. FIRENZE. Cl. 46 (Int. Cl. 29). 3–22–49.
508,022. PERFUME BOX DESIGN. Cl. 51 (Int. Cl. 3). 3–22–49.
508,056. VALLEY. Cl. 39 (Int. Cl. 25). 3–29–49.
508,210. POWHATAN. Cl. 46 (Int. Cls. 29, 30, and 32). 4–5–49.
508,211. POCAHONTAS. Cl. 46 (Int. Cls. 29, 30 and 32). 4–5–49.
508,215. FARGO. Cl. 21 (Int. Cl. 9). 4–5–49.
508,234. OHMER. Cl. 26 (Int. Cl. 9). 4–5–49.
508,525. ALEXANDRA DE MARKOFF. Cl. 51 (Int. Cl. 3). 4–12–49.
508,578. CORDET. Cl. 35 (Int. Cl. 17). 4–12–49.
508,579. ALSYNITE. Cl. 12 (Int. Cl. 19). 4–12–49.
508,693. MOREHOUSE AND PENNANT. Cl. 46 (Int. Cl. 30). 4–19–49.
508,701. ARISTO-BILT AND DESIGN. Cl. 32 (Int. Cl. 20). 4–19–49.
508,760. GILT EDGE. Cl. 48 (Int. Cl. 32). 4–19–49.
509,134. HYGENA AND DESIGN. Cl. 18 (Int. Cl. 5). 4–26–49.
509,346. SILVER KING. Cl. 21 (Int. Cl. 9). 5–3–49.
509,376. AIR SPUN. Cl. 39 (Int. Cl. 25). 5–3–49.
509,589. DEERE. Cl. 23 (Int. Cl. 7). 5–10–49.
509,661. TIDEWATER. Cl. 46 (Int. Cls. 29, 30, and 32). 5–10–49.
510,032. ART-COLORTONE. Cl. 38 (Int. Cl. 16). 5–24–49.
510,048. PHELAN'S. Cl. 16 (Int. Cl. 2). 5–24–49.
510,091. BEARING MANUAL. Cl. 38 (Int. Cl. 16). 5–24–49.
510,113. MORNING GLORY. Cl. 32 (Int. Cl. 20). 5–24–49.
510,368. L. & M. Cl. 1 (Int. Cl. 18). 5–31–49.
510,386. LEA MAC AND DESIGN. Cl. 1 (Int. Cl. 18). 5–31–49.
510,392. SPUTTERFUSS. Cl. 22 (Int. Cl. 28). 5–31–49.
510,393. TIN LIZ. Cl. 22 (Int. Cl. 28). 5–31–49.
510,643. BACK SAVER. Cl. 23 (Int. Cl. 20). 6–7–49.
510,701. EVERGREEN. Cl. 6 (Int. Cl. 5). 6–7–49.
510,742. MCKAY'S MAXLIN. Cl. 18 (Int. Cl. 5). 6–7–49.
510,839. WHITE CROSS. Cl. 6 (Int. Cls. 3 and 5). 6–14–49.
510,918. MOUNT HOPE. Cl. 23 (Int. Cl. 7). 6–14–49.
510,959. ADNAP. Cl. 37 (Int. Cl. 16). 6–14–49.
511,030. ALUMINUX. Cl. 4 (Int. Cl. 3). 6–14–49.
510,880. STATELY. Cl. 46 (Int. Cl. 31). 6–14–49.
511,105. DESIGN OF PERFUME BOTTLE CHANEL NO. 5. Cl. 51 (Int. Cl. 3). 6–14–49.
511,149. FOOT COMFORT. Cl. 44 (Int. Cls. 5 and 10). 6–21–49.
511,187. SPERZEL. Cl. 13 (Int. Cl. 11). 6–21–49.
511,271. HI-SEAL. Cl. 12 (Int. Cl. 17). 6–21–49.
511,305. COCK 'N BULL AND DESIGN. Cl. 45 (Int. Cl. 32). 6–21–49.
511,729. KLING-TITE ETC. AND DESIGN. Cl. 16 (Int. Cl. 2. 6–28–49.
511,755. MCQUAY-NORRIS. Cl. 19 (Int. Cl. 12). 7–5–49.
511,793. UNCLE SAM'S. Cl. 22 (Int. Cl. 28). 7–5–49.
512,011. SUN-BAR. Cl. 16 (Int. Cl. 2). 7–5–49.
512,156. JANICE BRENT. Cl. 39 (Int. Cl. 25). 7–12–49.
512,248. SIGNODE. Cl. 23 (Int. Cl. 7). 7–12–49.

TRADEMARK REGISTRATIONS CANCELED

Section 7(d)

193,730. FOOD SERVICE. Cl. 38. 1–6–25.
365,010. IWP. Cl. 12. 2–21–39.
365,011. FANCIFUL DESIGN. Cl. 12. 2–21–39.
442,302. CLAIR-OBSCUR CHIAROSCURO. Cl. 6. 3–22–49.
527,347. FOOD SERVICE. Cl. 38. 7–4–50.
554,823. LARCH AND DESIGN. Cl. 12. 2–12–52.
570,834. WPA. Cl. 12. 2–17–53.
571,800. WPA SP AND DESIGN. Cl. 12. 3–10–53.
600,934. RCA-RADIOMARINE AND DESIGN. Cl. 21. 1–18–55.
767,370. LIQUIDATE. Cl. 6. 3–31–64.

Section 8

21,903. KUTTYHUNK AND DESIGN. Cl. 6. 11–1–1892.
110,560. TELESCOPE. Cl. 32. 5–30–16.
710,252. CHLOROMATIC. Cl. 31. 1–24–61.
722,045. PORT-A-DENT. Cl. 44. 9–26–61.

722,233. AIR-X-IT. Cl. 34. 10–3–61.
724,251. THE DRIFTER ETC. AND DESIGN. Cl. 39. 11–21–61.
725,076. KILBANON LT. Cl. 39. 12–12–61.
726,341. BOLARIS. Cl. 52. 1–9–62.
726,529. DONNIS OF DALLAS. Cl. 39. 1–16–62.
726,827. QUICK CHANGE. Cl. 22. 1–23–62.
729,500. SCORE-MORE. Cl. 39. 4–3–62.
729,563. DOUBLE SERVICE ETC. AND DESIGN. Cl. 106. 4–3–62.
733,268. ANCHORFAST. Cl. 13. 6–26–62.
736,663. SQUAREHED. Cl. 13. 8–28–62.
737,074. MAGNUMTONE. Cl. 22. 9–4–62.
738,363. EMULAN. Cl. 51. 9–25–62.

The following registrations issued Mar. 5, 1963

746,038. CELLU-DOWN. Cl. 1.
746,039. RESI-CHEM. Cl. 1.
746,047. BIOPHYL. Cl. 1.
746,048. TRIUMPH. Cl. 1.
746,054. TOYROLA. Cl. 2.
746,056. DEKPAK. Cl. 2.
746,058. TWISTPAK. Cl. 2.
746,066. BON AMI. Cl. 4.
746,074. FLO-MOLD. Cl. 6.
746,084. COUNTRY MIST. Cl. 6.
746,091. PREFIX. Cl. 6.
746,096. L TWINE AND DESIGN. Cl. 7.
746,121. AGGRETEX "F." Cl. 16.
746,124. X–33. Cl. 16.
746,135. MAVENE. Cl. 18.
746,136. MYLOPAQUE. Cl. 18.
746,137. OCULAID. Cl. 18.
746,139. TONEL. Cl. 18.
746,143. EQUI-VM. Cl. 18.
746,145. EQUI-E. Cl. 18.
746,147. SOOZEASE. Cl. 18.
746,149. MULTIFASE. Cl. 18.
746,151. THOVRIN. Cl. 18.
746,152. KOLOZ. Cl. 18.
746,153. LIFE-GUIDES AND DESIGN. Cl. 18.
746,157. RODCRAFT. Cl. 19.
746,166. PUMPF. Cl. 21.
746,172. LUSTROLITE. Cl. 21.
746,175. TRW AND DESIGN. Cl. 21.
746,177. MINIKEEP. Cl. 21.
746,178. SKIP-O-HOOP. Cl. 22.
746,180. LOOKING CARDS. Cl. 22.
746,181. DURA-HANDL. Cl. 22.
746,183. HARLEQUIN TOYS AND GAMES AND DESIGN. Cl. 22.
746,184. GOLF-O-TRON AND DESIGN. Cl. 22.
746,185. PARAFACE. Cl. 22.
746,191. DOTS-IT. Cl. 22.
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746,400. BRITE-N- WHITE. Cl. 6.

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321,009. OLD HERMITAGE. Cl. 49. 1–15–35. The American Medicinal Spirits Company. National Distillers and Chemical Corporation, New York, N.Y. Amended to appear:

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510,244. MAGIC. Cl. 6. 5–31–49. Morehouse Manufacturing Company. Carson Chemical Company, Savannah, Ga. Amended: In the statement, column 1, lines 18 and 19 are deleted, and the drawing is amended to appear:

magic

587,494. PURITAN SPORTSWEAR ETC. Cl. 39. 3–30–54. The Puritan Knitting Mills, Inc. The Puritan Sportswear Corp., Altoona, Pa. Amended: In the statement, column 1, line 8, ", women" is deleted.

707,832. PURITAN MATES AND DESIGN. Cl. 39. 11–29–60. The Puritan Sportswear Corp., Altoona, Pa. Amended: In the statement, column 2, line 1, "girls' and Ladies'," is deleted and after "men's" *, and matching male and female apparel—namely,* is inserted.

860,530. BLUE WHALE. Cl. 27. 11–19–68. Montre de Sport Geneve S.A., Geneva, Switzerland. Corrected: In the statement, column 2, line 4, "227,992" should be deleted and *227,990* should be inserted.

860,897. ECOLIN. Cl. 18. 11–26–68. Ciba Corporation, doing business as The Gland-O-Lac Company, Summit, N.J. Corrected: In the heading, "Ser. No. 283,963" should be deleted and *Ser. No. 283,863* should be inserted.

865,652. LAFAYETTE AND DESIGN. Cls. 21, 26 and 36. 3–4–69. Lafayette Radio Electronics Corporation, Syosset, N.Y. Corrected: In the statement, column 2, line 3, "decals" should be deleted and *decks* should be inserted.

865,948. CA AND DESIGN. Cl. 102. 3–4–69. Continental American Life Insurance Company, Wilmington, Del. Corrected: In the statement, column 1, line 1, "America" should be deleted and *American* should be inserted.

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Goodrich, B. F., Co., The, Akron, Ohio. 258,458, ren. 4-22-69. Cl. 2.
Gordon, Robert I., d.b.a. Homemakers Research Institute, Evanston, Ill. 868,422, pub. 2-4-69. Cl. 38.
Gorman Games, Inc., Chicago, Ill. 746,191, canc. Cl. 22.
Grace, W. R., & Co., Cambridge, Mass. 868,344, pub. 2-4-69. Cl. 12.
Graphic Controls Corp., Buffalo, N.Y. 868,336, pub. 2-4-69. Cl. 11.
Greene, Tweed & Co., to Greene, Tweed & Co., Inc., North Wales, Pa. 511,271, ren. 4-22-69. Cl. 12.
Greene, Tweed & Co., Inc.: *See*—
Greene, Tweed & Co.
Guertin Bros. Mfg. Corp., Hyannis, Mass. 868,383, pub. 2-4-69. Cl. 28.
Guido Evangelistic Assn., Inc., Metter, Ga. 868,438, pub. 2-4-69. Cl. 38.

Hanes Corp.: *See*—
Hanes, P. H., Knitting Co.
Hanes, P. H., Knitting Co., to Hanes Corp., Winston-Salem, N.C. 505,421, ren. 4-22-69. Cl. 39.
Hanover Music Corp., Los Angeles, Calif. 746,238, canc. Cl. 36.
Harold Toy & Game Co., Bismarck, N.D. 746,183, canc. Cl. 22.
Harris Paint Co., d.b.a. Harris Standard Paint Co., Tampa, Fla. 868,546. Cl. 52.
Harris Standard Paint Co.: *See*—
Harris Paint Co.
Haveg Industries, Inc.: *See*—
Glascote Products, Inc.
Helbros Watch Co., Inc., New York, N.Y., to Elgin National Watch Co., Elgin, Ill. 505,782, ren. 4-22-69, Cl. 27.
Herald Life Insurance Co., Jacksonville, Fla. 868,524, pub. 2-4-69. Cl. 102.
Hercules Tire & Rubber Co., The, Findlay, Ohio. 868,416, pub. 2-4-69. Cl. 35.
Herndon, Edward C., d.b.a. Nor-Cal Products Co., San Francisco, Calif. 746,204, canc. Cl. 23.
Hills Bros. Coffee, Inc., San Francisco, Calif. 746,279, canc. Cl. 46.
Hillstrom Enterprises, Inc., Chicago, Ill. 868,400, pub. 2-4-69. Cl. 33.
Hitchcock Publishing Co., Wheaton, Ill. 868,436, pub. 2-4-69. Cl. 38.
Hobart Mfg. Co., The: *See*—
Troy Sunshade Co., The.
Hodgson, Marley, Ltd., Chicago, Ill. 868,446, pub. 2-4-69. Cl. 40.
Hoeller, Harold A., Vienna, Austria. 746,390, canc. Cl. 107.
Hollingsworth, Billy J., Lamesa, Tex. 746,247, canc. Cl. 38.
Homemakers Research Institute: *See*—
Gordon, Robert I.
Honeggers' & Co., Inc., Fairbury, Ill. 868,365, pub. 2-4-69. Cl. 18.
Horne, Fred F., d.b.a. Airrigation Engineering Co., Carmel Valley, Calif. 868,321, pub. 2-4-69. Cl. 6.
Houdaille Industries, Inc.: *See*—
Viking Pump Co.
Houston Post Co., The, Houston, Tex. 868,430, pub. 2-4-69. Cl. 38.
Hupp, Inc., Cleveland, Ohio. 868,396, pub. 2-4-69. Cl. 31.
Huth-James Shoe, Inc., Milwaukee, Wis. 729,500, canc. Cl. 39.
Hygena Co., to R. G. Dunwoody & Sons, Inc., Atlanta, Ga. 509,134, ren. 4-22-69. Cl. 18.
Illinois Tool Works Inc., Chicago, Ill. 746,058, canc. Cl. 2.
Import-Export Management Service, Inc., Dallas, Tex. 868,-389, pub. 2-4-69. Cl. 29.
Independent Nail & Packing Co., Inc., The, Bridgewater, Mass. 733,268, canc. Cl. 13.
Independent Nail & Packing Co., Inc., The, Bridgewater, Mass. 736,663, canc. Cl. 13.
Industrial Atlas Corp., New York, N.Y. 868,429, pub. 2-4-69. Cl. 38.
Industrial Insulators International Corp., d.b.a. Industrial Insulators International, Plattsmouth, Nebr. 868,527, pub. 2-4-69. Cl. 103.
Industrial Insulators International: *See*—
Industrial Insulators International Corp.
Institute for Computer Technology, Clifton, N.J. 868,553. Cl. 107.
International Flavors & Fragrances Inc.: *See*—
Van Ameringen-Haebler, Inc.
International Latex Corp., Dover, Del. 868,432, pub. 2-4-69. Cl. 38.
International Minerals & Chemical Corp., Skokie, Ill., from Evangeline Pepper & Food Products, Inc., St. Martinville, La. 868,450, pub. 2-4-69. Cl. 46.
International School of Memory Training, San Diego, Calif. 868,552. Cl. 107.
Janie Products, Inc., St. Paul, Minn. 746,054, canc. Cl. 2.
Jedd, E. L., Co., Philadelphia, Pa. 746,207, canc. Cl. 42.
Jeffco Industries, Inc., Somerville, N.J. 868,420, pub. 2-4-69. Cl. 37.
Jenn-Air Corp., Indianapolis, Ind. 868,410, pub. 2-4-69. Cl. 34.
Joselyn Creative Service, Chicago, Ill. 746,330, canc. Cl. 50.
Kaiser Aluminum & Chemical Corp., Oakland, Calif. 868,532. Cl. 14.
Kaminsky, Abraham R. Kamm, Scottsdale, Ariz. 868,435, pub. 2-4-69. Cl. 38.
Kaper-Jac, Inc., New York, N.Y. 868,539. Cl. 39.
Karavan Fashions, Inc., New York, N.Y. 868,301, pub. 2-4-69. Cl. 3.
Kawasaki Steel Corp., Kobe, Japan. 868,360-2, pub. 2-4-69. Cl. 14.
Kellogg Co., Battle Creek, Mich. 868,457, pub. 2-4-69. Cl. 46.
Kemode Mfg. Co. Inc., The, Westbury, N.Y. 868,412, pub. 2-4-69. Cl. 34.
Kilbanon Corp., Wayland, Mass. 725,076, canc. Cl. 39.
Kimball Piano & Organ Co., Jasper, Ind. 868,417, pub. 2-4-69. Cl. 36.
King Candy Co., d.b.a. Southern Candy Co., Fort Worth, Tex. 868,462, pub. 2-4-69. Cl. 46.
King Coffee Filter Co. Inc., Rochester, N.Y. 868,393, pub. 2-4-69. Cl. 31.
Kling-Tite Paint Products Co., Chicago, Ill. 511,729, ren. 4-22-69. Cl. 16.
Kurchak, William J., Jr., Thorold, Ontario, Canada. 868,502, pub. 2-4-69. Cl. 100.
Kurfees, J. F., Paint Co., Inc., to Kurfees Paint Co., Louisville, Ky. 512,011, ren. 4-22-69. Cl. 16.
Kurfees Paint Co.: *See*—
Kurfees, J. F., Paint Co., Inc.
Lafayette Radio Electronics Corp., Syosset, N.Y. 865,652, cor. Multiple Class (Classes 21, 26, and 36).
Lakeside Laboratories, Inc., Milwaukee, Wis., to Colgate-Palmolive Co., New York, N.Y. 506,726, ren. 4-22-69. Cl. 18.
Langfitt Elevators, Osceola, Iowa. 746,096, canc. Cl. 7.
Lanvin-Charles of The Ritz, Inc., New York, N.Y. 868,492, pub. 2-4-69. Cl. 51.
Lapham, Douglas A., New York, N.Y. 746,372, canc. Cl. 101.
Lau Blower Co., The, Dayton, Ohio. 868,406, pub. 2-4-69. Cl. 34.
Leas & McVitty, Inc., Philadelphia, Pa. 510,368, ren. 4-22-69. Cl. 1.
Leas & McVitty, Inc., Philadelphia, Pa. 510,386, ren. 4-22-69. Cl. 1.
Lehigh Portland Cement Co., Allentown, Pa. 868,346, pub. 2-4-69. Cl. 12.
Lehman Specialty Co., Philadelphia, Pa. 868,352, pub. 2-4-69. Cl. 13.
Lehn & Fink Products Corp., Bloomfield, N.J., to Tussy Cosmetics, Inc., New York, N.Y. 505,826, ren. 4-22-69. Cl. 51.
Lenor Fur Fashions, Inc., New York, N.Y. 746,388, canc. Cl. 106.
Lipe Specialty Co., Inc., Skaneateles, N.Y. 868,535. Cl. 22.
Lundy Corp., Davenport, Iowa. 868,537. Cl. 25.
Lustrolite Cleveland Corp., Cleveland, Ohio. 746,172, canc. Cl. 21.
MBA Enterprises, Inc., New York, N.Y. 868,442, pub. 2-4-69. Cl. 38.
Magnum Sports Products Corp., Pekin, Ill. 737,074, canc. Cl. 22.
Major & Co., Ltd., Kingston-Upon-Hull, Yorkshire, to Soligmum Ltd., London, England. 74,182, ren. 4-22-69. Cl. 16.
Malleable Iron Range Co., Beaver Dam, Wis. 868,403, pub. 2-4-69. Cl. 34.
Mason Tackle, Otisville, Mich. 726,827, canc. Cl. 22.
Matsushita Electric Industrial Co., Ltd., Osaka Prefecture, Japan. 868,381, pub. 2-4-69. Cl. 26.
McCord Corp., Detroit, Mich. 508,578, ren. 4-22-69. Cl. 35.
McKay Maxlin Co., West Allis, Wis., to Spohn Medical Co., Goshen, Ind. 510,742, ren. 4-22-69. Cl. 18.
McQuay-Norris Mfg. Co., St. Louis, Mo. 511,755, ren. 4-22-69. Cl. 19.
Mechwart, Suzanne, Philadelphia, Pa. 746,147, canc. Cl. 18.
Medley Distilling Co., d.b.a. Wild Peccary Distilling Co., Owensboro, Ky. 868,467, pub. 2-4-69. Cl. 49.
Mem Co., Inc., Northvale, N.J. 868,471, pub. 2-4-69. Cl. 51.
Merck & Co., Inc., Rahway, N.J. 746,149, canc. Cl. 18.
Merit Products, Inc., Los Angeles, Calif. 868,302, pub. 2-4-69. Cl. 4.
Meyer Products, Inc., Cleveland, Ohio. 868,373, pub. 4-30-68. Cl. 19.
Meyers, B.F., & Co., Newport Beach, Calif. 868,374, pub. 4-9-68. Cl. 19.
MidAmerica Mutual Fund, Inc., Cedar Rapids, Iowa. 868,-521, pub. 2-4-69. Cl. 102.
Miller, I., & Sons, Inc., Long Island City, N.Y., to Genesco Inc., Nashville, Tenn. 248,721, ren. 4-22-69. Cl. 3.
Monsanto Chemical Co., St. Louis, Mo. 746,074, canc. Cl. 6.
Montgomery Ward & Co. Inc., Chicago, Ill. 746,228, canc. Cl. 31.
Montre de Sport Geneve S.A., Geneva, Switzerland. 860,530, cor. Cl. 27.
Morehouse Foods, Inc.: *See*—
Morehouse Mustard Mills.
Morehouse Mfg. Co., to Carson Chemical Co., Savannah, Ga. 510,244, cor. Cl. 6.
Morehouse Mustard Mills, to Morehouse Foods, Inc., Los Angeles, Calif. 508,693, ren. 4-22-69, Cl. 46.
Mount Hope Machinery Co., Tauton, Mass. 510,918, ren. 4-22-69, Cl. 23.
Multicolor Gravure Corp., Florence, Mass. 746,332, canc. Cl. 50.
Murphy Laboratories, Inc., Drexel Hill, Pa. 510,701, ren. 4-22-69. Cl. 6.
Musher Corp.: *See*—
Musher Laboratories.
Musher Laboratories, from Musher Corp., New York, N.Y. 868,491, pub. 2-4-69. Multiple Class (Classes 51 and 52).
Napier Co., The, Meriden, Conn. 506,688, ren. 4-22-69. Cl. 28.
National Association of Trailer Owners, Inc. 746,253, canc. Cl. 38.
National Dairy Products Corp.: *See*—
Phenix Pabst-Ett Co.
National Hosiery Mills, Inc., Indianapolis, Ind. to U.S. Industries, Inc., New York, N.Y. 509,376, ren. 4-22-69. Cl. 39.
National Lock Co., Rockford, Ill. 868,350, pub. 2-4-69. Cl. 13.
National Periodical Publications, Inc., New York, N.Y. 868,443, pub. 2-4-69. Cl. 38.
Nature Conservancy, The, Washington, D.C. 868,426, pub. 2-4-69. Cl. 38.
Nitto Electric Industrial Co. Ltd., Ibaraki, Japan. 868,306, pub. 2-4-69. Multiple Class (Classes 5 and 12).
Noblitt-Sparks Industries, Inc., to Arvin Industries, Inc., Columbus, Ind. 507,593, ren. 4-22-69. Cl. 21.
Nor-Cal Products Co.: *See*—
Herndon, Edward C.
Norcross, Inc., New York, N.Y. 442,935, ren. 4-22-69. Cl. 38.
North Pacific Lumber Co., Portland, Oreg. 868,345, pub. 2-4-69. Cl. 12.
Nutri-Bio Corp., Beverly Hills, Calif. 746,291, canc. Cl. 46.
Nyman, Al, & Son, Inc., New York, N.Y. 868,295, pub. 5-14-69. Cl. 2.
Octagon Ventilator Co., Chicago, Ill. 722,233, canc. Cl. 34.
Ohio Brass Co., The, Mansfield, Ohio. 506,618, ren. 4-22-69. Cl. 21.

Ohmer Corp., Dayton, Ohio to Rockwell Mfg. Co., Pittsburgh, Pa. 508,234, ren. 4–22–69. Cl. 26.
Ohmite Mfg. Co., Chicago, to Consolidated Electronics Industries Corp., Skokie, Ill. 252,608, ren. 4–22–69. Cl. 21.
Oregon Fruit Products Co.: *See*—
Gehlar, Mark G.
Organico, Societe Anonyme, Paris, France. 746,241, canc. Cl. 37.
Pacific National Bank of San Francisco, San Francisco, Calif. 868,514, pub. 2–4–69. Cl. 102.
Paint & Wallpaper Assn. of America, Inc., St. Louis, Mo. 868,510, pub. 2–4–69. Cl. 101.
Paleo Products, Inc., from Skip-O-Hoop, Inc., Beverly Hills, Calif. 746,178, can. Cl. 22.
Parallel Products Co., Columbia, S.C. 746,185, canc. Cl. 22.
Paula, C. M., Co., The, Cincinnati, Ohio. 868,425, pub. 2–4–69. Cl. 38.
Paule Chemical Corp., Charlestown, Mass. 868,304, pub. 2–4–69. Cl. 4.
Peco Ornament Co., Austell, Ga. 868,545. Cl. 50.
Peoples Bank of Bloomington, Bloomington, Ill. 868,522, pub. 2–4–69. Cl. 102.
Perkins, B. F., & Son, Inc., Holyoke, Mass. 72,681, ren. 4–22–69. Cl. 26.
Personnel Training & Development Co.: *See*—
Eninger, Max U.
Petz, J. L., Co., Inc., Pleasant Valley, N.Y. 746,209, canc. Cl. 26.
Petzke, Frank, Co.: *See*—
Petzke, Franklin J.
Petzke, Franklin J.,d .b.a. Frank Petzke Co., Phoenix, Ariz. 868,418, pub. 2–4–69. Cl. 36.
Phar-Med, Inc., East Detroit, Mich. 746,139, canc. Cl. 18.
Phelan-Faust Paint Mfg. Co., St. Louis, Mo. 510,048, ren. 4–22–69. Cl. 16.
Phenix Pabst-Ett Co., to National Dairy Products Corp., Chicago, Ill. 506,964, ren. 4–22–69. Cl. 46.
Phillips Mfg. Co., Chicago, Ill. 442,841, ren. 4–22–69. Cl. 23.
Phillips Mfg. Co., Chicago, Ill. 443,110, ren. 4–22–69. Cl. 4.
Plaubel Feinmechanik Und Optik, Frankfurt am Main, Germany. 868,377, pub. 2–4–69. Cl. 26.
Plymouth Cordage Co., Plymouth and North Plymouth, Mass., to Columbian Rope Co., Auburn, N.Y. 506,285, ren. 4–22–69. Cl. 7.
Poloron Products, Inc., New Rochelle, N.Y. 868,404, pub. 2–4–69. Cl. 34.
Poro College Products, Inc., Chicago, Ill. 502,991, ren. 4–22–69. Cl. 51.
Preformed Line Products Co., Cleveland, Ohio. 868,357, pub. 2–4–69. Cl. 13.
Printing Industries of Florida, Inc., Kissimmee, Fla. 746,399, canc. Cl. A.
Propper Mfg. Co., Inc., Long Island City, N.Y. 868,379, pub. 2–4–69, Multiple Class (Classes 26 and 44).
Puritan Knitting Mills, Inc., The, to The Puritan Sportswear Corp., Altoona, Pa. 587,494, Am. 7(d). Cl. 39.
Puritan Sportswear Corp., The, Altoona, Pa. 707,832. Am. 7(d). Cl. 39.
Putman Publishing Co., Chicago, Ill. 868,440, pub. 2–4–69. Cl. 38.
Quaker Oats Co., The, Chicago, Ill. 746,309, canc. Cl. 46.
R.E.L. Enterprises, Inc., Los Angeles, Calif. 868,549. Cl. 101.
Radiation Instrument Development Laboratory, Inc., Melrose Park, Ill. 746,212, canc. Cl. 26.
Radiator Specialty Co., Charlotte, N.C. 868,490, pub. 2–4–69. Cl. 51.
Radio Corp. of America, New York, N.Y. 600,934, canc. Cl. 21.
Ralston Purina Co., St. Louis, Mo. 868,463, pub. 2–4–69. Cl. 46.
Raypak Co., Inc., South El Monte, Calif. 868,408–9, pub. 2–4–69. Cl. 34.
Realart Silk Hosiery Mills: *See*—
Sachsenmaier, Frances.
Reichhold Chemicals, Inc.: *See*—
Allied Synthetics Co.
Remaco, Inc., Northvale, N.J. 868,415, pub. 2–4–69. Cl. 35.
Rendez Vous Frozen Food Specialties, Inc., Amityville, N.Y. 746,293, canc. Cl. 46.
Renfield Importers, Ltd., Union, N.J. 868,466, pub. 2–4–69. Cl. 49.
Rerebar, Inc., McKee City, N.J. 868,505, pub. 2–4–69. Cl. 100.
Rexall Drug & Chemical Co., Los Angeles, Calif., from Beauty Counselors, Inc., Grosse Pointe, Mich. 868,470, pub. 8–8–67. Cl. 51.
Riegel Textile Corp., New York, N.Y. 868,447–8, pub. 2–4–69. Cl. 42.
Riker Laboratories, Inc., Northridge, Calif. 746,056, canc. Cl. 2.
Riverside Cotton Mills, to Dan River Mills, Inc., Danville, Va. 73,903, ren. 4–22–69. Cl. 42.
Roanoke Double Service Film Co., Inc., Roanoke, Va. 729,563, canc. Cl. 106.
Robbins, Anatole: *See*—
Robbins, Anatole, Inc.
Robbins, Anatole, Inc., d.b.a. Anatole Robbins, Los Angeles, Calif., to Alexandra de Markoff Sales Corp., New York, N.Y. 506,419, ren. 4–22–69. Cl. 51.
Robins, A. H., Co., Inc., Richmond, Va. 868,454, pub. 2–4–69. Cl. 46.
Rockwell Mfg. Co.: *See*—
Ohmer Corp.
Rodcraft Boats: *See*—
Wade, W. J.
Rolfe Chemical Corp., Stamford, Conn. 868,320, pub. 2–4–69. Multiple Class (Classes 6 and 15).
Rosenthal, A & M, Bridal Veils Corp., New York, N.Y. 868,538. Cl. 39.
Ruby Red's, Inc., New Orleans, La. 868,501, pub. 2–4–69. Cl. 100.
Rucker Pharmacal Co., Inc., Shreveport, La. 868,370–2, pub. 2–4–69. Cl. 18.
Rusco Industries, Inc., Bedford Heights, Ohio. 868,351, pub. 2–4–69. Cl. 13.
Sachsenmaier, Frances, d.b.a. Realart Silk Hosiery Mills, Philadelphia, Pa., to Chadbourn Gotham, Inc., Charlotte, N.C. 252,234, ren. 4–22–69. Cl. 39.
Sachsenmaier, Frances, d.b.a. Realart Silk Hosiery Mills, Philadelphia, Pa., to Chadbourn Gotham, Inc., Charlotte, N.C. 253,162, ren. 4–22–69. Cl. 39.
Saftee Glass Co., Inc., Philadelphia, Pa. 868,401, pub. 2–4–69. Cl. 33.
St. Thomas, Inc., Gloversville, N.Y. 868,300, pub. 2–4–69. Cl. 8.
Salinas Marketing Cooperative, Salinas, Calif. 510,880, ren. 4–22–69. Cl. 46.
Salmanson & Co., Inc., New York, N.Y. 508,701, ren. 4–22–69. Cl. 32.
Salviam, Paris, France. 868,312, pub. 2–4–69. Cl. 6.
Sambo's Inc., Santa Barbara, Calif. 746,297, canc. Cl. 46.
Scheibe, Fred K., Oneonta, N.Y. 868,427, pub. 2–4–69. Cl. 38.
Scheurer, Robert S., d.b.a. Texas Water Crafters, Wichita Falls, Tex. 868,534. Cl. 22.
Schieffelin & Co., New York, N.Y. 868,468, pub. 2–4–69. Cl. 49.
Scholl Mfg. Co., Inc., The, Chicago, Ill. 511,149, ren. 4–22–69. Cl. 44.
Scott, O. M., & Sons Co., The, Marysville, Ohio. 746,048, canc. Cl. 1.
Sea & Ski Corp., Millbrae, Calif. 868,469, pub. 2–4–69. Cl. 51.
Seagram, Joseph E., & Sons, Inc., New York, N.Y. 746,329, canc. Cl. 49.
Security Life & Trust Co., Winston-Salem, N.C. 868,516, pub. 2–4–69. Cl. 102.
Seven Bridges Publishing Co., Chicago, Ill. 868,433, pub. 2–4–69. Cl. 38.
Shamrock-Neatway Products, Inc.: *See*—
Sperzel Co.
Shell Oil Co.: *See*—
Shell Oil Co., Inc.
Shell Oil Co., New York, N.Y. 746,091, canc. Cl. 6.
Shell Oil Co., Inc., San Francisco, Calif., to Shell Oil Co., New York, N.Y. 505,103, ren. 4–22–69. Cl. 6.
Sherwin-Williams Co., The Cleveland, Ohio. 442,073, ren. 4–22–69. Cl. 6.
Shields, Inc. of Attleboro, Mass., d.b.a. Dante, New York, N.Y. 868,322, pub. 2–4–69. Cl. 8.
Shlansky, Louis, & Co., Inc.: *See*—
Shlansky, Louis, Corp.
Shlansky, Louis, Corp., to Louis Shlansky & Co., Inc., New York, N.Y. 507,233, ren. 4–22–69. Cl. 39.
Shotwell Mfg. Co., The, Chicago, Ill., to Bunte Candies, Inc., Oklahoma City, Okla. 442,016, ren. 4–22–69. Cl. 46.
Sickel, Jack H., d.b.a. Brite-n White Co., Los Angeles, Calif. 746,400, canc. Cl. 6.
Sierra Pyrotechnic Corp., Lynwood, Calif. 868,323–4, pub. 2–4–69. Cl. 9.
Signode Corp.: *See*—
Signode Steel Strapping Co.
Signode Steel Strapping Co., to Signode Corp., Chicago, Ill. 512,248, ren. 4–22–69. Cl. 23.
Simplex Wire & Cable Co., Cambridge, Mass. 868,318–9, pub. 2–4–69. Cl. 6.
Sinclair, H. M., Jr., Trustee for the Partnership, Sinclair Mfg. Co., to The Sinclair Mfg. Co., Toledo, Ohio. 510,839, ren. 4–22–69. Cl. 6.
Sinclair Mfg. Co., The: *See*—
Sinclair, H. M., Jr.
Singer Co., The: *See*—
Singer Mfg. Co., The.
Singer Home Products Corp., New York, N.Y. 868,297, pub. 2–4–69. Multiple Class (Classes 2, 42 and 50).
Singer Mfg. Co., The, Elizabeth, N.J., to The Singer Co., New York, N.Y. 442,525, ren. 4–22–69. Cl. 15.
Skip-O-Hoop, Inc.: *See*—
Paleo Products, Inc.
Smith, Elwin G., & Co., Inc., Pittsburgh, Pa. 868,530. Cl. 12.
Smith, Miller & Patch, Inc., New York, N.Y. 868,363–4, pub. 7–19–66. Cl. 18.
Smith, Miller & Patch, Inc., New York, N.Y. 868,368, pub. 2–4–69. Cl. 18.
Smith, Ralph B., Toledo, Ohio. 746,334, canc. Cl. 50.
Smith, Stuart M., Cliffside Park, N.J. 746,254, canc. Cl. 38.
Societe des Usines Chimiques Rhone-Poulene, Parks, France. 868,292, pub. 2–4–69. Cl. 1.
Solignum Ltd.: *See*—
Major & Co., Ltd.
Southern Candy Co.: *See*—
King Candy Co.
Southwest Mfg. Co., assignee of Southwest Mfg. Co., Little Rock, Ark., to Mark Twain Marine Industries Inc., Kansas City, Mo. 503,856, ren. 4–22–69. Cl. 19.
Spalding, A. G., & Bros. Inc., Chicopee, Mass. 507,637, ren. 4–22–69. Cl. 22.
Spalding, A. G., & Bros. Inc., Chicopee, Mass. 507,674, ren. 4–22–69. Cl. 22.
Spaulding & Co., Chicago, Ill. 443,101, ren. 4–22–69. Cl. 37.
Spaulding & Co., Chicago, Ill. 443,116, ren. 4–22–69. Cl. 38.
Spaulding Co., Inc., Natick, Mass. 868,307, pub. 2–4–69. Multiple Class (Classes 5, 6, 11, 20, 21, 23, 26, 29, 37, 50 and 52).
Speiser, Maximilian R., New York, N.Y. 746,184, canc. Cl. 22.
Sperzel Co., to Shamrock-Neatway Products, Inc., Minneapolis, Minn. 511,187, ren. 4–22–69. Cl. 13.
Spohn Medical Co.: *See*—
McKay Maxlin Co.
Sprouse-Reitz Co., Inc., Portland, Oreg. 868,536. Cl. 22.

Standard Foods, Inc., Louisville, Ky. 746,314, canc. Cl. 46.
Standard Transformer Corp., Chicago, Ill., to Essex International, Inc., Detroit, Mich. 506,500, ren. 4–22–69. Cl. 21.
Sta-Tite Snath Co., Shelbyville, Ind. 259,185, ren. 4–22–69. Cl. 23.
Sta-Tite Snath Co., Shelbyville, Ind. 510,643, ren. 4–22–69. Cl. 23.
Stauffer & Sons, Inc., Blue Mounds, Wis. 868,458, pub. 2–4–69. Cl. 46.
Steven, David G., Inc., New York, N.Y. 868,386, pub. 2–4–69. Cl. 28.
Stewart Inso Board Co., South St. Joseph, Mo., to United States Gypsum Co., Chicago, Ill. 256,897, ren. 4–22–69. Cl. 12.
Studebaker Corp.: *See*—
Clarke Sanding Machine Co., The.
Sunbeam Corp.: *See*—
Chicago Flexible Shaft Co.
Sun Chemical Corp., New York, N.Y. 746,121, canc. Cl. 16.
Sun Chemical Corp., New York, N.Y. 868,332–4, pub. 2–4–69. Cl. 11.
Sun Crown Food Corp., San Francisco, Calif. 746,287, canc. Cl. 46.
Sunset Packing Co.: *See*—
Sunset Packing Co. of Oregon.
Sunset Packing Co. of Oregon, d.b.a. Sunset Packing Co., Forest Grove, Oreg. 868,465, pub. 2–4–69. Cl. 46.
Swartz, Milton D., d.b.a. The Bluko Co., to The Cello Chemical Co., Baltimore, Md. 255,377, ren. 4–22–69. Cl. 52.
Swift & Co., to Swift & Co., Chicago, Ill. 248,184, ren. 4–22–69. Cl. 46.
Swift & Co., to Swift & Co., Chicago, Ill. 248,187, ren. 4–22–69. Cl. 46.
Syracuse Pharmacal Co., Inc., Syracuse, N.Y. 746,143, canc. Cl. 18.
Syracuse Pharmacal Co., Inc., Syracuse, N.Y. 746,145, canc. Cl. 18.
Systematics, Inc., St. Paul, Minn. 868,378, pub. 2–4–69. Cl. 26.
Taiyo Kogyo Co., Ltd., Tokyo, Japan. 868,298, pub. 2–4–69. Multiple Class (Classes 2 and 50).
Tano, Inc., New York, N.Y. 868,299, pub. 2–4–69. Multiple Class (Classes 3, 8, and 26).
Tapco Products Co., Inc., Detroit, Mich. 868,340, pub. 2–4–69. Cl. 12.
Taylor Bedding Mfg. Co., Taylor, Tex. 510,113, ren. 4–22–69. Cl. 32.
Taylor, H. P., Jr., Inc., to Taylor & Sledd, Inc., Richmond, Va. 508,210–11, ren. 4–22–69. Cl. 46.
Taylor & Sledd, Inc.: *See*—
Taylor, H. P., Jr., Inc.
Taylor & Sledd, Inc., Richmond, Va. 509,661, ren. 4–22–69. Cl. 46.
Taylor, Walter S., d.b.a. The Winemaker's Shop, Hammondsport, N.Y. 868,548. Cl. 101.
Teich, Curt, & Co., Chicago, Ill. 510,032, ren. 4–22–69. Cl. 38.
Telescope Cot Bed Co., New York, N.Y. 110,560, canc. Cl. 32.
Ten Bamboo Studio, Wellesley, Mass. 746,239, canc. Cl. 37.
Tennant, G. H., Co., Minneapolis, Minn. 507,709, ren. 4–22–69. Cl. 4.
Tenneco Chemicals, Inc., New York, N.Y. 868,326–31, pub. 2–4–69. Cl. 11.
Texas Harvest Hat Co., Laredo, Tex. 724,251, canc. Cl. 39.
Texas Water Crafters: *See*—
Scheurer, Robert S.
Textron Inc., Cheshire, Conn. 868,437, pub. 2–4–69. Cl. 38.
Thompson Mfg. Co., The, Chicago, to Thompson & Sons, Inc., to Thompson & Sons, Inc., Lyons, Ill. 509,346, ren. 4–22–69. Cl. 21.
Thompson Ramo Wooldridge Inc., Canoga Park, Calif. 746,175, canc. Cl. 21.
Thompson & Sons, Inc.: *See*—
Thompson Mfg. Co., The.
Tieco Products, New York, N.Y. 868,343, pub. 2–4–69. Multiple Class (Classes 12 and 32).
Tokai Sangyo Kabushiki Kaisha, Tokyo, Japan. 868,376, pub. 2–4–69. Cl. 26.
Toni Co., The: *See*—
Gillette Co., The.
Transo Envelope Co., to Arvey Corp., Chicago, Ill. 253,871, ren. 4–22–69. Cl. 37.
Transportation Corp. of America, New York, N.Y. 746,383, canc. Cl. 105.
Trefry, John T., Insurance Agency, Inc., Boston, Mass. 868,523, pub. 2–4–69. Cl. 102.
Tri-Valley Growers: *See*—
Turlock Co-Operative Growers.
Troy Sunshade Co., The, to The Hobart Mfg. Co., Troy, Ohio. 506,427, ren. 4–22–69, Cl. 32.
True Temper Corp.: *See*—
American Fork & Hoe Co., The.
Tung-Sol Lamp Works, Inc., to Wagner Electric Corp., Newark, N.J. 442,187, ren. 4–22–69. Cl. 38.
Turkeyland Marketing, Inc., Chicago, Ill. 746,313, canc. Cl. 46.
Turlock Co-Operative Growers, Modesto, to Tri-Valley Growers, San Francisco, Calif. 507,853, ren. 4–22–69. Cl. 46.
Tussy Cosmetics, Inc.: *See*—
Lehn & Fink Products Corp.
Twain, Mark, Marine Industries, Inc.: *See*—
Southwest Mfg. Co.
UMC Industries, Inc., St. Louis, Mo. 868,391–2, pub. 2–4–69. Cl. 31.
Ugine Kuhlmann, Paris, France. 868,311, pub. 2–4–69. Cl. 6.
Uncle Josh Bait Co., Fort Atkinson, Wis. 746,192, canc. Cl. 22.
Union Carbide Corp., New York, N.Y. 868,387, pub. 2–4–69. Cl. 28.
United Co-Operatives, Inc., Alliance, Ohio. 868,313, pub. 2–4–69. Cl. 6.
United States Casting Repair Co.: *See*—
Diperstein, David.
U.S. Catheter & Instrument Corp., from U.S. Catheter & Instrument Corp., Glens Falls, N.Y. 868,542. Cl. 44.
United States Gypsum Co., to United States Gypsum Co., Chicago, Ill. 255,568, ren. 4–22–69. Cl. 12.
United States Gypsum Co.: *See*—
Stewart Inso Board Co.
U.S. Industries, Inc.: *See*—
National Hosiery Mills, Inc.
United States Register Co., d.b.a. United States Register Co., Battle Creek, Mich. 868,405, pub. 2–4–69. Cl. 34.
Upjohn Co., The, to The Upjohn Co., Kalamazoo, Mich. 252,199, ren. 4–22–69. Cl. 18.
Upjohn Co., The, Kalamazoo, Mich. 868,366, pub. 2–4–69. Cl. 18.
Utah State Employees Credit Union, Salt Lake City, Utah. 868,551. Cl. 102.
Utica Mutual Insurance Co., Utica, N.Y. 746,369, canc. Cl. 100.
Valley Shoe Corp., St. Louis, Mo. 508,056, ren. 4–22–69. Cl. 39.
Valve Corp. of America, Forest Park, Ill. 868,347, pub. 2–4–69. Cl. 13.
Van Ameringen-Haebler, Inc., to International Flavors & Fragrances Inc., New York, N.Y. 507,630, ren. 4–22–69. Cl. 46.
Vancouver Electric Boxes Ltd. (Aluminum & Steel), Vancouver, British Columbia, Canada. 746,166, canc. Cl. 21.
Vaughan Interior Walls, Inc., Los Angeles, Calif. 868,531. Cl. 12.
Vaughan's Seed Co., Chicago, Ill. 767,370, canc. Cl. 6.
Vegetable Oil Products Co., Inc., Wilmington, Calif. 746,311, canc. Cl. 46.
Vendo Co., The: *See*—
Vendorlator Mfg. Co.
Vendorlator Mfg. Co., Fresno, Calif., to The Vendo Co., Kansas City, Mo. 442,201, ren. 4–22–69, Cl. 23.
Viking Pump Co., Cedar Falls, Iowa, to Houdaille Industries, Inc., Buffalo, N.Y. 507,826, ren. 4–22–69. Cl. 23.
Visual Information Systems, Inc., New York, N.Y. 868,528, pub. 2–4–69. Cl. 104.
Wade, W. J., d.b.a. Rodcraft Boats, Bakersfield, Calif. 746,157, canc. Cl. 19.
Wagner Electric Corp.: *See*—
Tung-Sol Lamp Works, Inc.
Wallace-Blakeslee, Inc.: *See*—
Atlas Advertising, Inc.
Warner-Lambert Pharmaceutical Co., Morris Plains, N.J., from Griffith Annesley, Pasadena, Calif. 746,137, canc. Cl. 18.
Warp Bros.: *See*—
Flex-O-Glass, Inc.
Washburn Crosby Co., to General Mills, Inc., Minneapolis, Minn. 72,916, ren. 4–22–69, Cl. 46.
Washington Mfg. Co.: *See*—
Elder Mfg. Co.
Watchemoket Optical Co., Inc., Providence, R.I. 868,382, pub. 2–4–69. Cl. 26.
Wayne Adhesive & Container Co., Detroit, Mich. 868,308, pub. 2–4–69. Cl. 5.
Webster Electric Co., to Webster Electric Co., Inc., Racine, Wis. 506,505, ren. 4–22–69. Cl. 21.
Webster Electric Co., Inc.: *See*—
Webster Electric Co.
West Chemical Products, Inc., Long Island City, N.Y. 868,617, pub. 2–4–69. Cl. 6.
Westab Inc.: *See*—
Western Tablet & Stationery Corp.
Western Fire Protection, Inc., to Firemaster, Inc., d.b.a. American Protection Industries, Los Angeles, Calif. 442,103, ren. 4–22–69. Cl. 13.
Western Pine Association, Portland, Oreg. 365,010–11, canc. Cl. 12.
Western Pine Association, Portland, Oreg. 554,823, canc. Cl. 12.
Western Pine Association, Portland, Oreg. 570,834, canc. Cl. 12.
Western Pine Association, Portland, Oreg. 571,800, canc. Cl. 12.
Western Stamping Corp.: *See*—
Durable Toy & Novelty Corp.
Western Tablet & Stationery Corp., to Westab Inc., Dayton, Ohio. 438,110, ren. 4–22–69. Cl. 37.
Wheeler & Ryan, Inc., Tulsa, Okla. 746,368, canc. Cl. 100.
Wild Peccary Distilling Co.: *See*—
Medley Distilling Co.
Wilkor Products, Inc., Cleveland, Ohio, to Aerovox Corp., New Bedford, Mass. 505,880, ren. 4–22–69. Cl. 21.
Williams, Charles K., Ottawa, Ontario, Canada. 868,402, pub. 2–4–69. Cl. 34.
Williams, Edwin K., & Co., Santa Barbara, Calif. 868,439, pub. 2–4–69. Cl. 38.
Wilmington Chemical Corp., Chicago, Ill. 746,124, canc. Cl. 16.
Wilson Jones Co., Chicago, Ill., to Wilson Jones Co., Niles, Ill. 443,107, ren. 4–22–69. Cl. 37.
Wimbish Aviation, Inc., Greensboro, N.C. 868,529, pub. 2–4–69. Cl. 105.
Winemaker's Shop, The: *See*—
Taylor, Walter S.
Wolverine World Wide, Inc., Rockford, Mich. 868,294, pub. 2–4–69. Cl. 1.
Wood Conversion Co., St. Paul, Minn. 746,038, canc. Cl. 1.

INDEX OF REGISTRANTS

Woodmen of the World and/or Assured Life Association, Denver, Colo. 868,518–9, pub. 4–23–68. Cl. 102.
Woodmen of the World Life Insurance Society and/or Omaha Woodmen Life Insurance Society, Omaha, Nebr. 868,517, pub. 4–23–68. Cl. 102.
Woodmen of the World Life Insurance Society and/or Omaha Woodmen Life Insurance Society, Omaha, Nebr. 868,520, pub. 4–23–68. Cl. 102.
Yasgur, Gussie B., Philadelphia, Pa. 868,451, pub. 2–4–69. Cl. 46.
Yohay Baking Co., Inc., Brooklyn, N.Y. 868,453, pub. 2–4–69. Cl. 46.
Yorktown Products Corp., New York, N.Y. 746,135, canc. Cl. 18.
Zonolite Co., Chicago, Ill. 746,047, canc. Cl. 1.

U.S. GOVERNMENT PRINTING OFFICE: 0—1969

U.S. DEPARTMENT OF COMMERCE
OFFICIAL GAZETTE of the UNITED STATES PATENT OFFICE
April 29, 1969 Volume 861 Number 5

PATENTS

NOTICES

Board of Appeals Decisions Rendered in the Month of March 1969

Examiner affirmed	126
Examiner affirmed in part	22
Examiner reversed	24
Total	172

Certificates of Correction for the Week of Apr. 29, 1969

2,931,990	3,362,696	3,369,088
3,288,851	3,362,855	3,369,145
3,326,669	3,362,946	3,369,174
3,330,586	3,363,011	3,369,589
3,331,801	3,363,021	3,369,626
3,340,299	3,363,347	3,369,929
3,342,762	3,364,118	3,369,992
3,353,348	3,364,284	3,370,044
3,354,600	3,366,449	3,370,114
3,354,907	3,366,589	3,370,116
3,356,764	3,366,867	3,370,274
3,358,584	3,368,079	3,370,649
3,359,194	3,368,229	3,370,919
3,361,531	3,368,499	3,370,966
3,361,715	3,368,583	3,371,237
3,361,852	3,369,060	3,386,989

Disclaimers

3,128,840.—*Arthur M. Barrett, Jr.*, Northbrook, Ill. RANDOM CONTROL FOR POWER-DRIVEN UNIT. Patent dated Apr. 14, 1964. Disclaimer filed by the inventor; the assignee, *Barrett Electronics Corporation*, consenting.

Hereby enter this disclaimer to claim 15 of said patent.

3,192,256.—*Alexander F. MacLean* and *Adin L. Stautzenberger*, Corpus Christi, Tex. PROCESS FOR MAKING PERACIDS BY THE OXIDATION OF ALDEHYDES. Patent dated June 29, 1965. Disclaimer filed Jan. 31, 1969, by the assignee, *Celanese Corporation*.

Hereby enters this disclaimer to claims 1 to 5 inclusive and 9 of said patent.

3,272,941.—*James F. Sullivan*, St. Marys, Pa. OVERLOAD PROTECTED ELECTRIC SWITCH. Patent dated Sept. 13, 1966. Disclaimer filed Jan. 13, 1969, by the assignee, *Stackpole Carbon Company*.

Hereby enters this disclaimer to claims 1, 2 and 3 of said patent.

3,299,622.—*Rudolph A. Hanson, and Frank J. Deptula*, Jackson, Mich. ROTARY DISC MOWER WITH SEPARATE FRAME AND BLADE HOUSING STRUCTURE. Patent dated Jan. 24, 1967. Disclaimer filed Dec. 23, 1968, by the assignee, *Yard-Man, Inc.*

Hereby enters this disclaimer to claims 1, 2, 8 and 9 of said patent.

3,324,616.—*Edward L. Brown*, Middletown, Ohio. ALL-STEEL NAILABLE CAR FLOORING. Patent dated June 13, 1967. Disclaimer filed Dec. 23, 1968, by the assignee, *Armco Steel Corporation*.

Hereby enters this disclaimer to claims 3, 4 and 5 of said patent.

3,330,186.—*Francis G. Glasby* and *Ernest B. Robinson*, Chesterfield, England. LAYOUT OF CONTROL FEATURE ON PATTERNED STRIP FOR HELICALLY WOUND CONTAINERS. Patent dated July 11, 1967. Disclaimer filed Dec. 30, 1968, by the assignee, *Robinson & Sons Ltd.*

Hereby enters this disclaimer to all the claims of said patent.

3,335,713.—*James R. Grosholz*, Strafford, and *John D. Wallace*, Wyndmoor, Pa. INFANT INCUBATOR. Patent dated Aug. 15, 1967. Disclaimer filed Dec. 30, 1968, by the assignee, *Air-Shields, Inc.*

Hereby enters this disclaimer to claim 9 of said patent.

3,365,390.—*Clark J. Egan*, Piedmont, and *Robert J. White*, Pinole, Calif. LUBRICATING OIL PRODUCTION. Patent dated Jan. 23, 1968. Disclaimer filed Dec. 11, 1968, by the assignee, *Chevron Research Company*.

Hereby enters this disclaimer to claim 6 of said patent.

3,381,689.—*Charles M. Sachs*, West Englewood, N.J. BRASSIERE. Patent dated May 7, 1968. Disclaimer filed June 7, 1968, by the assignee, *International Playtex Corporation*.

Hereby enters this disclaimer to claims 1, 2 and 5 of said patent.

3,386,956.—*Aleksandra Chrobok Nawakowski*, Glenbrook, and *Artur Maurice Schiller* and *Samuel Shan-Ning Wang*, Stamford, Conn. LOW TEMPERATURE CURABLE EPOXY RESIN ADHESIVE COMPOSITIONS WITH LONG STORAGE STABILITY. Patent dated June 4, 1968. Disclaimer filed Sept. 24, 1968, by the assignee, *American Cyanamid Company*.

Hereby enters this disclaimer to claim 1 of said patent.

New Applications Received During February 1969

Patents	7698
Designs	394
Plant Patents	10
Reissues	41
Total	8143

Issue—April 29, 1969

Patents	1300—No. 3,440,660 to No.	3,441,959, incl.
Designs	67—No. 213,941 to No.	214,007, incl.
Reissues	13—No. 26,565 to No.	26,577, incl.
Total	1380	

3,389,018.—*Edward J. Dowgiallo, Jr.*, Oxon Hill, Md. FUEL CELL WITH REJUVENATION CONTROL DEVICE. Patent dated June 18, 1968. Disclaimer filed Oct. 7, 1968, by the inventor.

Hereby enters this disclaimer to claim 11 of said patent.

3,389,214.—*William J. Smothers*, Akron, Ohio. COATED INSULATOR. Patent dated June 18, 1968. Disclaimer filed Dec. 18, 1968, by the assignee, *The Ohio Brass Company*.

Hereby enters this disclaimer to all of the claims of said patent.

3,393,135.—*William E. Rosenberg*, Parma, Ohio. BRIGHT ZINC ELECTROPLATING. Patent dated July 16, 1968. Disclaimer filed Dec. 16, 1968, by the assignee, *Enthone, Incorporated*.

Hereby enters this disclaimer to claims 1 and 5 of said patent.

3,404,613.—*Dean J. MacGregor* and *John W. Weber*, Rochester, N.Y. PHOTOGRAPHIC FILM CONTAINER. Patent dated Oct. 8, 1968. Disclaimer filed Dec. 11, 1968, by the assignee, *Eastman Kodak Company*.

Hereby enters this disclaimer to claims 1 through 5 of said patent.

3,415,499.—*Glenn W. Ebert*, Eugene, Oreg. ASPHALT PREPARING AND DELIVERING SYSTEM. Patent dated Dec. 10, 1968. Disclaimer filed Dec. 2, 1968, by the assignee, *McKenzie Sand & Gravel Co.*

Hereby enters this disclaimer to claims 4, 5, 11 and 18 of said patent.

3,416,919.—*Karl S. Snow, Boulder City, Nev.* and *Schuyler A. Herres*, Murray Hill, N.J. METHOD FOR FORMING ELECTRODES. Patent dated Dec. 17, 1968. Disclaimer filed Dec. 30, 1968, by the assignee, *Titanium Metals Corporation of America*.

Hereby enters this disclaimer to claims 1–8 of said patent.

Erratum

All references to Patent Number 3,436,834 to Wojciech S. Gutowski, Frank J. Kuchta, and Robert F. West, for Measuring Tool appearing in the OFFICIAL GAZETTE of April 8, 1969, should be deleted as the application was withdrawn from issue and the patent was not issued.

Removal From Register

Pursuant to the provisions of Rule 347 of the Rules of Practice of the United States Patent Office in Patent Cases, a letter was directed on February 17, 1969 to Mr. Earnest Carl Edge at Suite 219, Kingston Building, 3520 West Broward Boulevard, Fort Lauderdale, Florida 33312, the last post office address furnished by him to the Committee on Enrollment. No reply was received within the period of thirty days therein set. Accordingly, his name is being removed from the Register of Agents.

EDWIN L. REYNOLDS,
Apr. 3, 1969. *Chairman, Committee on Enrollment.*

Dedications

2,887,446.—*Paul F. Morz*, Bradford, Pa. PIPE COUPLING. Patent dated May 19, 1959. Dedication filed Dec. 2, 1968, by the assignee, *Dresser Industries, Inc.*

Hereby dedicates to the Public the remaining term of said patent.

2,995,617.—*Alex Just*, River Forest, *Paul A. Macimoff*, West Chicago, and *Harold B. Kalmar*, Chicago, Ill., SELF-LOCKING TERMINAL. Patent dated Aug. 8, 1961. Dedication filed Jan. 29, 1969, by the assignee, *Malco Manufacturing Company, Inc.*

Hereby dedicates to the people of the United States the terminal portion of the term of the patent beginning on Oct. 29, 1968.

3,342,728.—*Carl J. Malm, Martin E. Rowley, and Nelson G. Baumer*, all of Rochester, N.Y. DESALINIZATION OF WATER. Patent dated Sept. 19, 1967. Dedication filed Dec. 9, 1968, by the assignee, *Eastman Kodak Company*.

Hereby dedicates to the Public the entire remaining term of said patent.

3,365,321.—*Norwood A. Adler*, Oakland City, Ind. METHOD OF DECORATING A PLASTIC ARTICLE UTILIZING RESIST AND DECORATIVE LAYERS PORTIONS OF WHICH ARE REMOVED BY AN ADHESIVE FILM. Patent dated Jan. 23, 1968. Dedication filed Dec. 19, 1968, by the assignee, *Kent Plastics Corporation*.

Hereby dedicates to the Public the entire term of said patent.

Foreign Patents Received in the Search Center as of March 31, 1969

Source	Date received	Highest number
Australia:		
(*Abstracts*)	Mar. 7, 1969	46,558/68
(*Patents*)	Mar. 7, 1969	284,777
Austria	Mar. 17, 1969	266,800
Belgium	Mar. 25, 1969	677,600
Canada	Mar. 25, 1969	808,850
Czechoslovakia	Mar. 24, 1969	127,700
Denmark:		
(*Fremlaeggelseskrifter*)	Nov. 19, 1968	111,520
(*Patents*)	Nov. 19, 1968	110,050
East Germany	Mar. 20, 1969	65,227
Egypt	June 28, 1967	6,873
Finland:		
(*Utläggningsskrifter*)	Jan. 7, 1969	40,450
(*Patents*)	Nov. 8, 1968	37,023
France:		
(*Patents*)	Mar. 25, 1969	1,543,550
(*Additions*)	Mar. 17, 1969	92,300
(*Medicaments*)	Feb. 19, 1969	5,800 M
(*Additions*)	May 2, 1968	162 CAM
Germany:		
(*Auslegeschriften*)	Feb. 3, 1969	1,280,170
(*Patents*)	Feb. 3, 1969	1,265,796
Great Britain	Mar. 14, 1969	1,144,750
India	Mar. 13, 1969	101,130
Ireland	Mar. 13, 1969	28,001
Italy	Feb. 3, 1969	700,000
Japan	Mar. 25, 1969	4,320/69
Netherlands:		
(*Octrooiaanvragen*)	Dec. 2, 1968	9,983/68
(*Patents*)	Dec. 2, 1968	125,282
Norway:		
(*Utlegningsskrifter*)	Mar. 19, 1969	116,239
(*Patents*)	Mar. 25, 1969	115,043
Pakistan	Feb. 3, 1964	112,446
Philippine Republic	Apr. 13, 1962	458
Poland	Mar. 24, 1969	56,749
Rumania	Jan. 22, 1969	51,151
Sweden:	Mar. 24, 1969	306,455
(*Utläggningsskrifter*)	Mar. 25, 1969	305,099
(*Patents*)	Mar. 17, 1969	466,835
Switzerland	Mar. 5, 1969	222,252
U.S.S.R.		

Australia: First 2,000 incomplete
Belgium: First printed 493,079/1950
Canada: First printed 445,931/1948
Czechoslovakia: Not received between 81,300/1952 and 91,901/1959
Finland: First printed 19,428/1941
First 500 incomplete
Hungary: First received 5,792/1896
Latest 140,582/1951
Ireland: First received 10,000/1929
Italy: First 243,000 incomplete
Rumania: First received 40,380/1957
U.S.S.R.: Not received between 2,496/1928 and 116,000/1958
Yugoslavia: First received 10,001/1933
Latest 16,461/1941

PATENT EXAMINING CORPS

R. A. WAHL, Assistant Commissioner

CONDITION OF PATENT APPLICATIONS AS OF APRIL 7, 1969

PATENT EXAMINING GROUPS	Actual Filing Date of Oldest New Case Awaiting Action
*Denotes oldest new application.	
CHEMICAL EXAMINING GROUPS	
GENERAL CHEMISTRY AND PETROLEUM CHEMISTRY, GROUP 110—M. STERMAN, Director. Inorganic Compounds; Inorganic Compositions; Organo-Metal and Organo-Metalloid Chemistry; Metallurgy; Metal Stock; Electro Chemistry; Batteries; Hydrocarbons; Mineral Oil Technology; Lubricating Compositions; Gaseous Compositions; Fuel and Igniting Devices.	2-21-67
GENERAL ORGANIC CHEMISTRY, GROUP 120—I. MARCUS, Director. Heterocyclic; Amides; Alkaloids; Azo; Sulfur; Misc. Esters; Carbohydrates; Herbicides; Poisons; Medicines; Cosmetics; Steroids; Oxo and Oxy; Quinones; Acids; Carboxylic Acid Esters; Acid Anhydrides; Acid Halides.	7-26-66
HIGH POLYMER CHEMISTRY, PLASTICS AND MOLDING; GROUP 140—L. J. BERCOVITZ, Director. Synthetic Resins; Rubber; Proteins; Macromolecular Carbohydrates; Mixed Synthetic Resin Compositions; Synthetic Resins With Natural Polymers and Resins; Natural Resins; Reclaiming; Pore-Forming; Compositions (Part) e.g.: Coating; Molding; Ink; Adhesive and Abrading Compositions; Molding, Shaping, and Treating Processes.	1-10-67
COATING AND LAMINATING, BLEACHING, DYEING AND PHOTOGRAPHY, GROUP 160—M. STERMAN, Acting Director. Coating; Processes and Misc. Products; Laminating Methods and Apparatus; Stock Materials; Adhesive Bonding; Special Chemical Manufactures; Special Utility Compositions; Bleaching; Dyeing and Photography.	*5-31-66
SPECIALIZED CHEMICAL INDUSTRIES AND CHEMICAL ENGINEERING, GROUP 170—W. B. KNIGHT, Director. Fertilizers; Foods; Fermentation; Analytical Chemistry; Reactors; Sugar and Starch; Paper Making; Glass Manufacture; Gas; Heating and Illuminating; Cleaning Processes; Liquid Purification; Distillation; Preserving; Liquid and Solid Separation; Gas and Liquid Contact Apparatus; Refrigeration; Concentrative Evaporators; Mineral Oils Apparatus; Misc. Physical Processes.	12-30-66
ELECTRICAL EXAMINING GROUPS	
INDUSTRIAL ELECTRONICS AND RELATED ELEMENTS, GROUP 210—W. S. COLE, Director. Generation and Utilization; General Applications; Conversion and Distribution; Heating and Related Art Conductors; Switches; Miscellaneous.	5-02-67
SECURITY, GROUP 220—S. BOYD, Director. Ordnance, Firearms and Ammunition; Radar, Underwater Signalling, Directional Radio, Torpedoes, Seismic Exploring, Radio-Active Batteries; Nuclear Reactors, Powder Metallurgy, Rocket Fuels; Radio-Active Material.	8-09-66
INFORMATION TRANSMISSION, STORAGE AND RETRIEVAL, GROUP 230—S. BOYD, Acting Director. Communications; Multiplexing Techniques; Facsimile; Data Processing, Computation and Conversion; Storage Devices and Related Arts.	*3-21-66
ELECTRONIC COMPONENT SYSTEMS AND DEVICES, GROUP 250—W. L. CARLSON, Director. Semi-Conductor and Space Discharge Systems and Devices; Electronic Component Circuits; Wave Transmission Lines and Networks; Optics; Radiant Energy; Measuring.	1-24-67
PHYSICS, GROUP 260—R. L. EVANS, Director. Photography; Sound and Lighting; Indicators and Optics; Measuring and Testing; Geometrical Instruments.	5-24-67
DESIGNS, GROUP 290—S. BOYD, Director. Industrial Arts; Household, Personal and Fine Arts.	6-04-68
MECHANICAL EXAMINING GROUPS	
HANDLING AND TRANSPORTING MEDIA, GROUP 310—A. BERLIN, Director. Conveyors; Hoists; Elevators; Article Handling Implements; Store Service; Sheet and Web Feeding; Dispensing; Fluid Sprinkling; Fire Extinguishers; Coin Handling; Check Controlled Apparatus; Classifying and Assorting Solids; Boats; Ships; Aeronautics; Motor and Land Vehicles and Appurtenances; Railways and Railway Equipment; Brakes; Rigid Flexible and Special Receptacles and Packages.	8-29-67
MATERIAL SHAPING, ARTICLE MANUFACTURING, TOOLS, GROUP 320—N. BERGER, Director. Manufacturing Processes, Assembling, Combined Machines, Special Article Making; Metal Deforming; Sheet Metal and Wire Working; Metal Fusion—Bonding, Metal Founding; Metallurgical Apparatus; Plastics Working Apparatus; Plastic Block and Earthenware Apparatus; Machine Tools for Shaping or Dividing; Work and Tool Holders Woodworking; Tools; Cutlery; Jacks.	*4-12-67
AMUSEMENT, HUSBANDRY, PERSONAL TREATMENT, INFORMATION, GROUP 330—A. RUEGG, Director. Amusement and Exercising Devices; Projectors; Animal and Plant Husbandry; Butchering; Earth Working and Excavating; Fishing, etc.; Tobacco; Artificial Body Members; Dentistry; Jewelry; Surgery; Toiletry; Printing; Typewriters; Stationery; Information Dissemination.	4-27-67
HEAT AND POWER ENGINEERING, GROUP 340—C. F. GAREAU, Director. Power Plants; Combustion Engines; Fluid Motors; Pumps; Turbines; Heat Generation and Exchange; Refrigeration; Ventilation; Drying; Vaporizing; Temperature and Humidity Regulation; Machine Elements; Power Transmission.	2-05-68
FIXED CONSTRUCTIONS, SUPPORTS, AND HARDWARE, GROUP 350—T. J. HICKEY, Director. Joints; Fasteners; Rod, Pipe and Electrical Connectors; Miscellaneous Hardware; Locks; Building Structures; Closure Operators; Bridges; Closures; Earth Engineering; Drilling; Mining; Furniture; Receptacles; Supports; Cabinet Structures.	11-20-67
TEXTILES, CLEANING AND FLUID HANDLING, GROUP 360—F. H. BRONAUGH, Director. Fluid Handling, including Valves; Conduits; Filling Receptacles; Lubrication; Joint Packing; Bathroom Fixtures; Centrifugal Separators; Cleaning; Coating; Pressing; Agitating; Foods; Textiles; Apparel and Shoes and their Manufacture; Sewing Machines; Winding and Reeling.	8-28-67
Total number of pending applications (excluding Designs)	185,789
Total number of Design applications pending	3,157

Expiration of patents: The patents within the range of numbers indicated below expire during April 1969, except those which may have expired earlier due to shortened terms under the provisions of Public Law 690, 79th Congress, approved August 8, 1946 (60 Stat. 940) and Public Law 619, 83rd Congress, approved August 23, 1954 (68 Stat. 764), or which may have had their terms curtailed by disclaimer under the provisions of 35 U.S.C. 253. Other patents, issued after the dates of the range of numbers indicated below, may have expired before the full term of 17 years for the same reasons, or have lapsed under the provisions of 35 U.S.C. 151.

Patents: Numbers 2,500,333 to 2,595,213, inclusive
Plant Patents: Numbers 1,061 to 1,090, inclusive

DECISIONS IN PATENT AND TRADEMARK CASES

U.S. Court of Customs and Patent Appeals

IN RE CHARLES J. PLANK AND EDWARD J. ROSINSKI

No. 7974. Decided July 3, 1968

[55 CCPA 1400; 399 F.2d 241; 158 USPQ 328]

1. PATENTABILITY—DOUBLE PATENTING—TERMINAL DISCLAIMER—"COLORABLE" DIFFERENCE.

"The Examiner's use of the terms 'colorable distinction' and 'colorable difference' shows how unsatisfactory the word 'colorable' is as a means of communicating a clear idea of the ground of rejection [double patenting]. The Examiner says the 'same invention' is being claimed as is claimed in the patent. What then does he intend by the term 'colorable'? Does he mean there is *no* difference or distinction or does he mean that the difference—the use of Y-type zeolite—is *obvious*? If he does not intend the latter meaning, then why does he rely on Rabo et al.? It does not take a reference to show that there is no difference. It may take one to show that where there is a difference, the difference is not such as to render the claimed invention as a whole unobvious. See *In re Eckel*, 55 CCPA —, — F.2d —, 157 USPQ 415, for further observations on 'colorable.'"

2. SAME—SAME—SAME—SAME INVENTION.

"Since the Board wrote its opinion herein, we have decided that the terminal disclaimer *is* efficacious to obviate double patenting rejections in the genus-species situations. *In re Jentoft*, 55 CCPA —, 392 F.2d 633, 157 USPQ 363 (1968); *In re Braithwaite*, 54 CCPA 1589, 379 F.2d 594, 154 USPQ 29 (1967); *In re Braithwaite*, 54 CCPA 1604, 379 F.2d 606, 154 USPQ 38 (1967). The present effect of the disclaimer is to limit the inquiry to whether the same invention is twice claimed. *In re Boylan*, 55 CCPA —, 392 F.2d 1017, 157 USPQ 371 (1968); *In re Eckel* 55 CCPA —, — F.2d —, 157 USPQ 415 (1968). We look only to see whether the differences between the patented claims and those applied for are sham or real, semantic or actual. *In re Eckel*, supra; *In re Wright*, 55 CCPA —, — F.2d —, 157 USPQ 519 (1968).

3. SAME—SAME—SAME—OVERLAPPING CLAIMS.

"The mere fact that claims in part delimit a common area will not prevent efficacious use of a terminal disclaimer to obviate a double-patenting rejection."

Appeal from the Board of Appeal of the Patent Office.

REVERSED.

RAYMOND W. BARCLAY, New York, N.Y., and RICHARD K. STEVENS, JOHN F. WITHERSPOON, and STEVENS, DAVIS, MILLER & MOSHER, all of Washington, D.C. for appellants.

Joseph Schimmel (*Raymond E. Martin* of counsel) for Commissioner of Patents.

Before WORLEY, *Chief Judge*, and Judges RICH, SMITH, ALMOND, and KIRKPATRICK

This appeal is from a decision of the Patent Office Board of Appeals[1] affirming the Examiner's rejection of claims 1–24 and 40 of appellants' application Serial No. 195,430, filed May 17, 1962, entitled "Catalyst and Conversion of Organic Compounds in the Presence Thereof." No claim has been allowed.

The invention is a catalyst composition and its method of preparation. Claims 1 and 18 are illustrative:

1. A catalytic composition comprising a finely divided crystalline aluminosilicate having a silica to alumina mole ratio in excess of 3 distributed throughout and held suspended in a matrix therefor, wherein the negative electrovalence of the silica and alumina of said aluminosilicate is balanced by ions of at least one member selected from the group consisting of metals below sodium in the electro-motive series, calcium, ammonium, hydrogen and combinations of such ions with one another.

18. A method for preparing a catalytic composition which comprises intimately admixing an alkali metal aluminosilicate having a silica to alumina mole ratio in excess of 3 in finely divided form with a binder therefor and base exchanging the resulting composite with a solution containing ions of at least one member selected from the group consisting of metals below sodium in the electromotive series, calcium, ammonium, hydrogen and combinations of such ions with one another to replace at least about 70 percent of the original alkali metal ion content of said aluminosilicate and to reduce the exchangeable alkali metal content of the resulting base exchange composite to less than 3 percent by weight.

[1] Consisting of Lidoff, Behrens and Mangan, Examiners-in-Chief; opinion by Lidoff.

The references relied on are:

Plank et al., 3,140,249, July 7, 1964.

Rabo et al., 3,130,006, Apr. 21, 1964.

Plank et al., a patent issued to appellants[2] about two years after the filing date of the application at bar, also claims a catalyst composition and a process of preparing and using it. Its claims are used as the basis for a double patenting rejection. It is not a prior art reference. While many claims are relied on, claims 16 and 17 are of chief interest:

16. A catalytic composition comprising an inorganic oxide matrix having distributed therein a finely divided crystalline aluminosilicate, which aluminosilicate is obtained by: (1) crystallization from a reaction mixture whose composition expressed in terms of oxide mole ratios falls within the following ranges:

SiO_2/Al_2O_3	From 3 to 5
Na_2O/SiO_2	From 1.2 to 1.5
H_2O/Na_2O	From 35 to 60

and (2) subsequent base exchange of the resulting crystallized product substantially free of sodium ions, said composition having an overall sodium content of less than about 1 weight percent.

17. The process which comprises preparing a reaction mixture whose composition expressed in terms of oxide mole ratios falls within the following ranges:

SiO_2/Al_2O_3	From 3 to 5
Na_2O/SiO_2	From 1.2 to 1.5
H_2O/Na_2O	From 35 to 60

base exchanging the product which crystallizes from said mixture until said product is substantially free of sodium ions, combining the base-exchanged material, in finely divided form, with a porous inorganic oxide, the latter serving as a matrix for the former and the resultant composite having an overall sodium content less than about 1 weight percent and utilizing the composition so obtained as a catalyst in the conversion of hydrocarbons.

Rabo et al.,[3] cited to show prior art, discloses an aluminosilicate compound prepared "by ion-exchanging a substantial portion of the metal cations of a crystalline zeolitic metal aluminosilicate having a SiO_2/Al_2O_3 ratio of greater than about 3.0, with protons or more preferably with ammonium cations, followed by thermal treatment at temperatures of between 350° C. and 600° C., and preferably at temperatures of between 475° C. and 600° C." The process is further described:

The process by which the novel materials of this invention are produced may be called "decationization." The decationized molecular sieve aluminosilicates produced thereby, having at least some of their aluminum atoms unbalanced by cationic substituents and yet having unimpaired crystalline configuration have, in addition to the adsorbent properties of all molecular sieves, further use as hydrocarbon conversion catalysts. Among the hydrocarbon converting processes which may be catalyzed by the novel compositions of this invention are cracking or hydrocracking processes.

[2] Assignee, Socony Mobil Oil Company, Inc., which is also assignee of the instant application.

[3] Assignee, Union Carbide Corporation.

The Examiner rejected all of appellants' claims on the claims in the Plank et al. patent in view of Rabo et al. He explained:

> The Plank et al. patent claims a similar catalyst composition * * * together with a diluent; the crystalline zeolite may contain metals from the group IIA, IIIB, and IVA of the Periodic Table. While the said claims do not specify that the crystalline zeolite is of the Y-type, having a ratio of silica to alumina greater than 3, such insertion in the patent claims does not entitle the applicants to an additional patent, since the art knew at the time this application was filed that the use of the Y-type of crystalline zeolite in that composition of the patent claims produces a catalyst composite having improved properties, such as being more steam resistant, greater resistance to abrasion has greater adsorption and better catalyst properties as taught by Rabo et al. * * *.

In other words, he felt that the limitation of the claims in the application to crystalline zeolite with a silica-to-alumina ratio "in excess of 3" (Y-type) created no more than "a colorable distinction" from the claims in the patent.

Appellants' assignee filed a terminal disclaimer.[4] The Examiner, however, was of the opinion that the double patenting rejection could not thus be obviated. He said:

> The Examiner in reply wishes to state that in spite of the filing of a disclaimer limiting the period of the patent term to that of the Plank et al. patent, to merely specify in the patent claims that the crystalline zeolite is of the Y-type with its known advantages as shown in the Rabo et al. patent is merely a colorable difference from the patent claims, and does not entitle appellants to another patent for the *same invention*. [5]

The Board agreed with the Examiner's rejection:

> * * * in view of the advantageous properties taught by Rabo et al. * * * it would be obvious to one skilled in this art to select as the aluminosilicate component of the catalytic composition of the Plank et al. patent the so-called Y-type with the expectation of obtaining the advantageous results urged by appellants to support a separate patent.

The Board also thought the disclaimer ineffective to obviate the rejection. It was unmoved by appellants' citation of *In re Robeson*, 51 CCPA 1271, 331 F.2d 610, 141 USPQ 485 (1964) and *In re Kaye*, 51 CCPA 1465, 332 F.2d 816, 141 USPQ 829 (1964):

> * * * the factual situation herein is entirely different from that presented in the cited decisions in that the claims herein differ in scope only from those of the patent. The relationship is genus-to-species rather than the species-to-species relation presented in the cited decisions.

[2] Since the Board wrote its opinion herein, we have decided that the terminal disclaimer *is* efficacious to obviate double patenting rejections in the genus-species situations. *In re Jentoft*, 55 CCPA —, 392 F.2d 633, 157 USPQ 363 (1968); *In re Braithwaite*, 54 CCPA 1589, 379 F.2d 594, 154 USPQ 29 (1967); *In re Braithwaite*, 54 CCPA 1604, 379 F.2d 606, 154 USPQ 38 (1967). The present effect of the disclaimer is to limit the inquiry to whether the same invention is twice claimed. *In re Boylan*, 55 CCPA —, 392 F.2d 1017, 157 USPQ 371 (1968); *In re Eckel*, 55 CCPA —, — F.2d —, 157 USPQ 415 (1968). We look only to see whether the differences between the patented claims and those applied for are sham or real, semantic or actual. *In re Eckel*, supra; *In re Wright*, 55 CCPA —, — F.2d —, 157 USPQ 519 (1968). The Board's opinion undertook no such analysis and therefore cannot stand on its own rationale.

The Solicitor, however, presented an alternative rationale[6] at oral argument. He stipulated, in effect, that claims 16 and 17 of the patent cover aluminosilicates in which the silica to alumina ratio is 3 or less.[7] The application claims, he argues, cover aluminosilicates with ratios above about 3. He urges that the patent and application therefore claim the "same invention," i.e., aluminosilicates with a silica to alumina ratio of about 3.

This is no more than the "overlap" argument we repudiated in the *Braithwaite* cases. **[3]** The mere fact that claims in part delimit a common area will not prevent efficacious use of a terminal disclaimer to obviate a double-patenting rejection.

The decision of the Board is reversed.

REVERSED.

WORLEY, *Chief Judge*, concurs in the result.

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[4] The disclaimer, pursuant to 35 U.S.C. 253, 2nd par., disclaimed that part of the term of any patent maturing from the application on appeal after July 7, 1981, which is the expiration date of Plank et al. patent No. 3,140,249, commonly owned.

[1] [5] The Examiner's use of the terms "colorable distinction" and "colorable difference" shows how unsatisfactory the word "colorable" is as a means of communicating a clear idea of the ground of rejection. The Examiner says the "same invention" is being claimed as is claimed in the patent. What then does he intend by the term "colorable"? Does he mean there is *no* difference or distinction or does he mean that the difference—the use of Y-type zeolite—is *obvious*? If he does not intend the latter meaning, then why does he rely on Rabo et al.? It does not take a reference to show that there is no difference. It may take one to show that where there is a difference, the difference is not such as to render the claimed invention as a whole unobvious. See *In re Eckel*, 55 CCPA —, — F.2d —, 157 USPQ 415, for further observations on "colorable." This field of law will progress toward clarity with greater alacrity if the use of the word is abandoned and rejections are stated in less ambiguous terms.

[6] Arguably "inherent" in one of the Board's comments. The Solicitor's brief supported the Board. However, by oral argument, he thought it better, in view of our recent cases, not to pursue the "issues" briefed.

[7] Claims 16 and 17 of the patent define the catalyst in terms of *starting materials*. The silica to alumina ratio of the *product*, according to the Solicitor's argument, is 2.5±0.5.

In the United States Patent Office
Before the Board of Appeals

EX PARTE BRUCE L. BAILEY

Appeal No. 833—66. Decided Aug. 5, 1968

1. PATENTABILITY — DOUBLE PATENTING — TERMINAL DISCLAIMER — OVERLAPPING CLAIMS.

"Assuming, arguendo, that the broader claims which appellant now seeks [having filed a terminal disclaimer] are supported by the disclosure of his parent application, then there is certainly no basis for arbitrarily splitting the subject matter into separate broad and narrow patents. There are, in most instances, general inventions and preferred embodiments thereof, yet it is inappropriate to allocate the two types of claims into separate patents."

2. SAME—SAME—SAME—*In re Braithwaite* CONSTRUED.

"We realize that the case of *In re Braithwaite*, 54 CCPA 1604, 379 F.2d 606, 154 USPQ 38, permits the grant of a later broad patent after the grant of a narrow patent when a terminal disclaimer is filed in the later case, but that decision points out that '* * * the applicant has supplied much additional technical disclosure relevant to what he is now claiming, disclosing the above-mentioned added metals operable in his invention and 15 new specific examples covering the use of aluminum, zinc, manganese, cadmium, and bismuth, as well as lead.' Here, according to the arguments postulated by appellant, his parent application provided the essential disclosure to support the appealed claims, and the instant application supplies little additional technical disclosure to merit a second patent."

3. SAME—SAME—SAME—OVERLAPPING CLAIMS—ADDITIONAL TECHNICAL DISCLOSURE STEMMING FROM ANOTHER.

"* * * taking the view we adopt that the claims here on appeal are unsupported by appellant's parent application, then the question arises as to how much additional technical information *appellant* has supplied relevant to what he is now claiming. Our review of the record reveals that the additional technical information has been furnished not by appellant but by Heitman. * * * The *Braithwaite* case does not hold, and we know of no other case which holds, that a second patent should be granted because possible broadening is evident from someone else's teaching [although a terminal disclaimer had been filed]."

4. SAME—SAME—SAME—SAME—SAME.

"We have considered a number of double patenting decisions involving terminal disclaimers, including not only the *Braithwaite* decision previously mentioned but also the case of *In re Walles et al.*, 54 CCPA —, 366 F.2d 786, 836 O.G. 15, 151 USPQ 185; *In re Braithwaite*, 54 CCPA 1589, 379 F.2d 594, 154 USPQ 29; *In re Knohl et al.*, 55 CCPA —, 386 F.2d 476, 155 USPQ 586; *In re Borg et al.*, 55 CCPA —, 392 F.2d 642, 157 USPQ 359; *In re Jentoft*, 55 CCPA —, 392 F.2d 633, 157 USPQ 363; *In re Boylan*, 55 CCPA —, 392 F.2d 1017, 157 USPQ 370; *In re Eckel*, 55 CCPA —, 157 USPQ 415; and *In re Wright*, 55 CCPA —, 157 USPQ 519. We realize that in all these cases except Knohl et al. a terminal disclaimer was held to obviate a double patenting rejection. However, none of these decisions involved the peculiar circumstances of the instant case, wherein a second broader patent is sought on the basis of, according to appellant, adequate disclosure in his parent application or, as we see it additional teachings of Heitman incorporated in the present application. In either event, we do not regard the claims here on appeal as deriving from substantial additional technical disclosure on appellant's part."

AFFIRMED.

Wallace F. Neyerlin for appellant.

Before ASP, MAGIL, and GORECKI, *Examiners-In-Chief*

MAGIL, *Examiner-in-Chief*.

This is an appeal from the final rejection of claims 1 through 15, 23, 26 through 32, 34, and 35, all the claims remaining in the application.

Claim 1 is illustrative of the appealed claims and reads as follows:

1. A process for continuously producing rigid baked carbon bodies having an A.D. of at least about 1.35 g./cc. from a green carbonaceous mass comprised of carbonaceous particles and a binder and having an A.D. of at least about 1.40 g./cc. which comprises:

(A) substantially continuously shaping and consolidating said mass, said shaping and consolidating steps comprising:

(a) exerting an axial mechanical force acting substantially continuously upon one end of the carbonaceous mass; and

(b) forcing the carbonaceous mass continuously through a shape defining zone; and

(B) heating said green mass to a carbonizing temperature while it is substantially continuously moving to render it substantially rigid and self-supporting.

The double patenting rejection is based on the following patent:

Bailey, 3,284,372, Nov. 8, 1966.

All the appealed claims have been rejected on the ground of double patenting. Appealed claims 1, 4, 5, 12, 15, 26, 27, and 35 have been rejected as not patentably distinct from claim 4 of appellant's cited patent; appealed claims 2, 3, 13, 14, and 34 have been rejected as not patentably distinct from claim 10 of the patent; appealed claims 6 and 7 have been rejected as not patentably distinct from patent claim 5; appealed claims 23 and 32 have been rejected as not patentably distinct from claim 13 of the patent. Appealed dependent claims 8 through 11 and 28 through 31 have been rejected on the same grounds as their respective basic claims.

Appellant has not objected to the claim grouping set up by the Examiner; his traverse is directed to the fundamental aspect of all the rejections, and he relies heavily on a terminal disclaimer, filed November 1, 1967, which includes a clause pertaining to common ownership of the issued patent and the instant application, as provided in the notice of February 14, 1968, 848 O.G. 1.

For convenience, claim 4 of Patent No. 3,284,372 is here reproduced for comparison with appealed claim 1.

4. A process for producing baked carbon bodies from a green electrically conductive carbonaceous mass which evolves gases and which becomes rigid upon being heated, said green carbonaceous mass having an A.D. of at least 1.4 g./cc. which comprises:

(A) substantially continuously and mechanically forcing said green carbonaceous mass into and through a baking zone wherein said green mass is resistively heated and rendered substantially rigid and self-supporting by the passage of current therethrough, said current being made to flow by applying a voltage across the moving mass by means of electrical conductors at least one of which is in direct contact with a green portion of said moving mass;

(B) maintaining said moving mass under a substantial pressure during its transition from the green to rigid state, said pressure being maintained by a restraining force excited upon the rigid mass, which restraining force tends to oppose the axial movement of the mass as it is being processed, said restraining force being at least equal to that necessary to maintain the structural integrity of the carbonaceous mass during the time it is heated from the green state to the rigid state and while the gases are evolved; and

(C) supporting said moving carbonaceous mass during its transition to the rigid state and substantially preserving its shape by means of a transition section which contains a high temperature resistant electrical insulating material.

It is pointed out on pages 9 and 10 of appellant's brief that patent claim 4 contains four limitations which are not present in appealed claim 1. Limitations 1, 2, and 4 are directly or indirectly related to the resistive heating, whereas limitation 3 pertains to the manner of imposing pressure. Appellant contends that the appealed broad claims are adequately supported in Patent No. 3,284,372, as well as in the grandparent application, Serial No. 271,673, filed April 9, 1963, and he also insists that the appealed claims represent a different invention from that defined in his patent claims.

We have reviewed the disclosures and prosecution of appellant's three successive applications, the first having been filed on April 9, 1963 (Serial No. 271,673) and abandoned after the second was filed on September 14, 1965 (Serial No. 490,155). The second application was allowed on June 21, 1966 and the final fee was paid on August 4, 1966. Patent No. 3,284,372 was thereafter granted on November 8, 1966 but, prior to that date, on September 7, 1966, the instant application was filed. Appellant also frequently refers to the issuance of a patent to Heitman, No. 3,254,143, on May 31, 1966, said patent being cited in the sentence bridging pages 5 and 6 of the instant specification.

Review of the first two disclosures and prosecutions reveals that appellant's asserted contribution was directed solely to resistive heating. Every claim throughout these two prosecutions was restricted to resistive heating. In the paragraph spanning pages 29, 30, and 31 of Serial No. 271,673 appellant carefully pointed out the characteristics and advantages of his resistive heating. This was elaborated upon in the second application and, in the paragraph bridging columns 13 and 14 of the issued patent, appellant distinguished his resistive heating from other types of heating, such as inductive, dielectric, and conductive. It is interesting to note that on page 16 of the "preliminary remarks" which appellant filed in Serial No. 490,155, discussing the essential features of his process, he commented as follows:

"Or, if the material being processed is heated while continuously moving, but not by the passage of current therethrough said current being made to flow by applying a voltage across the material by means of electrical conductors in direct contact with said moving material, then it is not applicant's process."

The present application parallels Patent No. 3,284,372 in large measure, although there are some deletions and some additions. Thus, FIG-

URES 1 through 9 of the present application correspond to FIGURES 1, 3, 9, and 13 through 18, respectively, of the patent. There is still the same emphasis on resistive heating, and no new working examples are introduced. One addition is a cross-reference to the Heitman patent for other techniques for supplying heat (sentence bridging pages 5 and 6). Another addition is the suggestion for using "a die with a tapered hole" (page 18, last sentence) the quoted language being found in the Heitman patent (column 6, lines 51–52). A third addition is mention of the use of heated mandrels (page 14, lines 10 to 14). The paragraph bridging columns 13 and 14 of Patent No. 3,284,372 has been deleted, but a paragraph has been added, bridging pages 42 and 43 of the instant specification, describing conductive heating in unfavorable terms.

The first portion of appellant's reply brief is devoted to the circumstances surrounding his decision to permit his parent application to issue as a patent with claims restricted to resistive heating after he was aware of the fact that the claims of the Heitman patent were not so limited. Appellant insists that his parent application provided support for claims not restricted to resistive heating. However, he recognizes that a different view might be adopted, and he therefore acknowledges that the instant application contains an expanded disclosure with respect to the heating. According to appellant, the practically simultaneous granting of the Heitman patent and the allowance of the claims of Serial No. 490,155 without interference led him to conclude that resistive heating and heating not so restricted could be separately patented.

We refrain from speculating as to why the Examiner granted the Heitman patent and allowed the claims of appellant's parent application without an interference, although it is evident on mere inspection that the claims of the Heitman patent are all limited to "a pressure of at least about 1200 p.s.i." and do not specify the type of heating, whereas the allowed claims of appellant's parent application all required resistive heating and did not specify a minimum pressure of 1200 p.s.i. We likewise will not inquire into appellant's appraisal of the situation when he was confronted with both the issuance of the Heitman patent and the allowance of his own claims. We have no doubt that appellant had to consider the questions of possible interference with Heitman, adequate support for broader claims in his own case, filing a continuing application, double patenting, and the practical aspect of "playing it safe" by taking out a patent when a notice of allowance is issued. Our decision will be confined to the objective factors involved in this double patenting rejection.

Although we disagree with appellant that his parent application provides support for the claims here on appeal, yet we will consider the rejection as though he were correct on this matter.

[1] Assuming, arguendo, that the broader claims which appellant now seeks are supported by the disclosure of his parent application, then there is certainly no basis for arbitrarily splitting the subject matter into separate broad and narrow patents. There are, in most instances, general inventions and preferred embodiments thereof, yet it is inappropriate to allocate the two types of claims into separate patents.

[2] We realize that the case of *In re Braithwaite*, 54 CCPA 1604, 379 F.2d 606, 154 USPQ 38, permits the grant of a later broad patent after the grant of a narrow patent when a terminal disclaimer is filed in the later case, but that decision points out that

> "* * * the applicant has supplied much additional technical disclosure relevant to what he is now claiming, disclosing the above-mentioned added metals operable in his invention and 15 new specific examples covering the use of aluminum, zinc, manganese, cadmium, and bismuth, as well as lead."

Here, according to the arguments postulated by appellant, his parent application provided the essential disclosure to support the appealed claims, and the instant application supplies little additional technical disclosure to merit a second patent.

[3] On the other hand, taking the view we adopt that the claims here on appeal are unsupported by appellant's parent application, then the question arises as to how much additional technical information *appellant* has supplied relevant to what he is now claiming. Our review of the record reveals that the additional technical information has been furnished not by appellant but by Heitman. On the most important point of other heating techniques, the Heitman patent furnishes the basis for the sentence bridging pages 5 and 6 of appellant's specification. The *Braithwaite* case does not hold, and we know of no other case which holds, that a second patent should be granted because possible broadening is evident from someone else's teaching.

[4] We have considered a number of double patenting decisions involving terminal disclaimers, including not only the *Braithwaite* decision previously mentioned but also the cases of *In re Walles et al.*, 54 CCPA —, 366 F.2d 786, 836 O.G. 15, 151 USPQ 185; *In re Braithwaite*, 54 CCPA 1589, 379 F.2d 594, 154 USPQ 29; *In re Knohl et al.*, 55 CCPA —, 386 F.2d 476, 155 USPQ 586; *In re Borg et al.*, 55 CCPA —, 392 F.2d 642, 157 USPQ 359; *In re Jentoft*, 55 CCPA —, 392 F.2d 633, 157 USPQ 363; *In re Boylan*, 55 CCPA —, 392 F.2d 1017, 157 USPQ 370; *In re Eckel*, 55 CCPA —, 157 USPQ 415; and *In re Wright*, 55 CCPA —, 157 USPQ 519. We realize that in all these cases except Knohl et al. a terminal disclaimer was held to obviate a double patenting rejection. However, none of these decisions involved the peculiar circumstances of the instant case, wherein a second broader patent is sought on the basis of, according to appellant, adequate disclosure in his parent application or, as we see it, additional teachings of Heitman incorporated in the present application. In either event, we do not regard the claims here on appeal as deriving from substantial additional technical disclosure on appellant's part.

The decision of the Examiner is affirmed.

AFFIRMED.

PATENT SUITS

Notices under 35 U.S.C. 290; Patent Act of 1952

2,570,193, Bieber and Sumpter, HIGH TEMPERATURE ALLOYS AND ARTICLES; **2,570,194**, same, PRODUCTION OF HIGH-TEMPERATURE ALLOYS AND ARTICLES; **2,646,166**, H. L. Eiselstein, AGE-HARDENABLE NICKEL ALLOY; **2,648,485**, C. G. Bieber, HIGH STRENGTH CREEP RESISTING ALLOY, filed Oct. 25, 1968, D.C., S.D. Tex. (Houston), Doc. CA–68–H–894, *The International Nickel Company, Inc.* v. *Cameron Iron Works, Inc.*

2,570,194. (See 2,570,193.)

2,570,304, J. B. Crawford, SELF-ADJUSTING RECIRCULATING OVERFLOW, filed Dec. 17, 1968, D.C., C.D. Calif. (Los Angeles), Doc. 68–2077–EC, *Wilber Kinkead et al.* v. *Home Pool Equipment, Inc., also known as H.P.E. Inc. et al.*

2,601,040, J. G. Livingstone, FITTING AND SEALING MEANS THEREFOR, filed Dec. 20, 1968, D.C., C.D. Calif. (Los Angeles), Doc. 68–2101–R, *Jay Gould Livingstone* v. *Purex Corporation, Ltd.*

2,622,576, J. S. Finke, ICE-CREAM CONE ROLLING MACHINE, filed June 28, 1968, D.C., N.D. Ill. (Chicago), Doc. 68c1215, *Jacob S. Finke* v. *Keebler Company*. By Agreement complaint and counterclaim dismissed with prejudice, Dec. 20, 1968.

2,644,651, Stahl and Collins, BOBBIN; **2,736,956**, same, METHOD FOR MAKING BOBBINS, filed Mar. 14, 1968, D.C., N.D. Ill. (Chicago), Doc. 68c475, *Precision Paper Tube Company* v. *Precise Paper Products Co. et al.* Final consent judgment, Jan. 7, 1969.

2,659,212. (See 2,758,451.)

2,674,754, W. C. Hale, Jr., SHANK SLOTTING MACHINES, filed June 16, 1966, D.C. Conn. (New Haven), Doc. 11483, *South Chester Corporation* v. *The H. P. Townsend Mfg. Company.* Consent judgment, patent valid and plaintiff is owner. Injunction entered against infringement, Nov. 26, 1968.

2,680,611, M. B. Martinson, MEANS FOR EXTRACTING THE LIQUID FROM A CASED WELL BELOW THE TOP END OF THE CASING, filed Jan. 6, 1969, D.C., E.D. Wis. (Milwaukee), Doc. 69–C–5, *Martinson Manufacturing Co., Inc.* v. *Herb Maass Service, Inc.*

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2,736,956. (See 2,644,651.)

2,758,451, W. E. Lauterbach, FLAKE ICE MAKING MACHINE AND WATER DISTRIBUTOR FOR USE THEREIN; **2,659,212,** G. M. Lees, METHOD OF AND MEANS FOR FORMING FLAKE ICE, filed June 19, 1957, D.C. N.D. Ill. (Chicago), Doc. 57c1065, *Akshun Mfg. Co.* v. *Carrier Corporation.* Defendant's motion for summary judgment as to U.S. Pat. No. 2,659,212 granted, Sept. 17, 1964. Plaintiff's motion to set aside summary judgment order of 9–17–64 is overruled, Nov. 16, 1964. Order cause stricken without prejudice and with leave to either side to move to reinstate and to set for trial, June 14, 1967.

2,774,087, J. D. Bozza, METHOD FOR SECURING TOGETHER MOCCASIN VAMPS AND PLUGS; **2,946,069,** same, METHOD OF MANUFACTURING MOCCASINS; **2,999,323,** same, MOCCASINS AND FOOTWARE, filed Nov. 21, 1968, D.C., S.D.N.Y., Doc. 68–C–4608, *The Jo-An Shoe Manufacturing Co., Inc.* v. *Conaway-Winter, Inc.*

2,818,068, D. E. Houghton, WOVEN FABRIC CONSTRUCTION; **2,839,099,** Webber and Watson, WIRE CLOTH LOOM; **2,849,029,** same, WIRE CLOTH SELVAGE FORMING MECHANISM; **2,946,354,** Webber and Smith, same, filed Dec. 2, 1968, D.C., M.D. Pa. (Scranton), Doc. 68–481, *New York Wire Co.* v. *Hanover Wire Cloth Co.*

2,839,099. (See 2,818,068.)

2,846,223. (See D. 201,562.)

2,849,029. (See 2,818,068.)

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2,946,354. (See 2,818,068.)

2,999,323. (See 2,774,087.)

3,046,168. (See 2,570,193.)

3,048,485. (See 2,570,193.)

3,053,137, E. Loepfe, ELECTRO-OPTICAL APPARATUS FOR SENSING IN COUNTING, REGULATING, AND CONTROL SYSTEMS; **3,053,139,** same, ELECTRO-OPTICAL WEFT FEELER FOR LOOMS, filed Nov. 27, 1968, D.C. Mass. (Boston), Doc. 68–1099–C, *Dolan-Jenner Industries, Inc.* v. *H. J. Theiler Corporation and Aktiengesellschaft Gebruder Loepfe.*

3,053,139. (See 3,053,137.)

3,059,681, Gainer and Strom, SELF-GENERATED GAS BLAST CIRCUIT INTERRUPTER EMBODYING HIGH MOLECULAR WEIGHT POLYOXYMETHYLENES, filed Dec. 31, 1968, D.C., S.D. Ind. (Indianapolis), Doc. -------, *Westinghouse Electric Corporation* v. *General Electric Company.*

3,060,695, R. C. Hegerfeld, SWIMMING POOLS, filed June 23, 1967, D.C. N.D. Ill. (Chicago), Doc. 67c1085, *General Pools Corp.* v. *Paul Vacon, doing business as Paul's Plumbing Co.* Consent judgment, dismissed with prejudice, Feb. 5, 1968.

3,279,793. (See D. 201,562.)

3,313,668, E. L. Roullard, METHOD OF BONDING FABRIC MATERIALS; **3,330,717,** same, LAMINATING APPARATUS; **Reg. No. 771,953** (COIN), Coin Sales Corporation, Laminated fabrics for use in making wearing apparel and the like, filed Dec. 19, 1968, D.C.N.J. (Newark), Doc. C-1352–68, *Coin Sales Corporation* v. *United Combiners Corporation.*

3,330,717. (See 3,313,668.)

3,356,365. (See D. 201,562.)

D. 201,562, W. M. Lakin, ENCLOSED CARROUSEL TOY; **3,279,793,** same, TOY CARROUSEL; **3,356,365,** A. D. De Shano, CARROUSEL WITH RELATIVELY MOVABLE TRACK SUPPORTING CAM MEMBERS FOR SELECTIVELY CHANGING THE TRACK UNDULATIONS; **2,846,223,** K. E. Nelson, MELODY PLAYING FIGURE CARRYING TOY CARROUSEL, filed May 17, 1967 D.C., N.D. Ill. (Chicago), Doc. 67c832, *Marlin Toy Products, Inc.* v. *Sidney A. Tarrson Co.* Consent decree granted in favor of plaintiff. Defendant enjoined, defendant's counterclaim dismissed, Nov. 27, 1968.

Reg. No. 771,953. (See 3,313,668.)

DEFENSIVE PUBLICATIONS

PUBLISHED APRIL 29, 1969

Published at the request of the applicant or owner in accordance with Notice of Apr. 11, 1968, 849 O.G. 1221. The abstracts are identified by serial number of the applications and arranged in chronological order. The heading of each abstract of application published herein indicates the number of pages of specification, including claims and sheets of drawing contained in the application as originally filed. The files of these applications are available to the public for inspection and reproduction may be purchased for 30 cents a sheet.

Applications published under the Defensive Publication Program have not been examined as to the merits of alleged invention. The Patent Office makes no assertion as to the novelty of the disclosed subject matter.

772,436
PROCESS FOR THE PREPARATION OF HEXAMETHYLPHOSPHORTRIAMIDE

Charles Lloyd Gibson and William Terrell Tucker, both of P.O. Box 511, Kingsport, Tenn. 37662

Continuation of applications Ser. No. 539,286, Apr. 1, 1966, and Ser. No. 708,425, Feb. 26, 1968. This application Oct. 31, 1968. Published Apr. 29, 1969
Int. Cl. C07f *9/22, 9/26*
U.S. Cl. 260—551
No Drawing. 7 Pages Specification

A process for the preparation of hexamethylphosphortriamide which comprises reacting at a temperature from 0 to 90° C. phosphorus oxytrichloride with aqueous dimethylamine in the presence of any basic material capable of neutralizing hydrogen chloride.

785,042
OXIDATIVE CONVERSION OF ALICYCLIC ALCOHOLS TO KETONES

Charles W. Hargis, James E. Williams, and Howard S. Young, all of P.O. Box 511, Kingsport, Tenn. 37662

Continuation of application Ser. No. 577,147, Sept. 6, 1966. This application Dec. 11, 1968. Published Apr. 29, 1969
Int. Cl. C07c *49/30, 49/44, 49/36*
U.S. Cl. 260—586
No Drawing. 11 Pages Specification

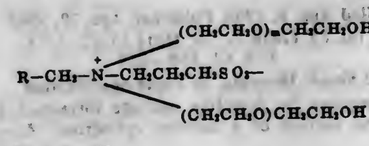
Alicyclic ketones may be produced by passing a vapor-phase mixture of an alicyclic secondary alcohol containing at least 5 carbon atoms, an aromatic hydrocarbon solvent for said alcohol, and an oxygen-containing gas over a silver catalyst at a temperature of from about 300° C. to about 525° C., wherein the oxygen-containing gas provides at least about 100% of the stoichiometric oxygen requirement. The alicyclic ketones so produced are useful intermediates in the manufacture of polymers intended for production of fibers and films.

634,477
PROCESS FOR MULTICOLORED DYEING OF POLYCARBONAMIDE YARNS AND STAPLE

Gordon B. Robbins, Claymont, Del., assignor to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware

Filed Apr. 28, 1967. Published Apr. 29, 1969
Int. Cl. D06p *3/84, 3/24*
U.S. Cl. 8—21
No Drawing. 18 Pages Specification

A blend of dissimilar nylon fibers in a carpet are dyed in an aqueous dyebath containing a mixture of acid and basic dyes and a sulfobetaine having the structure:



wherein R is an alkyl group of 7 to 17 carbons, *m* is from 0 to 3, *n* is from 0 to 3, and the sum of *m* and *n* is less than 4 to produce a multicolored carpet. The nylon fiber can have amino ends groups of (a) 55 to 85, (b) 25 to 55, (c) 5 to 25 or (d) 0 to 5 equivalents per 10^6 grams and can be dyed with acid dyes such as C.I. Acid Yellow 14, C.I. Acid Blue 122, C.I. Disperse Blue 7 and C.I. Disperse Yellow 3 while the (d) group nylons can also be dyed by basic dyes such as C.I. Basic Blue 22, and C.I. Basic Blue 21. A mixture of the (a), (b) and (d) nylons are dyed first with the acid dyes and then with the basic dyes noted above. The sulfobetaine prevents the acid and basic dyes from precipitating together. The dyebaths contain, besides a sulfobetaine such as N-tallow- or N-coco-N,N-diethanol sulfobetaine, a small amount of silicone anti-foam agent, and sodium phosphate to adjust pH 7.0. The dyeing was done at 98° C.

650,439
FABRIC SURFACED HYDROCARBON RUBBER LAMINATE AND PROCESS OF PREPARING SAME

Kenneth Vincent Martin, Newark, Del., assignor to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware

Filed June 30, 1967. Published Apr. 29, 1969
Int. Cl. D06n *3/10, 7/06*
U.S. Cl. 161—96
1 Sheet Drawing. 7 Pages Specification



A laminated element comprising a vulcanized hydrocarbon rubber slab having a textile fabric partially embedded in at least one surface. The laminated element is prepared by vulcanizing a slab of EPDM rubber, styrene/butadiene rubber or neoprene having a woven or nonwoven fabric partially embedded in one surface. This element can be bonded to a rigid member by applying an adhesive to the fabric and laminating the element to the rigid member. Useable adhesives are molten asphalt or neoprene contact cement.

In an alternative embodiment, a second layer of fabric may be fully embedded in the body of the rubber slab. This aids in counteracting any tendency of the surface layer of the fabric to curl the rubber slab.

The laminated element of this invention can be used as the running surface or the resilient base of a race track or an athletic field. Other uses include preparation of gym floors, sidewalks or basements.

702,459

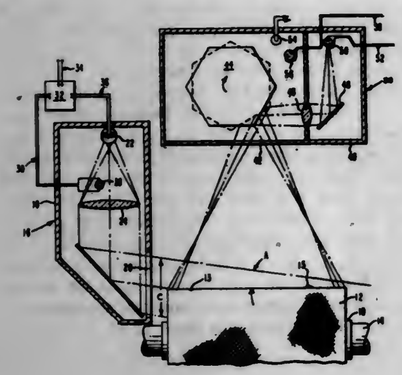
PHOTOELECTRIC SCANNER FOR DETECTING RIDGES AND INDENTATIONS IN A YARN PACKAGE

Gerald Irving Buckson, Newark, and John Albert Masino and Stanley Victor Williams, Wilmington, Del., assignors as E. I. du Pont de Nemours and Company, Wilmington Del., a corporation of Delaware

Filed Feb. 1, 1968. Published Apr. 29, 1969

Int. Cl. G01n *21/30;* H01j *39/12;* G01b *11/30*
U.S. Cl. 250—219

1 Sheet Drawing. 10 Pages Specification



An apparatus for simultaneously measuring ridges and indentations in the peripheral surface of a rotating cylindrical yarn package wherein a ribbon of light is projected axially across the surface of the package at an angle with respect to the longitudinal axis of the package to cast shadows corresponding to the ridges and indentations. The illuminated portion of the package surface is scanned in a non-specular plane and the light reflected from the package surface in the non-specular plane is redirected to a photosensitive means which detects ridges and indentations in the surface of the package through variations in intensity of the redirected light.

708,499

ACIDIC RESINS DERIVED FROM POLYMERS OR COPOLYMERS OF CONJUGATED DIOLEFINS

Gazi Basher Mourad Dickakian, Oxford, England (No. 8, Ar. Van Goolen, Brussels 15, Belgium)

Filed Feb. 26, 1968. Published Apr. 29, 1969

Claims priority, application Great Britain, Feb. 27, 1967, 9,521/67

Int. Cl. C08f *29/08, 27/00, 27/25*
U.S. Cl. 260—78.5

No Drawing. 8 Pages Specification

Acidic resins are prepared by reacting a high 1,4-homo- or copolymer of a conjugated diene (e.g. butadiene) with an α,β-unsaturated dicarboxylic compound (e.g. maleic anhydride). The resultant adduct (substantially soluble in aqueous ammonia) is partially hydrogenated using standard hydrogenation conditions (e.g. 5 to 50 atm. H_2 using a nickel-on-kieselguhr catalyst). Generally, 10 to 90% of the double bonds in the starting material will be saturated in the partial hydrogenation step.

The acidic resins thus obtained may be oxidized, hydroxylated, formoxylated, epoxidized or reacted with amino- and/or hydroxyl-compounds if desired. Upon reacting the acidic resins with an alkaline material (e.g. ammonia), a water-soluble coating composition is obtained. These coating compositions are especially useful for electro-deposition and paint formulations.

749,337

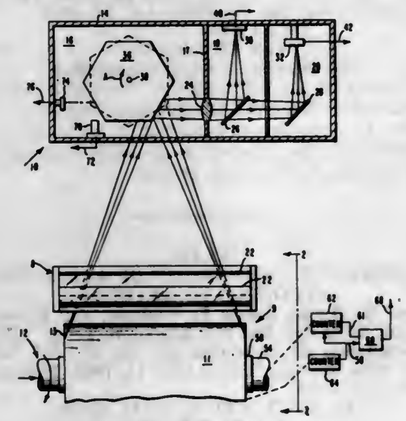
DEFECT DETECTOR HAVING ROTATING PRISM SCANNER HAVING PLURALITY OF PAIRS OF PHOTOCELLS WITH COLORING AND SPACE FILTERING

Gerald Irving Buckson, Newark, Del., assignor to Troxel Manufacturing Company, Moscow, Tenn., a corporation of Ohio

Filed Aug. 1, 1968. Published Apr. 29, 1969

Int. Cl. G01n *21/30;* H01j *5/16*
U.S. Cl. 250—219

3 Sheets Drawing. 17 Pages Specification



An apparatus for detecting off-color and gray spot defects on the peripheral face surface of a rotating cylindrical yarn package wherein diffuse white light is projected onto a narrow strip, parallel to the package axis, on the surface. The illuminated portion of the surface is viewed and the illumination therefrom is directed to two arrays of photodetectors which view the directed light spectrum through complementary space and color filtering means and emit electrical signals proportional to the energy received from the filtered directed light. Electronic circuitry is provided to subtract, amplify and discriminate signals from the complementary arrays of photodetectors in order to detect and record defects on the package surface exceeding a predetermined level. Means are also provided to segregate unacceptable packages.

751,270

RADIATION SENSITIVE APPARATUS FOR DETECTING ROTATING YARN PACKAGE DEFECTS

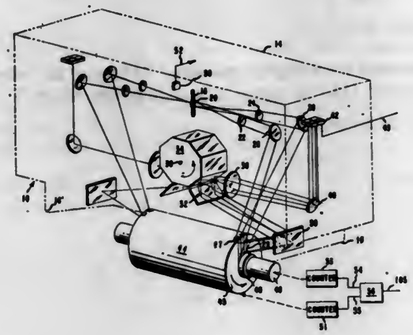
Gerald Irving Buckson, Newark, and John Albert Masino, Eugene J. Sturdevant, and Stanley Victor Williams, Wilmington, Del., assignors to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware

Filed Aug. 8, 1968. Published Apr. 29, 1969

Int. Cl. G01n *21/30;* H01j *39/12, 3/14*
U.S. Cl. 250—219

3 Sheets Drawing. 16 Pages Specification

An apparatus for detecting package formation defects on the end surface of a rotating cylindrical yarn package wherein at least two parallel strips of light are projected onto the end surface. The illuminated portions of the end surface are viewed and the illumination therefrom is directed to photosensitive means which detects variations in the intensity of the illumination and emits electrical signals equivalent thereto. Electronic components are provided to amplify and discriminate signals



received from the photodetectors in order to detect and record defects exceeding predetermined levels. Means are also provided to segregate inspected packages having unacceptable package end formations. A duplicate apparatus arrangement is provided for simultaneously inspecting both end surfaces of the package.

769,261

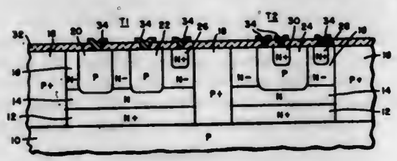
SEMICONDUCTOR INTEGRATED CIRCUIT

Hung Chang Lin, 8 Schindler Court, Silver Spring, Md. 20903

Filed Oct. 21, 1968. Published Apr. 29, 1969

Int. Cl. H01l *11/00, 15/00*
U.S. Cl. 317—235

1 Sheet Drawing. 11 Pages Specification



Three successive layers of semiconductive material of the same conductivity type with decreasing steps in resistivity are used in a new basic structure for the formation of integrated circuits including bipolar transistors whether of vertical or lateral configuration. The abruptly higher resistivity of the top layer provides higher current gain for lateral transistors and minimizes useless vertical injection. In both types of transistors the junction breakdown voltages are improved and inversion layers giving rise to undesired channel leakage currents are avoided.

773,655

PROCESS OF SWEETENING AND STABILIZING SULFATE GRADE TURPENTINE

Donald A. Maxwell and Bobby N. Scoggins, both % Tennessee Eastman Co., P.O. Box 511, Kingsport, Tenn. 37662

Filed Nov. 5, 1968. Published Apr. 29, 1969

Int. Cl. C09f *3/00*
U.S. Cl. 260—675.5

No Drawing. 10 Pages Specification

Process for sweetening and stabilizing sulfate-grade turpentine with a phenylene diamine inhibitor such as N,N'-disecondary-butyl-paraphenylene diamine, N,N'-disecondary-butyl-ortho-phenylene diamine and mixtures thereof. The turpentine is mixed with 10–150 p.p.m. inhibitor and 5–25% of 10–25° Baumé aqueous caustic. The mixture is agitated vigorously for 10–30 minutes, aged for 20–100 hours at 75–150° F., then separated. The hydrocarbon layer is an acceptable turpentine of good color, free of objectionable odor, and stable to oxidative deterioration.

774,071

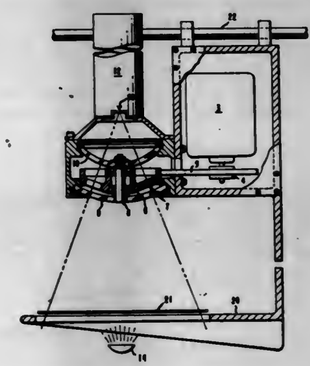
APPARATUS FOR ANALYZING UNIFORMITY OF SHEET-LIKE MATERIAL

Gerhardt E. Meyer, Wilmington, Del., and Charles B. Moore, Condordville, Pa., assignors to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware

Filed Nov. 7, 1968. Published Apr. 29, 1969

Int. Cl. G01n *21/30;* H01j *39/12*
U.S. Cl. 250—219

2 Sheets Drawing. 15 Pages Specification



A system for analyzing the uniformity of a product comprising in combination a first scanning means for sensing a sample continuously using a circular motion and converting an optical signal received from said sample into a continuous electrical signal, and a second analyzing means for receiving said electrical signal continuously, which in turn separates said electrical signal into a plurality of components each having a particular frequency and amplitude. The first means for rotary scanning of the sample may be used to scan either transmitted light or reflected light from the sample. Normally, the scanner will be arranged to rotate continuously while the sample or portion of sample to be scanned may be held stationary or may move in a plane parallel to the plane of rotation of the scanner. The second analyzing means is normally a frequency analyzer which filters the continuous electrical signal into a plurality of preselected frequency bands each representing a particular type of defect and measures quantitatively the amplitude of the signal portion of each band. The number of preselected frequency bands may vary depending upon the number and kind of different defects which are characteristic of the sample being analyzed.

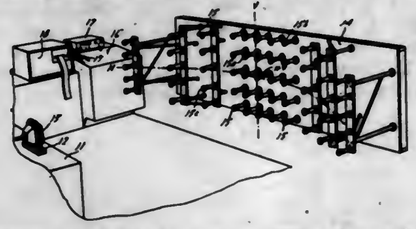
782,704

SEQUENTIAL PHOTOMETER FOR MEASURING OUTPUT OF A VEHICLE MOUNTED LAMP

William N. Moroney, Detroit, Mich., assignor to Ford Motor Company, Dearborn, Mich., a corporation of Delaware

Filed Dec. 10, 1968. Published Apr. 29, 1969
Int. Cl. G01j *1/00;* H01j *39/12*
U.S. Cl. 356—121
1 Sheet Drawing. 6 Pages Specification

A testing apparatus for photometrically testing the light distributive candlepower of vehicle mountable lamp assemblies. The lamp (13) to be tested is positioned in predetermined relationship to a plurality of photocells (15) each of which is located at a specific test point. The surface of each photocell is located an equal radial distance from the lamp filament. The photocells are sequentially activated by means (16) and the excitation of each cell



is measured by a digital voltmeter (17) and recorded by a recorder (18) in terms of candlepower value.

REISSUES

APRIL 29, 1969

Matter enclosed in heavy brackets [ ] appears in the original patent but forms no part of this reissue specification; matter printed in italics indicates additions made by reissue.

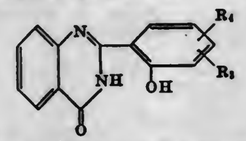
26,565

2-ORTHO-HYDROXY-PHENYL-4-(3H)-QUINAZOLINONES

John Leo Rodgers, Somerville, and Jerry Peter Millonis, Franklin Township, Somerset County, N.J., assignors to American Cynamid Company, Stamford, Conn., a corporation of Maine

No Drawing. Original No. 3,169,129, dated Feb. 9, 1965, Ser. No. 279,631, May 10, 1963. Application for reissue Mar. 2, 1966, Ser. No. 536,533
Int. Cl. C07d *51/48;* F21v *9/02*
U.S. Cl. 260—251 9 Claims

1. A compound of the formula



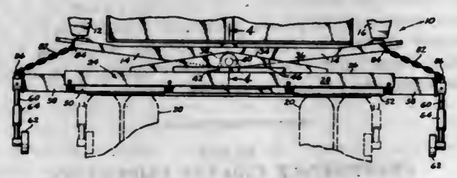
wherein R_3 and R_4 are selected from the group consisting of hydrogen, hydroxyl, halogen and 1–4 carbon alkyl and alkoxy.

26,566

MECHANISM FOR ATTACHING TRAILING AND LEAD VEHICLES

Jack D. Layton, Salem, Oreg., assignor to Layton Manufacturing Co., Salem, Oreg., a corporation of Oregon

Original No. 3,275,342, dated Sept. 27, 1966, Ser. No. 374,899, June 15, 1964. Application for reissue Apr. 3, 1968, Ser. No. 719,795
Int. Cl. B60d *1/00, 7/00*
U.S. Cl. 280—460 12 Claims



Mechanism for attaching two vehicles together including opposed arms which attach to the rims of rear wheels in the lead vehicle interconnected by extensible means actuatable to bring the arms together. Flexible chains connected to the trailing vehicle operate when the arms are extended to center the mechanism with respect to the trailing vehicle. The mechanism is pivotable and also side shiftable with respect to the trailing vehicle.

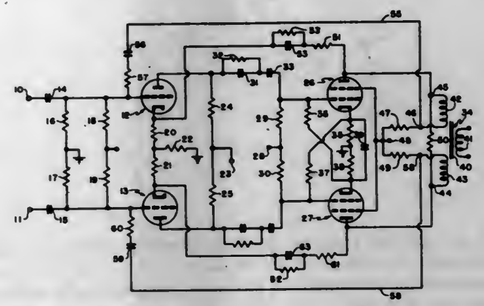
26,567

AMPLIFIER OF THE TRANSFORMER-OUTPUT TYPE WITH REGENERATIVE FEEDBACK NETWORKS FOR REDUCING LOW FREQUENCY DISTORTION

Ronald J. Rockwell, Cincinnati, Ohio, assignor, by mesne assignments, to Avco Corporation, Cincinnati, Ohio, a corporation of Delaware

Original No. 3,324,407, dated June 6, 1967, Ser. No. 378,782, June 29, 1964. Application for reissue Feb. 8, 1968, Ser. No. 706,200
Int. Cl. H03f *1/36, 3/28, 1/26*
U.S. Cl. 330—82 4 Claims

This is an amplifier which has push-pull driver tubes and push-pull output tubes. Low frequency response is improved by cross-couplings between the cathodes and grids of the output tubes. There is a negative feedback network between the anode of each output tube and the cathode of its associated driver tube. An iron core output transformer has two primary portions arranged in a series circuit between the anodes of the output tubes, which series circuit includes resistors separately connected between the space



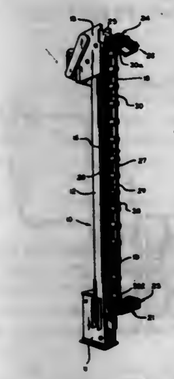
current source and these primary portions. Regenerative networks are connected between the junctions of these resistors with the primary portions and the control electrodes of the driver tubes so that the current is sampled in these primary portions and regeneratively fed back to the input of the system in order to decrease distortion at low frequencies.

26,568

UPWARD MAGNETIC CAN CONVEYOR

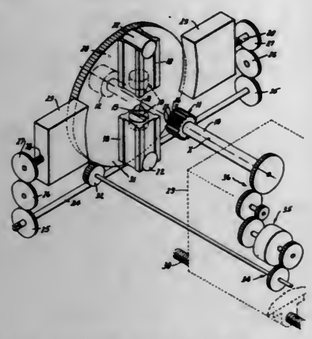
Steve Sarovich, Oak Forest, Ill., assignor to The Sardee Corporation, Chicago, Ill., a corporation of Illinois

Original No. 3,272,313, dated Sept. 13, 1966, Ser. No. 396,682, Sept. 15, 1964. Application for reissue Jan. 19, 1967, Ser. No. 620,550
Int. Cl. B65g *15/58*
U.S. Cl. 198—41 5 Claims



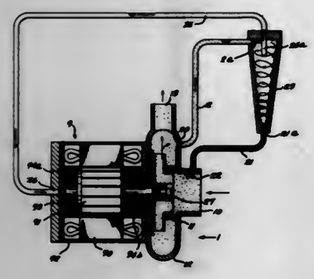
An upward magnetic conveyor for magnetic sensitive containers has an endless conveyor belt, magnetic means, input means, and output means, said input and/or output means including plates positioned adjacent portions of said belt, said plates comprising at least a lower plate disposed over the portion of the edge of the belt adjacent the pathway of said input means.

26,569
TOOL FOR FORMING TOOTHED PARTS
Edward W. Haug, Rockford, Ill., assignor to Barber-Colman Company, Rockford, Ill., a corporation of Illinois
Original No. 3,352,138, dated Nov. 14, 1967, Ser. No. 502,965, Oct. 23, 1965. Application for reissue June 11, 1968, Ser. No. 741,810
Int. Cl. B21j 7/16; B21h 4/00
U.S. Cl. 72—76 6 Claims



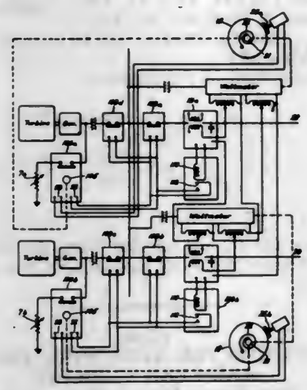
A tool for forming teeth by flowing metal of a cylindrical workpiece as by impacting or rolling. The tool includes an elongated rib advanced longitudinally relative to the workpiece. At the leading end, the rib has a shallow cross section and the rib is tapered gradually to a higher and narrower cross section at the trailing end. The shape of the rib throughout its length is such that each portion of the rib forms substantially the final shape of parts of two adjacent teeth and the interdental space on the workpiece, this action progressing from the outer ends of the teeth and space to the inner ends.

26,570
METHOD AND MECHANISM FOR LUBRICATING THE SHAFT ELEMENTS OF A PUMP ROTOR FOR PUMPING AN ABRADANT-CONTAINING LIQUID
James T. E. Dunn, 1521 Butternut, and Robert J. Sloat, 2600 Harris Ave., both of Richland, Wash. 99352
Original No. 3,186,513, dated June 1, 1965, Ser. No. 236,607, Nov. 9, 1962. Application for reissue May 24, 1967, Ser. No. 646,753
Int. Cl. F01m 1/00
U.S. Cl. 184—1 14 Claims



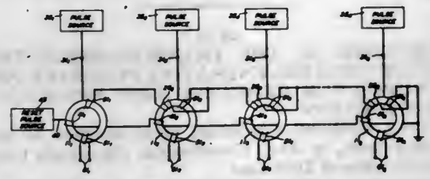
For use with rotary pumps incorporating shaft-associated elements having mating surfaces bearing upon each other in rubbing contact, which surfaces require a supply of liquid for their lubrication, a method and apparatus for supplying this lubricating liquid by withdrawing liquid from the discharge of the pump and directing it to a centrifugal separator wherefrom clean liquid is withdrawn and is directed to the rubbing surfaces of the shaft-associated elements.

26,571
MEANS FOR MAINTAINING STABILITY OF POWER TRANSMISSION SYSTEMS
Robert H. Park, Dennis, Mass., assignor to Fast Load Control, Inc., Brewster, Mass., a corporation of Massachusetts
Original No. 3,234,397, dated Feb. 8, 1966, Ser. No. 219,711, Aug. 27, 1962, which is a continuation-in-part of application Ser. No. 63,393, Oct. 19, 1960. Application for reissue Feb. 7, 1968, Ser. No. 710,424
Int. Cl. H02j 3/46
U.S. Cl. 307—86 42 Claims



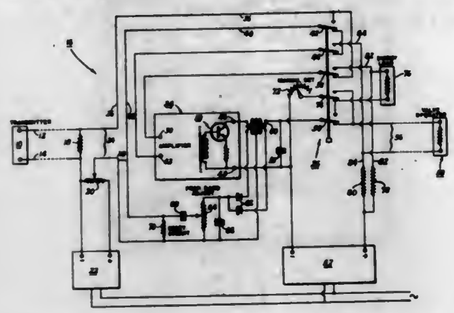
Means of increasing the transient stability of power systems in which generating plants, or more broadly in which segments of a system containing generating capacity beyond the need of the segment, are tied to the balance of the system by means of either one line or a plurality of lines which provide parallel paths of power flow, control means, responsive to the occurrence of a line fault, for controlling the driving power of one or more generating segment generator prime movers, in a manner adapted to reduce the driving power on a sustained basis, and for momentarily applying a braking load within the generating segment.

26,572
PREFERENCE CIRCUIT EMPLOYING MAGNETIC ELEMENTS
John A. Baldwin, Jr., Santa Barbara, Calif., assignor to Bell Telephone Laboratories, Incorporated, New York, N.Y., a corporation of New York
Original No. 3,233,112, dated Feb. 1, 1966, Ser. No. 6,825, Feb. 4, 1960. Application for reissue Oct. 27, 1966, Ser. No. 596,037
Int. Cl. G06f 7/06
U.S. Cl. 340—172.5 8 Claims



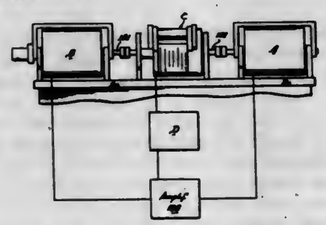
The first of a series of input signals is determined in a predetermined order by applying the input signals to set windings of respective magnetic cores and coupling a common inhibit winding to each core such that the first set core inhibits the lower order cores from generating an output when the cores are reset, only the first set core thus providing an output signal.

26,573
INDUSTRIAL PROCESS CONTROL APPARATUS
Alfred Nazareth, Jr., Rehoboth, Mass., assignor to The Foxboro Company, Foxboro, Mass.
Original No. 3,246,250, dated Apr. 12, 1966, Ser. No. 412,877, Nov. 13, 1964, which is a continuation of application Ser. No. 138,034, Sept. 14, 1961. Application for reissue Jan. 15, 1968, Ser. No. 702,146
Int. Cl. H03f 3/38
U.S. Cl. 330—10 14 Claims



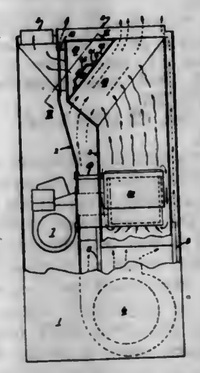
An electronic controller for use with an industrial process for maintaining constant a condition of the process, such as temperature, flow rate, etc., and comprising an amplifier to which is directed a deviation signal representing the difference between a condition measurement signal and a set point signal; the output of the controller normally being transmitted to a process valve operator or the like for automatically adjusting a process variable which influences the measured process condition, there being included with the controller an automatic-to-manual switch arrangement for directing to the process valve operator a manually adjustable signal in place of the automatic control signal and for storing during manual operation a signal level representing the difference between the deviation signal and the output of the controller, the controller output being caused to track the manually adjustable signal by feeding to the amplifier input a potential derived from the manually adjustable signal together with a feedback signal derived from the amplifier output so as to hold the amplifier input at null and thereby cause the amplifier output to follow the manually adjustable signal.

26,574
METHOD AND APPARATUS FOR SIGNAL COMPOSITING AND RECORDING
Booth B. Strange, Houston, Tex., and Melvin J. Wells, Torrance, Calif., assignors to Western Geophysical Company of America, Los Angeles, Calif., a corporation of Delaware
Original No. 3,262,095, dated July 19, 1966, Ser. No. 356,386, Apr. 1, 1964. Application for reissue Mar. 9, 1967, Ser. No. 659,822
Int. Cl. G01v 1/00
U.S. Cl. 340—15.5 21 Claims



A compositing system in a geophysical exploration system employs a noise rejection technique to eliminate the initial portions of received seismic signals. The amount of signal which is deleted is variable by an amount which is determined by the rate of change of normal moveout.

26,575
HOT AIR FURNACE
Sidney Volk, Benton Harbor, Mich., assignor, by mesne assignments, to Lear Siegler, Inc., Santa Monica, Calif., a corporation of Delaware
Original No. 3,302,630, dated Feb. 7, 1967, Ser. No. 496,845, Oct. 18, 1965. Application for reissue Dec. 1, 1967, Ser. No. 693,030
Int. Cl. F24h 3/06
U.S. Cl. 126—110 9 Claims

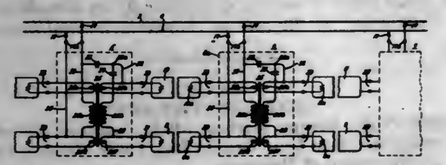


This disclosure relates to a forced air furnace having a heat exchanger with a radiator section, a burning section and a flue gas exit section. An outer envelope surrounds the heat exchanger and has a cold air intake and a hot air outlet. A plurality of passageways are provided in the radiator section with alternate passageways being isolated from flue gases produced in the burning section to form hot air passageways. The other of the passageways extend from the burning section to the flue gas exit section to form flue gas passageways through which the products of the burning section pass. The passageways are separated by hermetically isolated flat planar heat conducting sheets lying in parallel planes along the width of the radiator sections and having a substantially uniform spacing therebetween so as to permit air flow through the hot air passages without restriction and without turbulence of the air. The openings and exits of the passageways are positioned such that the flue gases flow through the radiator section in a direction transverse to the direction of flow of hot air. A baffle plate restriction means overlies the downstream side of the flue gas passageways for restricting the flow of flue gases through the passageways so as to retain the flue gases within the radiator to maximize heat exchange.

26,576
BUSWAY DISTRIBUTION SYSTEM FOR SUPPLYING A PLURALITY OF ELECTRIC DISCHARGE DEVICES THROUGH BALLAST DEVICES
Howard D. Kurt, Lynnfield, Mass., and Herbert R. Gould, Danville, Ill., assignors to General Electric Company, a corporation of New York
Original No. 3,307,072, dated Feb. 28, 1967, Ser. No. 357,078, Apr. 3, 1964. Application for reissue Oct. 31, 1967, Ser. No. 682,701
Int. Cl. H05b 41/14
U.S. Cl. 315—177 5 Claims

A combination ballast and light socket assembly for plug-in mounting on a busway, containing sockets for adjacent ends of aligned fluorescent lamps and required ballasts so that two lines of fluorescent lamps may be

mounted on and energized from the busway with only one socket and ballast assembly between each successive



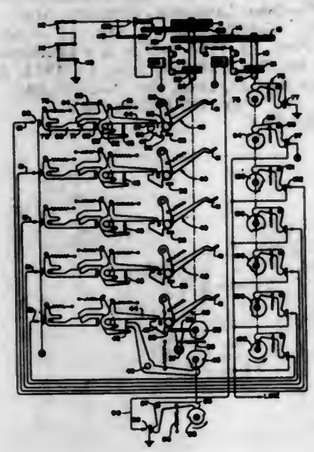
pair of lamps, and no end-to-end wiring of the lamps required.

26,577
CODE TRANSMITTER-DISTRIBUTOR WITH MEANS FOR VARYING DURATION OF STOP PULSE

Roger A. Schmit, Northbrook, Ill., assignor to Teletype Corporation, Skokie, Ill., a corporation of Delaware

Original No. 3,351,711, dated Nov. 7, 1967, Ser. No. 386,556, July 31, 1964. Application for reissue Feb. 9, 1968, Ser. No. 706,201
Int. Cl. H04l *5/24*
U.S. Cl. 178—53.1 **11 Claims**

In a telegraph transmitter-distributor of the type including a continuously rotating drive shaft, a reader shaft, a distributor shaft and single revolution clutches for selectively coupling the reader and distributor shafts to the drive shaft and further including means for normally causing the reader clutch to continuously couple the reader shaft to the drive shaft and means on the reader shaft for causing the distributor clutch to couple the distributor shaft to the drive shaft once during each rotation of the reader shaft, a device for causing the distribution of characters having long duration stop pulses including a speed reducer gear set driven by the drive shaft and means driven by the low speed portion of the gear set for engaging the reader clutch a predetermined



time after the end of each rotation of the reader shaft thereby delaying the coupling of the distributor shaft to the drive shaft and thereby delaying the termination of the stop pulse of each previously distributed character.

PATENTS

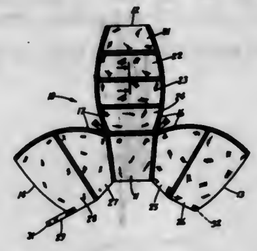
GRANTED APRIL 29, 1969

GENERAL AND MECHANICAL

3,440,660
STORABLE PROTECTIVE HEADGEAR

Alvern J. Krinke, 4806 Twin Lake Ave. N., Brooklyn Center, Minn. 55429

Filed Mar. 17, 1967, Ser. No. 623,949
Int. Cl. A42b *1/08*; A41d *13/00, 21/00, 31/00*
U.S. Cl. 2—3 **4 Claims**

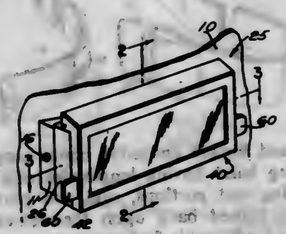


Protective headgear having a top wall and a pair of side walls hingedly connected to a back wall; and zippers for interconnecting the top wall and side walls such that when connected the four walls form a protective headgear. At least the top wall and each of the side walls having a plurality of panels hingedly interconnected so that the entire headgear can be folded for storage in a small space when not in use.

3,440,661
COVER UNIT FOR THE WINDOW OPENING OF A HELMET OR GOGGLE

William E. Newcomb, Warwick, R.I., assignor to Welsh Manufacturing Company, a corporation of Rhode Island

Filed June 26, 1967, Ser. No. 648,783
Int. Cl. A61f *9/06*; A42b *3/00*
U.S. Cl. 2—14 **4 Claims**

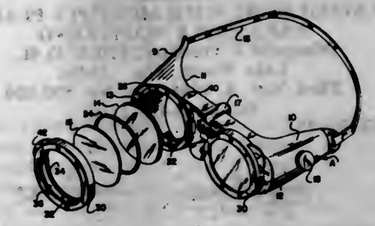


A cover unit for a helmet or goggle of a size and shape to fit over a window opening in the wall thereof. The unit is provided with an inwardly extending flange which is in close proximity to a flange about the window opening of the helmet or goggle so that clips may extend over the flange of the unit and the flange of the helmet or goggle to hold the unit assembled therewith. The unit is also provided with a hinged cover which may be swung upwardly out of covering position. The cover carries a lens tinted to protect the eyes against glare and is so spring actuated that it is urged to either closed or open position as desired.

3,440,662
GOGGLES

Donald T. O'Shea, 12970 Lake Ave., Lakewood, Ohio 44107

Continuation of application Ser. No. 474,608, July 26, 1965. This application Jan. 8, 1968, Ser. No. 696,480
Int. Cl. A61f *9/02, 9/04*
U.S. Cl. 2—14 **1 Claim**



A safety goggles construction including, a pair of eyecups joined by a nose-piece and including a head-encircling band for retaining the goggles on the head of a wearer. Each of the eyecups is formed of relatively soft and flexible opaque material and each eyecup includes a deeply recessed sight opening and a forwardly disposed annular outwardly extending frame flange encircling the opening. Two lenses are operatively disposed in the sight opening and a resilient snap ring is adapted to fit over the frame flange on each eyecup to retain the lenses in operative position within the sight opening. Each sight opening also includes an annular lens seat formed circumferentially entirely within the opening and disposed at the inner end thereof for receiving the lenses thereagainst. The lens seat has at least three resilient upstanding flat tabs disposed circumferentially around and formed integral with the lens seat, such tabs being disposed within and at the bottom of the lens opening for receiving the lenses in resilient cushioning relation thereon. Each of the tabs is positioned radially on the lens seat with respect to the centerline of the opening and perpendicular to the circumference of the opening and dimensioned to fold over circumferentially on the seat when predetermined pressure is applied by the lenses and snap ring.

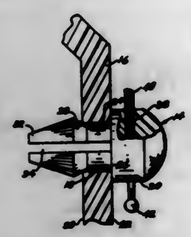
3,440,663
ATTACHMENT MOUNTING MEANS FOR HEARING PROTECTORS

Fred P. Beguin, Sturbridge, Mass., assignor, by mesne assignments, to American Optical Corporation, a corporation of Delaware

Filed Aug. 25, 1966, Ser. No. 575,148
Int. Cl. A44b *17/00*
U.S. Cl. 2—209 **3 Claims**

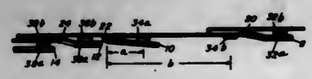
Low-cost noise-shielding ear cups having air-tight substantially vibrationless means for pivotally connecting headbands and the like to the cups. Each connecting means comprises a unitary stiffly resilient stud extended through a hole in its respective cup. The stud has an enlarged tapered portion which engages the inner periphery

of the hole and resiliently draws an enlarged head portion of the stud tightly against the outer side of the cup to



effect the air-tight vibrationless connection for a headband affixed to the head of the stud.

3,440,664
PLAITED SKIRT WITH MULTIPLE PLAITED EXPANSIBLE WAISTBAND
Margaret J. Duxbury, 810 S. D St., Lake Worth, Fla. 33460
Filed Nov. 4, 1966, Ser. No. 592,004
Int. Cl. A41d *1/20*
U.S. Cl. 2—221 5 Claims



The skirt has an expansible waistband and lower skirt portion of expansible plaits. The waistband portion and the skirt has a plurality of vertically oriented plaits. At the waistband, there are securing means at each plait holding it permanent and solely at a fixed width only in the waistband portion. Incorporated with these waistband plaits are mutually separable connecting means such as snap fasteners which provide additional temporary plaits in the waistband and skirt. The permanent and solely held plaits at the waistband provide a plaited appearance at all times to the hanging portion of the skirt. The separable connected means such as snap fasteners may be connected to reduce the circumferential dimension of the waistband or disconnected to enlarge the circumferential dimension.

3,440,665
HIP-HIGH HOSIERY
Ralph W. Russell, Siler City, N.C., assignor to Kellwood Company, a corporation of Delaware
Filed Feb. 17, 1967, Ser. No. 616,907
Int. Cl. A41b *11/00, 9/02, 9/04*
U.S. Cl. 2—240 6 Claims



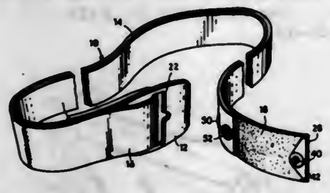
Hosiery composed of a pair of hip-high stockings interiorly slitted downwardly, and having a waist formed by joining the ends of the two slit waist portions at both the front and rear by hook members each permanently secured to an end of one waist portion and releasably secured to a loop at an end of the other waist portion. The waist portions are preferably double welts in the tube ends of which there are secured bent-over tapes, a pair of which hold the hook members and a pair of which are slipped over the hooks on the hook members.

3,440,666
SAFE EXTRA POCKET
Wilfrid E. Fitzpatrick, Detroit, Mich., assignor to Margaret Anne Williams
Filed June 12, 1967, Ser. No. 645,437
Int. Cl. A41d *27/20*
U.S. Cl. 2—251 1 Claim



An auxiliary safety pocket comprises a thin, flat container, open at one edge with a flap adapted to fold over and cover the open edge. The flap has button holes or other fastening means adapted to be secured within a clothing pocket. After securing the flap within the clothing pocket, with the open edge down, the safety pocket is folded downward 180 degrees about the flap, the flap thereby covering the open edge and preventing access thereto.

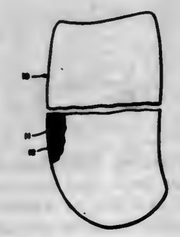
3,440,667
ADJUSTABLE BELT
George A. Dye, 7518 Bluffton Road, Fort Wayne, Ind. 46807
Filed Feb. 24, 1965, Ser. No. 434,889
Int. Cl. A41f *9/02*
U.S. Cl. 2—325 1 Claim



1. A belt and buckle ensemble comprising a flexible waist encircling band having lengthwise side edges and having opposing end portions, said end portions being adapted to be turned back upon themselves to define closed loops and adjustable fastener means carried by the end portions and the adjoining portions of the band for securing the end portions in selected loop sizes, a buckle formed a single plate, said plate having a lengthwise dimension in alignment with the waist encircling band and the lengthwise side edges thereof, and said plate being formed centrally of the length thereof with a single substantially rectangular vertical slot, said slot being constituted by opposing, substantially parallel and relatively short bounding transverse end walls which are spaced apart a distance slightly greater than the transverse distance between the opposing side edges of the band and said slot being further constituted by opposing, substantially parallel bounding side walls, said side walls being spaced

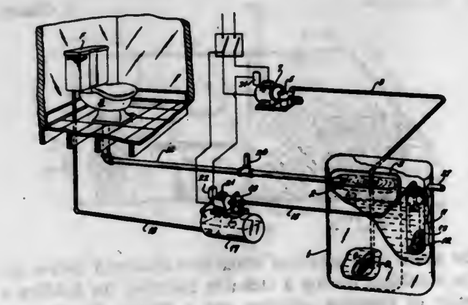
apart a distance slightly greater than the combined thickness of the loops, said end portions of the band being threadingly passed through the slot and turned back and secured to the band by the fasteners, so that the thusly formed loops are engaged through the slot and attached to the plate.

3,440,668
ARTIFICIAL LIMBS OF EXPANDED POLYAMIDES
Karl Dachs and Hans Wilhelm, Ludwigshafen (Rhine), Kurt Wick, Frankenthal, Palatinate, Wolfgang Schwenke, Ludwigshafen (Rhine), and Max Naeder, Duderstadt, Germany, assignors to Badische Anilin- & Soda-Fabrik Aktiengesellschaft, Ludwigshafen (Rhine), Rhineland, Pfalz, Germany
Filed Sept. 1, 1965, Ser. No. 484,447
Claims priority, application Germany, Sept. 11, 1964, B 78,481
Int. Cl. A61f *1/06, 1/08*; B29d *31/00*
U.S. Cl. 3—1 3 Claims



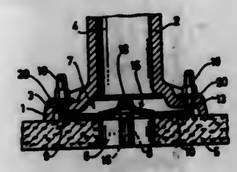
Molded prosthetic limbs, hands and feet having body of fine pored, foamed polylactam, and characterized by toughness, wear resistant, smooth surface, high impact strength, and thermal suitability.

3,440,669
HOUSEHOLD TOILET WASTE DISPOSAL UNIT AND METHOD
Carl F. Boester, 1129 S. 17th St., Arlington, Va. 22202
Filed Apr. 3, 1967, Ser. No. 627,725
Int. Cl. *1/00, 3/00, 5/00*
U.S. Cl. 4—10 5 Claims



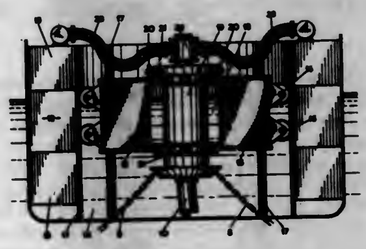
Apparatus for disposal of waste from a household toilet or the like in which flushing fluid is discharged from the toilet into a bag of filter material enclosed in a substantially larger capacity tank, including means aerating the contents of the filter bag, means for removing pigment from fluid in the tank exteriorly of the filter bag, and means for pumping treated fluid to the toilet flushing supply. The fluid pumping means is rendered inactive by failure of the aerating means.

3,440,670
DEVICE FOR FASTENING A SANITARY PIECE
Petrus van Hoof Strijpsestraat 91, Eindhoven, Netherlands
Filed Feb. 7, 1967, Ser. No. 614,486
Claims priority, application Netherlands, Feb. 7, 1966,
Int. Cl. E03d *11/00*; E03c *1/32*; A47k *1/04*
U.S. Cl. 4—252 6 Claims



Sanitary pieces, especially WC-pots and washing stands, are fastened through their normal fastening openings to an intermediate plate, which plate is fixed to the floor or wall by one single bolt. For any definite type of sanitary article the intermediate plate is provided with threaded holes or fixed bent up threaded ends, corresponding with the openings in the article. In a construction for universal use, threaded ends are provided on loose strips. The position of these threaded ends is then made to link up with the fastening openings in the sanitary piece, and the other ends of the strips are together clamped between the intermediate plate and the floor or wall when fixing the intermediate plate thereto.

3,440,671
FLOATING DEVICE FOR LOADING OR UNLOADING A SHIP IN OPEN WATER
Robert Smulders, 219 Louis Raemackerstraat, Schiedam, Netherlands
Filed Apr. 7, 1967, Ser. No. 629,284
Claims priority, application Netherlands, Apr. 12, 1966, 6604865
Int. Cl. B63b, *21/52, 35/00, 51/02*
U.S. Cl. 9—8 2 Claims



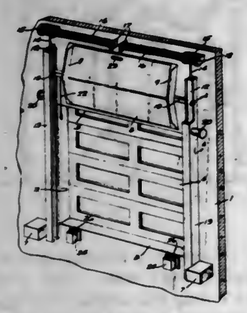
The invention relates to a floating device for loading or unloading ships in open water, said device having a floating body with a long side adapted for mooring a ship and is rotatable around a second body preferably located at one end of the floating body and anchored to the bottom of the water. The floating body preferably having tanks for the storage of the material to be loaded or unloaded. The second body preferably being vertically adjustable with respect to the floating body and to this end may be a floating body itself.

3,440,672
SHOEMAKING DEVICE
André Paul Edouard Fromantin, 37 Rue Caulaincourt, Paris, France
Filed Feb. 15, 1967, Ser. No. 616,396
Claims priority, application France, Feb. 21, 1966, 50,444
Int. Cl. A43d 11/12, 65/00
U.S. Cl. 12—142 15 Claims



Apparatus and method using molds for molding the forpart of shoe uppers and other mold arrangements for molding the rear parts of shoe uppers. The molds use one or more inflatable cushion which envelops the parts of the shoe uppers being molded and causes the upper to conform to the desired shape of a shaped mold corresponding to the desired shape of the finish molded upper. A cushion for molding the forepart of the shoe uppers has a mold element that applies greater pressure to the instep zone of the shoe upper and curves it to conform with the proper instep shape. This instep-molding element is applied to the instep zone or area of the shoe uppers before the inflatable mold cushion is inflated with a pressure medium. The molds and cushion arrangements can carry out a drawing of stretching of the shoe uppers to eliminate creases and save material.

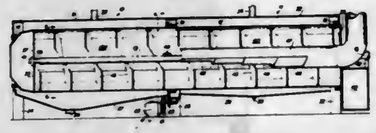
3,440,673
DOCKBOARD
Garrett P. Kelley, Milwaukee, Wis., assignor to Kelley Company, Inc., a corporation of Wisconsin
Filed Feb. 15, 1968, Ser. No. 705,776
Int. Cl. B65g 11/12, 67/02
U.S. Cl. 14—71 10 Claims



This invention relates to a dockboard which is adapted to be stored vertically above dock level. The dockboard includes a ramp, and the side edges of the ramp are pivotally connected to guide members which ride in guideways extending upwardly in spaced relation from the dock. A counterbalancing system is employed to counterbalance the weight of the ramp and urge the ramp either to the upper stored position or to a lower operating position.

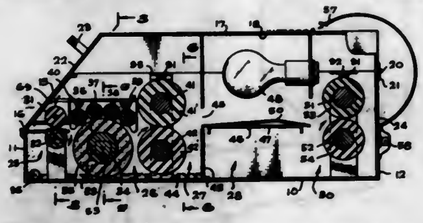
To move the ramp from the upper stored position to the operating position, the ramp is initially lowered to a position where the lower edge of the ramp is above the level of the bed of a carrier located in front of the dock and the ramp is pivoted to a horizontal position. The ramp is then lowered further to the operating position where the ramp bridges the gap between the bed of the carrier and the dock.

3,440,674
MACHINE FOR CLEANING SUGAR BEET SAMPLES
Norman E. Carver, Midvale, and Joseph M. Silver, Ogden, Utah, assignors to Ogden Iron Works Company, Ogden, Utah, a corporation of Utah
Filed Aug. 14, 1967, Ser. No. 660,338
Int. Cl. A23n 13/00; B08b 3/06; F26b 11/04
U.S. Cl. 15—3.14 11 Claims



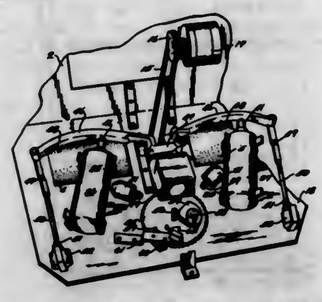
A machine for cleaning individual samples of root crops, especially sugar beets, that are taken separately at intervals from respective lots of harvested crops being supplied on a continuing basis to an industrial plant for processing. The individual samples, fed to one end of an elongate, rotary drum and advanced along the length of the drum separately but successively through a washing stage and preferably through a succeeding drying stage, by means of a specially fabricated, helical wall internally of the drum, are discharged as respectively segregated, cleaned samples representative of the values contained by the respective crop lots from which they are taken.

3,440,675
SCORE CARD CLEANING APPARATUS
Carl R. Yeaman, Los Angeles County, Calif., assignor to Sav-On Draperies, Inc., doing business as H & M Publications, Los Angeles, Calif., a corporation of California
Filed Sept. 22, 1966, Ser. No. 581,360
Int. Cl. A46b 13/00, 15/00; A47l 11/02
U.S. Cl. 15—4 6 Claims



The score card cleaning apparatus disclosed herein includes a cabinet having a cleaning chamber for holding a quantity of cleaning solution and a drying chamber including radiant heating means for drying the card after cleaning. A first pair of rollers are provided having a predetermined peripheral surface speed and a second pair of rollers are provided having a peripheral surface speed substantially equal to the surface speed of the first pair of rollers. A single cleaning roller is disposed in the cleaning chamber between the first and second pairs of rollers in communication with a cleaning solution. The cleaning roller has a peripheral surface speed in excess of the surface speed of the first and second pairs of rollers so as to effect a scrubbing action on the surface of the score card and driving means are operably coupled to the pairs of rollers and to the cleaning roller for rotating the rollers to transport the score card along a linear path through said cabinet.

3,440,676
SHOE POLISHING MACHINE
William A. Beck, River Hills, and William F. Kruke, Cedarburg, Wis., assignors to Beck, Inc., Grafton, Wis., a corporation of Wisconsin
Filed May 10, 1967, Ser. No. 637,564
Int. Cl. A47l 23/05, 23/06
U.S. Cl. 15—31 16 Claims



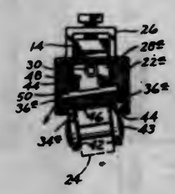
The invention relates to a coin operated shoe polishing machine in which the polish in the form of an aerosol spray is applied to a rotating polishing brush at intervals during the polishing cycle. A pressurized spray can of polish is mounted for rotation in an inclined plane and at given intervals during the cycle, an actuating member is moved into the arc inscribed by the rotating can, and the discharge nozzle of the can rides against the actuating member to discharge polish onto the polishing brush.

3,440,677
RELEASABLE HANDLE CLAMP FOR MOP FRAMES
Forrest N. Flomerfelt, 2103 S. Cedarbrook, Springfield, Mo. 65804
Filed Feb. 21, 1968, Ser. No. 707,270
Int. Cl. B25g 3/18; A47l 13/20
U.S. Cl. 15—144 8 Claims



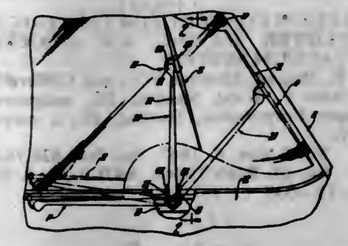
The leading end of a handle is fitted in the socket of a ferrule having a tongue which provides a shank. An apertured portion of the shank is optionally turnable 360° fixed to and projecting from one of a pair of plate-type jaws of a clamp. These jaws are spring-biased and snap in place on a component part of a stout wire frame which is jacketed in a cloth pocket atop a conventional-type mop. Washers are fixed atop a surface of one jaw between said jaw and tongue and are marginally provided with keeper notches for a lateral hook-shaped detent on one end of a manually shiftable retaining and releasing latch. The latch comprises a dual slotted cleat which is guidingly keyed on (1) a headed pin and (2) a stud fixed on said tongue. A wafer-thin shim or leaf spring is sandwiched between the tongue and latch to hold the latch in a released or engaged position.

3,440,678
COMBINATION WINDSHIELD WIPER BLADE AND WASHER ASSEMBLY
James W. Tibbet, Rte. 1, Box 94, Gold Hill, Oreg. 97525
Filed Oct. 24, 1966, Ser. No. 589,016
Int. Cl. B60s 1/02
U.S. Cl. 15—250.04 5 Claims



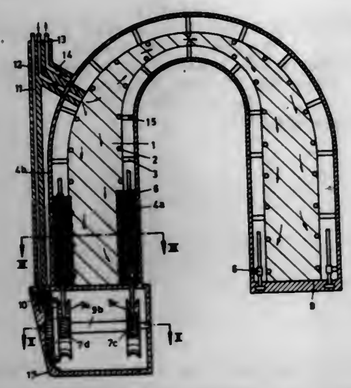
A vehicle windshield wiper blade is fitted with a jet type washer for directing cleaning fluid under pressure aganist the windshield wiper blade. The jet is directed against the windshield in a precise location ahead of the blade in both its forward and reverse strokes.

3,440,679
LOW PROFILE CONCEALED ARTICULATING WIPER-WASHER ASSEMBLY
Frederick Druselkis, Kettering, Ohio, assignor to General Motors Corporation, Detroit, Mich., a corporation of Delaware
Filed Mar. 14, 1968, Ser. No. 713,145
Int. Cl. B60s 1/52, 1/34
U.S. Cl. 15—250.04 8 Claims



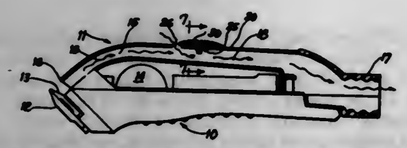
In a preferred form, a low profile wiper-washer assembly for cleaning a window of an automotive vehicle and which is adapted to be concealed within a well adjacent an edge of the window when not in use is disclosed. The wiper-washer assembly comprises a tubular wiper arm which is adapted to be connected with an oscillatable drive pivot and a wiper blade assembly which is pivotally connected to the wiper arm for movement about axes extending substantially parallel and substantially normal to the plane of the window. The wiper blade of the wiper blade assembly is biased and maintained in engagement with the window at a substantially constant pressure when oscillated thereacross by a spring means located externally of the wiper arm. The wiper blade assembly carries a washer nozzle supplied with washing fluid via a conduit extending through the wiper arm and the wiper blade assembly is moved relative to the wiper arm by an articulating link of an articulating means, the articulating link also extending through the wiper arm whereby both the conduit and link are substantially concealed from view.

3,440,680
DENTAL CARE APPARATUS
Winfried Joseph Werding, La Grange, 1066 Epalinges, Switzerland
Filed Apr. 14, 1967, Ser. No. 630,896
Claims priority, application Switzerland, Apr. 19, 1966, 5,632/66
Int. Cl. A46b *13/04, 11/06*
U.S. Cl. 15—321 10 Claims



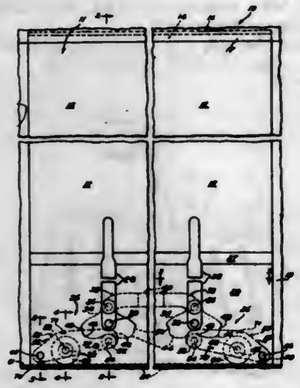
This invention has for its object a dental care apparatus characterised by the fact that it comprises a dental plate-shaped support corresponding to the shape of the maxillaries, carrying rotating brushes extending in anatomical conformation along the support on the side of the teeth and rotatively driven by an element of a gear works secured to one of its extremities and meshing with at least one toothed wheel driven by a pinion secured at the end of a transmission member rotatively driven by external driving means, the said support being such that it can be placed between the upper and lower maxillaries so that these be approximately closed one on the other.

3,440,681
VACUUM CONTROL FOR ELECTRIC HAIR CLIPPER HAVING AN ASSOCIATED VACUUM SYSTEM
Wilbur H. Hixson, Monroe, Wis., and Clifford H. Jording and John F. Wahl, Sterling, Ill., assignors to Wahl Clippper Corporation, Sterling, Ill., a corporation of Illinois
Filed Mar. 6, 1967, Ser. No. 620,764
Int. Cl. B26b *19/44*; A47l *9/32, 9/00*
U.S. Cl. 15—339 2 Claims



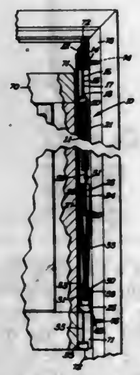
An electric hair clipper having an associated vacuum system for removing cut hair during clipper operation. The vacuum system includes a duct located on the top of the clipper, the forward end of the duct positioned adjacent the clipper blades and the rearward end adapted to be connected to a source of subatmospheric pressure. A wall of the duct is provided with an opening, and a plate mounted for sliding movement engages the wall at this opening. The plate in one position of adjustment closes the opening, and in other positions of adjustment uncovers portions of the opening to provide venting to atmosphere and consequent change in pressure conditions within the duct. The sliding plate is located for easy manipulation during use of the clipper, and enables the operator to control in a continuous manner the intensity of air flow through the duct as required by the clipping operation being performed.

3,440,682
CAR DOOR MECHANISM
Roland J. Olander, La Grange, Ill., assignor to W. H. Miner, Inc., Chicago, Ill., a corporation of Delaware
Filed Nov. 5, 1965, Ser. No. 506,541
Int. Cl. E05d *13/02*
U.S. Cl. 16—99 3 Claims



A mechanism for raising a door of a railway car or the like normally supported on its bottom edge onto rollers for sliding movement along a track and having a pair of rollers pivotally supported on the lower portion of the door at opposite side edges of same and manually actuated operating means associated with each of said rollers, either of which may be actuated to simultaneously lower both rollers to raise the door. The operating means may automatically retain the door in its raised position until actuated in reverse. A third intermediate roller may be pivotally mounted on the door to tilt same in the direction of its sliding movement.

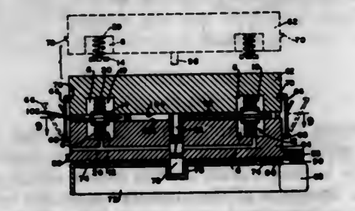
3,440,683
SASH CONTROL MECHANISM
Edward H. Wood, Sanford, N.C., assignor to The D. J. Densmore Company, Sioux Falls, S. Dak., a corporation of South Dakota
Filed July 17, 1967, Ser. No. 653,832
Int. Cl. E05d *13/12, 17/00*
U.S. Cl. 16—197 11 Claims



This disclosure relates to a window sash balance mechanism which is generally secured to the window

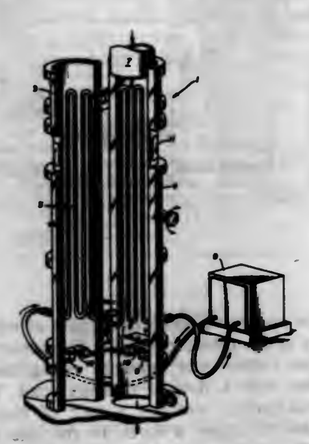
frame or jamb, with the side members of the sash having a groove or channel formed therein to receive the sash balance mechanism. The mechanism contains a double block floating anchor that has a pair of pulleys which are supported by a pair of longitudinally offset shafts forming acute angles with the frame of the double block floating anchor. By forming the double block floating anchor in this manner, it is possible to construct it so that it will twist or rotate with the balance cord as it is lengthened or shortened through use, and the cords will not be in frictional engagement with each other. The channel, and floating and fixed double blocks are constructed to permit the balance spring to be confined in close proximity to the interior of the channel.

3,440,684
CLAM OPENING DEVICE
Marco Coccellato, Syosset, N.Y., assignor of thirty-five percent to William Quaranta, Syosset, N.Y.
Filed Oct. 6, 1966, Ser. No. 584,847
Int. Cl. A22c *29/00*
U.S. Cl. 17—76 7 Claims



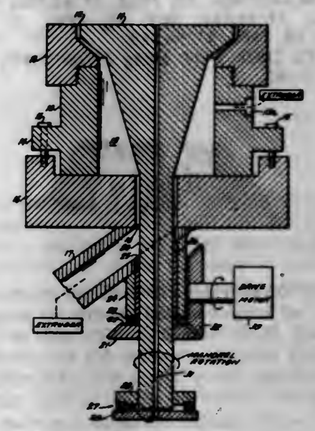
A clam opening device made up of an upper and lower support with a recess therein having a clam holding means yieldingly mounted in the recess adapted to secure a clam therebetween and a knife mounted for relative movement with respect to the support members for shucking the clam.

3,440,685
METHOD AND APPARATUS FOR QUENCHING FILAMENTS
Roberto Constantakis and James J. Hudgens, Pensacola, Fla., assignors to Monsanto Company, St. Louis, Mo., a corporation of Delaware
Filed Dec. 28, 1966, Ser. No. 605,366
Int. Cl. D01d *11/00*
U.S. Cl. 18—8 1 Claim



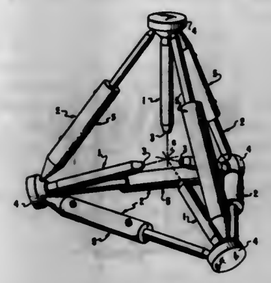
An apparatus and method for conditioning freshly spun synthetic filaments by passing the filaments through a controlled refrigerated zone of relatively still air.

3,440,686
EXTRUSION DIE HAVING ANGULARLY MOVING CENTRAL MANDREL
Herbert O. Corbett, Bridgeport, Conn., assignor to National Distillers and Chemical Corporation, New York, N.Y., a corporation of Virginia
Filed Dec. 29, 1966, Ser. No. 605,694
Int. Cl. B29d *23/04*
U.S. Cl. 18—14 5 Claims



An extrusion die for blown plastic film having an angularly moving central mandrel to distribute gauge bands around the periphery of the blown tube.

3,440,687
MULTIANVIL PRESS
Howard T. Hall, 1711 N. Lambert Lane, Provo, Utah 84601
Filed Feb. 16, 1967, Ser. No. 616,510
Int. Cl. B29c *3/00*; B30b *7/00*
U.S. Cl. 18—16 5 Claims



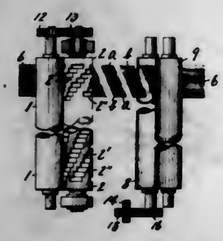
A multiaxial press has a plurality of press members each having at one end an anvil face corresponding to a face of a polyhedron and arrayed with their anvil faces inwardly directed toward a common point and retractible guide means connecting the outer ends of adjacent press members to maintain the array and to urge the press members along rectilinear paths toward the common point upon retraction of the guide means. The retractible guide means may incorporate pull-type hydraulic rams or other power devices.

3,440,688
APPARATUS FOR PRODUCING CONTINUOUSLY COMBED SLIVER FROM CARDED SLIVER
Naonari Yamamoto, Takatsuki-shi, Osaka-fu, Mitsuo Masuda, Ibaragi-shi, Osaka-fu, and Toshihiko Saikawa, Akira Tsubota, and Yasuo Shida, Takatsuki-shi, Osaka-fu, and Toshiji, Matsumura, Toyonaka-shi, Osaka-fu, Japan, assignors, by mesne assignments, to Toyo Boseki Kabushiki Kaisha, Osaka, Japan, a corporation of Japan
Continuation-in-part of application Ser. No. 298,828, July 31, 1963. This application Feb. 24, 1966, Ser. No. 529,704
Claims priority, application Japan, Aug. 22, 1962, 37/34,841; Sept. 25, 1962, 37/55,074; Oct. 12, 1962, 37/44,104; Oct. 24, 1962, 37/46,366; Dec. 10, 1962, 37/54,382
Int. Cl. D01b *3/04*; D01g *19/00*; D01h *5/00*
U.S. Cl. 19—65 2 Claims



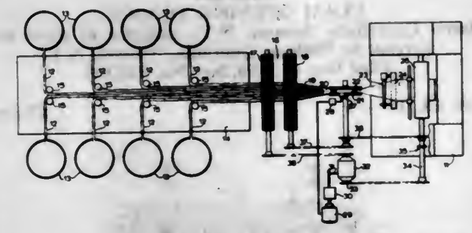
This invention provides a method and apparatus adapted to perform an integrated and continuous series of steps in processing fibers from a carding step to a combing step including forming a comber lap by doubling slivers, drawing relatively heavy slivers from a carding machine and taking the slivers up on a bobbin, automatically doffing the wound comber lap on to a receiver and automatically removing the lap to a comber machine by an overhead carrier, doubling the fleeces of the comber laps, drafting and combing these fleeces and collecting and drawing relatively even slivers into a single combed sliver.

3,440,689
APPARATUS FOR SEPARATING FILAMENTS OF TOW (FILAMENT BUNDLE)
Zenzi Murakami, Osaka-shi, Morizo Ishikura, Kawanishi-shi, and Masahiro Manami, Nishinomiya-shi, Japan, assignors to Osaka Kiko Kabushiki Kaisha, Osaka-shi, Japan
Filed Dec. 9, 1966, Ser. No. 600,604
Claims priority, application Japan, June 30, 1966, 41/42,818
Int. Cl. D01g *11/00*
U.S. Cl. 19—65 4 Claims



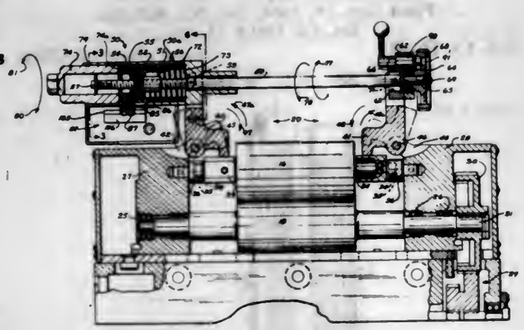
Filaments of a tow moving longitudinally are separated from each other by an apparatus which stretches portions of the tow while releasing other portions of the tow. The stretching and releasing is effected by a special roller longitudinally divided into a considerable number of narrow regions, each region comprising arcuate and relieving sections, and those of adjacent regions being peripherally displaced progressively along the roller. The arcuate surfaces nip the filaments being stretched by the more rapidly moving surfaces of the delivery rollers, and the relieving surfaces free the stretched groups of filaments to contract relative to those still being stretched. Snubbing action is also employed to accentuate the separation of the filaments as they are released.

3,440,690
MEANS FOR FEEDING FIBROUS MATERIALS
Robert Greenwood, Whalley, near Blackburn, and Walter Howarth, Haslingden, Rossendale, England, assignors to T.M.M. (Research) Limited, Oldham, England, a British company
Filed Nov. 3, 1966, Ser. No. 591,900
Int. Cl. D01h *5/32*
U.S. Cl. 19—240 5 Claims



Apparatus for controlling the mass per unit length of fibrous material fed to a textile drafting machine. The apparatus utilizes a draft control means which is responsive to a deviation of the measured mass per unit length from a predetermined mass per unit length to vary the draft of the control drafting system to thereby reduce said deviation.

3,440,691
TEXTILE APPARATUS
Jack H. Selby, Chagrin Falls, Ohio, assignor to The Warner & Swasey Company, Cleveland, Ohio, a corporation of Ohio
Filed Sept. 12, 1966, Ser. No. 578,599
Int. Cl. D01h *5/74, 5/43*
U.S. Cl. 19—267 5 Claims



A textile apparatus comprises a pair of rotatable drafting rollers and a pressure loading mechanism for biasing one of the rollers into pressure engagement with the other roller with a desired pressure load. The pressure loading mechanism includes a pair of members which are movable to apply a force to the one roller and a load exerting means operable to apply a substantially equal pressure load to the members. A presetting mechanism is associated with the load exerting means to preset the load exerting means to apply a desired pressure load.

ERRATUM

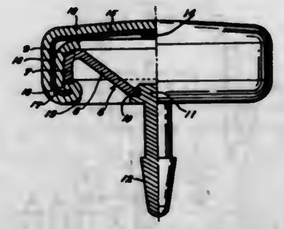
For Class 24—31 see:
Patent No. 3,441,951

3,440,692
QUICK ATTACHABLE BUTTON
Harry Pomerantz, Bronx, N.Y., assignor to The Raymond Lee Organization, Inc., New York, N.Y., a corporation of New York
Filed Aug. 14, 1967, Ser. No. 660,316
Int. Cl. A44b *1/38, 1/32*
U.S. Cl. 24—108 3 Claims



A button provided with means for quickly securing the button to cloth, leather, fabric, as earrings, tie clasps or other material without the use of thread and for as quickly releasing said button as desired.

3,440,693
TRIM BUTTON
Frederick N. Reynolds, Augusta, Ky., assignor to The F. A. Nelder Company, Augusta, Ky., a corporation of Kentucky
Filed May 3, 1967, Ser. No. 635,878
Int. Cl. F16b *2/20*; A44b *1/18*
U.S. Cl. 24—113 2 Claims



A covered trim button having a base member and a cap member which cooperate to secure a cover on the button. The base member includes an annular axially extending flange alongside the annular wall of the cap member. The edges of the annular wall are bent upwardly thereby pressing the cover material against the edge of the flange.

3,440,694
WIRE ROPE CLIP
Votaw S. Durbin, % Durbin Durco Inc., 1435 Woodson Road, St. Louis, Mo. 63132
Filed Nov. 24, 1967, Ser. No. 685,520
Int. Cl. F16g *11/06*
U.S. Cl. 24—125 6 Claims



The clip includes a channel member providing a base and a pair of opposing flanges, the base having a pair of holes for receiving a U-bolt. A pair of shear cuts in each leg provide opposing tabs which are bent inwardly and downwardly to form a seating pad overlying the base and located between the bolt holes. The slots which remain in the opposed flanges, when the tabs are downwardly bent, receive a pair of wire rope lengths superimposed one on the other. The wire rope lengths are subjected to clamping pressure between the U-bolt and the seating pad and are kinked into conformity with a centrally depressed configuration of the pad.

3,440,695
GRIP JOINT AND CATCH FOR JEWELRY CLASPS
Boris Shteinshleifer, 40 Elizabeth St., New York, N.Y. 10013
Filed Feb. 15, 1968, Ser. No. 705,671
Int. Cl. A44b *9/18*
U.S. Cl. 24—160 3 Claims



An improved grip joint catch for jewelry pins or brooches including a pivotally mounted pin stem having resilient means carried by a bracket supporting a pin for pivotal movement, to retain the same in predetermined position, and secondary resilient means associated with a catch to retain the free end of the pin in the same position, whereby upon disengagement of said last mentioned means, the pin will be held by the first mentioned means. Means is provided for completely shielding the free end of the pin while the jewelry is worn.

3,440,696
SEALING FASTENER
Karel J. Staller, Rutherford, N.J., assignor to Flexigrip, Inc., Orangeburg, N.Y., a corporation of New York
Filed Oct. 22, 1965, Ser. No. 501,768
Int. Cl. A44b *21/00*
U.S. Cl. 24—201 11 Claims

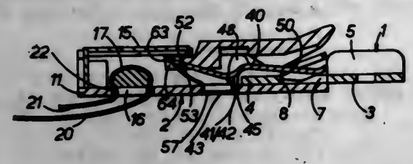


A flexible closure which includes a pair of closure strips each having a web portion and a marginal portion formed integrally wherein the marginal portions are provided with interlocking rib and groove elements and wherein the elements are principally formed of a first more rigid thermoplastic substance and wherein the elements have a layer or layers of a softer thermoplastic substance disposed thereon so as to provide both a rigid interlocking between the closure strips and a sealed engagement between the rib and groove elements such that a pouch or container associated therewith may be vapor-sealed.

3,440,697
BUCKLES FOR SAFETY BELTS
Ronald Allan Proctor, Woking, England, assignor to Britax (London) Limited, Byfleet, England, a corporation of the United Kingdom
Filed Aug. 15, 1966, Ser. No. 572,269
Claims priority, application Great Britain, Aug. 20, 1965, 35,822/65
Int. Cl. A44b *11/00*
U.S. Cl. 24—230 22 Claims

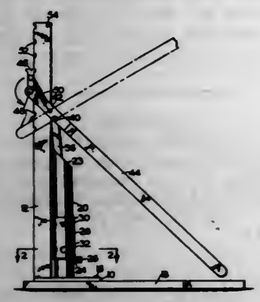
This disclosure relates to a safety belt buckle comprised of a one-piece base plate having upstanding sides and a pivotable one-piece latch plate overlying the base plate,

the latch plate having a projection at each side thereof, and the sides of the base plate being down turned toward the latch plate and defining abutment shoulders in contact with the projections whereby the latch plate is restrained



from moving in a direction beyond the shoulders. The latch plate further includes a tail directed upwardly toward a cover of the buckle, and biasing means are provided between the cover and the tongue for normally urging the latch plate toward its locked position.

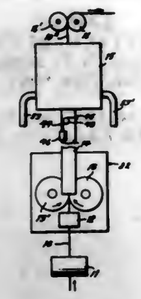
3,440,698
HAND OPERATED EXTRUDING APPARATUS
Terence R. Kramer, 1226 SE. 35th Ave., Portland, Oreg. 97214
Filed Sept. 26, 1966, Ser. No. 582,096
Int. Cl. B28b *3/24*
U.S. Cl. 25—11 2 Claims



A hand operated extruding apparatus has a cylinder for holding a supply of extrudable material. This cylinder fits on an upright projection and has an outlet aperture arranged for alignment with any one of a number of forming apertures on a die member rotatably and slidably mounted on the cylinder. The die member is removable and may be inverted on the cylinder. It has two sets of forming apertures one set being adjacent one end thereof and the other set being adjacent the other end whereby a plurality of forming apertures may be provided for alignment one at a time with the outlet aperture in the cylinder upon suitable positioning of the die member. The cylinder is held on the projection by a set screw which also serves as an abutment for holding the die member in a forming position. A plunger operates in the cylinder and is associated with a hand operated lever and a ratchet drive means arranged upon operation of the lever to drive the plunger either in advancing or retracting movements.

3,440,699
PROCESS AND APPARATUS FOR STRAND TREATMENT
Robert Kenneth Stanley, Media, Pa., assignor to Techniservice Corporation, Lester, Pa., a corporation of Pennsylvania
Filed Sept. 29, 1967, Ser. No. 671,818
Int. Cl. D06c *3/00, 19/00;* D02g *3/00*
U.S. Cl. 28—1 20 Claims

This invention relates to treatment of textile strands and provides particularly for improved stabilization of crimp therein by withdrawing crimped strand through a particulate bed spaced from any accumulated mass of



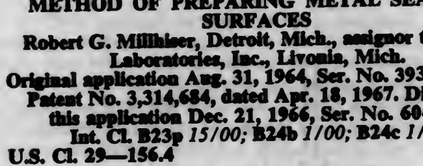
strand, especially a steam-heated bed of solid spherules. Such a bed is useful at the exit end of a stuffer crimper.

3,440,700
WARP BEAMING
Francis James Berridge, Coventry, England, assignor to Courtaulds Limited, London, England, a British company
Filed June 13, 1967, Ser. No. 645,779
Claims priority, application Great Britain, July 12, 1966, 31,240/66
Int. Cl. D02h *13/12, 13/28, 13/06*
U.S. Cl. 28—36 22 Claims

A warp beaming apparatus in which the position of a member, for example a comb, is automatically controlled as the diameter of the warp beam increases during winding, by producing an electrical quantity which is proportional to the rotational speed of the beam and an electrical quantity which is variable according to the position of the member so as to tend to maintain a predetermined relationship between the electrical quantities.

3,440,701
STRAND TREATMENT
Malcolm F. Irwin, Philadelphia, Carl T. Musselman, Prospect Park, and Robert K. Stanley, Media, Pa., assignors to Techniservice Corporation, Lester, Pa., a corporation of Pennsylvania
Filed Mar. 27, 1967, Ser. No. 626,033
Int. Cl. D02j *1/02*
U.S. Cl. 28—72 22 Claims

Multifilament textile strands are bulked by any of several crimping methods (e.g., gear-crimping, stuffer-crimping, or edge-crimping) not involving addition of twist (or false twist) thereto; then the bulked strand is twisted,



either in the single or with plying or cabling; and the twisted bulked strand is plasticized, compressively relaxed, and dried under tension.

3,440,702
METHOD OF ASSEMBLING SPECTACLE FRAMES
George B. Barton, Aylesbury, England, assignor to Merx Optical Company Limited, London, England, a British company
Filed Mar. 1, 1967, Ser. No. 619,666
Claims priority, application Great Britain, Mar. 3, 1966, 9,462/66
Int. Cl. B21d *53/00*
U.S. Cl. 29—20 14 Claims



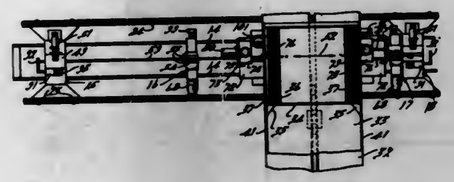
A metal pin is attached to a metal reinforcing core member in a plastic spectacle frame. A recess is formed in the frame to the depth of the core. The pin is placed in the recess, touching the core, and a current passed between them.

3,440,703
METHOD OF PREPARING METAL SEALING SURFACES
Robert G. Millhiser, Detroit, Mich., assignor to Ajem Laboratories, Inc., Livonia, Mich.
Original application Aug. 31, 1964, Ser. No. 393,045, now Patent No. 3,314,684, dated Apr. 18, 1967. Divided and this application Dec. 21, 1966, Ser. No. 604,112
Int. Cl. B23p *15/00;* B24b *1/00;* B24c *1/00*
U.S. Cl. 29—156.4 7 Claims



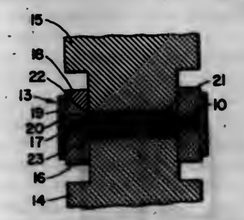
1. A process for manufacturing a seal for a joint between surfaces of adjoining parts which comprises providing the surfaces to interfit in gross conformity with each other over a substantial area, forming at least one of the surfaces with substantially continuous cuts, grit blasting said cut surface over at least a substantial portion of said interfitting area with kinetic energy sufficient to drive said grit particles against said surface with formation of substantially contiguous small pits with continuous relatively sharp barrier ridges therebetween and pressing said parts together to force said ridges against the interfitting surface to form a stationary seal therewith.

3,440,704
METHOD OF CONSTRUCTING A CONTINUOUS TUBE FINNED HEAT EXCHANGER
William A. Collins, Dowagiac, Mich., assignor to Rudy Manufacturing Company, a corporation of Michigan
Filed Dec. 26, 1967, Ser. No. 693,355
Int. Cl. B23p *15/26, 25/00*
U.S. Cl. 29—157.3 10 Claims



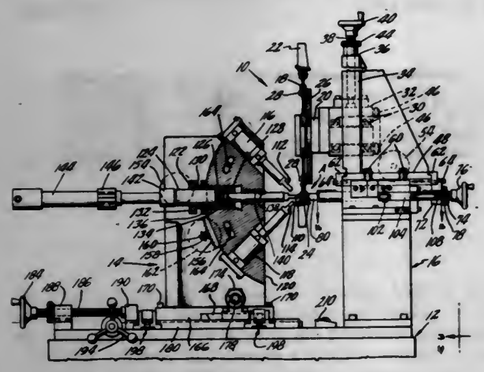
The method pertains to the threading of a continuous tube of conducting material back and forth through a stack of fins having a plurality of apertures which are in aligned relation to form a plurality of through openings. The tube is inserted through the first opening, reversed, advanced and pulled through the second opening forming a loop. The tube is again reversed and advanced and pulled through a third opening forming another loop and so on until all of the openings have straight tube sections extending therethrough with oppositely disposed loops on the ends forming a continuous sinuous tubular path. The loops are either drawn toward the fins or the fins are moved apart towards the loops.

3,440,705
METHOD OF MAKING A PRINTING WHEEL FOR PRINTING A CODE ON INSULATED WIRE
James R. Johnson, Santa Monica, Calif., assignor to Storm Products Co., a corporation of California
Filed Aug. 31, 1966, Ser. No. 576,263
Int. Cl. B21k *1/28;* B21d *53/26*
U.S. Cl. 29—159 2 Claims



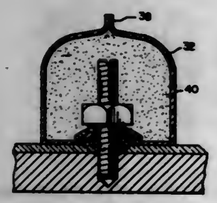
A wheel for printing a code on an insulated wire is provided by cutting a ring of metal from a tube. The code is then imprinted on the exterior surface of the ring. Thereafter, an annular groove is formed in this exterior surface of the ring by positioning the ring within a cylindrical die having an internal annular rib surrounding the ring to form the groove. A mass of resilient material is positioned within the ring and a compressive force exerted on the material to force the mass radially against the inner surface of the ring and thereby form the ring into the desired configuration conforming to that of the annular rib. The resulting printing wheel is thus conformed to the exterior surface of an insulated wire upon which the code is to be printed.

3,440,706
APPARATUS FOR BENDING LOCKING TABS AND THE LIKE
Arthur G. Ostergren, Whitebirch Road, East Hampton, Conn. 06424, and Luigi C. Salce, Green Acres Lane, Quinebaug, Conn. 06262
Filed Sept. 5, 1967, Ser. No. 665,620
Int. Cl. B23p 11/00; B21d 11/02
U.S. Cl. 29—243.5 13 Claims



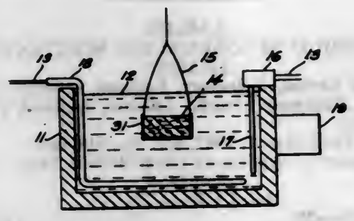
Tab bending and rivet flaring apparatus comprising a rotatable work holder for a cylindrical workpiece carrying a circumaxially spaced series of tabs or rivets, a back-up anvil movable toward and away from a work station to engage the tabs or rivets, and three power-operated bending or flaring tools arranged respectively along the anvil centerline but opposed thereto, and on one and an opposite side of the anvil centerline, the latter two tools being adapted for pre-bending.

3,440,707
METHOD AND APPARATUS FOR REPAIRING GLASS-COATED ARTICLES
George Warren Pittsford, and Basil G. Staples, Rochester, N.Y., assignors to Ritter Pfaudler Corporation, Rochester, N.Y., a corporation of New York
Filed May 8, 1967, Ser. No. 636,760
Int. Cl. B23p 7/00; B65d 41/52; F16l 55/16
U.S. Cl. 29—401 10 Claims



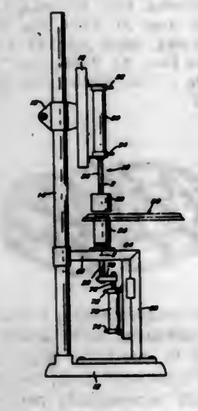
Defects or pits in the glass lining of corrosion resistant equipment are repaired by first removing glass from around the defect to expose an area of base metal which is large enough to drill and tap. A mild steel stud is threaded into this hole through the base of a deformable, heat sealable corrosion resistant plastic cup. A concave flange carried by the stud is adapted to bear at its peripheral edge against the base of the plastic cup to hold the base in sealing contact with the glass lining about the defect. The open end of the cup is then closed by sealing the walls of the cup together to completely enclose the stud and flange. For additional protection the cup can be filled prior to sealing with an agent for neutralizing the enivornment in which the article is to be used.

3,440,708
METHOD OF MAKING GRADATED FIBER METAL STRUCTURES
Sherwood W. McGee, Lisle, and Melvin H. Zoiss, Chicago, Ill., assignors to IIT Research Institute, Chicago, Ill., a not-for-profit corporation of Illinois
Substituted for abandoned application Ser. No. 294,789, July 2, 1963. This application Jan. 16, 1967, Ser. No. 629,038
Int. Cl. B22f 7/00, 9/00
U.S. Cl. 29—419 5 Claims



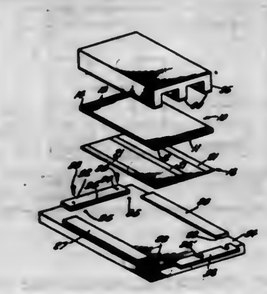
A process for forming fiber metal structures of gradated density by impregnating a fiber metal compact with a water soluble salt, solidifying the salt, hot forging the compact until the desired density gradient is obtained, removing the salt and impregnating the compact with a ceramic.

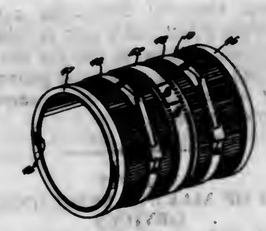
3,440,709
METHOD FOR PROVIDING A SUBSTRATE WITH A LINER
Walter Raymond Herring, Uniouville, Pa., assignor to Container Corporation of America, Wilmington, Del., a corporation of Delaware
Original application Apr. 8, 1963, Ser. No. 271,126, now Patent No. 3,387,355, dated June 11, 1968. Divided and this application Feb. 7, 1968, Ser. No. 718,968
Int. Cl. B23p 11/02
U.S. Cl. 29—450 6 Claims



1. A method of joining a barrier film liner of an elastomeric material to a substrate comprising the steps of jutaposing a barrier film liner to the substrate in a manner so that a flange on the liner extends through a flange on the substrate, with the barrier film flange being of an axial length so that it extends entirely through the flange of the substrate, extending a forming member through said flanges, elastically dilating the barrier film flange radially outwardly along substantially its entire circumference and over the substrate flange by means of said forming member, and then elastically constricting the free edge portion of the barrier film flange around the outer periphery of the substrate flange.

3,440,710
METHOD OF FABRICATING A CONTINUOUS ROD WARHEAD ASSEMBLY
George W. Galloway, Arcadia, and Earl E. Nofzinger, Azusa, Calif., assignors to G. W. Galloway Company, Baldwin Park, Calif., a corporation of California
Filed Nov. 30, 1966, Ser. No. 597,958
Int. Cl. B23k 31/02; B32b 31/00; F42b 13/00
U.S. Cl. 29—471.9 15 Claims

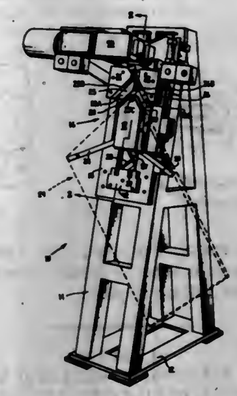




1. That method of fabricating a warhead assembly which includes: placing a thin flexible buffer pad on a base plate which unit has strong adhesive material applied to the surface thereof, placing said strong adhesive against one face of a double layer mat of rods with the rod ends of adjacent rods in the two layers welded together zig-zag fashion to form a one-piece mat, holding the rods in at least one of said layers uniformly compacted within a predetermined distance extending transversely of said rods which distance is generally coextensive with the length of said buffer pad, pressing said mat of rods against said adhesive until the same takes a set to bond said rods to said buffer pad to laminate said mat of rods thereto with the rods held firmly in place thereon.

3,440,711
METHOD FOR FORMING SHEET METAL CORNER MEMBERS
Ralph E. Roper, Indianapolis, Ind., assignor to Wallace Expanding Machines, Inc., Indianapolis, Ind., a corporation of Indiana
Filed Apr. 15, 1966, Ser. No. 542,896
Int. Cl. B23k 31/02
U.S. Cl. 29—480 4 Claims

A process and apparatus for forming sheet metal members into corners whereby the sheet metal is cut to define edge portions, the edge portions are folded into engagement and welded together and the thus formed corner is



finished by squeezing and plastic deformation between dies.

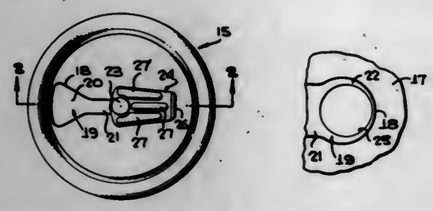
3,440,712
BRAZING ALUMINUM
Philip T. Stroup, New Kensington, Charles Norman Cochran, Oakmont, and John J. Stokes, Jr., Murrysville, Pa., assignors to Aluminum Company of America, Pittsburgh, Pa., a corporation of Pennsylvania
No Drawing. Filed Oct. 27, 1966, Ser. No. 589,837
Int. Cl. B23k 31/02
U.S. Cl. 29—494 6 Claims

1. The method of brazing aluminum members comprising:
(1) bringing into joining relationship the joint constituents to provide an assembly which comprises said members together with an aluminum base brazing filler alloy disposed at the joining site, at least one of said joint constituents containing 0.0001 to 1%, by weight, of at least one metal additive selected from the group consisting of scandium, yttrium and the lanthanide metals from Period 6 of the Periodic Table, the combined total of said additives not exceeding 1%,
(2) heating said assembly in a vacuum to effect outgassing therefrom,
(3) subjecting said assembly to brazing temperature in the presence of at least one gaseous flux selected from the group consisting of the pentachloride and pentabromide of phosphorus and the trivalent chlorides, bromides and iodides of phosphorus and boron,
(4) maintaining said brazing temperature and said gaseous flux at said joining site for a sufficient time to allow said filler metal to wet, and form a joining fillet connecting, said members at said joining site,
(5) solidifying said filler metal.

3,440,713
METHOD FOR FORMING A RIVET AND ATTACHING A PULL TAB THEREWITH
John Henchert, Oak Park, Ill., assignor to Continental Can Company, Inc., New York, N.Y., a corporation of New York
Filed June 11, 1963, Ser. No. 287,114
Int. Cl. B21d 39/00; B23p 11/00
U.S. Cl. 29—509 9 Claims

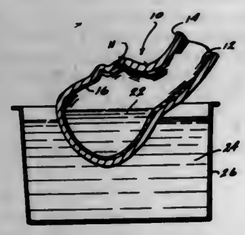
This disclosure has to do with the forming of a rivet and attaching a pull tab therewith. The rivet is formed by first drawing a relatively large protuberance, and thereafter reshaping the protuberance in a series of steps to

reduce the diameter of the protuberance and to increase the thickness of the metal thereof so as to define a rivet having a wall thickness substantially equal to the original



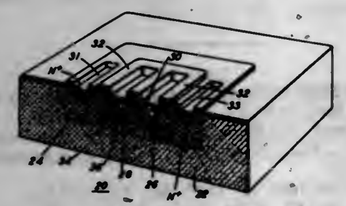
thickness of the metal. The rivet, after a pull tab has been positioned thereon, is upset or folded so as to define a bead which retains the pull tab in place.

3,440,714
METHOD OF MAKING ANIMATED FIGURE TOYS HAVING EMBEDDED CONNECTOR MEANS AND A THICKENED AREA
John W. Ryan, Bel Air, and Richard L. May, Manhattan Beach, Calif., assignors to Mattel, Inc., Hawthorne, Calif., a corporation of California
Filed June 17, 1966, Ser. No. 558,305
Int. Cl. B29d 3/00; B29h 9/00
U.S. Cl. 29—526 **6 Claims**



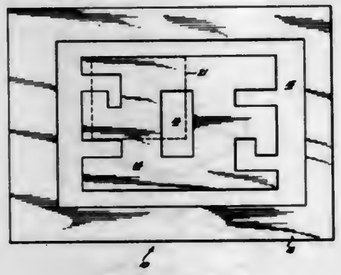
A method of making animated figure toys having a unitary, hollow plastic portion that is formed with areas of different hardness and flexibility with one of the areas being formed from a thermoplastic material to which an animator means may be connected by heat-softening the material and embedding at least a portion of a connector means therein.

3,440,715
METHOD OF FABRICATING INTEGRATED CIRCUITS BY CONTROLLED PROCESS
Edward J. Seng, Schnecksville, Pa., assignor to Bell Telephone Laboratories, Incorporated, Murray Hill, N.J., a corporation of New York
Filed Aug. 22, 1967, Ser. No. 662,326
Int. Cl. B01j 17/00; H01l 7/00
U.S. Cl. 29—574 **3 Claims**



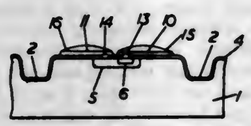
The disclosure is a method of controlling emitter diffusion during the fabrication of transistors or integrated circuits. The problem of making electrical contact with the base region immediately after emitter diffusion, the base being covered with silicon dioxide, is solved by diffusing two emitter regions into the base region, thereby forming a pair of PN junctions. A voltage is applied across the two emitter regions sufficient in magnitude to reverse bias into breakdown one of the PN junctions, thereby providing electrical contact to the base region and allowing the measurement of current gain.

3,440,716
MINIATURIZED ELECTRICAL CIRCUITS
Roy W. Dreyer, Orange, Calif., assignor to Hughes Aircraft Company, Culver City, Calif., a corporation of Delaware
Filed Jan. 25, 1966, Ser. No. 522,875
Int. Cl. B01j 17/00; H01l 1/16
U.S. Cl. 29—577 **5 Claims**



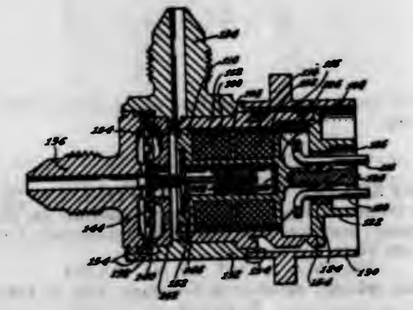
A method for constructing miniaturized electrical circuits including (1) piercing a resilient substratum having a predetermined electrical conducting pattern bonded thereon to produce a slot and a pair of tabs and (2) inserting an electronic component into the slot and between the tabs in contact with the conductive pattern. A bonding agent securely affixes the electronic component to the conductive part of the tabs.

3,440,717
METHOD OF MAKING SEMICONDUCTOR DEVICES
John Hill, Melrose Westleigh Drive, Bickley, Bromley, Kent, England
Continuation of application Ser. No. 435,373, Feb. 25, 1965. This application Mar. 16, 1967, Ser. No. 632,874
Claims priority, application Great Britain, Mar. 6, 1964, 9,636/64
Int. Cl. H01l 7/64
U.S. Cl. 29—588 **4 Claims**



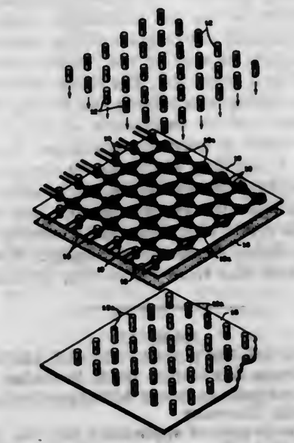
Method for manufacturing a semiconductor device by assembling a semiconductor wafer having all contacts on one face thereof to a header having a plurality of contact areas adapted to be bonded to corresponding contacts of the wafer. The wafer has a ledge to facilitate mechanical sensing and orientation. The apparatus used selects those wafers having a preferred orientation, aligns the wafers with the headers, and bonds the header contact areas to the corresponding wafer contact regions to complete the assembly operation. Thereafter the semiconductor device is suitably encased or encapsulated.

3,440,718
METHOD OF TEMPERATURE COMPENSATING AN ELECTRICAL APPARATUS
Howard Pitt, Glendora, and Marshall Cantor, Van Nuys, Calif., assignors to Physical Sciences Corporation, Arcadia, Calif., a corporation of California
Filed July 12, 1965, Ser. No. 471,080
Int. Cl. G01r 3/00
U.S. Cl. 29—595 **3 Claims**



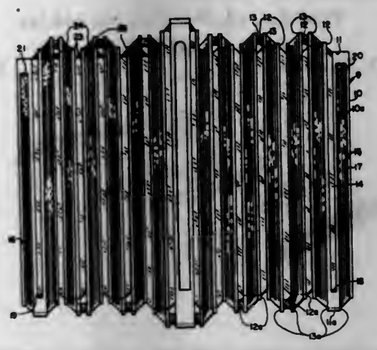
This invention relates to a method of progressively heat treating a compensated transducer during construction so as to relieve the stresses in the transducer produced by the various mechanical operations on the transducer. The invention also includes a final temperature compensation by the use of materials which either exhibit changes in magnetism or eddy current loss with temperature changes so as to produce a compensation for temperature.

3,440,719
METHOD OF MAKING ROD MEMORY SOLENOID CONSTRUCTION
Donal A. Meier, Inglewood, Calif., assignor to The National Cash Register Company, Dayton, Ohio, a corporation of Maryland
Filed Aug. 6, 1965, Ser. No. 477,794
Int. Cl. H01f 7/06; G11b 5/00
U.S. Cl. 29—604 **3 Claims**



A method of constructing a memory array comprised of parallel bistable magnetic rods, arranged upright in rows and columns of a plane, and a weaving pattern of insulated conductive wires woven perpendicular to the rods, which includes the steps of weaving a plurality of first coordinate drives of conductive wires and then weaving a plurality of second coordinate drives of conductive wires so that a different combination of first and second coordinate drives is formed by the weaving pattern for each rod.

3,440,720
METHOD OF MAKING ELECTRIC HEATING UNITS
Lloyd G. Sprague, Bath, N.Y., assignor to Corning Glass Works, Corning, N.Y., a corporation of New York
Filed Dec. 1, 1966, Ser. No. 598,307
Int. Cl. H01c 17/00, 3/00; B05b 7/20
U.S. Cl. 29—611 **6 Claims**



1. The method of increasing the dependability and durability of a heating unit spatially uniformly wound, except in minor regions thereof, with at least one linear electrical resistance heating element, such heating unit being spatially more closely wound in said minor regions; such method comprising, masking said unit so that the electrical resistance windings thereof are exposed only in said minor regions, depositing a layer of electrically conductive material on each of the exposed portions of said windings to lower the electrical resistance of such exposed portions and, thereby, the thermal output of such portions; and unmasking said unit and the masked portions of said windings; whereby, when electrical current is supplied to said unit for heating thereof, the possibility of hot spots occurring in said more closely wound regions of the heating unit is reduced or eliminated, and the possibility of burn out of said windings in said regions is accordingly decreased.

3,440,721
METHOD OF MAKING STEEL-CORED ALUMINIUM CABLE
Tatsuo Kuratomi, Chigasaki-shi, Japan, assignor to Takeo Kagitani, Tokyo, Japan
Filed May 31, 1967, Ser. No. 642,402
Int. Cl. H01b 13/02, 7/04
U.S. Cl. 29—624 **1 Claim**



This invention contemplates to obtain flexible steel-cored aluminum cable by forming two or more grooves on the sides of an aluminum strip, each of said side being formed into a band-shaped projection, inserting a steel

core into each groove and then, embracing and holding said steel core with said projected sides so as to form the aluminum strip in a circular in its cross-section.

3,440,722

PROCESS FOR INTERCONNECTING INTEGRATED CIRCUITS

Kendall G. Paulson, Santa Ana, Calif., assignor to Electronic Engineering Co. of California, Santa Ana, Calif., a corporation of California

Filed Apr. 15, 1965, Ser. No. 448,314
Int. Cl. H05k 3/30
U.S. Cl. 29—626 5 Claims



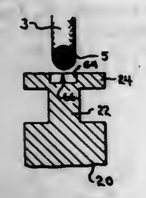
An article for interconnecting plural flat integrated circuits and the process for making the interconnectors. Plural metallic combs having selected fingers and central electrical connections are formed, with attached insulation. Plural integrated circuits are positioned with external connections horizontally aligned with selected fingers of the combs, which fingers are slightly bent vertically and conductively bonded to the external connections of the integrated circuits. All combs can be positioned on one side of the flat packs, allowing a heat sink to directly contact the same. The interconnected structure can be provided with external connection pins and all save the pins encapsulated.

3,440,723

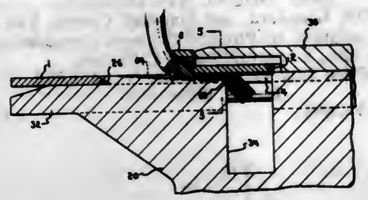
APPARATUS FOR MAKING ELECTRICAL CONNECTIONS

Robert Franklin Cobaugh, Hershey, Pa., assignor to AMP Incorporated, Harrisburg, Pa.

Continuation of application Ser. No. 410,623, Nov. 12, 1964. This application Mar. 7, 1968, Ser. No. 711,454
The portion of the term of the patent subsequent to Mar. 15, 1983, has been disclaimed
Int. Cl. H01r 43/00; H05k 13/00
U.S. Cl. 29—628 3 Claims



Disclosure relates to known method of making clip-type electrical connection between insulated wire and terminal post in which wire is dragged by terminal clip over a mandrel and onto the post. In present method, mandrel is provided with a cutting blade or edge extending parallel to the direction of movement of the clip so that as wire is dragged over blade or edge, axial slit is formed in wire insulation. In finished crimped connection, metallic strands of wire are exposed by the slit and are held against, and in



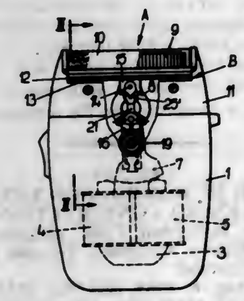
electrical contact with the surface of the post by the terminal clip.

3,440,724

DRY SHAVER WITH TWO CUTTING UNITS

Robert Wich and Werner Messinger, Frankfurt am Main, Germany, assignors to Braun Aktiengesellschaft, Frankfurt am Main, Germany

Filed May 2, 1967, Ser. No. 635,549
Claims priority, application Germany, May 4, 1966, B 86,945
Int. Cl. B26b 19/02
U.S. Cl. 30—34.1 7 Claims



An electrically powered dry shaver comprising a housing for a motor having an oscillatable output member which is permanently connected with the movable part of a first hair cutting or shaving unit whose stationary part is constituted by a comb foil. The shaver further includes a second hair cutting or trimming unit having a stationary cutting member and an oscillatable or reciprocable cutting member which is normally disengaged from the output member. A coupling which can be operated by hand includes a coupling element which can establish a driving connection between the output member and the cutting member at the user's will. When the trimming unit is not in use, the coupling element is disengaged from the output member and also from the cutting member.

3,440,725

MOUNTING OF DRY SHAVER SHEARING FOIL

Werner Messinger and Robert Wich, Frankfurt am Main, Germany, assignors to Braun Aktiengesellschaft, Frankfurt am Main, Germany

Continuation-in-part of application Ser. No. 294,925, July 15, 1963. This application June 29, 1966, Ser. No. 561,598
The portion of the term of the patent subsequent to Aug. 30, 1983, has been disclaimed
Claims priority, application Germany, July 24, 1962, B 68,148
Int. Cl. B26b 19/38
U.S. Cl. 30—43.91 5 Claims

The foil of a dry shaver is provided with openings which receive, with substantial clearance, pins carried

by the frame so that the foil is universally movable relative to the frame. Resilient biasing members in the form of wires, tongues, strips or arms are used to urge the



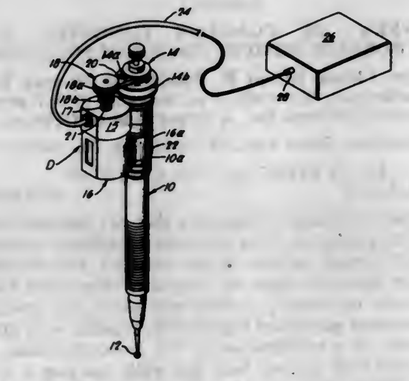
foil into frictional engagement with the frame. Such resilient biasing means are carried by the frame and/or by the foil.

3,440,726

DRIVE MEANS

Clelan G. Ehrler, Loma Linda, and Larry A. Seifert, Colton, Calif., assignors to Golden-West Dental, Inc., Garden Grove, Calif.

Filed Oct. 20, 1965, Ser. No. 498,684
Int. Cl. A61c 1/06
U.S. Cl. 32—23 1 Claim



An accessory drive unit for a standard dental handpiece. The unit is a small, compact, lightweight assembly, powered by a miniaturized, low voltage DC electric motor and fitted with a sleeve into which the barrel of the handpiece snugly fits. The unit has associated belt drive hardware and is designed for attachment to the handpiece and use in place thereon. This permits the handpiece to be used anywhere low voltage DC current, from a battery or elsewhere, is available, and without the bulky powering apparatus. Typically requiring AC current, conventionally employed for handpiece operation.

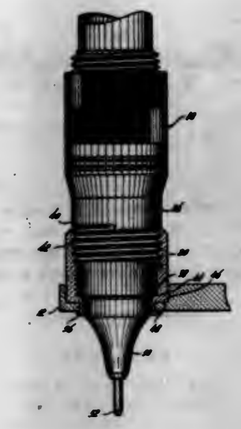
3,440,727

SCRIBER

William E. Danjczek, Easton, Pa., assignor to Raplodraph, Inc., Bloomsbury, N.J., a corporation of New Jersey

Filed Dec. 5, 1967, Ser. No. 688,054
Int. Cl. B43l 13/10
U.S. Cl. 33—23 2 Claims

A bushing is positively secured in the aperture of a base leg of a conventional lettering scriber by upper and lower flanges engaging the base leg. The bushing includes



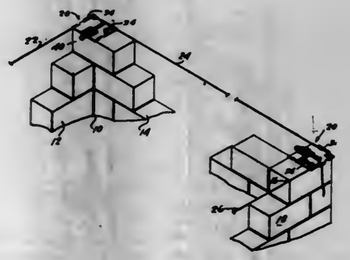
internal threads and an internal shoulder for engagement with external threads and a shoulder on the drafting pen.

3,440,728

HOLDER FOR MASON'S LINE

Jesse J. Hackworth, Sr., 322 N. 6th St., Ironton, Ohio 45638

Filed Mar. 22, 1968, Ser. No. 715,235
Int. Cl. G01c 13/10
U.S. Cl. 33—85 7 Claims



A holder for a mason's line comprising a thin, relatively rigid plate having retractable wall stops at opposite sides thereof and line-engaging notches formed in each of two opposite sides and in alignment with said retractable stops; a fixed wall stop on a side intermediate the sides having said retractable stops and a longitudinally adjustable stop opposing said fixed stop.

3,440,729

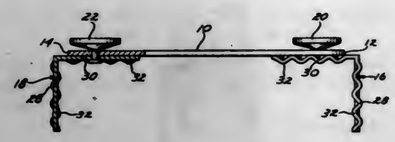
STRING HOLDER

Bill R. Allison, Deer Trail, Colo. 80105

Filed Oct. 9, 1967, Ser. No. 673,810
Int. Cl. B44d 3/00
U.S. Cl. 33—86 4 Claims

The present invention involves a device for holding flexible reference lines utilized by masons, carpenters and other workers employed in similarly related fields. The device comprises generally a pair of angle iron

brackets pivotally connected to a center strap by means of rivets having enlarged upper ends. The edges of the angle iron brackets have scalloped teeth cut thereon to



engage a wall surface and at the same time hold the bracket slightly away from the said wall surface. A string is positioned to pass across the angle iron bracket and around the enlarged rivet where it is secured.

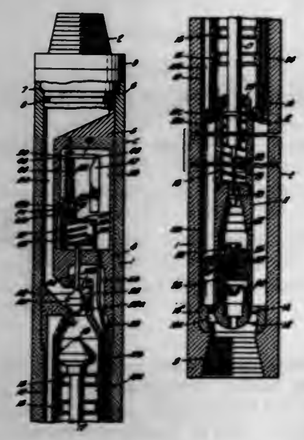
ERRATUM

For Class 33—174 see:
Patent No. 3,440,738

3,440,730
CENTRIFUGALLY CONTROLLED SIGNALLING DRIFT APPARATUS

Robert L. Alder, Pasadena, Calif., assignor to Byron Jackson Inc., Long Beach, Calif., a corporation of Delaware

Filed Sept. 28, 1966, Ser. No. 582,638
Int. Cl. E21b *47/024*
U.S. Cl. 33—205 10 Claims

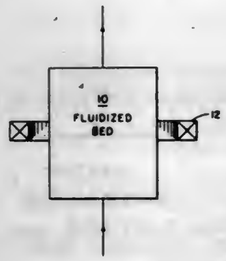


A signalling drift indicator for use in drilling bore holes into the earth, in which a drilling fluid flow responsive knob moves longitudinally in a main flow passage having pulse rings therein for producing pressure pulses in the drilling fluid indicative of the angular disposition of the drill string relative to vertical, the knob being on an instrument shaft, movement of which is limited by a pendulum engageable with axially spaced annular stop shoulders of progressively smaller diameter to determine the number of pressure pulses, and in which flow of fluid through the main flow passage is diverted to a bypass flow passage to allow movement of the shaft in response to operation of a centrifugally controlled valve.

3,440,731
MAGNETICALLY STABILIZED FLUIDIZED BED

Edwin J. Tuthill, Belle Terre, N.Y., assignor to the United States of America as represented by the United States Atomic Energy Commission

Filed Feb. 8, 1966, Ser. No. 526,327
Int. Cl. B01f *3/06*; B01k *1/00*; F26b *3/08*
U.S. Cl. 34—1 3 Claims



A stabilized fluidized bed reactor wherein stabilization is achieved by subjecting a bed having ferromagnetic properties to a magnetic field.

3,440,732
RECOVERY OF COMPLEX TUNGSTEN AND MOLYBDENUM COMPOUNDS FROM SOLUTIONS

Vincent Chiola, Robert E. Dodds, and Clarence D. Vanderpool, Towanda, Pa., assignors to Sylvania Electric Products Inc., a corporation of Delaware

No Drawing. Filed Sept. 19, 1967, Ser. No. 668,950
Int. Cl. F26b *7/00, 5/06*; C01g *57/00*
U.S. Cl. 34—5 18 Claims

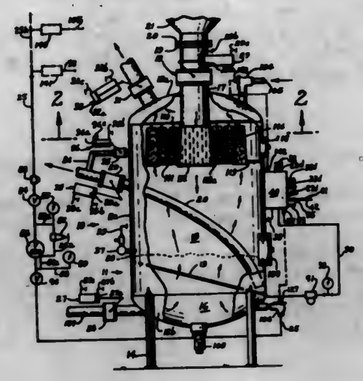
Complex inorganic compounds that are normally unstable during isolation from solutions (specifically aqueous solutions) thereof, because of their complex, heat-sensitive molecular structure when the solvent is evaporated from the solution by directly applied heat alone, are isolated in an improved purity and higher yield, together with other advantages, by a combination of (1) preconcentration of the solution with indirect heat and while sparging it with a nonoxidizing gas, e.g., nitrogen, argon or helium, followed by (2) final concentration and removal of solvent by sublimation or lyophilization, i.e., freeze-drying.

3,440,733
MATERIAL DRYING AND CONVEYING APPARATUS

Brian R. Reuter, Houston, Tex., and Stuart Stern, Fort Lee, N.J., assignors to Consolidated Engineering Company, Inc. (CECO), Houston, Tex., a corporation of Texas

Filed Dec. 7, 1967, Ser. No. 688,801
Int. Cl. F26b *3/08, 17/12*
U.S. Cl. 34—10 12 Claims

This invention relates to material drying and conveying apparatus of the type which automatically controls the entry of a quantity of moisture containing material into a vessel or pump housing. The material is dried as by a heated gas, with time or weight automatically turning on the activation of the dried material; the material being rendered freely flowable, as by pressurized compressed air; and its activation being followed by the delivery of the dried material from its container or vessel; thereafter

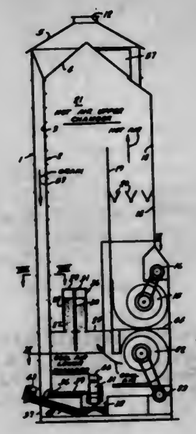


the vessel or pump being purged by the residual pressure remaining after discharge.

3,440,734
CONTINUOUS FLOW GRAIN DRYER

Elmo L. Batterton and Melvin J. Lonsdale, Morton, Ill., assignors to Meyer Morton Co., Morton, Ill., a corporation of Illinois

Filed July 13, 1967, Ser. No. 653,174
Int. Cl. A23l *3/18*
U.S. Cl. 34—65 12 Claims



A grain dryer for removing moisture from shelled corn, milo, wheat, barley, oats, soybeans, and various other grains, the drying being accomplished with hot air flow for contact with the grain from a plenum chamber through perforated walls defining a flow path for the grain, the dryer being substantially of the continuous flow type.

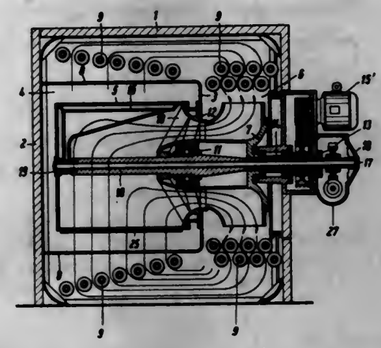
3,440,735
APPARATUS FOR THE HEAT-TREATMENT OF MATERIALS

Heinz Fleissner, Egelsbach, near Frankfurt am Main, Germany, assignor to Vepa AG, Basel, Switzerland

Filed Mar. 10, 1967, Ser. No. 622,184
Claims priority, application Germany, Mar. 11, 1966, A 51,818
Int. Cl. F26b *11/04*
U.S. Cl. 34—115 19 Claims

The present disclosure relates to an apparatus for the treatment of materials, for example, the heat-treatment,

humidification, conditioning, etc., of air-permeable materials, such as for example, tow, top, card slivers, fabrics, knit goods, loose fibrous material, paper or cardboard webs, non-wovens and the like. The apparatus of the present disclosure comprises a closed housing, at least one

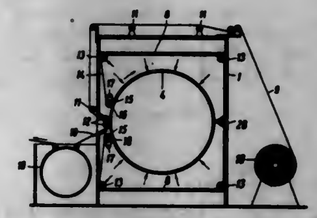


cylindrical sieve drum rotatably disposed within said housing, one longitudinal wall of said housing being substantially free from driving and bearing elements thus permitting ready access to each of the cylindrical sieve drums in said housing.

3,440,736
APPARATUS FOR THE TREATMENT OF LENGTHS OF MATERIALS

Hans Fleissner and Heinz Fleissner, Egelsbach, near Frankfurt am Main, Germany, assignors to Vepa AG, Basel, Switzerland

Filed May 2, 1967, Ser. No. 635,480
Claims priority, application Germany, May 2, 1966, A 52,336; June 16, 1966, V 52,762
Int. Cl. F26b *11/02, 13/00, 11/04*
U.S. Cl. 34—115 40 Claims



The present disclosure relates to apparatus for the treatment of materials, for example the drying, heat-setting and steaming of textile materials, wherein the treated material can be continuously produced at an improved capacity and with a required minimum width. More particularly, the present disclosure concerns a method and apparatus for the heat-treatment of textile materials wherein the material being treated is held against the conveying surfaces thus preventing the material from shrinking.

3,440,737
APPARATUS FOR TREATING MATERIAL IN WEB OR SHEET FORM

Herbert Van Denend, Hawthorne, N.J., assignor to Infra-Red Systems, Inc., Riverdale, N.J., a corporation of New Jersey

Filed May 22, 1967, Ser. No. 640,302
Int. Cl. B05b *1/32, 1/16*; F26b *21/00*
U.S. Cl. 34—155 6 Claims

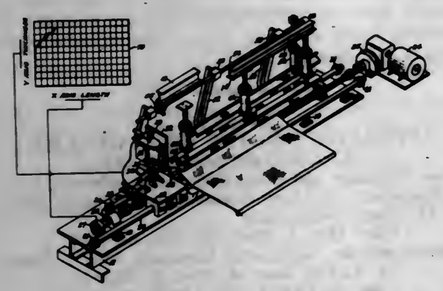
Apparatus for selectively treating widthwise zones of web or sheet material by means of an outer tube having

a row of apertures therein for directing fluid onto the material and an inner tube rotatably mounted in the



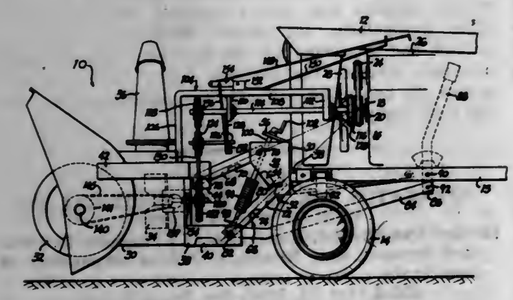
outer tube having rows of apertures therein for registering the outer tube apertures at different widthwise zones.

3,440,738
STRIP THICKNESS PROFILE GAGE
Edmund L. Mangan, Bethlehem, Pa., assignor to Bethlehem Steel Corporation, a corporation of Delaware
Filed Aug. 30, 1967, Ser. No. 664,380
Int. Cl. G01b *3/18, 5/08, 3/00*
U.S. Cl. 33—174 **9 Claims**



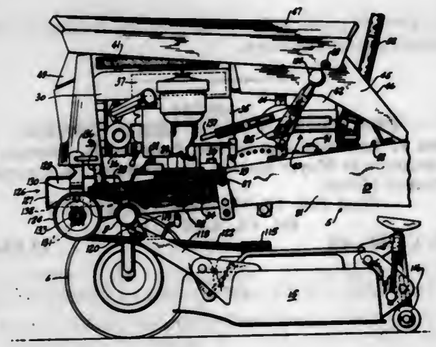
An apparatus for determining the thickness profile of strip has a movable carriage upon which an electromechanical micrometer is mounted. The strip is clamped in a fixed position such that the movement of the carriage brings the micrometer into contact with the strip. A recorder plots a chart of the thickness vs. length of the strip.

3,440,739
DRIVE MECHANISM
Raymond F. Manke, Racine, Wis., assignor to J. I. Case Company, Racine, Wis., a corporation of Wisconsin
Filed Oct. 15, 1965, Ser. No. 496,388
Int. Cl. E01h *5/09, 5/07*
U.S. Cl. 37—43 **2 Claims**



A drive mechanism for engaging a powered implement or like attachment to a tractor, such that the implement is pivotal on the tractor and is powered through a drive train extending from the tractor to operate material moving means on the attachment. The pivotal connection between the tractor and the attachment is arranged so that the drive train at the point of connection between the attachment and the tractor is moved only a minimal amount when the attachment is pivoted.

3,440,740
RIDING TRACTOR WITH POWER TAKEOFF PULLEY MEANS
Igor Kamlukin, Fox Point, Wis., assignor to Simplicity Manufacturing Company, Inc., Port Washington, Wis., a corporation of Wisconsin
Original application Sept. 9, 1963, Ser. No. 307,382, now Patent No. 3,311,186, dated Mar. 28, 1967. Divided and this application Oct. 12, 1966, Ser. No. 586,253
Int. Cl. E01h *5/00;* **B60k** *5/00;* **A01d** *35/26*
U.S. Cl. 37—43 **6 Claims**



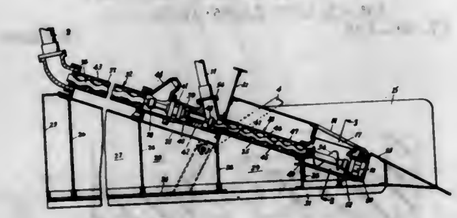
A tractor having a power takeoff pulley and a single belt to transmit driving torque from the power takeoff pulley to the input pulley of an implement draft coupled to the tractor. The belt is trained over a pair of idler pulleys that are bodily movable from a tight belt driving position to a slack belt non-driving position to thus achieve a "clutching" and "declutching" effect for the implement.

3,440,741
SNOW-REMOVING BOARD
George H. Yates, 37 Hill St., Ellicott City, Md. 21043
Filed Aug. 16, 1965, Ser. No. 479,832
Int. Cl. E01h *5/02*
U.S. Cl. 37—53 **4 Claims**



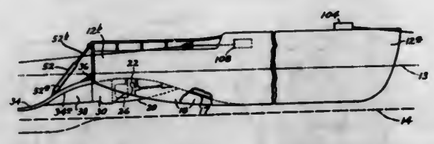
A push-type material removing device is disclosed which comprises an elongated thin rectangular sheet. It includes a tip in the form of a full width metal shoe bent acutely to provide a sharp linear edge. The underlying portion forms a sole on which the device rests and is manipulated. Various degrees and modes of rigidity are given the sheet through arrangements in continuations of the handles and through supplementary reinforcement strips in several configurations.

3,440,742
MULTIPLE MOTOR DREDGE
Albert S. Goldstein, Jr., 7530 Grandview Drive, Indianapolis, Ind. 46260
Filed Dec. 8, 1965, Ser. No. 513,661
Int. Cl. E02f *7/02, 3/94;* **F04b** *23/12*
U.S. Cl. 37—57 **12 Claims**



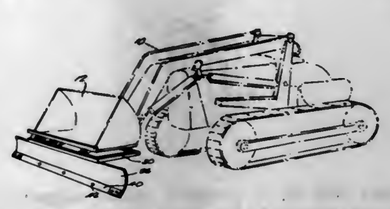
A pump type underwater dredge having fluid actuated motors arranged to operate a series of pumps which are operatively connected to augers which feed material collected by the dredge to the pumps for transmission to a remote collection station, the motors and pumps each comprising pairs of helical gears defining a rotor and a stator, the rotors of the motors being connected to the rotors of the pumps which in turn are connected to the augers.

3,440,743
UNDERWATER TRENCHING APPARATUS
George T. Frederick Divine, 3337 NE. 132nd Ave., Portland, Oreg. 97230
Filed Apr. 8, 1966, Ser. No. 541,231
Int. Cl. E02f *3/90, 5/28*
U.S. Cl. 37—79 **8 Claims**



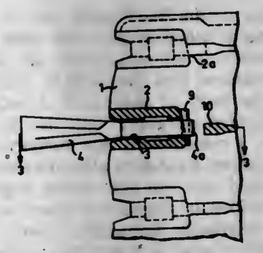
Underwater trenching apparatus including a hull, axial flow propellers under the hull adjacent its stern for producing current flow in a direction extending aft of the hull, a hinged diverter aft of the propeller hinged at its forward margin on the hull and swingable up and down to control the pitch of the current of water produced by the propellers, rudders aft of the propellers and forwardly of the diverter for controlling lateral flow, stream guides joined to the hull and projecting downwardly on opposite sides of the propellers forming with the hull a passageway bounding the current flow, and a system for controlling movement of the hull through the water independently of the propellers.

3,440,744
BLADE ATTACHMENT FOR FRONT END LOADER
Stancel G. Smith, Box 415, McCoy, Va. 24111
Filed Apr. 27, 1967, Ser. No. 634,200
Int. Cl. E02f *3/76, 3/81*
U.S. Cl. 37—117.5 **4 Claims**



A blade attachment for a front end loader which will allow the tractor-front end loader and attachment apparatus to dig basements, to backfill and for finished grading. The blade attachment comprises a frame fastened on the bottom side of the bucket or front end loader, and a circular member, a series of plates, reversible cutting edges and brackets for holding the main frame and the parts securely to the bucket or front end loader.

3,440,745
FASTENING DEVICE FOR TEETH FOR DIGGING AND CULTIVATING IMPLEMENTS
Bertil Olof Palm, Stockholm, Sweden, assignor to Tornborg & Lundbert Aktiebolag, Stockholm, Sweden
Filed May 19, 1966, Ser. No. 551,337
Claims priority, application Sweden, May 25, 1965, 6,881/65
Int. Cl. E02f *9/28;* **F16b** *9/00*
U.S. Cl. 37—141 **3 Claims**

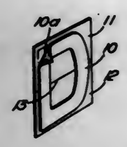


A device for locking detachable projecting teeth to digging or cultivating implements is characterized by pockets in which the teeth shanks are insertable. The shank has a cylindrical bore, and a cylindrical wedge of the same radius as the bore slides in the bore. The wedge has a planar surface which is inclined to the axis of the bore, and a correspondingly inclined fixed surface is provided, the two inclined surfaces sliding against each other with a wedge action.

3,440,746
ASSEMBLY OF LETTERING AND THE LIKE
Rivelin E. Richards, Goldhanger House, Goldhanger, near Maldon, Essex, England
Filed June 28, 1966, Ser. No. 561,149
Claims priority, application Great Britain, July 1, 1965, 27,836/65
Int. Cl. G09f *7/00*
U.S. Cl. 40—125 **1 Claim**

A system is provided for displaying characters in a neat and orderly fashion and in properly spaced alignment for

use in signs and displays in which the characters are flexible and are releasably adhered to a flexible rectangular mount and are positioned thereon laterally and vertically so that when the mounts are abutted and aligned the



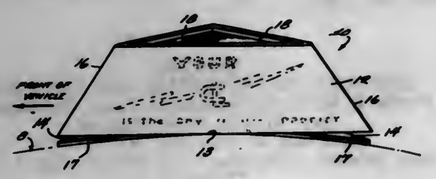
characters will be in properly spaced alignment. The mounts are removable from said characters so the latter can be adhered to a surface while maintaining the properly spaced alignment of the characters.

3,440,747
DISPLAY MEANS FOR CARTONS, FOLDERS AND THE LIKE
John Oliver, 32—28 29th St., Long Island City, N.Y. 11106
Filed Dec. 23, 1966, Ser. No. 604,384
Int. Cl. G09f *19/00, 3/00*; A63h *33/00*
U.S. Cl. 40—126 4 Claims



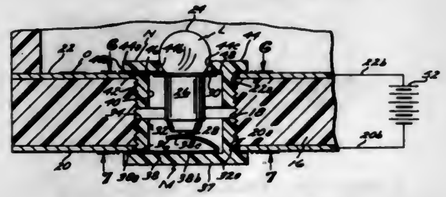
A carton, folder or the like having two or more connected panels, one of which is provided with a plurality of pictorial elements or cut-outs which are peripherally scored or weekended so that they can be pushed out or separated from the body of the panel. A second panel, and preferably formed integrally with the first panel, is arranged to form a substantially flat supporting base or platform for the pictorial cut-outs after they are detached from the first panel, the cut-outs being edgewisely inserted in slits provided in the second panel so that such cut-outs will be vertically upstanding from the slitted panel when the latter panel is rested on a supporting surface.

3,440,748
MAGNETIC ROOF TOP SIGN FOR CARS
James C. Hackley, P.O. Box 5, Nederland, Tex. 77627
Filed Nov. 14, 1966, Ser. No. 593,854
Int. Cl. G09f *7/00, 13/08*
U.S. Cl. 40—129 9 Claims



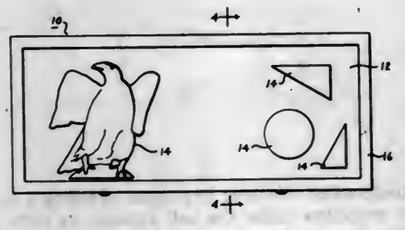
This invention relates to a detachable magnetic rooftop sign for automotive vehicles and the like and in particular to an improved construction which is highly stable and resistant to displacement by wind during use. In the preferred construction the sign is constructed in the shape of a frustum of a pyramid, and the undersurface of the base carries peripheral strips of magnetic tape which detachably secure the sign to the metal top of a vehicle. The base is flexible and is separable from the sides at the apices of the structure so as to be capable of following the rounded contours of a vehicle top.

3,440,749
LOW VOLTAGE ILLUMINATED SIGN INSIGNIA
Ralph D. Parson, Lakewood, Calif. (12036 Centralia, Artesia, Calif. 90701); Edwin R. Clifton, 5701 Riviera Drive, Huntington Beach, Calif. 92647; and John P. Jonz, 14471 Castle St., Westminster, Calif. 92683
Filed Feb. 28, 1967, Ser. No. 619,370
Int. Cl. G09f *13/06*; H05k *1/12*
U.S. Cl. 40—130 10 Claims



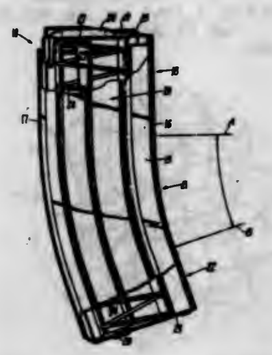
A dimensionally stable, self-supporting, low voltage illuminable insignia that may be mounted either on a wall, or in an elevated position above a supporting surface in combination with other of said insignia to define a sign.

3,440,750
DISPLAY AND AMUSEMENT APPARATUS
Joseph Toth, South Bend, Ind., and George Lovas, 1902 W. Ewing Ave., South Bend, Ind. 41613; said Toth assignor to said Lovas
Filed July 18, 1966, Ser. No. 565,818
Int. Cl. G09f *1/10, 7/02*
U.S. Cl. 40—140 2 Claims



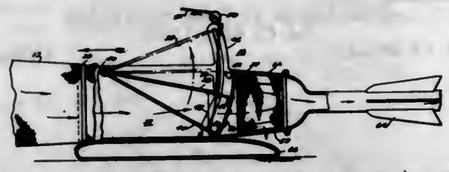
A display and amusement apparatus in which three dimensional characters of plastic foam are removably secured to a rigid board by static electricity. The three dimensional characters may form several layers projecting outwardly from the board and may be held to the board and to each other by a slight fusion of the plastic material resulting from the vigorous rubbing of the characters on a surface.

3,440,751
FIREARM BOX MAGAZINE WITH STRAIGHT END AND INTERMEDIATE ARCUATE PORTIONS
Robert D. Fremont, Farmington, Conn., assignor to Colt's Inc., Hartford, Conn., a corporation of Arizona
Filed June 30, 1967, Ser. No. 650,275
Int. Cl. F41c *25/02*
U.S. Cl. 42—50 3 Claims



A small arms magazine having increased ammunition capacity and employing straight end and intermediate arcuate portions conducive to ready loading and feedout of tapered cartridges, and ready insertion of the magazine into a firearms magazine housing. A spring driven follower includes a depending post which bottoms against the lower end of the magazine.

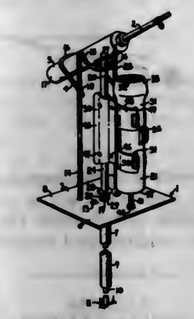
3,440,752
TRAWL NET SYSTEM
James H. Minter, P.O. Box 84, Ormond Beach, Fla. 32074
Filed Oct. 6, 1966, Ser. No. 589,173
Int. Cl. A01k *73/02, 79/00*
U.S. Cl. 43—6.5 10 Claims



A trawl net system for continuously gathering sea life for use with a boat, in which there is a trawl net having a junction box located at the trailing end thereof, a pumping tube connected between the junction box and the boat for conveying sea life to the boat, and pump means for facilitating the conveyance of the sea life. Also the junction box is provided with a grill for allowing only certain sizes of sea life to pass therethrough to the pumping tube. Undesired sea life escape through a resilient gate or are ejected from the junction box by a wiper engaging the grill. Control of the apparatus is from the boat by remote control.

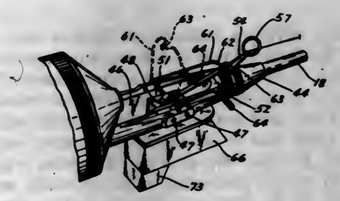
3,440,753
FISH BITE SIGNALLING DEVICE
Harry L. Kelley, 723 Pacific, Kansas City, Kans. 66101
Filed Aug. 28, 1967, Ser. No. 663,780
Int. Cl. A01k *93/00, 97/12*
U.S. Cl. 43—17 9 Claims

A fish bite signalling device particularly for night fishing and having a signal light or means retained in a preselected position and movable therefrom in response to pull on a line to provide energization of a signal circuit to provide a signal of the fish bite. The device includes a fishing rod holder adapted to support the fishing rod butt in a preselected position so that a pull or jerk on a



line attached to the fishing rod moves a battery of the circuit into contact with a contact member thereby completing a circuit and producing a visual signal.

3,440,754
FISHING ROD ALARM SYSTEM
Harold M. Slama, 3919 N. 11th St., Carter Lake, Iowa, and Donald K. Capalite, 3135 Westside Drive, Council Bluffs, Iowa 51501
Filed July 18, 1966, Ser. No. 566,110
Int. Cl. A01k *97/12*
U.S. Cl. 43—17 8 Claims

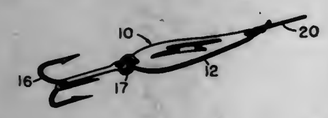


An alarm system for a fishing rod which comprises a lever provided with an eye at a free end and mounted at its other end on the rod handle together with a U-shaped tensioning element also mounted on the rod handle and in a straddling position over the lever. The tensioning element is movable to a first position away from the lever and to a second position in engagement with the fishing line and closely adjacent the lever. The fishing line extends through both the tensioning element and the lever eye in substantially non-contacting relation therewith when the tensioning element is in the first position, whereby the line can be cast without restriction from the tensioning element or the lever. After casting, the tensioning element is moved to the second position whereby a pull on the line will cause the lever to activate the signal unit. The tensioning element is movable to a plurality of positions thus permitting the fisherman to regulate the sensitivity of the alarm system.

3,440,755
ARTIFICIAL FISHING LURE
David J. Nahigian, 179 Negansett Ave., Warwick, R.I. 02888
Filed June 16, 1967, Ser. No. 646,637
Int. Cl. A01k *85/00*
U.S. Cl. 43—42.06 9 Claims

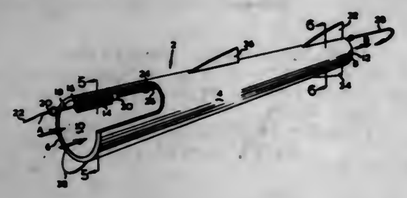
A fishing lure spoon having a reverse curve along its longitudinal axis and a simple curve in one direction

in planes at any point along the axis at right angles to the axis. The lure has a noise producing surface discontinuity in the form of an opening through the lure body or an embossment on the surface outermost of the simple



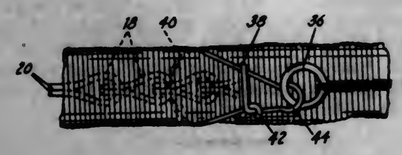
curve. The discontinuity is zigzag shaped, is approximately at the center of the lure body, and is asymmetrical relative to the longitudinal axis thereof. The middle portion of the discontinuity straddles said longitudinal axis.

3,440,756
ANGLING LURES
Horace F. Leadbetter, 2567 St. Clair Ave. E., Toronto 16, Ontario, Canada
Filed Oct. 10, 1967, Ser. No. 674,258
Int. Cl. A01k *85/00*
U.S. Cl. 43—42.06 6 Claims



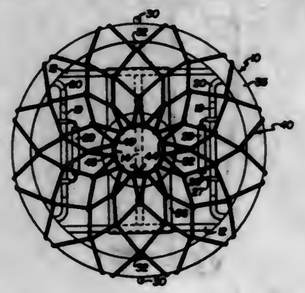
A fish lure having a hollow and flexible tube with an opening at the forward end and a restricted opening at the rearward end, forming a passage therebetween. The tube has an axially elongated spine extending rearwardly from the forward end and inwardly from one side only of the tube. The spine has a longitudinal opening completely therethrough, for insertion of a pin. The tube is sufficiently flexible to permit distortion of its normally serpentine configuration by the pressure of water within the tube as the lure is pulled through water. The pin provides for a line connection at its forward end and a hook connection at its rearward end.

3,440,757
ELONGATED FLEXIBLE ARTIFICIAL LURE FOR LARGE FISH
Bingham A. McClellan, Traverse City, Mich., assignor to Burke Flexo-Products Company, Traverse City, Mich.
Filed Apr. 12, 1967, Ser. No. 630,262
Int. Cl. A01k *85/00*
U.S. Cl. 43—42.24 3 Claims



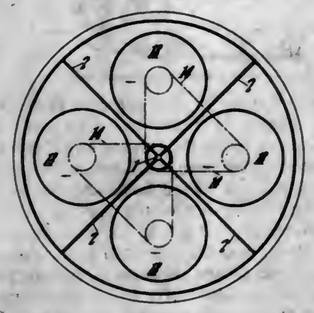
An elongated worm or eel-like body of synthetic plastic with metal chain having universally swingably connected links molded within, and surrounded by the plastic of the body. The end links project from the body. Hook and tackle connecting attachments pierce completely through the plastic of the bdoy and extend through links of the chain for mechanical support by the chain. The hooks extend longitudinally of the body through passages within the body and are supported against lateral movement.

3,440,758
CRAB TRAP
Roland L. Prince, 1730 Ash Road, Victoria, British Columbia, Canada
Filed Sept. 5, 1967, Ser. No. 665,390
Int. Cl. A01k *69/10*
U.S. Cl. 43—100 10 Claims



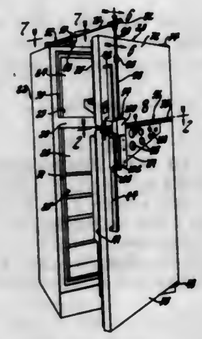
A trap having a collapsible frame and a purse net enclosing the frame with the frame and net being mutually supporting when the trap is erected to a position of use. The frame includes an upper buoyant ring, a lower ring, and supports pivoted on the lower ring and having forked upper ends releasably engaging the upper ring. The net includes a bottom wall and a tubular side wall which extends above the upper ring and a drawstring is provided adjacent its upper edge for tensioning the net against the frame.

3,440,759
REVOLVING DOORS
Donald Alfred Riddle, % National Commercial Bank of Scotland Limited, 62 Lombard St., London E. C3, England
Filed July 24, 1967, Ser. No. 655,494
Int. Cl. E05d *15/02*
U.S. Cl. 49—43 3 Claims



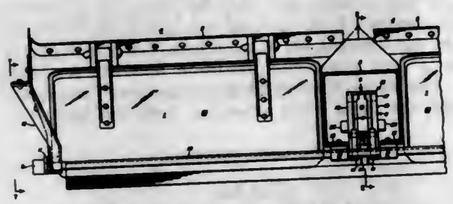
A revolving door installation having a rotary compartment assembly with a rotary platform floor in each compartment such that when the whole assembly rotates there is automatic counter-rotation of the platforms so that an occupant of a compartment is automatically turned into a position facing an exit when that exit is reached. Normally the rotary compartment assembly is driven through a suitable transmission by an electric motor under the control of switches actuated on the approach and departure or alternatively on entry and exit of a pedestrian to or from any compartment.

3,440,760
MECHANICAL REFRIGERATOR DOOR OPENING SYSTEM
Herbert G. Thompson, West Milton, Ohio, assignor to General Motors Corporation, Detroit, Mich., a corporation of Delaware
Filed July 3, 1967, Ser. No. 650,988
Int. Cl. E05f *5/12*
U.S. Cl. 49—103 3 Claims



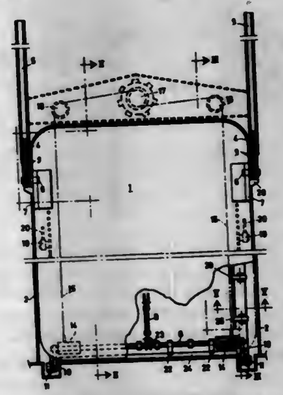
In preferred form, a refrigerator door opening system including a power cylinder pivotally connected to the top of the refrigerator with a reciprocating piston rod directly connected to a first refrigerator door by a depending link extending across the front of a second door alternately interconnected to the first door by a coacting latch mechanism between the two doors including a latch plate pivotally secured to one of the doors and a catch element fixed to the other of the doors interconnectingly engageable with the latch plate to cause concurrent opening movements of said doors and a latch plate release arm between the two doors engageable with the latch plate to release it from the catch element on alternate door opening operations of said power cylinder.

3,440,761
HOPPER DOOR OPERATING MECHANISM
Walter L. Floehr, Toledo, Ohio, assignor to Midland-Ross Corporation, Cleveland, Ohio, a corporation of Ohio
Filed Nov. 28, 1967, Ser. No. 686,254
Int. Cl. E05f *17/00, 11/28;* E05c *7/06*
U.S. Cl. 49—109 10 Claims



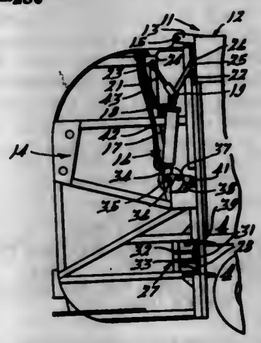
A mechanism for operating a hinged hopper door of a railway hopper car in which a linkage operatively connecting the door to an operating shaft includes a toggle connected at its joint to the shaft and at its ends to the door and having a fixed pivot on the car's underframe, the toggle joint in a closing operation being swung over and beyond the fixed pivot for supporting the door against opening on the underframe over a substantial portion of the range of movement of the linkage at the closed end of that range.

3,440,762
WATERTIGHT VERTICAL DOORS
Johan Bertil Olsson, Goteborg, Sweden, assignor to Associated Cargo Gear AB, Goteborg, Sweden, a corporation of Sweden
Filed Nov. 14, 1966, Ser. No. 593,842
Claims priority, application Sweden, Dec. 2, 1965, 15,640/65
Int. Cl. E05d *15/10;* E05f *11/00*
U.S. Cl. 49—209 8 Claims



A door fitted into an opening in a wall structure is adapted to be hoisted vertically upwards along the outside of the wall. To bring the door outside the wall prior to the hoisting the door is provided with means adapted to push the lower part thereof outwards as a first step. The hoisting mechanism contains a winch located at the inside of the opening and having its wire connected to a generally horizontal bracket attached to the lower part of the door. The free end of this bracket is tilted downwards during the initial pushing outwards of the lower part of the door, and when a pulling force thereafter is applied to the wire the door is first righted to a vertical position completely outside the wall, and the hoisting may begin.

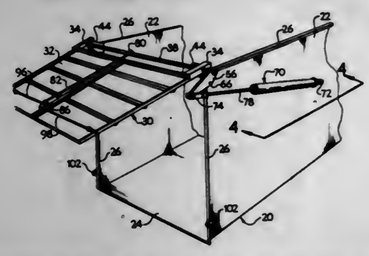
3,440,763
CLOSURE OPERATOR
Angus J. O'Brien, Bloomfield Hills, Mich., assignor to Gar Wood Industries, Inc., a corporation of Michigan
Filed Sept. 29, 1965, Ser. No. 491,335
Int. Cl. E05f *15/00;* B62d *23/00, 25/08*
U.S. Cl. 49—280 1 Claim



A refuse vehicle having a closure member at its rear

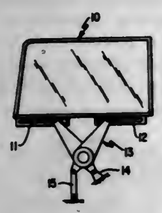
end that is supported for pivotal movement between an opened and closed position. A locking structure is provided for retaining the closure member in its closed position and which is automatically released through a connection to a hydraulic cylinder that effects pivotal movement of the closure member.

3,440,764
TAILGATE APPARATUS
James A. Cover, Bucyrus, Ohio, assignor to Harsco Corporation, Harrisburg, Pa., a corporation of Delaware
Filed Jan. 2, 1968, Ser. No. 695,237
Int. Cl. E05f *15/00;* **B62d** *25/00, 33/00*
U.S. Cl. 49—280 **7 Claims**



A tailgate apparatus for vehicle bodies, such as farm wagon bodies, which apparatus includes power means for opening and closing the tailgate and associated latching means, for keeping the tailgate closed, that automatically unlatches prior to opening of the tailgate and automatically latches subsequent to closing of the tailgate means.

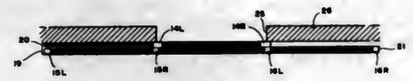
3,440,765
WINDOW ACTUATOR
Rudolph Eskra, Lambertville, Mich., and James M. Cook, Sylvania, Ohio, assignors to Dura Corporation, Oak Park, Mich., a corporation of Michigan
Filed Oct. 23, 1965, Ser. No. 503,579
Int. Cl. E05f *15/08, 15/16*
U.S. Cl. 49—349 **3 Claims**



An actuator for a window panel has a small reversible electric motor which is operatively connected through transmission means to a pair of arms having a common axis and rockable in opposite directions. The ends of the arms are slideably connected to linear tracks on an edge of the window panel so that responsive to the direction of rotation of the electric motor the window panel is shifted in one direction or the other.

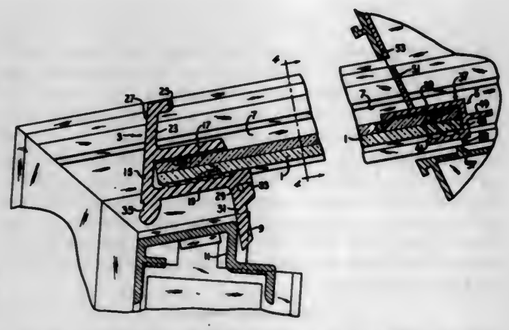
3,440,766
WINDOW UNIT
Charles W. Heppenstall, P.O. Box 2325, Delray Beach, Fla. 33444
Filed Feb. 10, 1967, Ser. No. 615,186
Int. Cl. B60j *1/16*
U.S. Cl. 49—372 **1 Claim**

A window unit including an outer track and an inner track; a window pane slidably mounted in the inner track for opening and closing the window opening; and two panels slidably mounted in the outer track, each panel



being movable at least between a first position to cover the window opening outside of the window pane and a second position to one side of the window opening.

3,440,767
GLASS LID FOR REFRIGERATED MERCHANDISING CABINET
David F. Allgeyer and Joseph F. J. Bourgeois, Conway, Ark., assignors to UMC Industries, Inc., St. Louis, Mo., a corporation of Delaware
Filed Oct. 20, 1966, Ser. No. 588,081
Int. Cl. E04b *3/34, 11/00;* **E05d** *15/16*
U.S. Cl. 49—404 **3 Claims**

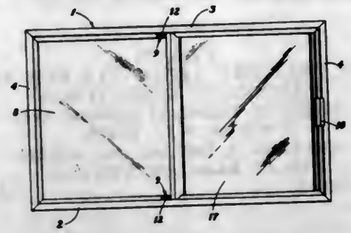


A sliding glass lid for the top of a refrigerated merchandising cabinet. The ends of the lid slide in tracks at the top of the cabinet, the tracks being located above the top of the front of the cabinet. The lid has an extruded plastic front trim strip and a rear trim strip. The front trim strip is a dual durometer extrusion having a channel section receiving the glass, a handle, and a downwardly extending rigid sealing flange integrally joined to the channel section by a flexible hinge connection. This flange is engageable with the front of the cabinet on the inside thereof when the lid is closed to seal off the interior of the cabinet, and may be swung to a position clearing the top of the front of the cabinet to enable the lid to be slid forward out of the tracks. The rear trim strip is also a dual durometer extrusion and has a sealing flange. The lid has heating wires incorporated therein, and terminals for these wires extending from the rear.

3,440,768
DUAL SASH WINDOW UNIT
David Jordan Rust, San Leandro, Calif., assignor to Rylock Company, Ltd., Union City, Calif., a corporation of California
Filed Dec. 26, 1967, Ser. No. 693,271
Int. Cl. E05d *13/04*
U.S. Cl. 49—449 **3 Claims**

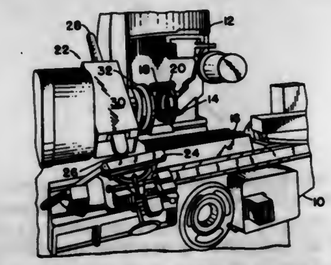
A horizontal, dual sash window unit in which the sashes are slidably mounted in a supporting frame with one sash normally secured in a closed position and releasable only by a tool, while the other sash is latched in a closed position and releasable by hand; the sashes,

when released, being relatively slidable to positions so that their outer faces can be conveniently washed from



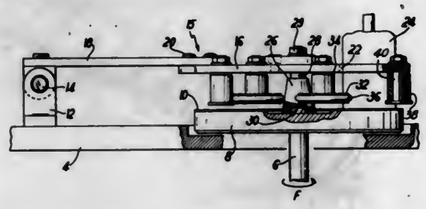
within the room and without the necessity of removing such sashes from the frame.

3,440,769
GEAR GRINDING MACHINE
Kenneth J. Davis, Grosse Pointe, Mich., assignor to National Broach & Machine Company, Detroit, Mich., a corporation of Michigan
Filed Mar. 2, 1966, Ser. No. 531,119
Int. Cl. B24b *17/00*
U.S. Cl. 51—95 **12 Claims**



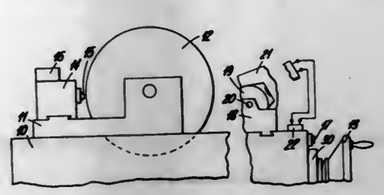
Means for rotating a work spindle to generate or trace helical surfaces on a work piece including a sine bar, a follower connected to the spindle to effect rotation of the spindle in accordance with displacement between the sine bar and follower in a direction parallel to the axis of the spindle. The sine bar is adjustable in a direction perpendicular to the axis of the spindle to effect fine rotary stock-dividing adjustment thereof.

3,440,770
DEVICE FOR POLISHING SPECIMENS
Jacques Klein, Saint-Michel-sur-Orge, and Bernard Mansard, Saint-Cyr-l'Ecole, France, assignors to Commissariat a l'Energie Atomique, Paris, France
Filed Jan. 31, 1967, Ser. No. 612,997
Claims priority, application France, Feb. 18, 1966, 50,212
Int. Cl. B24b *5/04*
U.S. Cl. 51—129 **4 Claims**



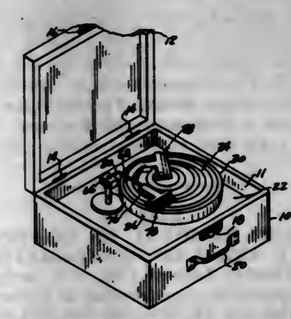
The polishing device comprises a rotary disc covered with abrasive. The specimens are each retained and driven in rotation by a wheel rotatably mounted on a stationary plate, the wheels being in frictionally driven contact with a cone which is concentric with the rotary polishing disc.

3,440,771
GRINDING MACHINES
Wilfred Keith Temple, Peterborough, England, assignor to The Newall Engineering Company Limited, Peterborough, England, a British company
Filed Dec. 20, 1965, Ser. No. 515,024
Int. Cl. B24b *49/00, 51/00*
U.S. Cl. 51—165 **14 Claims**



A grinding apparatus comprises relatively movable supports for the workpiece and the grinding wheel, feed mechanism for moving one of said supports relatively to the other, dimension responsive gauging means for measuring a dimension of the workpiece carried by the workpiece support and responsive to the attainment of said dimension to a predetermined value, means actuated by the dimension responsive means on attainment of the desired dimension for comparing with a datum position the position of said movable support, and automatic means for controlling the support moving means in response to the attainment of the desired dimension.

3,440,772
BLADE SHARPENING APPARATUS
Kenneth W. Wright, 3206 Cherokee St., Flint, Mich. 48507
Filed Aug. 29, 1966, Ser. No. 575,681
Int. Cl. B24b *23/04, 23/02*
U.S. Cl. 51—170 **5 Claims**

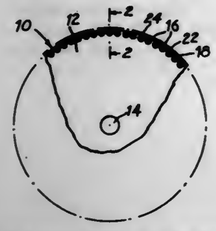


A blade sharpening apparatus for sharpening barber clipper blades and the like, includes a rotating lapping disk and an automatically reciprocating blade holding mechanism which traverses a clipper blade across the working face of the lapping disk.

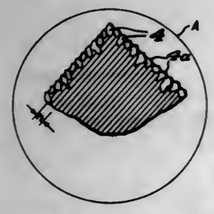
3,340,773
ABRASIVE CUTTING DEVICE
John H. Hawkes, Boylston, Mass., assignor to Norton Company, Worcester, Mass., a corporation of Massachusetts
Filed Aug. 26, 1966, Ser. No. 575,936
Int. Cl. B24d *5/12, 5/06*
U.S. Cl. 51—206 **7 Claims**

Abrasive saw blades having abrasive elements mounted adjacent the outer periphery of a thin circular support; element are abrasive (e.g., diamond) impregnated, thicker than supporting blade, may be arranged in multiple rows, and are particularly adapted for fabrication and bonding

to the support by pressure-resistance sintering of elements in place, in apertures in blade, followed by grinding away of periphery of blade to expose abrasive elements.

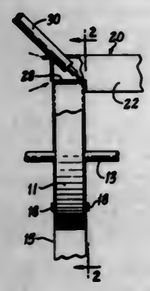


3,440,774
DIAMOND TOOL
Frantisek Curn, Prague, Czechoslovakia, assignor to Naradi, narodni podnik, Prague, Czechoslovakia
Continuation-in part of application Ser. No. 445,863, Mar. 31, 1965. This application Oct. 12, 1966, Ser. No. 586,089
Claims priority, application Czechoslovakia, May 13, 1963, 2,704/63
Int. Cl. B24d *5/00, 7/00;* C04b *31/16*
U.S. Cl. 51—206 8 Claims



An abrasive wheel having a single layer of diamond grains embedded in the periphery of a carrier in such a manner that only the points of the diamonds project from the carrier and lie in a common working surface so that the embedded major portion flares inward from the face of the carrier. The diamonds are so densely packed that the projections of practically all grains in the working surface constitute a continuous pattern, and that substantially every grain is in abutting contact with at least one other grain.

3,440,775
CONTROLLED REMOVAL OF COATINGS FROM DISCRETE AREAS OF PHOTOGRAPHIC FILM
Hudson A. Thomas, Johnson City, N.Y., assignor to GAF Corporation, a corporation of Delaware
Filed Jan. 10, 1966, Ser. No. 519,663
Int. Cl. B24b *1/00;* B24c *1/00, 3/00*
U.S. Cl. 51—319 2 Claims



Removal of a coating from a longitudinal strip of a web by passing the latter with the portion bearing the coating to be removed adjacent a gas blast containing abrasive particles, and removing the gaseous suspension by vacuum means from the abraded web area.

3,440,776
AIR DELIVERY APPARATUS FOR AIR SUPPORTED STRUCTURES
Donato M. Fraioli, 15 Rowland Ave., Clifton, N.J. 07109
Filed Nov. 2, 1967, Ser. No. 680,212
Int. Cl. E04b *1/34;* F16l *5/00*
U.S. Cl. 52—2 6 Claims



Air delivery apparatus for an air supported structure wherein a cylindrical air delivery tube intersects the wall of the structure at an angle including an elliptical perforated air inlet zone in the structure for restricting the air flow into the structure to increase the useful life of the fabric air delivery tube and also including a fabric louvered panel sewn to the inner surface of the inlet zone to prevent loss of air from the structure when air delivery through the fabric tube is terminated.

3,440,777
SHAKE STRIP ASSEMBLY FOR ROOFING OR SIDING
Otis M. Martin, San Jose, Calif., assignor, by direct and mesne assignments, of one-third each to Silas N. Miller, Saratoga, Calif., and John K. Kough, Morgan Hill, Calif.
Filed Dec. 8, 1967, Ser. No. 689,144
Int. Cl. E04d *3/362, 1/36, 13/00*
U.S. Cl. 52—94 8 Claims



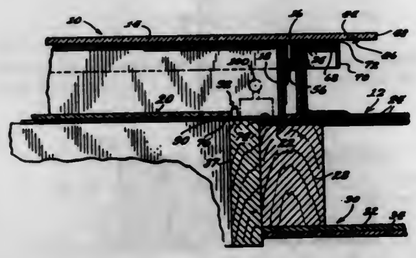
A roof or side of a building is covered with self-gauging shake strip assemblies which provide their own sheathing. Each shake strip assembly comprises a base strip covered by a membrane with a first course of sawn shingles secured thereto and covered by a second, superposed course of shakes. The upper ends of the shakes are in downwardly spaced relation from the upper edge of the base strip, while their lower ends extend a selected distance below the lower edge of the base strip. The upper ends of the shakes serve as a gauge for positioning the base strip of a next higher shake strip assembly. While not essential, a metal clip or other means may be provided to interconnect and seal the abutting ends of shake strip assemblies of the same row, and to insure against water leakage therebetween. A preferred means for this purpose is to provide a blank space at each end of the course of shakes on each shake strip assembly, and to close these blank spaces by means of shutter shakes applied after the shake strip assemblies have been attached to a roof or wall.

3,440,778
SOFFIT CLOSURE ASSEMBLY
Russel T. Miles, Royal Oak, Md., and Philip R. Anderson, deceased, late of Easton, Md., by William Reddie, executor, Oxford, Md., assignors to Corinthian Cornice Systems, Inc., Easton, Md., a corporation of Maryland
Original application May 25, 1964, Ser. No. 370,026, now Patent No. 3,344,566, dated Oct. 3, 1967. Divided and this application Oct. 2, 1967, Ser. No. 699,750
Int. Cl. E04b *7/06;* E04d *13/00*
U.S. Cl. 52—94 7 Claims



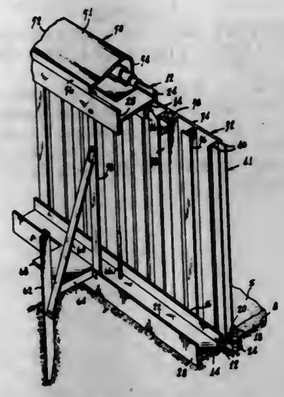
Apparatus including a rake bar and a triangular closure member are utilized to finish the space at the end of a pitched roof which overhangs the corner of a building.

3,440,779
SKYLIGHT
Dennis E. Helma, 8117 Ozanam, Niles, Ill. 60648
Filed Oct. 2, 1967, Ser. No. 672,049
Int. Cl. E04d *13/035*
U.S. Cl. 52—97 10 Claims



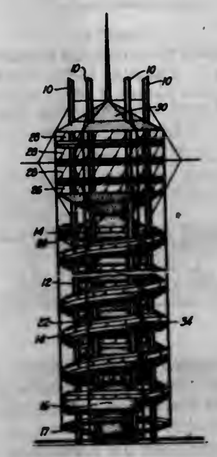
A skylight characterized by an improved edge construction in which a depending portion of a first frame member is received by a recessed receiving portion of a second frame member.

3,440,780
SWIMMING POOL WALL CONSTRUCTION
Charles R. Adam, Middletown, N.J., and Robert E. West, Yardley, Pa., assignors to Cascade Industries, Incorporated, Edison, N.J.
Filed Jan. 10, 1967, Ser. No. 608,451
Int. Cl. E02d *27/02;* E04c *1/10;* E04h *3/16*
U.S. Cl. 52—169 6 Claims



A swimming pool wall especially designed to use extruded products. Like, vertical panels have a tongue-and-groove interfit, and seat at their ends in grooves provided on one face of elongated receptors extending horizontally along the top and bottom of the wall. The receptors are identical, with the lower receptor inverted so that the grooves face each other. There are longitudinal ribs on the other receptor faces. Those of the upper receptor face upwardly to receive a coping. The ribs of the lower receptor extend downwardly to dig into the earth.

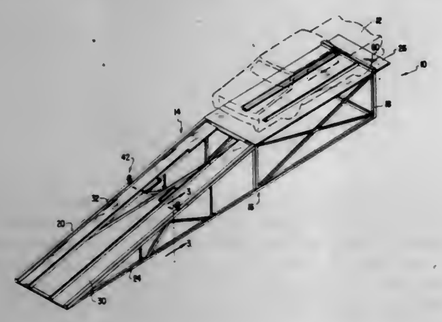
3,440,781
BUILDING STRUCTURE HAVING SPIRAL TRANSPORTATION RAMP THEREON
Chancy M. Lott, San Marino, Calif., assignor of 31.37% to Christopher G. Taylor, 15% to Vic Morgan, doing business as Vic Morgan Associates, a proprietorship, Los Alamitos, Calif., 17.26% to William McKerracher, 7.84% to Thomas P. Mahoney, 2.50% to Lawrence G. Wallace, and 2.50% to C. L. Carter
Filed Jan. 23, 1967, Ser. No. 610,955
Int. Cl. E04h *6/42, 1/06*
U.S. Cl. 52—175 2 Claims



A multifloor building structure having a plurality of spaced, vertical columns defining a central core area

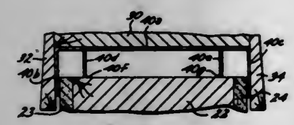
and supporting vertically spaced floor levels positioned in said core area. A continuous, spiral transportation ramp is supported on the columns outwardly thereof, said ramp enclosing passenger carrying cars upwardly and downwardly between the floor levels, and onto and through certain of said floor levels.

3,440,782
AUTOMOTIVE SUPPORT STRUCTURE FOR INCREASING THE CAPACITY OF PARKING LOTS
Wayne B. Stone, Jr., Kensington, Md., assignor of twenty-four and one-half percent each to Turner G. Moller, Lanham, and Edward L. Goldman, Bowie, Md.
Filed Apr. 4, 1967, Ser. No. 628,491
Int. Cl. E04h *6/38;* **B65g** *11/18*
U.S. Cl. 52—175 **35 Claims**



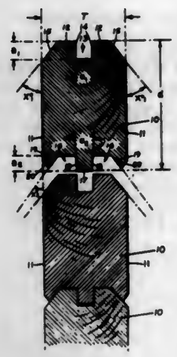
This invention relates to an automotive support structure including inclined ramp means over which an automobile may be driven to an elevated parking position after which time the ramp means are moved transversely of the automotive path of movement to permit a second automobile to be driven directly beneath the first automobile. The members providing support for the elevated automobile are transversely spaced a distance sufficient to accommodate the lower automobile. In one form of the invention, the inclined ramp means are provided with upwardly directed portions which permit the linear length of the ramps to be less than that required in the case of planar ramps. Another form of the invention involves the use of pivotally related plural ramp portions to effectively shorten the linear length of the overall ramp structure.

3,440,783
BLIND SHIMS FOR PRE-FIT DOOR UNITS
Milton L. Hughes, 13872 West St., Garden Grove, Calif. 92640
Filed July 3, 1967, Ser. No. 650,915
Int. Cl. E06b *1/62;* **E04c** *5/00*
U.S. Cl. 52—213 **6 Claims**



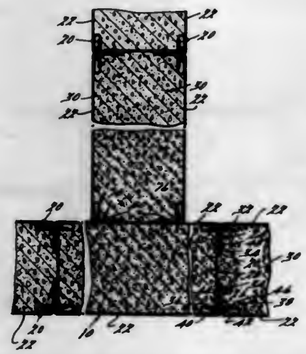
The present invention teaches different types of blind shims for use with pre-fit door units wherein the door jamb and casing are precut and preassembled. The subject blind shims are generally U-shaped to conform to the door jamb and side casings, and are formed of sheet metal or plastic. They are further formed with offset portions for engaging the door jamb so that the shims provide additional strength and support therefor. Such offset portions fit within corresponding slots in the door jamb and the shim is anchored in place by nails driven through the side casings and shim into the door frame.

3,440,784
TONGUE AND GROOVE PLANK
Veikko F. Onjukka, Box 5, R.R. 2, Parry Sound, Ontario, Canada
Filed Sept. 30, 1966, Ser. No. 583,303
Claims priority, application Canada, Sept. 30, 1965, 941,767
Int. Cl. E04b *1/10;* **E04c** *1/10, 1/30*
U.S. Cl. 52—233 **1 Claim**



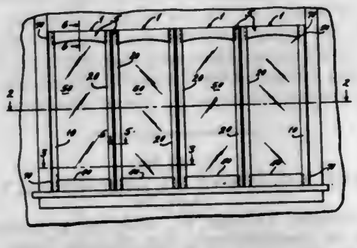
A tongue and groove plank for use in mating and interfitting with other such planks to form a structure of weather tight joints. The plank has a pair of upper tongues along the top of the plank and a pair of grooves along the bottom of the plank. Each upper tongue has three surfaces which are arranged to mate against three surfaces of each lower groove to provide a water proof seal therebetween.

3,440,785
BUILDING CONSTRUCTION WITH INTERSECTING WALLS
James M. Denny, Norcross, Ga., and Sven A. Carlsson, Detroit, Mich., assignors to Security Aluminum Company, Detroit, Mich., a corporation of Michigan
Filed Feb. 15, 1963, Ser. No. 258,813
Int. Cl. E04b *2/00*
U.S. Cl. 52—275 **2 Claims**



1. In a wall construction for buildings,
two walls arranged with one wall extending transversely to and butting against the other wall,
each of said walls having spaced inner and outer wall portions including a plurality of skin panels having reversely bent longitudinal edge portions extending the full height of the walls and arranged in edgewise butting relation with the joints between the outer wall panels opposite corresponding joints between the inner wall panels,
studs holding said butting panels together and fixed to opposite corresponding butting panels,
said studs comprising spaced inner and outer cleats each including a medial flange of interconnected double thickness material and a pair of opposed channel members,
each said channel member extending laterally of one edge of said medial flange and each channel member connected to a respective one of said thicknesses of said double thickness material, said pair of opposed channel members interlocking said reversely bent panel edge portions,
at least one web member interconnecting the medial flanges of the spaced inner and outer cleats,
a pair of half cleats joining the transversely extending butting walls, each said half cleat being indentical in form with one of said channel members and one of said thicknesses of said double thickness material of each of said inner and outer cleats,
the channel member of said pair of half cleats engaging the reversely bent edge portions of the end panels of the inner and outer wall portions of said one wall, respectively, and the single thickness medial flanges of said pair of half cleats abutting and fixed to said other wall.

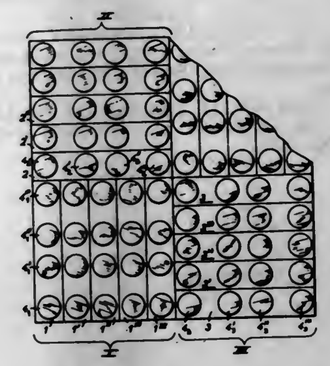
3,440,786
FRAME WITH DECORATOR PANEL
Joseph F. Weaver, Hazelwood, Mo., assignor to K-S-H, Inc., a corporation of Missouri
Filed June 28, 1967, Ser. No. 649,578
Int. Cl. E04c *1/12;* **B44f** *7/00, 9/00*
U.S. Cl. 52—311 **3 Claims**



A prefinished frame with plastic decorator panel, made up of prefinished stiles and rails all having a central panel-receiving groove. The stiles have flanges flanking the groove to define a relatively wide, rail-receiving channel on one long edge of the stile, and an asymmetric rabbet along the opposite long edge of the stile. A shoulder formed by the rabbeting, is of a size and configuration to permit the use of a surface mounted butt hinge.

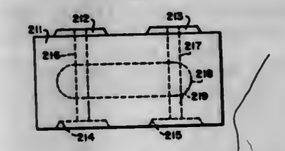
3,440,787
PARQUET FLOOR COVERINGS
René Eugene Bataille, 26 Rue Saint-Claude, Livry-Gargan, Seine-St-Denis, France
Filed Jan. 13, 1967, Ser. No. 609,063
Claims priority, application France, Jan. 26, 1966, 47,307
Int. Cl. E04f *13/08;* **E04b** *5/00;* **E04c** *2/04*
U.S. Cl. 52—390 **5 Claims**

The invention relates to the sound-proofing of parquet floor coverings, particularly of mosaic type parquets made of juxtaposed parallel slats or fingers arranged in a square pattern, the slats or fingers of adjacent square elements being oriented at right angles to one another. The slats or fingers are separated from the underlying concrete slab by supporting elements formed by flat discs of sound



insulating material having a thickness from 1.5 to 4 mm. and extending over a surface comprised between 30% and 50% of the total parquet area, said elements being bonded to the parquet fingers and to the concrete slabs by means of an appropriate adhesive.

3,440,788
BUILDING BLOCKS WITH A SHELL CONTAINING A FILLER AND HAVING PROJECTIONS AND DEPRESSIONS CONNECTED BY TUBES
Arthur B. Merget, 247 Westland Drive, Greensburg, Pa. 15601
Filed June 11, 1965, Ser. No. 463,167
Int. Cl. E04c *1/40*
U.S. Cl. 52—405 **16 Claims**



The disclosure relates to a building block with a core of rigid material and a plastic shell. The block is provided with apertured projections and depressions on opposed surfaces thereof with tubes extending between said apertures and supporting the projectons and depressions. The block shell can be prefabricated and filled with core material and the core may be prefabricated and the shell provided as a coating.

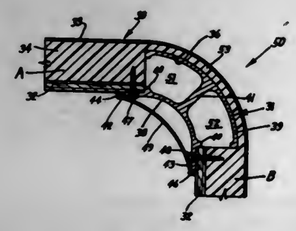
3,440,789
CEILING SYSTEM
John James Harding, Eastleigh, England, assignor to Conder International Limited, Winchester, Hampshire, England, a British company
Filed Aug. 8, 1966, Ser. No. 571,020
Claims priority, application Great Britain, Aug. 13, 1965, 34,830/65
Int. Cl. E04b *5/52*
U.S. Cl. 52—475 **5 Claims**



A ceiling system for a building and particularly for a suspended ceiling in which downturned channel sections are provided with lower outer lips for supporting ceiling

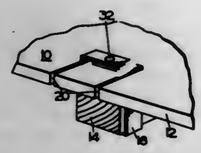
panels. The bottoms of the side walls thereof are bent inwardly for supporting further panels closing the undersides of the channel section.

3,440,790
CORNER ASSEMBLY
Marvin E. Nerem, Forest City, Iowa, assignor to Winnebago Industries, Inc., Forest City, Iowa, a corporation of Iowa
Filed Nov. 17, 1966, Ser. No. 595,118
Int. Cl. E04c 2/30, 1/34; E04b 5/48
U.S. Cl. 52—631 13 Claims



A sandwich panel corner assembly comprising a single panel having an outer facing and an inner facing secured to opposite sides of a foamed plastic core. One facing and the core is provided with a groove for accommodating an elongated corner member. The corner member has inner and outer wall members to shape and reinforce the corner and to hold sections of the panel in relative angular positions. One wall member is in surface engagement with a portion of the core connecting the sections of the panel to provide a full, shock resistant and insulated corner assembly.

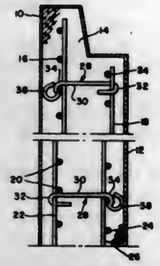
3,440,791
COMPOSITE STRUCTURAL DECKING
Arthur L. Troutner, Skyline Drive, Boise, Idaho 83707
Filed Apr. 24, 1967, Ser. No. 632,991
Int. Cl. E04c 2/10, 2/38, 5/16
U.S. Cl. 52—629 4 Claims



Composite structural decking adapted to overlie and be supported by a pair of spaced, parallel support members comprises a deck membrane and a plurality of elongated deck-membrane-stiffening-members arranged in spaced, parallel relation beneath the deck. Hanger-type fastening means interengage the stiffening members and the deck membrane at spaced intervals.

3,440,792
COMBINATION STIRRUP AND SPACER FOR RE-ENFORCED CONCRETE PIPE AND LIKE STRUCTURE
Hartzell H. Schmidgall, Mediapolis, Iowa 52637
Filed Oct. 20, 1967, Ser. No. 676,964
Int. Cl. E04c 5/16; E04h 12/06, 12/12
U.S. Cl. 52—687 5 Claims

A combination spacer and stirrup for use in interconnecting the re-enforcing mesh or case wires embedded in concrete structures such as cast pipe etc., featuring a rod-like member having reversely bent hooks at opposite ends facing each other and constructed to be easily installed and to maintain wire-engaging relationship without accidental dislodgement during processing of the concrete, the hooks having novel configurations, one being in the form of a J and the other in the form of a C and the latter having an extension loop serving as a spacer for properly spacing the adjacent form wall from the adjacent mesh or wire.

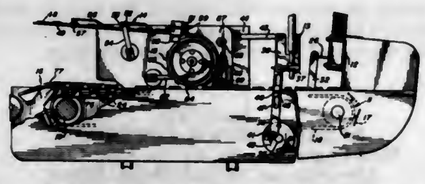


3,440,793
GIRDER/CONCRETE COMBINATION
Pierre A. Zehnle, 16 Rue Cernushi, Paris, France
Filed July 30, 1965, Ser. No. 475,920
Int. Cl. E04c 3/293, 3/34, 5/06
U.S. Cl. 52—723 2 Claims



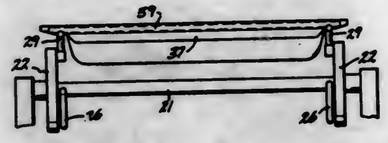
A girder/concrete combination including tie means for uniting the girder and concrete slab wherein longitudinal stress forces are compensated for by slots, notches, projections, undulations or the like formed integrally along the length of the girder and transverse forces are compensated for by the tie means which may take the form of webs of continuous lengths of rigid material placed on each side of the girder and mechanically spaced therefrom.

3,440,794
APPARATUS FOR AND METHOD OF PACKAGING LIQUID
Martin Mueller, Chicago, Ill., assignor, by mesne assignments, to Owens-Illinois, Inc., Toledo, Ohio, a corporation of Ohio
Filed Sept. 13, 1966, Ser. No. 579,127
Int. Cl. B65b 3/06, 7/28
U.S. Cl. 53—37 14 Claims



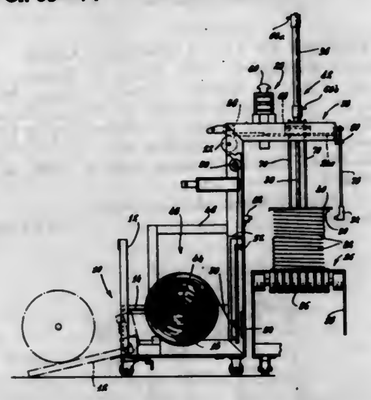
A method and apparatus for packaging liquid in containers including a dispensing magazine for gravity feeding individual containers in a transverse row into a continuously moving conveyor, means for simultaneously filling each container in a row during movement of the conveyor, and means for simultaneously applying individual covers to each of the filled containers in a row.

3,440,795
PROCESS OF APPLYING FLEXIBLE COVER TO A CONTAINER
Frank A. Grant, San Mateo, Calif., assignor, by mesne assignments, to F. A. Grant, doing business as Hoefer Machine Works, San Francisco, Calif.
Original application Aug. 17, 1965, Ser. No. 480,359, now Patent No. 3,371,465, dated Mar. 5, 1968. Divided and this application Sept. 27, 1967, Ser. No. 695,536
Int. Cl. B65b 7/16
U.S. Cl. 53—42 1 Claim



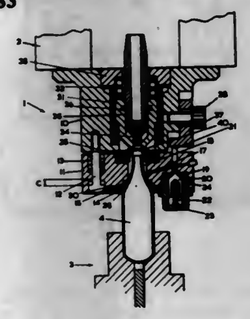
1. A process for continuously applying overlays to continuously advancing open trays having a projecting lip around its periphery defining leading, trailing, and side lips comprising the steps of disposing a sheet of flexible material over the tray so that margins of flexible material project beyond the tray lips, folding and tucking the leading and trailing tray lips so that opposed ends of the leading and trailing margins remain untucked, tucking said opposed ends under mating side lips and thereafter tucking the side margins under the side lips operative to secure the covering to the tray so that the tucked margins conform to the contour of the rim.

3,440,796
TOPWRAP APPARATUS
James Harrison, Thorn Hill, Ontario, Canada, assignor to General Strapping Company, Division of Harrison White, Incorporated, Bedford Hills, N.Y.
Filed June 2, 1966, Ser. No. 554,786
Int. Cl. B65b 57/12; B67b 5/04
U.S. Cl. 53—74 9 Claims



The disclosed apparatus produces individual topwrap sheets from a continuous roll of wrapper material and places the sheets on bundles such as a stack of newspapers, magazines or the like in a continuous operation. Wrapper material is fed from a roll through a cutter and into position on a pair of support bars over a bundle conveyor. A reciprocable placement plate temporarily deforms and carries each cut topwrap sheet down through the support bars and places it on a bundle top. The apparatus is controlled electrically by a control mechanism which provides for sequential operation of the various functions of the apparatus and for predetermined delays between the functions. Means are also provided to prevent the apparatus from recycling before a previous cycle is completed.

3,440,797
APPARATUS FOR FILLING AND SEALING CONTAINERS
Erich R. Spielmann, Loughton, England, assignor to The British Oxygen Company Limited, a British company
Filed May 2, 1966, Ser. No. 547,007
Claims priority, application Great Britain, May 6, 1965, 19,181/65
Int. Cl. B21d 51/26; B65b 7/16
U.S. Cl. 53—83 3 Claims

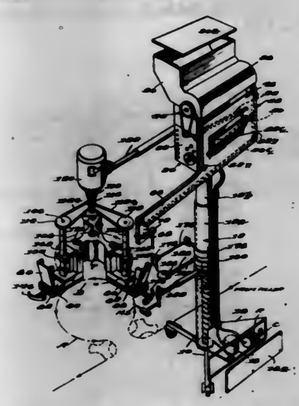


The filling of metal bulbs with liquefied carbon dioxide is speeded-up by apparatus in which a closure lid for each bulb is blanked-out from a metal strip and resistance-welded to the lip of the bulb, the punch functioning also as a welding electrode.

ERRATUM

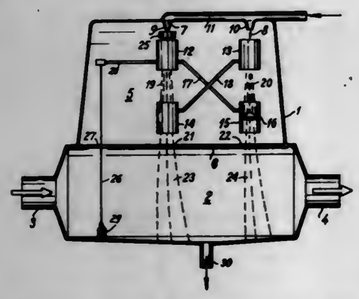
For Class 53—189 see:
Patent No. 3,440,801

3,440,798
CONTAINER CAPPING MEANS
John Earl Rackley, 961 15th St., Augusta, Ga. 30906
Filed June 24, 1966, Ser. No. 560,137
Int. Cl. B67b 3/20; B23q 7/00
U.S. Cl. 53—312 13 Claims



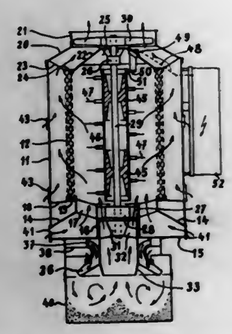
A capping machine for applying screw-on caps to bottle-type containers, i.e. plastic bottles, incorporating means for rectifying randomly faced caps feeding from a supply hopper to each of a plurality of capping head assemblies which operate in turn to apply said caps moving thereto in line formation. Each of said capping head assemblies includes chuck means for screwing a cap onto the neck of a container, the operation of which is responsive to the thrust of said bottle neck moving upwardly against a cap then in a position in said capping head assembly to receive said bottle neck.

3,440,799
GAS SCRUBBER
Dag Romell, Ronnbackegatan 72, Malmo, Sweden
Continuation of application Ser. No. 630,245, Apr. 12, 1967. This application June 27, 1968, Ser. No. 742,982
Int. Cl. B03c *3/01, 3/38*
U.S. Cl. 55—107 7 Claims



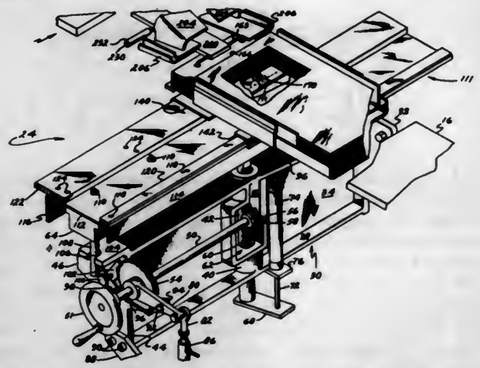
A gas scrubber utilizing, for separating dust from a gas, electrically charged particles of a washing liquid which are mixed with the gas within an enclosure having an inlet and an outlet for the gas, said device comprising means for ejecting the washing liquid by means of nozzles having essentially the same electric potential as the enclosure, and means electrically insulated from said enclosure as well as from said nozzles and arranged relative to jets of liquid ejected from said nozzles so as to by electric influence to apply to drops formed from jets if the ejected liquid a high electric potential relative to the enclosure and the nozzles in accordance with the principles of the Kelvin influence electricity machine.

3,440,800
DEVICE FOR PURIFYING EXHAUST GAS BY MEANS OF ELECTRIC FILTERS
Gregori Messen-Jaschin, Schlenggenried, Saren, Switzerland
Filed May 3, 1967, Ser. No. 640,772
Claims priority, application Switzerland, May 6, 1966, 6,720/66
Int. Cl. B03c *3/49, 3/00, 3/82*
U.S. Cl. 55—122 4 Claims



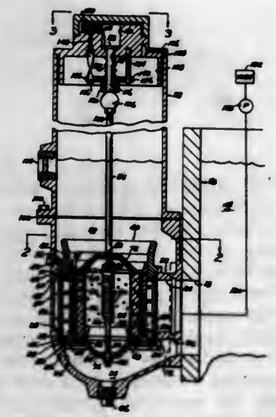
An electrostatic filter for cleaning exhaust gases is constructed with a housing containing a cylindrical collecting electrode and an internal rotatable shaft carrying a plurality of radial ionizing electrodes. The shaft is rotated by a hot gas turbine located in a separate chamber before the housing which serves to cool the exhaust gas and to remove soot particles and oil droplets before the exhaust gas enters the housing. The housing may also be provided with air ports to dilute the gas residue released to the atmosphere.

3,440,801
BAG TRAY FEED ELEVATOR MECHANISM FOR BAG-LOADING MACHINES
Clarence F. Prince, Springfield, and Friedolf Kamila, Longmeadow, Mass., assignors to Package Machinery Company, East Longmeadow, Mass., a corporation of Massachusetts
Filed Sept. 27, 1967, Ser. No. 671,023
Int. Cl. B65b *5/02, 3/02, 43/26*
U.S. Cl. 53—189 5 Claims



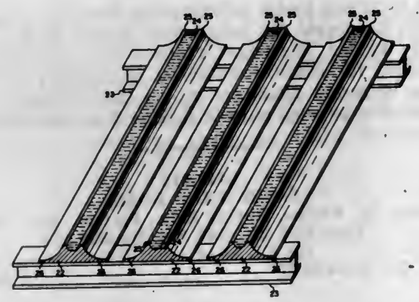
In bag-loading machines for continuously loading preformed open-ended bags, elevator apparatus having a bag lifting platform arranged transversely of the product loading path of travel and slidably mounting two bag filled trays, one releasably held registered for bag-loading operation, the other held in reserve for quickly moving into registered position and pushing an emptied tray on to storage rails, and an indexing means provided for incrementally raising the platform being responsive to the sensing of a tray held bag supply by pivoted bag spreader elements.

3,440,802
RESERVOIR FILTER AND INDICATOR
Nils O. Rosaen, Bloomfield Hills, Borje O. Rosaen, Ann Arbor, and Oscar E. Rosaen, Grosse Pointe, Mich., assignors, by mesne assignments, to Parker-Hannifin Corporation, Cleveland, Ohio, a corporation of Ohio
Continuation-in-part of application Ser. No. 522,773, Jan. 24, 1966. This application Aug. 1, 1966, Ser. No. 569,488
Int. Cl. B01d *35/12, 25/34*
U.S. Cl. 55—199 15 Claims



A filter device is adapted to be mounted to the exterior of a sidewall of a fluid reservoir and includes a housing section having a fluid inlet connected with the reservoir and a fluid outlet. The housing section defines a filter chamber fluidly intermediate the inlet and the outlet and disposed below the fluid level of the reservoir. A tubular section extends upwardly from the housing section and a filter element is vertically slidably disposed in the filter chamber. A rod extending upwardly from the filter element provides a means for withdrawing the filter element upwardly from the filter chamber.

3,440,803
GAS SCRUBBER
Peter M. Wechselblatt, New York, N.Y., assignor to Chemical Construction Corporation, New York, N.Y., a corporation of Delaware
Filed June 2, 1967, Ser. No. 643,098
Int. Cl. B01d *47/06, 47/12, 41/00*
U.S. Cl. 55—241 1 Claim



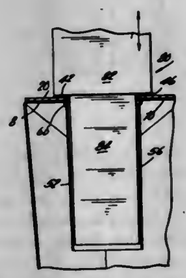
An apparatus is provided for scrubbing gas streams with scrubbing liquid to remove a gas stream component. The gas stream is passed downwards through a rectangular conduit. A horizontal grate is disposed within the conduit and extends across the flow path of the gas stream. The grate consists essentially of a plurality of parallel spaced apart horizontal bars which are supported within the conduit in parallel horizontal alignment. Each of the bars is provided with an upper longitudinal recess, side walls which slope outwards in a downwards direction, and lower longitudinal lips which extend outwards at the base of the bar. The juxtaposed lips on adjacent bars define a slit for high velocity gas flow between adjacent bars. A scrubbing liquid such as water is passed into the upper recess of each of the bars, so that the liquid flows over the upper ends of the bars adjacent to the recess, and then flows downwards on the side walls of the bars as a thin liquid film, and is projected transversely into the high velocity gas stream in the slits between bars by the lower lips. In a preferred embodiment, a plurality of horizontal grates are provided in vertical alignment within the conduit, with the bars being aligned in parallel and with the longitudinal recess in each bar of a lower grate being vertically aligned directly below the slit between bars of the next higher grate.

3,440,804
AIR FILTERING AND COOLING APPARATUS
Frederick M. Gleockler, Cherry Hill, N.J. (R.D. 1, Ridgley, Md. 21660)
Filed May 19, 1967, Ser. No. 639,802
Int. Cl. B01d *35/18*
U.S. Cl. 55—269 1 Claim

An apparatus mounted on a motor vehicle, such as a tractor, driven by an internal combustion engine, forming a part of a respirator for supplying cool purified air to a face mask worn by the vehicle operator or a worker working in close proximity to the vehicle. The apparatus is primarily adapted for use in connection with farm work being performed when spray materials are being employed which includes chemicals which are harmful to the lungs, necessitating the use of a face mask.

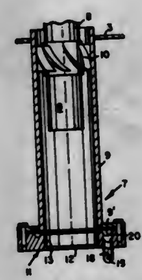


3,440,805
VACUUM CLEANER FILTER BAG
Martin Cordell, Far Rockaway, N.Y., assignor to Studley Paper Company, Inc., Far Rockaway, N.Y., a corporation of New York
Filed June 30, 1967, Ser. No. 650,498
Int. Cl. B01d *29/14, 29/42;* B65d *33/00*
U.S. Cl. 55—368 3 Claims



A vacuum cleaner filter bag provided with a collar mounted thereto in registry with the intake port of the bag, said vacuum cleaner filter bag provided with an inner bag collar in the form of a tubular member mounted in overlapping relationship with the collar and extending down into the bag interior itself and held firmly to the bag body and collar by an exteriorly disposed projecting resilient member.

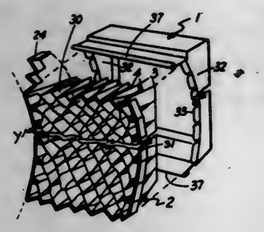
3,440,806
SEPARATOR TUBE CAP
Leonard P. Damratowski, Monroeville, Pa., assignor to Carrier Corporation, Syracuse, N.Y., a corporation of Delaware
Filed Oct. 18, 1965, Ser. No. 496,818
Int. Cl. B01d *45/16*
U.S. Cl. 55—449 1 Claim



A centrifugal separator for removing particulate matter from a gas stream employing an improved separator tube end cap having a particle collection scroll of in-

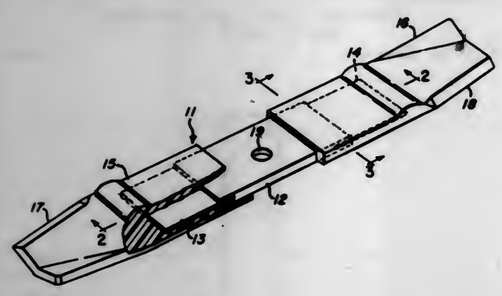
creasing cross sectional area in the direction of particle movement to provide a smooth, non-turbulent flow of particles therein and prevent recirculation of particles therethrough to minimize clogging and erosion of the scroll walls.

3,440,807
POCKET-TYPE FILTER CARTRIDGE AND SUPPORT STRUCTURE ASSEMBLY
William C. Gaines, Jr., Louisville, Ky., assignor to American Air Filter Company, Inc., Louisville, Ky., a corporation of Delaware
Continuation-in-part of application Ser. No. 450,132, Apr. 22, 1965. This application Feb. 1, 1966, Ser. No. 524,190
Int. Cl. B01d 27/06
U.S. Cl. 55—497 11 Claims



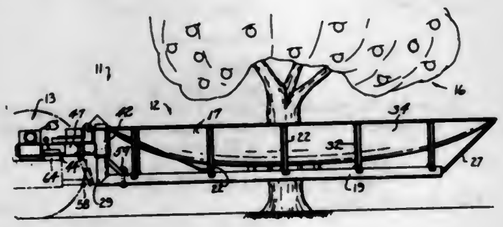
A pocket-type filter including filter pleat means formed to provide a honeycomb of side-by-side filter pockets, the filter pleat means having a configuration in collapsed position which permits the mouth thereof to extend in preselected catenary-like shape when the filter pleat is in the expanded position and an arrangement is provided along the edges of the filter pleat means which is expansible to permit the peripheral edges of the filter pleat means to substantially coextend in the common plane of preselected catenary-like shape.

3,440,808
MOWER BLADE WITH MOUNTING PLATE
Abraham L. Freedlander, Dayton, Ohio, and Robert E. Matthews and Wayne C. Garrett, Waynesville, N.C., assignors to Dayco Corporation, Dayton, Ohio, a corporation of Delaware
Filed Mar. 13, 1968, Ser. No. 712,633
Int. Cl. A01d 55/18
U.S. Cl. 56—295 4 Claims



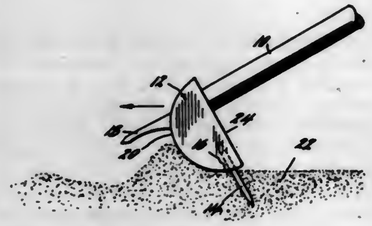
A flexible mower blade having arms formed of an elastomeric material and a multi-section mounting plate embedded within the arms. The outer portions of the plate are semi-rigid and the central portion is rigid.

3,440,809
HARVESTER FOR NUTS AND THE LIKE
Oliver H. Maxwell, Rte. 1, Box 53B, Suisun City, Calif. 94585
Filed Jan. 14, 1966, Ser. No. 520,614
Int. Cl. A01g 19/08; B65g 11/10
U.S. Cl. 56—329 5 Claims



A harvesting basket for tree grown produce is described which is adapted for cantilevered support from a tractor or the like. The basket is formed with a pair of wings arranged for selective movement in a variety of directions to permit placement of the same around a tree trunk so as to catch produce shaking from the tree limbs.

3,440,810
SAND TRAP RAKE
William M. Rhyme, Rhyme Bldg., Portage, Wis. 53901
Filed Feb. 21, 1966, Ser. No. 529,071
Int. Cl. A01d 7/02, 7/10
U.S. Cl. 56—400.01 6 Claims

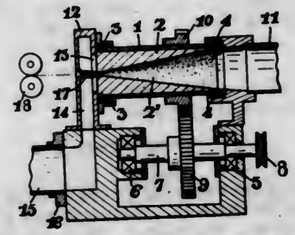


The invention disclosed comprises a floating sand trap rake including a head with a plurality of tines depending therefrom and an arcuate, ground engaging surface extending forwardly of the tines providing a supportive surface so as to prevent the rake from digging into the sand when used. The head may also include a spike for standing the rake in an upright position when not in use.

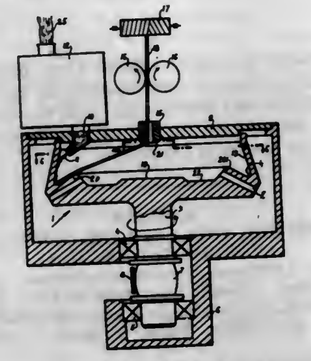
3,440,811
SPINNING METHOD AND APPARATUS
Kenji Fukuta and Yoshiyuki Watanabe, Yokohama, Japan, assignors to Agency of Industrial Science & Technology, Ministry of International Trade & Industry
Filed Sept. 28, 1967, Ser. No. 671,453
Claims priority, application Japan, Oct. 12, 1966, 41/67,063
Int. Cl. D01h 7/04; D02g 3/00
U.S. Cl. 57—58.89 5 Claims

Separated fibers are spun into a twisted yarn by suspending them in a stream of air or water, gradually reducing the cross section of the fiber laden stream while simultaneously rotating the same about its longitudinal axis and withdrawing the fluid from it, whereby the fibers are twisted into a yarn which may be withdrawn. The

apparatus employed consists of a rotating cylindrical shell impervious to the fluid and lined with a filter formed with an axially tapering passage. A stream of fluid and suspended fibers is fed to one end of the shell, the fluid is drawn off with suction from the filter and the yarn from the passage at the other end of the shell.



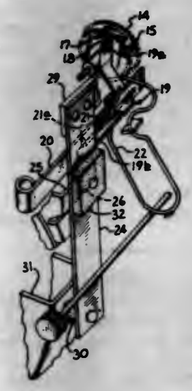
3,440,812
METHOD AND APPARATUS FOR THE CONTINUOUS RINGLESS SPINNING OF YARN FROM SEPARATED STAPLE FIBERS IN A ROTATING SPINNING CHAMBER
Josef Stary, Usti nad Orlici, Miloslav Kubovy, Dolni Dobrouc, and Erik Jirasek, Usti nad Orlici, Czechoslovakia, assignors to Vyzkumny Ustav Barlnarsky, Usti nad Orlici, Czechoslovakia
Filed Oct. 9, 1967, Ser. No. 673,741
Claims priority, application Czechoslovakia, Oct. 11, 1966, 6,447/66
Int. Cl. D01h 7/00, 7/76
U.S. Cl. 57—58.89 10 Claims



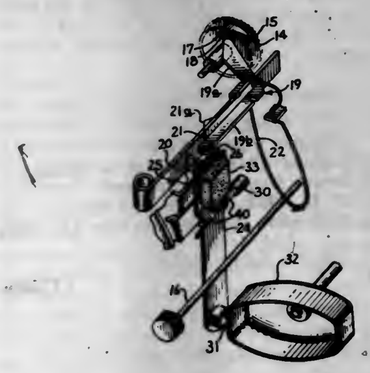
A method of continuous ringless spinning of yarn in which a portion of the yarn adjacent the fiber collecting surface of a rotating spinning chamber and spaced from the inner end of the withdrawing passage of the yarn is frictionally engaged by a surface portion of the rotating spinning chamber and preferably deflected in direction of the axis of rotation of the latter to apply a frictional force to the aforementioned yarn portion, and an apparatus for carrying out the method.

3,440,813
ELECTROMAGNETIC VIBRATOR
Walter F. Kolodziej, La Salle, Ill., assignor to General Time Corporation, Stamford, Conn., a corporation of Delaware
Filed Apr. 28, 1967, Ser. No. 634,687
Int. Cl. G04c 21/06
U.S. Cl. 58—38 4 Claims

An alarm system for electric alarm clocks, including an electromagnetic vibrator driven by a synchronous motor, with the vibratory element being driven by A.-C. flux from buzzer poles formed as integral parts of the synchronous motor. The electromagnetic vibrator acts as a frequency divider so that the striking frequency at the free end of the vibratory element is lower than the frequency at which a conventional buzzer alarm is driven. The first division is achieved by means of a permanent magnet mounted on the vibratory element adjacent the buzzer poles so as to reduce the frequency of the driving impulses to the same frequency as that of the A.-C. flux generated by the buzzer poles. Further frequency division may be achieved by designing the vibratory system to have a natural frequency of oscillation even lower than that of the frequency of the driving impulses, and preferably a sub-multiple of the frequency of the driving impulses.



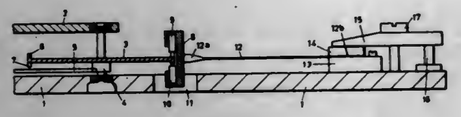
3,440,814
ELECTRIC CLOCK ALARM SYSTEM
Robert L. Reimann, La Salle, Ill., assignor to General Time Corporation, Stamford, Conn., a corporation of Delaware
Filed Dec. 18, 1967, Ser. No. 691,301
Int. Cl. G04c 21/16
U.S. Cl. 58—38 7 Claims



An alarm system for electric alarm clocks, including an electromagnetic vibrator driven by a synchronous motor, with the vibratory element being driven by A.-C. flux from buzzer poles formed as integral parts of the synchronous motor. The electromagnetic vibrator acts as a frequency divider so that the striking frequency at the free end of the vibratory element is lower than the frequency at which most other buzzer alarms are driven. The first frequency division is achieved by means of a permanent magnet mounted on the vibratory element adjacent the buzzer poles so as to reduce the frequency of the driving

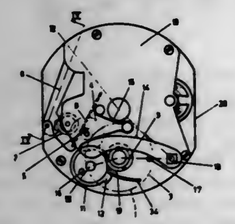
impulses to the same frequency as that of the A.-C. flux generated by the buzzer poles. The vibratory element is illustrated as a reed, made of magnetically impermeable material to avoid the shunting of magnetic flux away from the permanent magnet. Further frequency division may be achieved by designing the vibratory system to have a natural frequency of oscillation even lower than that of the frequency of the driving impulses, so that a striker element mounted on the opposite end of the reed from the permanent magnet strikes a cooperating bell at a submultiple of the frequency of the driving impulses. The reed is pivotally mounted between the permanent magnet on one end, and the striker on the other end, to permit greater latitude in manufacturing tolerances, and at the same time improve the performance and reliability of the alarm system. More particularly, the vibratory system can be mounted in any desired position, and thus with any desired orientation relative to the clock housing, without adversely affecting the performance thereof.

3,440,815
ESCAPEMENT DEVICE
Jean Claude Berney, Lausanne, Switzerland, assignor to Bernard Golay S.A., Lausanne, Switzerland
Filed Nov. 29, 1966, Ser. No. 597,727
Claims priority, application Switzerland, Dec. 7, 1965, 16,856/65
Int. Cl. G04b *15/06*
U.S. Cl. 58—116 **9 Claims**



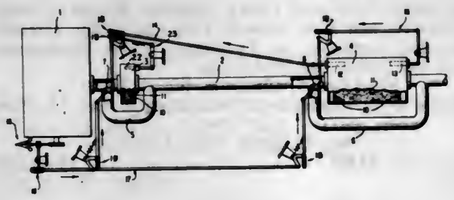
This disclosure is concerned with an escapement assembly for a timepiece in which pallet arms are secured to the free extremity of a vibrator, the pallet arms having at their extremities gathering pallets cooperating with the teeth of the escapement wheel, these teeth having flanks and the active flank of each tooth being parallel to one of the faces of the corresponding pallet whereby the pallet arms can oscillate perpendicularly to the plane of the escapement wheel and the assembly can function satisfactorily in any position.

3,440,816
ALARM TIMEPIECE
Rene Philippe Jaccard, Chemin du Fort de l'Ecluse, Petit-Lancy, Geneva, Switzerland
Filed July 17, 1967, Ser. No. 653,851
Claims priority, application Switzerland, July 21, 1966, 10,574/66
Int. Cl. G04b *23/10*
U.S. Cl. 58—18 **3 Claims**



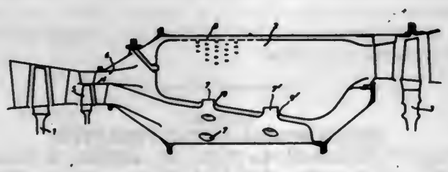
Alarm timepiece with a device for intermittently blocking the striking mechanism, which comprises at least a cam connected with a triggering member, this cam defining at least two successive triggering positions of said member, the member being adapted to cooperate with blocking means producing the intermittent blocking of the striking mechanism and connected kinematically to the wheel work of the striking mechanism, the blocking means cooperating with the triggering member after a first triggering of the striking mechanism, the second triggering position occupied by the triggering member rendering inoperative these blocking means.

3,440,817
CATALYTIC CONVERTER SYSTEM FOR EXHAUST GASES OF INTERNAL COMBUSTION ENGINES
Helmut Säufferer, Waiblingen, Germany, assignor to Daimler-Benz Aktiengesellschaft, Stuttgart-Untertürkheim, Germany
Filed Sept. 3, 1964, Ser. No. 394,187
Claims priority, application Germany, Sept. 7, 1963, D 42,425
Int. Cl. F02b *75/10*
U.S. Cl. 60—29 **15 Claims**



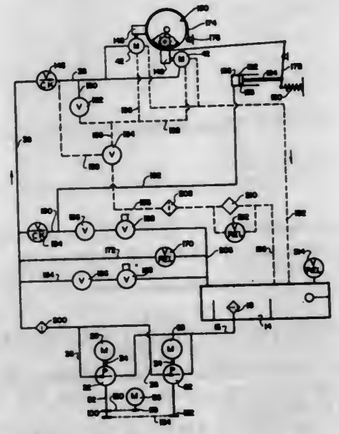
A conversion system for exhaust gases, having a small, quick-warm-up catalytic unit located near the engine and a main catalytic unit downstream, with provisions for bypassing in dependence on the catalyst temperature and on the engine operating conditions.

3,440,818
COMBUSTION AND COOLING AIR CONTROL IN TURBOJET ENGINES
Herve Alain Quillevere, Issy-les-Moulineaux, and Jacques Emile Jules Caruel, Dammarie-les-Lys, France, assignors to Societe Nationale d'Etude de Construction de Moteurs d'Aviation, Paris, France, a company of France
Filed July 5, 1967, Ser. No. 651,308
Claims priority, application France, July 8, 1966, 68,838
Int. Cl. F02c *7/18, 3/06*
U.S. Cl. 60—39.65 **4 Claims**



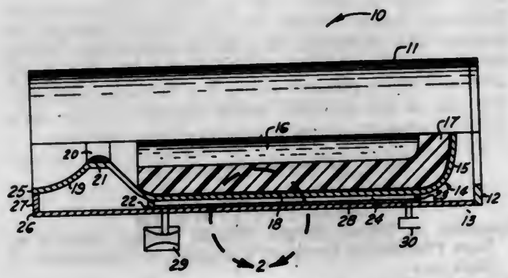
Combustion chamber for turbojet engine comprising a flame-tube, means for injecting fuel into said flame-tube, means for supplying said flame-tube with combustion air and dilution air, and means for supplying said flame-tube with cooling air at a pressure which is lower than that of combustion and dilution air.

3,440,819
HYDRAULICALLY-CONTROLLED SKI LIFT
James C. Wright, Aurora, Colo., assignor to Miner-Denver, Inc., Denver, Colo., a corporation of Colorado
Filed July 24, 1967, Ser. No. 655,542
Int. Cl. F16h *39/46;* **B61b** *11/00*
U.S. Cl. 60—52 **17 Claims**



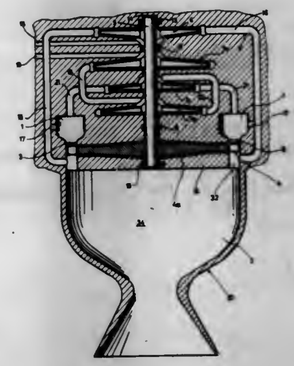
This invention relates to a variable-speed ski lift drive that incorporates one or more motor-driven hydraulic pumps, the output of which is varied and controlled between adjustable maximum and minimum limits by a control circuit that operates a servo-motor connected to the volume control of the pumps. The output of the pumps is fed to at least one hydraulic motor which, in turn, drives the lift. Between the pumps and motors are connected no less than three valve-controlled braking circuits which act independently of one another or in combination to vary the time interval required to bring the lift to a complete stop. Check valves in the circuit prevent the lift from running backward under load.

3,440,820
THERMAL PROTECTION SYSTEM FOR MISSILE COMPONENTS SUBJECTED TO EXCESSIVE PERIODS OF AERODYNAMIC HEATING
Leonard H. Caveny, Huntsville, Ala., assignor to Thiokol Chemical Corporation, Bristol, Pa., a corporation of Delaware
Filed Mar. 13, 1967, Ser. No. 622,668
Int. Cl. F02k *9/04;* **F41f** *3/04;* **F42b** *11/00*
U.S. Cl. 60—253 **3 Claims**



A thermal protective system for missile components that is adapted to maintain a low temperature range within the missile to sustain the structural properties of the components of the missile to retain temperatures of the interface bonds and adhesives at a low level and to prevent the propellant within the missile from being heated to its autoignition point.

3,440,821
FUEL COMPONENT FEED SYSTEM FOR A LIQUID FUEL THRUST ENGINE AND LIQUID FUEL ROCKET ENGINE CONSTRUCTION
Otto Waltz, Neukirchstockach, Germany, assignor to Bolkow Gesellschaft mit beschrankter Haftung, Ottobrunn, near Munich, Germany
Continuation of application Ser. No. 495,182, Oct. 12, 1965. This application Nov. 13, 1967, Ser. No. 682,667
Claims priority, application Germany, Oct. 15, 1964, B 78,923
Int. Cl. F02k *3/12, 9/02*
U.S. Cl. 60—259 **10 Claims**

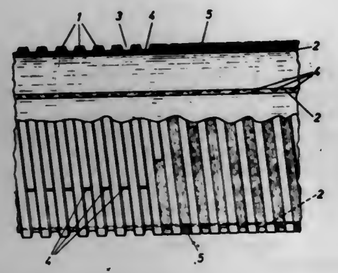


A fuel component feed system, particularly for a liquid fuel thrust engine such as a rocket, includes at least two separate pumps for two separate fuel components which are mounted on a common shaft along with a driving turbine. The turbine is powered by reaction gases ignited in small pre-combustion chambers adjacent the periphery of a turbine wheel which is mounted on the same shaft as the pumps. The turbine wheel drives the pumps which include an oxidizer pump for supplying an oxidizing material to the combustion chamber and to the small pre-combustion chambers. In addition, a further fuel component pump is arranged between the oxidizer pump and the turbine and it is a multi-stage pump. The fuel discharged by the multi-stage fuel pump is directed directly into the pre-combustion chambers for initial ignition in the pre-combustion chambers and for later flow into the main combustion chamber along with the oxidizer. The multi-stage fuel pump which is located between the oxidizer pump and the turbine is arranged such that the stages thereof operate so that there will be a minimum pressure differential between the fuel pump and the turbine and a minimum pressure differential between the fuel pump and the oxidizer pump.

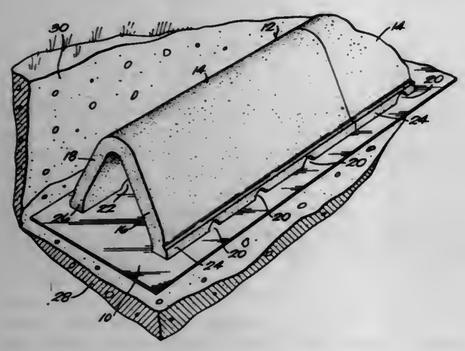
3,440,822
PLASTIC PIPE
Wilhelm Hegler, Goethestrasse 2, Bad Kissingen, Germany
Filed June 8, 1966, Ser. No. 556,105
Claims priority, application Germany, June 23, 1965, H 56,369
Int. Cl. F16l *11/04;* **E01b** *11/00*
U.S. Cl. 61—10 **8 Claims**

Plastic pipe having a smooth inside wall and a ribbed reenforcing outside wall, wherein the inside wall is sub-

stantially straight in the longitudinal direction and has grooves on the inside surface in the longitudinal direction, and wherein apertures are provided between the grooves and the thin wall portions of the tube between reenforcing ribs.



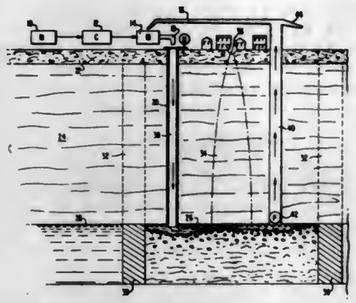
3,440,823
DRAINAGE DEVICE
John H. Olsen, 2736 E. Newton Ave., Milwaukee, Wis. 53211
Filed June 14, 1967, Ser. No. 645,969
Int. Cl. E02b *11/00*
U.S. Cl. 61—11 2 Claims



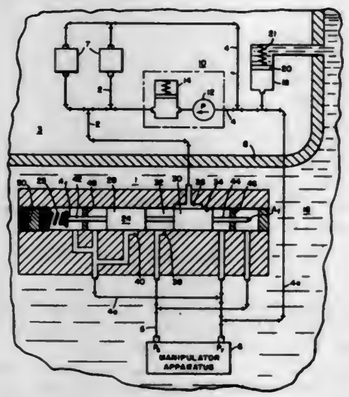
The present invention relates generally to improvements in the art of drainage, and relates more particularly to an improved sectional drainage device molded of light weight plastic or the like and adapted to be combined with a base sheet of liquid repellant flexible material in use.

3,440,824
METHOD AND APPARATUS FOR BACKFILLING AND UNDERPINNING AN UNDERGROUND COAL OR ORE MINE
Thomas J. Doolin, R.D. 2, Schuylkill Haven, Pa. 17972
Filed May 16, 1967, Ser. No. 638,789
Int. Cl. E21f *15/08*
U.S. Cl. 61—35 3 Claims

The method of filling an inaccessable mine cavity area requires the drilling of at least two holes from the surface into the inaccessable mine cavity. A slurry of solid material and water is pumped downwardly through a conduit inserted in one of the holes and directed towards the other hole within the cavity by means of a variable direction nozzle attached to the lower end of the conduit and extending into the cavity. The excess water is pumped outwardly through a conduit in the other bore hole to create a current between the two bore holes to assist in distributing the solid material within the mine cavity.



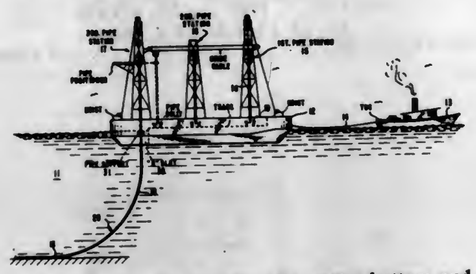
3,440,825
HYDRAULIC UNDERSEA MANIPULATOR APPARATUS
Wayne B. Lloyd, Baltimore, Md., assignor to Westinghouse Electric Corporation, Pittsburgh, Pa., a corporation of Pennsylvania
Filed Apr. 6, 1967, Ser. No. 629,012
Int. Cl. B63c *11/34*; B25j *3/00*; B63g *8/00*
U.S. Cl. 61—69 5 Claims



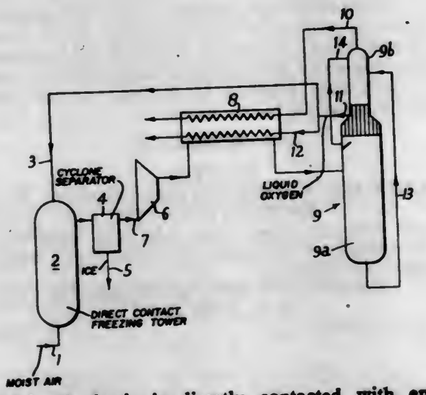
On an undersea vehicle, an external hydraulically-operated manipulator apparatus is provided with operating fluid at a supply pressure which is automatically maintained a fixed differential above a sea-ambient-compensated return pressure, from a main constant-pressure hydraulic supply source on the vehicle through the medium of a regulating valve device comprising a piston valve subject to the force of a bias spring and to the aforesaid return pressure action in a valve-opening direction and to the aforesaid supply pressure (piston valve delivery pressure) acting in a valve-closing direction.

3,440,826
LAYING PIPE IN WATER
Kenneth A. Kline, Harper Woods, Mich., assignor to Esso Production Research Company, a corporation of Delaware
Filed Jan. 3, 1967, Ser. No. 606,959
Int. Cl. B63b *35/04*; F16l *1/00*
U.S. Cl. 61—72.3 11 Claims

Pipe is lowered in a supported vertical position from a floating vessel in a body of water, the length of the pipe being increased by joining sections to its supported vertical aspect as the pipe is lowered to water bottom and as the vessel is moved in a selected direction.



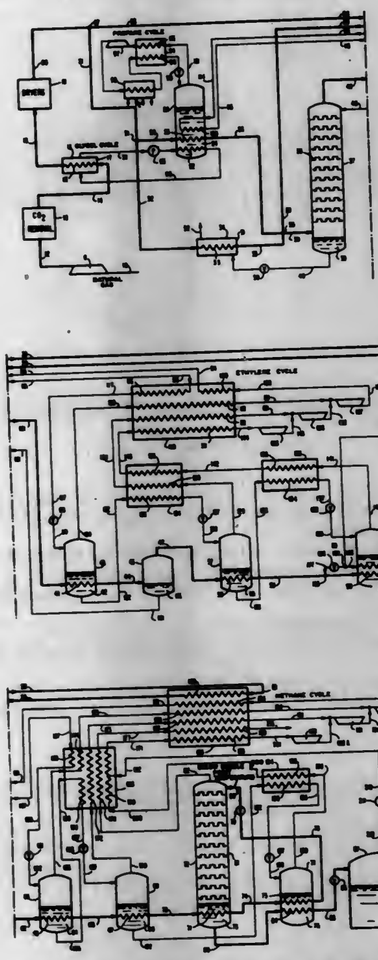
3,440,827
AIR DRYING BY DIRECT CONTACT WITH SEPARATED LIQUID OXYGEN FRACTION
Felix Jeremy Philip Crampton and Terence Sidwell Wilkinson, Newcastle-upon-Tyne, England, assignors, by mesne assignments, to Couch International Methane Limited, Nassau, Bahamas, a Bahamian company
Filed July 7, 1965, Ser. No. 470,139
Claims priority, application Great Britain, July 7, 1964, 28,009/64
Int. Cl. F25j *3/06, 3/04*
U.S. Cl. 62—13 1 Claim



Moist feed air is directly contacted with enriched liquid oxygen to solidify the moisture present therein. Ice is separated from the dry air in a separator after which the dry air is partially liquefied and fractionated successively in high and low pressure columns. A portion of enriched liquid oxygen from the low pressure column passes into direct contact with the moist air while another portion of enriched oxygen and nitrogen fractions from the low pressure column pass in heat exchange with the dried air.

3,440,828
LIQUEFACTION OF NATURAL GAS EMPLOYING CASCADE REFRIGERATION
John A. Pryor, Emmaus, and Carl A. Bolez, Allentown, Pa., assignors to Air Products and Chemicals, Inc., Allentown, Pa., a corporation of Delaware
Filed Feb. 11, 1966, Ser. No. 526,893
Int. Cl. F25j *3/02, 1/02*
U.S. Cl. 62—27 13 Claims

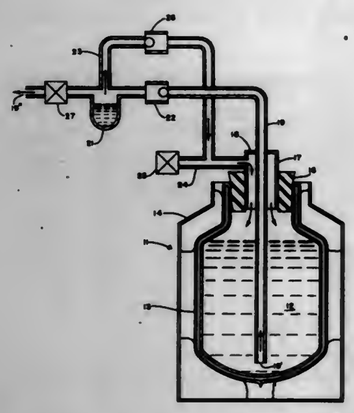
Natural gas is liquified and subcooled by passing in heat exchange with a plurality of separate refrigerants which are at progressively decreasing temperature levels and in cascade relationship. At least one of the refrigerants is provided at a single pressure level while a plurality of refrigerants are provided at at least three progressively decreasing pressure levels. The liquified natural gas is cooled below its bubble at a low pressure and reduced in pressure to said low pressure while the liquified natural gas is maintained below its bubble point. Liquified natural gas at the low pressure is stripped of nitrogen. Natural gas at high pressure is stripped of hexane in an initial step of the process.



3,440,829
LIQUIFIED GAS DELIVERY SYSTEM
William A. Davies-White, San Pablo, Calif., assignor to Laboratory for Electronics, Inc., Boston, Mass., a corporation of Delaware
Filed Dec. 11, 1963, Ser. No. 329,779
The portion of the term of the patent subsequent to Mar. 14, 1983, has been disclaimed
Int. Cl. F17c *7/02, 7/00*
U.S. Cl. 62—51 1 Claim

What is disclosed is a liquified gas delivery system for use with a Dewar flask. The system includes an auxiliary reservoir coupled to the supply line such that each time liquid is delivered to a utilization device a portion of it is trapped by the reservoir. During standby, the liquid in the reservoir evaporates and creates gas under pressure.

The gas is conducted to an inlet point above the level of the liquid in the flask. This pressurizes the liquid and



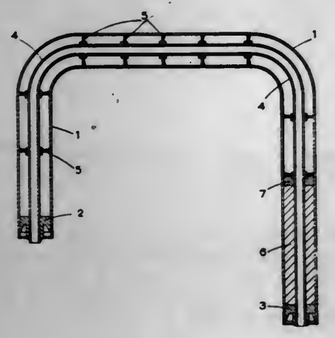
readies the system for delivery of an additional supply on demand.

3,440,830

CRYOGENIC LIQUID TRANSFER TUBE, METHODS OF CONSTRUCTING TUBE AND OF TRANSFERRING LIQUID

Norman K. Wright, Horsham, and Maurice E. Kite, Smallfield, England, assignors, by mesne assignments, to U.S. Philips Corporation, New York, N.Y., a corporation of Delaware

Filed June 26, 1967, Ser. No. 648,875
Claims priority, application Great Britain, June 24, 1966, 28,296/66
Int. Cl. F17c 7/02
U.S. Cl. 62—55 10 Claims



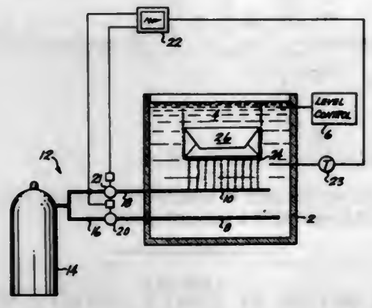
A cryogenic-liquid transfer tube is formed of concentric inner and outer tubes which define between them an annular space, the tubes being joined at their adjacent ends to thereby seal the ends of the annular space and within the space is disposed a quantity of gas-adsorbent material and a quantity of condensable gas such as argon. During operation of the transfer tube the argon is cooled and liquefied, thereby producing a vacuum in the annular space which then functions as a heat insulator. During inoperation such as when a blockage of solid gas or water occurs in the inner tube, the outer tube is heatable to vaporize the argon which then fills the annular space such that heat can be transferred through the space to melt said blockage.

3,440,831

QUICK FREEZE PROCESS

Stanley S. Thompson, Seattle, Wash. (Hoanah, Alaska 99829)

Filed Feb. 6, 1967, Ser. No. 629,838
Int. Cl. F25d 31/00, 13/06
U.S. Cl. 62—63 9 Claims



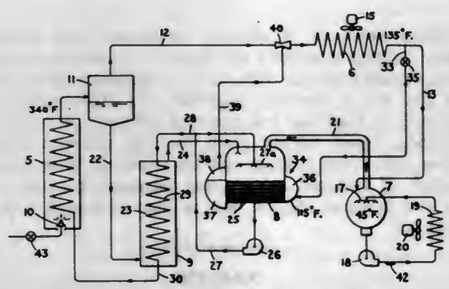
A process is disclosed whereby metal parts, food items, and other such liquid-immersible bodies are quick frozen to a given temperature by contacting liquid nitrogen at an expansion pressure, with a secondary refrigerant such as alcohol which is liquid at the aforesaid temperature, so as to lower the temperature of the secondary refrigerant to at least such temperature; and immersing the body or bodies in the liquid refrigerant while it is at the reduced temperature to quick freeze the bodies to the same. Certain additional features in the process relate to the preferred method of contacting the liquid nitrogen with the secondary refrigerant, the preferred sequence of steps, techniques for precooling and postcooling the bodies, and a multi-stage technique for carrying out the process at different operating temperatures.

3,440,832

ABSORPTION REFRIGERATION SYSTEM WITH BOOSTER COOLING

David Aronson, Upper Montclair, N.J., assignor to Worthington Corporation, Harrison, N.J., a corporation of Delaware

Filed Nov. 29, 1967, Ser. No. 686,584
Int. Cl. F25b 15/00
U.S. Cl. 62—101 15 Claims



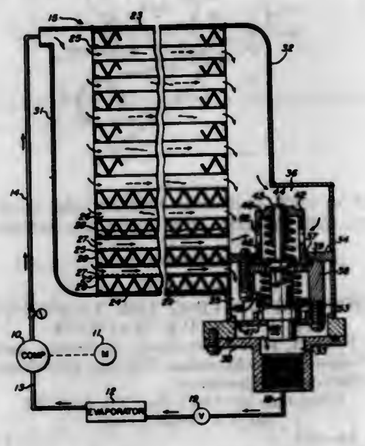
This disclosure relates to an absorption refrigeration system having an auxiliary refrigeration system to cool the absorber and operated by energy in vapor leaving the generator. In one form, an ejector in the line between the generator and condenser is connected to the evaporator of the auxiliary system and in another form a turbine-compressor unit is operated by vapor from the generator or by steam generated by heat exchange with the vapor.

3,440,833

VAPOR CYCLE REFRIGERATION SYSTEM

Joseph Fernandes, Dayton, Ohio, assignor to United Aircraft Products, Inc., Dayton, Ohio, a corporation of Ohio

Filed Nov. 9, 1967, Ser. No. 681,864
Int. Cl. F25b 41/00, 39/04; G05d 23/28
U.S. Cl. 62—196 9 Claims



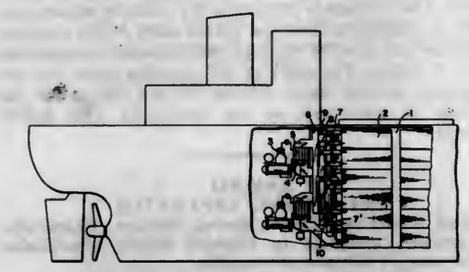
A vapor cycle refrigeration system wherein the condenser has the form of a heat exchanger with multiple stacked passes, control means responsive to a changing condition of the flowing refrigerant being provided in the outlet manifold of the condenser to shut off flow through one set of such flow passes while flow continues through another set, the condenser automatically modulating the cooling capacity of the condenser under conditions wherein the heat rejection capacity of the condenser is far in excess of that required.

3,440,834

APPARATUS FOR TRANSPORTING REFRIGERATING CONTAINERS AND COOLED CONTAINERS USED THEREFOR

Toshio Hirai, Narashino, and Takehiro Moori and Hiroshi Masago, Yokohama, Japan, assignors to Osaka Shosen Mitsui Senpaku Kabushiki Kaisha (Mitsui O.S.K. Lines Ltd.), Tokyo, Japan

Filed June 30, 1967, Ser. No. 650,311
Claims priority, application Japan, Jan. 11, 1967, 42/1,725
Int. Cl. B63j 2/12; B60p 3/20; F25d 17/08
U.S. Cl. 62—409 9 Claims



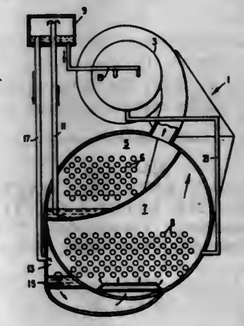
Apparatus for storing and transporting cargos requiring refrigeration, comprising a refrigerating system capable of supplying cold gas, at least one cold gas supply duct connected to said refrigerating system and having at least one valved gas outlet therealong, at least one cold gas return duct connected to said refrigerating system and having at least one valved gas inlet therealong, a flexible hose on said gas outlet and a flexible hose on said gas inlet, and at least one cargo storage container having an inlet opening and an outlet opening therein to which the respective flexible hoses are detachably connected, whereby cold gas can be circulated through said container, and said container can be detached from the supply and return ducts and moved to another location and attached to a similar supply and return duct system.

3,440,835

APPARATUS FOR CONTROLLING REFRIGERANT FLOW

William L. McGrath, Syracuse, N.Y., assignor to Carrier Corporation, Syracuse, N.Y., a corporation of Delaware

Filed Oct. 28, 1966, Ser. No. 590,342
Int. Cl. F25b 31/02
U.S. Cl. 62—505 2 Claims



An apparatus to lift liquid refrigerant to a location above the motor-compressor in a refrigeration machine to assure a supply of refrigerant to the motor for cooling thereof in a system wherein the motor-compressor is disposed above the refrigerant condenser.

3,440,836

FLEXIBLE CABLE AND CASING ADAPTOR TIP ASSEMBLY

Gilbert L. Petersen, Flint, Mich., assignor to General Motors Corporation, Detroit, Mich., a corporation of Delaware

Filed Nov. 1, 1967, Ser. No. 679,883
Int. Cl. F16c 1/06
U.S. Cl. 64—4 7 Claims



An assembly for connecting one end of a flexible driving cable and its protective casing to a driving or driven shaft journaled in a fixed mounting, provision being made for variations in the relative lengths of the cable and casing.

3,440,837

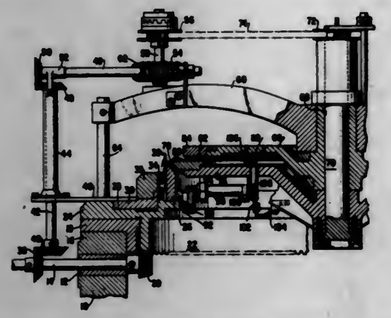
KNITTING MACHINE DRIVE APPARATUS

Lester Mishcon, Miami Beach, and Donald W. Reagan, Hialeah, Fla., assignors to The Singer Company, New York, N.Y., a corporation of New Jersey

Filed July 3, 1967, Ser. No. 650,993
Int. Cl. D04b 9/06
U.S. Cl. 66—28 7 Claims

Apparatus for driving the dial of a cylinder and dial circular knitting machine is disclosed as employing an idler

wheel on the machine cylinder and a driven wheel on the machine dial, and between which wheels knitted fabric web is adapted to pass. Such a technique assures good



cylinder and dial registration; and to assure against fabric marking by the wheels, loading thereon is disclosed as being relieved by auxiliary dial drive apparatus that contributes virtually all the torque necessary to drive the dial.

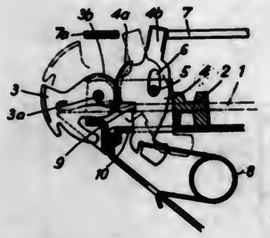
3,440,838
MULTIRACEWAY KNITTING MACHINE WITH VERSATILE SETOUT FEATURE
Leonard A. Beckenstein, Farmingdale, N.Y., assignor to The Singer Company, New York, N.Y., a corporation of New Jersey
Filed Aug. 11, 1966, Ser. No. 571,774
Int. Cl. D04b *9/00, 15/76*
U.S. Cl. 66—50 4 Claims



A knitting machine of the independent needle type is disclosed including needles each constructed within hook portions and butt portions which may be selectively coupled in plural operative positions of setout so as to place the butts selectively into tracking relation with different needle actuating cam raceways of the knitting machine. Pattern cam means are disclosed whereby the setout of the needles may be affected into a preselected pattern during movement of the needles relatively to the needle actuating cam raceways.

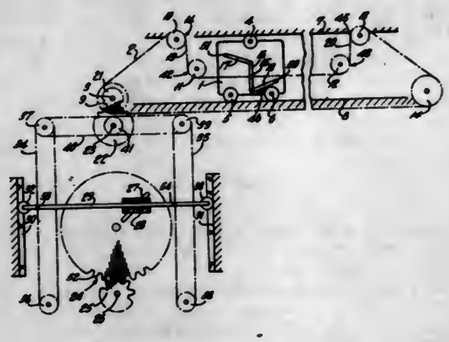
3,440,839
DOUBLE-BED KNITTING MACHINE
Karl Tschümperlin, Dietikon, Switzerland, assignor to Palz A.G., Zurich, Switzerland
Filed Dec. 6, 1967, Ser. No. 688,510
Claims priority, application Switzerland, Dec. 15, 1966, 17,905/66
Int. Cl. D04b *15/06, 15/24, 27/04*
U.S. Cl. 66—64 1 Claim

A pivotal sinker having an operatively connecting actuating member with a retaining groove or catch. Whenever the actuating member is operated by a control slide to effectuate movement of the sinker the said member is



depressed in such a manner whereby the catch comes in contact with the edge of a slot in the bed plate.

3,440,840
DEVICE FOR DRIVING THE YARN LAYER OF A TEXTILE MACHINE
Bertram Frenzel, Karl-Marx-Stadt, Germany, assignor to VEB Nahwerkmaschinenbau Malimo Karl-Marx-Stadt, Karl-Marx-Stadt, Germany
Filed Jan. 16, 1967, Ser. No. 609,487
Int. Cl. D04b *23/00*
U.S. Cl. 66—84 5 Claims



In a textile producing machine a yarn layer carriage reciprocates over guide rails back and forth across the entire width of the machine. An endless chain is coupled to the carriage and passes over four pairs of spacing rollers disposed pairwise in a vertical path and passing the endless chain over a horizontal path between the pairs of rollers. The carriage is coupled to the chain by a lever arm which is adapted to rock and permit entry of the coupling point thereof into the vertical path between a respective pairs of rollers. The entry of the coupling point into the respective vertical paths defines the rest period for the carriage at both ends of the horizontal path before reversal.

3,440,841
DECATIZING APPARATUS
Herbert Riedel and Dieter Riedel, Minden, Westphalia, Germany, assignors to Drabert Sohne, Westphalia, Germany, a German partnership
Filed Oct. 1, 1965, Ser. No. 491,936
Claims priority, application Germany, Jan. 15, 1965, D 46,258
Int. Cl. D06f *71/34, 87/00;* D06m *13/00*
U.S. Cl. 68—7 5 Claims

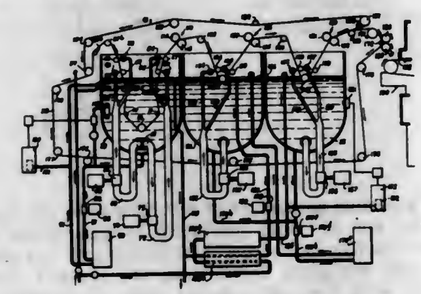
Decatizing apparatus includes a plurality of perforated cylinders each for carrying a roll of cloth to be decatized. The cylinders are mounted in a movable support and can

be loaded as an assembly into a container which is fitted with connections arranged to engage ends of respective



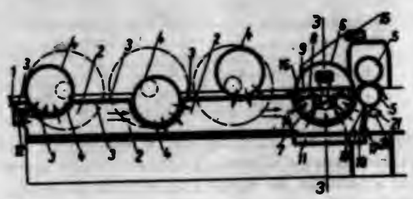
perforated cylinders and thereby to receive exhaust steam from the cylinders.

3,440,842
WASHING APPARATUS
James W. Pace, 644 E. Arawe Circle, Irving, Tex. 75060
Filed June 28, 1967, Ser. No. 649,642
Int. Cl. D06f *31/00, 37/04*
U.S. Cl. 68—9 8 Claims



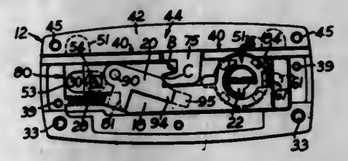
A washing apparatus having a pair of foraminous belts which move material to be washed past nozzle assemblies which direct jet streams of wash and rinse liquids at the material being transported therepast. A support roller for holding the belts and the material being transported thereby against movement away from a nozzle assembly which permits flow of the liquids through the belts and material thereto while preventing wrinkling of the material and undue splashing of the liquid.

3,440,843
APPARATUS FOR TREATING LOOSE FIBROUS MATERIAL
Gerold Fleissner, Egelsbach, near Frankfurt am Main, Germany, assignor to Anstalt für Patentdienst, Vaduz, Liechtenstein
Filed Sept. 21, 1965, Ser. No. 488,917
Claims priority, application Germany, Sept. 26, 1964, A 47,178
Int. Cl. D06f *29/00, 35/00, 17/02*
U.S. Cl. 68—22 12 Claims



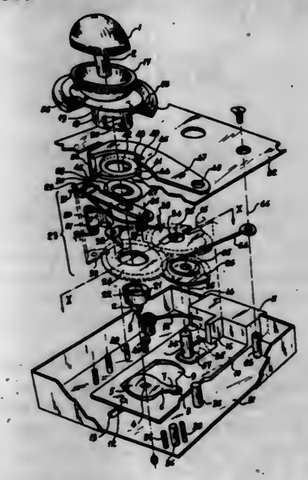
The present disclosure relates to a process and apparatus for treating loose, fibrous material wherein said material is freely floated for a certain distance in a treatment bath, and brought into fleece form by conveying the same along a conveyance path subjected to a suction draft, said fleece being squeezed to remove the liquid, once it is outside the treatment bath. The apparatus of the present invention comprises at least one sieve drum subjected to a suction draft and immersed in a treatment liquid, said sieve drum serving as a conveying means for the material being treated. A large floating area can be provided in front of the sieve drum and a squeezing means can be arranged immediately behind the sieve drum.

3,440,844
LOCKS
Eric F. Constable, Solihull, England, assignor to C. W. Cheney & Son Limited, Birmingham, England, a British company
Filed Jan. 10, 1967, Ser. No. 608,301
Claims priority, application Great Britain, Jan. 27, 1966, 3,646/66
Int. Cl. E05b *65/52;* A45c *13/10;* E05c *19/08*
U.S. Cl. 70—70 5 Claims



A luggage lock with a manually displaceable and spring-returned slide. The slide has a jaw to engage a separate hasp and carries a spring-loaded pawl extending across the jaw before the hasp is engaged. The jaw is displaced when the hasp is moved into engagement but can return to the extended position to block the spring return of the slide after the slide has been manually withdrawn but the hasp has not been removed from the jaw.

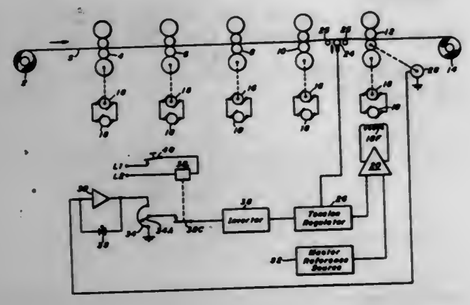
3,440,845
LATCHING DEVICE
Antonio Soler Marti, Juan Soler Marti, Jose Soler Marti, and Mario Soler Marti, all of Aldana 3, Barcelona, Spain
Filed Aug. 23, 1966, Ser. No. 574,350
Claims priority, application Spain, May 11, 1966, 326,593
Int. Cl. E05b *37/02, 15/14, 1/00*
U.S. Cl. 70—310 5 Claims



A safety latch for closures such as doors is operated by a simple divided spherical knob, the portions of which

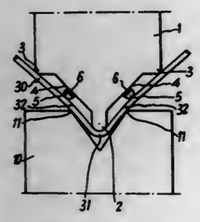
are independently operable. It employs no keys and its combination may be altered whenever the latch is in unlatched position. Further, access to the interior of the door may be had by the simple removal of the knob.

3,440,846
APPARATUS FOR MAINTAINING THE GAUGE OF STEEL STRIP
Jay R. Scott, Crown Point, Ind., assignor to United States Steel Corporation, a corporation of Delaware
Filed June 6, 1967, Ser. No. 643,867
Int. Cl. B21b *37/00, 37/04, 39/08*
U.S. Cl. 72—11 9 Claims



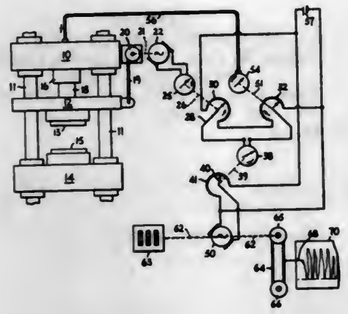
A cold rolling mill including means for automatically varying the tension on the strip between the last two stands inversely proportional to variations in strip speed. Means are also provided to prevent further tension decrease above a predetermined speed. Additional means are provided to vary the amount of change according to the gauge and width of the strip being rolled.

3,440,847
BENDING MACHINE
Roger Francois Giordano, Deuil-la-Barre, France, assignor to Promecam Sisson-Lehmann, Societe Anonyme, Saint-Denis, France
Filed Oct. 13, 1965, Ser. No. 495,620
Claims priority, application France, Oct. 14, 1964, 991,350
Int. Cl. B21b *37/00*; B21j *7/02*; B30b *15/00*
U.S. Cl. 72—12 18 Claims



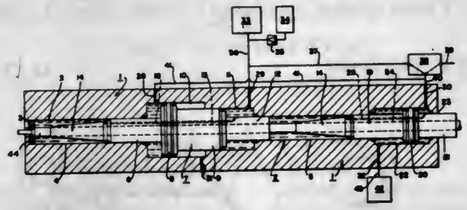
A sheet metal bending machine wherein the recess of the air-forming die is flanked by a pair of deforming edges and wherein the punch has a centrally located ridge disposed between two stops which are separated therefrom by depressions serving to accomodate portions of the panels of a sheet which is placed between the die and the punch and is deformed around the ridge when the latter is caused to penetrate into the recess. Each panel of the thus deformed sheet is then engaged by one of the deforming edges and by one of the stops whereby the edges effect elastic deformation of the respective panels to compensate for differences in thickness or mechanical characteristics of successively treated sheets.

3,440,848
MONITORING SYSTEM FOR FORGING PRESSES
Alexander Zeitlin, 18 Macy Ave., White Plains, N.Y. 10604, and Nathan M. Kramarow, 147—10 41st Ave., Flushing, N.Y. 11355
Filed June 1, 1966, Ser. No. 554,559
Int. Cl. B21c *51/00*
U.S. Cl. 72—31 17 Claims



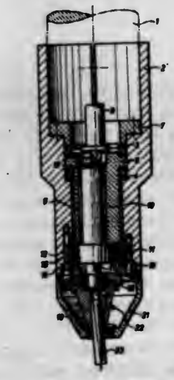
The operating parameters of a forging press are monitored by one or more measuring systems which respectively derive indications representative of (a) press speed, (b) workpiece deformation, (c) pressure force, and (d) work done per pressing cycle. A plurality of different measuring systems may be used to provide independently derived indications of the same parameter (e.g. pressing force) to thereby permit authentication of the indicated value of that parameter.

3,440,849
HYDROSTATIC EXTRUSION APPARATUS
Harold Kenyon Hardy, Southport, and Cecil Henry Jones, St. Anne's-on-the-Sea, England, assignors to United Kingdom Atomic Energy Authority, London, England
Filed Jan. 23, 1967, Ser. No. 611,146
Claims priority, application Great Britain, May 13, 1966, 21,389/66
Int. Cl. B21d *22/10*; B21c *33/00*
U.S. Cl. 72—60 2 Claims



Apparatus for carrying out a continuous hydrostatic extrusion process wherein hydraulic liquid is pressurised about a billet in the bore of an extrusion container to extrude the billet from the container through a die. A billet of longer length than the extrusion container is entered into the bore of extrusion container through two tubular plug members slidably sealed one behind the other in the bore of the extrusion container. Means are provided for clamping the plug members in engagement with a billet when inserted through the plug members into the bore of the extrusion container. Means are also provided for slidably sealing between the plug members and the billet. The billet is continuously extruded through the die by pressurisation of hydraulic liquid in the bore of the extrusion container forward of the front plug member. The plug members are reciprocable in the bore of the extrusion container and are arranged to be in clamping engagement with the billet when moving forward in the bore and to be disengaged from clamping with the billet when moving backwards in the bore. As one plug member is moving forward in the bore in clamped and sealed engagement with the billet the other is moving backwards in the bore disengaged from clamping with the billet.

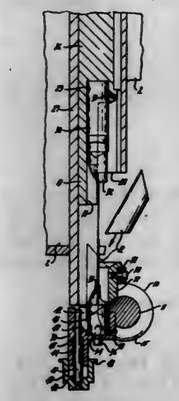
3,440,850
APPARATUS FOR FORMING LOCKING HEADS ON RIVETS
Karl Friedrich, Geradstetten, Wurttemberg, Germany, assignor to Bracker AG Metallwaren and Maschinenfabrik, Zurich, Switzerland
Filed Mar. 30, 1967, Ser. No. 627,152
Claims priority, application Germany, July 27, 1966, M 70,368
U.S. Cl. 72—67 7 Claims



An apparatus for forming locking heads on rivets comprises a hollow body for detachable securement to the head of a riveting machine, a constantly-driven member journalled in this body for coaxial rotation, and a shaft journalled in this rotary member for rotation about a parallel eccentric axis. A pinion at the outer end of this shaft meshes with an internally-toothed gear located in the body, an annular end-cap which contains a holder for a rivet-set spring-pressed against a retaining ring for the internally-toothed gear. The tool-holder and ring have complementary part-spherical faces to permit universal oscillatory movement of said tool-holder during its rotation by a ball-ended eccentric peg on the driving pinion, the diameter of the latter being so related to that of the internally-toothed gear that the hypocycloids described by a point on said pinion intersect the axis of said rotary member.

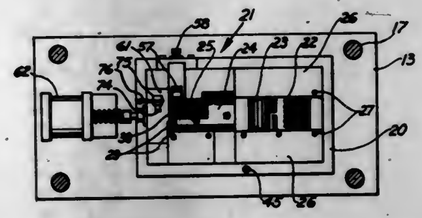
3,440,851
COLD BENDING OF TUBES
Homer J. Steel, 925 Madera Circle, Elm Grove, Wis. 53122
Filed Apr. 28, 1967, Ser. No. 634,519
Int. Cl. B21d *9/05*; B21b *17/06*
U.S. Cl. 72—150 13 Claims

An apparatus for cold bending of tubes wherein the tubular blank is supported by mandrels disposed in the leading and trailing tube end portions. A grooved forming roller is mounted on a carriage which is movable on bed ways to adjust for different bend radii. The roller is rotatably supported by opposed pedestals, one of which is slideable on the carriage for removal and replacement of the roller. The trailing mandrel is slideably connected to a ram and is guided within a cylindrical way. A stripper device includes a dog for engaging the workpiece and stripping it from the leading mandrel after forming. The dog is spring biased to inoperative position, and engages the workpiece when the rim of a hat-shaped member engages striker plates on the machine. A positive roller drive is provided and is co-ordinated with the ram drive



so that the circumferential speed of the outer radius fibers of the tube is the same as the lineal ram speed during forming.

3,440,852
BENDING APPARATUS
Roger K. Heath, 1207 Highland St., Holliston, Mass. 01746
Filed Nov. 28, 1966, Ser. No. 597,338
Int. Cl. B21d *5/14, 22/10*
U.S. Cl. 72—207 18 Claims

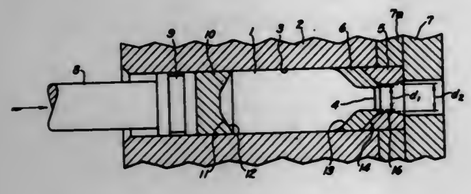


A cylinder forming tool having a reciprocating resilient surface which tangentially contacts a rotatable rigid cylinder to form thereon cylindircal pieces from sheet material inserts. The tool automatically produces periods of reduced contact pressure between the forming parts so as to permit removal of the formed pieces.

3,440,853
METAL EXTRUSION METHOD
Roy W. Tombaugh, Lyndhurst, Ohio, assignor to General Electric Company, a corporation of New York
Filed Feb. 2, 1967, Ser. No. 613,557
Int. Cl. B21c *23/00, 23/22, 25/08*
U.S. Cl. 72—253 7 Claims

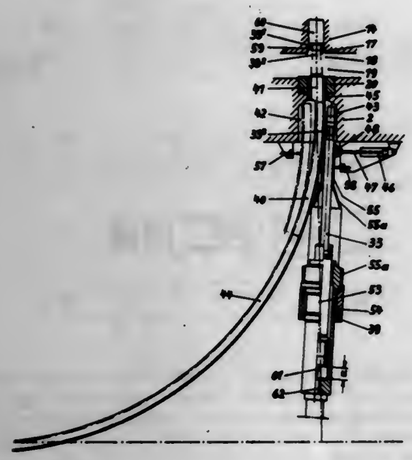
A method for the extrusion of metals, particularly metals having great resistance to deformation at elevated

temperatures, wherein the extrusion billet is provided with a projected central portion which fits within the extrusion die leaving some clearance and in which a metal ring is provided around the projected central portion such that it extrudes out over said projected central portion in the form of a tube at relatively high pressure. This facilitates extrusion of the billet at lower pressures than otherwise



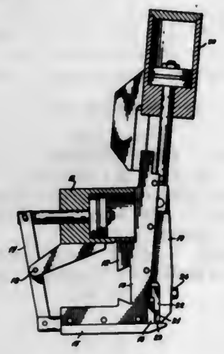
and minimizes bursts in the leading end of said extrusion. Also, the invention allows the use of undersized billets having greater than normal and less critical clearance within the container chamber of the extrusion press.

3,440,854
PRODUCTION OF HOLLOW SECTIONS ON AN EXTRUSION PRESS
Horst Hans Groos, Metzkausen, Karl Linders, Buttgen, near Neuss, Karl Seidel, Moers, Germany, assignors to Schloemann Aktiengesellschaft, Dusseldorf, Germany, a German company
Filed Apr. 12, 1966, Ser. No. 542,006
Claims priority, application Germany, Apr. 13, 1965, Sch 36,869
Int. Cl. B21c *23/20*
U.S. Cl. 72—265 **19 Claims**



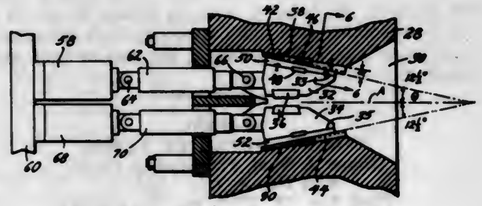
A method of extrusion, and an extrusion press, in which the exit end of the container is temporarily closed by a plug applied to the exit side of the die, the billet is then pierced in the container, with the container and the die in their normal extrusion positions but with the die aperture thus closed. The plug is then removed laterally from the path of the extruded product, and extrusion is thereupon started.

3,440,855
MACHINE TO UNFOLD THE WINDING COILS OF ELECTRICAL MACHINES
Andre Hannard, Mont-sur-Marchienne, Belgium, assignor to Ateliers de Constructions Electriques de Charleroi (ACEC) Societe Anonyme, Charleroi, Belgium
Filed Sept. 6, 1966, Ser. No. 577,507
Claims priority, application Belgium, Sept. 9, 1965, 669,276
Int. Cl. B21d *11/02;* **B21j** *9/18, 13/08*
U.S. Cl. 72—296 **3 Claims**



This disclosure relates to a receptacle for holding the straight portion of a coil jig to be spread in a machine for forming winding coils for use in electrical machines. The receptacle is a gripper comprising a support to which is secured to an element having a flat surface serving as an abutment for one of the wide faces of the jig portion to be gripped, a first member movable perpendicularly to said flat surface and having a flat end contiguous to and retractable in relation to the said flat surface and adapted to receive one of the narrow faces of the coil jig to be gripped, and a second member movable along a plane inclined in relation to the flat surface of the element secured to the support, the end of this second member having the shape of the dihedron and serving to compress the remaining two sides of the portion to be gripped.

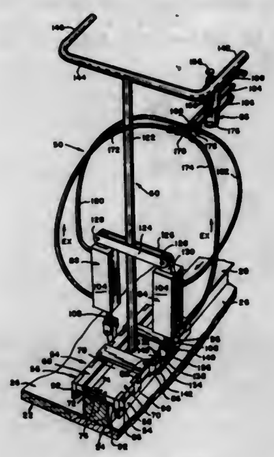
3,440,856
GRIPPING DEVICE WITH VARIABLE WEDGE ANGLE
Leo Hoffmann, Ridley Park, and Bernard Klaverkamp, Wallingford, Pa., assignors to Baldwin-Lima-Hamilton Corporation, Philadelphia, Pa., a corporation of Delaware
Filed Apr. 25, 1967, Ser. No. 633,541
Int. Cl. B21d *11/02;* **B21j** *13/08*
U.S. Cl. 72—302 **9 Claims**



A gripping device for use in a stretch-straightener wherein wedge-shaped wear plates are disposed between opposed surface portions of a gripper head and work piece gripper jaws. The orientation of the wear plates

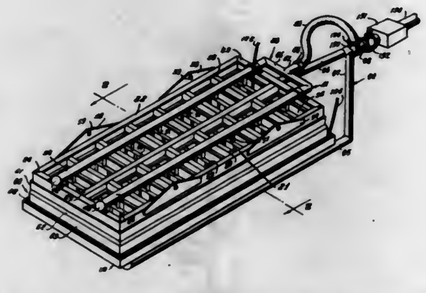
with respect to each other and with respect to the opposed surface portions may be reversed, thereby providing for adjustment of the wedge angle of the jaws.

3,440,857
METAL FORMING TOOL
Joseph J. Mathy, Box 47, Fairfax, Va. 22030
Filed Nov. 9, 1965, Ser. No. 507,016
Int. Cl. B21d *11/04, 11/00*
U.S. Cl. 72—306 **16 Claims**



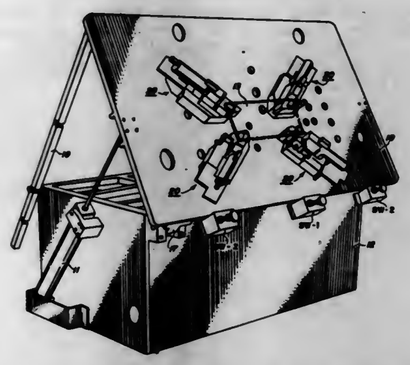
Tools for forming seams between metal sheets which include a platform, seam forming arms hinged to the platform, fluid-operated motors for pivoting the seam forming arms relative to the platform, and a handle for moving the tool along the seam.

3,440,858
FORMING APPARATUS
Joe Bailey Motley and Raymond H. Shape, Garland, Tex., assignors to Intercontinental Manufacturing Company, Inc., Garland, Tex., a corporation of Texas
Filed Sept. 28, 1964, Ser. No. 399,812
Int. Cl. B21d *37/16*
U.S. Cl. 72—342 **8 Claims**



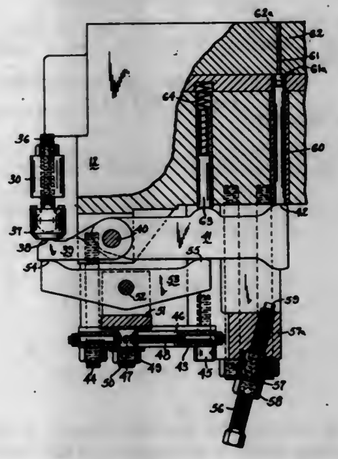
A forming apparatus which has a pair of forming members between which work pieces are positionable, the forming members having means for forming a closed chamber about the work piece and the forming members. The apparatus also has means for replacing the air in the chamber with an inert gas and for raising the temperature of the work piece and of the forming members.

3,440,859
CORNER FORMING APPARATUS
Thomas F. Holtzhauer, Fairport, N.Y., assignor to Xerox Corporation, Rochester, N.Y., a corporation of New York
Filed Oct. 18, 1966, Ser. No. 587,510
Int. Cl. B21d *31/00, 41/00;* **B21j** *7/16*
U.S. Cl. 72—399 **10 Claims**



Apparatus for closing the corners formed by the abutment of side flanges on a cover panel by contacting the corner areas with a movable die member so as to deliver work energy into said corners. The amount of work delivered for each contact is insufficient to warp or damage the panel while the total energy delivered is sufficient to close the corners.

3,440,860
CYCLIC POSITIONING MECHANISM
Erwin B. Byam, Wolcott, and John C. McMurray, Hamden, Conn., assignors to Textron Inc., Providence, R.I., a corporation of Rhode Island
Filed July 18, 1966, Ser. No. 565,969
Int. Cl. B21d *45/00*
U.S. Cl. 72—427 **17 Claims**



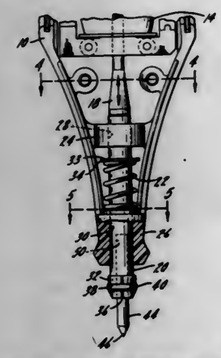
A mechanism for knocking a workpiece from a die by means of a pin adapted to be inserted in the die carried on a frame member where a first lever is pivotally mounted with respect to the frame and arranged to advance the pin into the die. A second lever is pivotal with respect to the frame and is operated upon by a drive means for pivot-

ing the second lever and a third lever is pivoted to the frame and is in contact at opposite ends thereof with the first and second levers so that upon pivotal motion of the second lever the third lever moves said first lever to advance the knock-out pin.

3,440,861
HOUSING AND MARKER POINT HOLDER FOR A MARKING MACHINE

Dean Oehlerking, Sycamore, Ill., assignor to Ideal Industries, Inc., Sycamore, Ill., a corporation of Delaware

Filed Sept. 26, 1966, Ser. No. 581,969
Int. Cl. B21j 15/24, 13/00; B23b 45/00
U.S. Cl. 72—430 2 Claims

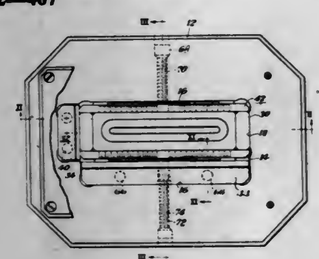


A reciprocating marker having a housing containing and supporting an electrically actuated driver which together with other means imparts a reciprocating up-down motion to a marker point including a two-part molded housing with one such part having two bearings integrally molded therein in which said marker point holder slides during its reciprocating motion and said marker point holder having a split collet end containing a groove into which a spring ring is placed for removably inserting and retaining the marker point in the split collet end.

3,440,862
DRAW DIE ASSEMBLY

William H. Phillips, Jr., North Bergen, N.J., assignor to Carmet Company, Pittsburgh, Pa., a corporation of New Jersey

Filed Feb. 2, 1967, Ser. No. 613,599
Int. Cl. B21c 3/00
U.S. Cl. 72—467 9 Claims

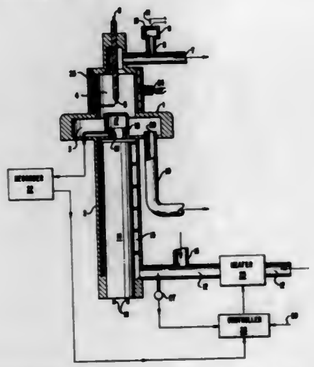


A draw die assembly apparatus having a die insert for drawing high width to thickness ratio flat sections wherein a pressure bar assembly is inserted between the long legs of the die and an adjacent wall of a recess in the support plate. Each pressure bar assembly includes a scribed pressure bar having a pair of colinear slots, each slot having a pressure pad slidably secured thereto with the pressure pad having an enlarged portion of greater thickness. The enlarged portions are positioned, utilizing the scribe marks, so that they are generally aligned with the short legs of the die and means are provided to secure the die in the recess and apply compressive forces to the short legs via the pressure pads.

3,440,863
CONTINUOUS FLASH POINT RECORDING

Leslie D. Livingston, Wirral, John K. Rowland, Newton, and George T. F. Crespin, Ellesmere Port, England, assignors to Shell Oil Company, New York, N.Y., a corporation of Delaware

Filed July 16, 1965, Ser. No. 472,576
Claims priority, application Great Britain, Aug. 7, 1964, 32,358/64
Int. Cl. G01m 3/20; G01n 21/38
U.S. Cl. 73—36 2 Claims



An apparatus for determining the flash point of a liquid, particularly a liquid having a flash point higher than about 85° C. The apparatus utilizes a flash chamber having liquid and vapor chambers therein. A heated gas liquid mixture is supplied to the flash chamber, vaporized and ignited. A separate heater is used to maintain the temperature of the vapor space at the flash point of the liquid.

3,440,864
LIQUID CHROMATOGRAPHIC COLUMN

Horst K. Blume, Huntingdon Valley, Pa., assignor to Phoenix Precision Instrument Company, Philadelphia, Pa., a corporation of Pennsylvania

Filed Oct. 3, 1966, Ser. No. 583,701
Int. Cl. G01n 11/08
U.S. Cl. 73—61.1 14 Claims

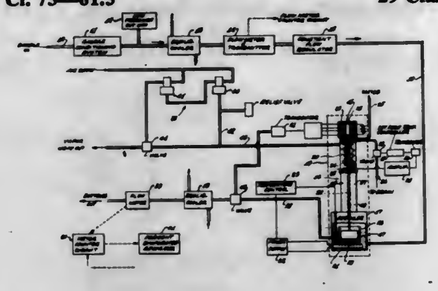


A chromatographic column having an absorbent bed and an adjustable plunger for bringing pressure on the bed and eliminating the void space between the inner end of the plunger and the bed. A porous cushioning pad may be provided on the end of the plunger to additionally take up the void space between the plunger and the bed.

3,440,865
CONTINUOUS PERCENT EVAPORATED ANALYZER

Bernard W. Gamson, Los Angeles, Calif., assignor to Technical Oil Tool Corporation, Glendale, Calif., a corporation of California

Filed Apr. 6, 1967, Ser. No. 628,991
Int. Cl. G01n 11/00
U.S. Cl. 73—61.3 29 Claims

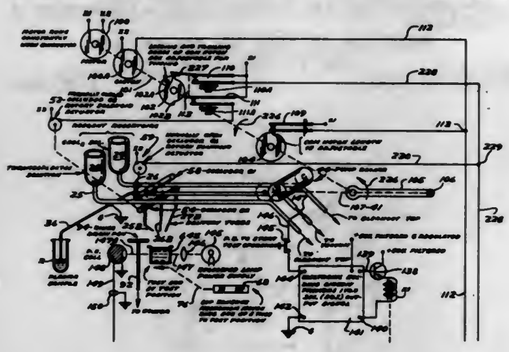


An analyzer for continuously determining percent evaporated values for multi-component fluids including a vaporization unit comprising (a) a reboiler into which a sample is flowed at constant flow rate to be fractionated at a preset temperature into a liquid phase which flows out of the reboiler in accordance with a preset liquid level controller and a vapor phase which passes into (b) a tower carrying a partial reflux condenser therein which condenses, at a preset reflux temperature, some of the vapor for return to the reboiler, the remaining vapor passing out of the tower in accordance with a preset tower pressure.

3,440,866
PROTHROMBIN TIMER APPARATUS AND METHOD

Anders B. Ness, Kasson, and Edward L. Noah, Rochester, Minn., assignors to Research Corporation, New York, N.Y., a corporation of New York

Filed Sept. 1, 1966, Ser. No. 577,574
Int. Cl. G01n 11/00
U.S. Cl. 73—64.1 29 Claims

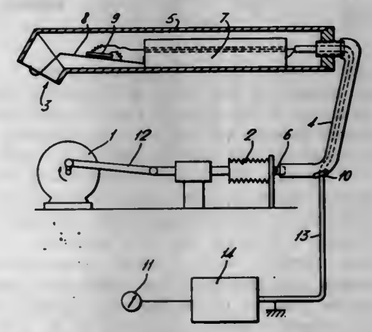


Machine and method for measuring prothrombin time. Under operator control batches of plasma and clotting reactant are delivered through separate conduits directly into test cups successively advanced by machine. Light measurements are made on reactants in each test cup to determine prothrombin time. Provision is made for arbitrarily adjusting prothrombin time measurements, as made by the invention for correlating such measurements with those made by known testing procedures. The machine automatically covers test cup after receiving test ingredients; during testing receives and delivers elsewhere rinsing solutions by which machine is cleaned preparatory to next test; provides operator controls and related signals for initiating test, rinsing and cup advance; locks out delicate circuitry during intra-testing when conditions produce large transient signals; digital readout of test result is provided.

3,440,867
APPARATUS FOR MEASURING THE FLEXIBILITY OF THIN MATERIAL

John Karel Prail and John David Fillmore, Chertsey, England, assignors to Lever Brothers Company, New York, N.Y., a corporation of Maine

Filed Mar. 3, 1966, Ser. No. 531,602
Claims priority, application Great Britain, Mar. 12, 1965, 10,513/65
Int. Cl. G01n 29/00
U.S. Cl. 73—67.1 3 Claims

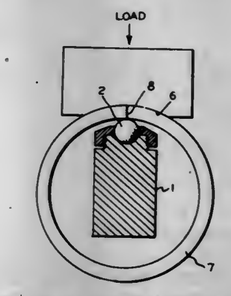


Flexibility measurements are made of skin or other thin elastic layers by (a) placing adjacent an area of the layer the open end of a tube enclosing a column of air and making at least partially at said end a peripheral air-retaining seal with said layer, (b) setting such air column into vibration to thereby impart corresponding vibration to said layer area, and (c) contacting said area by the end of an instrument disposed within the tube and adapted to measure the amplitude of vibration of such layer area.

3,440,868
METHOD FOR TESTING DUCTILE IRON CASTINGS

Alfred Boyles, Burlington, N.J., assignor to United States Pipe and Foundry Company, Birmingham, Ala., a corporation of New Jersey

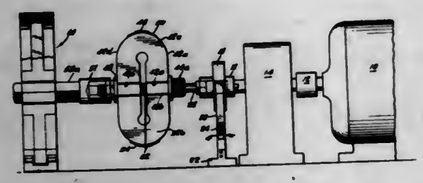
Filed Sept. 26, 1966, Ser. No. 581,880
Int. Cl. G01n 3/30
U.S. Cl. 73—88 4 Claims



The invention relates to a qualifying test for ductile iron pipe and in general terms comprises pushing a hard

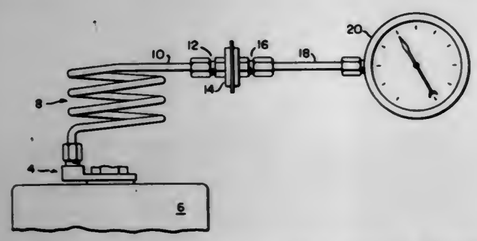
steel ball into the surface of the pipe being tested with sufficient force to cause failure if it does not have the proper metallurgical structure and physical properties to meet the specifications to which the pipe are manufactured.

3,440,869
THREADED FASTENER TESTING APPARATUS
Russell J. Hardiman, Willow Grove, Pa., assignor to Standard Pressed Steel Co., Jenkintown, Pa.
Filed Nov. 4, 1966, Ser. No. 592,225
Int. Cl. G01l *7/16*
U.S. Cl. 73—89 **5 Claims**



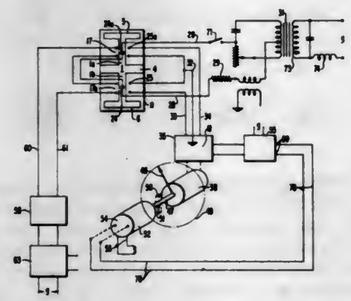
Threaded fastener testing apparatus having a tension responsive element in the shape of a flattened ring with coaxial openings in its opposed legs through which the male fastener element extends so that tightening of the fastener presses the legs together and with strain gauges attached to the ring to measure its flexure as indicative of the tension on the fastener. One of the fastener elements is driven by an electric motor through a drive train including a constant rise cam actuating a resilient cantilevered member having a strain gauge attached to it to measure the flexure of the member as indicative of the angular position of the movable fastener element. The fixed fastener element is coupled to the rotor of a torque measuring assembly having radial arms extending outwardly to a stator, with strain gauges attached to the arms to measure the flexure of the arms as indicative of the torque. X–Y coordinate indicating and/or recording means is provided with an input switch for selecting any two of the three variables, torque, tension and angular position, to be plotted as a function of one another. Automatic means for recycling the motor drive when a predetermined value of one of the variables is reached is provided for automatically operating the apparatus through a desired number of cycles.

3,440,870
POWER INDICATING DEVICE
Joseph Leto, 17 Sherburne Road, Lexington, Mass. 02173
Filed Aug. 24, 1966, Ser. No. 574,657
Int. Cl. G01l *3/26*
U.S. Cl. 73—115 **9 Claims**



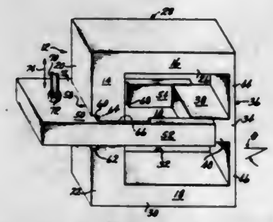
The invention is a net zero gas-flow device or system for measuring the mean pressures in the cylinders of internal combustion engines, and thus the performance of the engine, and comprises a gas-pressure take-off from one or more cylinders, the take-off leading first to a condensing unit and then to a pulsation damping unit. From the latter, a simple read-out device such as a pressure gauge is used to the mean pressure existing for the entire cycle of the particular cylinder so tapped. The read-out device may be calibrated in terms of output torque.

3,440,871
MAGNETOSTRICTION TRANSDUCER
Henri Vissnia, 10 Rue Saint-Fargeau, Paris 20eme, France
Filed July 29, 1965, Ser. No. 475,730
Claims priority, application France, Aug. 5, 1964, 984,290
Int. Cl. G01l *5/12*
U.S. Cl. 73—141 **5 Claims**



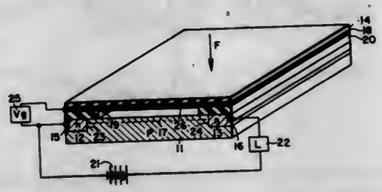
The change in A.C. permeability of a magnetic member due to an externally applied load is made to reveal itself solely as a function of diffusion of solid solution atoms by periodically relaxing crystalline mesh distortion through the application of a relaxation magnetic field.

3,440,872
STRAIN GAGE ASSEMBLY INVOLVING CLAMPED BEAM WITH PLANAR STRAIN GAGE MOUNTING SURFACE AND OPPOSITELY INFLECTED STRAIN GAGES
Cecil K. Stedman, Issaquah, Wash., assignor to Statham Instruments, Inc., Los Angeles, Calif., a corporation of California
Filed Nov. 10, 1966, Ser. No. 593,447
Int. Cl. G01l *5/18*
U.S. Cl. 73—141 **17 Claims**



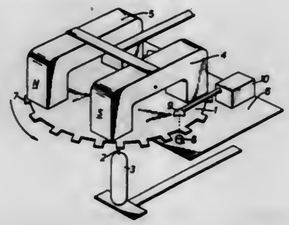
Strain gage assemblies involving fully clamped beam with central boss and separated flexural portions, a planar strain gage mounting surface being provided on one face of the beam, with electroconductive bridge elements bonded to the separated flexural portions of the beam. Loading is applied to the clamped beam through the boss to twist the boss and oppositely inflect the separated flexural portions of the beam and thus produce opposite stress patterns in the bridge elements. Bridge elements are preferably fabricated of simultaneously deposited semiconductor (e.g. Si-Cr) films. Constructional variations are presented for increasing the linear response range of the instrument, either by (a) relieving stretch induced nonlinearity of the beam, or (b) by employment of beam flexural portions of varying (e.g. tapered) thickness.

3,440,873
MINIATURE PRESSURE TRANSDUCER
William E. Eichelberger, Raleigh, N.C., assignor to Corning Glass Works, Corning, N.Y., a corporation of New York
Filed May 23, 1967, Ser. No. 640,737
Int. Cl. G01l *5/12, 5/18*
U.S. Cl. 73—141 **13 Claims**



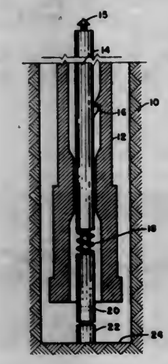
A micro-sized pressure transducer which comprises a field effect transistor (FET) having a specially designed gate plane electrode which is made of a compliant material and is supported at its periphery so that its central portion is free to move relative to the surface of the FET. With a fixed bias voltage applied to the gate plane electrode, the strength and depth of penetration of the electric field in the conducting channel of the FET is a function of the distance between the gate plane electrode and the surface of the transistor substrate. The effect of this varying field on the conducting channel varies the transistor channel current.

3,440,874
VACUUM EVAPORATION PROCESSES
Alan R. Beavitt, Ilford, England, assignor to The Plessey Company Limited, Ilford, England, a British company
Filed Sept. 20, 1966, Ser. No. 580,819
Claims priority, application Great Britain, Sept. 24, 1965, 40,796/65
Int. Cl. G01b *19/08*
U.S. Cl. 73—150 **10 Claims**



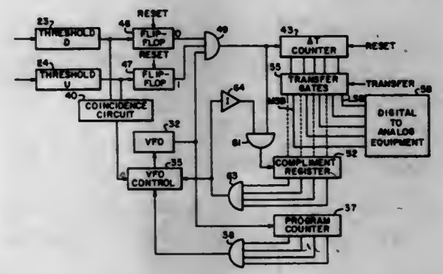
A device for monitoring the thickness of material deposited by a vacuum evaporating process or the rate of deposition thereof including a cylindrical rotor adapted for rotation about its axis and disposed in a magnetic field, the evaporated material impinging on only a part of the surface of said rotor. The rotor may also be formed from a disc rotatable about its axis and disposed in a magnetic field, the evaporated material impinging on only a portion of surface of the disc. In both embodiments, the total angle of rotation and the instantaneous speed of rotation of the rotor are measured to provide an indication of the thickness of the deposited material and the rate of deposition respectively.

3,440,875
METHOD FOR DETERMINING THE STRESS ANISOTROPY IN A HORIZONTAL PLANE
Carroll F. Knutson, Ponca City, Okla., assignor to Continental Oil Company, Ponca City, Okla., a corporation of Delaware
Filed June 20, 1967, Ser. No. 647,413
Int. Cl. E21b *47/00*
U.S. Cl. 73—151 **9 Claims**



The invention disclosed in this specification is a method for determining the stress anisotropy in a horizontal plane of a subterranean formation by emplacing a disc of photoelastic material on the bottom of a hole and thereafter cutting a core sample which includes a portion of said photoelastic disc. Stress bands in the disc after it is returned to the surface will indicate the strain undergone by the core between the time it was in its natural state and its condition of no stress at the surface.

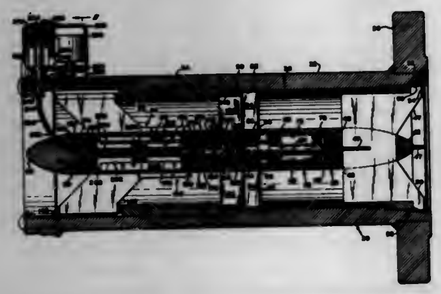
3,440,876
FLOWMETER FREQUENCY CONTROL SYSTEM
William E. Hayes, Laurel, and Charles D. Calhoun, Catonsville, Md., assignors to Westinghouse Electric Corporation, Pittsburgh, Pa., a corporation of Pennsylvania
Filed Oct. 31, 1966, Ser. No. 590,618
Int. Cl. G01f *1/00*
U.S. Cl. 73—194 **6 Claims**



A control system which compensates for changes in the speed of sound in a fluid flow measuring system which utilizes opposed upstream and downstream transducers projecting, in transmission cycles, acoustic pulses towards one another. A variable frequency oscillator provides

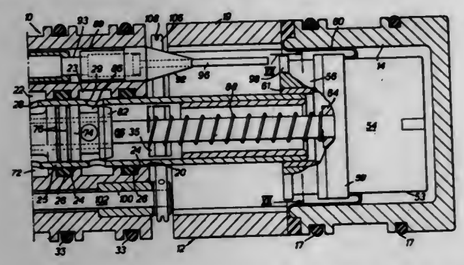
pulses to a counter for a period of time ΔT equal to the difference in transit times of the acoustic pulses traveling between upstream and downstream transducers. A first counter counts up the VFO output and provides a marker signal indicative of a received pulse in the absence of any fluid velocity. Another counter means stores a count indicative of one half the count in the ΔT counter and is provided with the VFO output such that when full it will provide a comparison signal when the ΔT counter is half full. The marker and comparison signals are utilized to control the frequency of the VFO.

3,440,877
TEMPERATURE COMPENSATING APPARATUS FOR FLUID FLOW METERS
Zoltan Kovats, Pittsburgh, Pa., assignor to Rockwell Manufacturing Company, Pittsburgh, Pa., a corporation of Pennsylvania
Filed May 18, 1966, Ser. No. 551,121
Int. Cl. G01f *1/06*
U.S. Cl. 73—230 **22 Claims**



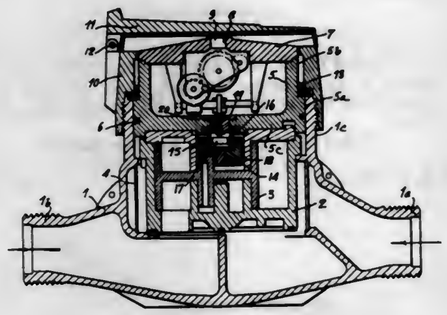
A fluid flow meter temperature compensating apparatus comprising a plurality of pivotable flow deflecting guide vanes positioned by thermostatic elements to control the meter rotor velocity by controlling the direction of fluid flowing past the meter rotor blades in accordance with the temperature of the fluid being measured. The thermostatic elements each comprise a bi-metallic strip supported at one end by a sliding joint and secured at its other end to one of the flow deflecting vanes.

3,440,878
FLUID QUANTITY SENSOR
Raymond W. Sargent, Burlington, Vt., assignor to Simmonds Precision Products, Inc., Tarrytown, N.Y., a corporation of New York
Filed Apr. 14, 1966, Ser. No. 542,604
Int. Cl. G01f *3/14*
U.S. Cl. 73—239 **3 Claims**



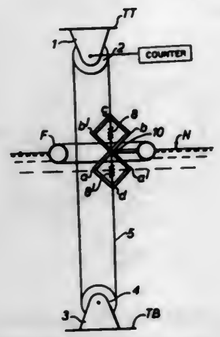
A fluid quantity sensor having a hollow cylinder with a piston mounted for reciprocal movement therein and a slide valve coaxial with the cylinder for controlling liquid inlet and liquid outlet passages and a signal producing means operative when the piston has moved to a predetermined position.

3,440,879
FREEZE PROTECTION FOR A WATER METER
Roland François Edouard Frayssinoux, Paris, France, assignor to Compagnie des Compteurs, Paris, France, a company of France
Filed May 29, 1967, Ser. No. 641,939
Claims priority, application France, May 19, 1967, 106,937
Int. Cl. G01f *1/02*
U.S. Cl. 73—277 **3 Claims**



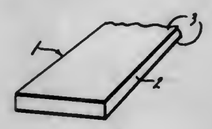
Water meter comprising a cylindrical casing containing the totalizator and its driving mechanism, this casing being placed above a measuring box and having a bottom part of greater external diameter than its top part, said bottom part being slidely mounted inside the top cylindrical part of the meter body and a toric washer housed in a groove made in the casing ensuring seal tightness between the casing and the body. Upon freezing of the meter a ring which retains the casing in place is sheared allowing the casing to slide in the meter body.

3,440,880
TRANSLATING SYSTEM FOR LIQUID LEVEL MEASUREMENTS
Nils Peter Lilloe Höyer, Baerumsveien 242, Bekkestua, Oslo, Norway
Filed Aug. 23, 1967, Ser. No. 662,627
Claims priority, application Norway, Aug. 23, 1966, 160,676
Int. Cl. G01f *23/06*
U.S. Cl. 73—321 **1 Claim**



Apparatus for the measurement of liquid levels in a tank or reservoir having a float suspended by a tape or wire between an upper wheel and a lower wheel. A spring-loaded structure of rigid members pivotally hinged is provided between the two ends of the tape or wire and the float to compensate for variations in the length of the tape or wire.

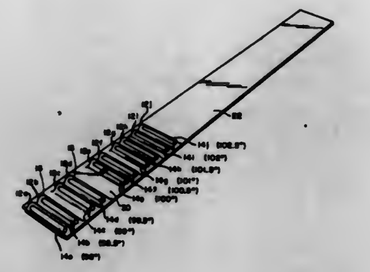
3,440,881
HUMIDITY SENSING ELEMENT
Paul E. Thoma, Milwaukee, Wis., assignor to Johnson Service Company, Milwaukee, Wis., a corporation of Wisconsin
Filed Sept. 27, 1967, Ser. No. 671,067
Int. Cl. G01n *25/56*
U.S. Cl. 73—337.5 **12 Claims**



The invention relates to a synthetic, variable dimension, humidity sensing element including a core or base formed of a crosslinked material produced by the reaction of a compound containing glucoside chains and a stabilizing monomer capable of reacting with the hydroxyl groups of the glucoside. Bonded to at least one surface of the core is a moisture sensitive organic material which can either be a noncrosslinked compound containing glucoside chains or a partially crosslinked reaction product of a compound containing glucoside chains and a monomer capable of reacting with the hydroxyl groups of the glucoside.

The crosslinked core provides resistance to creep, while the outer layer provides toughness for the element.

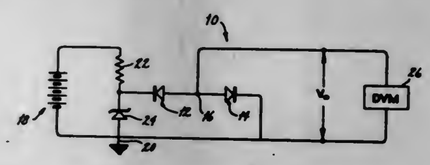
3,440,882
THERMOMETER
William J. Jones, Pittsburgh, Pa., assignor to Westinghouse Electric Corporation, Pittsburgh, Pa., a corporation of Pennsylvania
Filed Sept. 9, 1966, Ser. No. 578,347
Int. Cl. G01k *11/12*
U.S. Cl. 73—356 **7 Claims**



A clinical thermometer composed of thermoplastic material having a number of parallel-arranged extruded cells filled with temperature responsive materials such as liquid crystalline compounds. In one form the thermometer is a flat tab with the extruded sensor cells extending transversely and heat sealed at side edges of the tab. In another form the thermometer is a cylinder with the extruded sensor cells extending longitudinally and heat sealed at end edges of the cylinder.

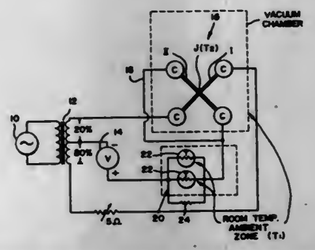
3,440,883
ELECTRONIC SEMICONDUCTOR THERMOMETER
Gene E. Lightner, Avondale, Pa., assignor to Monsanto Company, St. Louis, Mo., a corporation of Delaware
Filed Dec. 1, 1966, Ser. No. 598,283
Int. Cl. G01k *5/18*
U.S. Cl. 73—362 **10 Claims**

A semiconductor thermometer consisting of two substantially identical semiconductor diodes, one diode being reverse biased and connected to the other diode in series and oppositely poled such that the reverse saturation current of the first diode serves as the forward current for the second diode, which second diode is forward biased.



A digital voltmeter is connected across the second diode to read voltage changes which correspond to ambient temperature changes.

3,440,884
AMBIENT TEMPERATURE COMPENSATED THERMOCOUPLE VACUUM GAUGE
Philip C. Harvey, Bedford, Mass., assignor to National Research Corporation, Newton, Mass., a corporation of Massachusetts
Continuation-in-part of application Ser. No. 523,381, Jan. 27, 1966. This application June 3, 1966, Ser. No. 555,195
Int. Cl. G01l *21/12*
U.S. Cl. 73—399 **6 Claims**

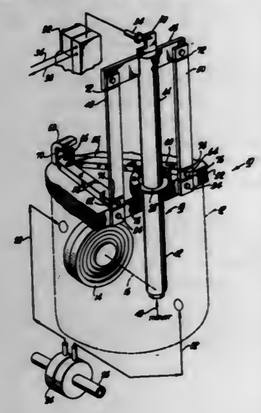


Vacuum gauge comprising a thermocouple in the vacuum zone with a negative coefficient thermistor, in series with the thermocouple and exposed to ambient temperaature and pressure to improve reliability of pressure readings. The gauge also comprises a crossed wire thermocouple and three wire electrical connection in the gauge circuit.

3,440,885
STATIC PRESSURE ALIGNMENT MEANS FOR DIFFERENTIAL PRESSURE MEASURING INSTRUMENT
Robert J. Robinson, Lexington, Mass., assignor to The Foxboro Company, Foxboro, Mass.
Filed Sept. 8, 1967, Ser. No. 666,409
Int. Cl. G01l *7/08*
U.S. Cl. 73—407 **7 Claims**

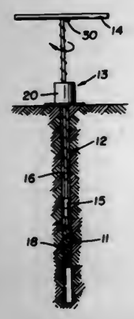
The differential pressure measuring device is of the force-balance type which has a pivotal force-bar secured to flexure struts which carry the longitudinal load due to static pressure within the casing. The alignment means includes a lever secured to the struts between the points

at which the struts are secured to the casing and the force-bar. By lifting or lowering the lever, the strut flexures are bent so as to align the effective pivot axis



of the flexures with the effective pivot axis of the force-bar. The flexure bending points are defined by transverse lines along which the cross-sectional area of the struts is reduced.

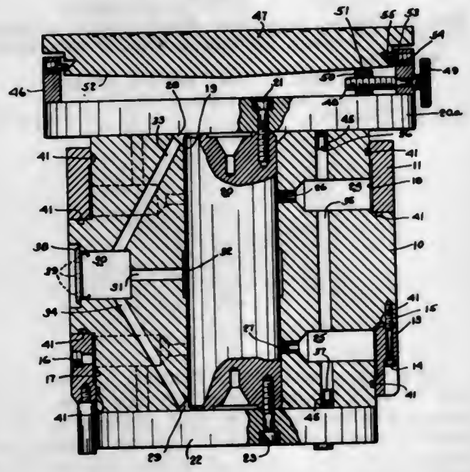
3,440,886
SOIL SAMPLING AUGER
Ralph L. Meeker, 138 Glencoe Road, Columbus, Ohio 43214
Filed Oct. 4, 1967, Ser. No. 672,772
Int. Cl. G01n *1/10*
U.S. Cl. 73—424 4 Claims



A soil sampling device in the form of an auger adapted to be screwed into the ground to a predetermined depth to collect a sample of the soil on the auger. The auger is provided with a nut and bearing plate unit which pulls the auger from the ground without losing the soil sample.

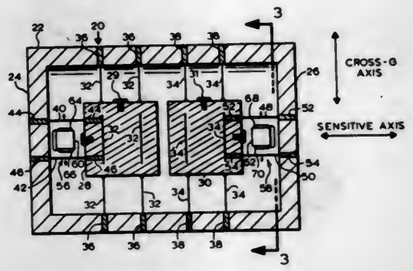
3,440,887
APPARATUS FOR MEASURING ROUNDNESS CHARACTERISTICS
Christo P. Athanas, Southbridge, Mass., assignor to Slica Corporation, a corporation of Massachusetts
Filed Aug. 5, 1965, Ser. No. 477,449
Int. Cl. G01l *19/14*
U.S. Cl. 73—432 8 Claims

An apparatus for measuring roundness characteristics comprising a housing having a shaft bore therein, a shaft in said bore, lower and upper thrust plates connected to the shaft, upper and lower manifold rings each in separate sealed relation with the sides of said housing, an air or gas inlet in one of said manifold rings, two spaced series of separate reservoirs in said housing surrounding the upper and lower parts of the shaft and in radial relation therewith and with said upper and lower thrust plates and communication with said air or gas inlet, separate passageways in said housing connecting each of the respective



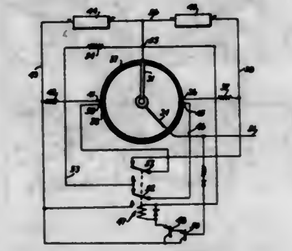
reservoirs of the two series and said shaft bore and said upper and lower thrust plates, air or gas escape passage means in said housing and communication with said bore, a table top operatively associated with said shaft and spaced means for adjusting said table top relative to said shaft.

3,440,888
BIFURCATE RESONANCE COLUMN
Hamilton Southworth, Jr., New York, N.Y., and John C. Stiles, Mountain Lakes, N.J., assignors to General Precision Systems Inc., Little Falls, N.J., a corporation of Delaware
Original application Nov. 7, 1962, Ser. No. 236,107, now Patent No. 3,269,192, dated Aug. 30, 1966. Divided and this application Oct. 13, 1965, Ser. No. 496,743
Int. Cl. G01p *15/08*
U.S. Cl. 73—517 9 Claims



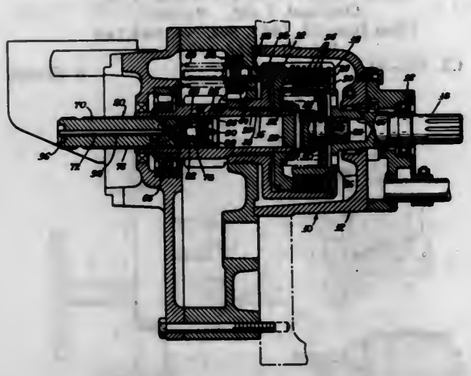
A two-member resonance type columnar element is provided which is adapted to vibrate at various resonant frequencies depending upon the axial loading impressed thereon. The columnar element includes a central portion comprising two identical parallel members and a pair of enlarged end portions common to the two members. The two members are disposed on radially opposite sides of the columnar element's longitudinal axis and are adapted for flexing in a radial direction relative to said axis with equal and opposite deflections. The enlarged end portions have substantially greater moments of inertia in cross-section than the center portion in order to exert equal and opposite end reactions when the columnar element is axially loaded.

3,440,889
PICKOFF MEANS FOR GYROSCOPIC DEVICE
Richard R. Schaberg, Alhambra, Calif., assignor to Clary Corporation, San Gabriel, Calif., a corporation of California
Filed Dec. 20, 1966, Ser. No. 603,302
Int. Cl. G01c *19/28*
U.S. Cl. 74—5.6 6 Claims



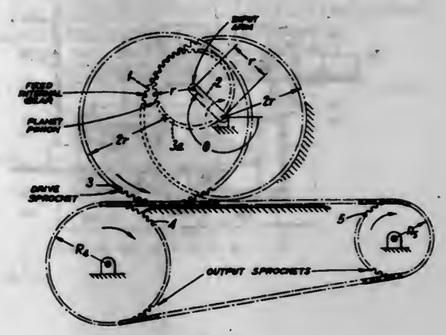
A potentiometer type pickup device for a gyroscope or the like mounted in a guided missile or other maneuverable craft which is capable of indicating movement of the craft about an axis and through more than 180 degrees in either direction from a reference heading.

3,440,890
SAFETY POWER TAKE-OFF FOR TRACTORS
James H. Bornzin, La Grange, Ill., assignor to International Harvester, Company, Chicago, Ill., a corporation of Delaware
Filed June 7, 1967, Ser. No. 644,264
Int. Cl. F16h *37/02*
U.S. Cl. 74—11 10 Claims



A safety power take-off mechanism for use with tractors or other vehicles from which other units may be driven. This mechanism includes a power take-off stub shaft which is removable from the main mechanism when not in use so that it will not present a dangerous rotating projection. The stub shaft is inserted into a driven tubular shaft and includes means for releasably holding the stub shaft in engagement with the tubular driven shaft.

3,440,891
INTERMITTENT MOTION CHAIN MECHANISM
Ferdinand Freudenstein, 3720 Independence Ave., Bronx, N.Y. 10463, and Charles W. McLarnan, 1984 Edgemont Road, Columbus, Ohio 43212
Filed Jan. 9, 1967, Ser. No. 608,191
Int. Cl. F16h *27/04*
U.S. Cl. 74—84. 2 Claims



This invention relates to an improved chain type intermittent motion mechanism having a driving sprocket and a movable gear rigidly fastened to the sprocket. A fixed gear having a diameter equal to the diameter of the sprocket and doubled that of the moving gear is coupled by an input arm.

3,440,892
DRIVE ASSEMBLY FOR WINDOW REGULATORS
Rudolph Eskra, Lambertville, Mich., assignor to Dura Corporation, Oak Park, Mich., a corporation of New York
Filed Oct. 24, 1967, Ser. No. 677,671
Int. Cl. F16h *1/06*
U.S. Cl. 74—89.18 9 Claims

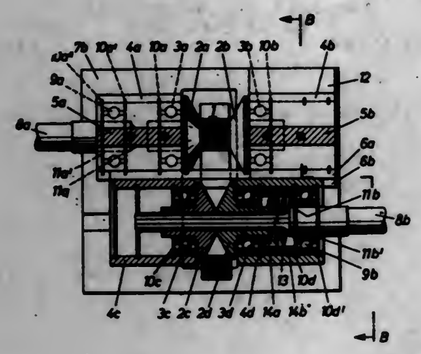


A flat type reversible electric motor and drive assembly in which the motor drives through gearing to a spring clutch assembly embodying a pinion for actuating the window regulator mechanism in one direction or the other in response to the direction of rotation of the motor. The spring clutch assembly prevents retrograde movement of the driven pinion when the motor is idle, thereby to retain the window in its adjusted position. An adaptation provides a hang-on drive for regulators to fit the usual handle stem of a manual regulator, a drive adaptor actuated by the electric motor through gearing being designed to fit the handle stem.

3,440,893
FRICTION GEAR TRANSMISSION
David Hans Heynau, No. 261 Groesgmain, Austria
Filed Jan. 31, 1967, Ser. No. 612,890
Claims priority, application Germany, Feb. 7, 1966, H 58,466
Int. Cl. F16h *15/16*
U.S. Cl. 74—192 7 Claims

A variable speed transmission of the type comprised of two pairs of cone pulleys cooperating with a friction ring. One pulley of each pair is axially movable to bring about a speed change. All of the cones are carried in bearings which, in turn, are carried in bearing sleeves.

The bearing sleeves are rectangular and are mounted between a pair of side plates. Keys are attached to the bearing sleeves which are received in keyways cut in the



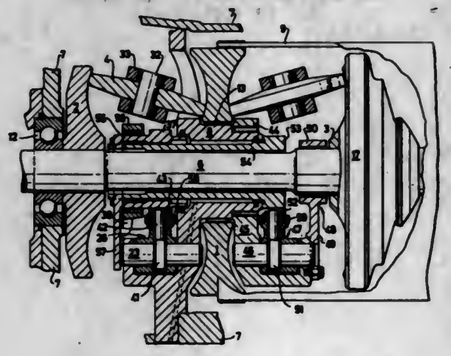
side plates. Connections are made on opposite sides of diagonally opposed bearing sleeves, whereby they move together.

3,440,894
TRACTANTS AND METHOD OF USE
William C. Hammann, Creve Coeur, and Robert M. Schisla, Kirkwood, Mo., assignors to Monsanto Company, St. Louis, Mo., a corporation of Delaware
No Drawing. Continuation-in-part of application Ser. No. 586,358, Oct. 13, 1966. This application Aug. 15, 1967, Ser. No. 660,574
Int. Cl. F16h *15/08*
U.S. Cl. 74—200 31 Claims

Improvements in tractive drives are afforded through use of certain cyclic and acyclic carbon-containing compounds, herein called tractants, as the fluid component of the drives. The tractants of the invention, when disposed on the tractive surfaces, provide increased traction as compared to conventional fluids. The tractants disclosed herein are defined by limitations on chemical structure, with a minimum coefficient of traction defined as 0.06.

3,440,895
TOROIDAL RACE TRANSMISSION UNITS
Thomas George Fellows, London, England, assignor to National Research Development Corporation, London, England, a British corporation
Filed Aug. 31, 1967, Ser. No. 664,661
Claims priority, application Great Britain, Sept. 12, 1966, 40,702/66
Int. Cl. F16h *15/08, 15/16*
U.S. Cl. 74—200 7 Claims

A variable ratio transmission unit of the rolling friction toroidal race type with two sets of rollers providing parallel paths interconnecting two pairs of toroidal surfaces of coaxial discs the torque reactions of the rollers being applied to separate thrust rings one for each set of rollers, the thrust rings being rotatable about the main axis for ratio changing and individually displaceable radially by small amounts for roller-to-roller load equalisation. A first one of the thrust rings for one set of rollers is mounted on a sleeve extending to the vicinity of the other set of rollers and a second of the thrust rings, for that other set of rollers is journalled on the sleeve in the said vicinity. The sleeve, in the said vicinity has a lever extending in one direction radially of the main axis and the second thrust ring has another lever extending in the opposite radial direction. The levers have outer connecting points which lie on a line normally intersecting and substantially normal to the main rotational axis for the toroidally surfaced discs. Hydraulic actuators are connected one to each of these outer connection points by swingable push/pull rolls. The actuators are cross-connected, the "top" of one to the "bottom" of the other and fluid lines from the control system communicate with these cross-connections respectively. The actuators turn the levers in unison for ratio control but permit differential motions of the levers for load-equalising ratio changes as between the two sets of rollers.

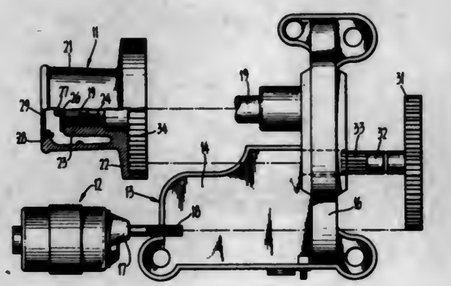


At least one of the fluid lines may contain a damper as per U.S. patent specification 3,327,545.

The thrust rings may both have dampers as per U.S. patent specification 3,306,119 for their radial roller-to-roller equalising moments.

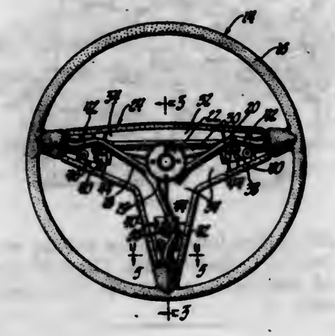
Stop limbs connected to the actuator piston rods make contact short of each end of the range of differential motion of the actuators leaving a small residue of motion possible for the actuators after the limbs make contact, so as not to interfere with roller load equalisation.

3,440,896
POWERED CAPSTAN CABLE PULLING MECHANISM
Milton Earl Jones, 357 Athol Ave., Oakland, Calif. 94606
Filed June 22, 1967, Ser. No. 648,143
Int. Cl. B66d *1/74*
U.S. Cl. 74—413 6 Claims



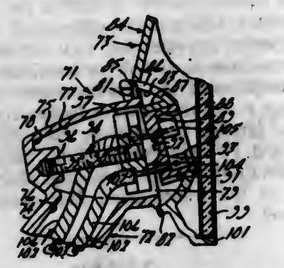
A powered winch mechanism for use with a cable puller in pulling electrical cable, wires, etc. through conduit. The mechanism is compact, extremely powerful, and provided with a free ended capstan winding element to facilitate ease of manipulation of the pull line into pulling position therearound.

3,440,897
ENERGY ABSORBING STEERING WHEEL
Herbert V. Dutt, Kettering, and Harland R. Fosnaugh, Dayton, Ohio, assignors to General Motors Corporation, Detroit, Mich., a corporation of Delaware
Filed Sept. 15, 1967, Ser. No. 668,036
Int. Cl. B62d *1/04*
U.S. Cl. 74—552 6 Claims



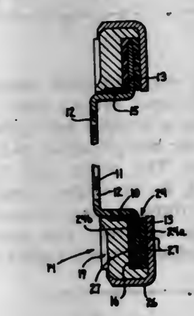
A steering wheel includes a rim, a hub and three spokes interconnecting the rim and the hub. A padded support overlies the hub and spokes. A cantilever bracket on each spoke is provided with a radially elongated slot. A headed stud is mounted on each of the arms of the support and extends through the slot, with a coil compression spring seating on the support and on the cantilever bracket to axially locate the support and hold the heads of the studs against the brackets to each side of the slots. Impact loads received by the support are transmitted by engagement of the support with the brackets to each of the spokes to bend the spokes inwardly relative to the hub and absorb energy.

3,440,898
REMOTE CONTROLLED MIRROR
Douglas D. Liedel, Belleville, Mich., assignor to C. M. Hall Lamp Company, a corporation of Michigan
Filed Apr. 7, 1967, Ser. No. 629,177
Int. Cl. F16c *1/10*
U.S. Cl. 74—501 4 Claims



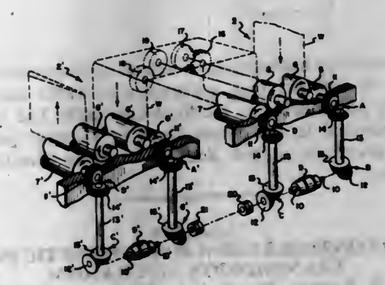
Two embodiments of remote controlled, compact mirror assemblies are set forth. In each embodiment the mirror assembly is comprised of a mounting portion having an upright member that defines a cavity opening through one of its ends. A relatively compact supporting member is affixed within this cavity and is connected to a journal member defining a generally hemispherical surface. A frame member is formed with a generally hemispherical cavity that is journaled upon the mounting portion journal member and is connected at its periphery to a mirror. Flexible transmitters are connected to the mirror frame at points spaced about its journal cavity for remote control actuation of the mirror.

3,440,899
TUNED VIBRATION DAMPER
Sanford A. McGavern and William K. Ward, Indianapolis, Ind., assignors to Wallace-Murray Corporation, Indianapolis, Ind., a corporation of Delaware
Filed Aug. 11, 1967, Ser. No. 659,981
Int. Cl. G05g *1/00*
U.S. Cl. 74—574 9 Claims



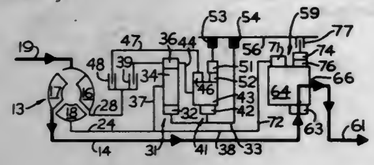
A damper for attachment to a torsionally vibrating member, such as the crankshaft of an internal combustion engine, the damper having an elastic member interposed between the inertia member or driven member and the hub or driving member with the elastic member having pockets formed in it which are filled with a viscous fluid, the viscous fluid and elastic element both thus acting in parallel to convert torsional vibratory energy from the shaft into thermal energy.

3,440,900
MOTOR DRIVE ASSEMBLY FOR PRINTING PRESS
Frank Neal, Green Brook, N.J., assignor to Wood Newspaper Machinery Corporation, Plainfield, N.J., a corporation of Virginia
Filed Sept. 21, 1967, Ser. No. 669,566
Int. Cl. F16h *37/06*
U.S. Cl. 74—665 5 Claims



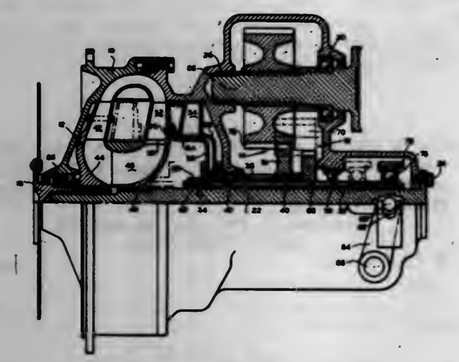
A motor drive assembly for a series of printing units wherein each of the units includes a pair of printing couples, the assembly comprising a drive motor for each unit fiaving a drive shaft extending out of the opposite ends thereof, and gear means connecting the opposite ends of the drive shaft to one of the printing couples of the unit.

3,440,901
COMPACT BROAD RANGE POWER TRANSMISSION
Robert O. Chambers, West Medford, Mass., assignor to Caterpillar Tractor Co., Peoria, Ill., a corporation of California
Filed July 25, 1967, Ser. No. 655,864
Int. Cl. F16h *47/08*
U.S. Cl. 74—677 7 Claims



A split torque power shift drive transmission for vehicles has a power input driving both a three-element torque converter and a stepped gear system with the reactor of the converter being coupled to the output of the stepped gear system. The power path through the gear system is combined, in an output planetary gear train, with a second path through the converter turbine, in an arrangement having relatively few gears, brakes and clutches for the number of speed ranges provided.

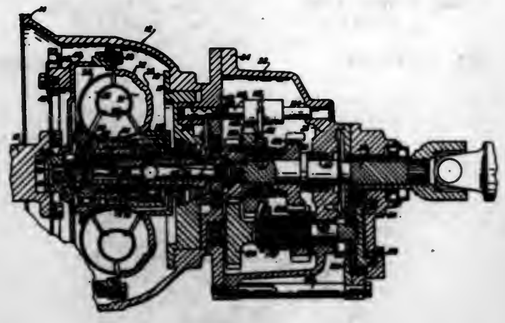
3,440,902
REVERSIBLE HYDRODYNAMIC TORQUE CONVERTER
Wayne R. Howard, Jackson, Mich., assignor to Clark Equipment Company, a corporation of Michigan
Filed Oct. 16, 1967, Ser. No. 675,536
Int. Cl. F16h *47/04*
U.S. Cl. 74—718 10 Claims



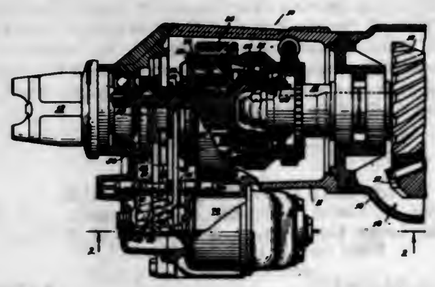
A reversible hydrodynamic torque converter which has a pair of turbines that are axially movable and alternatively positionable in the fluid flow path. The turbines are connected to the output shaft by separate gear sets which drive the output shaft in opposite directions of rotation.

3,440,903
RATIO CONTROLS FOR A HYDROKINETIC POWER TRANSMISSION MECHANISM
Robert E. Kaptur, Birmingham, Mich., assignor to Ford Motor Company, Dearborn, Mich., a corporation of Delaware
Filed Dec. 12, 1967, Ser. No. 690,021
Int. Cl. F16h *47/08*
U.S. Cl. 74—732 5 Claims

This specification describes a hydrokinetic power transmission mechanism having synchronized, multiple-ratio gearing and a hydrokinetic torque converter situated between an internal combustion engine and the power input element of the gearing. The torque converter includes a turbine that is connected to the gearing through tandem overrunning couplings. One coupling provides a torque delivery path during forward drive and the other accommodates coasting torque delivery. The latter coupling can be released selectively to interrupt the driveline during ratio changes.



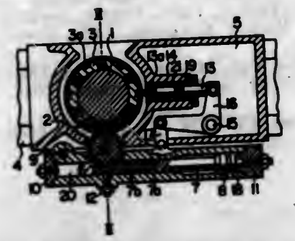
3,440,904
OVERDRIVE TRANSMISSION
Donald W. Kelbel, Muncie, Ind., assignor to Borg-Warner Corporation, Chicago, Ill., a corporation of Illinois
Filed Feb. 27, 1967, Ser. No. 618,934
Int. Cl. F16h *37/02*
U.S. Cl. 74—781 9 Claims



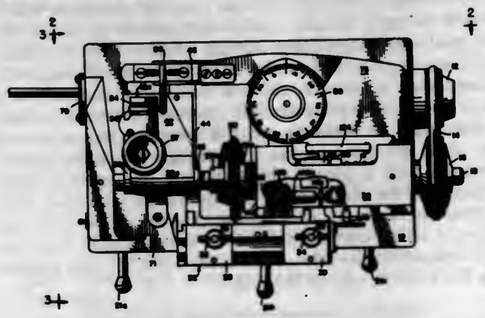
A vehicle transmission and differential mechanism including a remote control apparatus for an overdrive device mounted adjacent the differential mechanism. The control system provides for (1) selective change from lockup condition to overdrive condition and vice versa, (2) interruption of the vehicle engine ignition to facilitate change to the kickdown or lockup condition, (3) prevention of ignition interruption when the engine vacuum is high, and (4) prevention of a change from normal lockup condition to freewheel condition until the temperature of the transmission fluid reaches a predetermined level.

3,440,905
TURRET INDEXING MECHANISM
Hirofumi Tomiyama, 1000 Akiwa, Ueda-shi, Nagano-ken, Japan
Filed Aug. 1, 1967, Ser. No. 657,633
Int. Cl. F16h *27/10*
U.S. Cl. 74—822 4 Claims

In a turret indexing mechanism including a turret, an index gear and a rotating ring having a plurality of equally spaced circumferential depressions which are rotatably mounted on a saddle, there are provided a first fluid pressure (hydraulic) cylinder pivotally connected to the saddle and adapted to drive a rack, a second fluid pressure cylinder adapted to operate a dowel pin to engage and disengage a selected one of said depressions and a motion transmitting linkage responsive to the operation of the second fluid pressure cylinder to pivot the first fluid pressure cylinder, thus establishing or interrupting driving connection between the index gear and the rack.

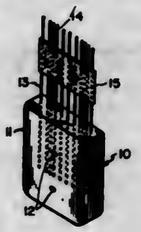


3,440,906
KEY CUTTING MACHINE
William H. Allen, 400 Hill, Hannibal, Mo. 63401
Filed Oct. 27, 1966, Ser. No. 590,056.
Int. Cl. B21k *13/00*; B23c *1/16, 1/18*
U.S. Cl. 76—110 11 Claims



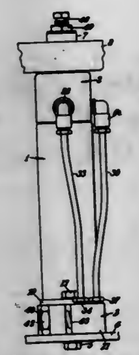
This disclosure relates to a key cutting machine, and more particularly to a key cutting machine for alternatively, duplicating a key, cutting an original key when a sample is not available, cutting original keys from the manufacturer's specifications and the particular code indicated on the lock, or implementing a master key system for a set of locks.

3,440,907
METHOD OF MANUFACTURING CUTTING TOOLS
Robert F. Wrench, Corning, N.Y., assignor to Corning Glass Works, Corning, N.Y., a corporation of New York
Original application June 3, 1965, Ser. No. 461,069, now Patent No. 3,334,393, dated Aug. 8, 1967. Divided and this application Feb. 16, 1967, Ser. No. 643,750
Int. Cl. A46d *9/00*; B23d *73/04*
U.S. Cl. 76—24 3 Claims



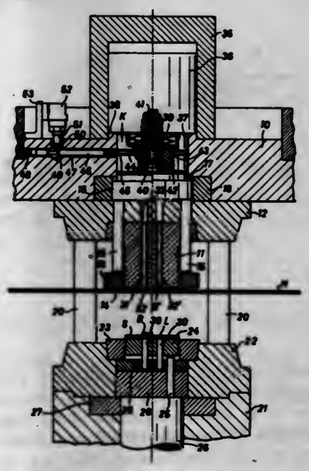
A method of manufacturing cutting tools wherein a plurality of wire-like cutting elements are positioned in predetermined spaced-apart relationship, are banded for limited flexible movement adjacent their outer operating ends, and inner end portions of such cutting elements are embedded within a thermoplastic body portion.

3,440,908
PNEUMATICALLY DRIVEN NUTRUNNER
Ronald Frederick States, London, England, assignor to Desoutter Brothers Limited, London, England, a British company
Filed Aug. 4, 1966, Ser. No. 570,319
Claims priority, application Great Britain, Sept. 10, 1965, 38,682/65
Int. Cl. B25b *19/00*
U.S. Cl. 81—52.4 6 Claims



A pneumatically driven nutrunner provided with mounting means permitting the limited rotational movement of the tool about the axis of is ouput shaft relative to a member upon which the tool is mounted due to the reaction to torque applied by the tool with the rotational movement being utilized to operate a control valve which controls the passage of air to the tool.

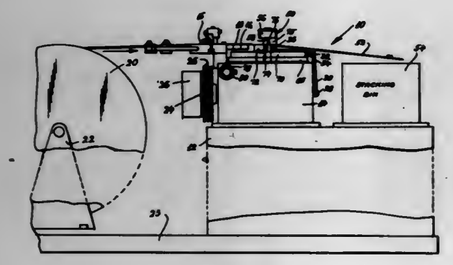
3,440,909
SAFETY DEVICE FOR STAMPING MACHINES
Heinrich Schmid, Schmidehof, Rapperswill, and Alois Bernet, Jona, Switzerland; said Bernet assignor to said Schmid
Filed Apr. 13, 1967, Ser. No. 630,586
Claims priority, application Switzerland, Apr. 15, 1966, 5,494/66
Int. Cl. B26d *5/00*
U.S. Cl. 83—61 7 Claims



A safety device for a stamping machine having elements to stop the machine when a stamped waste piece is

not correctly ejected and is left behind in a corresponding opening in a main punch. This takes place as to the stopping of the machine when a member should fail to take up its predetermined position of rest upon the completion of a working cycle of the machine.

3,440,910
UNIVERSAL SHEAR
Harry E. Scribner, 18600 Glenwood Lane, Brookfield, Wis. 53005
Filed Mar. 23, 1967, Ser. No. 625,426
Int. Cl. B26d 7/06, 5/16
U.S. Cl. 83—94 10 Claims



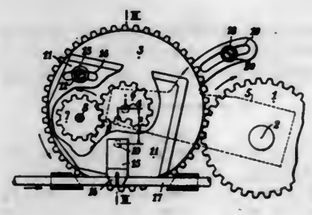
The disclosure describes a universal shear for cutting, shearing and shaping sheet material in any one of a variety of geometric shapes. It includes an upper tool block which moves up and down against a lower tool block. Both the tool blocks are rotatably adjustable for cutting the material in selected shapes.

3,440,911
APPARATUS FOR FEEDING AND CUTTING STRIP MATERIAL
Samuel E. Miller, Wilmette, Ill., assignor to Quick Service Textiles, Inc., Chicago, Ill., a corporation of Illinois
Filed Dec. 19, 1966, Ser. No. 602,678
Int. Cl. B26d 7/00; B65h 17/40
U.S. Cl. 83—278 4 Claims



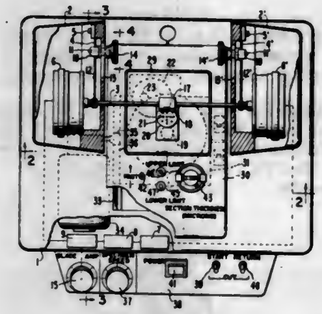
The invention relates to apparatus for sewing predetermined lengths of a material in strip form to a second strip of material at spaced intervals along the latter. The successive lengths of the first-mentioned material are fed to the sewing station intermittently and are cut off to the predetermined length cyclically by automatic or semi-automatic means.

3,440,912
CUTTING GUIDE NOTABLY FOR CIGARETTE MACHINES
Jean Roger, Verjux, Paris, France, assignor to Usines Decoufle, Societe Anonyme, Paris, France, a French company
Filed Nov. 25, 1966, Ser. No. 596,839
Claims priority, application France, Nov. 29, 1965, 40,114
Int. Cl. B23d 25/02; B26d 1/56
U.S. Cl. 83—310 1 Claim



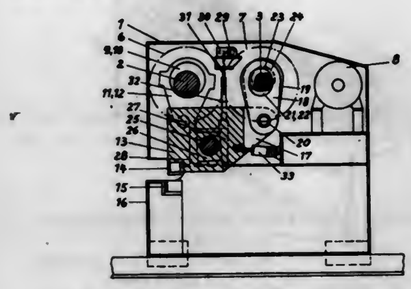
A cutting guide for cigarette making machines which travels along a circular path while remaining constantly oriented with respect to a moving tobacco rod. The guide is secured to a first pinion having its shaft rotatively mounted in a case II which is adjustably fastened to a rotary plate. The plate shaft is rotatively mounted around a fixed axis to which is secured a second pinion having the same diameter as the first pinion with both pinions meshing with a planet pinion having its eccentric shaft secured to the plate and rotatably driven with said plate around the axis. By moving the case II on the plate the eccentricity of the first axis of the first pinion is modified with respect to the axis of the second pinion, thus providing for cuts of various lengths.

3,440,913
MICROTOME
Maxim D. Persidsky, San Francisco, and William J. Roach, Hayward, Calif., assignors to Oxford Laboratories, San Mateo, Calif., a corporation of California
Filed Feb. 21, 1966, Ser. No. 528,943
Int. Cl. B26d 7/06, 5/08
U.S. Cl. 83—422 5 Claims



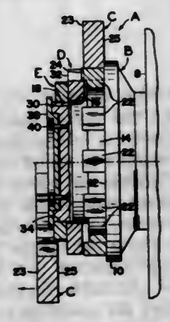
The present microtome reciprocates a knife edge along an arcuate path at high velocity, thus performing many transverse movements of the blade while cutting a single slice of material, thereby enabling the instrument to cut a specimen without the necessity of freezing the same or embedding the same in paraffin, both of which steps are injurious to the specimen since distortion takes place when the knife hits the specimen head-on.

3,440,914
FLAT-BLADE TRIMMING SHEARS
Ernst-August Klein, Dusseldorf-Gerresheim, Germany, assignor to Schloemann Aktiengesellschaft, Dusseldorf, Germany, a German company
Filed Oct. 20, 1966, Ser. No. 588,200
Claims priority, application Germany, Oct. 28, 1965, Sch 37,937
Int. Cl. B26d 5/08
U.S. Cl. 83—556 2 Claims



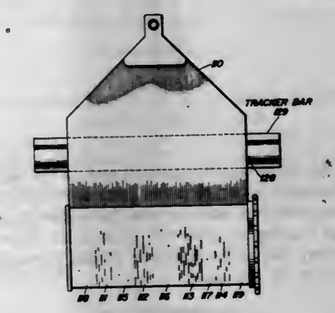
Flat-blade border shears, wherein the upper blade beam is driven by cranks on a main crankshaft and press-rods, and is lifted away from the cut edge during the return stroke of the shear by thrust-arms connecting a lever on the upper blade beam with further cranks on an auxiliary crankshaft turning at the same speed as the main crankshaft but leading it by an angle, each of the thrust-arms being formed with an elongate aperture by which it engages its associated crank.

3,440,915
QUICK RELEASE CONNECTION
Valone V. Weyant, Hanoverton, Ohio, assignor to E. W. Bliss Company, Canton, Ohio, a corporation of Delaware
Filed Feb. 28, 1967, Ser. No. 619,396
Int. Cl. B26d 1/12, 1/14
U.S. Cl. 83—666 10 Claims



Apparatus for releasably connecting first and second machine parts in readily releasable and nonrotatable engagement. The disclosed apparatus comprises a first machine part with an end portion of circular cross-section and a radially extending inwardly spaced shoulder. A second machine part having an aperture extending therethrough is positioned on the first part in surrounding relationship thereto and in engagement with the shoulder. The first part is provided with means which engage the second part to prevent relative rotation but permit longitudinally relative movement outwardly of the shoulder. Radially extending washer means are rotatably carried on the first part. The outer periphery of the washer means can pass freely through the aperture in the second part in a first position of rotation but engages the part in a second position. Additionally, means are provided for moving the washer longitudinally of the end portion to bring it into engagement with the second part to clamp it against the shoulder.

3,440,916
TRACKER BAR AND MUSIC SHEET ROLL
James S. Ballantine, 135 Whitehorse Pike, Absecon, N.J. 08201
Filed July 8, 1966, Ser. No. 563,828
Int. Cl. G10f 5/04
U.S. Cl. 84—146 28 Claims



A musical instrument mechanical playing control including a tracker bar and a perforated music sheet. The tracker bar has two rows of transversely staggered non-overlapping apertures connected in any conventional manner for playing notes and for general operation control. The note perforations are arranged into a plurality of transversely separated groupings of perforations corresponding to high-usage notes with at least one low-usage note set of perforations therebetween and a low-usage set of perforations along each edge of the sheet and tracker bar. The operation control apertures are included in the low-usage sets.

3,440,917
MUTE FOR MUSICAL INSTRUMENTS
Merle B. Lemon, Parkersburg, W. Va., assignor to Chicago Musical Instrument Company, Chicago, Ill., a corporation of Delaware
Filed Dec. 29, 1967, Ser. No. 694,484
Int. Cl. G10d 1/08
U.S. Cl. 84—267 8 Claims



A means for causing diminution of the tone of a stretched stringed musical instrument as a function of forward and angular motion of a sound deadening medium on the strings at the front side of the bridge.

3,440,918
BOW STICK AND METHOD OF MANUFACTURE THEREOF
Rembert Wurlitzer, deceased, late of New York, N.Y., by Anna Lee Wurlitzer, executrix, New York, N.Y., assignor to Rembert Wurlitzer, Inc., a corporation of New York
Filed Nov. 13, 1964, Ser. No. 411,159
Int. Cl. G10d 3/16
U.S. Cl. 84—282 2 Claims

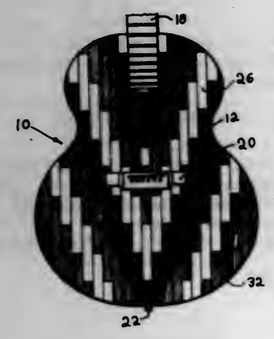
A violin bow comprising a hollow stick made of hardened, plastic-impregnated Fiberglas cloth having 8

to 10 times as many fibers running substantially longitudinally as circumferentially and formed out of a trapezoidal piece of Fiberglas cloth wound on a conical mandrel so that the center fiber of the trapezoid is substantially parallel to one of the generators of the conical



surface of the mandrel, the tapered end of the stick having a conical internal taper that fits over a matching conical external taper of the head of the bow, the tapered part of the head having an internal cylindrical bore substantially matching the inner diameter of the immediately adjacent portion of the stick.

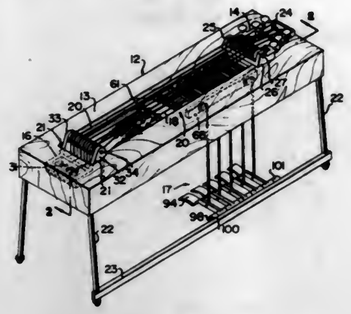
3,440,919
STRINGED INSTRUMENT CONSTRUCTION
Joseph L. Baker, Nashville, Tenn., assignor to Baker-Lewis Music Enterprises, Inc.
Filed Aug. 12, 1966, Ser. No. 572,108
Int. Cl. G10c *3/06*
U.S. Cl. 84—291 8 Claims



The present invention concerns itself with stringed musical instruments of the type having a hollow body wherein all the walls of the body are constructed from a plurality of individual pieces of material with each piece forming a very small part of the total surface area of the body and the individual pieces being secured together in edge-to-edge relation.

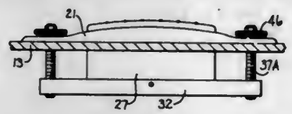
3,440,920
STRING TENSION ADJUSTMENT DEVICE FOR STRINGED INSTRUMENT
Paul J. Norwood, R.D. 1, Norwalk, Ohio 44857
Filed Nov. 1, 1966, Ser. No. 591,344
Int. Cl. G10d *3/14*
U.S. Cl. 84—312 13 Claims

There is disclosed a stringed musical instrument having a plurality of adjustably tensioned longitudinally disposed strings supported at end portions thereof, means for selectively altering the tension of predetermined ones of the strings relative to a pre-set degree of adjusted spring tension for sharping or flatting said predetermined strings, said means including first pivotal members providing individual supports for the springs at one end thereof and longitudinally reciprocable members directly connected with the first pivotal members so that when moved in one



direction they will move the first pivotal members in a string flattening direction and when moved in the opposite direction will move the first pivotal members in a string sharping direction, and manually controllable means for actuating the longitudinally reciprocable members.

3,440,921
BRIDGE FOR STRINGED MUSICAL INSTRUMENTS
Theodore M. McCarty, Kalamazoo, Mich., assignor to Bigsby Accessories, Inc., Kalamazoo, Mich., a corporation of Michigan
Filed Oct. 25, 1967, Ser. No. 678,119
Int. Cl. G10d *3/04*
U.S. Cl. 84—307 10 Claims



An adjustable bridge assembly for a stringed musical instrument whereby the saddle member thereof can be raised or lowered relative to the sounding board as desired. The saddle member is seated within a slot provided in a sounding bar positioned within the hollow body of the musical instrument. The saddle member extends outwardly through a further slot provided in the sounding board and projects above the surface thereof for supporting the strings. The sounding bar is connected to the sounding board by adjustable fastening means, such as screws, for permitting the sounding bar and saddle member thereon to be raised or lowered.

3,440,922
BOLT AND METHOD OF MAKING SAME
George R. Cohen, Cambridge, Mass., assignor to Standard Pressed Steel Co., Jenkintown, Pa., a corporation of Pennsylvania
Filed Dec. 20, 1967, Ser. No. 692,128
Int. Cl. F16b *23/00, 39/00*
U.S. Cl. 85—9 6 Claims

A bolt formed by turning a threaded section of a stud into a head unit having a partially threaded bore. The threaded section of the stud is spaced from one end of the stud by an unthreaded section which is arranged to be in tightly fitted engagement with the unthreaded portion of the bore of the head unit, whereby the head unit and the stud are joined together rigidly. The stud is fabricated from an alloy which develops high-strength properties either by the combination of mechanical-working and heat treatment or by mechanical-working alone.



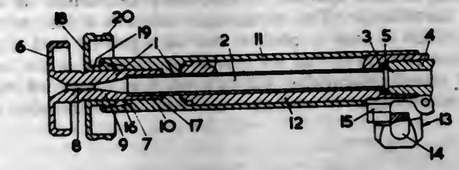
3,440,923
CARTRIDGE CASE RESIZING AND BULLET SEATING APPARATUS
Clarence E. Purdle, Box 246, Faribault, Minn. 55021
Filed Sept. 6, 1967, Ser. No. 665,769
Int. Cl. F42b *11/02*
U.S. Cl. 86—43 13 Claims



A loading press to mount either a cartridge case resizing die or a bullet seating die and having a ram movable to move said case first into and then away from the respective die. Each die includes an axially elongated tubular retainer body slidably mounting a sleeve of a greater axial length than said body. A housing mounted on said body has a spring in the housing bore to urge the sleeve away from said bore, a retainer ring on the sleeve being abuttable against said body for limiting the movement of the sleeve away from the housing. The sleeves for the respective die have cartridge case bores, a tool (bullet seating or broaching) being mounted on the housing to extend into the respective sleeve bore.

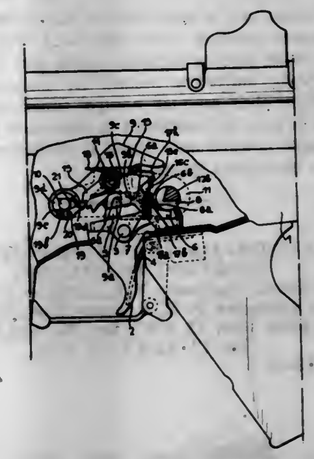
3,440,924
BLANK FIRING ATTACHMENT FOR FIREARMS
Benjamin Robinson Sawyer, Waltham Cross, England, assignor to The Secretary of State for Defence in her Britannic Majesty's Government of the United Kingdom of Great Britain and Northern Ireland, London, England
Filed Mar. 17, 1967, Ser. No. 624,069
Claims priority, application Great Britain, Mar. 17, 1966, 11,684/66; Jan. 27, 1967, 4,159/67
Int. Cl. F41f *17/02, 17/08;* F41c *21/00*
U.S. Cl. 89—14 18 Claims

A blank firing attachment for restricting the flow of gas from the muzzle of a weapon when firing blank ammunition and comprising an extension tube incorporating a construction, a barrel attachment for attaching the tube



to the muzzle of the weapon in alignment with its bore and means for locking the attachment in position.

3,440,925
AUTOMATIC FIREARM WITH BURST CONTROL MEANS
Ernest Henri Vervier, Oupeye, Belgium, assignor to Fabrique Nationale d'Armes de Guerre, Societe Anonyme, Herstal-lez-Liege, Belgium
Filed May 23, 1968, Ser. No. 731,491
Claims priority, application Belgium, July 7, 1967, 41,418
Int. Cl. F41d *11/10*
U.S. Cl. 89—129 11 Claims

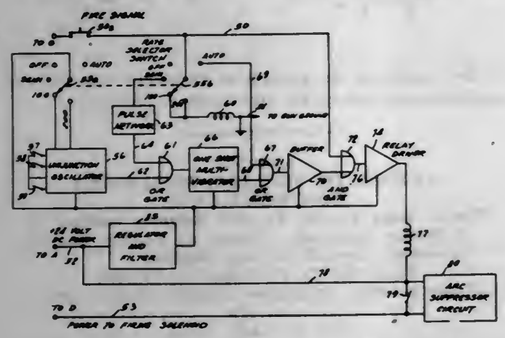


A device is provided for limiting the maximum number of shots fired with each burst of an automatic firearm. The fire-control camshaft pivots a first rocking lever into a position in which teeth on the forward end of the first rocking lever cooperate with a tilting finger on the hammer and the rear end of the first rocking lever and a second rocking lever engage a lug on a catch for the hammer to move the lug out of engagement with the hammer until the tilting finger on the hammer releases the teeth on the forward end of the first rocking lever, allowing the rear ends of the first rocking lever and the second rocking lever to pivot under spring action to the starting position thus releasing the lug for engagement with the hammer.

3,440,926
CONTROL CIRCUITRY FOR AUTOMATICALLY OPERATED GUNS
Robert J. Gura, Lyndhurst, and Edward G. Hodina, Willoughby, Ohio, assignors to TRW Inc., Cleveland, Ohio, a corporation of Ohio
Filed Dec. 4, 1967, Ser. No. 687,708
Int. Cl. F41d *7/02*
U.S. Cl. 89—135 10 Claims

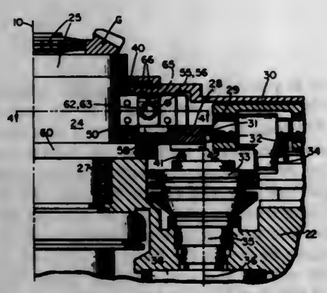
An electrical control circuit for firing machinegun. The control circuit incorporates solid state electronic

components to generate firing rate impulses which are used to operate an electro-mechanical actuating device which, in turn, operates the necessary mechanism to fire the machinegun. The machinegun includes a feed selector which is used to position one of a pair of feed trays against the gun so that the type of ammunition in the feed tray placed thereagainst will be fired. Also associated with the machinegun is a charger actuator which includes an



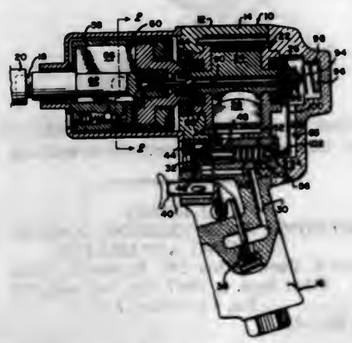
electric motor and a gear train to retract the bolt carrier to the seared position. Also associated with the charger actuator is an electromagnetic clutch and a limit switch for actuating indicating means. By incorporating electrical, rather than manual, control functions of the machinegun it may be positioned in one place and operated by a remote control unit which is positioned in another place not hazardous to personnel.

3,440,927
GEAR CUTTING MACHINE WITH INTERMITTENT INDEXING MECHANISM
Alvin W. Snook, Rochester, N.Y., assignor to The Gleason Works, Rochester, N.Y., a corporation of New York
Filed Mar. 13, 1967, Ser. No. 622,731
Int. Cl. B23f *9/10, 1/06*
U.S. Cl. 90—5 6 Claims



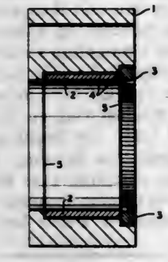
A gear cutting machine has a rotary cutter with two groups of blades which cut in succession on the opposite sides of the tooth slots. An index mechanism angularly advances an index plate on the work spindle of the machine by one gear tooth pitch just before each cut by the first group of blades, so that the cutter during successive revolutions cuts in successive slots. An hydraulically actuated device rotates the work spindle back and forth relative to the index plate through a fraction of a tooth pitch, each forward rotation occurring just before cutting by one group of blades and each return rotation occurring just before cutting by the other group of blades. The angle through which the device rotates the spindle is adjustable to vary the taper of the slots.

3,440,928
IMPULSE TOOL HAVING SHUTOFF MECHANISM
Reginald W. Pauley, Belle Mead, and Leo Kramer, Skillman, N.J., assignors to Ingersoll-Rand Company, New York, N.Y., a corporation of New Jersey
Filed Sept. 8, 1967, Ser. No. 666,441
Int. Cl. F01c *21/12*
U.S. Cl. 91—59 10 Claims



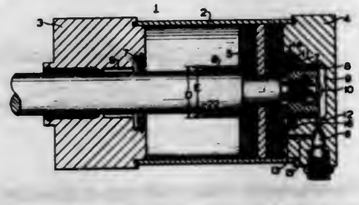
An impulse tool including a chamber connected to receive fluid from the high pressure portion of the spindle cavity and to discharge fluid to the low pressure portion of such cavity. A normally closed valve controls the flow of fluid into the chamber; and a second normally closed valve controls the discharge of fluid from the chamber. The motor of the tool is connected to be shut off when the pressure of fluid in the chamber attains a predetermined pressure; and the second valve is opened, to relieve the pressure of fluid in the high pressure portion, when the pressure of fluid in the chamber exceeds this predetermined pressure.

3,440,929
ROTARY PISTON TYPE OF COMBUSTION ENGINE
Sieghard Weissflog, Lugau, Erzgebirge, and Karl-Heinz Müller, Lichtentanne, Saxony, Germany, assignors to VEB Sachsenring Automobilwerke Zwickau, Zwickau, Germany
Filed Nov. 10, 1966, Ser. No. 593,428
Int. Cl. F01c *1/00*; F16j *1/24*; F02b *55/02*
U.S. Cl. 91—130 5 Claims



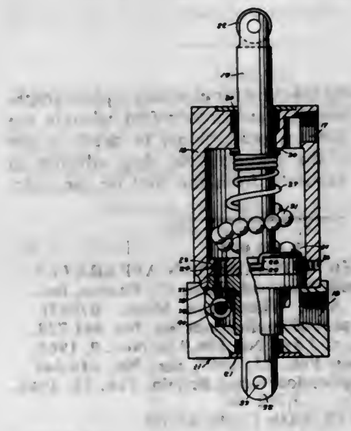
A roatary piston type of internal combustion engine. The rotary piston has along its central axis a bore through which the latter axis passes. The piston has an inner surface which defines the latter bore thereof and which surrounds the latter axis. At least one element, such as a cylindrical slide bearing, is situated in the bore of the piston and has an outer surface directed toward and located closely adacent to the inner surface of the piston. A layer of heat-insulating material is situated between and engages the outer surface of the latter element and the inner surface of the piston, this heat-insulating layer being preferably aluminum oxide compound which has properties resulting from plasma spraying thereof.

3,440,930
CUSHION SEAL DEVICE FOR POWER CYLINDERS
Paul E. Olson, Lexington, Ky., assignor to Westinghouse Air Brake Company, Wilmerding, Pa., a corporation of Pennsylvania
Filed July 18, 1966, Ser. No. 570,386
Int. Cl. F01b *7/04, 11/02*
U.S. Cl. 91—396 7 Claims



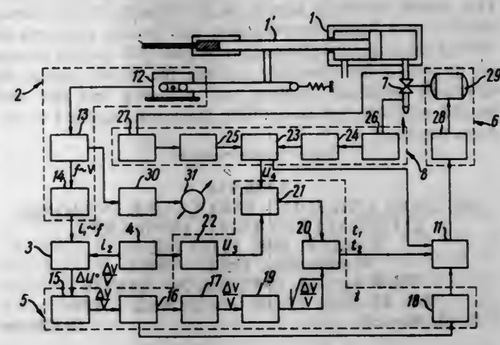
A cushion seal device for power cylinders in which a two piece cushion seal is disposed in an annular groove in the wall of a cavity in a cylinder head, the cushion seal comprising an inner annular resilient seal member sealingly engageable with a piston boss and movable into sealing engagement with the inner wall of the annular groove to entrap air in the cylinder, and an outer metal member concentrically attached to the inner member and having portions of outer periphery engaging the location of the groove to center the cushion seal in the cavity and provide a flow path around the outer periphery through the outer wall of the groove to the cylinder, the outer diameter of the annular resilient seal member being less than the opening in the outer wall of the groove to eliminate contact of the annular resilient seal member with the outer wall of the groove.

3,440,931
DEACCELERATION VALVE
Edward H. Eastin, 254 Reitman Court, Rochester, Mich. 48063
Filed Oct. 6, 1967, Ser. No. 673,403
Int. Cl. F15b *15/22*; F01b *29/08*; F16k *31/38*
U.S. Cl. 91—407 14 Claims



The deacceleration valve disclosed herein comprises a cylinder having a shaft of constant diameter reciprocably mounted therein with means on one end of said shaft adapted to engage a constant ratio cam that is operated by a fluid actuator. The cylinder has a plurality of circumferentially spaced openings in one end thereof between longitudinally spaced ports to the chamber of the cylinder. A spring carrier having a plurality of closure members is mounted within the cylinder and is compressed upon operation of the shaft by the cam to progressively bring the balls into engagement with the openings and thereby vary the flow of fluid from one port to the other. The fluid ports are connected respectively to one end of the fluid actuator and to a valve that directs flow from a pressure source or to a reservoir.

3,440,932
PLUNGER TRAVEL SPEED GOVERNING DEVICES TO BE EMPLOYED WHEN PRESSING ON HYDRAULIC PRESSES
Eduard Julievich Gutnikov, ul. Botanicheskaya 23, kv. 19; Oleg Nikolaevich Meinikov, ul. Bazhova 125, kv. 117; German Borisovich Matjunin, ul. Studencheskaya 13, kv. 66; and Iosif Ilich Alterman, ul. Krasnykh Komandirov 126, kv. 2, all of Sverdlovsk, U.S.S.R.
Filed Mar. 1, 1967, Ser. No. 619,730
Int. Cl. F15b *11/04*
U.S. Cl. 91—435 19 Claims



A press plunger speed governing device for use on hydraulic presses which ensures high-quality pressing speed control within the speed range from 0.02 to 100 mm./sec. with the minimum duration of plunger travel when performing the control signal.

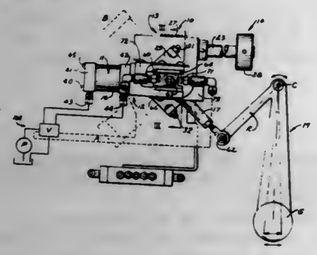
The essence of the proposed governor consists in that it is provided with a unit serving to shape a single pulse or a set of pulses and a signal to disconnect the control system, said unit shaping the command pulses whose duration is a function of the amount of mismatch, of the given value of the speed, and of the pressure drop in the governing throttle $f(\Delta v/v, v_{giv}, \Delta p)$, and shaping the signal for disconnecting the governing system, which is a function of the speed $f(v)$.

The function $f(\Delta v/v, v_{giv}, \Delta p)$ is so selected as to ensure elimination of any mismatch appearing during one or two pulses.

After the command pulse has been fed into the control system the governing system opens for the time necessary to complete the transient processes. The duration of opening of the system is determined depending on the speed at which pressing is performed.

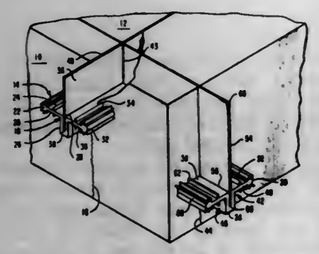
The first command pulse after the appearance of a mismatch is fed into the control system without any delay, and its duration ensures complete or almost complete adjustment of the mismatch. Consequently, lagging of the system is close to the minimum value possible.

3,440,933
ADJUSTABLE STROKE CONTROL DEVICE
Donald E. Sutton, Comstock Township, Kalamazoo County, Mich., assignor to Hammond Machinery Builders, Inc., Kalamazoo, Mich., a corporation of Michigan
Filed Dec. 2, 1966, Ser. No. 598,765
Int. Cl. F01b 9/02, 29/00; F01l 25/02
U.S. Cl. 92—13 5 Claims



An adjustable stroke control device for controlling the stroke applicable to a drive member of an oscillatable or reciprocating mechanism. Power means having a reciprocable driving member is pivotably connected to the drive member to define an angular relationship therebetween. The power means is supported for rotational movement relative to a frame between first and second positions to change the angular relationship. Adjustable control means are provided for rotatably moving the power means to selectable positions between and including said first and second positions for controlling the stroke applied to the drive member.

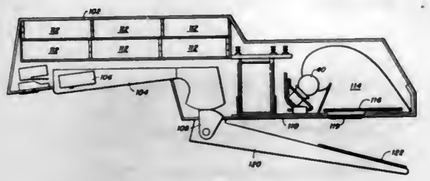
3,440,934
METHOD AND JOINT STRUCTURE IN MONOLITHICALLY-POURED CONCRETE
Robert F. Dill, 13341 Illinois, Westminster, Calif. 92683
Filed Apr. 27, 1967, Ser. No. 634,159
Int. Cl. E01c 11/10, 23/02; E01f 15/14
U.S. Cl. 94—18 10 Claims



A combined joint former and waterstop structure of generally uniform shaped cross section for use in a monolithically-poured concrete slab, and intersecting joint forming structures which are not discontinuous at their points of intersection.

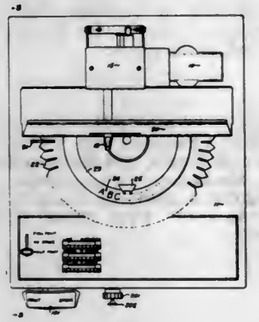
3,440,935
SENSITOMETER
Lloyd C. Sanford, West Acton, Mass., assignor to Itek Corporation, Lexington, Mass., a corporation of Delaware
Filed June 27, 1966, Ser. No. 560,557
Int. Cl. G03b 27/72
U.S. Cl. 95—1 11 Claims

A portable sensitometer using dry cell storage batteries as a source of DC operating potential and an incandescent lamp as an illuminating means. The DC source voltage is stored across a capacitor having an avalanche or breakdown diode in shunt with the capacitor thereby assuring that the charge upon the capacitor is constant and not dependent upon fluctuations in the DC source. The handle



of the sensitometer when contracted closes the exposure chamber and also actuates a switch closing a discharge path for the capacitor allowing the capacitor to discharge across the tungsten filament lamp.

3,440,936
PHOTOCOMPOSING MACHINE
Stig B. Tibbling, Hollywood, Fla., and David L. Greenwood, New York, N.Y., assignors to Varityper Corporation, Newark, N.J., and Wilmington, Del., a corporation of Delaware
Filed July 8, 1966, Ser. No. 563,900
Int. Cl. B41b 17/06
U.S. Cl. 95—4.5 7 Claims

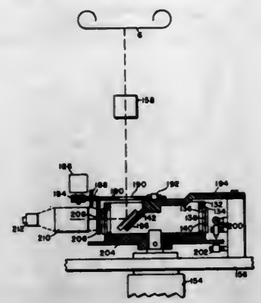


A photocomposing machine for exposing a photographic strip from a movable transparency font wherein the font carries edge notches proportional in depth to the spacing desired for the photographic strip advance in placement of the exposure from the font on the strip.

3,440,937
PHOTOGRAPHIC COMPOSITION APPARATUS
Louis M. Moyroud, Medford, Mass. (% Photon, Inc., 355 Middlesex Ave., Wilmington, Mass. 01887)
Continuation-in-part of applications Ser. No. 441,738, Mar. 22, 1965, and Ser. No. 506,936, Nov. 9, 1965.
This application Feb. 23, 1967, Ser. No. 618,048
Claims priority, application Great Britain, Feb. 22, 1966, 7,752/66
Int. Cl. B41b 13/00, 17/00
U.S. Cl. 95—4.5 5 Claims

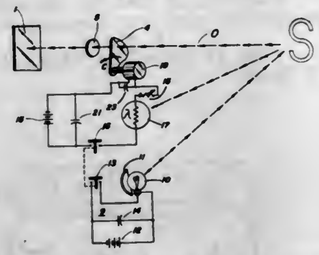
A phototypesetter wherein the characters are carried on a continuously rotating matrix drum. Characters on the matrix are selectively illuminated by means of an external light source and an arcuate mask located close to the

periphery of the matrix drum. The characters to form a line are selectively illuminated, deflected vertically by a



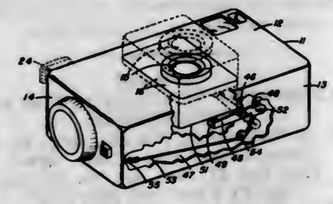
mirror located within the drum and imaged on the film by a field flattening optical system.

3,440,938
AUTOMATIC EXPOSURE CONTROL FOR PHOTOFLASH
Allen G. Stimson and John H. Eagle, Rochester, N.Y., assignors to Eastman Kodak Company, Rochester, N.Y., a corporation of New Jersey
Filed Dec. 8, 1965, Ser. No. 512,436
Int. Cl. G01j 1/42
U.S. Cl. 95—10 4 Claims



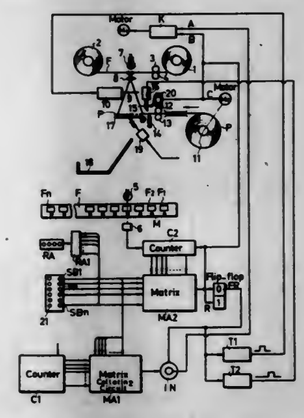
A camera shutter control mechanism automatically operated with a photoflash apparatus. The shutter mechanism is controlled by a moving coil permanent magnet galvanometer powered by a capacitor discharge. The capacitor discharge is regulated by a photoresistive element which is responsive to scene light and the light provided by the photoflash apparatus.

3,440,939
PHOTOGRAPHIC CAMERA WITH RETRACTILE LENS AND SHUTTER TRIGGER
Dean M. Peterson, Charles E. Pickering, and William Windle, Jr., Rochester, N.Y., assignors to Eastman Kodak Company, Rochester, N.Y., a corporation of New Jersey
Filed Jan. 18, 1967, Ser. No. 610,055
Int. Cl. G03b 19/06
U.S. Cl. 95—11 10 Claims



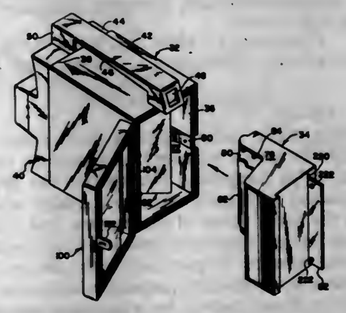
A photographic camera having a retractile lens housing that retracts the shutter trigger by a cable connection when the lens housing is retracted and without operating the shutter mechanism. Where a trigger blocking mechanism is employed, the blocking mechanism is disabled during such retraction and is restored when the lens housing and trigger are extended.

3,440,940
TICKET ISSUING APPARATUS
Mitinka Yamamoto, Otokuni-gun, Kyoto-fu, Japan, assignor to Tateisi Electronics Co., Ukyo-fu, Kyoto-shi, Japan, a Japanese body corporate
Filed Dec. 12, 1966, Ser. No. 601,195
Claims priority, application Japan, Dec. 22, 1965, 40/79,584
Int. Cl. G03b 29/00
U.S. Cl. 95—12 3 Claims



Ticket issuing apparatus having equipment with negative ticket pictures thereon and means for selecting a desired ticket picture by actuation of a combination of appropriate switches. A collating circuit, also responsive to the switch actuation, assures that a proper charge has been made for a desired ticket, whereupon copying means copy the negative ticket picture onto a ticket which is issued.

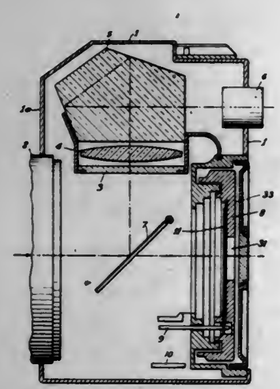
3,440,941
PHOTOGRAPHIC APPARATUS
George J. Linder, East Islip, N.Y., assignor to Camera Corporation of America, a corporation of Delaware
Continuation-in-part of applications Ser. No. 480,046, Aug. 16, 1965, and Ser. No. 171,988, Feb. 8, 1962.
This application Feb. 6, 1968, Ser. No. 703,291
Int. Cl. G03b 17/50
U.S. Cl. 95—13 20 Claims



An access door particularly adapted to be mounted upon the housing of photographic apparatus for exposing successive photosensitive portions of a web provided with suc-

cessive sets of locating apertures, to a subject image. Each exposed portion is developed prior to locating the next portion in a position for exposure, and moved to a position for extraction in a furnished condition.

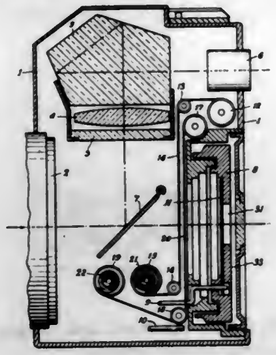
3,440,942
MIRROR REFLEX CAMERA
Edgar Sauer, Stuttgart-Rohr, Germany, assignor to Zeiss Ikon Aktiengesellschaft, Stuttgart, Germany, a corporation of Germany
Filed Aug. 24, 1966, Ser. No. 574,641
Claims priority, application Germany, Sept. 1, 1965, Z 11,733
Int. Cl. G03b *19/12*
U.S. Cl. 95—42 1 Claim



A mirror reflex camera is provided for use with conventional film cartridges which latter have two horizontally spaced film spool chambers connected with each other by a bridge over which the film is moved from one chamber to the other. In order to be able to employ such a cartridge, the latter has to be inserted into the corresponding spool chamber receiving recesses of the camera casing in an inverted manner, because the scanning members for advancing the film and for introducing the film speed into the camera are arranged in the lower portion of the camera casing, the upper portion of which contains the reflex finder.

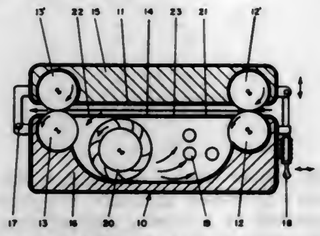
3,440,943
MIRROR REFLEX CAMERA WITH FOCAL PLANE SHUTTER
Edgar Sauer, Stuttgart-Rohr, Germany, assignor to Zeiss Ikon Aktiengesellschaft, Stuttgart, Germany, a corporation of Germany
Filed Aug. 24, 1966, Ser. No. 574,656
Claims priority, application Germany, Sept. 1, 1965, Z 11,731
Int. Cl. G03b *9/40*
U.S. Cl. 95—57 3 Claims

A mirror reflex camera with a focal plane shutter is constructed in such a manner that it may be loaded with a film cartridge comprising two spaced film spool chambers connected with each other by a bridge which comes to lie in the focal plane of the camera and along which the film is moved from one chamber into the other. The focal plane shutter is provided with shutter members which move in a direction perpendicular to the direction in which the film is moved by a scanning member which is arranged in the lower part of the camera casing. Another scanning member which engages a film speed indicating mark on the cartridge is also arranged in the lower part of the camera casing. When a conventional film cartridge is to be used, it has to be inserted upside



down into the camera casing in order to be properly engaged by the two mentioned scanning members.

3,440,944
PROCESS AND APPARATUS FOR THE DEVELOPMENT OF PHOTOCOPYING MATERIAL
Fritz Endermann, Wiesbaden, Johannes Munder, Wiesbaden-Biebrich, and Joachim Stroszynski, Wiesbaden, Germany, assignors, by mesne assignments, to Keuffel & Esser Company, Hoboken, N.J.
Filed Feb. 12, 1965, Ser. No. 432,252
Claims priority, application Germany, Feb. 15, 1964, K 52,112
Int. Cl. G03d *7/00*; F26b *13/04*
U.S. Cl. 95—89 13 Claims

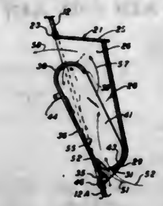


An apparatus and method for heat development of photographic materials particularly of the diazo-type using moist ammonia gas in which the photocopy is fed into a closed chamber and heated gas is forcefully blown over at least one surface of the photocopy. The photocopy is rapidly heated to increase the speed of development and to provide precise and uniform treatment of each increment of the photocopy. The device is sealed at the entrance opening and the exit opening of the development chamber to prevent the escape of gas from the chamber while providing for effective feeding of the photoprint. The developing chamber contains a heating element to heat the development gas to the optimum temperature and a fan for circulating the heated gas while the sealing elements maintain the gas in a confined chamber to prevent the objectionable odor from the development gas from escaping to the atmosphere.

3,440,945
WATERPROOF VENTILATOR FOR BOAT WINDSHIELDS
George N. de Mura, Rte. 1, Box 666, Space 85, Alta Sierra Drive, Grass Valley, Calif. 95945
Filed Oct. 25, 1967, Ser. No. 677,989
Int. Cl. F24f *7/00*; B60l *1/00*
U.S. Cl. 98—37 7 Claims

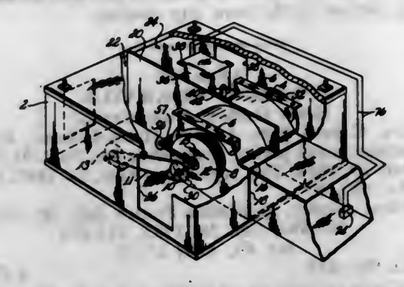
A transparent ventilator box with an air intake at the bottom projects from the normal plane of the windshield.

A transparent baffle is hinged near the bottom intake. The top of the baffle curves forwardly to terminate in a sealing edge movable away from and against the inner face of the ventilator box. Parallel side flanges of the ventilator baffle movably seal against parallel sides of



the ventilator box. The hinge line of the ventilator baffle is aft or back of the ventilator box opening. The baffle terminates below the upper wall of the ventilator box, and, when the baffle is pivoted away from the face of the ventilator box, air flow occurs between the curved baffle top and the ventilator box.

3,440,946
PROPORTIONAL CENTRIFUGAL BLOWER
Thompson Morrison, Shaker Heights, Ohio, assignor, by mesne assignments, to Hunter Morrison, Jr., and Thompson Morrison, jointly, both of Cleveland, Ohio
Filed Mar. 13, 1967, Ser. No. 622,506
Int. Cl. F24f *7/06*; F04d *17/08*
U.S. Cl. 98—38 3 Claims



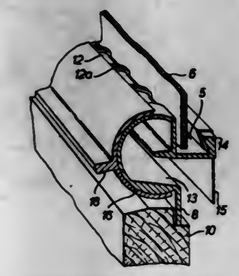
A centrifugal type blower having two separated inlet ports and one outlet port. A baffle is positioned adjacent each inlet port and mounted for simultaneous movement so that as the amount of gas entering one inlet port may be increased while the air entering the other is simultaneously decreased.

3,440,947
COMBINATION DIFFUSER AND FALSE CEILING SUSPENSION SYSTEMS
Eugene F. Averill, Waterloo, Iowa, assignor to Titus Manufacturing Corporation, Waterloo, Iowa, a corporation of Iowa
Filed Sept. 19, 1966, Ser. No. 580,440
Int. Cl. F24f *13/06*; E04b *5/55*; F16b *1/00*
U.S. Cl. 98—40 7 Claims



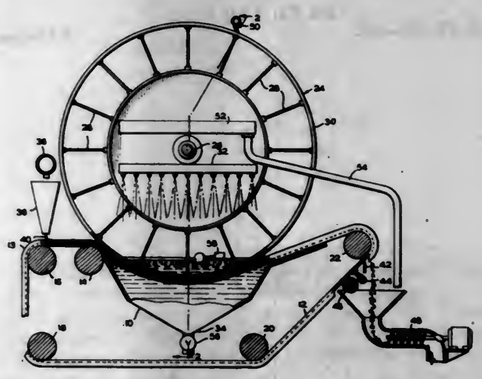
Ceiling structures embodying slot diffusers with barb duct-connecting edges, spring-arm-mounted pattern controller, and clips to connect diffusers with other ceiling diffusers.

3,440,948
WINDOW SASH VENTILATING MEANS
James Victor Eurich, Norwich, England, assignor to B. W. Bailey & Son Limited, Wellington, North Island, New Zealand, a corporation of New Zealand
Filed June 13, 1967, Ser. No. 645,807
Claims priority, application Great Britain, June 13, 1966, 26,248/66
Int. Cl. E06b *7/10*; F24f *7/00*
U.S. Cl. 98—97 2 Claims



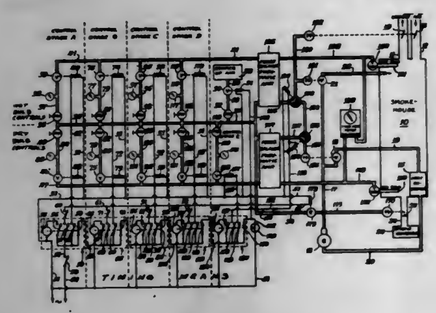
Ventilating means for ducting air from the exterior to the interior of a panel and preferably a panel of glass in a window frame to deliver a controllable flow of air adjacent and substantially parallel to the inner face of the glass panel. In particular, a C-shaped apertured body member, including a C-shaped shutter rotatably mounted thereon, controls the admission of air into the interior.

3,440,949
PROCESSING WASTE RECOVERY SYSTEM
Harry B. Trussell, 609 Stokeswood Ave., SE., Atlanta, Ga. 30316
Filed Oct. 22, 1965, Ser. No. 502,001
Int. Cl. A23k *1/00*
U.S. Cl. 99—235 4 Claims



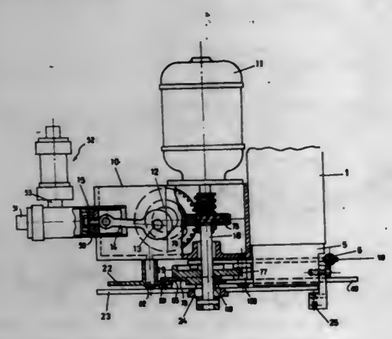
Apparatus for removing organic matter from an aqueous organic solution primarily for the purpose of producing animal feed therefrom. The apparatus comprises two coacting conveyors maintaining a continually moving fibrous bed therebetween. Means are provided for circulating the solution through the moving bed which entraps any organic matter in the solution.

3,440,950
SMOKEHOUSE CONTROL SYSTEM
Le Roy G. Moskal, Lodi, Wis., assignor to Alkar Engineering Corporation, Lodi, Wis., a corporation of Wisconsin
Filed Apr. 20, 1966, Ser. No. 544,011
Int. Cl. G05d *21/02*; F23n *5/20*
U.S. Cl. 99—259 10 Claims



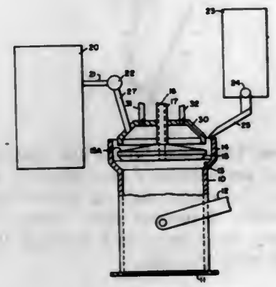
There are a plurality of penumatic control stations, i.e., set points, in two sets, one set being for a wet bulb control and the other set being for a dry bulb control. These control stages each are operative for periods of time determined by electric timers with each subsequent control stage being activated when the timer of the preceding control stage runs out. Each set is connected to a force balance pneumatic amplifier which compares the pneumatic input signal from the control stages with an input signal from wet and dry bulbs, respectively, located in the smokehouse. The force balance pneumatic amplifiers control the temperature and humidity in the smokehouse by the operation of a series of motor driven valves.

3,440,951
AUTOMATIC COFFEE BREWING MACHINE
Jose Marlet Barrera, Paseo Valldoreix 6, San Cugat del Valles, Barcelona, Spain
Filed Oct. 27, 1967, Ser. No. 678,652
Claims priority, application Belgium, Oct. 27, 1966, 688,979
Int. Cl. A47j *31/40*
U.S. Cl. 99—282 9 Claims



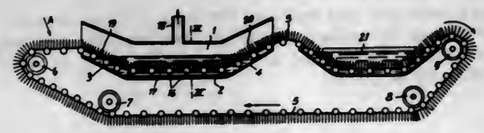
An automatic coffee brewing machine utilizing prepackaged coffee containers for individual brews. Cycled valve mechanisms admit hot water under pressure to be forcefully passed through the individual containers, the containers being indexed to such position and held in sealed relation with the passage conducting the hot water.

3,440,952
BREWING APPARATUS
Carl R. Merola, Monroeville, and Wesley Mamrose, Irwin, Pa., assignors to Westinghouse Electric Corporation, Pittsburgh, Pa., a corporation of Pennsylvania
Filed Dec. 29, 1967, Ser. No. 694,550
Int. Cl. A23f *1/08*; A47j *31/00*
U.S. Cl. 99—289 4 Claims



A brewing cup having an upper opening and a movable planar piston for closing the opening together with means to separately introduce liquid and solid brew particles substantially simultaneously through the opening while the piston is spaced above the opening in a manner to thoroughly mix the liquid and particles as they pass into the cup and to prevent accumulation of particles around the sealing surface of the brew cup opening.

3,440,953
COOKING APPARATUS
Henri Griffon, Paris, France
(14 Ave. Gabriel Peri, Antony, Hauts-de-Seine, France)
Continuation-in-part of application Ser. No. 298,350, July 29, 1963. This application Mar. 16, 1967, Ser. No. 623,727
Claims priority, application France, July 30, 1962, 905,494; Jan. 28, 1963, 922,814
Int. Cl. A47j *27/00*
U.S. Cl. 99—355 3 Claims

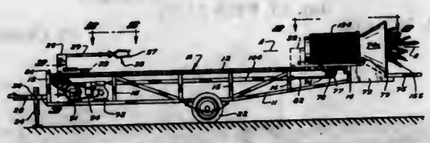


Cooking apparatus for cooking cut pieces of food having a continuous conveyor which carries the cut pieces down, through and out of a reservoir of cooking liquid in a tunnel-like boiler and then immediately down, through, up and out of a cooling tank, the conveyor then passing beneath the tank and boiler and returning to the latter's inlet end.

3,440,954
CHRISTMAS TREE LOADER APPARATUS
Otto Woseran, Minneapolis, and Harold N. Anderson, Golden Valley, Minn., assignors to Bemis Company, Inc., Minneapolis, Minn., a corporation of Missouri
Filed Oct. 31, 1967, Ser. No. 679,485
Int. Cl. B30b *5/00*, *15/02*; B65b *63/02*
U.S. Cl. 100—144 15 Claims

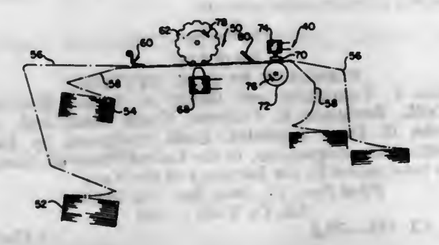
Trailer mounted apparatus for loading a Christmas tree into plastic netting including gripper mechanism for pulling the tree through a funnel to radially compress the branches of the tree, said gripper mechanism being mounted on a carriage for longitudinal movement. The

gripper mechanism includes a pair of sharp edged jaws that are forced apart by the tree trunk as the carriage is moved toward and adjacent the funnel, the jaws being



resiliently urged through jaw mounting mechanism to bite into the tree trunk as the carriage is retracted. Clutch mechanism is provided for applying drive to the carriage in either longitudinal direction.

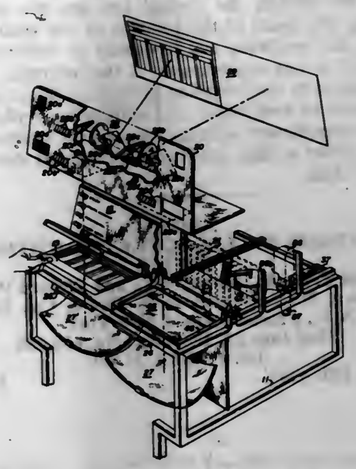
3,440,955
MULTIPLE PAPER-FEED MECHANISM AND STACKER DEVICE IN HIGH-SPEED PRINTERS
Charles F. Howard, Dayton, and Raymond J. Spieler, Centerville, Ohio, assignors to The National Cash Register Company, Dayton, Ohio, a corporation of Maryland
Filed Sept. 29, 1966, Ser. No. 582,890
Int. Cl. B41j; B41k; B41l *45/00*
U.S. Cl. 101—93 10 Claims



A portable, selective, multiple paper-feed mechanism which is especially adaptable for use with a high-speed printer employing a rotating drum having printing characters thereon. The mechanism includes a paper-tape supply means, six individual tape feed stations, a stacking device for collecting the tapes after they are printed upon, and control means to control the feeding of the tapes at selected feed stations. Each feed station includes a drive roller and a shoe member having a flat smooth surface thereon. An individual tape, positioned between its associated roller and shoe member at its feed station, is fed by moving the shoe member towards the roller to squeeze the tape therebetween, and then the roller is incrementally rotated to slide the tape over the smooth surface of the shoe member to incrementally feed the tape.

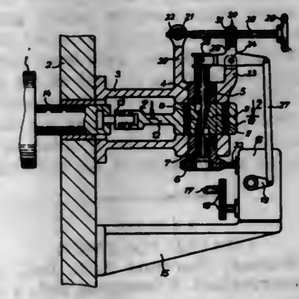
3,440,956
APPARATUS FOR SEQUENTIALLY PRINTING AND PROJECTING DATA SUCH AS GAME SCORES
Daniel D. Miller, Sunnyvale, Calif., assignor to Dobun Labs, Inc., Sunnyvale, Calif., a corporation of California
Filed June 26, 1967, Ser. No. 648,863
Int. Cl. B41j *9/36*
U.S. Cl. 101—93 10 Claims

A printing mechanism employs a movable shuttle mechanism which carries a form on which data may be printed. The form may be a multi-part form, one part of which is transparent for projecting an image of the printed data. At the printing position, all parts of the form receive printing from a common print mechanism, and as the shuttle moves to the projecting position, the non-projectable parts of the form are separated from the projectable part so that only the transparent part is carried to



the projecting station. Printing is accomplished by placing the form adjacent printing wheels carrying the characters to be printed and forcing the form against the wheels by solenoid-operated print hammers.

3,440,957
INK ROLLER VIBRATOR
Paul Heimlicher, Bolligen, and Jean Rohrer, Bern, Switzerland, assignors to Maschinenfabrik Winkler, Fallert & Co. AG, Bern, Switzerland
Filed May 20, 1966, Ser. No. 551,664
Claims priority, application Sweden, May 25, 1965, 6,845/65
Int. Cl. B41f *31/10*
U.S. Cl. 101—349 13 Claims



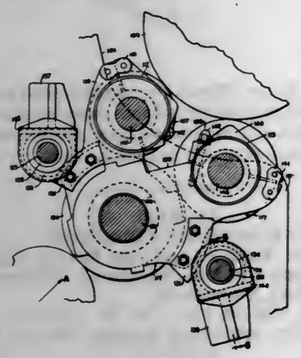
A device for vibrating or oscillating an ink roller during its rotation includes a mounting for the roller axle which permits its axial shifting movement. The control link member is pivotally connected to the roller axle and it is shifted backwardly and forwardly to effect the desired oscillatory or vibratory movement of the ink roller. The construction includes a rotatable hollow shaft member which is located within a bushing bore of the control link member. A cross key is transversely shiftable within the hollow shaft member and it bears against the wall of the bore of the link member. A control key is slidable within the bore of a shaft member and engages the cross key. Upon axial movement of the control key the cross key is shifted transversely in order to shift the position of the control link member relative to the hollow shaft member

and thus vary the eccentricity of the shaft rotational axis with respect to the axis of the bore of the bushing of the control link member. The hollow shaft is continuously rotated by means which may provide a speed variation. In addition, a linkage connection is effected between the means for shifting the control key and the means for changing the speed of the rotation of the shaft in order to vary the amplitude and frequency of vibration of the ink roller in one embodiment of the invention. Another embodiment of the invention provides a direct independent control of both speed and amplitude of vibration. A further embodiment includes a means for selectively connecting either a high speed or a low speed drive to the rotating shaft.

3,440,958
PRECISION ROLLER SOCKET ADJUSTMENT DEVICE

Alexander Z. Benda, Bronx, N.Y., and Richard Woessner, Fairlawn, N.J., assignors to R. Hoe & Co., Inc., New York, N.Y., a corporation of New York

Filed June 29, 1967, Ser. No. 650,036
Int. Cl. B41f *31/00*
U.S. Cl. 101—349 8 Claims



A device for adjusting the position of the roller socket of an ink motion having a solid shaft carried within a hollow shaft, each carrying a screw pinion having helical gears. The screw pinions engage helical gear segments which are fixed to a lever pivotally mounted about a bushing of the adjacent ink drums, each lever carries a roller socket. A knob mounted on an end of the solid-hollow shaft combination for rotating them individually or simultaneously whereby the screw pinions are caused to be axially displaced so as to cause rotation of the levers thereby adjusting the position of the roller sockets.

3,440,959
COATED POLYMER

Richard L. Wagner, Sherwood Park, Del., assignor to Hercules Incorporated, Wilmington, Del., a corporation of Delaware

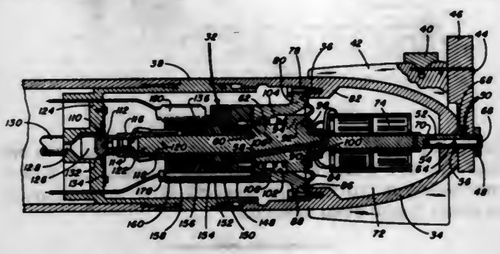
No Drawing. Continuation-in-part of application Ser. No. 528,418, Feb. 18, 1966. This application Dec. 14, 1966, Ser. No. 601,577
Int. Cl. B41n *1/00, 3/00*
U.S. Cl. 101—453 8 Claims

Coated polymers, comprising polyolefins, polystyrene, styrene copolymers, blends of polystyrene with styrene-butadiene copolymers, poly(vinyl chloride) poly(vinylidene chloride), vinyl chloride-vinylidene chloride copolymers, and poly[bis(chloromethyl) oxetane] coated with a thin layer of silicon monoxide and, which, in the form of sheets, are useful as lithographic plates. The said coated polymers may be prepared by vacuum depositing a coating of silicon monoxide of from about 3×10^{-6} inch to about 40×10^{-6} inch on the surface of the polymer.

3,440,960
SUBMARINE SIGNAL CONTROL DEVICE

William H. Reams, Adelphi, Md., assignor to the United States of America as represented by the Secretary of the Navy

Filed Nov. 28, 1967, Ser. No. 686,211
Int. Cl. F42b *21/34*
U.S. Cl. 102—16 15 Claims

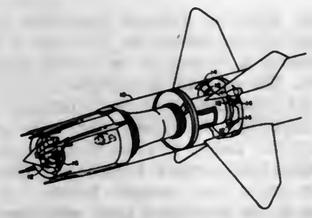


A hydrostatic fuze having a housing with a central axial cavity, a plurality of electrical contacts disposed on the inner surface of the housing, an elongate piston slidably positioned in the cavity but partially exposed to hydrostatic pressure, a plurality of electrical contacts disposed on the outer surface of the piston, a diaphragm circumferentially disposed between the housing and the piston to form a fluid-tight seal, a spring urging the piston against the hydrostatic pressure so that the piston position is a function of hydrostatic pressure. An explosive squib is secured to the piston for movement into an explosion chamber upon movement of the piston in response to hydrostatic pressure.

3,440,961
CONTACT FUZING SYSTEM

Ernest F. Fohrmann and David A. Scoles, Riverside, Calif., Benjamin T. Cochran, South Bend, Ind., and John O. Dick, Riverside, Calif., assignors, by direct and mesne assignments, to the United States of America as represented by the Secretary of the Navy

Filed Nov. 17, 1966, Ser. No. 595,271
Int. Cl. F42c *13/00*
U.S. Cl. 102—70.2 2 Claims



A contact fuzing system for providing a plurality of triggering elements without one triggering element interfering with another. A plurality of triggering elements positioned over an area of expected impact with a target are coupled by means of an isolating circuit to the processing circuit which generates the firing pulse.

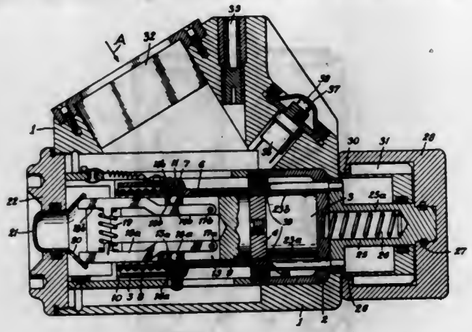
3,440,962
DEVICE FOR IGNITING EXPLOSIVE CHARGES

Paul Madlener, Karlsruhe-Durlach, and Otto Pecksen, Herrenalb, near Karlsruhe, Germany, assignors to Industrie-Werke Karlsruhe Aktiengesellschaft, Karlsruhe, Germany, a corporation of Germany

Filed May 5, 1967, Ser. No. 636,392
Claims priority, application Germany, May 12, 1966, J 30,816
Int. Cl. F42c *13/08*
U.S. Cl. 102—70.2 6 Claims

A device for igniting explosive charges by means of an electrodynamic current generator provided with an

ignition coil which is axially moved by a powerful spring in a linear path into a cup-shaped magnet and thereby intersects a magnetic flux established in an annular air gap formed between the inner circular wall of said cup-

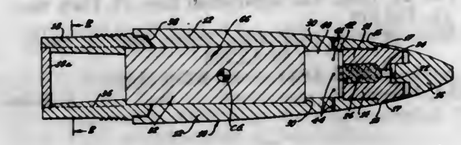


shaped magnet and the outer circumference of a magnetic core mounted in said cup-shaped magnet so as to generate an electrical pulse sufficient to ignite a fuse and therewith the explosive charge.

3,440,963
DUMMY WARHEAD FOR ROCKET, MISSILE OR THE LIKE

Peter L. De Luca, 4932 Newton St., Torrance, Calif. 90505

Filed Aug. 15, 1967, Ser. No. 661,764
Int. Cl. F42b *13/20*
U.S. Cl. 102—92.7 11 Claims



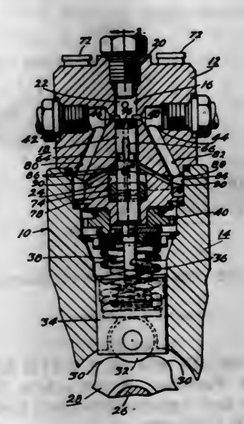
A improved dummy warhead for a rocket, missile, or other trajectile, for training purposes, is described herein; the dummy warhead serving to produce a visual indication of the point of impact of the warhead, so that the accuracy of the fire control system for the trajectile may be tested, as may the skill of the operators controlling the system.

3,440,964
FUEL INJECTION PUMP

Max H. Voigt, Chicopee Falls, Mass., assignor to AMBAC Industries, Incorporated, Springfield, Mass., a corporation of New York

Filed Dec. 9, 1966, Ser. No. 600,474
Int. Cl. F04b *13/02, 49/00*
U.S. Cl. 103—2 5 Claims

A single plunger, distributor type fuel injection pump, the improvement comprising means for filling the fuel distribution chamber during the entire downstroke of the pump plunger thereby preventing insufficient filling and cavitation erosion, especially at high engine speed, said means also preventing engine reversal; said means comprising an arrangement of supplementary ports in the plunger and complementing supplementary conduits in the pump hydraulic head to provide communication of the

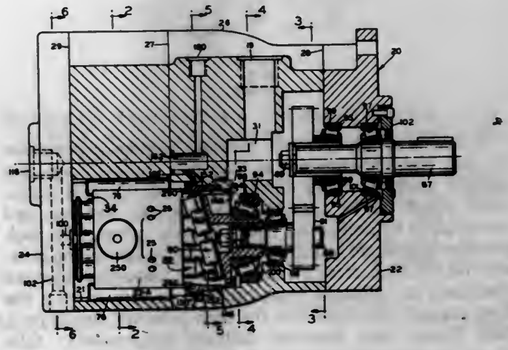


fuel distribution chamber with the fuel supply during the entire plunger downstroke.

3,440,965
FLUID ACTUATED STROKE CONTROL SYSTEM FOR PLURAL PUMPS

Robert E. Raymond, Zanesville, Ohio, assignor to International Basic Economy Corporation, New York, N.Y.

Filed Dec. 29, 1966, Ser. No. 605,808
Int. Cl. F04b *49/00, 1/14, 21/00*
U.S. Cl. 103—37 11 Claims



A fluid actuated stroke control system for plural pumps which includes a controller valve section that detects variations in pressure due to changes in conditions at a load and functions to operate a priority control valve means which in turn operates to sequentially control plural pumps.

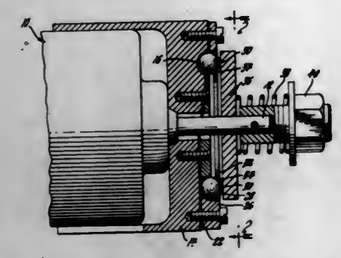
3,440,966
TRANSFER PUMP

Paul R. Lagonegro, Henrietta, N.Y., assignor to General Motors Corporation, Detroit, Mich., a corporation of Delaware

Filed Aug. 29, 1967, Ser. No. 664,203
Int. Cl. F04b *49/00, 43/08;* F04d *15/00*
U.S. Cl. 103—37 3 Claims

In a preferred form, this disclosure relates to a rotary

fluid pump utilizing a pair of symmetrically spaced balls purging a crescent-shaped chamber when rotated to build



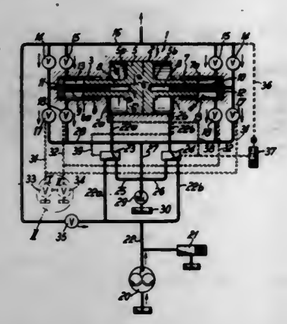
a fluid pressure from one end of the cerscent-shaped chamber to the other.

3,440,967

FLUID PRESSURE SOURCE WITH BOOSTER

Hermann Joseph Pennther, Saarbrucken, Germany, assignor to Stahl- und Apparatebau Hans Leffer G.m.b.H., Dudweiler-Saar, Germany

Filed Jan. 10, 1967, Ser. No. 608,302
Claims priority, application Germany, Jan. 13, 1966, St 24,866
Int. Cl. F04b *1/12, 5/00, 19/02*
U.S. Cl. 103—51 6 Claims



A double acting hydraulic pressure booster incorporates on each high pressure side at least two manually separate parallel acting pressure chambers having different piston areas which can be brought into operation together and individually by controlled back pressure valves. The back pressure valves are selectively operated on increasing pressure on the high pressure side and the associated pressure chambers are released from pressure in turn so that the feed amount delivered into the high pressure circuit by a feed pump with constant delivery progressively falls so as to maintain constant the product of the pressure and the delivery volume so as to maintain full output from the motor driving the feed pump.

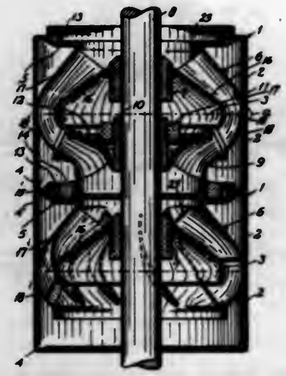
3,440,968

CENTRIFUGAL PUMP

Niels Due Jensen, Viborg, Denmark, assignor to Grundfos A/S

Filed Aug. 8, 1967, Ser. No. 659,166
Claims priority, application Denmark, Aug. 9, 1966, 4,105/66
Int. Cl. F04d *1/06*
U.S. Cl. 103—108 4 Claims

Centrifugal pump with a tubular pump housing and a guiding device attached therein and consisting of two skirts and guide vanes lying therebetween, and in which all parts are made by punching of sheet material, preferably stainless steel sheet and welded to each other and, for example, guided by means of pins and holes. A unit of the said kind is assembled axially with similar units with intermediate layers of resilient sealing means. Each section of housing and each outer skirt are made of two pieces which are joined, abutting in a plane at right angles to the longitudinal axis of the housing section and connected by a single welded seam extending around the tubular housing in said plane in order to facilitate the manufacturing of said parts and placing of the guiding device in the housing section and further to make possible the use of an inwardly projecting flange on the housing section so as to provide a flat contact surface for a sealing ring.

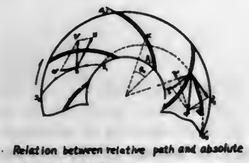


3,440,969

IMPELLER HAVING A CENTRIFUGAL FLUID HANDLING MEANS HAVING STEADILY CURVING VANES

Masukichi Kondo, No. 170–6, Kannou-cho, Nishinomiya, Hyogo Prefecture, Japan

Continuation-in-part of application Ser. No. 530,712, Feb. 28, 1966. This application June 19, 1968, Ser. No. 738,275
Claims priority, application Japan, Mar. 3, 1965, 40/12,268
Int. Cl. F04d *29/24;* B23p *15/04*
U.S. Cl. 103—115 2 Claims



Relation between relative path and absolute path in an impeller.

An impeller for a centrifugal fluid handling means. The impeller has vanes curving steadily and at a uniform rate from the outer periphery thereof to the inner periphery thereof in a smooth curve. The vanes have a curvature satisfying the condition:

$$\beta_x=\beta_1\pm(\theta_x/m)$$

wherein

θ_x=the central angle between the origin of the vane at one of said peripheries and a point x along the vane;
β_x=the vane angle at said point x;
β_1=the vane angle at the origin of the vane; and
$m=\theta/\beta_x-\beta_1$

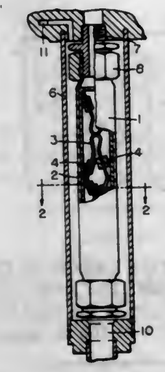
The vane angle decreases or increases steadily at a uniform rate from the point of origin of the vane to the outer periphery.

3,440,970

DIAPHRAGM PUMP

Josef Wagner, 7991 Friedrichshafen-Fischbach, Germany

Filed May 17, 1967, Ser. No. 639,111
Int. Cl. F04b *43/08*
U.S. Cl. 103—148 5 Claims



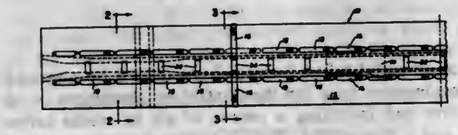
Diaphragm pump apparatus in which the diaphragm is in the form of a hose sealed at one end and internally spring loaded to give the hose a narrow oval cross-section. When the hose is pressurized by a medium the cross-section is enlarged toward a circular shape which displaces the material to be pumped from the casing in which the diaphragm is contained. Upon release of the pressurizing medium the hose is restored to its reduced oval shape by the springs permitting more of the material to be pumped, to enter the casing, and then the procedure is repeated.

3,440,971

MOVABLE GUIDE RAIL STRUCTURE FOR RAILWAY FLATCARS

Walter E. O'Leary, Creve Coeur, Duane V. Thornton, St. Charles, and Tom C. Buckthorpe, St. Louis County, Mo., assignors to ACF Industries, Incorporated, New York, N.Y., a corporation of New Jersey

Filed June 29, 1967, Ser. No. 650,000
Int. Cl. B65j *1/22;* B61d *45/00*
U.S. Cl. 105—368 3 Claims



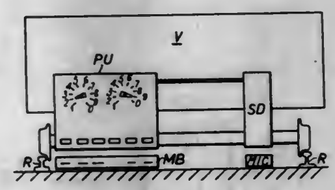
A guide rail for a railway flatcar having a plurality of rail sections arranged in end-to-end relation to form a continuous guide rail with some of the guide rail sections movable between a load support position transversely of the car and a guide position longitudinally of the car. The movable sections have pockets on their outer ends when in the transverse position to receive load restraining means such as side stakes or the like. The sections are of a box-shaped cross section and have a slotted side to receive a tie-down structure or a support for a nailing strip.

3,440,972

SORTING APPARATUS

Eric Sidebotham, Oadby, and George James Human, Leicester, England, assignors to Associated Electrical Industries Limited, London, England, a British company

Filed Jan. 3, 1967, Ser. No. 606,961
Claims priority, application Great Britain, Jan. 7, 1966, 850/66
Int. Cl. B61b *9/00;* B61j *3/04;* B61l *1/00*
U.S. Cl. 104—88 5 Claims



Sorting apparatus for controlling carriers of goods or materials moving along a guided path to required destinations in which an array of coded magnets on the carriers or at the destinations operates corresponding switches at the destinations or on the carriers, the code switches being in series so that a control circuit is completed if the correct combination is operated.

The code switches are two-way switches and the code is set up by two-way selector switches in series with associated code switches so that the control circuit is only completed if the correct combination of code switches had been operated and provided that no unwanted code switches have been incorrectly operated.

ERRATUM

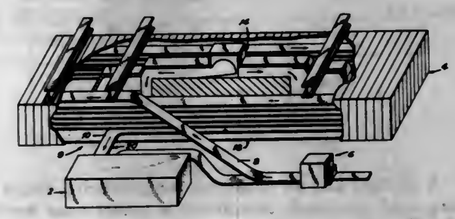
For Class 105—368 see:
Patent No. 3,440,971

3,440,973

PROOFERS FOR BREAD PRODUCTS AND CONVEYOR SYSTEMS WHICH ARE ADAPTED TO USE THEREIN

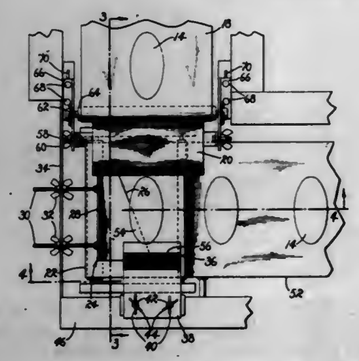
William E. Lanham, 3456 Woods Drive; Gene C. Miller, 3540 Woods Drive; and William E. Lanham, Jr., 3044 Katherine Valley Road, all of Decatur, Ga. 30032

Continuation-in-part of application Ser. No. 448,732, Apr. 16, 1965. This application Nov. 10, 1966, Ser. No. 593,504
Int. Cl. A21c *9/00;* A23g *7/00*
U.S. Cl. 107—7 6 Claims



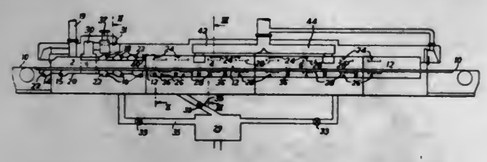
A proofing system for bakery products wherein an endless conveyor carries bakery products to be proofed through a proofing enclosure where the products are subjected to uniform proofing conditions.

3,440,974
ARTICLE HANDLING AND POSITIONING APPARATUS
Oscar F. Ruiz, P.O. Box 1253, Tulare, Calif. 73274
Filed Oct. 21, 1966, Ser. No. 588,496
Int. Cl. A21c 3/00
U.S. Cl. 107—12 10 Claims



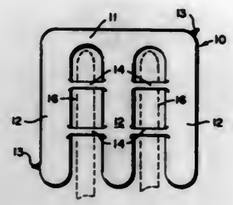
Apparatus for orienting elliptical pieces of dough including first and second traveling belt conveyors right angularly related, a ramp plate bridging a gap between the conveyors, and a friction plate having an edge extending obliquely from the ramp plate across the second conveyor in the direction of movement thereof, the dough pieces being discharged by the first conveyor across the ramp plate and onto the second conveyor with sufficient velocity to be substantially centrally positioned thereon and with a leading portion of the dough piece marginally overlapping the friction plate and the trailing portion thereof supported on the second conveyor.

3,440,975
OVENS
Martinus Beuker, Shirley, Croydon, Surrey, England, assignor to Winkler-Atlas Manufacturing Limited, Croydon, Surrey, England
Filed Oct. 22, 1965, Ser. No. 501,829
Claims priority, application Great Britain, Jan. 8, 1965, 1,005/65
Int. Cl. A21b 1/02, 1/06; F27b 9/00
U.S. Cl. 107—54 11 Claims



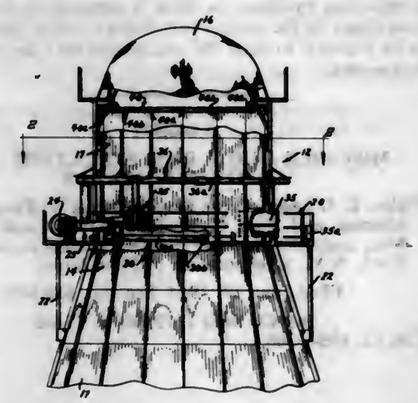
A method and an apparatus for producing baked articles, said apparatus comprising a tunnel oven having a plurality of consecutive chambers therein. The articles to be baked are conveyed through the successive chambers of the oven, the first chamber being heated indirectly by the combustion of gaseous fuel. Hot combustion gases from the first chamber are fed into a subsequent chamber for contacting the articles as they pass therethrough.

3,440,976
INFLATABLE PALLETS
Frederick A. Burne, Hamden, Conn., assignor to Emery I. Valyi, Riverdale, N.Y.
Filed Mar. 2, 1967, Ser. No. 620,120
Int. Cl. B65d 19/00
U.S. Cl. 108—51 2 Claims



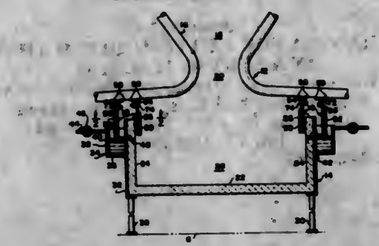
An inflatable pallet for loads to be lifted by an elevator having lifting arms. The pallet includes inflatable members to be placed under the load having openings to receive the lifting arms of the elevator.

3,440,977
REFUSE BURNER
Guy S. Yoe, Jr., Evansville, Ind., assignor to George Koch Sons, Inc., Evansville, Ind., a corporation of Indiana
Filed Feb. 14, 1967, Ser. No. 616,122
Int. Cl. F23b 1/30; F23g 7/00
U.S. Cl. 110—18 3 Claims



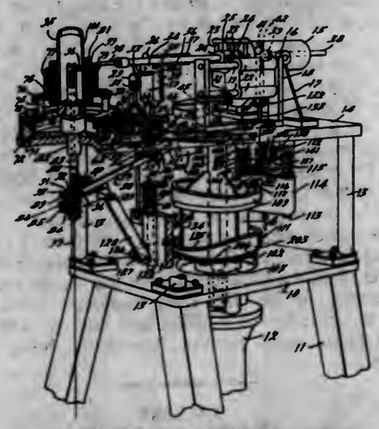
A commercial refuse burner characterized by a secondary combustion zone for the control or abatement of air pollution and including a source of air to create turbulence and a dampening effect, a burner arrangement, and a filter of atomized water.

3,440,978
CORRUGATED FURNACE SEAL
Byram Jamshed Magol, Convent Station, N.J., assignor to Foster Wheeler Corporation, Livingston, N.J., a corporation of New York
Continuation-in-part of application Ser. No. 447,709, Apr. 13, 1965. This application Apr. 27, 1967, Ser. No. 634,265
Int. Cl. F23j 1/00
U.S. Cl. 110—165 2 Claims
A sealing means for use in the opening between a furnace bottom and an ash hopper disposed beneath the furnace. The sealing means comprise explosively formed



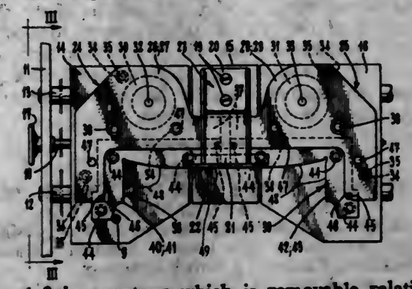
corrugated plates which are mounted on the furnace bottom and extend around the periphery of the ash hopper.

3,440,979
STATOR COIL LACING MACHINE HAVING A DISCONNECTABLE GENEVA DRIVE
Robert E. Frederick, Detroit, Mich., assignor to Link Engineering Company, Detroit, Mich., a corporation of Michigan
Filed Oct. 20, 1965, Ser. No. 498,640
Int. Cl. D05b 23/00; F16h 55/04; D04b 35/00
U.S. Cl. 112—2 12 Claims



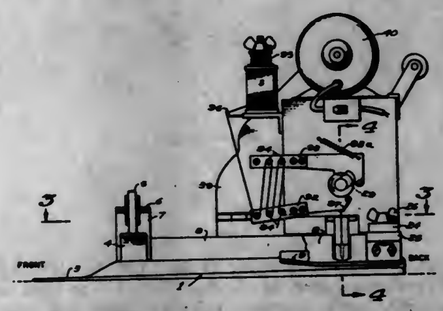
A machine for lacing the coils of wound stators has a needle and supporting bar which is advanced and retracted, tilted upwardly and downwardly and rotated on its axis. The needle operates in conjunction with an upwardly and downwardly threaded laying guide to form loops which are spread by the angular advancement of the stator. The operation occurs during a dwell period of the stator which may be retained for laying a number of loops at one or more points in the 360° incremental advancement of the stator.

3,440,980
REMOVABLE STITCH PATTERN TEMPLATE MEANS FOR SEWING MACHINES
Luigi Bono, Pavia, Italy, assignor to Necchi Società per Azioni, Pavia, Italy
Filed Jan. 12, 1967, Ser. No. 608,814
Claims priority, application Italy, Jan. 12, 1966, 22/66
Int. Cl. D05b 23/00; D05c 3/02, 7/04
U.S. Cl. 112—2 7 Claims
A template means for sewing machines wherein a cloth holding frame is moved past the sewing needle in conformity with a stitching pattern defined by the peripheral contour of spaced apart parallel magnetic plates, said template means being removably attachable along the periphery of said magnetic plates and thereby constituting a



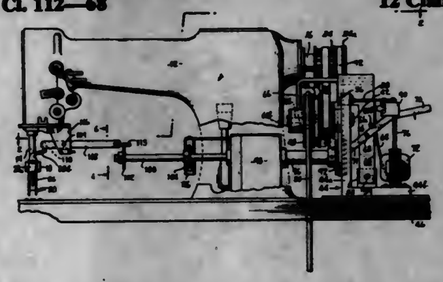
pattern-defining contour which is removable relative to said plates.

3,440,981
CARPET SEWING MACHINE
Roy M. Marinoff, 5275 Sunset Blvd., Los Angeles, Calif. 90027
Filed Aug. 25, 1966, Ser. No. 575,087
Int. Cl. D05b 23/00
U.S. Cl. 112—7 9 Claims



A carpet sewing machine arranged to support carpet sections to be joined in a pile-side-down position and in a continuous contiguous relation, within the region of the machine, by reason of a web of knife blade thickness providing the sole means of connection between the parts of the machine underlying and overlying the carpet sections; underlying and overlying parts of the machine having conforming portions which raise the confronting edges of the carpet sections so as to permit insertion of a sewing needle and the forming of stitches.

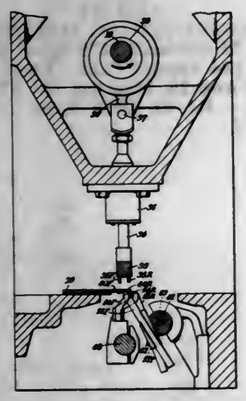
3,440,982
ATTACHMENT MEANS FOR POCKET OR BUTTONHOLE SLITTER
Edward Seaman, 65 Harvard St., Garden City, N.Y. 11530
Filed Nov. 7, 1967, Ser. No. 681,266
Int. Cl. D05b 3/00, 37/00
U.S. Cl. 112—68 12 Claims



Attaching means for a double-needle sewing machine having a slit cutter between the needles for operating

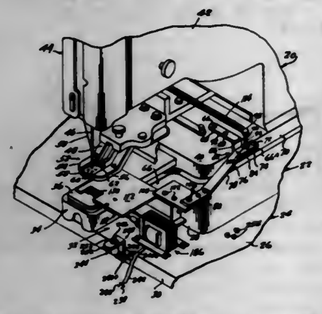
upon related superimposed work pieces fed to the machine to simultaneously sew and slit the work pieces, comprising means for controlling the lengths of the slit and the lengths of the rows of stitches being formed, automatically withdrawing the slit cutter in advance of the termination of the sewing operation and subsequently stopping the machine when the intended sewing and slitting operations have been completed.

3,440,983
REED DENTS AND KNIFE MOUNTING MEANS ON A TUFTING MACHINE
Douglas George Woodcock, Burnley, England, assignor to Edgar Pickering (Blackburn) Limited, Blackburn, Lancashire, England, a British company
Filed Aug. 11, 1966, Ser. No. 571,901
Int. Cl. D05c *15/14*
U.S. Cl. 112—79 3 Claims



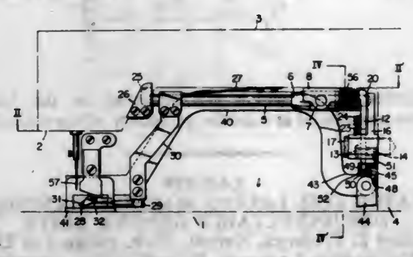
A tufting machine for making cut pile fabric having a reed plate over which cloth is fed. The reed plate is provided with alternate pairs of short and long reed dents, cooperating respectively with front and rear rows of needles which are reciprocated through the cloth to form loops of yarn. The loops are held by front and rear loopers and knives cooperating with the respective loopers are mounted in different angular positions on a common oscillating shaft.

3,440,984
METHOD AND APPARATUS FOR SLEEVING A BUTTON SHANK
Eugene F. Hofe, Shepherdstown, W. Va., assignor to The Londontown Manufacturing Company, Baltimore, Md., a corporation of Maryland
Filed Mar. 3, 1967, Ser. No. 620,463
Int. Cl. D05b *3/16*
U.S. Cl. 112—110 11 Claims



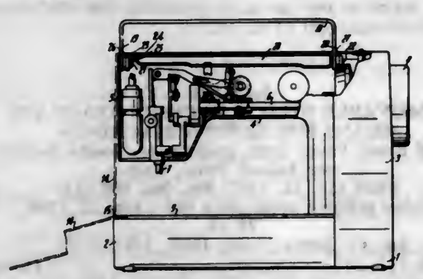
A method and apparatus for circumscribing a hollow flexible and elastic sleeve (shank) around the threaded connection between a conventional button and a fabric material to which the button is to be secured.

3,440,985
MECHANISM FOR CUTTING UPPER THREAD IN A SEWING MACHINE
Tadasi Kozuka, Tokyo, Japan, assignor to Tokyo, Juki Kogyo Kabushiki Kaisha, Tokyo, Japan
Filed June 16, 1967, Ser. No. 646,651
Int. Cl. D05b *65/02*
U.S. Cl. 112—252 1 Claim



Mechanism for cutting the upper thread in a sewing machine comprising a lever means rotatably mounted on said sewing machine, a swinging lever operably coupled with said lever means, a shaft located adjacent to the overhanging arm of said sewing machine, a cutting device secured to said shaft and operable to cut and grasp the cut end of the thread by the actuation of the shaft, and a presser bar coupled with the stitching means of the sewing machine, said shaft being adapted to be rotated about its axis and, at the same time, to be shifted axially forwardly from the initial retracted position by actuating said lever means through said swing lever thereby advancing said cutting device from the initial position spaced apart from and above the thread cutting position and effecting the cutting of the thread and grasping of the cut thread by the cooperation of presser bar, said shaft being first retracted axially without rotation thereof by releasing said lever means to retract said cutting device along the line of feed of the cloth with the thread grasped by said cutting device, and shaft thereafter being rotated about its axis thereby causing said cutting device to be moved to its initial position, the thread being released thereby.

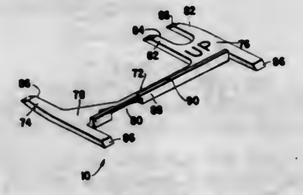
3,440,986
SEWING MACHINE
Marcel Fresard, Petit-Lancy, Switzerland, assignor to Mefina S.A., Fribourg, Switzerland, a corporation of Switzerland
Filed Oct. 11, 1967, Ser. No. 674,433
Claims priority, application Switzerland, Nov. 8, 1966, 16,187/66
Int. Cl. D05b *75/06, 77/00;* A47b *43/00*
U.S. Cl. 112—258 1 Claim



A sewing machine has hinged to its base, flaps which can be secured against the pillar, upper arm and head to encase the machine for storing or carrying. The flaps

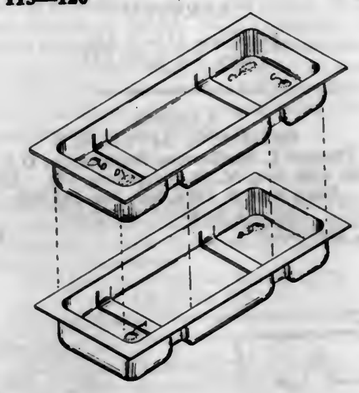
open to form a ramp to facilitate sliding of the sewing materials towards the work surface during operation of the machine. A pivoted carrying handle can be folded back in the working or stowed position.

3,440,987
THROAT PLATE RAISING ATTACHMENTS FOR SEWING MACHINES
Lionel J. Coulombe, Matawan, N.J., assignor to The Singer Company, New York, N.Y., a corporation of New York
Filed Apr. 25, 1967, Ser. No. 633,438
Int. Cl. D05b *35/00*
U.S. Cl. 112—260 3 Claims



A throat plate raising attachment for a sewing machine comprising a shim that is slideably disposed in the slideway of the bed slide, the closing of which will force the shim under the throat plate to raise the same above the feed mechanism to enable the machine to be used for such sewing operations as darning or embroidering.

3,440,988
DIMPLED PRESS STOCK
James A. Bremer, Dearborn, Mich., assignor to Ford Motor Company, Dearborn, Mich., a corporation of Delaware
Filed Mar. 14, 1967, Ser. No. 623,055
Int. Cl. B21d *22/04;* B65d *21/02*
U.S. Cl. 113—120 4 Claims

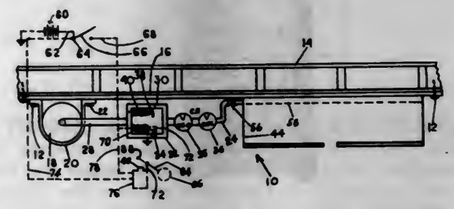


This invention teaches the incorporation of non-nesting deformations into a normally nesting sheet metal object to enable such objects to be stacked and unstacked with ease manually or dependably by automatic machinery.

3,440,989
FLOTATION UNITS AND SYSTEMS EMPLOYING THE SAME
William S. Ettinger, Rte. 2, Box 30, Brookings, Oreg. 97415
Filed Apr. 15, 1968, Ser. No. 721,493
Int. Cl. B63b *43/12*
U.S. Cl. 114—68 8 Claims

For contributing to the keeping of a boat or other craft afloat in an emergency, a fully organized, self-contained flotation unit is provided which includes as one of its components a rigid carrying member, adapted for quick and easy attachment to the ceiling of a compartment or room of the craft, and upon which all the other components of the unit, in fully operative association with one another, are compactly mounted.

The other components of each unit desirably comprise a tank or cylinder containing an appropriate inflating gas, such as carbon dioxide, an elastic bladder, and connecting means providing communication between the tank and the bladder, and including a supply valve, a pressure limiting regulating valve, and a pressure relief valve. The bladder is surrounded by an envelope of strong,



freely flexible, inextensible woven fabric for limiting expansion of the bladder and protecting it against puncturing. The bladder and envelope, compactly folded, are contained snugly within an easy-tear container of small capacity which normally holds them to the carrier, but which tears apart in response to inflating pressure.

The connecting means between the tank and the bladder also desirably includes a distinct supply valve and heat responsive means for opening such valve in case of fire.

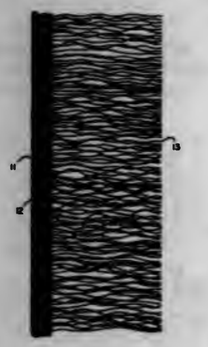
Provision is made for controlling a group of the units from a common remote control station, either by turning on the units singly or by turning on a plurality of the units simultaneously.

3,440,990
CARGO SHIP CONSTRUCTION
Josef H. van Riet, Hamburg, Wilfried Stummer, Hamburg-Blankenese, and Fritz Sandmann and Constantin Gallin, Hamburg, Germany, assignors to Blohm & Voss A.G., Hamburg, Germany, a company of Germany
Filed Dec. 22, 1967, Ser. No. 692,771
Claims priority, application Germany, Feb. 4, 1967, B 91,049
Int. Cl. B63b *25/04, 3/08, 25/22*
U.S. Cl. 114—72 10 Claims



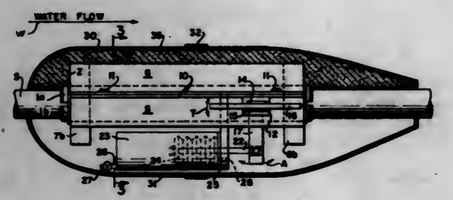
An improved cargo ship construction useful as required as a carrier for selected types of general, bulk and container cargoes, the ship being an assembly of a plurality of joined, selected, interchangeable prefabricated moduli each capable of carrying selected types of said cargoes, the prefabricated ship's moduli being formed respectively of like types of hollow modular construction units disposed in selected arrangements in the prefabricated individual moduli particularly to form the ship's bottom and top deck region, hull plating being used in the moduli and joined to various of the hollow modular construction units.

3,440,991
HAIR FAIRED CABLE
Henry D. Cubbage, Oxon Hill, Md., assignor to the United States of America as represented by the Secretary of the Navy
Filed Jan. 29, 1965, Ser. No. 429,178
Int. Cl. F04d 29/02
U.S. Cl. 114—235 9 Claims



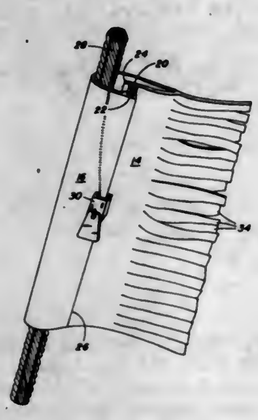
1. A fairing for an object to be towed through water, comprising:
a plurality of hair-like fibers each being affixed to said object at a single point on said fiber so that each hair-like fiber is free to trail in the water after said object.

3,440,992
STREAMER CABLE DEPTH CONTROL
Calvin L. Chance, Dallas, Tex., assignor, by mesne assignments, to Teledyne Exploration Company, Houston, Tex.
Filed Dec. 7, 1967, Ser. No. 688,909
Int. Cl. B63b 17/00; G01c 13/00
U.S. Cl. 114—235 5 Claims



An automatic depth-control device for attachment to a seismic streamer cable of the type which is towed behind a survey vessel at a predetermined depth beneath the surface of the sea, the streamer cable itself being weighted to approximate neutral buoyancy in the water, and the depth-control device including a hydrostatic pressure system for continuously maintaining the desired depth by controlling the angle of tilt of a horizontal vane in a manner which in its broadest aspects has been disclosed in the prior art. The structure of the depth-control device is illustrated by an embodiment including a faired housing enclosing a frame and bearing assembly which is split longitudinally for easy attachment at any desired position along the streamer cable to rotatably secure the device to the cable in such a way as to permit the device to freely rotate about the cable to maintain itself always in upright position. The upper portion of the housing is filled with a floatation material which is sufficient to impart neutral buoyancy to the whole device, and is so placed as to provide a restorative moment about the bearing for maintaining the housing upright and the vane substantially horizontal.

3,440,993
CABLE FAIRING
Wallace M. Taylor, Jr., Plantation, and Asa M. Reece, Fort Lauderdale, Fla., assignors to the United States of America as represented by the Secretary of the Navy
Filed Dec. 26, 1967, Ser. No. 693,399
Int. Cl. B63b 17/00
U.S. Cl. 114—235 2 Claims

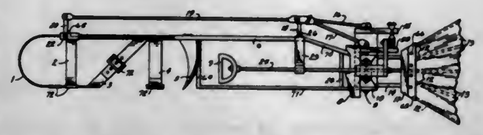


A cable fairing for reducing drag and vibrations of submerged oceanographic cables wherein a thin flexible trailing member is attached to the cable to provide a streamline configuration thereto. Secured to the forward portion of the trailing member are a pair of corrosive resistant thin flexible flat members having complementary interlocking surfaces for quick attachment about the cable.

ERRATUM

For Class 115—6.1 see:
Patent No. 3,441,952

3,440,994
SWIMMING APPLIANCE
Thomas L. McGowan, Washington, D.C.
(3910 45th Ave. N., St. Petersburg, Fla. 33714)
Filed Nov. 8, 1966, Ser. No. 592,879
Int. Cl. A63b 31/18, 35/02
U.S. Cl. 115—22.2 8 Claims

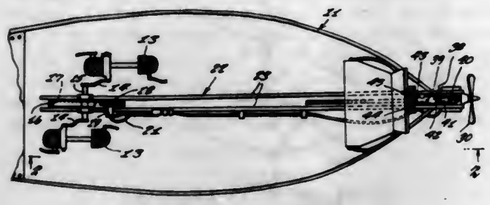


A swimming appliance having a tail fin which may be oscillated in fish tail fashion by the legs of the swimmer and, optionally, with his hands, and, if desired, fins on each side of the swimmer operatively connected to the oscillating means to further assist the action of the tail fin.

3,440,995
BOAT PROPELLING UNIT
George E. Welsh, Carthage, Mo.
(600 N. 13th St., Hartshorne, Okla. 74547)
Filed July 27, 1967, Ser. No. 656,545
Int. Cl. B63h 16/14
U.S. Cl. 115—25 3 Claims

An assembly for propelling a small boat, the assembly

including a drive unit that is foot operated, the drive unit operating a flexible shaft that extends over the transom



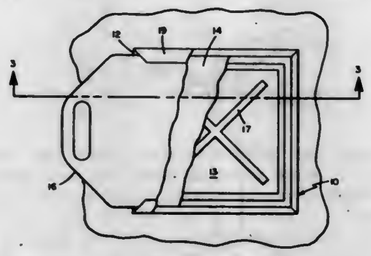
of a boat and the flexible shaft being connected to a propellor at the stern of the boat.

3,440,996
ROAD SIGNAL FIXTURE
Paolo Crocella and Mario Sirtoli, Milan, Italy, assignors to Montecatini Edison S.p.A., Milan, Italy, a corporation of Italy
Filed Apr. 16, 1965, Ser. No. 448,657
Claims priority, application Italy, Apr. 20, 1964, 2,256/64
Int. Cl. E01f 9/10; G09f 13/00; B29c 17/04
U.S. Cl. 116—63 10 Claims



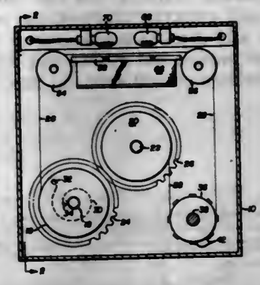
Road signal fixture to be mounted on a pole includes a single-piece hollow structure of synthetic plastic material having a laterally expansive body portion with a front face for exhibiting a signal and having an open tubular neck portion of narrow width compared with that of said front face, said neck portion extending away from said body portion and being adapted to be stuck and fastened on the mounting pole, said body portion and said neck portion having respective integral poles and respective integral interior hollow spaces.

3,440,997
TEMPERATURE INDICATING DEVICE
Neil E. Rogen, Newton, and Russell J. Hill, Wilmington, Mass., assignors to Avco Corporation, Cincinnati, Ohio, a corporation of Delaware
Filed July 11, 1966, Ser. No. 564,372
Int. Cl. G01k 1/02
U.S. Cl. 116—114.5 12 Claims



The invention is directed to a temperature responsive device which use a material that changes its configuration sharply at a transition temperature. The change in configuration is used to actuate a display indicating that the transition temperature has been exceeded.

3,440,998
DIAL FOR ELECTRICAL APPARATUS
Edwin T. Lumb, 530 NW. 144th St., Miami, Fla. 33168
Filed Nov. 29, 1967, Ser. No. 686,499
Int. Cl. H03j 1/02
U.S. Cl. 116—124.1 8 Claims



The dial mechanism of the present invention is useful for electrical apparatus, particularly radios, and includes first and second storage reels mounted for rotation in a housing with a rather long length of transparent film having one end affixed to one of the reels and the other end affixed to the other reel so that a substantial length of film may be wound on the reels. The film has dial markings or indicia on it, and an intermediate length of the film is supported in the housing at a position away from a window in the housing. Optical means such as a mirror or prism is associated with the window so that the intermediate film length can be viewed through the window.

3,440,999
RAZOR WITH SHAVE-COUNTER
Albert Saferstein, 1055 Esplanade, Bronx, N.Y. 10461, and Joseph Ross, 12 Dale Road, Monsey, N.Y. 10952
Filed July 7, 1966, Ser. No. 563,579
Int. Cl. G09f 9/46
U.S. Cl. 116—133 5 Claims

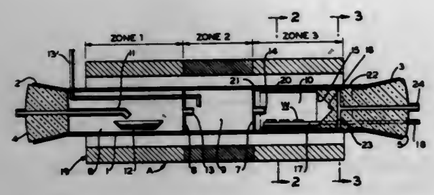


This invention relates generally to a razor having an openable blade-holding head, a hollow handle extending therefrom, a shaft moveable within said handle and actuating means associated with said handle for incrementally rotating an indicator ring having numerical indicia thereon whereby the said numerical indicia is successively changed with each successive opening of the head.

3,441,000
APPARATUS AND METHOD FOR PRODUCTION OF EPITAXIAL FILMS
John W. Burd, Chesterfield, and Warren O. Groves, St. Louis, Mo., assignors to Monsanto Company, St. Louis, Mo., a corporation of Delaware
Filed Jan. 3, 1966, Ser. No. 521,240
Int. Cl. C23c 13/08; B05c 11/14
U.S. Cl. 118—49.1 12 Claims

1. An epitaxial deposition reaction system for deposition of an epitaxial film on a substrate, said reaction system comprising:
(a) a reaction vessel having a reaction chamber, a mixing chamber and a deposition chamber,

(b) means for creating an epitaxial reactant gas mixture in said reaction chamber,
(c) aperture means between said reaction chamber and said mixing chamber for introducing said reactant gas mixture into said mixing chamber,
(d) orifice means providing communication between said deposition chamber and said mixing chamber so that said epitaxial reactant gas mixture is admitted to said deposition chamber at an initial high velocity to provide gas mixing and prevent non-uniform deposition of said epitaxial film,



(e) a wall in said deposition chamber opposed from the means providing communication and having a shape so that the gas admitted to said deposition chamber becomes rapidly circulated over a substrate in said deposition chamber causing the epitaxial film to be uniformly deposited on said substrate;
(f) and heating means surrounding said reaction vessel, said heating means being adapted to maintain said reaction chamber and said mixing chamber at a different temperature than said deposition chamber.

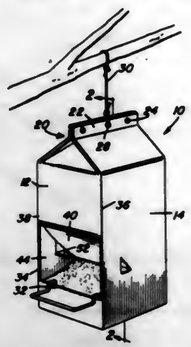
3,441,001
CORRUGATED ANIMAL TOY
Stanton E. Fisher, Clayton, Mo. (% Sidney B. Ring, P.O. Box 6825, Brentwood, Mo. 63144)
Filed May 19, 1967, Ser. No. 639,720
Int. Cl. A01k *15/00*; A63h *33/00*
U.S. Cl. 119—29 9 Claims



A corrugated rawhide animal toy, preferably formed from reconstituted rawhide particles.

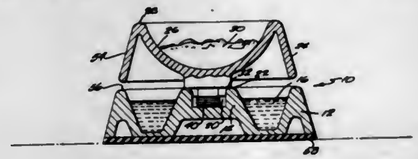
3,441,002
BIRD FEED PACKAGE CONVERTED FEEDER
Harold L. Lswalin, 1310 Exeter Ave., Indianapolis, Ind., and Kenneth Skirvin, Greenwood, Ind. (145 E. Market St., Indianapolis, Ind. 46204)
Filed Apr. 12, 1967, Ser. No. 630,355
Int. Cl. A01k *39/00*; B65d *79/00, 5/72*
U.S. Cl. 119—52 10 Claims

A bird seed container adapted to be converted into a feeder by inwardly displacing a rectangular flap formed by perforations in one of the vertical side walls of the container. Downwardly folded tabs hold the flap within the volume enclosed by the container to form an outlet opening and an internal throat impeding free flow of



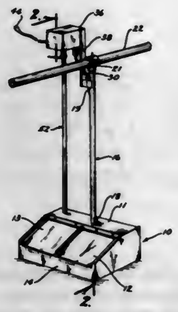
bird seed into a lower feeding portion of the container on which a perch is mounted.

3,441,003
ANIMAL AND PET FOOD BOWL
Virgil R. Du Mond, 1138 Steves 78210, and James M. Lister, 243 La Clede 78214, both of San Antonio, Tex.
Filed Sept. 29, 1966, Ser. No. 583,023
Int. Cl. A01k *5/00*; A01m *1/20*
U.S. Cl. 119—61 3 Claims



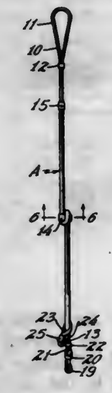
A bowl assembly having the lowermost bowl provided with rubber sheet base, a liquid containing portion for an insecticide being disposed therein, a central hub support means for supporting an upper feed bowl, and in which the peripheral portions of the feed bowl tangentially overhang the inner portions of the base bowl so that food does not collect in the liquid receiving portion of the base bowl.

3,441,004
LIQUID FEEDER DEVICE
Elmer J. Henke and Gerald L. Joseph, Columbus, Nebr., assignors to Behlen Manufacturing Company, Inc., Columbus, Nebr., a corporation of Nebraska
Filed Dec. 23, 1966, Ser. No. 604,401
Int. Cl. A01k *7/02*
U.S. Cl. 119—72 8 Claims



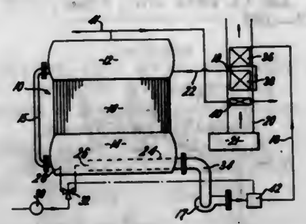
A liquid feeder device which automatically maintains a constant level of liquid feed or water in a livestock feeding receptacle. The feeding receptacle is positioned below a supply container and is adapted to receive the feed through a valve means positioned therebetween. An air pressure switch is in communication with an air chamber in the feeding receptacle and is operatively connected to the valve means to control the operation of the same to regulate the level of water or feed in the receptacle. A safety means is also provided to de-energize the valve means if the air pressure switch fails to function properly.

3,441,005
ANIMAL STRETCH LEAD
Justin I. Fink, 200 2nd St. SW., Wadena, Minn. 56482
Filed Dec. 27, 1966, Ser. No. 604,688
Int. Cl. A01k *1/06*
U.S. Cl. 119—109 7 Claims



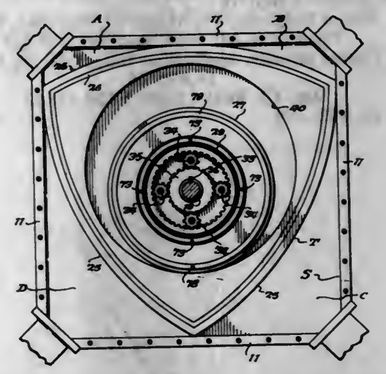
A dog leash including a flexible tube having a handle member on one end and an elastic cord anchored within the tube with a snap fastener secured with the projecting end of the cord adapted to be connected with an animal collar.

3,441,006
WASTE HEAT BOILERS
Kenneth Thomas Disley, Roy George Pearce, Leonard Henry Christopher, and Leonard James Culver, London, England, assignors to Foster Wheeler Corporation, New York, N.Y., a corporation of New York
Filed Feb. 20, 1967, Ser. No. 617,297
Int. Cl. F22d *1/28*
U.S. Cl. 122—7 11 Claims



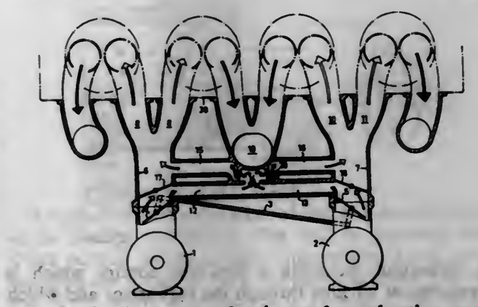
Waste heat boiler comprising upper and lower drums, with water feed into lower drum in liquid to liquid heat exchange to cool water being removed to slightly above dew point. The boiler also including a proportioning valve dividing the water feed into the lower drum into two inlet pipes and controlled by a thermostat located at the furnace inlet line. One inlet pipe feeding water directly into the boiler and the other inlet pipe feeding water directly into a liquid to liquid heat exchange located within the boiler and connecting to the furnace inlet line. The thermostat sensing the temperature of the water at the furnace inlet line will control the proportioning valve so that the higher the temperature at the furnace inlet line, the more feed water will be directed to the heat exchange to produce water entering the furnace at a temperature so as to remove the maximum heat from the furnace while avoiding the cooling of the furnace to a temperature where corrosion would occur.

3,441,007
ROTARY PISTON ENGINE
Johannes Kwaak, 11 Orchard Drive, Port Colborne, Ontario, Canada
Filed Nov. 10, 1966, Ser. No. 593,550
Int. Cl. F02b *53/00, 55/00*; F04c *17/02*
U.S. Cl. 123—8 5 Claims



A rotary engine having a housing with peripheral wall portions defining a square cavity. A triangular piston in the cavity has arcuate edges forming working surfaces opposite the peripheral wall portions and cooperating therewith to form a plurality of variable volume chambers. The piston is mounted on the workshaft for rotation in the cavity, following the peripheral wall portions by an eccentric mounted for rotation about an axis coincident with the axis of the workshaft, a pair of drive gears carried by the workshaft, a gear carried by the piston and having a axis coincident with the piston axis engaging one of the drive gears for rotation thereabout, and planetary gears engaging the other drive gear, the eccentric carrying a gear for engaging the planetary gears.

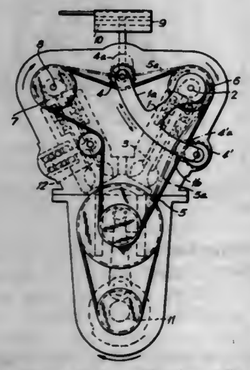
3,441,008
INTAKE SYSTEM FOR INTERNAL COMBUSTION ENGINES HAVING AT LEAST TWO CARBURETTORS
Gosta Ingemar Nelson, Goteborg, Sweden, assignor to Aktiebolaget Volvo, Goteborg, Sweden, a Swedish Company
Filed Oct. 30, 1967, Ser. No. 678,995
Claims priority, application Sweden, Nov. 8, 1966, 15,253/66
Int. Cl. F02m *13/02*
U.S. Cl. 123—52 6 Claims



In an intake system for internal combustion engines

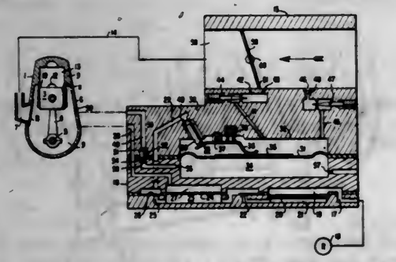
having at least two carburettors which are connected by individual ducts to separate cylinders, each duct is provided with a shut-off valve which at idling speed and low engine output is closed and causes the fuel-air mixtures from the carburettors to flow into a common mixing chamber before entering the cylinders. As the throttle valves are gradually opened the shut-off valves are also opened so that at high engine output the mixtures pass substantially directly into the cylinders.

3,441,009
DEVICE FOR THE AUTOMATIC REGULATION OF THE TIMING OF THE INLET AND EXHAUST VALVES OF A FOUR-CYCLE INTERNAL COMBUSTION ENGINE
Renzo Rafanelli, Via Maffia 13, Florence, Italy
Filed May 18, 1967, Ser. No. 639,467
Claims priority, application Italy, Oct. 20, 1966, 26,078/66
Int. Cl. F01l *13/00*; F02d *13/02*
U.S. Cl. 123—90 8 Claims



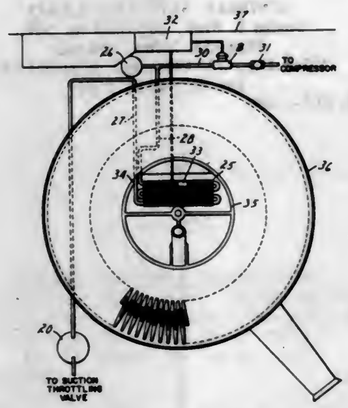
A device in which a pivotable lever is rotated in an amount related to the speed of a four-cycle internal combustion engine, the lever acting on a drive chain for cams controlling the operation of the exhaust and inlet valves of the engine such that the cams are subjected to a supplemental rotation related to the engine speed for advancing the closing of the exhaust valves and retarding the opening of the inlet valves as the engine speed decreases so that at low speeds there is substantially no overlap between the openings of the valves.

3,441,010
APPARATUS FOR CONTROLLING THE FLOW OF FUEL TO AN ENGINE
Edward J. Barr, Torrance, and John H. Brooks, Encino, Calif., assignors to McCulloch Corporation, Los Angeles, Calif., a corporation of Wisconsin
Filed Dec. 19, 1966, Ser. No. 602,986
Int. Cl. F02m *19/00*; F02b *33/30*
U.S. Cl. 123—119 6 Claims



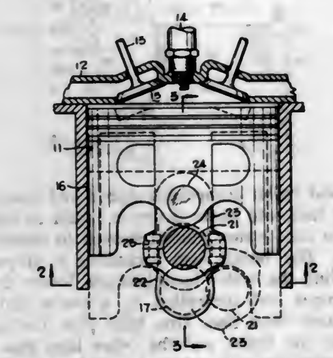
A carburetor including a fuel-flow control which is independent of air flow through the carburetor and which is governed by superambient pressure conditions within the crankcase of an engine.

3,441,011
APPARATUS FOR CONTROLLING INTAKE AIR TEMPERATURE
Thomas M. Karl, 501 S. Broadway, New Ulm, Minn. 56073
Filed Sept. 5, 1967, Ser. No. 665,316
Int. Cl. F02m *31/00, 7/00*; F02b *33/00*
U.S. Cl. 123—122 9 Claims



Apparatus for varying the temperature of the air entering the carburetor of an internal combustion engine to increase the volumetric efficiency thereof. A direct expansion coil is mounted in the air filter directly above the carburetor. The coil is connected in parallel with the direct expansion coil of a standard automotive air conditioning unit for cooling the intake air, and is alternatively connected into a hot refrigerant line for heating the intake air. A temperature control device responsive to intake air temperature switches the coil from heating to cooling as needed.

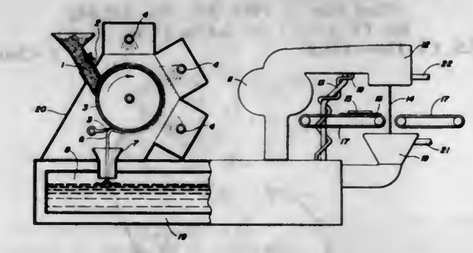
3,441,012
INTERNAL COMBUSTION ENGINE
Earl M. Trammell, Jr., La Due, Mo. (EMT Enterprises, Box 435, St. Louis, Mo. 63166)
Continuation-in-part of application Ser. No. 564,195, July 11, 1966. This application June 3, 1968, Ser. No. 734,163
Int. Cl. F01b *9/02*; F16h *21/16*
U.S. Cl. 123—197 13 Claims



A crankshaft and piston assembly in an internal combustion engine that permits a substantial reduction in

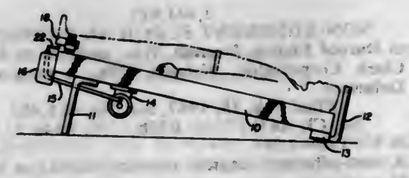
connecting rod lengths for piston-operating engines. The asssembly has an oblong piston reciprocatively mounted in a compatible oblong cylinder, and a connecting rod oscillatively mounted and connected to a crankarm bearing that is located closely adjacent the bottom of the oblong piston immediately below a wrist pin when the crankarm bearing is in the DTC (deed top center) position. The wrist pin, carried by and extending transversely of the oblong piston, oscillatively mounts and connects the rod to the piston, the wrist pin being located close to the bottom of the piston. The piston is recessed on opposite transverse sides to pass the crankarm bearing, and moves between spaced arms of the crankarm upon crankshaft rotation. This assembly provides the shortest possible effective connecting rod length using a conventional type of connecting rod. The distance between the center axes of the wrist pin and crankarm bearing is greater than the distance between the center axes of the crankarm bearing and the crankshaft. Furthermore, the center axis of the wrist pin is located between the center axis of the crankarm bearing and the top of the piston at all times during rotation of the crankshaft.

3,441,013
PREMELTER
Vernon K. Quarve, Minneapolis, Minn., assignor, by mesne assignments, to Eastman Kodak Company
Filed Oct. 21, 1965, Ser. No. 499,880
Int. Cl. B29f *1/08*
U.S. Cl. 126—343.5 7 Claims



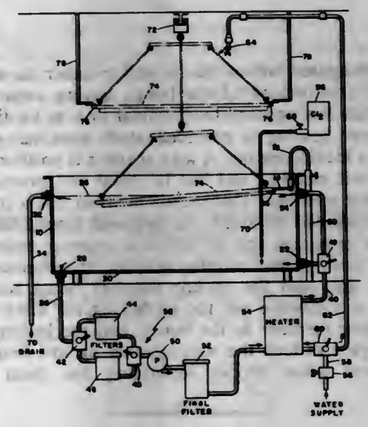
A premelter for furnishing a molten, synthetic resin to the resin supply system of curtain coating apparatus, including an endless moving surface which receives a synthetic resin in pellet form from a hopper and carries it past a source of thermal radiation to melt the resin, and a heated blade to remove the melted resin from the surface and direct it to the supply.

3,441,014
TILTABLE COT WITH RECIPROCAL MOTION ATTACHMENT
James E. Ramsey, 246 Miami Ave., Norristown, Pa. 19401
Filed Mar. 31, 1967, Ser. No. 627,337
Int. Cl. A61g *7/04*; A61h *1/00*
U.S. Cl. 128—33 4 Claims



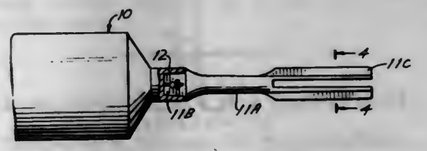
The tiltable cot with reciprocal motion attachment comprises a cushioned structure having fixed legs at one end and movable legs at the other end, arranged to hold the cot on a horizontal or an inclined plane as desired. A device including a motor and crank mechanism is positioned adjacent the foot of the cot and connected to stirrups for engagement on the feet and angles of a person reclining on the cot. The arrangement of the cot in inclined position with the reciprocal motion means at the highest point thereof is such that helpful manipulation is imparted to the user through the alternate pushing and pulling motion longitudinally of the cot as imparted to the wearer by the reciprocal motion means and the stirrups.

3,441,015
STERILE HYDROTHERAPY BATH
Edward T. Oatman and Helen M. Oatman, both of 642 Lipizzan Way, El Cajon, Calif. 92020
Filed Jan. 30, 1967, Ser. No. 612,414
Int. Cl. A61h *9/00*; A61m *11/00*; A47k *3/10*
U.S. Cl. 128—66 7 Claims



A large hydrotherapy tank is provided with high rate continuous circulation and filtration of the water which is also maintained at the required temperature; surface contaminants are removed entirely by controlled surface flow, the water being automatically replaced to maintain the level; overhead spraying is also provided without affecting the physical or sterility levels of the water.

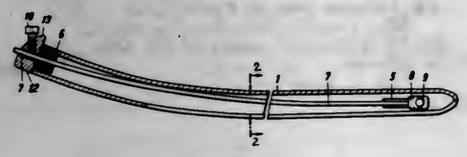
3,441,016
VIBRATORY MASSAGE TOOL
Elliott S. Kanbar, 333 E. 69th St., New York, N.Y. 10021
Filed Jan. 10, 1967, Ser. No. 608,348
Int. Cl. A61h *7/00, 23/02*
U.S. Cl. 125—67 5 Claims



A replaceable massage tool for use with the drive motor of an electric toothbrush. The tool is provided with a shank portion having a split plug portion at one end for engaging the socket of the drive motor housing. The other end of the shank is bifurcated to provide a pair of tines.

The motor housing is held in the hands and the tines are moved over portions of the body for massaging purposes.

3,441,017
APPARATUS FOR THE TREATMENT OF FRACTURES OF TUBULAR BONES
Hans-Jürgen Kaessmann, Ruhstrathohe 10, Gottingen-Geismar, Germany
Filed Mar. 24, 1966, Ser. No. 537,120
Claims priority, application Germany, Mar. 24, 1965, K 55,633
Int. Cl. A61f *5/04*; A61b *17/00*
U.S. Cl. 128—92 2 Claims



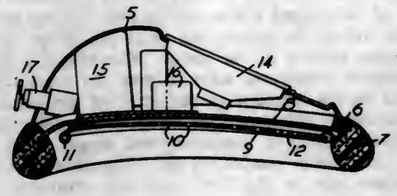
An elongated hollow elastic nail member for the treatment of fractures of tubular bones, having a marrow hollow which has opposed longitudinal slots at its distal end. A counter bearing is provided at its proximal end, and carries a locking means. A wire spanner is positioned within the nail member and has its distal end provided with an anchor member. The anchor member has a transverse bore positioned adjacent the opposed longitudinal slots, and the proximal end of the wire spanner extends outwardly through the counter bearing, the opposed longitudinal slots and the anchor member being adapted to receive a transverse pin for anchoring the distal ends of the anchor member to the bones, and the locking means are adapted to lock the wire spanner against longitudinal movement when proper tensioning has been applied thereto.

3,441,018
CONTRACEPTIVE DEVICE AND INSERTION DEVICE AND REMOVAL
Joseph L. Schneider, 2544 E. 21st St., Brooklyn, N.Y. 11235
Filed Feb. 10, 1965, Ser. No. 431,634
Int. Cl. A61f *5/46*
U.S. Cl. 128—130 5 Claims



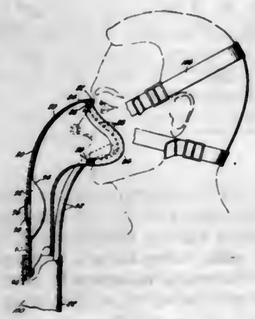
A contraceptive appliance of four parts; an intrauterine plug, a seating tube, having at one end a flexible flange, for proper seating; a rod for pushing the plug through the tube; a removal device; all parts working through the aforementioned tube.

3,441,019
BED WETTING ALARM AND TRAINER
Joe W. Snyder, 515 6th Ave., Lewiston, Idaho 83501
Filed Nov. 19, 1965, Ser. No. 508,808
Int. Cl. A61b *19/00*; G08b *21/00*
U.S. Cl. 128—138 6 Claims



A bed wetting alarm and trainer for signalling undesired release of urine. Two electrically conductive surfaces are spaced by an air gap so as to be bridged by release urine. The surfaces are in an alarm circuit.

3,441,020
CONTINUOUS FLOW INHALATOR MASK WITH OBTURATOR MEANS
Edward C. Wortz, Northridge, and Leiv B. Aasen, Palos Verdes Peninsula, Calif., assignors to The Garrett Corporation, Los Angeles, Calif., a corporation of California
Filed May 2, 1966, Ser. No. 546,692
Int. Cl. A62b *7/00*; A61m *17/00, 15/00*
U.S. Cl. 128—145.8 5 Claims

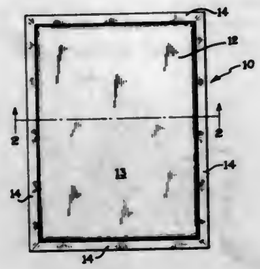


A closed circuit anethesia apparatus has a mixing plenum to insert anesthetic gas into the circuit, and has a mask with gas inlet and outlet passageways. The mask outlet passageway has an obturator for hand manipulatable restriction of the gas flow in the circuit to increase gas pressure in the mask at desired intervals in the breathing cycle.

3,441,021
NON-ADHERENT SURGICAL DRESSING
Dan Darold Endres, Neenah, Wis., assignor to Kimberly-Clark Corporation, Neenah, Wis., a corporation of Delaware
Filed Feb. 15, 1967, Ser. No. 616,403
Int. Cl. A61l *15/00*; B32b *3/10*; B44d *1/20*
U.S. Cl. 128—156 12 Claims

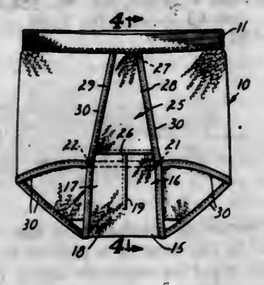
A non-adherent surgical dressing having a laminated fluid permeable outer cover consisting of a non-woven fibrous web with a non-absorbent discontinuous film facing, and an inner absorbent core of multilayered construction. The outer layer of the absorbent core adjacent

the cover is a low density fibrous mat and the inner layer adjacent the fibrous mat is a higher density element such



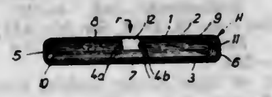
as multiple plies of cellulose wadding or compressed wood fluff.

3,441,022
MAN'S UNDERGARMENT
Nels Arthur Severson and Eunice M. Bren, Minneapolis, Minn., assignors to Munsingwear, Inc., Minneapolis, Minn., a corporation of Delaware
Filed Mar. 9, 1967, Ser. No. 621,837
Int. Cl. A41b *9/02*; A61f *5/40*
U.S. Cl. 128—159 4 Claims



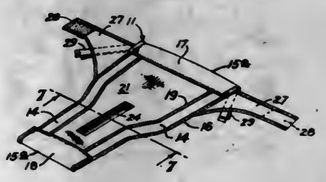
A man's undergarment with a crotch piece having ample fullness to serve as a suspensory, without shirring or otherwise drawing the fabric together to provide fullness, and further having an elongated piece secured to the upper front edge of the crotch piece and to the waistband to prevent excessive bagging of the material and to provide additional support.

3,441,023
ABSORPTION PAD FOR THE TREATMENT OF WOUNDS AND FOR INFANT CARE
Robertus Cornelis Johannes Maria Rijssenbeek, Nijmegen, Netherlands, assignor to Page Zellstoffkrepp G.m.b.H., Dusseldorf, Germany
Filed Feb. 11, 1966, Ser. No. 526,884
Claims priority, application Germany, Feb. 12, 1965, P 36,058, P 35,059; Mar. 24, 1965, P 36,360
Int. Cl. A61f *13/00*
U.S. Cl. 128—287 12 Claims



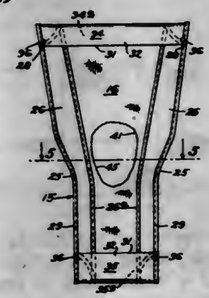
An absorption pad, especially for the treatment of wounds and for infant care, which includes an outer cover of moisture resistant material one side of which is liquid permeable and has adjacent thereto a cavity partially formed by said cover and partially by superimposed layers of moisture absorbing cellulose material which layers define capillary passage means extending from said cavity toward the side walls of the pad between and into said layers of moisture absorbing cellulose material.

3,441,024
LOIN GARMENT FOR ABSORBENT PADS
Harold J. Ralph, 2808 W. 5th St., Santa Ana, Calif. 92703
Filed Mar. 21, 1966, Ser. No. 535,785
Int. Cl. A61f *5/44, 5/48*
U.S. Cl. 128—287 6 Claims



A loin garment having replaceable absorbent pads arranged within a pocket and provided with belt means for attachment of the garment about the loins and to the waist of the wearer. The absorbent pads are absorbent and are slotted to provide a sump and to minimize the discharge of liquid therefrom.

3,441,025
SANITARY GARMENT FOR INCONTINENT PERSONS
Harold J. Ralph, 2808 W. 5th St., Santa Ana, Calif. 92703
Filed Apr. 30, 1965, Ser. No. 452,056
Int. Cl. A61f *5/37, 5/48*
U.S. Cl. 128—289 6 Claims

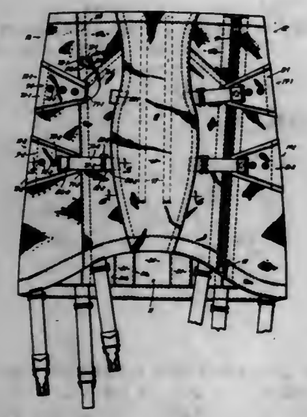


A sanitary garment for incontinent persons including a moisture impervious flexible holder cover having side-edge and end flaps providing a reservoir for receiving absorbent pads and wherein the flaps are foldable thereover so that the pads are supported within a moisture impervious reservoir. A belt serves to support the cover and pads as a protective garment between the crotch and from the waist of the wearer.

3,441,026
TENSIONING DEVICE FOR THERAPEUTIC APPLIANCES
Marguerite R. Williams, 500 Plattsville Road, Trumbull, Conn. 06611
Filed Mar. 10, 1967, Ser. No. 622,222
Int. Cl. A41c *1/08, 1/12*
U.S. Cl. 128—558 8 Claims

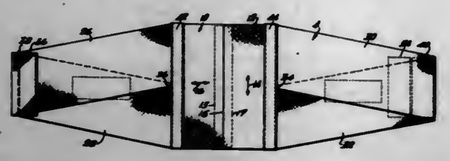
A tensioning device suitable for incorporation in therapeutic appliances. This device includes a band connectable at one end to the appliance, a strap secured to the

other end of the band at its one end and to a hook at its other end, a clip slidably mounted on the strap at a point intermediate its ends and engageable with a loop on



a second portion of the appliance, and eyelets formed in the strap between the clip and the band for engagement with the hook.

3,441,027
COMPOUND SUPPORT
Ira S. Lehman, 1830 NE. 197th Terrace, Miami, Fla. 33162
Filed July 18, 1968, Ser. No. 745,845
Int. Cl. A41c 1/00; A61f 5/02
U.S. Cl. 128—578 10 Claims



A compound support for the human body including (a) a primary wide, fabric, elastic band to snugly encircle the body of a wearer and to provide corrective support and a posture-improving restraint over a wide area of the abdominal region, and (b) a pair of secondary, elastic strip segments each of a length less than one-half of the length of the primary band and with one end of each segment being secured to the primary band at a common zone of attachment to overlay the backbone of a wearer.

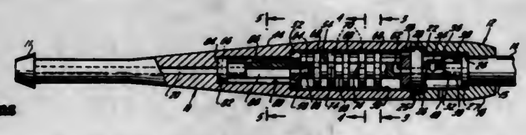
3,441,028
APPARATUS FOR AND METHOD OF REMOVING CONDENSIBLE COMPOUNDS FROM TOBACCO SMOKE
Byron T. Wall, 143—20 Franklin Ave., Flushing, N.Y. 11355
Filed Mar. 27, 1967, Ser. No. 626,298
Int. Cl. A24d 1/04, 1/06; A24f 7/04
U.S. Cl. 131—10.3 24 Claims

A smoking utensil such as a cigarette, a cigarette holder or a pipe stem having a smoke passage is provided with an insert in the passage having a smoke channel of smaller cross-section than the smoke passage and temperature responsive means, such as a bimetallic spring, for introducing air into the smoke as it passes through the smoke channel. A filter or other means for holding compounds which are condensed as a result of the cooling effect of the air is positioned in the smoke passage downstream



from the insert to hold the tars and the like and thus remove them from the smoke leaving the utensil.

3,441,029
DEVICE FOR REMOVING TARS FROM TOBACCO SMOKE AND THERMOSTATICALLY CONTROLLING THE BLENDING OF AIR THEREWITH
Byron T. Wall, 143—20 Franklin Ave., Flushing, N.Y. 11355
Filed June 17, 1966, Ser. No. 558,452
Int. Cl. A24f 5/04, 7/00
U.S. Cl. 131—198 7 Claims

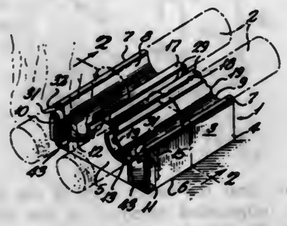


A device for removing precipitatable tars from tobacco smoke produced in the bowl of a pipe or in a roll of tobacco such as a cigar or cigarette which comprises an elongated holder having a mouth piece at one end and means at the other end to hold the tobacco to be burned, a passageway through the holder for smoke to pass from the tobacco holding means through the mouthpiece, means adjacent to the tobacco holding means for thermostatically controlling the blending of atmospheric air with the smoke when the smoke reaching the thermostatic means reaches a predetermined temperature level to cause precipitation of precipitatable tars in the smoke, and baffle means downstream from the air blending means providing a tortuous path for the smoke with sharp changes in direction to throw precipitated tars out of the gas stream into a series of tar reservoirs. The holder is separable to permit removal of the baffle means to scrape out the precipitated tars in the reservoirs and permit cleaning.

3,441,030
SAFETY DEVICE FOR HOLDING, RETAINING AND SNUFFING OUT A BURNING CIGARETTE OR CIGAR
Charles L. Abner, 233 N. Bazil St., Indianapolis, Ind. 46219
Filed Apr. 18, 1967, Ser. No. 631,764
Int. Cl. A24f 13/18, 19/14
U.S. Cl. 131—256 14 Claims

A cigarette or cigar holder and/or extinguisher consisting of a frame member that can be used separately or attached to or placed in an ash tray wherein the holder and extinguisher consists of at least one elongated semicylindrical trough presenting an upwardly opening groove for receiving the unlit portion of a burning cigar or cigarette and having a short axial extension consisting of a bimetallic thermostatic material, and a cover for

the trough consisting of a similar semi-cylindrical member arranged to underlie the trough when not used for extinguishing, in such a position that an extension of the thermostatic member bears substantially radially against the external surface of the cover to prevent a spring attached thereto from rotating the cover to an inverted



position above the trough and in contact with the same at mating edge portions thereof. The frame has guide tabs at the ends of the trough to guide the covers during rotary movement and one edge of the cover includes a radially extending lip for engaging an edge of the trough to limit the rotary travel of the cover.

3,441,031
METHOD FOR PERMANENTLY WAVING MULTICOLORED HAIR
Janet O. Thompson, 1218 Gateway Lane, West Chester, Pa. 19380
No Drawing. Filed Mar. 31, 1966, Ser. No. 538,972
Int. Cl. A45d 7/00
U.S. Cl. 132—7 5 Claims

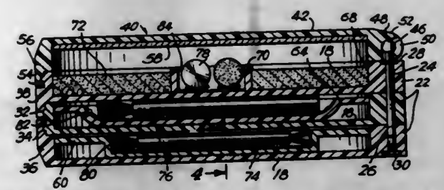
Partially bleached hair is effectively permanently waved without damage by wetting it with mild permanent waving solution, winding it on rollers, lightly rewetting it with the mild solution to saturate the bleached portion, but not the unbleached, then, while the hair is still wet, applying to it a normal permanent waving solution, and finally rinsing and neutralizing it after a suitable time. The way the solutions are applied enables the curling process to proceed thereafter at the same rate in both the bleached and unbleached portions of the hair.

3,441,032
HAIR ORNAMENT
Robert J. Barrett, 146 Fairmont Ave., New Haven, Conn. 06513
Filed Jan. 25, 1967, Ser. No. 611,671
Int. Cl. A45d 2/00, 8/06, 8/14
U.S. Cl. 132—46 1 Claim



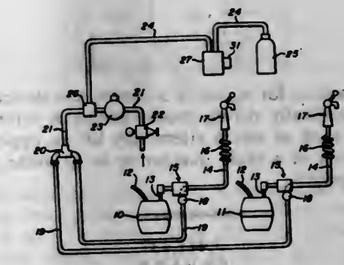
An elongated body means includes a central lug support portion to which a suitable ornament is detachably connected. A pair of elongated leg portions extend in opposite directions from the central support portion and are sufficiently flexible to be readily manually deformed to a suitable size for insertion through openings provided in a conventional hair roller. Holding means in the form of a plurality of teeth are formed on each of said leg portions adjacent the ends thereof. These teeth are adapted to engage portions of the hair roller for retaining the hair ornament in operative position.

3,441,033
COSMETIC CONTAINER INCLUDING AN INTERNALLY DISPOSED COSMETIC APPLICATOR AND MEANS TO READILY DETACHABLY HOLD THE SAME IN PLACE
Martha A. Flax, Bayside, N.Y., assignor to Clairol Incorporated, New York, N.Y., a corporation of Delaware
Filed May 22, 1967, Ser. No. 640,134
Int. Cl. A45d 33/34, 33/24
U.S. Cl. 132—82 7 Claims



A cosmetic kit composed of several shallow trays pivotally secured to one another for relative rotation into and out of mutually stacked positions about a single axis adjacent and parallel to the sides of the trays. The top tray is selectively covered by a lid swiveledly mounted thereon. Each tray contains solid cosmetics and one or more applicators to aid in placing such cosmetics on a person's face. Each applicator has fixed to it one half of a "Velcro" fabric coupling. The other half of the "Velcro" fabric coupling is fixed to the bottom wall of the tray, thereby enabling the cosmetic applicator to be readily attached to or detached from the tray.

3,441,034
AUTOMATIC BEER COIL CLEANER
Howard L. Burks, Springfield, Ohio, assignor of one-half to Jack K. Follrath, Springfield, Ohio
Filed Mar. 7, 1966, Ser. No. 532,339
Int. Cl. B08b 3/10, 9/02
U.S. Cl. 134—58 12 Claims

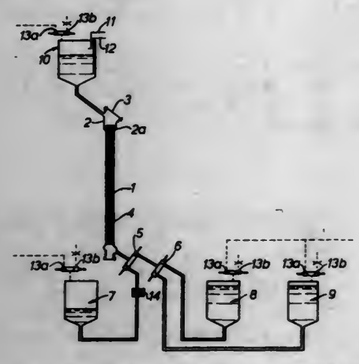


A system and apparatus for flushing and cleansing fluid flow lines including means for providing a surging flow of a fluid medium through the flow line and operatively related means for producing a pulsed injection of a cleansing medium in the flow line to provide, together with the surging flow, intermittent pulsations which induce a scouring of the flow line.

3,441,035
PICKLING APPARATUS

Derrik Robert Edwards, St. Anne's-on-the-Sea, England, assignor to United Kingdom Atomic Energy Authority, London, England

Filed Nov. 7, 1966, Ser. No. 592,557
Claims priority, application Great Britain, Nov. 19, 1965, 49,249/65
Int. Cl. B08b 3/04; F16k 19/00
U.S. Cl. 134—103 4 Claims

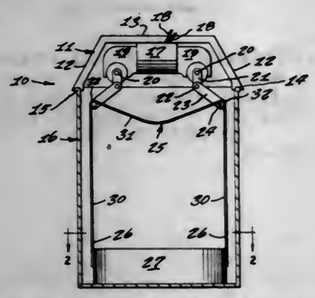


Apparatus for the pickling of metallic objects comprising an elongate pickling vessel and means for causing oscillatory turbulent flow of treatment liquid to and fro along the pickling vessel and over the metallic objects contained therein while maintaining the pickling vessel full of treatment liquid.

3,441,036
ELECTRIC AGITATOR

Jules Lemoine, 8428 Jefferson Highway, Harahan, La. 70123

Filed Aug. 2, 1967, Ser. No. 657,808
Int. Cl. B08b 3/00, 13/00
U.S. Cl. 134—140 3 Claims



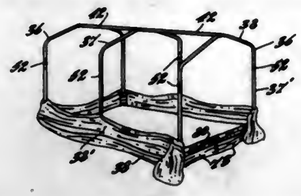
An apparatus for agitating a basket, the device including an electrically driven motor having a drive unit at each end, each of which alternately lift an opposite side of the basket in a rapid manner so as to shake the contents therewithin.

3,441,037
CABANA

Sherman T. Transeau, 2201 E. Lake Shore Drive, Wilmington, N.C. 28401

Filed Sept. 5, 1967, Ser. No. 665,445
Int. Cl. E04b 1/347; A45f 1/16
U.S. Cl. 135—1 2 Claims

The present invention relates to a cabana which is unusually flexible for adjustment to meet conditions of sun, wind, and rain. The cabana has a frame comprising inverted U-shaped end bows and a middle bow connected near the center by ridge poles, and having one, or preferably two or more, cover halves which slidably engage on each side of each bow, cooperating cover halves being capable of interconnection or detachment from inside the

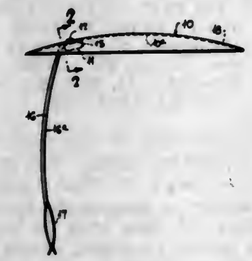


cabana. Collars near the lower ends of the sides of the bows prevent unintended removal of the cover halves and aid in inserting the lower ends of the bows into the ground. Ground cloths may optionally be used.

3,441,038
CANOPY ASSEMBLIES

James Travis Mathews, P.O. Box 398, Hazen, Ark. 72064

Filed Aug. 17, 1967, Ser. No. 661,285
Int. Cl. E04f 10/00; A45b 11/00, 23/00
U.S. Cl. 135—5 5 Claims



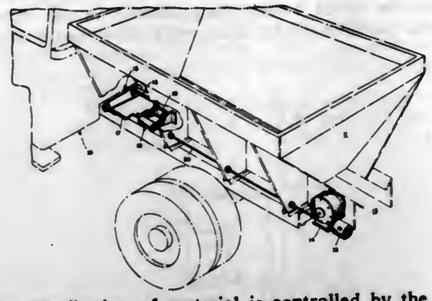
A canopy assembly comprising a concavo-convex cover member having an eccentrically and transversely disposed concavo-convex handle member selectively attachable thereto in erected and in collapsed positions respectively, wherein the concave sides of the respective members are substantial continuations and disposed at an obtuse angle to thereby provide complementary vertical and lateral concave head space when the assembly is in erected position, and wherein said members are disposed in substantially parallel coextensive relationship when in collapsed position.

3,441,039
SPEED CONTROL MONITOR

James L. Rawson, Cedar Rapids, Iowa, assignor to Highway Equipment Company, Cedar Rapids, Iowa, a corporation of Iowa

Filed Jan. 17, 1966, Ser. No. 521,128
Int. Cl. F01b 25/06; B05b 9/06; B65g 67/24
U.S. Cl. 137—30 3 Claims

A control system is described for regulating the distribution of material from a storage hopper carried by a moving vehicle. A hydraulic motor controls the flow of material from the hopper; and first and second flexible links are rotated at speeds representative respectively of the ground speed of the vehicle and the speed of the hydraulic feed motor. A speed differential response mechanism converts the difference in angular velocity of the two flexible cables to linear motion. A link responsive to the linear motion of the speed-differential responsive mechanism controls a valve interposed in the feed line to the hydraulic motor to regulate the speed of the hydraulic feed motor as a function of the difference between ground speed and the speed of the hydraulic feed motor so that

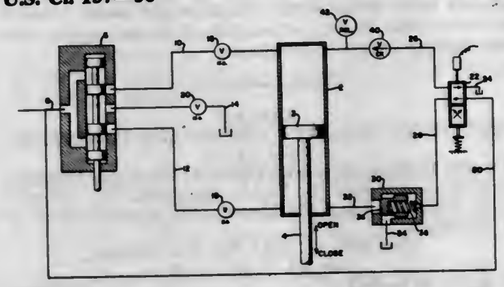


the distribution of material is controlled by the ground speed of the vehicle.

3,441,040
VALVE GEAR LOCKING AND EMERGENCY CLOSING SYSTEM

Russell A. Gray, Marblehead, Mass., assignor to General Electric Company, a corporation of New York

Filed Feb. 20, 1967, Ser. No. 617,321
Int. Cl. F01b 25/06; F01d 17/06; F02c 9/02
U.S. Cl. 137—36 4 Claims

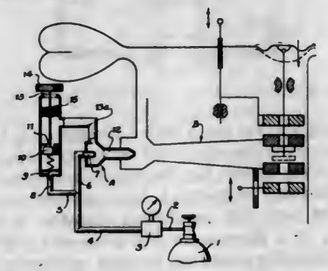


A hydraulic valve operator having separate and distinct parallel hydraulic circuits, one circuit being controlled by a servovalve and the other circuit controlled by a speed responsive solenoid.

3,441,041
AIR INJECTOR FOR BREATHING APPARATUS

Peter Schreiber, Doylestown, Pa., assignor to Otto Heinrich Drager, Lubeck, Germany

Filed Nov. 21, 1966, Ser. No. 595,904
Claims priority, application Germany, Nov. 22, 1965, D 48,711
Int. Cl. G05d 11/00; E03b
U.S. Cl. 137—98 6 Claims

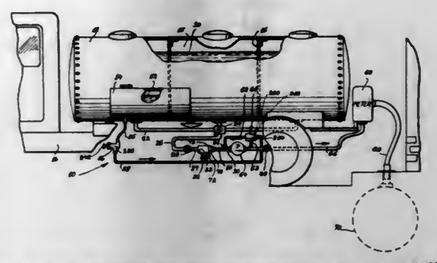


In a breathing apparatus, an atmospheric air injector is coupled with a nutrient gas injector for selectively supplying atmospheric air to the breathing system.

3,441,042
LIQUID DELIVERY SYSTEM INCLUDING FLUID ADDITIVE INJECTOR

Sidney J. Reiser and Larry Reiser, Rego Park, N.Y., assignors, by mesne assignments, to Metropolitan Petroleum Petrochemicals Co., Inc., New York, N.Y., a corporation of New York

Filed Oct. 5, 1966, Ser. No. 584,587
Int. Cl. G05d 11/02
U.S. Cl. 137—101.31 8 Claims

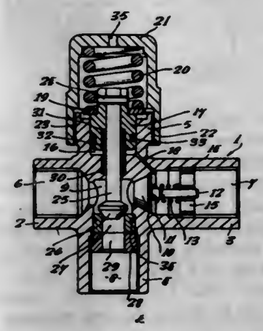


A liquid delivery system comprising a tank of liquid, a supply of additive fluid, delivery conduit means connected to the tank of liquid for conveying a stream of such liquid therefrom, and a fluid injector positioned in the delivery conduit and connected to the supply of fluid additive for injecting fluid additive into the stream of liquid in the conduit at a rate determined by the volume flow of the liquid, the injector being driven by and responsive to the flow of liquid in the conduit.

3,441,043
HYDRAULIC UNLOADING VALVE

Herbert Hermann Fronicke, Tauton, Somerset, England, assignor to R. B. Bolton (Hydraulics) Limited, Consett, England, a company of Great Britain and Northern Ireland

Filed Sept. 30, 1966, Ser. No. 583,326
Claims priority, application Great Britain, Aug. 4, 1966, 35,046/66
Int. Cl. G01d 7/01; F16k 15/02
U.S. Cl. 137—108 4 Claims

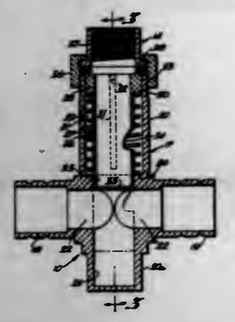


A hydraulic unloading valve is constructed which comprises an inlet port, a supply port and an exhaust port within a body, a space within the body providing communication among the three ports, a non-return valve disposed within the supply port, a branch or side body disposed in line with the exhaust port, a valve seat in the exhaust port, a piston slidable in the chamber, resilient means bearing on the piston, a plunger connected to the piston, the head of said plunger serving as a valve to engage the seat in the exhaust port, and a duct within the body extending from the piston chamber to the supply port on the outlet side of the non-return valve.

3,441,044
PRESSURE ACTUATED FLUSH VALVE FOR FLUSHING MARINE ENGINES

Jose Pelaez Rodriguez, 650 NE. 61st St., Miami, Fla. 33137

Filed Feb. 23, 1967, Ser. No. 617,893
Int. Cl. F16k 15/02
U.S. Cl. 137—111 6 Claims

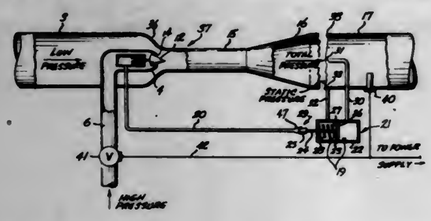


A flush valve for connection in the inlet water conduit of a sea water cooled engine, having means for connection with a pressurized fresh water supply, and including a movable piston valve switching mechanism controlled by the pressure of the fresh water supply when connected thereto to direct fresh water through the engine for flushing out sea water.

3,441,045
VARIABLE ORIFICE NOZZLE MIXING EJECTOR

Frank Leslie Malone, Seattle, Wash., assignor to The Boeing Company, Seattle, Wash., a corporation of Delaware

Filed Dec. 2, 1966, Ser. No. 598,836
Int. Cl. G05d 11/00, 11/04, 11/02
U.S. Cl. 137—114 17 Claims



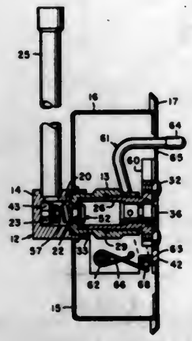
On turbine engine powered aircraft, the engine air compressor section is a readily available source for providing the required air flow rate to the air conditioning and pressurization systems and in general, the lowest operating penalty results when the source of air is from the lowest engine compressor stage; therefore, a variable orifice nozzle means is provided in combination with the extraction of high and low pressure bleed air for providing the required flow rate through ejection mixing of high pressure air to boost the low pressure bleed-air air-pressure.

3,441,046
SECONDARY POPPET AND PUSHER SYSTEM

Bidwell C. Cranage, Ferguson, Mo., assignor to Stile-Craft Manufacturers, Inc., St. Louis, Mo., a corporation of Missouri

Filed Mar. 23, 1967, Ser. No. 625,456
Int. Cl. F16k 15/06
U.S. Cl. 137—329.1 17 Claims

A secondary poppet valve means operatively connected by a compression spring to a thrust washer, the spring tending to urge the poppet valve means and thrust washer apart. The poppet valve means and thrust washer are slidably mounted in a longitudinal chamber of the base of a supply terminal assembly. A tubular socket member, carried by the base and received in the chamber, engages and positions the thrust washer longitudinally in the chamber while the spring holds the poppet valve means away

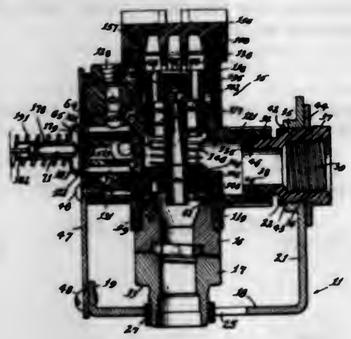


from the valve port. The thrust washer follows the tubular socket member under spring loading during withdrawal of the socket member from the chamber, and the poppet valve means closes the valve port under pressure exerted in the chamber at one side of the valve port when the tubular socket is withdrawn.

3,441,047
MOUNTING BRACKET FOR WATER CONDITIONING TANK

Charles E. Lyall, Deerfield, Edwin A. Morrison, Highland Park, and Robert B. Vesely, Lombard, Ill., assignors to Culligan, Inc., Northbrook, Ill., a corporation of Delaware

Filed Feb. 13, 1963, Ser. No. 258,204
Int. Cl. F16k 31/18
U.S. Cl. 137—343 6 Claims

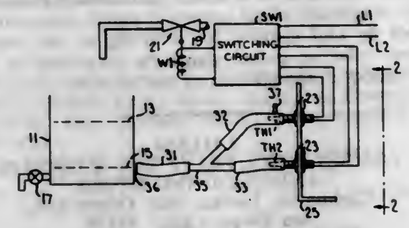


A mounting bracket for a water conditioning tank and its associated valve assembly and timer control means to provide a floating action for the valve assembly preventing stress thereon, including a base portion secured to the top of the tank and the fittings therefor, a front lip for mounting of a timer assembly plate and a rear wall having rotatable slip couplings secured to plumbing lines and adapted to sealingly engage inlet and outlet fittings on the valve assembly. An elongated bolt extends through the timer assembly plate and threadingly engages with the rear wall, and a spacer sleeve encompassing the bolt extends between the timer assembly plate and rear wall to prevent bending thereof.

3,441,048
LIQUID LEVEL CONTROL

Francis Finnegan, Plainville, Mass., assignor to Texas Instruments Incorporated, Dallas, Tex., a corporation of Delaware

Filed Nov. 29, 1965, Ser. No. 510,312
Int. Cl. F16k 21/18, 31/42; H01h 47/26
U.S. Cl. 137—392 4 Claims

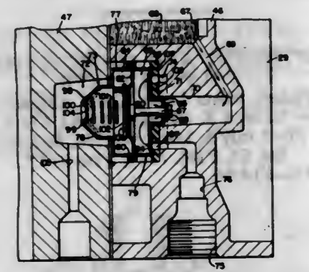


A liquid level controller is disclosed in which a pair of self-heated NTC thermistors are employed for sensing the level of a liquid within a vessel. The thermistors are mounted at different levels to provide a predetermined differential in the operation of the control. The liquid level is varied by an electrically actuated valve and the thermistors are alternately connected in series with the operating winding of a relay which actuates the valve so that the winding is directly energized by current flowing through the operative thermistor.

3,441,049
CARTRIDGE TYPE PRESSURE REGULATOR

Michael John Caparone, Arcadia, and Theodore John Dykzeul, Rolling Hills, Calif., assignors to Robertshaw Controls Company, Richmond, Va., a corporation of Delaware

Original application Aug. 6, 1962, Ser. No. 214,903. Divided and this application Oct. 22, 1965, Ser. No. 509,675
Int. Cl. F16k 25/00, 31/12; F16f 9/10
U.S. Cl. 137—454.6 11 Claims

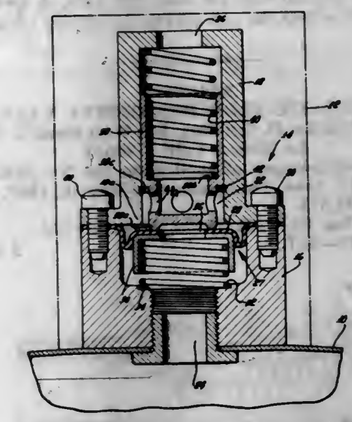


This disclosure relates to a self-contained pressure regulator that can be readily disposed in a housing means against a surface thereof having an inlet and an outlet respectively disposed in fluid communication with an inlet means and an outlet means of the pressure regulator, the pressure regulator comprising a cup-shaped casing having its closed end provided with its inlet means and outlet means and having its opened end turned over to secure a flexible diaphragm thereto that cooperates with the casing to define a chamber that is in fluid communication with the inlet means and outlet means thereof while carrying a valve member that controls the inlet means thereof.

3,441,050
PRESSURE EQUALIZING VALVE

John Sanchez, Rowland Heights, Los Angeles, Calif., assignor to International Telephone and Telegraph Corporation, New York, N.Y., a corporation of Maryland

Filed July 13, 1966, Ser. No. 564,859
Int. Cl. F16k 17/26
U.S. Cl. 137—493.6 6 Claims

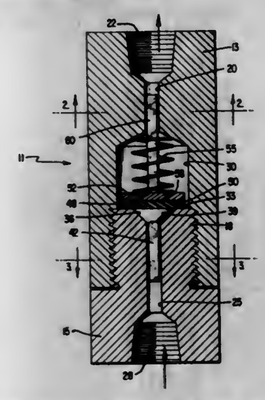


The valve compensates for pressure changes both inside and outside a container. A movable valve seal is urged outwardly by an "under-pressure" spring against a movable valve member urged by an "over-pressure" spring. When pressure within the container exceeds a set maximum, the valve seat engages a fixed member so that further pressure forces the valve member away from the seat. Similarly, if an under-pressure condition exists within the tank, the valve seat and member are moved inwardly until the valve member is stopped, thus once more opening the valve.

3,441,051
CHECK VALVE

Lester M. Morse, Hammond, Ind., assignor to Sinclair Research Inc., New York, N.Y., a corporation of Delaware

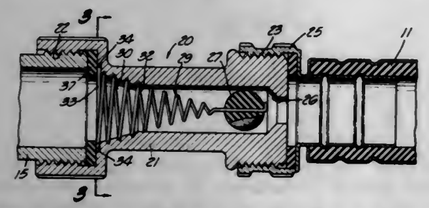
Filed June 3, 1965, Ser. No. 461,141
Int. Cl. F16k 15/00, 17/00
U.S. Cl. 137—516.25 4 Claims



A check valve capable of withstanding high back pressures, in the order of 15,000 p.s.i., without leakage. A valve seat depression in a plane surface of the first member leads to a fluid entrance path through that first member. A second member, having a fluid exit path through it, is coupled to the first member so that the fluid entrance

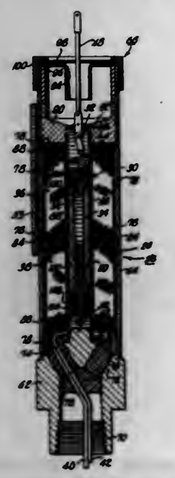
path, the valve chamber and the fluid exit path are coaxial. A poppet valve, within the valve seat depression, has an alignment member extending within and coaxial with the fluid entrance path. A resilient pad covers the upper surface of the poppet valve and a portion of the first member plane surface. A retaining member holds the resilient pad in position and includes an alignment member extending within and coaxial with the fluid exit path. A spring can be provided to bias the pad against the poppet valve plane surface.

3,441,052
AUTOMATIC FLOW-RESPONSIVE VALVE
William H. Schilling, 548 West Road, La Habra, Calif. 90631
Continuation-in-part of application Ser. No. 389,850, Aug. 17, 1964. This application May 10, 1967, Ser. No. 637,575
Int. Cl. F16k 15/00, 17/00, 21/04
U.S. Cl. 137—517 9 Claims



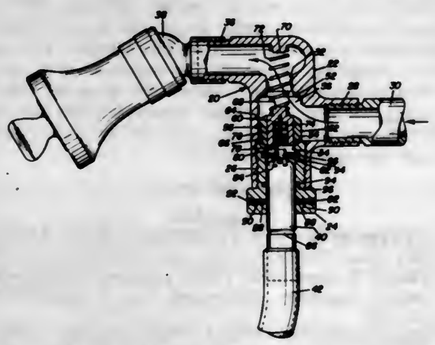
This invention relates to fluid valves and more particularly to an improved self-contained valve accessory adapted to be readily installed in existing fluid lines and automatically responsive to an increase in fluid flow beyond a predetermined rate to seat and block further flow. The flow responsive spring support for the valve is readily adjustable to a wide range of fluid pressures.

3,441,053
INDUSTRIAL PROCESS CONTROL APPARATUS
Robert J. Robinson, Lexington, Mass., assignor to The Foxboro Company, Foxboro, Mass.
Filed Oct. 22, 1965, Ser. No. 500,612
Int. Cl. F16k 31/12; F15b 5/00; G05d 16/00
U.S. Cl. 137—595 10 Claims



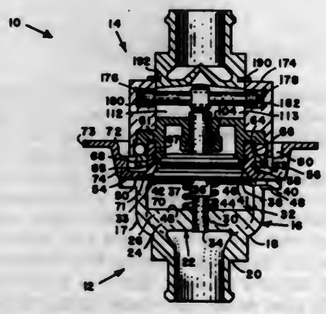
10. Process control apparatus for use in controlling concurrently the magnitudes of a plurality of different process conditions and comprising, in combination, a high-speed time-shared digital computer, input multiplexing means responsive to said process conditions for developing sequential sampling signals each reflecting the magnitude of a corresponding process condition; output multiplexing means connected to said computer to distribute pulse-type command signals from said computer to respective valve-operating channels; signal-translating means for each of said channels, said signal translating means including an element mounted for movement to selected positions, force-producing means for each element and responsive to the corresponding command signal to cause movement of the element in response to the command signal, means restraining the movement of said element to cause the velocity thereof to be at least approximately proportional to the magnitude of the command signal; and means controlled by said element for directing to the respective process valve an output signal the magnitude of which corresponds to the position of said element.

3,441,054
COMBINATION VALVE FOR A SHOWER AND CLEANING BRUSH
Carlton M. Mellan, 5021 Orcutt Ave., San Diego, Calif. 92120
Filed Jan. 24, 1966, Ser. No. 522,463
Int. Cl. F16k 7/00
U.S. Cl. 137—610 3 Claims



A combination valve for a shower and cleaning brush in which, when a coupling is inserted into the shower fixture, the shower outlet is closed and a passage is opened from the shower fixture to a hose having a brush at the end thereof.

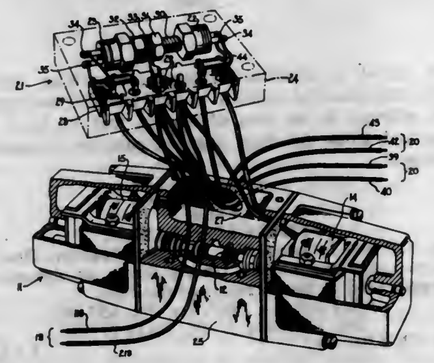
3,441,055
HYDRANT AND COOPERATIVE COUPLER VALVE
Phillip R. Pickell, Santa Clara, Calif., assignor of fifty percent to George S. Sanders, Santa Clara, Calif.
Filed July 5, 1966, Ser. No. 562,702
Int. Cl. F16k 1/04; F16l 37/22
U.S. Cl. 137—614.06 9 Claims



A quick disconnect valve comprising two valve housing sections. A valve is disposed in one of the valve housing

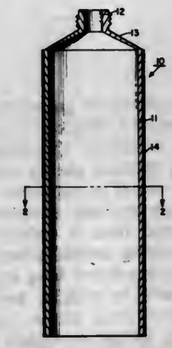
sections. In the other valve housing section is disposed means for opening and closing the valve. The housing sections are interlocked through a groove and locking balls arrangement. An actuator cams the locking balls into the locked and released position and also cams the valve opening and closing means in position. Specifically, the operation of the actuator first serves to lock the housing sections in the manner above described and continued operation thereof serves to open the valve. Conversely, the closing operation of the actuator serves to close the valve and continued operation thereof serves to release the housing sections from interlocked relation.

3,441,056
REMOTELY CONTROLLED PRIME MOVER
Charles E. Cleland, Edina, Minn., assignor to Continental Machines, Inc., Savage, Minn., a corporation of Minnesota
Filed Feb. 15, 1967, Ser. No. 616,307
Int. Cl. H02j 13/00; F16l 31/02
U.S. Cl. 137—625.65 8 Claims



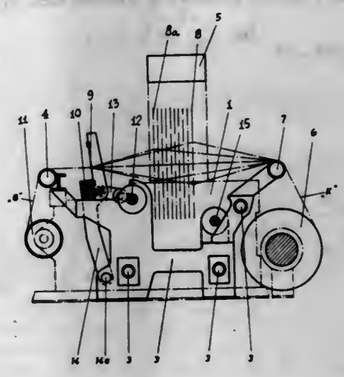
A solid state switching device is mounted on each of a battery of the electrically operated prime movers that effect the different work functions of a machine tool, and renders its prime mover operative at the dictate of a low voltage program control switch located distant from the prime mover.

3,441,057
COATED COLLAPSIBLE TUBES
Finn Clement and Paul E. Cope, Cincinnati, Ohio, assignors to The Procter & Gamble Company, Cincinnati, Ohio, a corporation of Ohio
Filed Oct. 11, 1965, Ser. No. 494,339
Int. Cl. F16l 11/00
U.S. Cl. 138—139 5 Claims



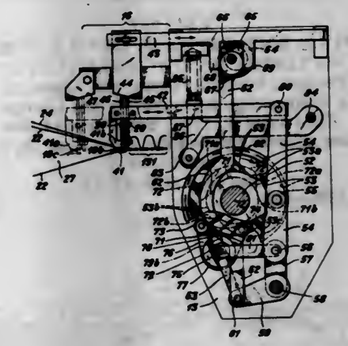
An imperforate, elastomeric coating applied to the exterior of a metallic collapsible tube to prevent leakage of the product therein contained in the event of cracking of the metallic tube wall. The preferred coating is based on a solvent-soluble polyesterurethane resin.

3,441,058
LOOM CRANKSHAFT ARRANGEMENT
Friedrich Wilhelm Bassing, 74 Kirschgarten, and Gottfried Gerhard Wilhelm Hofmann, 37 Am Baum, both of 205 Hamburg 80, Germany
Filed Oct. 31, 1966, Ser. No. 590,705
Claims priority, application Germany, Nov. 5, 1965, B 84,392
Int. Cl. D03d 49/60
U.S. Cl. 139—1 5 Claims



The crankshaft of a loom is located between the harness frame and the race plate of the slay at the level of the race plate, and is directly articulated to the slay.

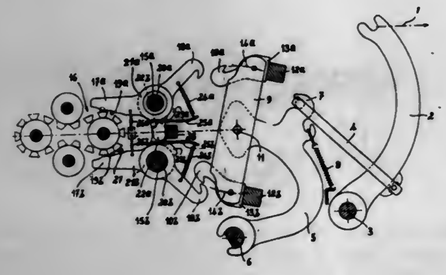
3,441,059
LOOM HAVING VARIABLE STROKE WEFT THREAD CLAMP
Hans Gotz and Julius Drewitz, Steinhagen, Westphalia, Germany, assignors to Sulzer Brothers Limited, Winterthur, Switzerland, a Swiss company
Filed June 20, 1967, Ser. No. 647,459
Claims priority, application Switzerland, June 20, 1966, 8,896/66
Int. Cl. D03d 39/22; D03j 5/00
U.S. Cl. 139—25 9 Claims



There is disclosed a loom of the gripper shuttle type incorporating at each side of the web of cloth being woven a clamp for gripping the ends of the weft yarns, after they have been picked through the shed and cut off

at the picking side. These clamps are reciprocated backwards and forwards of the loom between a rear position in line with the flight path of the shuttle and a forward position substantially coincident with that to which the reed beats up the weft yarns. There is further disclosed mechanism for shifting the forward limit of clamp travel in accordance with a variable stroke of the reed which may be employed, for example, in the weaving of terry cloth.

3,441,060
DOUBLE LIFT DOBBIES
Rudolf Schwarz, Horgen, Zurich, Switzerland, assignor to Gebr. Staubli & Co., Horgen, Zurich, Switzerland
Filed Oct. 9, 1967, Ser. No. 673,838
Claims priority, application France, Oct. 7, 1966, 47,801
Int. Cl. D03c *1/06*
U.S. Cl. 139—68 6 Claims



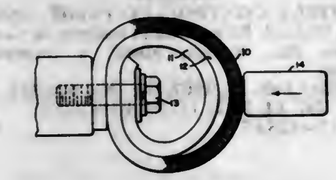
In a double lift dobby, each shaft actuating lever is provided with a balance the ends of which have hitch hooks which cooperate with holding hooks that are swingably mounted on fixed axes. Each holding hook is coaxial with a likewise swingable lever the movement of which is controlled by the pattern card. By an arrangement of springs and abutments, each holding hook is swingable to a limited extent relative to the respective lever so that it can be preselected and will ride over and engage the respective hitch hook when the latter is subsequently moved into an engaging position in the course of the cycle of oscillation of the balance. The mechanism is adapted to be controlled by cards of various kinds including wooden or metal cards having pins or paper or cardboard cards having holes.

3,441,061
WEFT PULL AND RELEASE DEVICE FOR WEAVING LOOMS HAVING NO SHUTTLES
Manlio Peracca, Muggia-Trieste, and Guerrino Cicutta, Gorizia, Italy, assignors to Nuova San Giorgio S.p.A.
Filed June 8, 1967, Ser. No. 644,564
Claims priority, application Italy, June 10, 1966, 18,876/66
Int. Cl. D03d *47/16*
U.S. Cl. 139—122 2 Claims



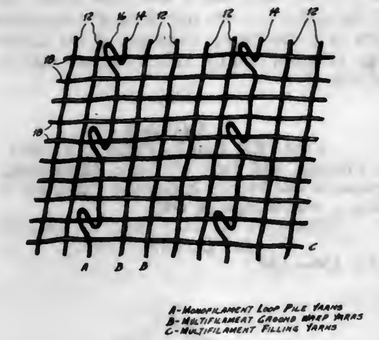
A weft pull and release device for shuttleless looms comprising adjustably spaced upper and lower stationary guide elements at one side of the loom and a pair of weft gripping and releasing blades, one rigid and the other resilient, reciprocable through the restricted space between the guide elements to grip, pull and release the weft.

3,441,062
AIR-CUSHIONED BUMPER
Chester R. Messer, Concord, N.H., assignor to Page Belting Company, Concord, N.H., a corporation of New Hampshire
Filed Sept. 20, 1967, Ser. No. 669,206
Int. Cl. D03d *49/40, 49/38*
U.S. Cl. 139—166 1 Claim



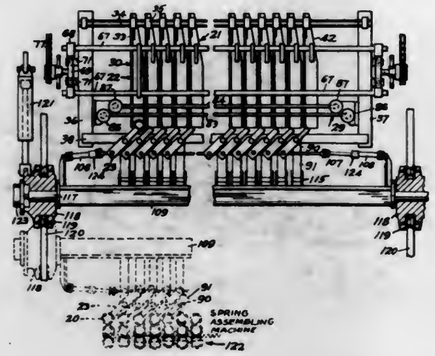
A coiled air-cushioned bumper comprising resilient nylon strip material coiled to present an outer overlapping turn stiffened in an area of impact, and an inner turn separated from the outer turn in part by a segmental air space.

3,441,063
PROTECTIVE FABRIC
Jack J. Press, Teaneck, N.J., and Jack Naimer, Houston, Tex., assignors to the United States of America as represented by the Secretary of the Navy
Filed July 12, 1967, Ser. No. 653,302
Int. Cl. D03d *27/06;* A62b *17/00*
U.S. Cl. 139—391 5 Claims



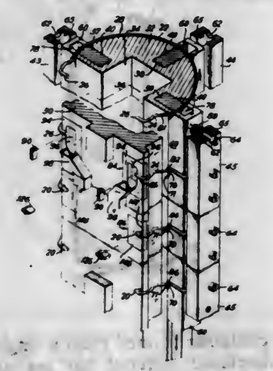
An air-permeable protective garment for shielding the wearer against intercepted droplets of hazardous chemical agents and for affording shielding to the wearer against high intensity thermal energy pulse. The garment does not subject the wearer to excessive heat stress when it is worn under high ambient temperature conditions. The garment is formed from a tightly-woven fabric of nylon and rayon including monofilament loop pile back; the warp yarns are nylon-rayon long staple blend in approximately equal parts by weight, and the pick yarns are either nylon-rayon long staple blend in approximately equal parts by weight or tightly twisted continuous filament rayon plied with tightly twisted continuous filament nylon.

3,441,064
MEANS AND METHOD FOR SEPARATING AND TRANSFERRING NESTED COIL SPRINGS
Edward M. Fischer, Kew Garden Hills, and Edwin G. Krakauer, Roslyn Heights, N.Y., assignors to Kay Manufacturing Corp., Brooklyn, N.Y., a corporation of New York
Filed July 19, 1967, Ser. No. 654,413
Int. Cl. B21f *27/00, 21/00, 45/00*
U.S. Cl. 140—3 20 Claims



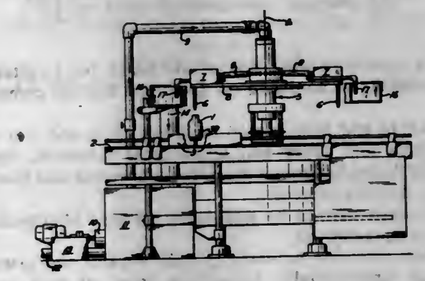
Entire rows of coil springs are successively inserted automatically into a conventional spring assembling machine, by an individual unit for each spring of the row. The supply of nested springs in the guidway of the unit is constantly being replenished while separating and advancing devices act on all of the springs simultaneously. An escapement permits only the leading spring to be gripped at its top and bottom coils. Versatile grippers approach and recede from each unit to grip, withdraw, invert, forward, and rotate the leading spring about the spring axis, for insertion in its required position into the assembling machine. The units are adjustable to springs of different dimensions and varied spacing in the row.

3,441,065
METHOD AND APPARATUS FOR FORMING BAILS
Irving Nerod, Wayne, N.J., assignor to American Can Company, New York, N.Y., a corporation of New Jersey
Filed July 12, 1967, Ser. No. 652,752
Int. Cl. B21f *1/06, 5/00, 41/00*
U.S. Cl. 140—75 21 Claims



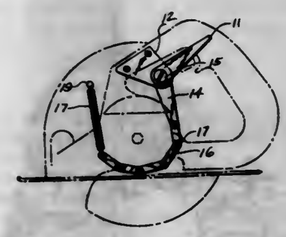
Substantially U-shaped bails having hooked ends are advanced along a horn in a direction perpendicular to the general plane of each bail to a trimming station where the excess length on the bail ends is trimmed off, and thence to a forming station where swaging elements are operable to shape and flatten the trimmed end portions of the bail to form them into barbs which are subsequently insertable in the bail ears of cans to lock the bail in place.

3,441,066
ROTARY FILLING APPARATUS WITH FLUIDIC VALVES
Charles V. Wilhere, Pittsburgh, Pa., assignor to Horix Manufacturing Company, Pittsburgh, Pa., a corporation of Pennsylvania
Filed Dec. 29, 1966, Ser. No. 605,916
Int. Cl. B65b *43/50, 43/54*
U.S. Cl. 141—148 6 Claims



This invention relates to apparatus for filling containers with a liquid product, in which the flow of liquid through the filling nozzles is controlled by fluidic valves of the Coando-effect (i.e., wall-effect) type. Each valve has an inlet and two outlets. The inlet is connected to a source of the liquid product under pressure; one outlet is connected to the filling nozzle and the other to a tank for recirculating liquid. Liquid flows continuously through one or the other of these outlets, depending upon the closed or open condition of two control passages that form part of the valve. When the first control passage is closed and the second control passage is open, the discharge from the valve goes to the filling nozzle. However, when either the first control passage is open or the second control passage is closed, the valve discharges to the recirculating tank.

3,441,067
MECHANICAL GUARD LIFTER
Fred A. Forcier, 2318 N. 60th, Seattle, Wash. 98103
Filed Oct. 22, 1965, Ser. No. 501,246
Int. Cl. B27b *5/28*
U.S. Cl. 143—159 1 Claim

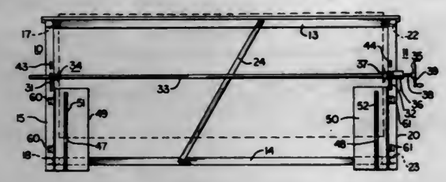


A mechanical guard lifter is rotatably mounted on the saw housing and carries a trigger at one end and means at the other end for securing one end of a chain thereto. The other end of the chain has one end of a spring secured thereto. The other end of the spring is secured to the saw housing the intermediate portion of the chain is secured to the movable guard of the saw. Depressing the trigger moves the movable guard.

3,441,068
WORK HOLDER AND BENCH FOR FITTING HARDWARE TO DOORS AND THE LIKE

Floyd W. Clark, 1905 Allison St., Lakewood, Colo. 80215

Filed Dec. 8, 1966, Ser. No. 600,083
Int. Cl. B25h 1/10
U.S. Cl. 144—288 7 Claims



1. A combined work holder and bench for facilitating the mounting of hardware on doors and the like comprising:

a pair of end frames each including front and rear uprights and upper and lower cross members, upper and lower horizontal members connecting said frames at the rear thereof,

brackets carried by said front uprights intermediate the ends thereof,

a shaft rotatably mounted in said brackets and extending longitudinally across the front of said work holder,

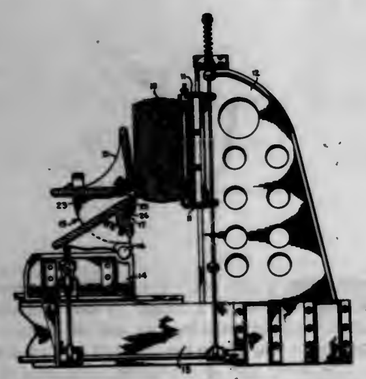
clamping members mounted on said shaft for securing a door or the like to the shaft for rotation therewith, said shaft and clamping members affording swinging movement of a door clamped therein about a horizontal axis and through about 180° whereby either longitudinal edge of the door may be positioned adjacent the top of said bench, and

rest means positioned below said shaft and in alinement therewith for holding the door during the initial clamping thereof.

3,441,069
METHOD OF PREVENTING STAINING OF VENEERS IN VENEER SLICERS

Louis Jack Koss, Indianapolis, Ind., assignor to Capital Machine Company, Inc., Indianapolis, Ind.

Continuation of abandoned application Ser. No. 437,744, Mar. 8, 1965. This application July 12, 1967, Ser. No. 656,624
Int. Cl. B27l 5/00; B27c 1/14
U.S. Cl. 144—309 3 Claims

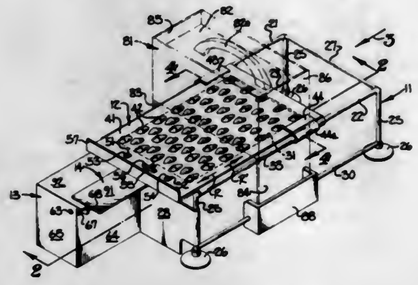


The method of prevention of "blue" stain or the like in the cutting of wood veneer by holding the temperature of the cutting knife and the pressure bar of a veneer cutting machine above the dew point of water at ambient temperatures.

3,441,070
FOOD GRATING DEVICE

Desetta B. Loughlin, Box 833, Southport, N.C. 28461

Filed Mar. 16, 1967, Ser. No. 623,735
Int. Cl. A47j 19/00; B02c 18/00
U.S. Cl. 146—178 10 Claims

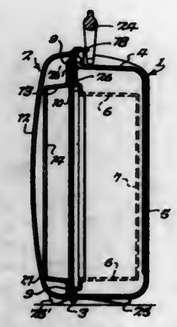


An automatically-operated food grating machine having a horizontally-reciprocable cutting section including a reciprocable frame member having a greater plate removably supported thereon, thereby permitting the selective use of a plurality of greater plates possessing different size and/or shape cutting elements; and wherein the power and drive components of the grating machine are constructed so as to provide maximum operator safety and discourage contamination thereof by grated food particles.

3,441,071
PLASTIC CONTAINER

Peter T. Schurman, Snyder, and Raymond C. Confer, Gasport, N.Y., assignors, by mesne assignments, to W. R. Grace & Co., New York, N.Y., a corporation of Connecticut

Continuation of application Ser. No. 369,159, May 21, 1964. This application May 27, 1968, Ser. No. 739,974
Int. Cl. B65d 11/16, 11/00, 25/28
U.S. Cl. 150—.5 5 Claims

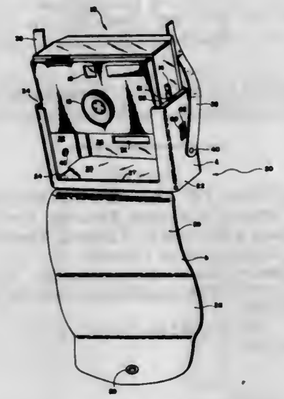


A unitary container formed from a single tubular parison of thermoplastic material has mating parts joined by a hinge which is unitary with the mating parts. The hinge is formed of two webs of the thermoplastic material compressed together and thinner than the adjacent portions of the mating parts.

3,441,072
CAMERA CARRYING CASE

Eugen Schmitt, Stuttgart-Feuerbach, assignor to Eastman Kodak Company, Rochester, N.Y., a corporation of New Jersey

Filed Feb. 16, 1967, Ser. No. 616,619
Claims priority, application Germany, Feb. 18, 1966, K 53,645
Int. Cl. A45c 11/38
U.S. Cl. 150—52 16 Claims

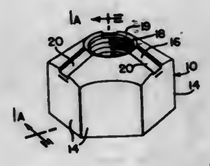


This application discloses a carrying case for a photographic camera. The carrying case includes a locking or latching means arranged to be engaged by the camera to automatically lock or latch the camera within the case. In the disclosed embodiments the latching or locking means generally comprises a movable arm supported on one wall of the case to be engaged and displaced by a surface of the camera upon insertion of the camera into the case. A surface of the movable arm effectively latches or locks the camera within the case. Manually operable means are provided for displacing the arm to release the camera for removal from the case. Reference is made to the claims for a legal definition of the invention.

3,441,073
LOCKNUT

Kenneth L. Johnson, Pitcairn, Monroeville, Pa., assignor, by mesne assignments, to Modulus Corporation, Beechwood, Ohio, a corporation of Delaware

Continuation of applications Ser. No. 657,277, and Ser. No. 657,289, July 31, 1967. This application May 13, 1968, Ser. No. 728,636
Int. Cl. F16b 39/02, 39/28
U.S. Cl. 151—21 10 Claims



This invention pertains to a prevailing torque locknut having a crown extending from the nut body at one end thereof, the outer surface configuration of the crown being defined by a circle of revolution of a generally convexly curved line, the crown surface being substantially convex in contour, and flattened areas or indentations impacted in such surface whereby portions of the outer surface of the crown zone are impacted inwardly at such an attitude with respect to the crown surface as to produce a substantial deformation of thread portions of the nut substantially in the radial path of the forces of impaction. The attitude of the flattened areas or indentations, their angular relationship to the crown surface, their location on the crown and their extent are variable, as is the curved configuration of the crown itself.

3,441,074
PNEUMATIC TYRES

Jacques Pouilloux, Saint Gratien, and André Manry, Colombes, France, assignors to Pneumatiques, Caoutchouc Manufacture et Plastiques Kleber Colombes, Colombes, Seine, France, a French body corporate

Filed Mar. 22, 1965, Ser. No. 441,789
Claims priority, application France, Mar. 27, 1964, 969,117
Int. Cl. B29h 17/20
U.S. Cl. 152—361 11 Claims



Peripherally inextensible rubber rings for breaker layers of pneumatic tyres are made by winding a succession of layers of rubberised fabric on a contractible cylindrical drum. The fabric is composed of cords forming a small angle with the longitudinal axis of the layer and these angles alternate so that the cords are crossed in successive layers. The beginning of each layer is joined to the end of the layer and these joints are offset circumferentially. The cylindrical sleeve thus formed is cut perpendicularly to the axis of the drum to form a plurality of narrow continuous rings which are removed from one end of the drum. The angle may differ from one layer to the next. A layer of rubber mixture may be included and this may be outside to form a part of the tyre tread.

The apparatus for making these rings includes a set of radially movable spaced blades along a generatrix of the drum. It may also have a wire reinforced rubber sheath under tension and a roller to roll and compress the layers on the drum.

3,441,075
METHOD FOR HEATING AND EVAPORATING AQUEOUS SOLUTIONS BY THE USE OF A POLYMETHINE SALT

Bernard S. Wildi, Kirkwood, Mo., and William B. Tuemmler, Catonsville, Md., assignors to Monsanto Company, St. Louis, Mo., a corporation of Delaware

No Drawing. Application July 13, 1962, Ser. No. 209,782, which is a division of application Ser. No. 547,044, Nov. 15, 1955, now Patent No. 3,099,630, dated July 30, 1963. Divided and this application Dec. 26, 1967, Ser. No. 693,115
Int. Cl. F26b 3/28; B01d 1/00
U.S. Cl. 159—47 11 Claims

A method of increasing solar evaporation of water and aqueous solutions and the like by incorporating therein

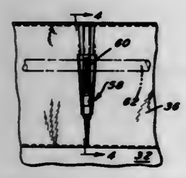
at least about 5 p.p.m. of a defined polymethine salt having a strong proton acid anion containing a sufficient number of hydrophilic groups from the class of organic hydroxy-containing carboxylic and sulfonic acids to characterize said salt with a solubility of at least 5 p.p.m.

3,441,076
RETAINING MECHANISM FOR SLIDABLE DOORS
Robert G. Glejf and George A. O'Brien, Chicago, Ill., assignors to Kinkead Industries Incorporated, Chicago, Ill., a corporation of Illinois
Filed Aug. 5, 1966, Ser. No. 570,522
Int. Cl. E05d *15/26, 17/00*
U.S. Cl. 160—196 2 Claims



A retaining mechanism for slidable doors is described in which pairs of detents are spaced to retain the door in a collapsed condition at each end of its travel as well as fully extended, and in which the detent mechanism includes a spring-loaded plunger having freedom of motion in a direction transverse to the direction of door movement for accommodating misalignment during detent engagement.

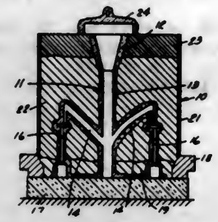
3,441,077
PLEATER TAPE DRAPERY HOOK AND CLIP
Ralph Romano, Levittown, Pa., assignor of ten percent each to Harold B. Lipsius and Arthur H. Seidel, both of Philadelphia, Pa.
Continuation of application Ser. No. 391,610, Aug. 24, 1964. This application Nov. 21, 1967, Ser. No. 684,876
Int. Cl. A47h *13/01, 13/14*
U.S. Cl. 160—348 10 Claims



Apparatus is disclosed for forming a drapery pleat, the apparatus including a drapery clip having a pair of opposed spaced-apart legs and a web connecting the legs. The legs are received within a pair of adjacent slots in a pleater tape secured to the back of a drapery fabric, thereby maintaining therebetween a pleated portion of the fabric.

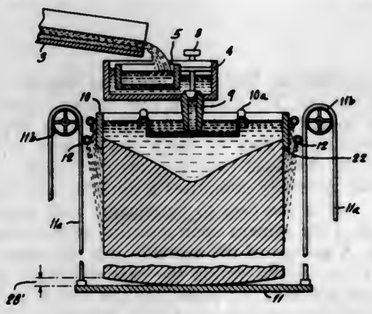
3,441,078
METHOD AND APPARATUS FOR IMPROVING GRAIN STRUCTURES AND SOUNDNESS OF CASTINGS
George D. Chandley, Alliance, Ohio, assignor to TRW, Inc. Cleveland, Ohio, a corporation of Ohio
Filed Feb. 1, 1967, Ser. No. 613,313
Int. Cl. B22d *27/04, 23/00;* B22c *9/02*
U.S. Cl. 164—53 7 Claims

A casting process and apparatus utilizing porous ceramic shell molds in which layers of exothermic material are positioned around the molds and then ignited to provide preheated zones of different temperature in the molds,



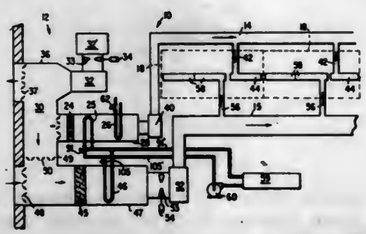
thereby preparing the molds for the reception of the molten metal and its solidification with directional orientation.

3,441,079
CASTING OF ALUMINUM INGOTS
Neil Burton Bryson, Kingston, Ontario, Canada, assignor to Aluminium Laboratories Limited, Montreal, Quebec, Canada, a corporation of Canada
Continuation-in-part of application Ser. No. 345,670, Feb. 18, 1964. This application Oct. 24, 1966, Ser. No. 588,940
Int. Cl. B22d *27/04, 11/10*
U.S. Cl. 164—89 6 Claims



A continuous casting process for aluminum ingots wherein the emergent ingot is subjected to controlled cyclic cooling, for example, 3–12 inches initial length, to decrease the extent of bottom-bow and notch formation.

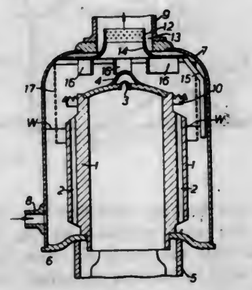
3,441,080
AIR CONDITIONING APPARATUS
Richard A. Church, North Syracuse, N.Y., assignor to Carrier Corporation, Syracuse, N.Y., a corporation of Delaware
Filed Oct. 17, 1967, Ser. No. 675,958
Int. Cl. F25b *13/00*
U.S. Cl. 165—2 8 Claims



A medium or high pressure air conditioning system and method of operation where a variable volume of primary air is distributed to each room or area being conditioned during periods of cooling and/or ventilation in accordance

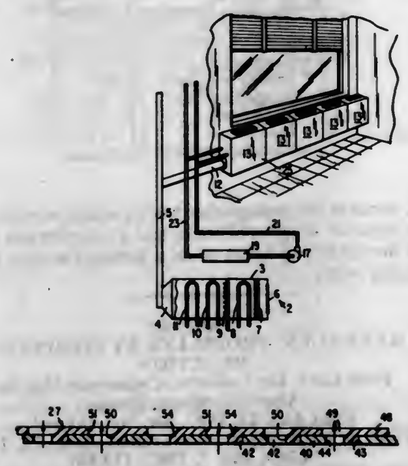
with demand conditions of each individual room or area served. During periods of heating, the variable volume control is negated and a constant volume of primary air is directed to all rooms or areas served.

3,441,081
VAPOUR COOLED DISCHARGE TUBE ARRANGEMENTS
Alec Peter Orme Collis and David Ward Carr, Essex, England, assignors to English Electric Valve Company Limited, London, England, a British company
Filed Jan. 13, 1967, Ser. No. 609,039
Claims priority, application Great Britain, Feb. 15, 1966, 6,595/66
Int. Cl. F28d *1/06;* F22b *37/10*
U.S. Cl. 165—74 11 Claims



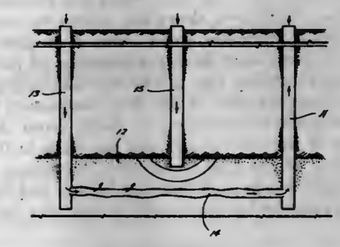
A swirl plate consisting of a ring member with angularly arranged vanes is fitted between the outlets of the cooling channels of the discharge tube and the vapour exit pipe of the boiler so that a swirling motion is imparted to the water and steam which deflects the water away from the exit pipe.

3,441,082
AIR CONDITIONING UNIT
Daniel A. Fragnito, Solvay, and Carl C. Herb, Camillus, N.Y., assignors to Carrier Corporation, Syracuse, N.Y., a corporation of Delaware
Filed Apr. 25, 1967, Ser. No. 633,540
Int. Cl. F28f *13/06;* F24f *3/04, 3/10*
U.S. Cl. 165—123 2 Claims



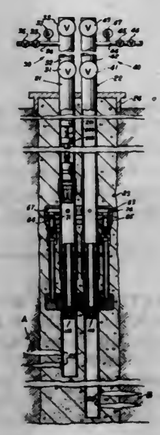
A room terminal for use in an air conditioning system. Air is provided to the units from a central station, the discharge of air from the units being regulated by a sliding plate damper.

3,441,083
METHOD OF RECOVERING HYDROCARBON FLUIDS FROM A SUBTERRANEAN FORMATION
Benny M. Fitzgerald, Houston, Tex., assignor to Tenneco Oil Company, Houston, Tex., a corporation of Texas
Filed Nov. 9, 1967, Ser. No. 681,655
Int. Cl. E21b *43/24*
U.S. Cl. 166—245 8 Claims



A method of producing hydrocarbon from a subterranean formation containing crude oil, particularly a viscous type crude oil. The method contemplates the combination of steam drives and an in-situ combustions, wherein the steam drives are performed in lower portions of the formation to heat the formation, with the in-situ combustions in upper portions of the formation to assit gravity in causing the oil to flow downwardly and into a producing well. The method also contemplates the spacing of the production wells in a polygonal pattern, with a steam injection well in the center thereof and an air injection along one side thereof.

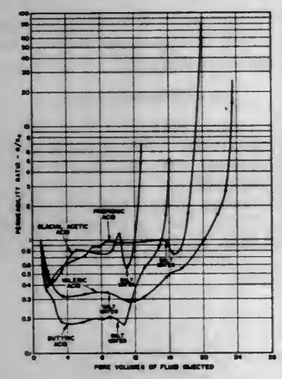
3,441,084
WELL CROSS-OVER APPARATUS AND TOOLS AND METHOD OF OPERATING A WELL INSTALLATION
John V. Fredd, Dallas, Tex., assignor to Otis Engineering Corporation, Dallas, Tex., a corporation of Delaware
Filed Mar. 10, 1967, Ser. No. 622,262
Int. Cl. E21b *23/00*
U.S. Cl. 166—250 39 Claims



A well apparatus having a pair of flow conductors extending in a well and having means for releasably securing well tools in the flow conductors at predetermined spaced locations therein and a cross-over means for establishing fluid communications between the flow con-

ductors to permit circulation of fluids down one flow conductor and up the other to treat internal surfaces of the flow conductor, to move well tools up and down one or the other of the flow conductors to position and remove well tools from the flow conductors, or to operate well tools connected in the flow conductors below the location of communication of the two flow streams. A cross-over device connectable between a pair of flow conductors for establishing fluid flow communication between the flow conductors and operable when the pressure in both of the flow conductors above the cross-over device is increased above a predetermined value. A method of operating a well installation having a plurality of parallel flow conductors extending into a well by establishing communication between a pair of the flow conductors below the surface to permit circulation of fluids from the surface down one of the flow conductors and then to the surface up the other of the flow conductors to operate, install or remove well tools in such flow conductors and to establish desired circulation between earth formations and the surface.

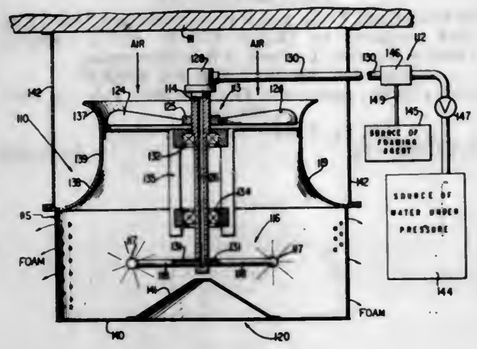
3,441,085
METHOD FOR ACID TREATING CARBONATE FORMATIONS
John L. Gidley, Houston, Tex., assignor to Esso Production Research Company, a corporation of Delaware
Filed Sept. 7, 1967, Ser. No. 666,160
Int. Cl. E21b *43/27*
U.S. Cl. 166—307 **16 Claims**



A method for the acid treatment of a carbonate formation surrounding a wellbore wherein an organic acid or an organic acid solution having a concentration in excess of that necessary to form a saturated salt solution on reaction with the carbonate rock is injected into the formation and water is thereafter injected to solubilize the acid salts.

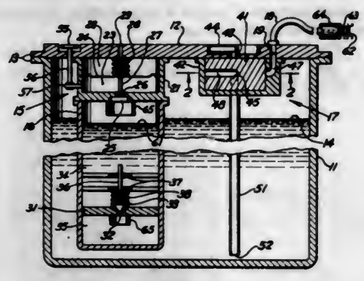
3,441,086
FOAM GENERATOR WITH WATER POWERED AXIAL FLOW FAN
Robert W. Barnes, Scotch Plains, N.J., assignor, by mesne assignments, to Walter Kidde & Company, Inc., Belleville, N.J., a corporation of New York
Filed June 19, 1967, Ser. No. 646,941
Int. Cl. A62c *35/44, 35/16*
U.S. Cl. 169—15 **6 Claims**

Fire fighting foam generating apparatus, which includes a thin cylindrical perforated member for forming foam, an imperforate annular casing secured to one end of the perforated member to form an air inlet, a circular imperforate end wall secured to the other end of the perforated member, a shaft extending longitudinally from the area enclosed by the inlet casing into the area enclosed by the perforated member, a source of foam producing solution under pressure, a plurality of nozzles connected to the solution source and mounted on the shaft within the area enclosed by the perforate member to spray the solution onto the perforate member and drive the shaft



by reactive forces, and an axial flow fan mounted on the shaft within the area enclosed by the inlet casing to rotate with the shaft and move air from the inlet through the perforated wall to become entrained with the solution and form foam.

3,441,087
FIRE EXTINGUISHER APPARATUS
Edward J. Poitras, 198 Highland St., Holliston, Mass. 01746
Filed Nov. 15, 1966, Ser. No. 594,452
Int. Cl. A62c *13/38, 13/60, 31/30*
U.S. Cl. 169—31 **13 Claims**

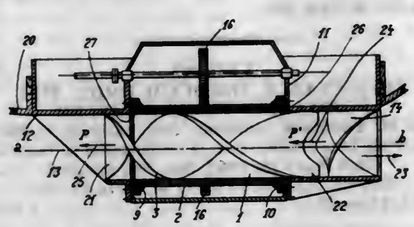


A portable fire extinguisher having selectively dischargeable, separate supplies of water and a liquefied gas useable as a fire inhibiting agent or as a pressure source for discharging water.

3,441,088
HYDRAULIC PROPELLER BY COMPOUND REACTION
Felix Levy, Les Collettes, Cagnes-sur-Mer 06, Alpes-Maritimes, France
Filed Aug. 23, 1967, Ser. No. 662,601
Claims priority, application France, Aug. 25, 1966, 74,203; July 7, 1967, 113,681
Int. Cl. B63h *5/06*; B64c *11/00*
U.S. Cl. 170—156 **4 Claims**

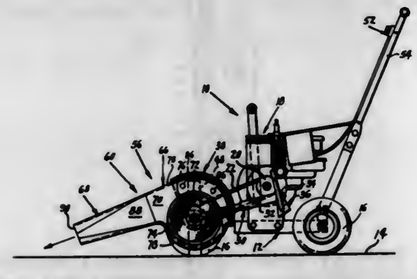
A propeller for liquid and gasiform streams for the propulsion of aerial, terrestrial or seafaring vehicles and for the propulsion of fluids comprising a rotor enclosing

helical blades of a pitch gradually increasing towards the rear. Said blades may project forwardly of the rotor



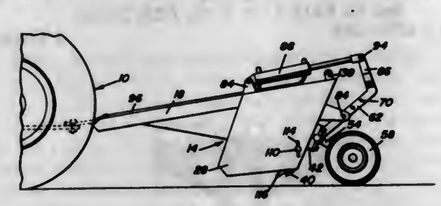
and at their rear their action is enhanced by stationary blades rigid with the casing in which the rotor revolves.

3,441,089
CONVERTIBLE LAWN EDGER AND CLEANER
Ernest Dale Minton, 1955 N. Garfield, Pasadena, Calif. 91104
Filed Apr. 12, 1966, Ser. No. 542,174
Int. Cl. A01b *45/00*
U.S. Cl. 172—14 **2 Claims**



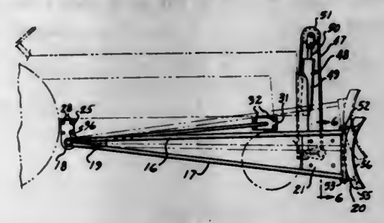
A blower attachment for lawn edgers for use in cleaning the edged sidewalks of the material removed by the edging operation. The blower is detachably secured to the frame of the edger, and the blower fan is detachably mounted on the edger shaft after the edger blade has been removed.

3,441,090
GROUND SCRAPING IMPLEMENT
Jose A. Viramontes, Star Rte. Box 18, Mesilla Park, N. Mex.
Filed Oct. 22, 1965, Ser. No. 500,839
Int. Cl. E02f *3/12, 3/80*; A01b *63/10*
U.S. Cl. 172—777 **10 Claims**



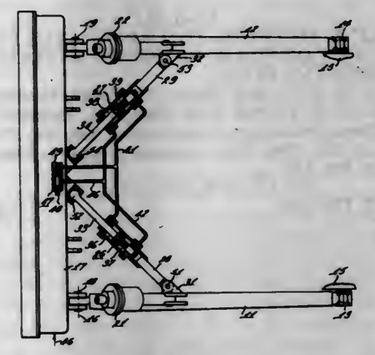
An earthworking vehicle including a transverse blade elevatable relative to ground-engaging support structure of the vehicle and oscillatable about a longitudinal horizontal axis. The blade includes a pair of opposite end sets of upstanding ripper teeth spaced longitudinally of the blade with each set of teeth independently shiftable between raised and lowered portions relative to the lower edge of the blade.

3,441,091
TOOL MOUNTING ASSEMBLY
Glenn Helling, Alexander, N. Dak. 58831
Filed Apr. 10, 1967, Ser. No. 629,683
Int. Cl. E02f *3/76*
U.S. Cl. 172—801 **12 Claims**



A tool mounting assembly capable of being mounted to the frame of a vehicle such as a tractor, in which a generally longitudinally extending arm is pivotally connected to transverse mounting means connected to the frame. A tool is capable of being connected to the ends of the arms opposite their connection to the mounting means; there are means secured to the frame and connected to the mounting means at each side of the frame outwardly of the attaching means for counteracting some of the forces transmitted to the mounting means from the tool through the arms.

3,441,092
COMPENSATING HYDRAULIC STABILIZING SYSTEM FOR BULLDOZER
Gary A. Drone, Springfield, Ill., assignor to Allis-Chalmers Manufacturing Company, Milwaukee, Wis.
Filed Nov. 7, 1966, Ser. No. 592,538
Int. Cl. E02f *3/85*
U.S. Cl. 172—803 **4 Claims**



This invention relates to a hydraulic stabilizing system for a dozer and push beams which prevents the introduction of stresses due to tilting operations, while still maintaining lateral stability of the blade.

3,441,093
JET PERFORATING GUN ARMING SWITCH AND CIRCUITRY
Gene T. Boop, Odessa, Tex., assignor to Profitable Resources Inc., a corporation of Texas
Filed June 19, 1967, Ser. No. 646,973
Int. Cl. E21b *43/116*; H01h *35/38*
U.S. Cl. 175—4.55 **10 Claims**

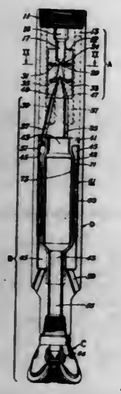
A sequentially fired jet perforating gun and circuit having a sub which connects two adjacent charge carriers together. The sub houses an explosive responsive switch, and includes a piston having a deformable washer associated therewith. The force of a detonated charge forces the

piston into fluid tight engagement with the sub, while at the same time deforms the washer into electrical contact with the sub to thereby form a circuit path between the piston and the sub, thus arming the explosive charge located in the next adjacent charge carrier. The circuit is of the single wire type which relies upon a grounded return path to the surface of the earth where the device



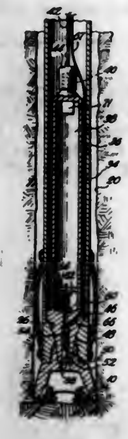
is controlled, and includes series arranged resistors having a branch circuit between each resistor for each charge and explosive responsive switch, with a diode associated with each charge, and with adjacent diodes being arranged in reversed polarity with respect to each other. Proper polarity current explodes the bottom most charge, whereafter the current polarity must be reversed as each charge of the gun is sequentially fired.

3,441,094
DRILLING METHODS AND APPARATUS EMPLOYING OUT-OF-PHASE PRESSURE VARIATIONS IN A DRILLING FLUID
Edward M. Galle and Henry B. Woods, Houston, Tex., assignors to Hughes Tool Company, Houston, Tex.
Continuation-in-part of application Ser. No. 379,257, June 30, 1964. This application Aug. 5, 1966, Ser. No. 576,170
Int. Cl. E21b *7/04, 7/18, 7/00*
U.S. Cl. 175—56 **16 Claims**



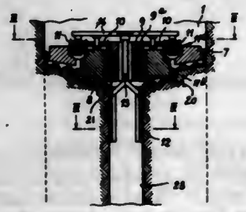
Following is disclosed methods and apparatus for drilling bore holes in the earth wherein out-of-phase pressure variations are generated in the fluid surrounding the drill bit and in the fluid upstream of the nozzles in the bit to cyclically and simultaneously reduce bottom hole pressure, increase jet velocity, and increase bit loading to increase the drilling rate.

3,441,095
RETRIEVABLE THROUGH DRILL PIPE FORMATION FLUID SAMPLER
Arthur H. Youmans, Houston, Tex., assignor to Dresser Industries, Inc., Dallas, Tex., a corporation of Delaware
Filed Nov. 28, 1967, Ser. No. 686,206
Int. Cl. E21b *43/116, 7/00;* **E21c** *19/00*
U.S. Cl. 175—59 **9 Claims**



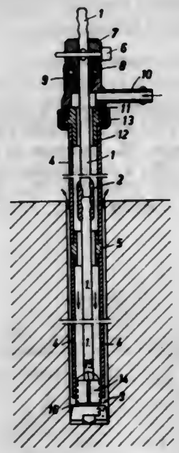
This disclosure contains drawings and a description of a method and apparatus for retrieving a fluid sample from a subterranean formation during drilling operations. The apparatus includes a special drill collar and co-operating sampler by which the bottom of a well bore may be isolated and a bullet fired into the formation preceding the drill bit, thereby enabling the retrieval of a sample uncontaminated by drilling mud and the like.

3,441,096
ROTATIONALLY OPERATING BORING MACHINES
Hermann Lautsch, 190 Feldhauser Str., 439 Gladbeck, Germany
Filed Jan. 9, 1967, Ser. No. 608,026
Claims priority, application Germany, Jan. 8, 1966, B 85,319
Int. Cl. E21b *3/10, 1/06;* **E21c** *23/00*
U.S. Cl. 175—104 **2 Claims**



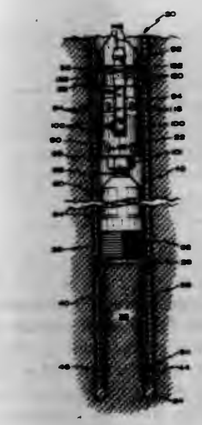
A rotationally operating boring machine comprising an annular rotor body, an inner carrier body outside of said rotor body and concentric therewith, an electric motor having a rotor incorporated with said rotor body and a stator incorporated with said inner carrier body, an outer carrier body outside of and concentric with said inner carrier body, said inner and outer carrier bodies being adapted to carry cutting tools, a circular row of external gear teeth on said inner carrier body, a circular row of internal gear teeth on said outer carrier body adjacent to and spaced from said external teeth, pinions meshing with said rows of internal and external teeth, a planetary drive comprising a sun wheel rigid with said rotor body and planet gears meshing respectively with said sun wheel and said pinions, a mounting plate for said planet gears and pinions, connecting means secured at one end to said mounting plate and extending freely through said rotor body, and guide means connected to the other end of said connecting means for engaging in a preliminary bore hole.

3,441,097
DEVICE IN DRILLS
Hans H. Ahlgren, Solna, and Martin Leidvik, Vallingby, Sweden, assignors to Stabilator Aktiebolag, Bromma, Sweden, a joint-stock company of Sweden
Filed Nov. 29, 1966, Ser. No. 597,709
Claims priority, application Sweden, Dec. 8, 1965, 15,867/65
Int. Cl. E21b *21/00*
U.S. Cl. 175—214 **3 Claims**



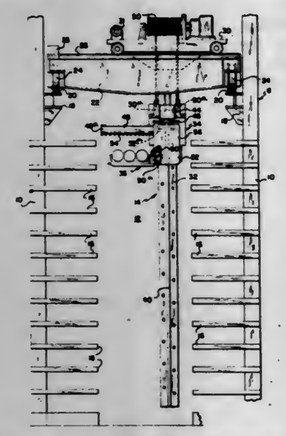
There is disclosed drilling apparatus including a drill rod having a drill head secured on its lower end and having a boring diameter materially greater than the diameter of the rod, a distance sleeve secured at the upper end of the rod and having a depending cylindrical portion, a sleeve member receiving the depending portion and means sealing the depending portion in the sleeve, a generally cylindriform pipe neck having a pipe socket extension providing a flushing medium inlet and an outwardly extending flange freely projecting into an annular clearance space in a connecting flange ring secured on the lower end of the sleeve member, and a tube surrounding and outwardly spaced from the rod and having an outer diameter less than the boring diameter of the drill head and fitted over a generally cylindrical portion of the drill head and a portion of the pipe neck and free for limited longitudinal and rotational movement relative to said pipe neck and drill head whereby drill head impact and torsional action take place through the rod only and not through any direct connection between the tube and rod.

3,441,098
CORE DRILLING SYSTEM
Lyle J. Martinsen, Murray, Utah, assignor to Boyles Bros. Drilling Co., Salt Lake City, Utah
Filed Aug. 10, 1966, Ser. No. 571,521
Int. Cl. E21b *9/20, 25/00, 31/00*
U.S. Cl. 175—246 **10 Claims**



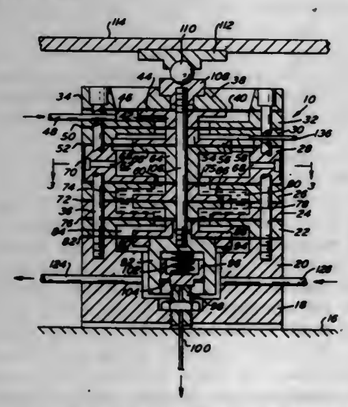
A core barrel assembly comprising a novel spearhead latching-outer tube coupling latch structure, having no mechanically moving parts thereby avoiding the "sanding up" problems of the prior art and which (a) securely couples the core barrel assembly to an outer tube of a drill string during drilling, and (b) latches to a novel overshot for reliable placement and removal of the core barrel assembly in and from coupled relation with the outer tube, the overshot being adapted to uncouple the core barrel assembly from the outer tube immediately prior to latching the overshot to the spearhead structure. The latched condition between the overshot and the core barrel assembly is sure and cannot inadvertently be severed. The presently preferred novel overshot provides a new release feature which accommodates selective or controlled release of its coupling relation with the spearhead of the core barrel assembly within the drill hole when an operator pumps the wire line, to which the overshot is attached, up and down a prescribed number of times. Structurally, the preferred overshot comprises a bell housing, a biased interior plunger and plunger release mechanism including a release housing which, in combination, can be situated in a latched posture or a released posture according to the desire of the operator. Structurally, the preferred latch structure of the core barrel assembly comprises circumferentially-spaced fingers each yieldable in a radial direction through fish-tail motion and each seriatim presenting at the outer surface a ski, adapted to solely contact the interior surface of the outer tube and/or drill string when the core barrel assembly is, for example, being displaced by gravity into its drilling position, an outer tube-coupling ridge, which locks the core barrel assembly to the outer tube against axial displacement in either direction, and a spearhead hook, for receiving and latching to the overshot only after the fingers have been gathered to cause uncoupling of the core barrel assembly from the outer tube.

3,441,099
WEIGHING APPARATUS FOR A CANTILEVER LOAD
Stanley J. Gustetic, Euclid, Ohio, assignor to The Euclid Crane and Hoist Company, Cleveland, Ohio
Filed July 28, 1966, Ser. No. 568,444
Int. Cl. G01g 23/02
U.S. Cl. 177—151 12 Claims



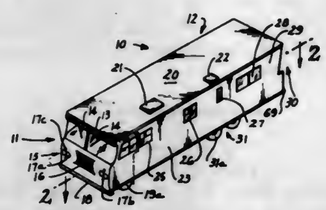
A load transfer and storage mechanism including a movable load carrier for inserting loads into and withdrawing loads from a storage means disposed along a path of travel of the load carrier and with the load carrier including a load supporting means thereon of cantilever-like construction with an eccentric mounting arrangement for supporting the load supporting means on the load carrier, and with a weighing mechanism operatively coupled to the load supporting means for determining the weight of a load on the load supporting means. The weighing mechanism illustrated comprises an electronic load cell system.

3,441,100
PNEUMATIC WEIGHT TRANSMITTER FOR SPECIAL ENVIRONMENTS
Donald E. Stein, Millville, N.J., assignor to Kane Air Scale Company, Glassboro, N.J., a corporation of New Jersey
Continuation-in-part of application Ser. No. 561,872, June 30, 1966. This application June 1, 1967, Ser. No. 642,819
Int. Cl. G01g 5/04
U.S. Cl. 177—208 7 Claims



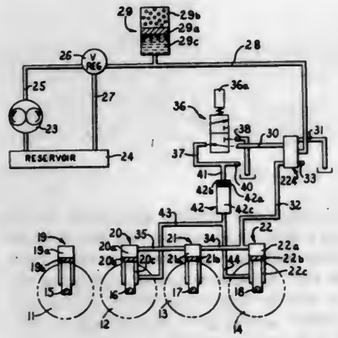
A pneumatic weight transmitter is provided in a special environment such as vacuum or high pressure. The transmitter is constructed in a manner so as to neutralize the effect of vacuum or pressure and uses air as the transmitting and balancing medium, thereby eliminating knife edges, levers, pivots, etc.

3,441,101
VEHICLE COMPRISING FRONT WHEEL DRIVE AND TRAILER
R B Parnell, 1002 Ave. D, South Houston, Tex. 77587
Filed Nov. 16, 1966, Ser. No. 594,905
Int. Cl. B60p 3/00, 3/36; B62d 21/18
U.S. Cl. 180—12 10 Claims



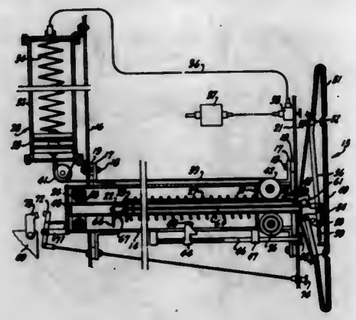
This trailer home invention includes a floored bow portion and a lower floored housekeeping portion, with forward axle supported bow frame supporting engine motor, also motor driven axle drive means, steering wheel and seat. The floored housekeeping portion includes a rear axle supported rear frame supporting a main chassis. The bow and rear portions are separately fabricated and assembled and then joined together at location from which the trailer home may be driven away.

3,441,102
LOAD TRANSFERRING SYSTEM FOR MULTI-AXLE VEHICLES
Ralph H. Kress, Peoria, Ill., assignor to Caterpillar Tractor Co., Peoria, Ill., a corporation of California
Filed Oct. 26, 1966, Ser. No. 589,627
Int. Cl. B62d 61/10, 37/00
U.S. Cl. 180—22 14 Claims



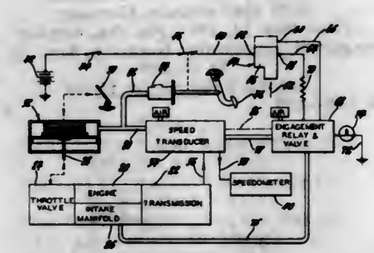
A load transferring system for multi-axle vehicles comprises a hydraulic control system for automatically transferring a large portion of a vehicle's gross weight to the driven wheels thereof when the vehicle is empty or partially loaded. The control system comprises suspension means for at least one non-driven wheel and means for automatically raising such wheel when the fluid pressure in a chamber of the suspension means drops below a predetermined level.

3,441,103
AUTOMOBILE SAFETY DEVICE
Wasyl Lymar, Broderick, Calif., assignor of one-half to Lowell B. Haney, Sacramento, Calif.
Filed July 17, 1967, Ser. No. 653,936
Int. Cl. B60r 19/00
U.S. Cl. 180—82 8 Claims



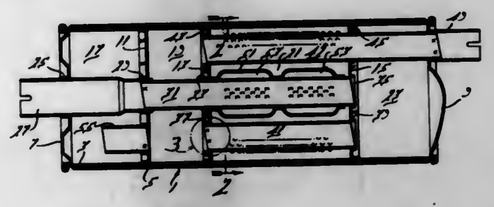
An elongated bar extending transversely of an automobile is moved from a position forward of the seat of the automobile into engagement with a person thereon in response to the vacuum system of the automobile when the engine is started. Wings on the ends of the bar are swung and locked into a position near the person's sides to prevent motion of the person transversely of the automobile.

3,441,104
VEHICLE SPEED TRANSDUCER
Norman R. Hagler, Flint, Mich., assignor to General Motors Corporation, Detroit, Mich., a corporation of Delaware
Filed Aug. 29, 1967, Ser. No. 664,049
Int. Cl. B60k 31/00; F02d 11/08
U.S. Cl. 180—108 14 Claims



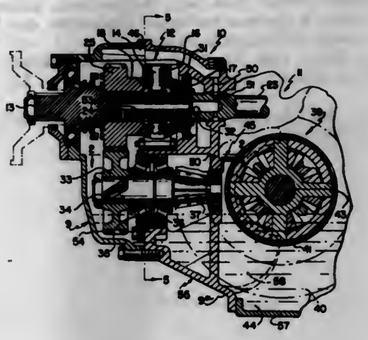
A speed transducer having a speed member rotating at various speeds within a speed range and causing a disc to move arcuately so that the arcuate disc position reflects the speed of the speed member, a clutch member substantially encircling the disc and being held in a spread position away from the disc and connected to an element of a control through a radial lost motion mechanism, and manually controlled means which releases the clutch member so that it grips the disc to establish a particular arcuate position relationship between the control element and the disc which reflects a desired speed. Arcuate movement of the disc causes linear movement of the control element through the radial lost motion mechanism to ultimately control the speed of the speed member so that the disc, clutch member and control member move in a sense to keep the speed member at the desired rotational speed, which was the speed existing when the clutch member was actuated and gripped the disc.

3,441,105
MUFFLER WITH DIAGONAL TUBE ENDS
Franklin R. Hubbell III, Brooklyn, Mich., assignor to Walker Manufacturing Company, Racine, Wis., a corporation of Delaware
Filed July 18, 1966, Ser. No. 565,829
Int. Cl. F01h 7/08
U.S. Cl. 181—61 2 Claims



A component tube for a muffler is formed with the ends parallel to each other and slanted to the tube axis so that when mounted in supporting flanges the tube contains material that overlaps substantially less than all of the flange thereby effecting a substantial saving in the amount of metal used in the tube.

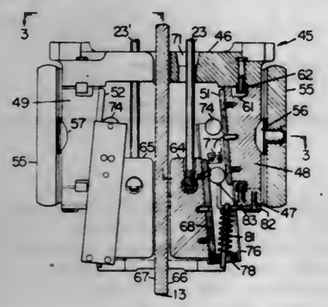
3,441,106
AXLE MECHANISM
Albert E. Taylor, Mentor, and Ivan E. Benjamin, Wickliffe, Ohio, assignors to Eaton Manufacturing Company, Cleveland, Ohio, a corporation of Ohio
Filed Oct. 1, 1965, Ser. No. 492,027
Int. Cl. F01m 1/10; F16n 17/06, 13/22
U.S. Cl. 184—6 11 Claims



A tandem axle mechanism comprises an interaxle differential drivingly connected between driving axles. A gear train is connected with the interaxle differential to deliver torque to one of the driving axles. A housing contains the gear train and the interaxle differential and has a lubricant-receiving channel above the gear train and interaxle differential. Lubricant is delivered into the channel by the gear train and the interaxle differential. The channel has a lubricant passage means for directing lubricant from the channel to the interaxle differential. Lubricant is delivered to the gear train at least in part by a lubricant pickup surface on the differential carrier for one of the axles. A lubricant director member co-

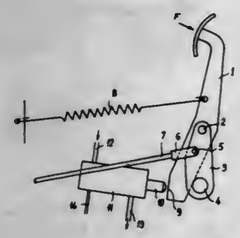
operates with the pickup surface on the differential carrier and receives lubricant therefrom. The director member is a plate-like member which has at least an edge portion made of a plastic-like material.

3,441,107
FLEXIBLE GUIDE CLAMP SAFETY SYSTEM
Benjamin Graham Thorne, Yonkers, Harold James Lyons, Greenlawn, and Albert Vincent Dingfeld, Brooklyn, N.Y., assignors to Otis Elevator Company, New York, N.Y., a corporation of New Jersey
Filed June 26, 1967, Ser. No. 648,827
Int. Cl. B66b 5/16; B25g 3/38; F16c 11/06
U.S. Cl. 187—90 7 Claims



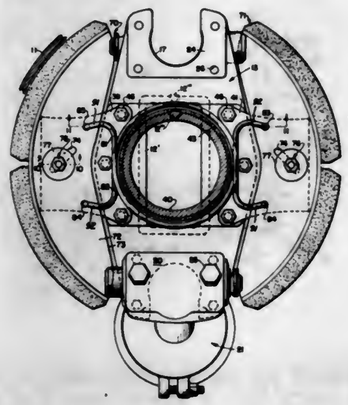
A flexible guide clamp safety system for elevator cars in which rail engaging members are raised by lift rods fastened near the center thereof into position to be urged by guide blocks into engagement with the guide rail.

3,441,108
DEVICES FOR SIMULTANEOUSLY APPLYING THE BRAKES OF A TRACTOR AND OF ITS TRAILER
Raymond Boueil and Gerard Gardeux, Billancourt, France, assignors to Regie Nationale des Usines Renault, Billancourt, France
Filed Feb. 12, 1968, Ser. No. 704,841
Claims priority, application France, Mar. 23, 1967, 100,019
Int. Cl. B60t 7/20; G05g 9/00, 13/00
U.S. Cl. 188—3 3 Claims



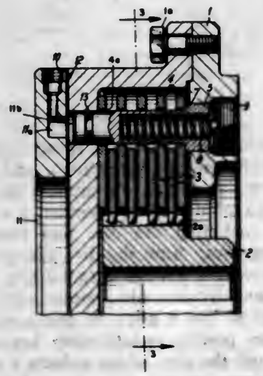
The pull rod controlling the tractor brakes and the brake pedal are fulcrumed on pivot pins carried by a common movable lever fulcrumed in turn about a fixed pivot pin, the brake pedal having beyond its fulcrum a heel-shaped lower extension for actuating the trailer brake control valve before said common lever pulls said rod for actuating the tractor brakes when the brake pedal is depressed against the resistance of a return spring.

3,441,109
BRAKE MECHANISM SUPPORT
William G. Hanley and Frank H. Fisher, Kenton, Ohio, assignors, by mesne assignments, to Rockwell-Standard Company, Pittsburgh, Pa., a corporation of Delaware
Original application Aug. 12, 1965, Ser. No. 479,222, now Patent No. 3,378,113. Divided and this application Aug. 28, 1967, Ser. No. 674,031
Int. Cl. F16d 51/00
U.S. Cl. 188—78 4 Claims



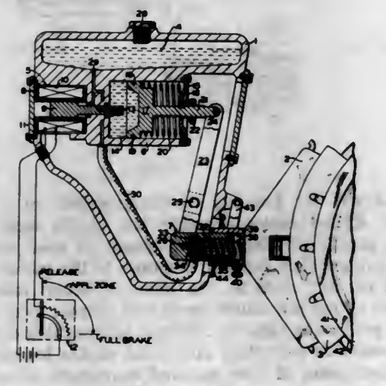
A vehicle brake assembly mounted on a non-rotatable axle member comprises a rigid brake mechanism support fixed as by welding on the axle member, with a plurality of brake shoe assemblies slidably mounted on the support and actuator units mounted on the support between the opposite ends of adjacent brake shoe assemblies. Return spring means interconnecting opposite brake shoe assemblies comprise at least two separate oppositely facing U-shaped springs extending around opposite sides of the axle member with their ends anchored in the brake shoe assemblies.

3,441,110
DISC COUPLING OPERATED BY FLUID PRESSURE
Werner Rüggen, 16 Nordstrasse, 4747 Holzwickede, Germany
Filed May 22, 1967, Ser. No. 640,008
Claims priority, application Germany, Sept. 15, 1966, M 56,289
Int. Cl. F16d 65/24, 55/00
U.S. Cl. 188—170 6 Claims



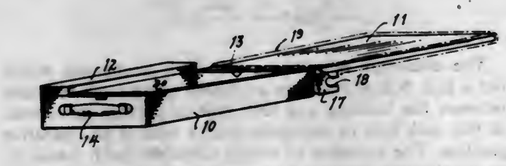
A supercompact disc coupling operable by fluid under pressure, i.e., adapted to be engaged and disengaged, respectively, by the action of a fluid under pressure. The fluid pressure operating mechanism of the coupling is coextensive with angularly displaced rods supporting the outer discs or laminations of the coupling on the outer frame structure thereof.

3,441,111
ELECTROHYDRAULICALLY CONTROLLED SPRING APPLIED TREAD BRAKE UNIT
Willard P. Spalding, Verona, Pa., assignor to Westinghouse Air Brake Company, Wilmerding, Pa., a corporation of Pennsylvania
Filed July 26, 1967, Ser. No. 656,189
Int. Cl. F16d 65/24, 65/36; F15b 13/044
U.S. Cl. 188—170 11 Claims



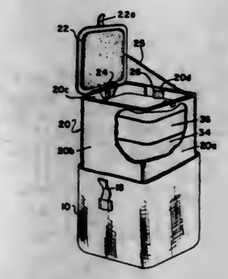
A tread brake unit for a railway car wheel comprising a piston subject to opposing forces of hydraulic pressure and a spring for effecting application and release of braking force on a brake shoe, frictionally engaging the tread of the wheel according to differential forces on the piston responsively to deenergization and energization of a solenoid-actuated plunger that shifts into and out of a hydraulic pressure chamber at one side of the piston. The unit includes a hydraulically actuated slack adjuster, interposed between the brake shoe and a brake actuating lever to which the piston is connected, which holds the brake shoe in light pressure contact with the tread of the wheel during brake release to produce heat on the tread surface so that snow and ice will not accumulate on the tread of the wheel.

3,441,112
TRAVELING CASE WITH IRONING BOARD FEATURE
Florabel Maben, 1405 W. Center St., Visalia, Calif. 93277
Filed Nov. 29, 1967, Ser. No. 686,423
Int. Cl. A47b 3/10; D06f 81/00
U.S. Cl. 190—11 4 Claims



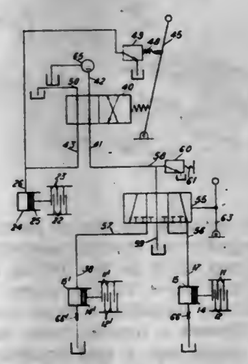
This invention relates to the provision of a light weight traveling case for feminine wear having a cover portion that is adapted and arranged to carry a removable and padded slip cover to provide an ironing board for flat wear when the traveling case is open, with the added feature that the cover portion of the traveling case may be divided into two longitudinally extending parts to provide a wide board for flat wear and a narrow board for sleeves and the like.

3,441,113
SEA LOCKER
Arcade J. Pouliot, 12402 Kinship Turn, Bowie, Md. 20715
Filed Nov. 8, 1967, Ser. No. 681,369
Int. Cl. A45c 13/00, 3/00, 7/00
U.S. Cl. 190—51 6 Claims



A sea locker is composed of a sea bag having a rigid waterproof liner therein. Removable drawers are vertically stacked in the liner and are kept aligned by ribs. Pegs connect the drawers to each other. The liner is one unit and becomes completely waterproof once the waterproof hinged top is secured. The drawers enable clothes and other goods to be kept in a sea bag without being wrinkled or crushed. The waterproof liner offers maximum waterproof protection to the contents therein. As the drawers are transparent, individual articles can be easily found.

3,441,114
VEHICLE TRANSMISSION AND CONTROLS THEREFOR
Pietro Pensa, Como, Italy, assignor to Massey-Ferguson Services, N.V., Curacao, Netherlands Antilles
Filed Nov. 15, 1966, Ser. No. 594,570
Claims priority, application Italy, Nov. 20, 1965, 25,812/65
Int. Cl. F16h 57/06; F16d 13/52
U.S. Cl. 192—4 4 Claims



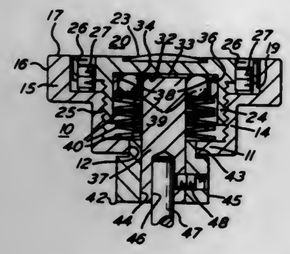
A forward-reverse transmission having a forward clutch, a reverse clutch and an output shaft brake. Control for the transmission includes a pair of valves in series, the first valve operating to either transmit a modulated

variable pressure to the brake or a non-modulated pressure to a second valve which can be selected to direct pressure either to the forward or the reverse clutch.

3,441,115
VALVE HANDLE WITH TORQUE LIMIT ADJUSTMENT MEANS

Rush B. Gunther, Willow Grove, Pa., assignor, by mesne assignments, to The Durlron Company, Inc., Dayton, Ohio, a corporation of New York

Filed Nov. 20, 1967, Ser. No. 684,150
Int. Cl. F16d 23/00, 7/02, 43/20
U.S. Cl. 192—56 9 Claims

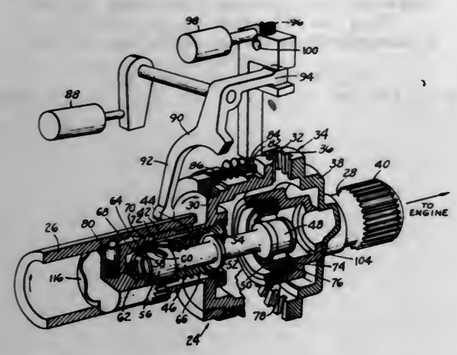


A valve operating handle particularly for valves for high pressure fluid which has a controlled torque to prevent damage to the valve seat upon tightening of the valve, the mechanism shown being easy to make, easy to use and easy to adjust from the top, a manual override also being available.

3,441,116
ELECTRICALLY OPERATED CLUTCH MECHANISM

Raymond N. Queenerville, Suffield, Conn., assignor to United Aircraft Corporation, East Hartford, Conn., a corporation of Delaware

Filed Dec. 13, 1966, Ser. No. 601,403
Int. Cl. F16d 11/04, 11/10, 13/22
U.S. Cl. 192—67 16 Claims

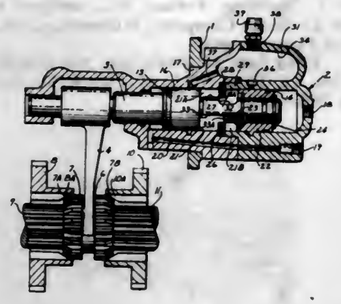


An electrically actuated mechanical clutch mechanism for connecting together two rotating members is disclosed. Either element may serve as the driving member and either element may serve as the driven member. A synchromesh feature, including a sprag clutch operable only when one element is rotating faster than the other element of the clutch, and a load absorbing spring arrangement, allows for actuation and engagement of the clutch elements while the parts are rotating. A decoupling mechanism incorporates a lost motion feature to insure proper engagement of the decoupling elements before any substantial decoupling load is encountered.

3,441,117
MESHING ASSISTING MEANS FOR JAW CLUTCHES

Thomas V. McNamara, Kalamazoo, Mich., assignor to Eaton Yale & Towne Inc., Cleveland, Ohio, a corporation of Ohio

Filed Aug. 5, 1966, Ser. No. 570,583
Int. Cl. F16h 5/14
U.S. Cl. 192—109 12 Claims

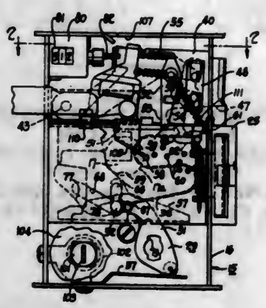


A device for assisting the intermeshing of a pair of power shifted interengageable jaw clutch teeth having check means slowing the movement of said jaw clutch teeth toward each other in response to the power shifting ahead of, but close to, the point of actual face-to-face contact of the jaw clutch teeth with respect to each other while permitting same to continue approaching each other and means de-activating said check means for permitting the resumption of free powered movement of said teeth into interengagement with each other.

3,441,118
COIN LOCK MECHANISM

Joseph Austin Smith, 1 Nob Hill, Loudonville, Ohio 44842

Continuation-in-part of application Ser. No. 570,267, Aug. 4, 1966, now Patent No. 3,397,765. This application Dec. 11, 1967, Ser. No. 689,359
Int. Cl. G07f 17/12
U.S. Cl. 194—59 20 Claims

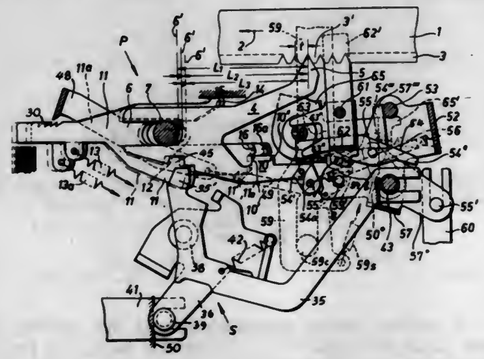


The disclosure relates to a coin lock mechanism which has a lock bolt movable in a housing and a latch interacts between the housing and lock bolt to prevent movement of this lock bolt in the absence of a coin in an operative position. The presence of a coin cams the latch means to an invalidated position to permit movement of the lock bolt. A pivoted coin chute in the housing is a part of the latch means and it is pivoted away from the lock bolt to invalidate the latch means. A latch lever is pivoted on the coin chute and spring urged toward a position such that upon return movement of the lock bolt only the latch lever pivots and the coin chute need not pivotally move away from the lock bolt to permit this return movement. Cocking and tripping levers are also pivoted on the coin chute. Spring means causes the cocking and tripping levers to interengage at second latch means and the cocking lever is cocked upon movement of the lock bolt and is then tripped upon return movement of the lock bolt so as to actuate a meter register registering the number of coin operated actuations of the lock mechanism.

3,441,119
PAWL RELEASE MECHANISM

Horst Schweizer, Wilhelmshaven, Germany, assignor to Olympia Werke A.G., Wilhelmshaven, Germany

Filed May 25, 1966, Ser. No. 552,841
Claims priority, application Germany, May 25, 1965, O 10,881
Int. Cl. B41j 19/66, 19/58
U.S. Cl. 197—94 12 Claims

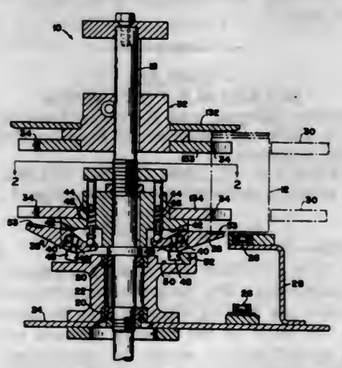


Escapement pawls are biased to move to a position engaging the rack of a typewriter carriage, and are released and held by control means which are locked by locking means frictionally coupled to, and operated by the returning carriage so that the respective released pawl is locked until the carriage starts its movement in forward direction whereupon the respective pawl moves to a position blocking forward movement of the carriage.

3,441,120
CAN FEEDING MECHANISM

Robert W. McGill, Munroe Falls, Ohio, assignor to Geo. J. Meyer, Cudahy, Wis., a corporation of Wisconsin

Filed Feb. 16, 1967, Ser. No. 616,514
Int. Cl. B65g 47/69, 47/71
U.S. Cl. 198—31 3 Claims

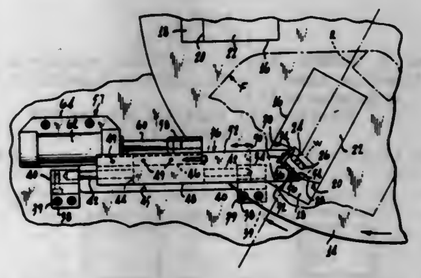


Apparatus for sorting a single row of moving cylindrical objects, such as cans, into two or more rows, the objects being fed into a disc-like spacer having a plurality of object receiving surfaces, some of the objects being passed through the spacer to continue in the single row, but other of the objects being held in the receiving surfaces as the spacer rotates an arcuate distance with the objects then being released from the receiving surfaces and directed to another moving row.

3,441,121
APPARATUS FOR RAPIDLY AND PRECISELY POSITIONING A SUCCESSION OF SMALL WORKPIECES

Ronald F. Pastuszak, Allentown, Pa., assignor to Precision Systems Company, Inc., Somerville, N.J., a corporation of New Jersey

Filed Aug. 31, 1967, Ser. No. 664,785
Int. Cl. B65g 47/24
U.S. Cl. 198—33 5 Claims

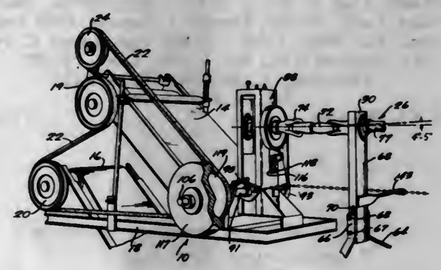


Apparatus that precisely positions small workpieces, such as substrates on which microcircuits are printed, for performance of a manufacturing operation thereon, as the piece arrives at the work station where the operation is to be performed. A positioning bar, mounted in full independence of the support structure upon which the workpieces are carried to the station, travels in a path that results in its engaging the workpiece at peripherally spaced locations thereon, and with the piece so engaged, continues its travel to a final position which precisely locates the workpiece.

3,441,122
BALE THROWER

Lloyd Adlay Luedtke, P.O. Box 123, Allenton, Wis. 53002

Filed Mar. 1, 1967, Ser. No. 619,799
Int. Cl. B65g 31/02
U.S. Cl. 198—128 14 Claims



Disclosed herein is a bale thrower which is adapted for connection to a baler or bale forming machine and which is driven by an overhead drive shaft located on the baler so as to supply power to the bale thrower from the baler. Adjustable bearing mountings are provided for supporting the drive shaft and for facilitating alignment thereof,

together with a belt and pulley arrangement with belt tension means on the bale thrower for converting the direction of drive to an axis at right angles to the drive shaft.

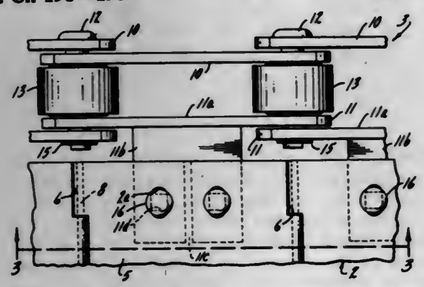
Variation in the throw-out speed of the bale thrower is accomplished by a variable drive sheave with an axially movable flange having an axial extension. Actuation of the variable drive sheave is effected by a three bar linkage. The engagement between the linkage and movable flange is provided by a collar on the axial extension. When one bar in the linkage bears against the collar, the collar stops rotating and the extension rotates within the collar as the collar urges the movable sheave toward the fixed flange thereby varying the sheave pitch.

A hitch for a steering arm is provided which comprises a U-shaped bracket. A wagon tongue is secured in the bracket by an arm with one end pivoted to one side of the bracket and with the other end secured in a notch of the bracket by a sliding pin.

3,441,123
CONVEYOR

Ross T. Griffith, Kalamazoo, Mich., assignor to North American Aluminum Corporation, Kalamazoo, Mich., a corporation of Delaware

Filed June 19, 1967, Ser. No. 646,959
Int. Cl. B65g 15/48
U.S. Cl. 198—195 2 Claims

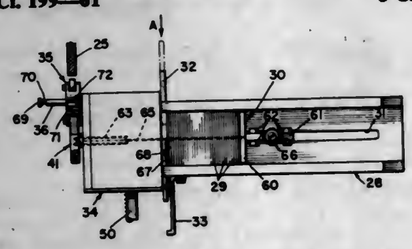


An articulated, continuous belt conveyor formed substantially of a plurality of identical, extruded aluminum parts, including identical flights hinged to form a conveyor bed, a pair of conveyor chains, the inner links of which are substantially identical and include central pads supporting the bed and the chain pintles being aligned with the points of articulation of the bed.

3,441,124
RULE INSERTING APPARATUS FOR LINECASTING MACHINES

Harold J. Achterling, 7721 Oakdale, Canoga Park, Calif. 91306; Aldo C. Prosa, 15127 Camarillo St., Sherman Oaks, Calif. 91403; Donald J. Spencer, 7938 Driscoll Ave., Van Nuys, Calif. 91406, and Robert C. Perry, 7721 Riverton Ave., Sun Valley, Calif. 91352

Filed Aug. 8, 1966, Ser. No. 571,127
Int. Cl. B41b 9/16
U.S. Cl. 199—61 5 Claims

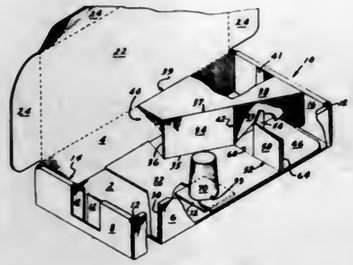


A linecasting machine includes a rule element inserting device arranged to insert rule elements into an arrangement of slugs cast by the linecasting machine without contacting the printing edges of the rule elements. An ejector element is arranged to reciprocate transversely of a horizontal magazine containing a plurality of rule elements whose printing edges face upwardly. The ejector member has a reduced thickness section defining a shoulder which engages only side edges of the rule elements and shoves them accurately into the arrangement of slugs.

3,441,125
PACKING CARTON FOR REVOLVERS AND THE LIKE

Donald I. Small, West Springfield, Mass., assignor to Longview Fibre Company, a corporation of Delaware

Filed Apr. 10, 1967, Ser. No. 629,454
Int. Cl. B65d 5/50
U.S. Cl. 206—45.14 10 Claims



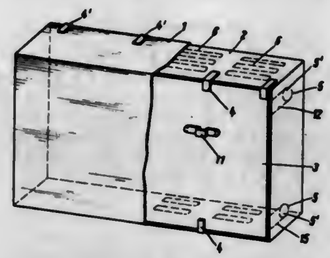
A packing carton, for revolvers and like articles, of one piece rectangular tray construction having an extension of one side wall folded inwardly from the top edge thereof, a mounting post as a trigger guard pin extending from the bottom wall of the tray adjacent one of the longer sidewalls thereof in a generally central relationship thereto, said side wall extension being folded interiorly of the tray and defining at one side of the carton interior first and second internal vertical walls, the first of said walls being spaced from the post and disposed in diagonal relationship to one corner of the other of the longer sidewalls, the second vertical wall being positioned to provide a bracing portion in opposed spaced relation to said first wall for holding a revolver barrel placed along said first wall when the trigger guard of the revolver is placed on said post, the post providing a pivot point for disposing the barrel of a revolver in braced relation between said vertical walls and directed generally towards one corner end of the first of the longer sidewalls of the carton with the butt end disposed generally towards the corner at the other end thereof.

3,441,126
SEPARABLE CONTAINER

Erich Benteler, Heepen, and Hermann Schmidt, Niederdornberg, Germany, assignors to Benteler-Werke A.G., Bielefeld, Germany

Filed Apr. 22, 1968, Ser. No. 722,861
Claims priority, application Germany, Apr. 21, 1967, B 70,614
Int. Cl. B65d 85/00
U.S. Cl. 206—46 13 Claims

A separable container for heating elements such as radiators comprises a first hollow section through an open side of which the heating element may be introduced so that only the back of the heating element remains exposed. A second hollow section is constructed so as to receive therewithin telescopically the first section together with the heating element so that the back of the latter is covered and the side wall of the first section is received within the second section. Adhesive tape secures the first and second sections to one another and the first section to the heating element. Apertures and/or knock-out portions are provided in the first section so that access may

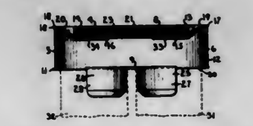


be gained to the heating element whereby the latter may be connected to utility lines and operated for testing and other purposes while the first section remains in place to afford protection against damage to the heating element.

3,441,127
GIFT WRAPPING ENSEMBLE AND HOLDER THEREFOR

Shannon L. Manning, Shawnee Mission, Kans., assignor to Hallmark Cards, Incorporated, Kansas City, Mo., a corporation of Missouri

Filed Jan. 16, 1968, Ser. No. 698,267
Int. Cl. B65d 81/32, 65/16, 59/06
U.S. Cl. 206—47 7 Claims

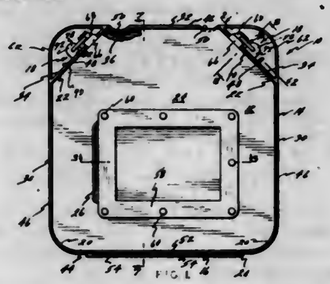


The present invention discloses a combination of a holder, gift wrapping paper, ribbon, and gift tags. The holder discloses a substantially rectangular shaped body with rounded ends having flanges between which the ribbon is wrapped, and includes a recess in the top for the gift tags, and depending members for engaging one end of two rolls of gift wrapping paper or the like. The entire package is covered by cellophane or the like.

3,441,128
FILM REEL SHIPPING CONTAINER

Morris Goldberg, Denver, Colo., assignor to Goldberg Brothers, Inc., Denver, Colo., a corporation of Colorado

Filed Jan. 8, 1968, Ser. No. 696,272
Int. Cl. B65h 55/02; B65d 45/28; E05c 5/02
U.S. Cl. 206—52 6 Claims

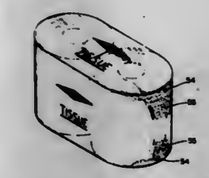


This invention relates to a combination shipping container and carrying case for reels of motion picture film. The unit is characterized by a molded fiberboard body having truncated corners and a hinged lid therefor that provides handles at said truncated corners that also constitute guardrails for the latches mounted at these points. Novelty also resides in a unique type of depressible swinging-pin latch, a pair of which are employed to releaseably fasten the hinged lid in closed position on the body.

3,441,129
WRAPPER TIGHTENING

John H. Johansen and Walter H. Herman, Wallingford, Pa., assignors to Scott Paper Company, Philadelphia, Pa., a corporation of Pennsylvania

Original application July 7, 1965, Ser. No. 469,998, now Patent No. 3,402,475. Divided and this application Jan. 18, 1968, Ser. No. 712,883
Int. Cl. B65d 71/00, 65/16, 75/12
U.S. Cl. 206—65 2 Claims

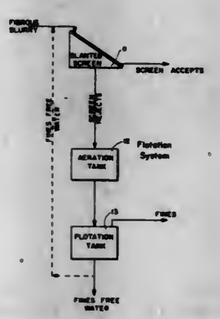


A method and apparatus are disclosed for tightening the wrapper on a previously wrapped package being especially suited for the tightening of an overwrap about geometrically shaped objects such as a pair of cylindrical rolls of paper which are difficult to initially wrap tautly. By the method and apparatus disclosed, gas heated to a suitable temperature is applied to the wrapped package in a manner such that it shrinks only localized areas of the shrinkable wrapper on the ends of the package, such as spaced-apart and relatively narrow elongated bands, so as to tighten substantially the entire overwrap upon the package. This insures that the wrapper on the sides of the package will be free from distortion and wrinkles, thus presenting a neat appearance, and undistorted and clearly distinct art work on the overwrap. The disclosure is also directed to the package resulting from treatment by the method and apparatus of the invention.

3,441,130
PROCESS FOR THE REMOVAL OF FINES FROM WOOD PULP FIBERS

James B. Sisson, Hamilton, and Ronald J. Kieffer, Cincinnati, Ohio, assignors to The Procter & Gamble Company, Cincinnati, Ohio, a corporation of Ohio

Filed Nov. 30, 1967, Ser. No. 686,900
Int. Cl. B03b 9/00
U.S. Cl. 209—2 6 Claims



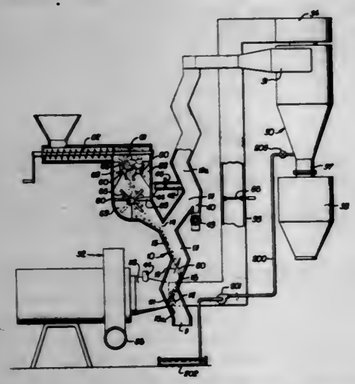
Process for removing fines from wood pulp fiber slurry prior to papermaking operations includes screening the slurry on a thin perforated metal sheet to separate fines-

containing slurry from the feed. The fines are then separated from the fines-containing slurry in an aeration and flotation process using spent sulphite liquor solids under specified conditions.

3,441,131
PARTICLE SEPARATION APPARATUS AND METHOD

Albert W. Gebauer, Denver, Colo., assignor to Scientific Separators, Inc., Denver, Colo., a corporation of Colorado

Filed Oct. 18, 1965, Ser. No. 497,291
Int. Cl. B07b 11/04, 4/04
U.S. Cl. 209—3 21 Claims

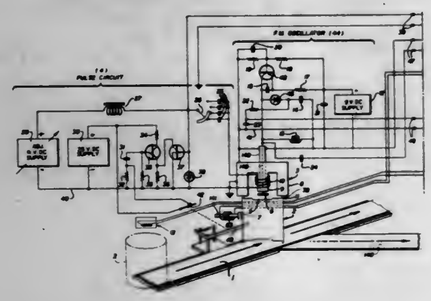


Apparatus for separating light particles from heavy particles introduced to a duct via a side inlet, and gas being drawn upwardly in the duct by suction applied from the duct interior to the side inlet to carry the light particles upwardly within the duct. The heavier particles drop and cascade within the duct in the path of upward gas flow. Additionally, there may be provision for gas flow control, particle cascade control, and flushing.

3,441,132
CONTAINER SORTING APPARATUS

Gordon D. Browning, 19056 Stanton Ave., Castro Valley, Calif. 94546

Filed June 17, 1966, Ser. No. 558,376
Int. Cl. B07c 3/12; C22b 11/10
U.S. Cl. 209—72 12 Claims

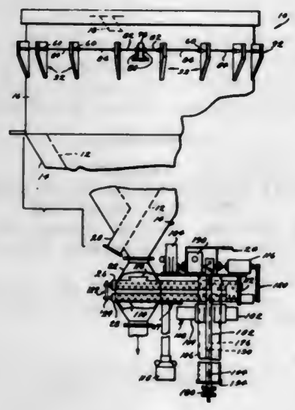


In order to monitor the internal vacuum of previously processed food containers, a wall portion of each container as it is transported along a conveyor is impulsively deflected by a magnetic field pulse and the resulting internal pressure dependent dynamic displacement of the container wall is concurrently detected by means of an electrostatic sensor. The output of the electrostatic sensor thus provides an electrical signal precisely proportional to the internal container pressure and is utilized in a preferred form of the invention to eject certain containers from the conveyor in response to a preselected threshold level of vacuum.

3,441,133
VANE CONTROL FOR AIR CLASSIFIER

Frank J. Miksitz, Nazareth, Pa., assignor to Mench and Miksits Research and Manufacturing Company, Inc., Allentown, Pa., a corporation of Pennsylvania

Filed May 4, 1966, Ser. No. 547,627
Int. Cl. B07b 7/083, 3/02
U.S. Cl. 209—139 5 Claims



In an air classifier, an improved drive for the movable control vanes which are disposed in a circular pattern includes a mechanical transmission associated with each vane and flexible drive shafts connecting the transmissions together so that a single motor can be employed to adjust all the vanes simultaneously. Each transmission moves its respective vane in or out of the classifier by means of a chain drive which is so constructed as to minimize dust packing and freezing problems.

The particle size of the comminuted particles issuing from the classifier is measured by withdrawing a portion of the stream with a screw conveyor, delivering the solids to the top of a sample tube as a uniformly loosely compacted mass, urging the solids in the form of an unagitated column through the tube with the aid of a plunger and chains, and measuring the density of the moving column with a gamma ray density meter.

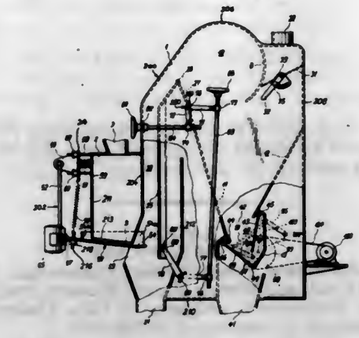
3,441,134
PNEUMATIC SEPARATOR AND BULK SOLIDS FEEDER

Hans Oetiker, Saint Gall, Switzerland, assignor to Gebruder Buhler AG, Oberuzwil, Switzerland, a company of Switzerland

Filed Oct. 19, 1966, Ser. No. 587,765
Claims priority, application Switzerland, Oct. 20, 1965, 14,489/65
Int. Cl. B07b 7/08; B03d 1/00
U.S. Cl. 209—139 17 Claims

Pneumatic separator has a vertical passageway defined by walls one of which is mounted for separate and combined displacement of top and bottom portions thereof for varying flow area. The other wall is provided with an opening for introduction of solid particles from a vibratory feeder and for admittance of air from beneath the

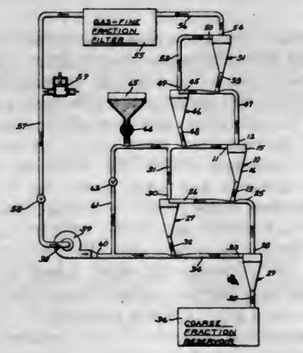
feeder. The feeder has a hopper with a shaker blade forming its bottom. The shaker blade is pivotally and swingably suspended by adjustable members attached to the hopper.



3,441,135
PARTICLE CLASSIFICATION DEVICE AND METHOD

Charles E. Lapple, Los Altos, Calif., assignor to Donaldson Company, Inc., Minneapolis, Minn., a corporation of Delaware

Filed Nov. 25, 1966, Ser. No. 597,066
Int. Cl. B04c 3/00; B07b 3/02
U.S. Cl. 209—144 6 Claims



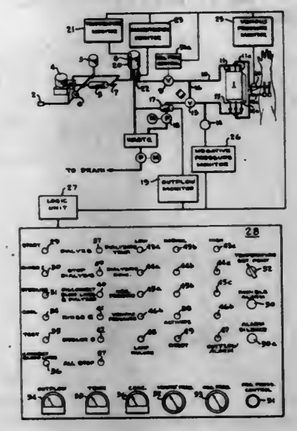
A method and apparatus for classifying particles of a powder according to size, said apparatus having one or more separators connected to separate and reseparate the particles at a specified cut size. The separators are operated at some pressure below atmospheric pressure, determined by the specified cut size, to allow the separators to operate, practically, in the micron and sub-micron range of cut sizes.

3,441,136
CONTROLLED BLOOD DIALYSIS SYSTEM

Earl J. Serfass and John E. Martin, St. Petersburg, Fla., and William E. Wilson, Jr., Seattle, Wash., assignors to Milton Roy Company, St. Petersburg, Fla., a corporation of Pennsylvania

Filed July 7, 1966, Ser. No. 563,523
Int. Cl. B01d 35/06, 35/02, 13/00
U.S. Cl. 210—90 10 Claims

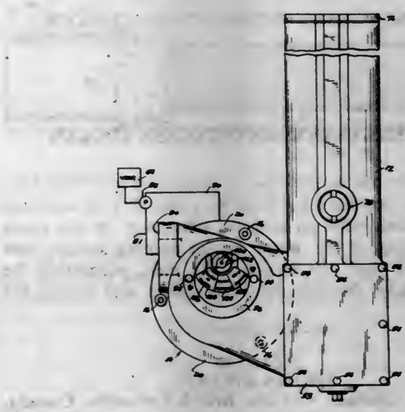
In a blood dialysis system, the critical parameters of the dialysis fluid and the blood are continuously monitored. The system is successively programmed through cycles of operation in which the system is rinsed, sterilized and cooled with water and in which the monitors are activated. Indicators are activated only after completion of the preliminary cycles of operation and the monitored parameters are within preset limits. This indicates that the blood ports may safely be connected to the circulatory system of the patient.



3,441,137
FILTERING DEVICE

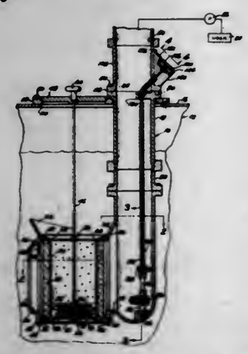
Nils O. Rosaen, Bloomfield Hills, Borje O. Rosaen, Ann Arbor, and Oscar E. Rosaen, Grosse Pointe, Mich., assignors, by mesne assignments, to Parker-Hannifin Corporation, Cleveland, Ohio, a corporation of Ohio

Filed Jan. 24, 1966 Ser. No. 522,773
Int. Cl. B01d 35/12, 35/02
U.S. Cl. 210—90 8 Claims



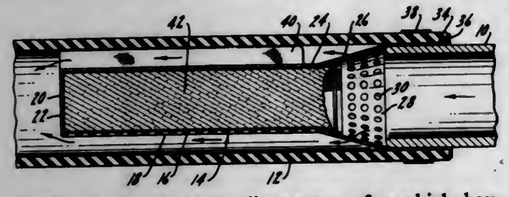
A filter device mounted to the exterior sidewall of a fluid reservoir includes a housing structure with a filter chamber connected to the interior of the reservoir and a tubular structure extending upwardly from the housing structure. The interior of the tubular structure is in open communication with the filter chamber and a flat filter element adapted to be mounted in the filter chamber is insertable and removable through the tubular structure.

3,441,138
RESERVOIR FILTER AND INDICATOR
Nils O. Rosaen, Bloomfield Hills, Borje O. Rosaen, Ann Arbor, and Oscar B. Rosaen, Grosse Pointe, Mich., assignors, by mesne assignments, to Parker-Hannifin Corporation, Cleveland, Ohio, a corporation of Ohio
Filed Jan. 24, 1966, Ser. No. 522,774
Int. Cl. B01d *35/14, 35/02*
U.S. Cl. 210—90 9 Claims



A filter device is mounted to the top plate of a fluid reservoir and extends downwardly to position a filter element below the level of fluid in the reservoir. The filter element is supported by a housing mounted within the reservoir so that fluid is drawn from the reservoir through the filter element and through a tubular outlet structure connected with the housing. The filter element is removable vertically upwardly from the housing and from the reservoir. A gear driven indicator indicates the condition of the filter element exteriorly of the device.

3,441,139
MOTOR COOLANT FILTER
Maurice D. McCormick, 14 Shady Lane, Barrington, Ill. 60010
Filed Sept. 16, 1966, Ser. No. 579,965
Int. Cl. B01d *35/14, 27/10*
U.S. Cl. 210—149 5 Claims



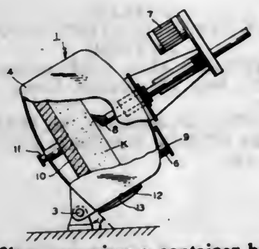
A filter for use in the cooling system of a vehicle having a bypass provided by masking a plurality of openings or perforations with an eutectic substance. In the event of overheating of the water in the cooling system, due to a clogged filter, the eutectic will melt, permitting the coolant to flow through the perforations and bypass the filter.

3,441,140
DRAIN FILTER
Reginald C. Thurber, Victoria, British Columbia, Canada, Margaret Eleanor Thurber, executrix of said Reginald C. Thurber, deceased, assignor to West Coast Foundation Drilling Co. Ltd., Victoria, British Columbia, Canada, a corporation of Canada
Filed Oct. 29, 1965, Ser. No. 505,647
Claims priority, application Canada, Sept. 2, 1965, 939,732
Int. Cl. E02b *11/00*; B01d *23/10*
U.S. Cl. 210—170 2 Claims

A ground water drain comprises an elongated envelope of liquid permeable material, a perforated flexible tube extending the length of said envelope and protruding through the ends thereof, one end of said tube extending to a discharge outlet, said envelope being compartmented by joining the opposite walls thereof to each other at intervals by heat welding.



3,441,141
SUCTION FILTER
Karl Zimmermann, Basel, Carlmax Sturzenegger, Oberwil, Basel-Land, and Werner Eicher, Muenchenstein, Basel-Land, Switzerland, assignors to Ciba Limited, Basel, Switzerland, a company of Switzerland
Filed Aug. 8, 1967, Ser. No. 659,168
Claims priority, application Switzerland, Aug. 26, 1966, 12,409/66; June 29, 1967, 9,272/67
Int. Cl. B01d *25/38*
U.S. Cl. 210—241 8 Claims

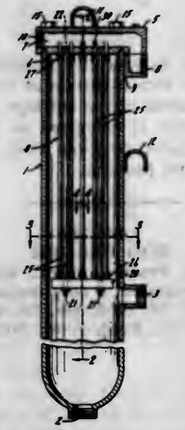


A suction filter comprises a container having a liquid-permeable base above and spaced from a base portion of the container, and being tiltable so that filtered material supported on the liquid-permeable base can be removed through an emptying aperture which lies at the lowest point of the container when tilted. An impeller wheel is rotatably mounted within the container and is axially movably towards and away from the liquid-permeable base, the wheel being rotatable in one direction to smooth the filtered material and in the other to shear away portions of the material to permit them to fall under gravity towards the emptying aperture when the container is tilted. The base portion contains an outlet for liquid. The container may have a filling aperture in its upper portion and an emptying aperture which extends over the range of axial movement of the impeller wheel, or may have the shape of an oblique frustocone of which the apex constitutes a filling and emptying aperture. Means for rotating and axially moving the impeller may be mounted on the container to be tiltable therewith.

3,441,142
NONTHROMBOGENIC PLASTIC MEMBRANES
Phyllis D. Oja, San Francisco, Calif., assignor to The Dow Chemical Company, Midland, Mich., a corporation of Delaware
No Drawing. Filed July 21, 1966, Ser. No. 566,720
Int. Cl. C02b *1/82*; B01d *13/04, 13/00*
U.S. Cl. 210—321 14 Claims

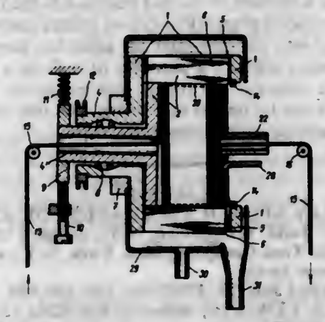
Non-thrombogenic, permeable membranes are prepared from film forming materials having hydroxyl groups, such as cellulose, by converting at least a portion of the hydroxyl groups to oxy alkali metal groups, then reacting with a haloalkyl dialkyl amine, then quaternizing by reacting with an alkyl halide and subsequently reacting with an alkali metal salt of an anti-thrombogenic compound such as sodium heparin. The invention also contemplates materials which can be readily converted to provide hydroxyl groups such as cellulose esters which can then be deacetylated to provide hydroxyl groups.

3,441,143
PLURAL ELEMENT FILTER ASSEMBLY
Walter J. Kudlaty, Elmhurst, Ill., assignor to Marvel Engineering Company, Chicago, Ill., a corporation of Delaware
Filed Feb. 10, 1967, Ser. No. 615,113
Int. Cl. B01d *25/04, 29/38, 29/20*
U.S. Cl. 210—333 2 Claims



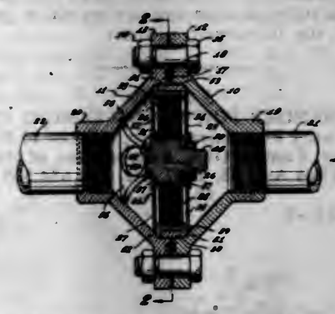
A filter in which fluid is fed to a housing between a lower sedimentation chamber and an upper bank of spaced filter elements, each element including a continuous filter surface internally supported to resist strong external pressures, one internal filter support portion consisting of a plurality of spherical members tangentially engaging the filter surface.

3,441,144
CONTINUOUS FILTRATION CENTRIFUGE
Jan Pinkava, Prague, Czechoslovakia, assignor to Ceskoslovenska akademie ved, Prague, Czechoslovakia
Filed Sept. 27, 1968, Ser. No. 763,091
Claims priority, application Czechoslovakia, Sept. 29, 1967, 6,932/67, 6,933/67
Int. Cl. B01d *29/26, 29/10, 33/04*
U.S. Cl. 210—370 3 Claims



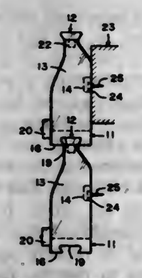
A filtration centrifuge, comprising open-ended ribbed inner and outer drums, the ribs of the inner drum being between the ribs of the outer drum so that said inner drum is driven by said outer drum, each drum having a hollow shaft, the shaft of the inner drum extending through the shaft of the outer drum, the axis of said drums being skewed so that a rope introduced through the inner hollow shaft is wound at the internal surface of both drums in a helical path to form a filter surface inside said drums, at least one of said drums provided on its open end with internal radial extensions.

3,441,145
COIL FILTER
Ronald K. Pearson, 15344 E. Pintura Drive, Hacienda Heights, Calif. 91745
Continuation of application Ser. No. 628,175, Dec. 1, 1966. This application Dec. 20, 1967, Ser. No. 692,245
Int. Cl. B01d *27/12, 25/16, 25/00*
U.S. Cl. 210—445 7 Claims



An in-line flow filter having a coiled metal strip clamped in a housing. The coiled strip is an edge filter and has protrusions thereon to space the turns of the coil and to trap particles in the fluid to be filtered.

3,441,146
SECTIONALIZED RACK ASSEMBLY
Marion K. Summers, W. Commerce St., Brownstown, Ind. 47220
Filed Dec. 22, 1966, Ser. No. 603,848
Int. Cl. A47b *73/00*
U.S. Cl. 211—74 6 Claims

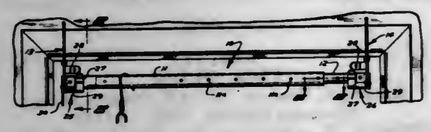


The rack includes a base member, a handle member and side members interconnecting the base member and handle member to form a frame. The handle member forms a rail, and the base member includes a groove receiving the rail of an associated like rack in adjustable relation. The interlocking nature of the handle member and groove permits the racks to be assembled in multiple tier arrangements.

3,441,147
GARMENT HANGING DEVICE
Neal Kelley, 8473 Mississippi Blvd. NW., West Minneapolis, Minn. 55433
Filed Aug. 28, 1967, Ser. No. 663,646
Int. Cl. A47f *7/19*; E04g *3/10*; A47h *33/00*
U.S. Cl. 211—113 4 Claims

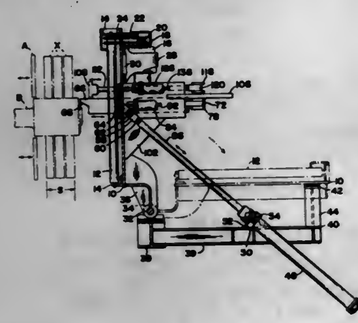
This invention relates to a garment hanging device and includes a telescoping support member having a pair

of clamping devices on the respective ends thereof, the clamping devices including a pair of opposed hook members biased into clamping configuration. The clamping devices are pivotally mounted to the support member



such that they may be arranged either in parallel relation to the support member or may be arranged in normal relation thereto. Clamp devices are provided for positioning the pairs of clamping devices either parallel or normal to the telescoping member.

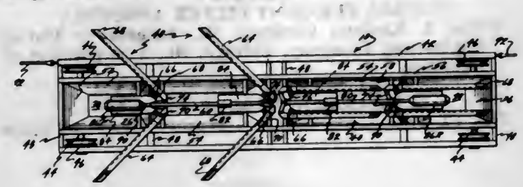
3,441,148
DOWNENDER FOR TRANSFERRING COILS
Norman Lester Pim, Salem, Ohio, assignor to E. W. Bliss Company, Canton, Ohio, a corporation of Delaware
Filed Apr. 28, 1967, Ser. No. 634,525
Int. Cl. B25j *5/00*
U.S. Cl. 214—1 **7 Claims**



The disclosure is an improved downender for transferring coils of strip, wire, or the like comprising a receiving platform having a plurality of power driven rollers thereon which is pivotable from a vertical loading position in which the coil axes extend horizontally to a horizontal discharge position where the coil axes are vertical. A retractable arbor is extended for holding the coils in relationship to the platform in the vertical loading position and a retractable coil stop aids in positioning coils of varying thickness on the arbor. In particular the disclosure involves an arrangement for separately actuating the arbor and coil stop to various positions spaced from a fixed reference plane to thereby facilitate handling of coils of varying thickness.

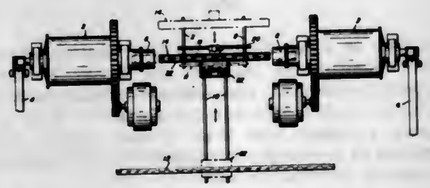
3,441,149
TRAVELING PLOW FEEDER
Daniel Svoboda, Denver, Colo., assignor to The Stearns-Roger Corporation, Denver, Colo., a corporation of Colorado
Filed Sept. 7, 1967, Ser. No. 666,133
Int. Cl. B65g *47/16, 65/30;* **A01f** *25/00*
U.S. Cl. 214—17 **10 Claims**

This invention relates to a carriage-mounted retractable plow used for selective reclaim of free-flowing granular materials resting atop shelves located in a tunnel beneath piles of said materials. More specifically, the unit comprises a remotely-controlled carriage that runs back and forth within a tunnel which has shelves onto which the material being reclaimed flows through openings in the tunnel wall. The carriage has mounted thereon at least two plows, each of which is remotely actuatable into an operative position where it will sweep the material from the shelf into a hopper carried by the carriage for deposit upon a belt conveyor running therebeneath. One set of the plows is retracted at all times while the other set is



either extended into its operative sweeping position or, if desired, retracted to bypass certain of the material. Then, upon reverse movement of the carriage, the formerly deactivated set of plows is energized so that they can be extended into operative position while the other set is folded into inoperative position.

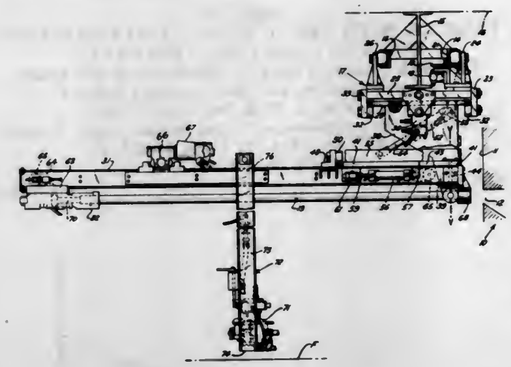
3,441,150
ROD FEEDER
Arthur F. Hanson, Proctor, Minn., assignor to United States Steel Corporation, a corporation of Delaware
Filed Dec. 20, 1966, Ser. No. 603,375
Int. Cl. B65h *5/06, 1/00*
U.S. Cl. 214—26 **10 Claims**



This invention relates to apparatus for feeding elongated objects axially and more particularly to feeding rods into a rod grinding mill. These mills utilize a plurality of elongated rods which are arranged axially and loosely in a rotating chamber into which iron ore or the like is charged. Each of the two species of this disclosure includes a table which is mounted for longitudinal movement toward and away from the grinding mill. Means are provided on the forward end of the table for supporting the table on a portion of the rod mill as it is fed forwardly. The table carries a plurality of driven rollers thereon which feed the rod into the mill after the table has been fed forwardly. Guides support a plurality of rods in a generally vertical pile adjacent the rollers and means are provided to feed rods one by one to the rollers. The two species differ in the vehicles which support the table.

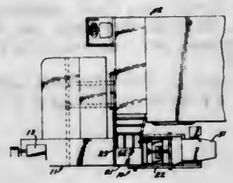
3,441,151
TROLLEY STOKER APPARATUS FOR KILNS
Sebastian F. Judd, Whitesboro, N.Y., assignor to Chicago Pneumatic Tool Company, New York, N.Y., a corporation of New Jersey
Filed July 19, 1967, Ser. No. 654,596
Int. Cl. F23k *3/60;* **B66c** *17/08;* **F24c** *15/02*
U.S. Cl. 214—32 **11 Claims**

Apparatus including a pair of overhead tracks extending about a vertical limestone box kiln, over which tracks a trolley is movable by motor to carry a suspended pneumatic stoker tool to selected openings of the kiln. The stoker tool is fed by motor along a guide channel to bring a stoker bar into and out of a selected kiln opening. A piston hammer in the stoker tool is pneumatically operable to pound the stoker bar against clinkers formed in the kiln. The guide channel is hydraulically pivotable selectively about vertical and horizontal axes of a turntable support to obtain various angular positions of the stoker bar in the kiln opening. A swivel connection of the turntable with the trolley permits each to be swivelled



relative to the other, so as to allow not only positioning of the stoker tool relative to the kiln, but also travel of the trolley around corners of the kiln and parallel to its walls without danger of the apparatus carried by the trolley striking the walls. Controls for remote operation of various motors of the apparatus are mounted upon a rack depending from the guide channel at a desirable distance from the kiln within easy reach of the operator.

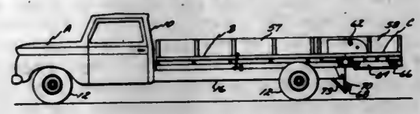
3,441,152
BALE TRANSFER MECHANISM
Louis E. Nickla, Monroe C. Barrett, and Fenton L. Kenna, Jr., Memphis, Tenn., assignors to International Harvester Company, Chicago, Ill., a corporation of Delaware
Filed Apr. 28, 1967, Ser. No. 634,598
Int. Cl. B65g *67/22*
U.S. Cl. 214—42 **13 Claims**



A bale transfer mechanism for transferring bales of hay from a baler to an associated bale wagon and having a hydraulic actuated bale carrier for receiving, upending, and elevating bales of hay, and deflector means for directing the upended bales onto the associated bale wagon.

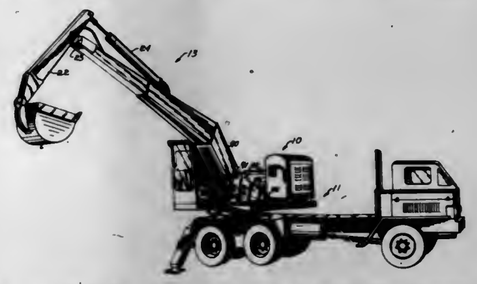
3,441,153
MODIFIED FLAT BED TRUCK
Donald D. Handley, 4800 Walnut Ave., Long Beach, Calif. 90807
Filed May 11, 1967, Ser. No. 637,777
Int. Cl. B60p *1/00;* **B62d** *33/02, 25/20*
U.S. Cl. 214—85 **6 Claims**

A flat bed truck which has been modified to include a bed extension that may be removably locked in either a horizontal position or in a downwardly and rearwardly extending position wherein it serves as a ramp to permit specialized power construction equipment to be driven



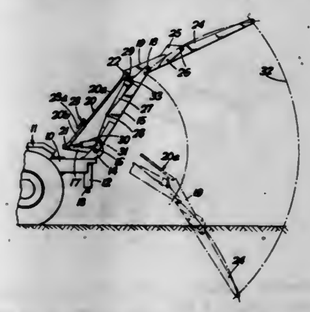
thereover in loading the same or unloading of equipment from the truck vehicle.

3,441,154
MATERIAL HANDLING MACHINE
Daniel F. Przybylski, Winona, Minn., assignor to The Warner & Swasey Company, Cleveland, Ohio, a corporation of Ohio
Original application Apr. 4, 1966, Ser. No. 540,014, now Patent No. 3,392,855. Divided and this application Sept. 20, 1967, Ser. No. 670,517
Int. Cl. B65d *71/00, 65/16, 75/12*
U.S. Cl. 214—138 **9 Claims**



A material handling machine includes a boom member pivotally carried on a boom support for movement about a boom pivot axis in a vertical plane. A link member is pivotally carried on the boom at a location below the boom pivot axis. A hydraulic lift means is pivotally connected to the link member and when actuated effects pivoting movement of the boom about the boom pivot axis. A power means acts between the boom support and the link member to effect pivotal movement of the link member relative to the boom pivot axis.

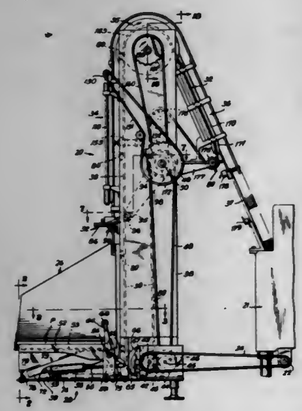
3,441,155
ADJUSTABLE IMPLEMENT CARRYING STRUCTURES
Harry William Norton, Ludlow, England, assignor to T. W. McConnel Limited, Ludlow, England, a British company
Filed May 22, 1967, Ser. No. 640,140
Int. Cl. E02f *3/62*
U.S. Cl. 214—138 **12 Claims**



An adjustable implement-carrying structure comprises a closed linkage or four links pivoted together to form a

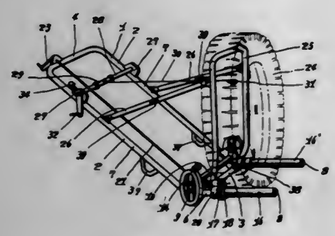
quadrilateral in a vertical plane, the linkage as a whole being pivotally connected to a fixed support. A first ram maintains the linkage rigid and adjusts its shape, and a second ram pivots the linkage as a whole. A pivotal connection between two of the links is detachable so that three of the links can be made into a rigid assembly to which the other link is pivotally connected, with the first ram connected between the rigid assembly and the link.

3,441,156
END FEEDING APPARATUS AND METHOD
Karl Bofinger, Cincinnati, Ohio, and Frank Frederick Borkmann, Union, and George Martin Stone, Midland Park, N.J., assignors to American Can Company, New York, N.Y., a corporation of New Jersey
Filed Feb. 3, 1967, Ser. No. 613,806
Int. Cl. B65b *69/00, 21/02;* **B65g** *47/18*
U.S. Cl. 214—305 **24 Claims**



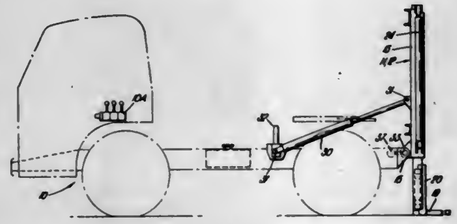
In removing an outer wrapping from a package of end closures or like articles, the package is moved along its axis as the outer wrapping is gathered and severed longitudinally along the side, the severed wrapping subsequently being stripped from around the articles.

3,441,157
AUXILIARY MEANS FOR INSTALLING AND DISMANTLING A WHEEL OF A CAR
Kaname Kitsuda, 115 Shinshuka, Hiratsuka-shi, Kanagawa-ken, Japan
Filed Oct. 26, 1966, Ser. No. 589,751
Claims priority, application Japan, Nov. 15, 1965, 40/70,097
Int. Cl. B60b *29/00*
U.S. Cl. 214—332 **9 Claims**



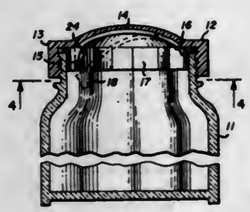
The invention relates to an auxiliary means for installing and dismantling a tire and wheel of a car and comprises a frame having a forward portion adapted to be positioned adjacent the tire and wheel and a rear or handle portion for operation of the device. The forward portion includes roller means adapted to engage the periphery of the tire and movable, either through rotation of one of the rollers or slidable to move the wheel and tire axially, and operator controlled means is provided whereby the roller means can be operated by an operator.

3,441,158
VEHICLE WITH FIFTH WHEEL AND LOAD LIFTING AND CARRYING APPARATUS
Frederick George Wilson, 49 Hillsborough Old Road, County Antrim, Lisburn, Northern Ireland
Filed Sept. 2, 1966, Ser. No. 577,052
Claims priority, application Great Britain, Sept. 2, 1965, 37,477/65; May 26, 1966, 23,525/66
Int. Cl. B66f *9/12, 9/22*
U.S. Cl. 214—672 **6 Claims**



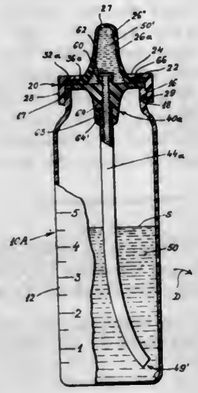
A telescopic fork lift apparatus is mounted on the traction unit of an articulated vehicle. In the stowed or out-of-use position, the apparatus is folded down across the chassis of the traction unit and is so designed that it does not foul the fifth wheel. The trailer can then be articulated and the vehicle driven to its destination, where the trailer is uncoupled and the fork lift apparatus erected to load or unload the trailer. In the stowed position, the fork carrier is located at the top of the telescopic masts so that it lies forward of the fifth wheel, while the forks pivotally overlie the carrier.

3,441,159
SAFETY LATCHING BOTTLE CLOSURE
Lloyd S. Turner, Los Gatos, Calif., assignor of one-fourth to Richard B. Evanoff, San Jose, one-fourth to Emil Damia, Burlingame, and one-fourth to Emerson Wiser, Oakland, Calif.
Filed Sept. 21, 1967, Ser. No. 669,531
Int. Cl. B65d *55/02;* **A61j** *1/00*
U.S. Cl. 215—9 **6 Claims**



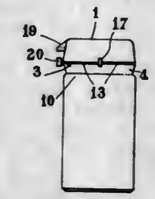
Cam or ratcheting surfaces are positioned within a neck portion or top of a bottle. A safety cap for the bottle includes a vertically movable pawl for engaging the cam surfaces of the bottle to prevent the cap from being unscrewed. To unscrew the cap, the pawl is pressed downwardly out of engagement with the cam surfaces.

3,441,160
ANTICOLIC STRAW FOR NURSING BOTTLES
Milton Levy, Woodmere, N.Y. (43–47 W. 23rd St., New York, N.Y. 10036)
Filed Aug. 16, 1967, Ser. No. 661,112
Int. Cl. A61j *9/00;* **F16k** *17/00, 21/04*
U.S. Cl. 215—11 **6 Claims**



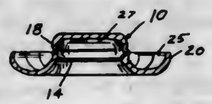
An anticolic straw for nursing bottles having an elongated tubular body with a valve device at one end thereof whereby milk is permitted to flow into the nipple but cannot flow back into the bottle. The other end of the body is open and slanted.

3,441,161
BOTTLE CAP
Paul S. Van Baarn, 8 Rue Bellevue, Monte Carlo, Monaco
Continuation-in-part of application Ser. No. 576,942, Sept. 2, 1966. This application Mar. 9, 1967, Ser. No. 632,484
Int. Cl. B65d *41/22, 41/20*
U.S. Cl. 215—40 **6 Claims**



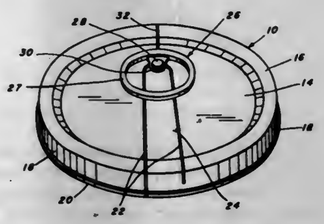
A bottle cap comprising an upper and lower pair of body sections hinged together and initially joined by a rupturable security seal and having a hand grip in a protective position to the rupturable security seal.

3,441,162
BOTTLE CAP
John N. Julius, 527 Zephyr Ave., Erie, Pa. 16505
Filed Nov. 7, 1966, Ser. No. 592,467
Int. Cl. B65d *43/02*
U.S. Cl. 215—46 **8 Claims**



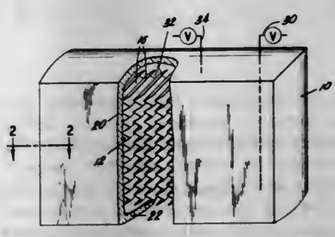
This invention discloses a crown type cap for a bottle. The cap is made of a flat top and has a crimped skirt adapted to receive the mouth of a bottle. The skirt has a beading wherein the skirt defines a groove to receive the rim of the bottle and the skirt terminates in an upwardly turned edge which terminates in an outer upward edge substantially flush with the top. The skirt extends downward then outward then upward and terminates in an upwardly extending flange having an upwardly facing edge so that a person can engage this skirt with his thumb without injury to his thumb. The cap has a second beading that defines a second groove adapted to engage the rim of a bottle when the cap is partially removed so that the cap is prevented from parting from the bottle while gas under pressure in the bottle is vented.

3,441,163
CONTAINER CLOSURE HAVING ATTACHED PULL TAB
Robert L. La Barge, Pittsburgh, Pa., and Walter C. Riesen, Jr., Richmond, Ind., assignors to Aluminum Company of America, Pittsburgh, Pa., a corporation of Pennsylvania
Filed Nov. 14, 1967, Ser. No. 682,744
Int. Cl. B65d *43/02, 17/20, 41/12*
U.S. Cl. 215—46 **9 Claims**



A closure assembly is provided including a closure fitment and a sealing liner therewithin, the fitment being made of sheet metal and having an indentation defined tear strip divisive of the fitment top with a lever type pull tab attached thereto in a tongue integral with the tab, the tab being pivotable about a fulcrum located outside the tear strip so that when the tab is manipulated to sever the tear strip, the starting end of the tear strip is lifted rather than depressed, and damage to the inner liner is thereby avoided. The closure fitment may also have a curled bead at the lower edge of its depending skirt with the indentation defining at least one side of the tear strip extending all the way to the edge of the fitment material through the bead.

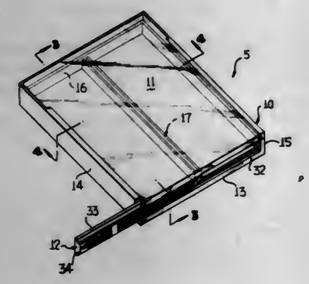
3,441,164
CRYOGENIC STORAGE TANKS
David I-J Wang, Buffalo, N.Y., assignor to Union Carbide Corporation, a corporation of New York
Filed Aug. 24, 1966, Ser. No. 574,755
Int. Cl. B65d *25/18, 7/42*
U.S. Cl. 220—9 **4 Claims**



A substantially rectangular parallelepipedal shaped double wall container wherein the inner wall is somewhat

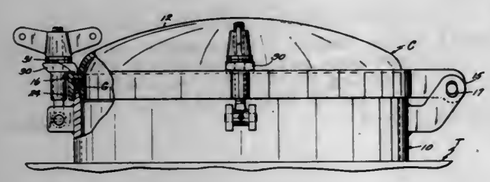
flexible and is provided with corrgated metallic tension members located between and connected to opposed portions of said inner wall by brazed joints between the end edges of the corrugations and said opposed wall portions.

3,441,165
CONTAINER FOR RELATIVELY LONG, NARROW OBJECTS
Vincenzo Zampichelli, Genoa, Italy, assignor to The Torrington Company, Torrington, Conn., a corporation of Maine
Filed Feb. 24, 1967, Ser. No. 618,468
Int. Cl. B65d *43/12, 43/00, 85/24*
U.S. Cl. 220—41 **9 Claims**



A container for needles constructed such that a predetermined number of needles can be easily packaged into the container without the necessity of counting. The container includes a snap-fitting top cover which is easy to install and a sliding end cover which allows the needles in the container to be removed one at a time. Means are also provided introducing a volatile anti-rust material into the container to retard corrosion of the needles therein, and the container is relatively inexpensive to manufacture, easy to fill, attractive in appearance, and extremely sturdy in construction.

3,441,166
TANK MANHOLE CLOSURE
Joseph H. De Frees, 414 Liberty St., Warren, Pa. 16365
Continuation-in-part of application Ser. No. 501,306, Oct. 22, 1965, now Patent No. 3,339,791. This application July 3, 1967, Ser. No. 650,717
Int. Cl. B65d *53/02*
U.S. Cl. 220—46 **5 Claims**



A closure structure for a fluid-containing tank having in its upper portion a manhole aperture defined by an upwardly projecting endless peripheral collar. The closure structure includes a cover member hinged to the peripheral collar and engageable with the top edge thereof and having on its peripheral portion an endless peripheral ring having an endless peripheral groove formed in its under surface for coacting sealing engagement with the top edge of the collar. A resilient gasket is disposed in the groove for sealing the joint between the cover member and the wall. The gasket is substantially V-shaped in cross-sectional configuration with the legs of the V extending upwardly and outwardly into the groove. The groove is substantially T-shaped in cross-sectional configuration with the stem of the T forming the groove entrance and with the cross of the T forming the inner portion of the groove and extending laterally to form spaced upwardly facing shelves interiorly of the groove. Each of the legs of the V-shaped gasket have outwardly extending tabs forming downwardly facing shoulders for coacting engagement with the groove shelves, respectively, to securely retain the gasket within the groove.

At least one manually adjustable clamp is rotatively secured to the collar and is positionable over the ring portion of the cover to clamp the same firmly on the collar.

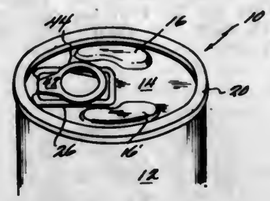
3,441,167
EASY OPENING CONTAINER
Alfred Edward Balocca, Wheaton, Ill., assignor to American Can Company, New York, N.Y., a corporation of New Jersey
Filed Oct. 20, 1967, Ser. No. 676,846
Int. Cl. B65d *17/00, 47/10*
U.S. Cl. 220—53 **14 Claims**



A container is formed with a dispensing aperture which is surrounded by a raised bead having a sharp, downwardly facing inner edge. A plug type reclosure member is seated on the raised bead and has its bottom wall bonded to an internal sealing membrane which is secured to the interior of the container around the aperture. When the reclosure member is pulled upwardly, it pulls the sealing membrane against the sharp edge of the bead, thus causing severance and removal from the aperture of a segment of the sealing membrane which is larger than the aperture and which, upon replacement of the plug in the aperture as a reclosure, snaps beneath the bead edge to hold the plug in place on the container.

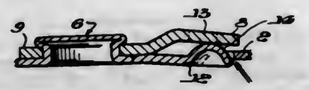
3,441,168
REVERSED EASY OPEN RING TAB
John J. Luviano, Rydal, Pa., assignor to Crown Cork & Seal Company, Inc., Philadelphia, Pa., a corporation of New York
Filed Jan. 4, 1968, Ser. No. 695,612
Int. Cl. B65d *17/20*
U.S. Cl. 220—53 **1 Claim**

An end closure for a tubular container has an aperture therein with a one-piece thin metal plug, which closes the aperture, sealingly engaged to the closure adjacent the periphery of said aperture. A radially extending tear strip is formed in the plug by a pair of spaced-apart score lines extending from the outermost edge of the plug to points adjacent the innermost edge of the plug. The radially innermost end of the tear strip has no score line interconnecting the pair of score lines so that the tear strip will remain integral with the plug after the container has been opened and the radially outermost end of the tear strip has a ring pull tab integral therewith,



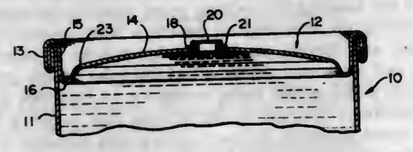
which is folded over at its juncture with the tear strip so as to extend radially inwardly from the juncture with the tear strip to overlie the tear strip.

3,441,169
CONTAINER OPENING DEVICE
Lloyd G. Dunn, Lower Burrell, Pa., and John W. Hrovath, deceased, late of Bridgeville, Pa., by Linda M. Hrovath, sole heir, Bridgeville, Pa., assignors to Aluminum Company of America, Pittsburgh, Pa., a corporation of Pennsylvania
Filed Oct. 17, 1966, Ser. No. 587,292
Int. Cl. B65d *17/20, 51/16*
U.S. Cl. 220—54 **9 Claims**



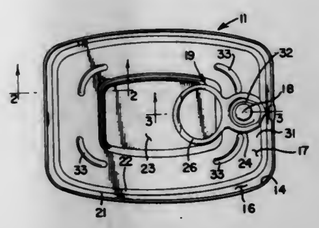
This disclosure concerns container ends or closures for containers having an easy opening feature. The container end has a tear strip defined by a score line and a pull tab secured to the container end solely by securing means within the tear strip. A vent area is provided without the tear strip but close enough to the securing means to permit a portion of the tab to overlie the vent area, which vent area is partially defined by a score line and is adapted to be hingedly deformed inwardly by downward pressure applied to the pull tab thereby venting the container prior to removal of the tear strip.

3,441,170
COINED BEAD FOR IMPROVED FILL CHARACTERISTICS
Nick S. Khoury, Chicago, Ill., assignor to Continental Can Company, Inc., New York, N.Y., a corporation of New York
Filed Mar. 3, 1967, Ser. No. 620,497
Int. Cl. B65d *17/20, 7/42*
U.S. Cl. 220—54 **12 Claims**



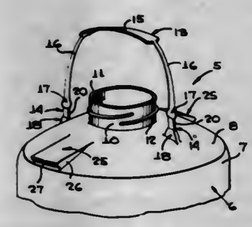
The cooperation of an end unit with a container body and the fill characteristics of the container may be improved by providing the end unit with a bead coined or pressed therein generally surrounding the end panel thereof.

3,441,171
EASY-OPENING CONTAINER PANEL STRUCTURE
Frederick J. Stec, Oak Lawn, Ill., assignor to Continental Can Company, Inc., New York, N.Y., a corporation of New York
Filed Mar. 11, 1968, Ser. No. 712,198
Int. Cl. B65d *17/20*
U.S. Cl. 220—54 **4 Claims**



A container having an easy-opening cover member. The cover member comprises a panel having a rectangular removable panel portion formed by scoring to provide a weakening line along which the removable panel portion is removed from the cover panel. A pull tab is secured to the removable panel portion and includes a penetrating nose which, upon tilting of the pull tab, initiates the severance of the weakening line. Further upward pulling of the pull tab completely separates the removable panel portion from the cover panel. A central rectangular depression is formed in the panel and arcuate beads are formed about each of the corners of the central depression for reducing the flexure of the removable panel portion.

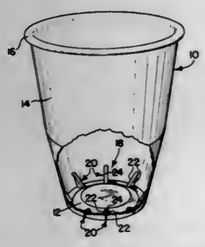
3,441,172
INTEGRAL PLASTIC CONTAINER AND CARRYING HANDLE
Roy W. Dike, Northbrook, Ill., assignor to Continental Can Company, Inc., New York, N.Y., a corporation of New York
Filed Jan. 8, 1963, Ser. No. 250,058
Int. Cl. B65d *25/28, 23/12*
U.S. Cl. 220—94 **4 Claims**



1. An integral plastic container and carrying handle, said container comprising a body having an upper portion including an annular shoulder terminating in an upstanding neck, a handle of a generally inverted U-shaped configuration, said handle being secured at its respective ends to diametrically spaced portions of the body by a flexible joint, a line of flash material on said body and handle, said flexible joints being coplanar and in a plane taken through the axis of the body and the line of flash

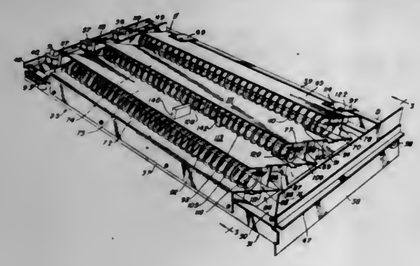
material, and each of said flexible joints include an upper and a lower bulbous portion for integrally reinforcing and forming each of the flexible joints at its integral juncture with a respective handle and the annular shoulder.

3,441,173
STACKABLE CONTAINER
Bryant Edwards, Clarendon Hills, Ill., assignor to Illinois Tool Works Inc., Chicago, Ill., a corporation of Delaware
Filed Aug. 9, 1967, Ser. No. 659,406
Int. Cl. B65d *21/00, 3/00*
U.S. Cl. 220—97 11 Claims



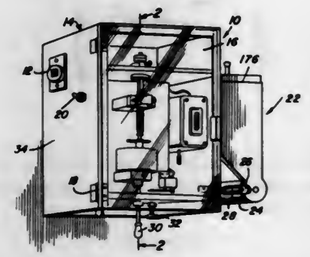
A one-piece nestable thin-walled plastic container of substantially uniform thickness having stacking pleat means of double wall thickness which cooperates with a circumferentially extending stacking surface of the container to positively limit telescoping and thereby prevent jamming between nested containers.

3,441,174
SPIRAL FEED VENDING MACHINE
Mahlon W. Kenney, Chicago, Ill., assignor to The Seeburg Corporation, Chicago, Ill., a corporation of Delaware
Filed Aug. 14, 1967, Ser. No. 660,396
Int. Cl. B65h *29/26, 29/42*
U.S. Cl. 221—75 18 Claims



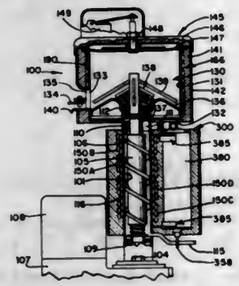
The operation of a horizontal spiral feed vending machine can be improved by providing a number of shelves with substantially V-shaped troughs which hold the merchandise items to be vended. Each V-shaped trough is composed of a slide panel and a support panel whereby merchandise items placed on the slide panel are moved by force of gravity from a loading position to a vending position in which they are supported by the support panel. A coil used to transport merchandise items is suspended above each trough and displaced therefrom by a support means extending lengthwise through the interior portion of the coil whereby the coil is suspended along a fixed rotational axis.

3,441,175
METERING MACHINE FOR POULTRY INSEMINATION
Homer K. Graham, 10718 E. 13th St., Independence, Mo. 64052
Filed Apr. 21, 1967, Ser. No. 632,587
Int. Cl. A47f *1/10*; G01f *11/02*; B67d *5/62*
U.S. Cl. 221—96 16 Claims



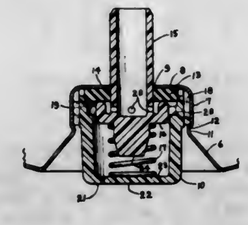
A machine for metering exact quantities of seminal fluid discharged from a syringe into a straw or tube through which fluid is injected into the egg sacs of poultry for artificial insemination purposes. Several charges of seminal fluid are maintained within the syringe at the proper temperature inside of the machine cabinet. Each charge of fluid dispensed is counted and a new straw automatically dispensed from a storage container each time the metered charge of seminal fluid is discharged from the machine.

3,441,176
BEVERAGE DISPENSING MACHINE
Donald S. Reynolds, Glencoe, and Harvey R. Krueger, Carpentersville, Ill., assignors to Reynolds Products, Inc., Rolling Meadows, Ill., a corporation of Illinois
Continuation-in-part of application Ser. No. 541,465, Mar. 31, 1966. This application Sept. 18, 1967, Ser. No. 668,419
Int. Cl. B67d *5/08*; Q04c *23/38*; 567d *5/56*
U.S. Cl. 222—70 23 Claims



In a beverage dispensing machine, the combination comprising a housing having a dispensing station thereon for accommodating a container for a beverage, a cooling coil in the housing for cooling water passing therethrough and having an inlet and an outlet, a water pump in the housing and having an inlet connected to a source of water and an outlet connected to the inlet of the cooling coil, the water pump being operative to establish a first predetermined pressure at the cooling coil outlet, a fluid-tight vessel disposed in the housing and defining a carbonating chamber, a first inlet in the vessel for admitting water under pressure to the carbonating chamber and a second inlet in the vessel for admitting gas under pressure to the carbonating chamber, a source of carbonating gas for supplying carbonating gas to the second vessel inlet, an outlet in the vessel for delivering carbonated water from the carbonating chamber, a dispensing valve having an outlet at the dispensing station for discharging cooled non-carbonated water at the dispensing station, a first conduit connecting the cooling coil outlet and the first vessel inlet for passing cooled water from the cooling coil into the carbonating chamber, a second conduit connecting the cooling coil and the dispensing valve, a normally closed check valve disposed in the first conduit, the check valve being operable to admit water under pressure into the carbonating chamber when the pressure of the water thereagainst is at a second predetermined pressure less than the first predetermined pressure, a third conduit having one end connected to the vessel outlet and the other end thereof at the dispensing station, and control mechanism selectively operable to cause operation of the water pump and to maintain the dispensing valve closed whereby operation of the pump causes water to flow through the cooling coil and to the outlet thereof at a pressure greater than the second predetermined pressure so as to effect flow through the first conduit and to effect opening of the check valve for passage therethrough of cooled water into the carbonating chamber and thence through the third conduit for discharge at the dispensing station, the control mechanism being selectively operable to cause operation of the water pump and to maintain the dispensing valve open whereby operation of the pump causes water to flow through the cooling coil and to the outlet thereof at a pressure lower than the second predetermined pressure so as to effect flow through the second conduit and the dispensing valve for passage therethrough of cooled water and for discharge at the dispensing station.

3,441,177
ONE-SHOT VALVE ASSEMBLY FOR AEROSOL CONTAINER
Richard E. Treharne, Jr., Manchester, N.H., assignor to Scovill Manufacturing Company, Waterbury, Conn., a corporation of Connecticut
Filed Jan. 30, 1967, Ser. No. 612,720
Int. Cl. B67b *7/24*; B65d *83/06*
U.S. Cl. 222—82 4 Claims



An improved valve assembly is provided for aerosol containers to discharge the entire contents at once. A spring-held valve head and other features of a fast-pressure-fill type valve are retained in combination with a rupturable diaphragm in the valve housing.

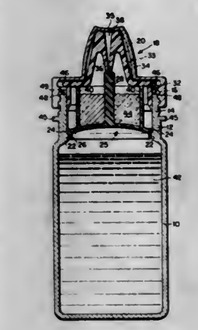
3,441,178
DISPLAY MITT
John Dgetluck, Chicopee Falls, Mass., assignor to Pioneer Packaging, Inc., Chicopee, Mass., a corporation of Massachusetts
Filed May 31, 1966, Ser. No. 553,885
Int. Cl. B65d *35/56*; G09f *23/00*
U.S. Cl. 222—105 4 Claims

A normally substantially flat tubular cardboard mitt adapted to be expanded to permit slipping it onto a collapsible dispensing container, said mitt having at its opposite parallel sides a slot and an aperture for receiving



the laterally extending lugs at the base of the container to enable applying the container and retain it in place.

3,441,179
MIXING CONTAINER
James B. Ragan, San Rafael, Calif., assignor to Ways & Means, Inc., San Rafael, Calif., a corporation of California
Filed May 29, 1967, Ser. No. 642,020
Int. Cl. B65d *83/00*
U.S. Cl. 222—129 3 Claims

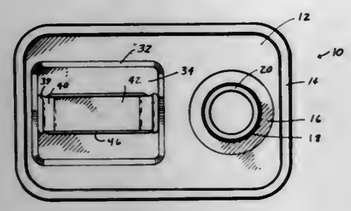


A mixing and dispensing container having a partition wedged within its interior to divide it into two compartments, for the reception of two separate ingredients, and a dispensing nozzle slidably received above the partition in such a manner that the inner orifice of its dispensing channel is held closed by the partition and is thus protected from the danger of being clogged by the contents of the container during storage. Threadably engaged over the open end of the container is a hard-topped screw cap, and when said cap is tightened fully upon the container, it pushes the nozzle downwardly which in turn dislodges the partition to effect mixture of the ingredients in the container. At the same time the inner orifice of the dispensing channel is freed.

3,441,180
CAN END
Robert B. Ganung, Glen Ellyn, Ill., assignor to National Can Corporation, Chicago, Ill., a corporation of Delaware
Filed Sept. 11, 1967, Ser. No. 666,759
Int. Cl. B67d *25/30, 25/42, 39/08*
U.S. Cl. 222—143 4 Claims

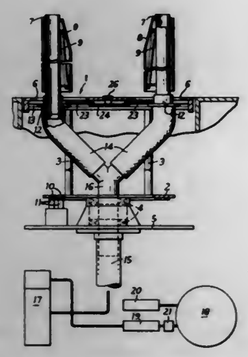
An end for a can unit having a neck which is adapted to receive a cap therein protruding upwardly from the

double seam of the can end, and having a handle on another part of the end, wherein the handle is set into a recess or countersunk panel in the end so that there is sufficient space between the handle and the countersunk



or recessed panel to accommodate a human hand, and wherein the top of the handle is parallel or flush with the cap situated on the neck, so that the cans can be stacked vertically, packaged more economically, and still retain their desirable pouring characteristics.

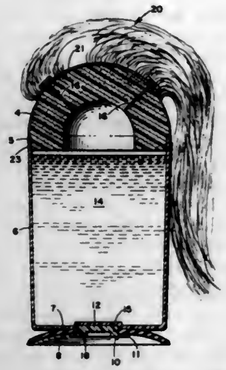
3,441,181
APPARATUS FOR USE IN EXAMINING AND TURNING GARMENTS
William H. Hall, Sutton-in-Ashfield, England, assignor to Hall Textiles (Mansfield) Limited, Mansfield, England, a British company
Filed Nov. 3, 1967, Ser. No. 680,427
Int. Cl. A41h *43/00*
U.S. Cl. 223—43 **5 Claims**



Garment examining and turning apparatus comprising a pair of open-ended, vertically disposed tubes mounted in adjustable, spaced positions on a rotatable platform to receive and distend a garment to be examined, means being provided to create a suction down the tubes at required times to hold in the latter parts of a garment being examined, whilst the rest of the garment is drawn off the tubes and simultaneously turned.

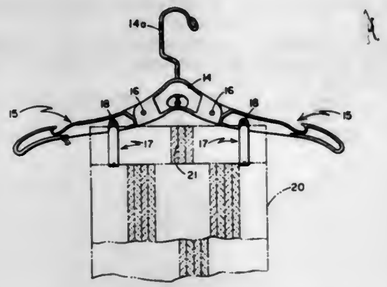
3,441,182
WEIGHTABLE HAIRPIECE STAND
Joyce Gregory, 693 Ben Lomond Ave., Ogden, Utah 84403
Filed Oct. 16, 1967, Ser. No. 675,465
Int. Cl. D06c *15/00*; H45c *11/02*
U.S. Cl. 223—66 **2 Claims**

A weightable hairpiece stand having a hemispherical dome separably and reinsertably attached to a container, a suction cup retained at the exterior of the container to hold it in upright position, and a weight imparting material poured into the container to render the stand



swingless during use, and, conversely, portable after emptying the weight imparting material from the container.

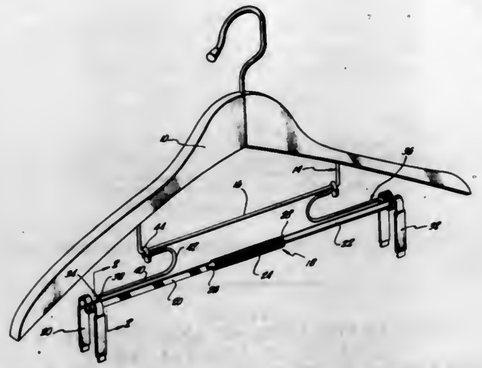
3,441,183
FOLDABLE GARMENT HANGER
Jacob Chatkis, Leominster, Mass., assignor to Foster Grant Co., Inc., Leominster, Mass., a corporation of Delaware
Filed Dec. 7, 1966, Ser. No. 599,877
Int. Cl. A41d *27/22*
U.S. Cl. 223—94 **3 Claims**



A garment hanger for a coat and trousers or the like, wherein trouser hanger members are suspended from downwardly diverging, coat-supporting shoulder portions of the hanger when in operative position. The trouser hanger members include finger-like projections for holding trousers by the cuffs thereof, and may be folded upwardly into inoperative position, completely out of the way, when not in use. The uniquely designed trouser hanger members are held in their inoperative position by frictional engagement with the sides of the shoulder portions of the hanger. The garment hanger may also be compactly folded for storage.

3,441,184
CLOTHES HANGER
Alexander Stein, 5623 Meridian St., Los Angeles, Calif. 90042
Filed Oct. 17, 1966, Ser. No. 594,644
Int. Cl. A41j *51/14*
U.S. Cl. 223—89 **5 Claims**

There is described a clothes hanger which combines a pants stretcher and coat hanger in which the support



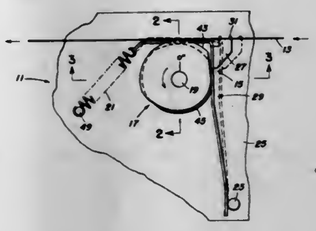
members for the pants stretcher also operate as gripping means for compressing the pants stretcher.

3,441,185
GUN SLING
Paul C. Moomaw, 2117 N. 2nd St., Harrisburg, Pa. 17110
Filed Jan. 22, 1968, Ser. No. 699,506
Int. Cl. A45f *5/14*
U.S. Cl. 224—1 **12 Claims**



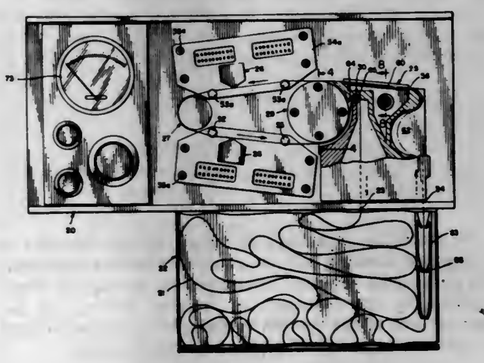
A gun sling made from a continuous strap; a three bar friction slide, a three bar twin loop, a three bar hook buckle and a pair of swivel loops attachable to the gunstock of a rifle at the butt end and at a point adjacent the barrel. The strap is secured at one end to the center bar of the frictional slide and runs longitudinally to and is reversely looped about the center bar of the twin loop, returning longitudinally upon itself and passing through the friction slide underlying the upper and lower bars and overlying the center bar of the friction slide, then reversely passing through one swivel loop and returning longitudinally beneath itself as a lower run through the twin loop between the lower and center bars thereof. After passing through the twin loop, the strap lower run continues longitudinally and passes through the hook buckle underlying the lower and upper bars and overlying the center bar thereof, then reversely passes through the other swivel loop and again passes through the hook buckle as before and terminates at its second end disposed beneath the hook end of the hook buckle. The hook of the hook buckle engages the upper bar of the twin loop to secure the gun, and is disengaged to permit positional shifting of the gun by allowing the lower run of the strap to slip through the twin loop in both directions.

3,441,186
INTERMITTENT FILM ADVANCEMENT APPARATUS
Paul J. Good, Springwater, N.Y., assignor to Minnesota Mining and Manufacturing Company, St. Paul, Minn., a corporation of Delaware
Filed Jan. 9, 1967, Ser. No. 608,112
Int. Cl. G03b *1/22*
U.S. Cl. 226—62 **5 Claims**



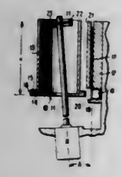
A rake member for advancing perforated motion picture film has a toothed portion for engaging the perforations in the film. The toothed portion is spring urged obliquely, both in a direction away from the thickness of the film, and in the longitudinal direction in which it is desired to advance the film. A compound cam engages the rake member and, against the force of the oblique spring, moves the member first in a longitudinal direction while the toothed portion is out of contact with the film, then moves the toothed portion into contact with the film to engage the perforations thereof and allows the spring to move the toothed portion longitudinally forwardly while remaining engaged in the perforations, and finally allows the oblique spring to move the toothed portion out of contact with the film so the cycle may be repeated.

3,441,187
LOOP TAPE TRANSPORT MECHANISM
Richard S. Tveter, Glenview, Ill., and Sydney Himmelstein, 7710 Sheridan Road, Chicago, Ill. 60626; said Tveter assignor to said Himmelstein
Filed May 2, 1966, Ser. No. 546,627
Int. Cl. B65h *17/28, 23/08, 23/04*
U.S. Cl. 226—95 **6 Claims**



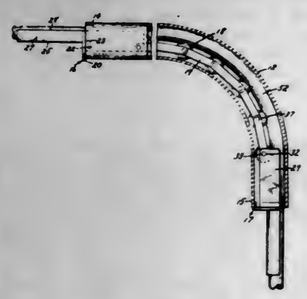
A tape transport mechanism wherein a looped tape is continuously fed past a transducer to provide an output signal. The transport mechanism includes porous tape translating means and porous tape retarding means. A vacuum pump provides a fluid pressure differential across the porous means to provide coordinated translating and retarding forces controlling the tension in the tape as it is transported past the transducer.

3,441,188
ROLL FEED DEVICE
Gordon H. May, San Jose, and Joseph E. Shepard, Los Gatos, Calif., assignors to International Business Machines Corporation, Armonk, N.Y., a corporation of New York
Filed July 13, 1967, Ser. No. 653,135
Int. Cl. B65h 17/22, 17/20
U.S. Cl. 226—180 10 Claims



The present invention relates to a bi-directional feed roll drive for a recording medium and more particularly to a combined feed and registration drive which includes an automatic medium release when drive motion is interrupted. This device employs a single roll for bi-directional drive of the medium and for alignment of the medium against a registration surface, the roll being so mounted as to be automatically withdrawn from contact with the medium whenever drive motion is interrupted.

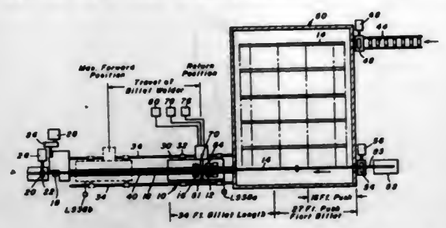
3,441,189
CONDUIT ROLLER BEARING
George H. Erb, Cuttingsville, Vt., William E. Horenburger, Nyack, N.Y., Bradley E. Sanguinetti, Northvale, and Edward F. Hayden, Woodcliff Lake, N.J., assignors to General Bearing Company, Inc., West Nyack, N.Y., a corporation of New York
Filed July 17, 1967, Ser. No. 653,726
Int. Cl. B65h 17/22; E21c 29/16
U.S. Cl. 226—189 4 Claims



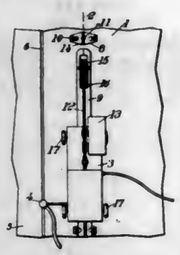
An articulate chain type series of bearings adapted to be disposed within a hollow conduit of curved configuration to facilitate insertion of and pulling through of heavy conduits, by the reduction of rubbing friction on the inner surface of the conduit as the cable is forced to bend to conform to the configuration of the conduit.

3,441,190
IMPACT WELDING APPARATUS
Albert L. Stoeckel, Euclid, Ohio, assignor to United States Steel Corporation, a corporation of Delaware
Filed May 9, 1967, Ser. No. 637,257
Int. Cl. B23k 1/20, 9/22, 19/00
U.S. Cl. 228—5 11 Claims

This invention relates to apparatus for impact welding one end of a billet to a continuous billet while such continuous billet is being processed and including a movable carriage having a billet spacing mechanism, a billet heating mechanism and a billet clamping and impacting mechanism.

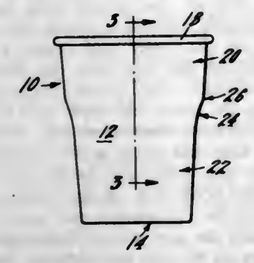


3,441,191
DEVICES FOR LINKING AND GUIDING A CARRIAGE ON A METAL SHEET
Pierre Cerneau, Podensac, France, assignor to The Societe de Chaudronnerie et de Montage Tissot & Cie, Soturac, France
Filed Apr. 10, 1967, Ser. No. 629,497
Claims priority, application France, Apr. 15, 1966, 57,848
Int. Cl. B23k 3/00, 37/02
U.S. Cl. 228—32 9 Claims



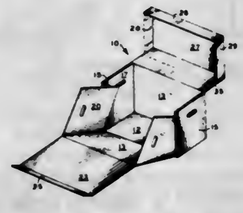
The disclosure relates to the driving of a carriage supporting a tool, namely a welding torch for joining two of such sheets to each other, said carriage being connected with a rail slidably engaging linking elements which may themselves be secured in a removable fashion from place to place to other linking elements permanently secured to the sheet. The first type of linking elements may be secured to the second type of elements by screwing.

3,441,192
THERMOFORMED PLASTIC CUP WITH REINFORCED SIDE WALL
Charles Lewis Metzler, Alpine, N.J., Henry Albert Holzworth, Bayside, and John Duncan Wark, Freeport, N.Y., assignors to American Can Company, New York, N.Y., a corporation of New Jersey
Filed May 17, 1967, Ser. No. 639,086
Int. Cl. B65d 3/00, 21/00
U.S. Cl. 229—1.5 5 Claims



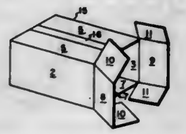
A thin-walled thermoformed thermoplastic container having an integral bottom closing one end, with the opposite end open, wherein the side wall has upper and lower frusto-conical sections separated by two arcuate sections. The lower arcuate section flares outwardly and smoothly blends into the upper arcuate section, with the upper arcuate section tangential with the upper frusto-conical section. The upper arcuate section has a toroidal shape which strengthens the side wall of the container.

3,441,193
SIDE LOADING EGG CASE
James W. Castle, Rte. 1, Farmington, Ark. 72730
Filed Nov. 16, 1967, Ser. No. 683,611
Int. Cl. B65d 5/28, 43/16
U.S. Cl. 229—33 7 Claims



A compartmented side and top opening egg shipping case is formed from (1) a cut and scored container blank foldable into a box-like recloseable container portion and (2) a cut and scored divider blank foldable to nest within the container portion to provide a pair of compartments for receiving egg flats, the case when closed for shipping having bottom and divider walls of double thickness, and walls of quadruple thickness through which hand holds are coextensively disposed, and a locked hinged cover of double thickness. A modification having a detachable cover is described.

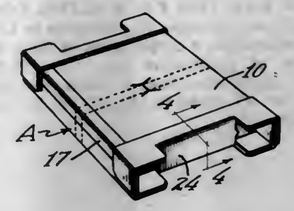
3,441,194
STRUCTURE FOR A TOP-LOADING END-OPENING CONTAINER
Oscar J. Kistner, Cincinnati, Ohio, assignor to The Mead Corporation, Dayton, Ohio, a corporation of Ohio
Filed May 29, 1967, Ser. No. 642,036
Int. Cl. B65d 5/02, 17/00, 5/54, 5/70
U.S. Cl. 229—37 5 Claims



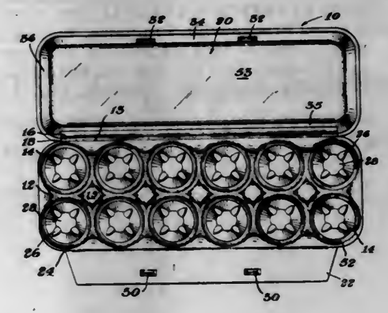
A structure for use in assembly of a top-loading end-opening container. It is constructed from a single piece blank which is folded to produce abutment of a pair of partial end panels and releasably secured in the area of end panel abutment. In use the structure is shipped flat to a distributor, erected, top-loaded, closed, shipped erect to a consumer, end-opened, and emptied. One species provides an end reclosing feature.

3,441,195
BOOK FOLDER
Ronald V. Johnson, Bloomington, Minn., assignor to Hoerner-Waldorf Corporation, St. Paul, Minn., a corporation of Delaware
Filed Oct. 10, 1967, Ser. No. 674,243
Int. Cl. B65d 5/12, 85/00
U.S. Cl. 229—40 7 Claims

The invention comprises a tubular folder designed for containing books and the like during shipment. The ends of the folder may be closed by end panels hinged to the ends of one main panel. The other main panel as well as the side walls, extend beyond the ends of said one main panel, and the structure at each end of the folder is cut and creased to provide a partial end panel, and a projecting channel-shaped extension on each side of the partial end panel. The outwardly projecting channel-shaped extensions protect the contents from damage.



3,441,196
EGG CARTON
Francis L. Burkett, Breckenridge, Mich., assignor to The Dow Chemical Company, Midland, Mich., a corporation of Delaware
Filed Feb. 3, 1967, Ser. No. 613,775
Int. Cl. B65d 5/66, 1/00, 65/16
U.S. Cl. 229—44 8 Claims



A unitary see-through egg carton having a tray with egg cells and a see-through cover hingedly connected to the tray, the cover being secured closed with the tray by either an acute angle latch or a snap-over, flip-open latch.

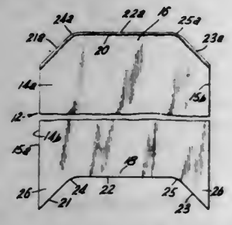
3,441,197
SIDE OPENING CONTAINER
Arthur John White, Woodbury, N.Y., assignor to American Can Company, New York, N.Y., a corporation of New Jersey
Filed Apr. 10, 1967, Ser. No. 629,453
Int. Cl. B65d 17/00, 5/54, 5/70
U.S. Cl. 229—51 6 Claims



A container is provided with a side wall openable along a line of separation. A liner ply inside of the side wall has its marginal edge portions joined together in a lap joint which underlies the line of separation so that when

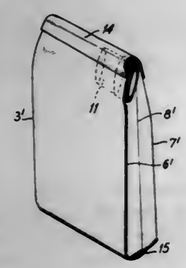
the side wall is opened along the line, the liner ply separates along the lap joint and no additional opening steps are necessary.

3,441,198
FLEXIBLE BAG FOR PACKAGING FOOD ITEMS
Alvin E. Ericson, Chicago, Ill., assignor to Union Carbide Corporation, a corporation of New York
Continuation of application Ser. No. 599,557, Dec. 6, 1966. This application Jan. 8, 1968, Ser. No. 696,478
Int. Cl. B65d *31/16, 37/00, 85/00*
U.S. Cl. 229—53 **6 Claims**



A flexible bag having a uniquely contoured bottom closure is provided so that the bag will smoothly and closely adhere to an irregularly shaped food item packaged therein.

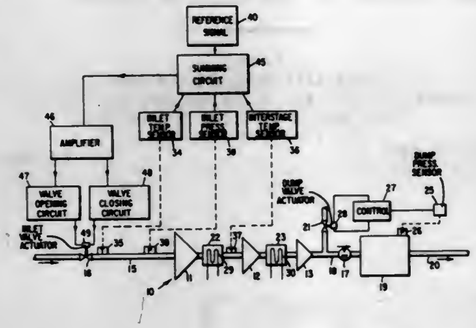
3,441,199
VALVED BAG HAVING SIDE GUSSETS AND MADE FROM PLASTICS MATERIAL SHEETING
Friedrich Franz Brockmuller, Lengerich, Westphalia, Germany, assignor to Windmoller & Holscher
Filed Sept. 22, 1967, Ser. No. 669,949
Claims priority, application Germany, Oct. 3, 1966, W 42,508
Int. Cl. B65d *31/14, 33/18, 77/14*
U.S. Cl. 229—62.5 **4 Claims**



A single-layer plastics material sheeting has been closed by an adhered longitudinal seam to form a tubing from which a bag is made, which has a tubular valve disposed in the adhered longitudinal seam close to one end of the bag. A cover patch is adhered to one wall of the bag at each end thereof and is reversely folded together with the edge portions of the tubing about a fold line which is somewhat below the aligned, straight-lined edges of the tube section end. Said patch is adhered to the other wall of the bag.

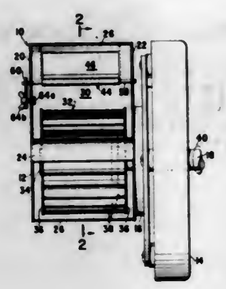
3,441,200
GAS COMPRESSION SYSTEM HAVING INLET GAS CONTROL
Eugene L. Huesgen, Jeannette, Pa., assignor to Carrier Corporation, Syracuse, N.Y., a corporation of Delaware
Filed Mar. 13, 1967, Ser. No. 622,513
Int. Cl. F04b *49/00*
U.S. Cl. 230—5 **5 Claims**

A gas compression system for supplying compressed air at a uniform pressure which employs a multistage compressor. A main control is provided to maintain the discharge pressure constant. The temperature and pressure of gas admitted to the first stage of the compressor and the temperature of gas admitted to the second stage of the compressor are sensed and functions thereof are



summed to provide a control signal. An inlet gas throttling valve is modulated in response to the control signal to reduce overloading of the compressor and/or to keep the compressor from surging by varying the inlet air pressure.

3,441,201
TRANSVERSE FLOW BLOWERS HAVING CONTROLLED SECONDARY FLOWS
Joel W. Hollenberg, Middlesex, N.J., assignor to The Singer Company, New York, N.Y., a corporation of New Jersey
Filed Apr. 19, 1967, Ser. No. 631,938
Int. Cl. F04d *27/00, 23/00*
U.S. Cl. 230—47 **2 Claims**

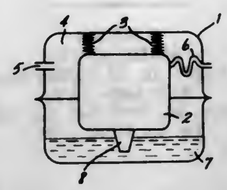


This disclosure relates to a transverse flow blower. More particularly the disclosure relates to a transverse flow blower having an induced secondary flow that is prevented from contacting the impeller by a control vane. Furthermore, transverse flow blower may serve as a pneumatic conveyor by having the secondary flow include solid particles.

3,441,202
NOISE DAMPENING IN HERMETIC REFRIGERANT COMPRESSORS
Knud V. Valbjorn and Kjeld Kjeldsen, Nordborg, Denmark, assignors to Danfoss A/S, Nordborg, Denmark, a company of Denmark
Filed Mar. 22, 1967, Ser. No. 625,062
Claims priority, application Germany, Mar. 22, 1966, D 49,662
Int. Cl. F04b *39/00, 39/02*
U.S. Cl. 230—232 **7 Claims**

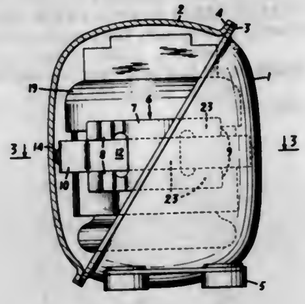
Hermetic refrigerant compressor provided with noise-

suppressor in lubricant suction for substantially suppressing transmission of noise from internally of the hermetic



capsule walls, through the lubricant. The noise suppressor comprises an elastic tube attached to the lubricant suction.

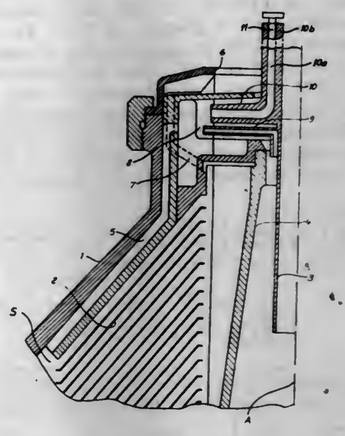
3,441,203
MOTOR-COMPRESSOR FOR AN ENCAPSULATED REFRIGERATING UNIT
Bendt W. Larsen, Augustenborg, and Knud V. Valbjorn, Nordborg, Denmark, assignors to Danfoss A/S, Nordborg, Denmark, a company of Denmark
Filed Feb. 28, 1967, Ser. No. 619,278
Claims priority, application Germany, Mar. 1, 1966, D 49,467
Int. Cl. F04b *39/00*
U.S. Cl. 230—235 **10 Claims**



A hermetically sealed refrigerant compressor provided with a strap mount or support mounting a motor-compressor assembly and its suspension system free of direct fixed connection to the capsule within which the entire assembly is hermetically sealed. The strap mount provides for assembly of the entire assembly externally of the capsule and is received completely assembled in the capsule and held by the capsule and guide bars fixed thereon in position within the capsule upon assembly of the capsule about the strap mount and entire inner motor-compressor assembly.

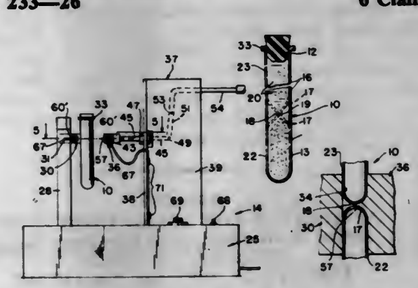
3,441,204
DEVICE FOR INDICATING SLUDGE LEVEL IN SLUDGE CENTRIFUGES
Ove Allan V. Kjellgren, Stockholm, and Carl-Göran Nilson, Tullinge, Sweden, assignors to Alfa-Laval AB, Tumba, Sweden, a corporation of Sweden
Filed July 8, 1966, Ser. No. 563,739
Claims priority, application Germany, Aug. 27, 1965, A 50,122
Int. Cl. B04b *11/02, 15/00;* **G01f** *23/00*
U.S. Cl. 233—21 **2 Claims**

The centrifugal rotor has an indicating channel with a radially outer end opening into the sludge-collecting space and a radially inner end opening into a paring chamber. First and second paring devices have their respective paring edges located in the paring chamber with the second paring edge at a greater radius from the rotor axis than the first paring edge, so that clogging of the indicating channel with sludge causes the first paring channel to be rapidly uncovered by liquid in the paring cham-



ber, due to the paring action of the second paring edge. Indicating means communicate with the first paring channel and are operable in response to this uncovering of the first paring channel.

3,441,205
METHOD FOR SEPARATING SEDIMENT FROM SUPERNATANT FLUID
Marvin Kendall Young, Jr., 4011 Rockledge, Austin, Tex. 78731
Filed Oct. 10, 1966, Ser. No. 585,413
Int. Cl. B04b *5/00*
U.S. Cl. 233—26 **6 Claims**

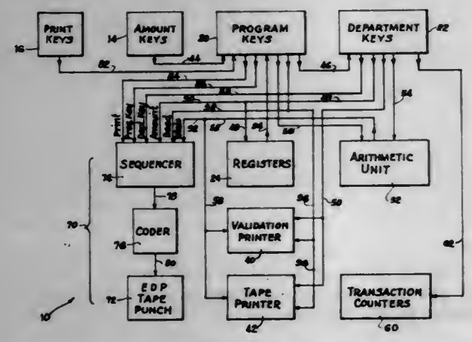


The method is shown and described for the separation of blood and like solids-including liquids into sediment and supernatant fluid, in which a liquid specimen is placed in an open-ended, heat-sealable cylindrical container, then centrifuged to accomplish the separation. The tube is then simultaneously separated as to its supernatant fluid and sediment components while simultaneously heat sealing the two components along a line at the zone of separation.

3,441,206
CASH REGISTER WITH MEANS FOR PRODUCING ELECTRONIC DATA PROCESSING INPUT RECORD
Leroy J. Wallace, Oak Park, Ill. (5252 N. Broadway, Chicago, Ill. 60640)
Filed Oct. 15, 1965, Ser. No. 496,482
Int. Cl. G06c *29/00*
U.S. Cl. 235—60.29 **5 Claims**

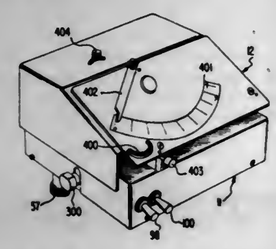
A cash register, comprising a plurality of Amount Keys for recording monetary amounts, a plurality of registers for accumulating monetary amounts for various

departments, a plurality of department keys for routing each monetary amount to a selected register, an arithmetic unit for accumulating the monetary amounts corresponding to at least some of said department keys, at least one total key for causing said arithmetic unit to compute totals, an EDP record unit for producing entries on an EDP record, a plurality of Print Keys adjacent said Amount Keys for producing entries of informational data on the EDP record, means for producing entries on the EDP record corresponding to the monetary amounts entered upon said registers, means for producing EDP record entries corresponding to the totals computed by said arithmetic unit, a plurality of preliminary program keys for disconnecting the Amount Keys from



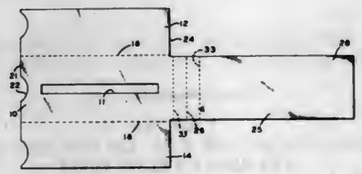
said registers and connecting said Amount Keys to said EDP record unit for producing entries thereon corresponding to preliminary informational data whereby both said Print Keys and said Amount Keys may be employed for making entries of preliminary informational data on the EDP record, means for making EDP record entries identifying the selected preliminary program keys, means for making EDP record entries identifying the selected department keys, transaction counters for counting the number of transactions recorded by at least some of the said department keys, a validation printer for imprinting documents with monetary amounts, a read key, and a printer operable by said read key for printing the accumulated amounts on said registers.

3,441,207
APPARATUS FOR SPEED INDICATION
Arthur N. Marshall, 5501 Kingsbury Road, Richmond, Va. 23226
Filed Feb. 20, 1967, Ser. No. 617,385
Int. Cl. G01d *3/00*
U.S. Cl. 235—61 **13 Claims**



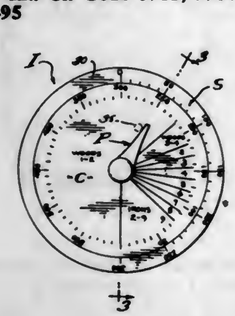
An improvement in a device for speed determination having a time carriage means and a distance carriage means which move relative to each other to establish average speed, the improvement involving a hold means for retaining one of the carriage means at its advanced position to enable multiple speed determinations by actuation of the other carriage means, an arcuate scale, and means for enabling the stretching out of the higher speed increments of the scale, an adjustable strand, and other related improvements.

3,441,208
SLIDE RULE
Sol Goldstein, 18 Falcon Road, East Hills, N.Y.
Filed Sept. 20, 1967, Ser. No. 668,996
Int. Cl. G06g *1/06*
U.S. Cl. 235—70 **2 Claims**



A simple slide rule made from paper for incorporation into the binding of a magazine or the like by means of a tab extending from the body of the rule which supports the slide and where the slide is freed for sliding movement when the body is severed from the tab.

3,441,209
GOLF DRIVE METER AND CLUB INDICATOR
Charles E. Farman, 1521 Roanne Drive, La Habra, Calif. 90631
Filed Sept. 5, 1967, Ser. No. 665,430
Int. Cl. G01b *3/12, 7/04*
U.S. Cl. 235—95 **6 Claims**

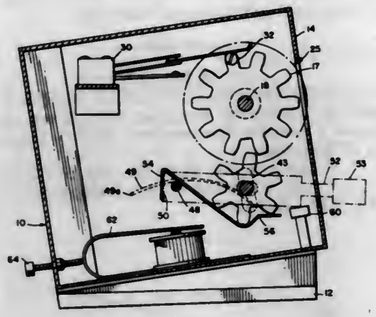


This invention is concerned with the game of golf wherein the distance from the tee to the green varies from hole to hole and wherein the proper use of different golf clubs is determined by the remaining distance along the fairway to the green and according to the proficiency of the golfer; the device disclosed being presettable to meter the distance remaining to the green and to indicate as well the ideal club for use at the distance remaining to the green or hole, and with provision for adjustment or alteration so as to accommodate any individual's golfing proficiency.

3,441,210
PRESET TIMER
Robert R. Moore, Glenview, and Vincent E. Eltzen, Evanston, Ill., assignors to American Hospital Supply Corporation, Evanston, Ill., a corporation of Illinois
Filed Mar. 8, 1967, Ser. No. 621,651
Int. Cl. G06f *15/18*
U.S. Cl. 235—132 **13 Claims**

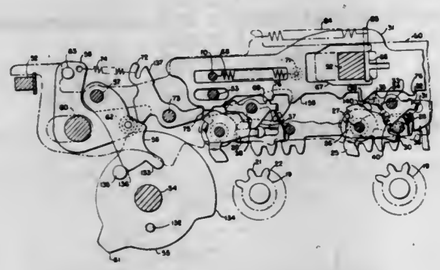
A preset timer including a plurality of number wheels coupled through pinion gears which reduce the next higher order number wheel by one incremental unit in

response to a complete revolution of the adjacent lower order number wheel. The pinions are biased into predetermined angular disposition for properly aligning the displayed numbers. Means are provided for moving the



pinions to a second position in which the number wheels may be independently set without coupling to adjacent number wheels while the pinions maintain their angular disposition.

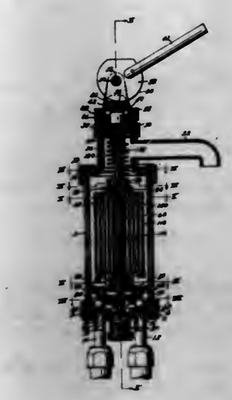
3,441,211
TRANSFER RESTORING MEANS
Dale L. Placke, Dayton, Ohio, assignor to The National Cash Register Company, Dayton, Ohio, a corporation of Maryland
Filed July 24, 1967, Ser. No. 655,650
Int. Cl. G06c *7/10*
U.S. Cl. 235—133 **4 Claims**



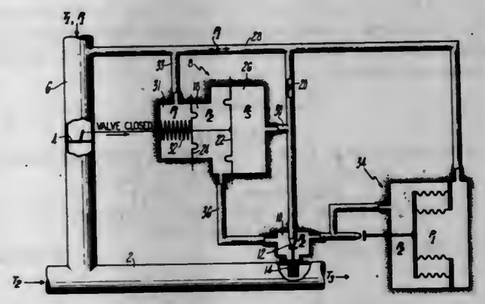
A positive drive mechanism for restoring the tripped tens transfer mechanism in a cash register or accounting machine having an add-subtract totalizer mechanism. The mechanism includes a drive member which is operated during a machine operation to lock out all transfer mechanisms prior to an overdraft carry operation. On a subsequent machine operation, the drive member cams each of the tripped transfer mechanisms to their home position.

3,441,212
THERMOSTATIC MIXING VALVE
William C. Renne, 901 W. 87th, Kansas City, Mo. 64114
Filed Oct. 31, 1966, Ser. No. 590,883
Int. Cl. G05d *23/13, 11/16, 11/03*
U.S. Cl. 236—12 **7 Claims**

A thermostatic mixing valve in which the hot and cold water proportioning valves have a compound or double movement, both the usual proportioning movement in which one valve opens as the other closes whereby to vary the proportions of the hot and cold water delivered to the mixing chamber, this movement being controlled by the usual thermostatic means, and also a flow regulating movement in which both valves are simultaneously opened or closed, this latter movement being manually controlled.



3,441,213
PNEUMATIC AIR TEMPERATURE CONTROL SYSTEM
Charles Anthony Maher, Jr., Wakefield, Mass., assignor to United Aircraft Corporation, East Hartford, Conn., a corporation of Delaware
Filed Jan. 23, 1968, Ser. No. 699,861
Int. Cl. G05d *11/02*
U.S. Cl. 236—13 **2 Claims**

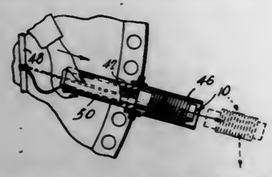


In a pneumatic temperature control system, means are provided for biasing a valve-operating, pressure responsive servo actuator with an artificial ambient pressure so that the pressure responsive servo actuator responds to the pressure differential existent between the servo pressure and the artificial ambient pressure, and between the pressure of the source of servo fluid and the artificial ambient pressure.

3,441,214
METHOD AND APPARATUS FOR SEEDING CLOUDS
Jacques d'Avignon, Repentigny, Quebec, and Bernard A. Power, Dorval, Quebec, Canada, assignors to Weather Engineering Corporation of Canada Ltd., Dorval, Quebec, Canada
Filed Jan. 9, 1967, Ser. No. 607,970
Int. Cl. A01g *15/00;* **F42b** *25/12*
U.S. Cl. 239—2 **6 Claims**

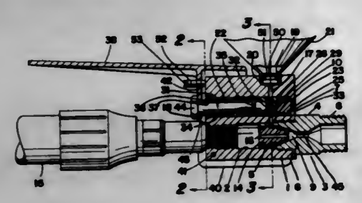
An apparatus and method for seeding clouds from an aircraft by means of a package including an explosive

generator containing silver iodide. The package also includes a time fuse attached at one end to an igniter and



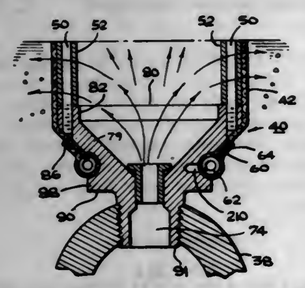
at the other end to a detonator for setting off the fuse cord containing the silver iodide at the required height.

3,441,215
POWDER SPRAY TORCH
Arthur T. Cape, Monterey, Calif., assignor to Coast Metals, Inc., Little Ferry, N.J., a corporation of Delaware
Filed Mar. 3, 1967, Ser. No. 620,305
Int. Cl. B05b *1/00, 1/30*
U.S. Cl. 239—85 9 Claims



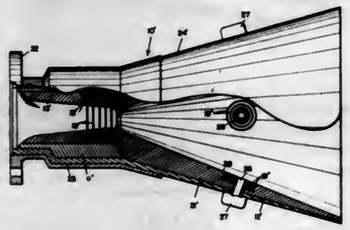
The invention relates to a powder spray torch, having a powder metering valve mounted therein in a manner which facilitates installation and removal thereof for replacement purposes. Another feature is the incorporation of a novel perforated element in the powder hopper for preventing a receding flame or flashback in the torch from reaching the interior of the hopper, to thereby cause an explosion.

3,441,216
AIR DIFFUSER UNIT FOR AERATING SEWAGE
Raymond J. Good, 8031 N. 2nd St., Elkins Park, Pa. 19117
Filed Nov. 16, 1964, Ser. No. 411,429
Int. Cl. A01g *27/00*
U.S. Cl. 239—145 3 Claims



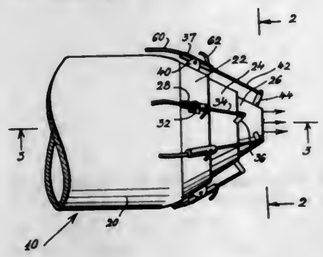
1. An air diffusing unit for aerating sewage and adapted to be completely immersed in said sewage, said unit comprising a cage, said cage comprising a head having a hole for the flow of air therethrough an annular array of rods having ends secured to said head, a plurality of spacer tubes around said rods, support rings through which said rods extend, said rings being spaced along said rods by said tubes, said head having an annular undercut, a fabric sock over said rods, tubes and rings and a part of said head, and a spring for securing said sock to said head at said undercut, said sock being made from a knitted fabric and comprises a length of material folded upon itself and having a cuff at one end, said sock being seamed at the end opposite the cuff and seamed lengthwise from the end opposite the cuff to the other end, but for a portion which defines a slit, and said spring being inserted into said cuff through said silt.

3,441,217
NONERODING ROCKET NOZZLE
Howard H. McIntosh, Brigham City, Utah, assignor to Thiokol Chemical Corporation, Bristol, Pa., a corporation of Delaware
Filed Nov. 16, 1966, Ser. No. 594,823
Int. Cl. B64d *33/04*; B05b *9/00*
U.S. Cl. 239—265.15 4 Claims



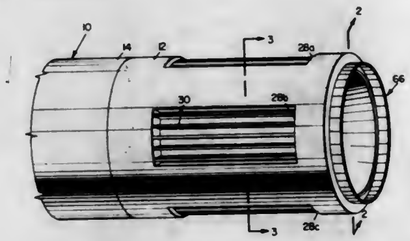
A rocket motor and nozzle wherein a refractory material insert is bonded to the nozzle interior surfaces and a thin sheet of refractory metal is disposed in the refractory material so as to materially enhance the erosion resistance qualities thereof.

3,441,218
ADJUSTABLE NOZZLE FOR JET PROPULSION ENGINE
Paul Bucher, 68—19 31st Ave., Jackson Heights, N.Y. 11372
Filed Nov. 7, 1966, Ser. No. 592,635
Int. Cl. F02k *1/08*
U.S. Cl. 239—265.25 10 Claims



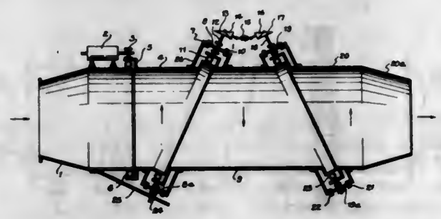
An adjustable nozzle construction for a jet engine. The nozzle construction is progressively adjusted between a maximum thrust position and a minimum thrust position. Means is provided for instituting and adjusting drag to facilitate smooth control of jet propulsive thrust of the engine. The exhaust nozzle includes axially movable frusto-conical rings for adjusting propulsive thrust of the jet propulsion unit. A tapered frusto-conical rear end section is provided on a cylindrical exhaust tube. A first frustro-conical ring is movably disposed in the rear end section and has a narrow rear end extending rearwardly beyond the rear end section of the tube. A second frusto-conical ring is disposed similarly to the first frusto-conical ring in alignment with the first ring with a narrow rear end extending rearwardly beyond the end of the first ring. Motor means is operatively connected to the first and second rings for independently and selectively extending the rings rearwardly and retracting the rings forwardly to provide exhaust openings of controllable size, whereby the propulsive thrust is determined by the relative positioning or the rings axially of the tube and of each other.

3,441,219
DIRECTIONAL CONTROL APPARATUS FOR ROCKET MOTORS
James R. Turner, Ogden, Utah, assignor to Thiokol Chemical Corporation, Bristol, Pa., a corporation of Delaware
Filed Nov. 29, 1966, Ser. No. 597,697
Int. Cl. F02k *1/22*
U.S. Cl. 239—265.29 4 Claims



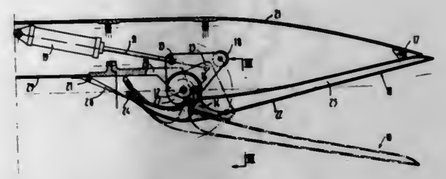
1. In a rocket motor having a thrust nozzle fixedly mounted on the casing thereof, directional control means for pivoting said rocket motor about the longitudinal axis thereof for controlling the direction of thrust of said motor comprising, a tubular housing one end of which is fixedly and sealably joined to the aft end of said casing and the other end of which is substantially coterminous with the aft end of said thrust nozzle, said housing having at least one peripheral, longitudinally extending opening formed therein and being concentrically positioned around said thrust nozzle to provide an annular gap between the aft ends of said housing and thrust nozzle;
closure means mounted on said housing and adapted for movement between a first position wherein said opening is covered thereby and a second position wherein said opening is uncovered; and
control means for selectively moving said closure means between said first and second positions.

3,441,220
EXHAUST GAS DEFLECTING PIPE
Walter Wildner, Munich-Pasing, Germany, assignor to M.A.N. Turbo GmbH, Munich-Allach, Germany
Filed Mar. 2, 1967, Ser. No. 620,149
Claims priority, application Germany, Mar. 3, 1966, M 68,614
Int. Cl. B64c *15/04*; B05b *15/08*
U.S. Cl. 239—265.35 8 Claims



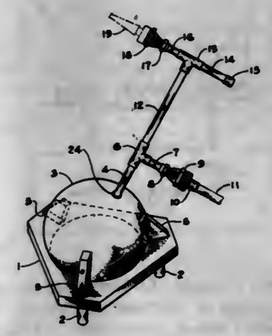
Exhaust pipe sections are connected together by differential gears so that the sections can be driven to rotate relative to each other.

3,441,221
ARTICULATED STRUCTURE ESPECIALLY FOR JET PROPULSION NOZZLE
Henry Naud, Verrieres-le-Buisson, and René Léon Constant, La Rochette, France, assignors to Societe Nationale d'Etude et de Construction de Moteurs d'Aviation, Paris, France, a company of France
Filed July 5, 1967, Ser. No. 651,305
Claims priority, application France, July 7, 1966, 68,615
Int. Cl. B64c *15/04, 15/06*; B05b *15/08*
U.S. Cl. 239—265.35 6 Claims



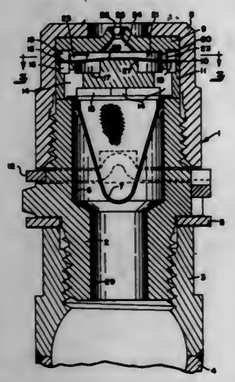
The invention is concerned with a device capable of rotating each flap of a variable jet propulsion nozzle successively around two transverse axes near its upstream and downstream ends respectively. To each flap are associated a rotating member adapted to rotate around a stationary axis, a stationary stop and a connecting-rod for controlling the rotating member. When the connecting rod is operated the flap turns first around an axis near the stationary axis, then around the stop.

3,441,222
GARDEN HOSE NOZZLE POSITIONER
Harold C. Law, 6025 N. Arlington Blvd., San Pablo, Calif. 94806
Filed Apr. 25, 1967, Ser. No. 634,068
Int. Cl. B05b *15/08*
U.S. Cl. 239—280.5 2 Claims



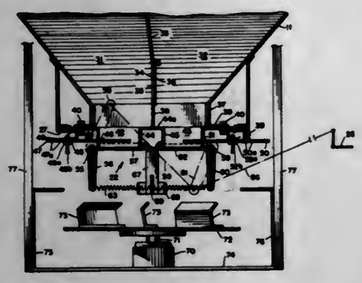
A portable manually operated apparatus utilizing the principle of a ball-joint and friction to fix the position of a garden hose nozzle so to allow the flow of a stream or spray of water from the nozzle in a predetermined direction. A sphere supported by the base of the apparatus provides universal adjustability and also mass to overcome the reaction of the jet of water emanating from the nozzle, thereby enabling the nozzle to be situated high above ground for water to attain greater range and ground coverage.

3,441,223
NOZZLE
Dominic J. Lapera, Chardon, Ohio, assignor to Parker-Hannifin Corporation, Cleveland, Ohio, a corporation of Ohio
Filed Mar. 8, 1967, Ser. No. 621,692
Int. Cl. B05b *1/34, 1/30*
U.S. Cl. 239—403 11 Claims



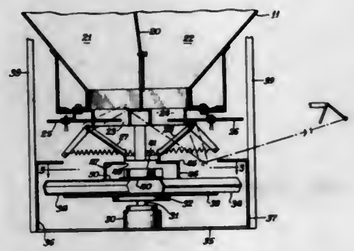
Fuel injection nozzle of the augmented simplex type having a single discharge orifice but yet having the pressure vs. flow characteristics of a veriable inlet area nozzle. Nozzle characterized by absence of sliding parts and by employment of larger than normal fuel flow passages thus rendering the nozzle less sensitive to malfunction or clogging due to contaminants in the fuel.

3,441,224
CENTER-FEED SPREADER
Howard E. Cotter and Jay E. Barth, both of R.R. 1, Flanagan, Ill. 61740
Filed Apr. 13, 1967, Ser. No. 630,720
Int. Cl. A01c *17/00, 19/00;* E01c *19/20*
U.S. Cl. 239—656 9 Claims



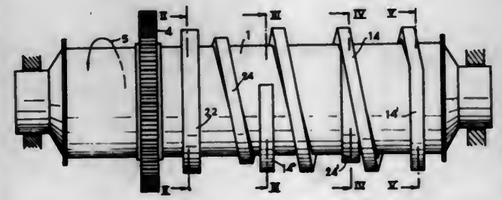
A wide-path spreader for fertilizer or other granular material including a compartmentalized, funnel-shaped hopper mounted on a four-wheel carriage adapted to be pulled by a tractor. A blender unit is mounted on a grain slide which is received beneath the mouth of the hopper such that the entire unit may be used either as a grain wagon or as a spreader. The blender is provided with separate discharge throats, each communicating with a hopper conpartment; and slide valves are provided for independently setting the flow rate through the discharge throats. Spring-loaded trap doors seal the discharge throats when the trap doors are in a closed position. A hydraulicly-powered fan is rotatably mounted beneath the trap doors. When the trap doors are opened, they extend on either side of a blender bar which cooperates with the open doors to define a distribution flow pattern for the material of substantially constant density for supplying material to the rotating fan. Transverse baffle plates are located in front of and behind the fan for channeling the material laterally beneath the carriage in distributing it over a forty-foot path.

3,441,225
MIXER ASSEMBLY FOR WIDE-PATH SPREADER OF GRANULAR MATERIALS
Howard E. Cotter and Jay E. Barth, both of R.R. 1, Flanagan, Ill. 61740
Filed Oct. 4, 1967, Ser. No. 672,876
Int. Cl. A01c *17/00;* G01f *11/24*
U.S. Cl. 239—683 4 Claims



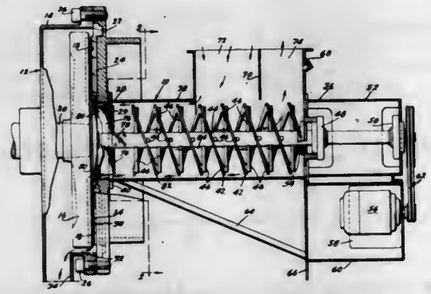
A mixing chamber is located beneath the separate discharge throats of a compartmentalized hopper in a wide-path spreader for granular material. The chamber is mounted on a rotating fan beneath the hopper which forces the material laterally in spreading it; and it includes a horizontal base plate, a cylindrical side wall around the base plate and spaced therefrom to provide an annular aperture above the fan, a cover plate integral with the top of the wall and defining a central aperture for receiving the material from the discharge throats, and a plurality of mixing blades mounted on the base plate within the chamber. The mixing blades lie in vertical planes about a central zone for receiving the falling granular material, and adjacent blades define side openings through which the material is scattered against the housing of the chamber in a cone-shaped mixing pattern before it is guided through the annular aperture onto the rotating fan for spreading.

3,441,226
CYLINDRICAL MILL FOR GRINDING CEMENT
Camillo Bargero, Via Aristide Oggero, Casale, Monferrato, Italy
Filed July 18, 1966, Ser. No. 565,831
Claims priority, application Italy, July 19, 1965, 16,383/65
Int. Cl. B02c *9/04, 15/00, 17/00*
U.S. Cl. 241—153 5 Claims



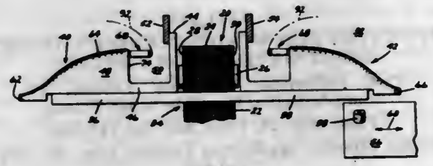
A cylindrical horizontally rotatable cement mill is provided with a plurality of longitudinally extending members having grinding implements therein. The first longitudinal chamber, to which the material is fed from an end inlet opening, is divided into two compartments by means of a transverse partition. Feed channels are formed from the inlet opening into the end of the closest compartment and from the inlet to the midportion of the most remote compartment for better utilization of the grinding implements within the first chamber.

3,441,227
REFINER FEEDER
Chester Donald Fisher, Muncy, Pa., assignor to Sprout Waldron & Company, Inc., Muncy, Pa., a corporation of Pennsylvania
Filed Dec. 22, 1966, Ser. No. 603,951
Int. Cl. B02c *23/02*
U.S. Cl. 241—247 9 Claims



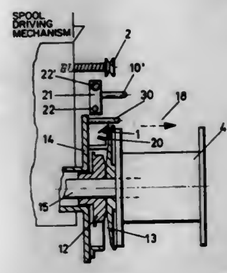
A throat screw feeder for use with disc type paper pulp refiners in refining high consistency stock characterized by a ribbon-type screw rotated to advance the stock into the refiner throat while permitting a steam backflow from the refiner within the ribbon screw without interference with the stock flow.

3,441,228
END TURN SHAPING AND POSITIONING APPARATUS FOR STATOR WINDING MACHINE
John J. Henry, Fort Wayne, Ind., assignor to Fort Wayne Tool & Die, Inc., Fort Wayne, Ind., a corporation of Indiana
Filed Mar. 21, 1966, Ser. No. 535,845
Int. Cl. B65h *81/06*
U.S. Cl. 242—1.1 10 Claims



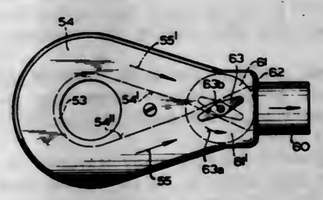
An end turn shaping and positioning apparatus is placed on a stator core for machine winding in which one or more supports extend axially from opposite ends of the core. Each of the extending ends supports a guiding shroud member shaped to define a radially outwardly facing, open-ended, U-shaped channel to receive the turns of wire as they are wound onto the core. Each shroud member carries a finger spring-biased toward the adjacent end face of the core to partially block the channel and thereby retain and shape the end turns of the coils wound but being pivotable against said spring bias to permit the apparatus to be removed from the core.

3,441,229
APPARATUS FOR THE CONTINUOUS WINDING OF WIRE ON SPOOLS
Werner Henrich, 16 Fahnstrasse, 6349 Merkenbach, Dillkreis, Horbach, Germany
Filed May 15, 1967, Ser. No. 638,329
Claims priority, application Germany, Feb. 16, 1967, H 61,859
Int. Cl. B65h *54/00*
U.S. Cl. 242—25 8 Claims



A pair of spaced, parallel spools with the wire passing through a guide-way movable transversely of the spools and wound upon one spool. The guide-way is moved over the empty spool so that a hook on a rotating member adjacent the empty spool carries the wound wire into a gripper on the empty spool and the full spool is braked so that the wire is parted between the spools. A lifting pin on the same rotating member adjacent the empty spool then lifts the wire over the flange of the empty spool and the winding of the wire is continued on the empty spool.

3,441,230
PNEUMATIC DEVICE FOR SEIZING A STARTING LENGTH OF YARN WOUND ON A COP
Wilhelm Kupper Rickelrath, Kreis Erkelenz, Germany, assignor to Walter Reiners, Monchengladbach, Germany
Filed May 25, 1967, Ser. No. 641,185
Claims priority, application Germany, May 27, 1966, R 43,353; Jan. 20, 1967, R 45,086
Int. Cl. B65h *69/04*
U.S. Cl. 242—35.6 12 Claims



Pneumatic device for seizing a starting length of yarn wound on a cop includes a suction nozzle member of substantially annular shape defining a suction air passage having given characteristics of length and air-flow direction, the member being formed with nozzle opening means communicating with the air passage and extending annularly along the inner periphery of the member so as to surround a cop wound with yarn having a starting

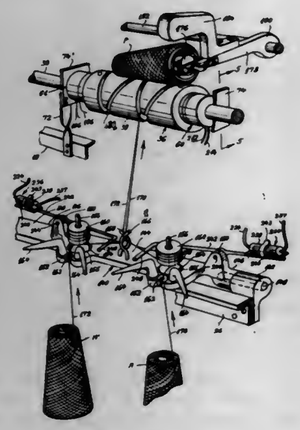
length to be seized. Means are provided for placing the cop in substantially coaxial relation to the annular nozzle member, the nozzle member and the cop located substantially coaxial therewith being movable relative to one another in the axial direction thereof, and the nozzle member having adjusting means for varying at least one of the given characteristics of length and air-flow direction of the suction air passage.

3,441,231

TEXTILE WINDING MACHINE

Solomon Siegel, 13—55 209th St., Bayside, N.Y. 11360

Filed Apr. 7, 1967, Ser. No. 629,248
Int. Cl. B65h *63/02, 54/00, 59/00*
U.S. Cl. 242—38 **7 Claims**



A textile winding machine having a plurality of driven grooved traverses or winders on a common motor driven shaft. A pivotally mounted weighted yarn package engages the surface of each traverse. Mechanism is provided for stopping the individual traverses at will or automatically upon the breaking of a single thread of yarn, the mechanism including an electrically actuated clutch device and brake mechanism, allowing each traverse on its common shaft to be run or stopped individually without stopping the shaft for the other traverses. The mechanism also permits the traverse to stop after a predetermined size has been reached without damaging the threads that are still attached to the package, that are made by the winder. The mechanism also permits an indicating light to go on signalling that the individual traverse has stopped and thus calling the operator's attention thereto.

At present, machines that make cones or parallel packages of yarn or any class of thread that uses grooved traverses or winders are fixed permanently to a shaft driven by a motor.

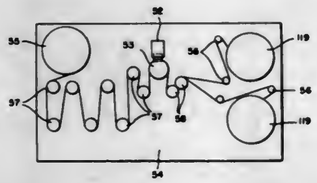
The reason for running many traverses on one shaft driven by a single motor is that for a good wind the motor current is shut off after a predetermined time and then switched on again. Normally a small drop in speed of 10 to 25% is allowed to take place before the current goes on again. This causes a slippage between traverse and the cone being made. Because of the controls needed to effect this current cut off and cut in, it is easier to control one motor for a great number of traverses. Usually a plurality of traverses are mounted on single shaft. In making a package from more than one end of yarn, if one of the ends were to run out or break and the package being built is lifted away from the traverse, the remaining end would get tangled up with the fast spinning traverse and cause great deal of damage. In the past, doubling (combining two or more ends on a package) has been found impractical on a winder with a grooved traverse.

3,441,232

CUTTING APPARATUS FOR PLASTIC SHEETING

Adolf Diebold, Ludwigshafen (Rhine), Ludwig Raichle, Limburgerhof, Pfalz, and Wilhelm Dussel, Ludwigshafen (Rhine), Germany, assignors to Badische Anilin- & Soda-Fabrik Aktiengesellschaft, Ludwigshafen am Rhine, Germany

Filed Jan. 15, 1965, Ser. No. 425,806
Claims priority, application Germany, Jan. 18, 1964, B 75,049
Int. Cl. B65h *35/02*
U.S. Cl. 242—56.7 **5 Claims**



5. A cutting apparatus for longitudinally cutting web form plastic sheeting comprising a sheeting spool for receiving web form plastic sheeting to be cut into individual tapes, a cutting unit for cutting said sheeting into tapes including a freely rotatable cutter roller having a plurality of annular grooves and a cutter head with a plurality of cutting blades coacting with said grooves, mounting means for mounting said cutter roller and cutter head for relative movement to continually change the cutting edges of said blades, said mounting means for said cutter roller and cutter head including supporting members extending therefrom and pivotable about the same axis, means for oscillating in pendulum fashion said supporting members 90° out of phase, a plurality of freely rotatable guide rollers between said sheeting spool and cutting unit to guide said sheeting to and between said cutter roller and cutter head, drive rollers for drawing the cut tapes from the cutting unit, take up rollers for receiving the cut tapes from the drive rollers, and tape guide means between the drive rollers and take up rollers.

3,441,233

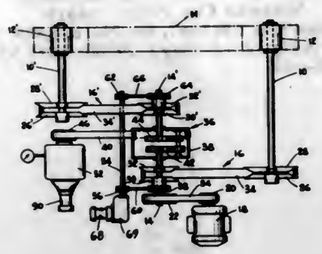
APPARATUS FOR WINDING AND UNWINDING SHEET MATERIAL OR THE LIKE

Paul Defontenay, 19 Rue Yvonne, 91, Bourg-la-Reine, Hauts-de-Seine, France

Filed Mar. 25, 1968, Ser. No. 715,766
Claims priority, application France, Mar. 30, 1967, 100,908
Int. Cl. B65h *59/02*
U.S. Cl. 242—75.5 **12 Claims**

Apparatus for unwinding sheet, strip, wire or filament material under controlled conditions of speed and tension which employs a differential transmission intermediate the respective drive shafts for the shafts upon which the drums are mounted for the material being unwound and wound, and vice versa. Automatic variable transmission means are respectively provided for each pair of drive and drum shafts. Control means responsive to the differential transmission controls a servomotor in circuit

with the respective automatic variable transmissions to correlate the rates of rotation of the respective drum



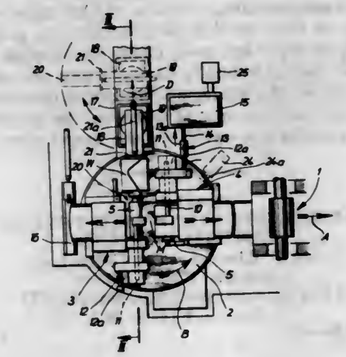
shafts and thereby control the speed and tension upon the material running between the drum shafts.

3,441,234

REELING-OFF APPARATUS FOR USE IN CONNECTION WITH ONE-WAY ROLLING MILLS

Ernst Heinrich Barten, Buschhutten, Germany, assignor to Achenbach Sohne G.m.b.H., Siegen, Germany

Filed July 20, 1965, Ser. No. 473,394
Int. Cl. B21c *1/00*
U.S. Cl. 242—80 **11 Claims**



1. In combination with a rolling stand, an apparatus for reeling off coils to be fed into said rolling stand, said apparatus comprising: a turntable arranged ahead of said rolling stand when looking in the direction in which coils are fed into said rolling stand, two coil supports each being adapted to receive a coil, said coil supports being arranged on said turntable on opposite sides of the axis of rotation thereof and symmetrically with regard to said axis, the arrangement being such that when one of said coil supports is adjacent said rolling stand the other one of said coil supports is remote from said stand, each of said coil supports having a rotatable shaft operable to support the respective coil, and supporting means arranged adjacent that coil support which is remote from said stand for receiving a coil and transferring the same to the respective adjacent coil support.

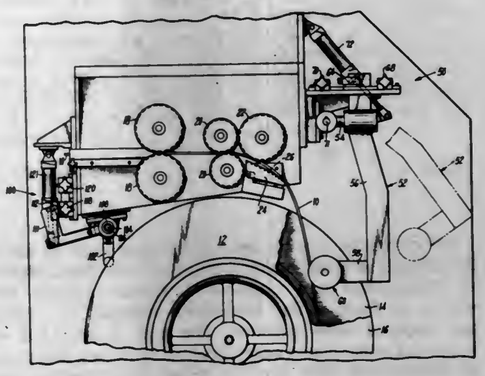
3,441,235

TAKE-UP REEL

Alexander F. Sperduti, New Britain, Conn., assignor, by mesne assignments, to Interim Corporation, Newington, Conn., a corporation of Connecticut

Filed Feb. 10, 1966, Ser. No. 526,421
Int. Cl. B65h *57/28*
U.S. Cl. 242—158.4 **8 Claims**

A take-up reel having a spool which is rotatably driven and axially reciprocated for coiling stock onto the spool in parallel courses of stock with each course having compact nonoverlapping helical coils. The spool is rotated in accordance with the speed of the associated apparatus and a double acting hydraulic cylinder is employed for reciprocating the spool. The hydraulic cylinder is hydraulically operated by a primary positive displacement pump driven by the spool shaft and by an auxiliary motor driven pump connected in parallel with the primary pump and adapted to be intermittently operated to increase the axial displacement of the spool. A direction of feed sensing arm which receives the stock being fed onto the spool is pivotally mounted to operate a pair of switches corresponding to the reciprocable directions of movement of the spool and for thereby energizing the auxiliary pump motor when the axial displacement of the spool is less than optimum. A second axially reciprocable sensing arm is adapted to be engaged by the flanges of the spool when the spool reaches its limit positions to operate a selector valve for reversing the direction of operation of the hydraulic cylinder and for activating the switch corresponding to the axial direction of movement of the spool.

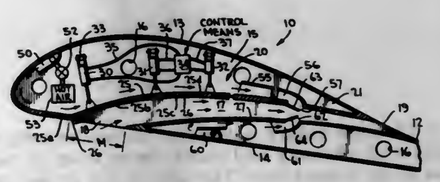


3,441,236

AIRFOIL

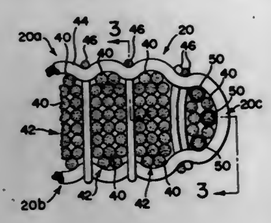
Eric Arnholdt, 7108 Seacliff Road, McLean, Va. 22101

Filed Jan. 16, 1967, Ser. No. 609,431
Int. Cl. B64c *21/02, 3/00;* **B64d** *15/02*
U.S. Cl. 244—42 **10 Claims**



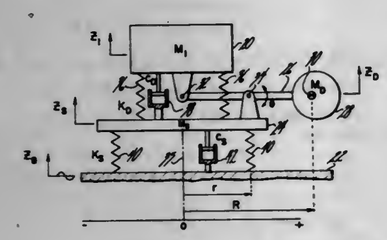
An apparatus for providing lift in a fluid medium having an adjustable slot-like passage extending from the underneath pressure surface to the upper suction surface for providing additional high velocity fluid flow over the latter. A deicing system channeling heated air chordwise along the passage and through its discharge nozzle is positioned within the airfoil.

3,441,237
WOVEN TAPE FOR AIRCRAFT LAUNCHING AND ARRESTING APPARATUS
Robert L. Bair, Ashland, and Charles S. Thompson, Vincentown, N.J., assignors to E. W. Bliss Company, Canton, Ohio, a corporation of Delaware
Filed Jan. 16, 1967, Ser. No. 609,379
Int. Cl. B64f *1/02*; D03d *15/00*; B64c *25/68*
U.S. Cl. 244—110 11 Claims



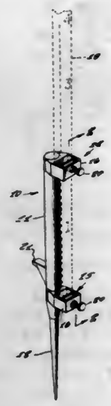
An elongated woven tape of the type used in aircraft launching and arresting apparatus and including a plurality of longitudinal and transverse synthetic strands interwoven to form a flat tape with opposed flat surfaces and opposed edge portions. The tape is provided with improved resistance to edge abrasion by having first strands or elements of high abrasion resistance extending longitudinally of the edges and second similar elements wrapped about the longitudinally extending strands and interwoven with at least some of the transverse strands at the edge portions to provide longitudinally spaced outboard wear resistant humps.

3,441,238
DYNAMIC ANTIRESONANT VIBRATION ISOLATOR
William G. Flannelly, South Windsor, Conn., assignor to Kaman Corporation, Bloomfield, Conn., a corporation of Connecticut
Filed May 26, 1967, Ser. No. 641,541
Int. Cl. F16f *15/04*
U.S. Cl. 248—20 6 Claims



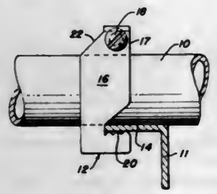
A vibration isolator is disclosed for reducing the transmission of vibratory and shock forces from an excited base to an isolated item. The isolator is a passive system wherein spring forces are counteracted by inertia forces to produce a high degree of isolation at certain frequencies of vibration with low static deflection. An intermediate member is located between the base and the isolated item and connected to the base by a spring and damper. Between the intermediate member and the isolated item is another spring and damper and an inertia system including an auxiliary mass which is moved relative to both the intermediate member and the isolated item in response to relative movement of the latter two parts.

3,441,239
SURVEY ROD HOLDER
Evert W. Frost, 914 1st Ave., Nebraska City, Nebr. 68410
Filed Mar. 29, 1967, Ser. No. 626,828
Int. Cl. A47g *33/12*, *25/12*, *29/00*; A01k *97/10*
U.S. Cl. 248—44 1 Claim



A device for holding a survey rod in an upstanding position, the device including a vertical rod having a lower end pointed so as to be readily received into the ground, the rod having an upper and lower clamp for securing a survey rod thereto and additionally having a foot rest along one side for purpose of allowing an operator to push the device with his foot into the ground wherever the ground is too hard for pushing the device by the hands alone.

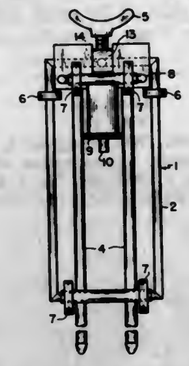
3,441,240
ONE-PIECE PIPE STRAP WITH THREADED ADJUSTING MEANS
Orlan C. Kindorf, 4024 Tilden Lane, Lafayette, Calif. 94549
Filed Mar. 10, 1967, Ser. No. 622,175
Int. Cl. F16l *3/24*
U.S. Cl. 248—72 3 Claims



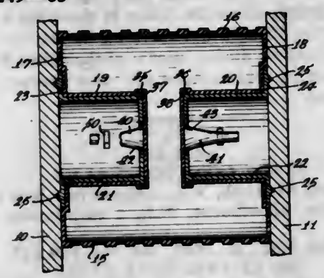
A one-piece U-shaped pipe strap with notches near the legs of the U to embrace the edge of a pipe support while the strap embraces the pipe and a small U-bend in the strap with adjusting means subtending the small U to tighten the main U-shaped strap about the pipe.

3,441,241
BOW HOLDER
Leonard Brooks, 108 Center Ave., Follansbee, W. Va. 26037
Filed Nov. 3, 1966, Ser. No. 592,250
Int. Cl. A45f *3/44*
U.S. Cl. 248—156 3 Claims

The following specification discloses a folding or collapsible bow holder, adjustable, for supporting a bow in vertical and ready position, by frictional engagement of the bow against the vertical and a rotating member of the holder, and with either manual or automatic means for collapsing upon removal of the bow, and corresponding release of the frictional engagement of the bow against the holder without further adjustment or release of tension by the operator.

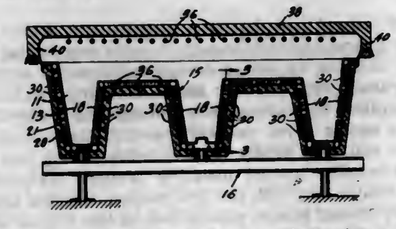


3,441,242
PASSAGE FORMER
George A. Schonauer, 5400 W. 85th St., Oak Lawn, Ill. 60459
Filed Jan. 10, 1967, Ser. No. 608,341
Int. Cl. B28b *5/00*
U.S. Cl. 249—65 7 Claims



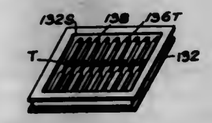
A passage former for use with forms for concrete, or the like, to provide a through passage in the concrete after the poured concrete has set and having an expandable sleeve with structure at the ends thereof to impale the concrete forms when expanded to hold the former in position, accessible means for inflating the sleeve after the sleeve is positioned between the forms and means accessible from an end of the sleeve for deflating the sleeve after the concrete has set and the forms are removed to facilitate removal of the former.

3,441,243
MOLD FOR PRECAST BUILDING MATERIALS
Peter Otto Walz, Montreal, Quebec, Canada, assignor to Rapid Industrial Process Corporation Ltd., Montreal, Quebec, Canada
Filed Oct. 23, 1965, Ser. No. 503,769
Int. Cl. B22d *27/04*
U.S. Cl. 249—81 7 Claims



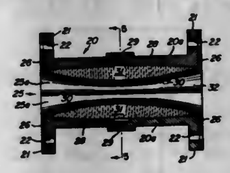
A mold for forming concrete panels having a spaced apart outer and inner wall. The space between the walls is partitioned in order to effect distribution of the heat supplied for curing the concrete panel.

3,441,244
MOLDING APPARATUS FOR MOLDING ACOUSTICAL TILE
Cresswell E. Stedman, deceased, late of Chicago, Ill., by Elizabeth K. Stedman, administratrix, Evanston, Ill., assignor to U. S. Perlite Corporation, Momence, Ill., a corporation of Delaware
Application Feb. 10, 1965, Ser. No. 431,734, now Patent No. 3,353,236, dated Nov. 21, 1967, which is a division of application Ser. No. 288,046, June 14, 1963, now Patent No. 3,222,434, dated Dec. 7, 1965, which in turn was a continuation-in-part of applications Ser. No. 542,231, Oct. 24, 1955, Ser. No. 614,783, Oct. 9, 1956, and Ser. No. 677,194, Aug. 9, 1957. Divided and this application Sept. 25, 1967, Ser. No. 671,537
Int. Cl. B28b *5/02*
U.S. Cl. 249—160 1 Claim



A mold assembly is provided for molding acoustical tile having a differential density in the body thereof, such as disclosed in applicant's earlier Patent No. 3,222,434, granted December 7, 1965 on "Method of Producing an Acoustical Tile." The mold assembly comprises a generally rectangular-shaped mold tray having substantially vertically extending straight side walls and end walls and a bottom which is defined by spaced bars. The mold assembly includes a pallet insert for the mold tray and which is complementary in shape to the bottom of the mold tray. The pallet embodies interconnected bars of differing thicknesses and/or locations which are spaced to fit in the spaces between the bars in the bottom of the mold tray.

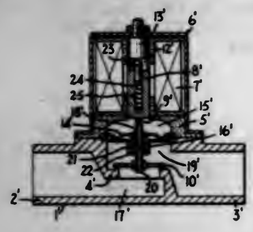
3,441,245
FLUID-ACTUATED, ANTI-FLUTTER, PINCH-SLEEVE, THROTTLING VALVE
Robert Barnsley Holland, Salt Lake City, and DeVere A. Fowler, Lehi, Utah, assignors to The Galigher Company, Salt Lake City, Utah, a corporation of Utah
Filed Mar. 25, 1966, Ser. No. 537,408
Int. Cl. F16k *7/07*
U.S. Cl. 251—5 8 Claims



A fluid-actuated, pinch-sleeve, throttling valve constructed to prevent flutter when pressure fluid is introduced for throttling purposes short of complete closure of the valve. The construction employs collapsible baffling means, within each of the fluid-pressure chambers that are ordinarily provided to exert throttling or closing pressure on an elongate sleeve diaphragm provided by a valve of the general type concerned, so as to restrict the otherwise free longitudinal flow of pressure fluid in and along the chamber. The baffling means means preferably comprise compressible and expansible, sponge-like ma-

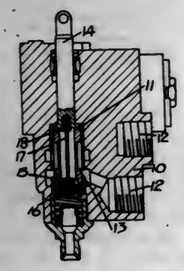
terial, e.g. a foamed plastic, but can be in the form of a series of collapsible baffle fins preferably molded with and exteriorly of the sleeve diaphragm. A series of rigid baffles may also be provided along the inner surface of the valve body alternating in position with collapsible baffles provided by the sleeve diaphragm.

3,441,246
ELECTROMAGNETIC VALVE
Heinz Lauppe, Flensburg, and Dieter Westphal, Flensburg-Murwik, Germany, assignors to Danfoss A/S, Nordborg, Denmark, a company of Denmark
Filed July 20, 1966, Ser. No. 566,546
Claims priority, application Germany, July 24, 1965, D 47,824
Int. Cl. F16k *1/36, 31/04*
U.S. Cl. 251—52 6 Claims



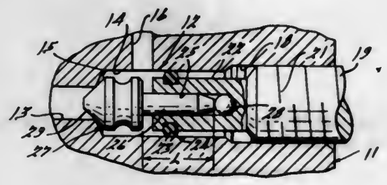
A valve for controlling flow of a fluid under pressure having a compartment defined by a flexible wall connected to the valve stem and without apertures. Some of the working or controlled fluid under pressure is received in the compartment through an axial passage in the valve stem for applying pressure to the flexible wall in a direction toward seating the valve element and acting to damp the valve openings and closings thereby avoiding use of a damping fluid other than the fluid controlled by the valve. Two springs further damp valve oscillations and a spring force differential is applied in the direction of seating the valve.

3,441,247
CONNECTOR DEVICES FOR AXIALLY DISPLACEABLE MEMBERS
Dorian Farrar Mowbray, Solihull, England, assignor to Joseph Lucas (Industries) Limited, Birmingham, England, a British company
Filed July 18, 1966, Ser. No. 565,874
Int. Cl. F16k *1/34, 25/00*
U.S. Cl. 251—86 2 Claims



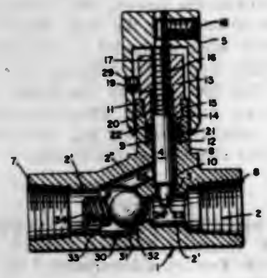
A connector device for interconnecting a spool and an operating rod comprises a pair of parts connected to the spool and rod respectively, a deflectable rod between the parts having radial clearance from the spool, the rod transmitting tension loads and the direct abutment between the adjacent ends of the spool and the rod transmitting compression loads above the value which will bend the rod.

3,441,248
VALVE
Lyle L. Arnes, Racine, Wis., assignor to Walker Manufacturing Company, a corporation of Delaware
Filed Jan. 5, 1966, Ser. No. 518,804
Int. Cl. F16k *1/02, 1/36, 27/08*
U.S. Cl. 251—277 1 Claim



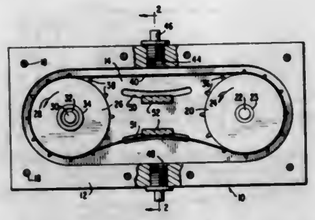
Breakaway torque on a release valve is reduced by providing the valve with a shaft that is freely movable inside of a socket on the threaded valve operator. The shaft changes in length when the valve is threaded home and acts as a spring to hold the valve on its seat until thread friction is overcome during release of the valve. An O-ring provides a simple seal between the valve operator and the valve passage.

3,441,249
FLOW CONTROL VALVE
Wilfred Aslan, Mahwah, N.J., assignor to Alkon Products Corporation, Hawthorne, N.J., a corporation of New York
Filed Nov. 30, 1965, Ser. No. 510,647
Int. Cl. F16k *15/18, 37/00*
U.S. Cl. 251—333 1 Claim



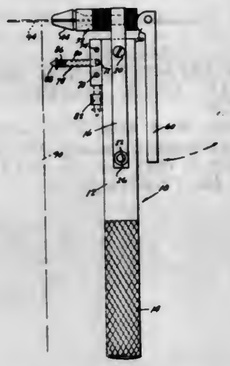
A flow control valve having a body member with a passageway extending therethrough, a valve seat in the passageway defining an orifice connecting separate portions of the passageway together; and a metering mechanism for controlling the rate of flow through the orifice comprising a needle valve member movable transversely of the valve seat, said needle valve member having first and second conically tapered metering portions cooperating with said valve seat with the first portion disposed axially outwardly of said second portion and having a taper angle larger than the taper angle of the first portion.

3,441,250
FLUID OPERATED INTERMITTENT DRIVE MECHANISM
Lynn G. Amos, Cary, N.C., assignor to Corning Glass Works, Corning, N.Y., a corporation of New York
Filed Sept. 15, 1967, Ser. No. 667,967
Int. Cl. F03b *17/06*
U.S. Cl. 253—36 5 Claims



A fluid operated intermittent drive device having fluid jets directed transversely against a slack belt trained about a pair of capstans to rotate said capstans through predetermined increments.

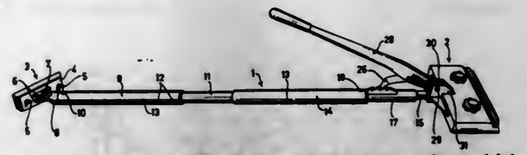
3,441,251
TOOL FOR REMOVING ARROWS AND ARROWHEADS FROM TREES
Jesse L. Burns, 6341 Factor Ave., Las Vegas, Nev. 89107
Filed June 16, 1967, Ser. No. 646,624
Int. Cl. B66f *3/00*; B23p *19/04*
U.S. Cl. 254—131 11 Claims



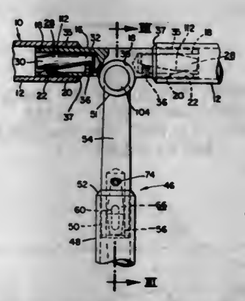
A tool which has specially designed vice jaws for clamping about spaced points of an arrowhead embedded in a tree. The tool has an adjustable fulcrum spaced from the jaws, which is extended and embedded in the tree. With the jaws clamped to the arrowhead, and the fulcrum embedded in the tree, the tool is rocked and rotated about the fulcrum to loosen the arrowhead.

3,441,252
CARPET STRETCHER
Leonardus Aloisius Koppelmans, Berkenlaan 3, Bergeijk, Netherlands
Filed Dec. 8, 1966, Ser. No. 600,174
Claims priority, application Netherlands, Dec. 10, 1965, 6516135
Int. Cl. A47g *27/04*
U.S. Cl. 254—61 6 Claims

Carpet stretcher of the kicker type or of the power stretcher type, having a head with carpet engaging short pins and long pins. The long pins are, for use with normal or with heavy carpets, arranged in two different lengths on either side of a flat grate-shaped frame, which is reversibly connected to the head. A power type stretcher, having as usually a plurality of telescoping tubes between the head and the wall abutting face at the opposite end, is provided with a series of teeth against which a pawl, hanging below a lever on the head, is placed for stretching and straining the carpet in successive steps by extension of the head, without having to take the pinned head off the carpet.

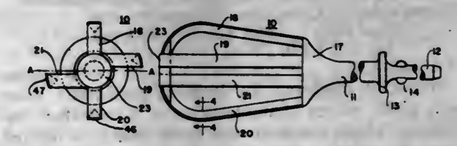


3,441,253
HANDRAIL
Louis Blum, 2312 Tilbury St. 15217, and William J. Horgan, Jr., 1299 Folkstone Drive 15216, both of Pittsburgh, Pa.
Filed Mar. 31, 1967, Ser. No. 627,444
Int. Cl. E04h *17/16, 17/22*
U.S. Cl. 256—65 13 Claims



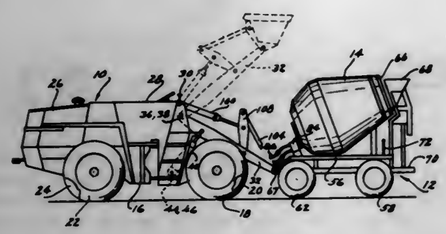
A handrail post carries an elongated handrail splice member. Slidably fitted over the opposite end portions of the splice member respectively are a pair of thin walled sleeves, and slidably fitted over these sleeves respectively are the opposed end portions of a pair of handrail sections. Within the opposite end portions of the splice member are locking means operative for enlarging the effective diameters of the sleeves thereby to cause the sleeves to grip the handrail sections and frictionally secure them to the splice member.

3,441,254
MOLDED PLASTIC IMPELLER FOR MIXING MACHINE
Joseph P. Merke, Jr., Green Township, Hamilton County, Ohio, assignor to The Plastic Moldings Corporation, Cincinnati, Ohio, a corporation of Ohio
Filed Aug. 4, 1967, Ser. No. 658,554
Int. Cl. B01f *7/16*; B29c *3/00, 5/12*
U.S. Cl. 259—134 3 Claims



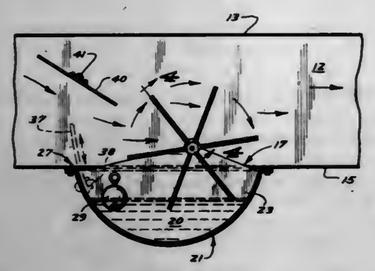
A molded plastic impeller for a mixing machine in which blade vanes are off-set so that the impeller can be molded between a pair of mold halves.

3,441,255
CONCRETE MIXER APPARATUS
Myron H. Ista, Phoenix, Ariz., assignor to J. I. Case Company, Racine, Wis., a corporation of Wisconsin
Filed Oct. 3, 1967, Ser. No. 672,489
Int. Cl. B28c 5/26
U.S. Cl. 259—146 4 Claims



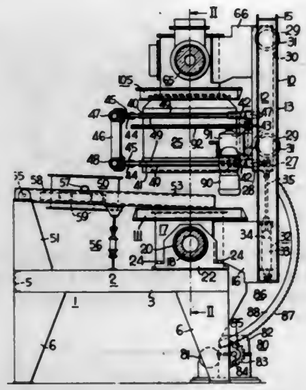
A concrete carrier propelled by a tractor having guide arms adaptable for quickly connecting and disconnecting the tractor from the carrier, and hydraulic means for rotating a container on the carrier. The hydraulic means includes a fluid pump on the tractor, a fluid motor on the carrier for rotatively driving the container and a control system connecting the pump and the motor. The carrier also has means for reversing direction of rotation of the container.

3,441,256
HUMIDIFIER
William R. Worsfold, 4904 108th St., Milwaukee, Wis. 53225
Filed Dec. 12, 1967, Ser. No. 689,835
Int. Cl. F24f 3/14
U.S. Cl. 261—64 10 Claims



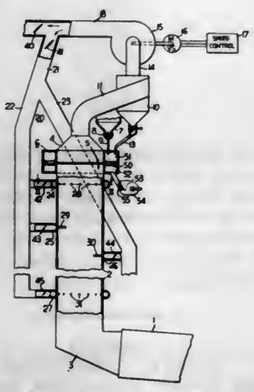
Humidifying apparatus comprising a gaseous current-driven paddle-wheel like device mounted in notches in upstanding side portions of a reservoir disposed in an opening in the lower surface of a duct, and vane means to control said current adjacent said device.

3,441,257
CONTROLLED ATMOSPHERE ROTARY FURNACE
Donald Purucker, Waterford, and Walter J. Hartwig, Oconomowoc, Wis., assignors to Allis-Chalmers Manufacturing Company, Milwaukee, Wis.
Filed Dec. 1, 1967, Ser. No. 687,360
Int. Cl. F27b 14/02, 7/00, 13/02
U.S. Cl. 263—12 8 Claims
A furnace is disclosed for treating particulate material with gases having characteristics of temperature and composition which result in the gases being as desired, for example, either oxidizing, reducing or neutral. The disclosed furnace is operative in a first manner, while standing in a vertical position, to simulate the treatment that a material receives in a static bed such as is provided by a horizontal traveling grate furnace. The furnace here disclosed is also operative in a second manner, while supported in a generally horizontal position and a section of the furnace rotated about a generally horizontal axis, to simulate the treatment that a material receives in a dynamic bed tumbling in a rotary kiln. The furnace is



further operative to tilt downwardly from the vertical position to the horizontal position to change from the first manner of operation to the second manner of operation and vice versa to tilt upwardly, and without exposing the particulate material to atmosphere external of the furnace or losing control of either temperature or atmospheric conditions within the furnace.

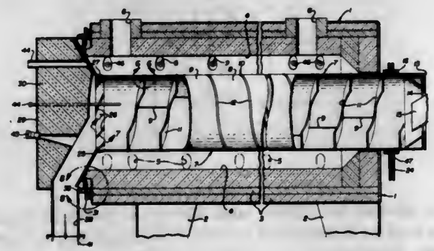
3,441,258
METHOD AND APPARATUS FOR PREHEATING PARTICULATE FEED MATERIAL FOR A ROTARY KILN
David H. Gieskieng, West Allis, Wis., assignor to Allis-Chalmers Manufacturing Company, Milwaukee, Wis.
Filed Oct. 5, 1967, Ser. No. 673,149
Int. Cl. F27b 19/00
U.S. Cl. 263—32 10 Claims



A method and apparatus is disclosed that involves directing heated kiln exit gases upwardly in a vertically ascending column within a tower. Particulate kiln feed material is fluidized and flows into the tower to gravitate downwardly countercurrent to the ascending gases. A portion of the gases is drawn off the top of the tower and fed downwardly through a recirculation network of conduit

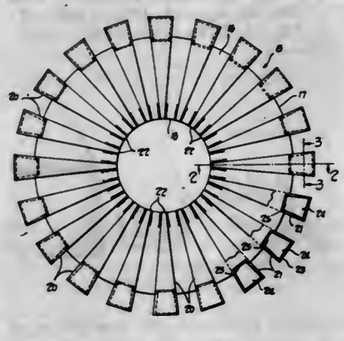
including several headers around the tower at vertically spaced levels. The headers inject the recirculating gases into the tower and dampers or a variable speed fan are operated to adjust the flow of recirculating gases to push particulate material falling adjacent inner wall surfaces of the tower inwardly toward the center of the tower and agitate the gases and solids to provide a turbulent mass for efficient heat exchange.

3,441,259
HEAT TREATING FURNACE
Walter E. Heyer, Los Alamitos, and Harold E. Mescher, Pico Rivera, Calif., assignors to Pacific Scientific Company, City of Commerce, Calif., a corporation of California
Filed Sept. 1, 1967, Ser. No. 665,044
Int. Cl. F27b 7/14
U.S. Cl. 263—34 6 Claims



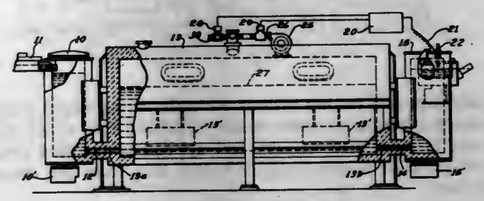
A heat treating furance having a cylindrical retort comprised of a flat strip wound in helical shape with the adjacent convolutions slightly spaced to provide a helical recess for receiving a welding strip for welding a relatively deep internal helix to the helical strip, the welding strip being confined within the recess and presenting a neat, smooth inner surface within the retort so that articles will not cling to the same.

3,441,260
SEPARATOR
Carl G. A. Johnson, Rocky River, Ohio, assignor to The Alloy Engineering Company
Filed Aug. 22, 1967, Ser. No. 662,460
Int. Cl. F27d 5/00
U.S. Cl. 263—47 17 Claims



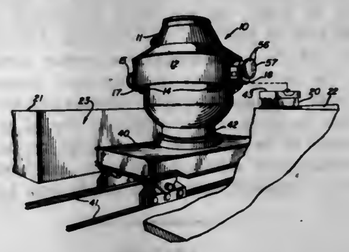
A separator including spaced ribs extending outwardly from a central opening and structure which extends between and maintains the ribs in spaced relation, the structure being fixedly secured to the inner end portions of the ribs and being free to expand and contract independently of the remaining portions of the ribs.

3,441,261
CONSTANT LEVEL HOLDING FURNACES
Richard A. Sommer, Warren, Ohio, assignor to Ajax Magnethermic Corporation, Warren, Ohio, a corporation of Ohio
Filed Mar. 11, 1966, Ser. No. 533,610
Int. Cl. C21b 11/00; B22c 19/04
U.S. Cl. 266—33 5 Claims



A constant metal level supply device including a furnace, a discharge reservoir, mold pouring means, one or more feeding troughs connecting the reservoir and pouring means, variable pressure means associated with the furnace, and control means associated with the pressure means to maintain a constant supply level of metal in the feeding troughs.

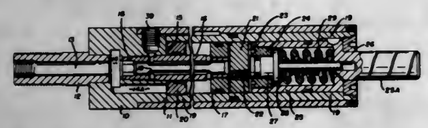
3,441,262
REMOVABLE METALLURGICAL PROCESSING ASSEMBLY
Donald C. Stafford, Hinsdale, Robert S. Chamberlin, Western Springs, and Paul R. Johnson, Oak Lawn, Ill., assignors to Chicago Bridge & Iron Company, Oak Brook, Ill., a corporation of Illinois
Filed Sept. 21, 1966, Ser. No. 580,922
Int. Cl. C21c 5/50; F27d 3/12
U.S. Cl. 266—36 8 Claims



Metallurigical processing assembly including rotatable vessel with trunnion pins having bearings thereon. When the assembly is in an operative position, the bearings are supported on mounting blocks with a bearing and its mounting block in unfixed relation. The vessel, trunnion pins and bearings are readily removable as a unit from the operative position by raising the unit off the mounting blocks without disassembly of the mounting blocks or of any element attached thereto.

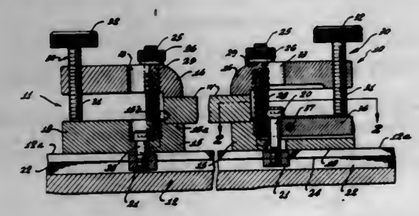
3.441,263
SPRING AMPLIFYING DEVICE
Burnell O. Burritt, Alpena, Mich., assignor to Universal Fluid Dynamics Company, Alpena, Mich., a corporation of Michigan
Filed May 12, 1967, Ser. No. 638,150
Int. Cl. F16f 5/00, 9/00; F16d 31/06
U.S. Cl. 267—1 5 Claims
A spring amplifying device consisting of a housing in the form of a cylinder having a first piston movable in said cylinder with an extension on said piston extending exteriorly of said cylinder, a second piston in an axial bore in said first piston, and a spring in said bore urging

said second piston out of said bore relative to said first piston, a portion of said housing forming a closure spaced with respect to said first piston and said second piston and hydraulic fluid in the area between said closure and



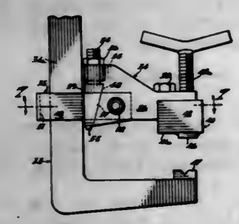
said first and second pistons with the spring urged second piston exerting pressure on said hydraulic fluid which pressure is multiplied thereby and applied to the first piston which is of a substantially larger area than the second piston.

3,441,264
WORK HOLDING APPARATUS
Raoul H. de Gaston, 1332 W. Florence Ave., Los Angeles, Calif. 90044
Filed Nov. 22, 1966, Ser. No. 596,240
Int. Cl. B25b *1/00, 1/02;* **B23q** *3/02*
U.S. Cl. 269—89 **4 Claims**



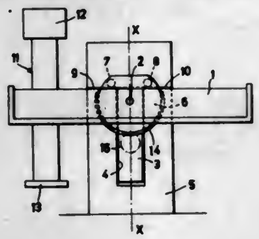
A vise is designed to be mounted in multiple units, typically in pairs, on top of a horizontal table of a machine tool or the like. The vise has a novel arrangement in which a hand-operated screw simultaneously clamps the workpiece to the vise and secures the vise to the table, or simultaneously releases the work and the vise from the table. Thus, only one vise of two or three units needs to be released in order to replace a workpiece with a new blank, eliminating much of the time involved in repeated setups for production jobs.

3,441,265
ADJUSTABLE CLAMP
Herman Albert, 4 Manor Road, Paterson, N.J. 07514
Continuation-in-part of application Ser. No. 452,161, Apr. 30, 1965. This application Oct. 28, 1966, Ser. No. 594,329
Int. Cl. B25d *5/02*
U.S. Cl. 269—203 **5 Claims**



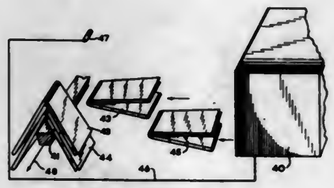
An adjustable clamp having a slide bar, a lower jaw associated therewith and a movable jaw positionable along the slide bar. The movable jaw includes a securing mechanism which includes a screw threaded clamping handle and a slidable wedge whereby upon actuation of the screw thread clamping handle, the wedge is moved so as to secure the movable jaw along the slide bar at any position of adjustment.

3,441,266
DEVICE FOR TILTING, LIFTING AND LOWERING THE PATIENT-SUPPORTING BOARD OF AN X-RAY TABLE
Guido Rossi, Milan, Italy, assignor to Generay-Generale Radiologica S.p.A., Monza, Milan, Italy, an Italian company
Filed Sept. 20, 1966, Ser. No. 580,758
Claims priority, application Italy, Sept. 21, 1965, 9,248/65
Int. Cl. A61g *13/00;* **A47b** *9/00*
U.S. Cl. 269—323 **2 Claims**



A device for tilting and lifting a patient-supporting board of an X-ray table, in which a supporting member is freely slidable in a vertical guideway formed in the supporting frame of the table and the supporting member carries a tilt pivot rigid with said board for rotation about its own horizontal axis. A flange is rigid with the pivot and carries two rollers spaced from the pivot and arranged on opposite sides of a plane containing the pivot axis and extending perpendicular to the plane of the board, the rollers slidably resting on a flat surface formed in the supporting frame whereby by rotating the pivot and the board therewith in either direction, the angle and elevation of the board can be adjusted.

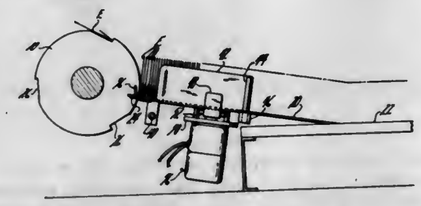
3,441,267
METHOD OF DELIVERING SUPERIMPOSED FOLDED SHEETS AS PREPARED BOOKS
Jørgen V. Carstens, 22 Anettevej, Brabrand, Denmark
Continuation of application Ser. No. 254,238, Jan. 28, 1963. This application Nov. 26, 1965, Ser. No. 509,923
Claims priority, application Denmark, Feb. 8, 1962, 596/62; Apr. 25, 1962, 1,868/62
Int. Cl. B42c *1/00;* **B65h** *39/02*
U.S. Cl. 270—45 **17 Claims**



This invention relates to the assembling of the pages of books in proper sequential order prior to their being bound together, wherein a group of successive pages is printed on a large sheet of paper called a signature, said signature being folded in a manner whereby the respective pages are arranged parallelly overlying each other in proper succession, the folded signature then being deposited onto a collating conveyor. According to this invention, a plurality of such signatures, each one having

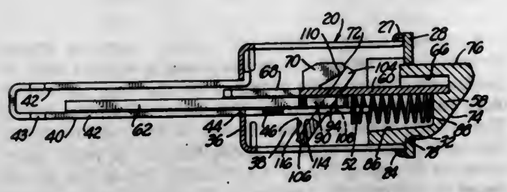
printed thereon a different group of pages, are folded and advanced to said collating conveyor in time-delayed sequence relative to one another whereby the respective signatures are deposited on top of one another onto the main conveyor to form a complete book of a plurality of collated signatures.

3,441,268
DEVICE FOR TAMPING ENVELOPES
Bror E. Hanson, Worcester, Mass., assignor to United States Envelope Company, Springfield, Mass., a corporation of Maine
Filed June 1, 1967, Ser. No. 642,786
Int. Cl. B65h *31/38*
U.S. Cl. 271—89 **10 Claims**



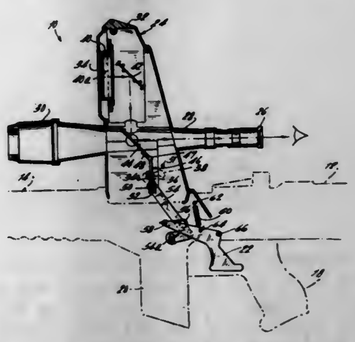
A pair of horizontally opposed tamper blades are supported, cantilever fashion, on upright posts at either side of a ramp across which envelopes are conveyed. Each blade is connected, through a cam follower link, to a rotary multi-lobe cam beneath the ramp, which cam rotates causing the blades to vibrate in their fundamental mode, and in unison with one another to align the envelopes therebetween.

3,441,269
LATCH BOLT MECHANISM
William J. Doyle, La Habra, Calif., assignor to Emhart Corporation, Bloomfield, Conn., a corporation of Connecticut
Filed Oct. 31, 1966, Ser. No. 600,314
Int. Cl. E05c *1/12;* **F05b** *63/20*
U.S. Cl. 292—165 **12 Claims**



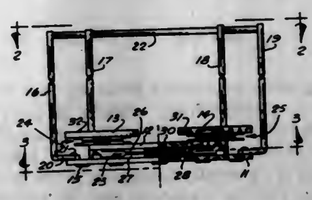
A case has a latch bolt forwardly and rearwardly longitudinally movable therein and a rearward case extension having laterally spaced side plates laterally enclosing a retractor slide connected for moving the bolt. A somewhat flat, U-shaped retractor lever extends laterally of the case connecting the bolt and slide for said movement, said lever rearwardly abutting forwardly facing surfaces of the bolt and having bulges forwardly abutting rearwardly facing surfaces of the slide so as to translate movement of the slide into movement of the bolt through lever pivoting. A rollback pivotally engages sloping cam surfaces of the retractor slide to move the bolt and slide, and the case extension side plates are maintained stiff and laterally spaced through special reinforcing ribs and tabs permitting said slide movement.

3,441,270
TELESCOPE DEVICE FOR TOY GUN
Edwin A. Nielsen, Oceanside, N.Y., assignor to Ideal Toy Corporation, Hollis, N.Y., a corporation of New York
Filed Feb. 21, 1967, Ser. No. 617,600
Int. Cl. A63h *33/00*
U.S. Cl. 272—8 **8 Claims**



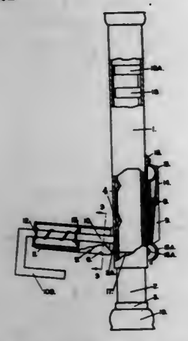
A toy gun with a built-in sighting device. In a self-contained optical housing, a stationary mirror normally reflects any one of several small target figures onto a second reflecting surface of a movable mirror. During "aiming" of the toy gun, the image is then reflected through an eyepiece. The movable mirror is mechanically linked to the trigger of the toy gun, such that pulling the trigger pivots the movable mirror out of the line of sight to the eyepiece, thereby optically eliminating the reflected target figure and simulating destruction of the target.

3,441,271
PLANETARY EXERCISER
Richard Palacios, 691 Arden Ave., Glendale, Calif. 91202
Filed Feb. 23, 1967, Ser. No. 618,044
Int. Cl. A63b *23/02, 23/04*
U.S. Cl. 272—33 **10 Claims**



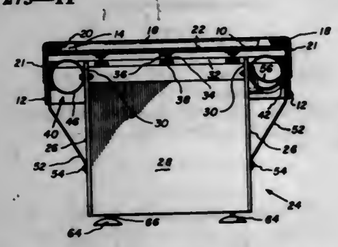
An exerciser is disclosed having a base for rotatably mounting a major platform by means of an annular roller bearing wherein opposite portions of the exposed surface of the major platform are adapted to receive and support the feet of a user. A pair of minor platforms are rotatably carried on opposite portions of the major platform by means of ball bearings and has foot receiving and supporting areas disposed on the exposed central surface portion of each of the minor platforms. Thereby, a user may stand on either the major platform or the pair of minor platforms to exercise various muscular portions of his body by twisting or torsional movements effecting rotation of all of the platforms in combination or any of the respective platforms individually.

3,441,272
ADJUSTABLE STILTS
Frederick W. Mann, 222 E. Front St., Waterville, Kans. 66548
Filed Feb. 20, 1967, Ser. No. 622,013
Int. Cl. A63b 25/00
U.S. Cl. 272—70.1 8 Claims



An adjustable stilt having an inner support member enclosed by an outer vertically movable stilt member. A foot mount hinged to and carried by the stilt member. The foot mount carries the stilt spring loaded lock and release mechanism which is actuated in part by the foot mount arcuating horizontally into or out of engagement with the outer stilt member. The foot mount is spring biased either inwardly against or outwardly from the outer stilt member.

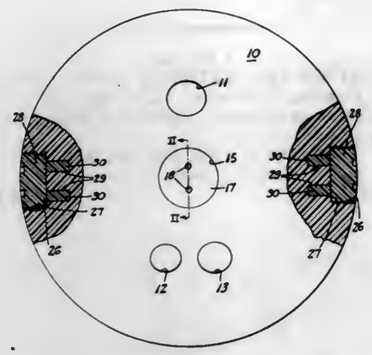
3,441,273
BILLIARD TABLE WITH BRACING MEANS
Michael K. Woods, Bloomington, Minn., assignor, by mesne assignments, to Larson Industries, Inc., St. Paul, Minn., a corporation of Minnesota
Filed Dec. 23, 1965, Ser. No. 515,914
Int. Cl. A63d 15/00
U.S. Cl. 273—11 4 Claims



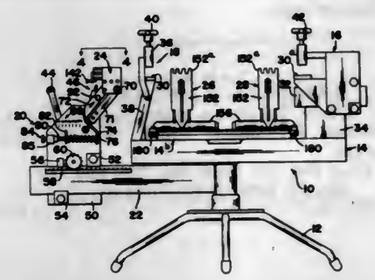
A billiard table embodying table top supporting means consisting of a ring-shaped bracing member extending laterally between each of the four leg members and a table sidewall which depends from the table top. The leg members are pivotally connected to the bracing members so that the leg members can be folded; and the bracing members circumscribe ball return tracks.

3,441,274
BOWLING BALL
John W. Collins, 114 Vern Lane, Cheektowaga, N.Y. 14225
Filed June 17, 1965, Ser. No. 464,807
Int. Cl. A63d 5/00
U.S. Cl. 273—63 8 Claims

A bowling ball weight and weight distribution adjustment arrangement having a threaded generally cylindrical opening in the surface of the ball and a threaded plug of the same material as the ball proper which completely fills such opening, together with a plurality of cylindrical openings extending into the ball from the bottom of the threaded opening, such openings having cylindrical members slip-fitted into the cylindrical openings, such cylindrical slip-fitted members being also of the same material as the bowling ball proper. Weight and balance adjustments are made by selectively removing one or more of the cylindrical members from their receiving openings. Each ball has a plurality of such threaded plug arrangements at various points on the periphery of the ball.



3,441,275
RACKET STRINGER
Franklin W. Held, 928 Orma Drive, San Diego, Calif. 92106
Filed Mar. 3, 1967, Ser. No. 620,536
Int. Cl. A63b 51/14
U.S. Cl. 273—73 10 Claims



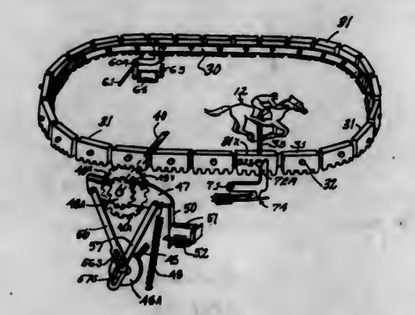
A racket stringer having a racket clamping frame mounted on a base for rotation about a vertical axis. A tension head is slidably mounted on the base for movement toward or away from the racket clamping frame. The tension head pivotally carries a string clamp head. The string clamp head is spring-biassed to pivot away from the clamping frame. The biassing spring can be adjusted to control the tension in the racket string. When the racket string reaches a predetermined tension, the tension head is automatically braked against further movement relative to the racket clamping frame.

3,441,276
GOLF CLUB GRIP
John K. Garrity, Fairfield, Conn., assignor to The "G" Grip Corporation, Fairfield, Conn., a corporation of Connecticut
Continuation-in-part of application Ser. No. 396,129, Sept. 14, 1964. This application Nov. 14, 1966, Ser. No. 594,147
Int. Cl. A63b 53/14
U.S. Cl. 273—81.4 10 Claims

A golf club grip permitting an improved distribution of gripping force throughout, which includes two abrupt tapers at the rear end of the grip to provide a notch of specified dimension for the little finger and palm of the golfer's hand closest to the body.



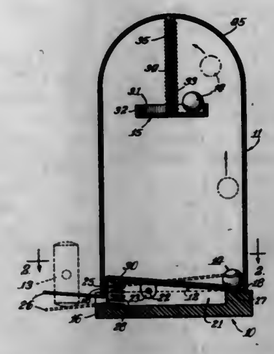
3,441,277
RACING GAME WITH GEAR DRIVE MECHANISM
John Winn, Las Vegas, Nev., assignor, by mesne assignments, to Westronics, Inc., Las Vegas, Nev., a corporation of Nevada
Filed Aug. 12, 1965, Ser. No. 479,217
Int. Cl. A63f 07/14
U.S. Cl. 273—86 15 Claims



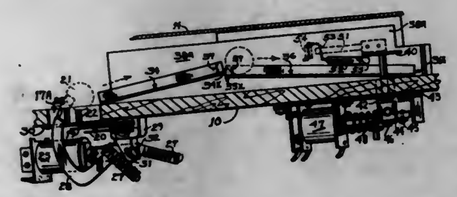
In amusement games simulating a horse race or the like, the racing figures are supported for travel about a circuitous track formed by especially shaped trackways, by flexible bands to which are pivotally attached a continuing series of wide gear blocks having teeth on the underside to mesh with a driving gear turning in a vertical plane therebelow, the driving gear having a changespeed driving ratchet and appertaining electromagnetic means for altering the speed, a scrambling means being provided in the form of an apertured program disk interrupting light to photoelectric cells for irregular actuation of the ratchet control electromagnets, together with circuit means for controlling a starting gate, winner preselection circuits, selection-cancelling circuits, game cycle, etc.

3,441,278
AMUSEMENT DEVICE
Le Roy B. Edwards, Glenview, Ill., assignor to Roystoys Inc., Glenview, Ill., a corporation of Illinois
Filed Jan. 10, 1966, Ser. No. 519,516
Int. Cl. A63b 67/12
U.S. Cl. 273—101 7 Claims

A target, such as a bucket-like receptacle, is suspended from a transparent cover member which surrounds the target. The cover member is mounted on an inclined base which pivotally supports a projectile elevating lever. A projectile receiving seat is provided at one end of the lever which is disposed in a recess in the top surface of the base. Guide ridges on the base adjacent the lever divert projectiles from the lever except at the end which has the seat. The lever extends outward from the cover member and may be actuated by hand or by a mallet to throw projectiles toward the target.



3,441,279
BALL DELIVERY AND CONTROL MEANS
Joseph E. Lally, McHenry, and Earl F. Heppner and Harold O. Berninger, Chicago, Ill., assignors to Bally Manufacturing Corporation, a corporation of Delaware
Filed Dec. 31, 1964, Ser. No. 422,699
Int. Cl. A63f 7/10; A63d 3/02; A63b 71/00
U.S. Cl. 273—121 13 Claims

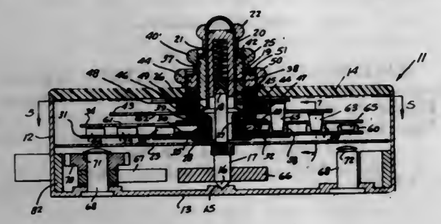


8. In a ball-rolling game, ball-control and delivery means for playing multiple shots exceeding in number the number of balls actually provided in the game, said means comprising, in combination with a ball projecting means for launching a ball to roll upon a playfield, a ball pocket on said field to receive a played ball, pocket switch means actuated by a ball in said pocket; ball kickout means operable under control of said pocket switch means to expel a ball in a direction generally back into the playfield with propulsive force in a predetermined direction from said pocket; a ball delivery ramp means on said playfield having an entrance located on the playfield with respect to said pocket and said ejecting direction to receive an ejected ball and to guide movement of said ball to an exit therefrom juxtaposed with said ball projecting means to deliver a ball negotiating said ramp means into playing position relative to the projecting means; said kickout means imparting to the ball ejected thereby a force in said direction sufficient to cause said ball to travel from said entrance to the exit of said ramp means for the purposes aforesaid, and means defining a barrier across said ramp means between said entrance and exit thereof to block return of an ejected ball which has passed said barrier toward said exit.

3,441,280
GAME APPARATUS
Mildred H. Eggermont, 205 9th Ave. SW., Rochester, Minn. 55901
Filed Sept. 22, 1966, Ser. No. 581,359
Int. Cl. A63f 3/00
U.S. Cl. 273—135 3 Claims

A game apparatus comprising a plurality of identical playing boards, each having rows and columns of squares on its surface, a plurality of groups of first tokens identified by distinct group markings, the number of groups being equal to the number of boards, and another group of tokens distinguishable from said first tokens, one side of each token having a marking indicating it may be used as a "Wild" other side and another marking on the token indicating it may be used to "Block" an opposer's play. The tokens are controlled through the use of a plurality of cards which are selected at random, the cards being arranged in groups having the same markings as the markings on the groups of tokens.

3,441,281
SPINNER GAME DEVICE
Hans Ulrich K. W. Pannwitz, Rte. 1, Box 308, Odessa, Fla. 33556
Filed June 23, 1967, Ser. No. 648,359
Int. Cl. A63f 1/18; A63b 71/00
U.S. Cl. 273—142 10 Claim



A game spinner consisting of a housing having a transparent top wall, with a vertical spinner shaft journaled in the housing. Mounted on the shaft is a spinner disc which is provided at its peripheral margin with a series of consecutive numbers. A drive wheel is secured on the shaft. A plurality of friction driving cams are pivoted in the housing to drivingly-engage the drive wheel. The driving cams are provided with pinion gears. Meshing with each pinion gear are opposite rack push bars slidably-mounted in the housing peripheral wall and being arranged so that they can be manually-pushed inwardly, whereby to rotate their associated driving cams. An index wheel inscribed with a pointer is rotatably-journaled relative to the spinner shaft and overlies the spinner disc. A plurality of additional wheels marked with game data are also journaled for free rotation around the axis of the shaft.

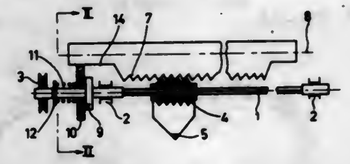
3,441,282
KEY LOOP GAME DEVICE
Richard D. Lewis, 4810 Alice St., Corpus Christi, Tex. 78411
Filed Sept. 14, 1965, Ser. No. 487,286
Int. Cl. A63f 9/08
U.S. Cl. 273—158 3 Claims

A puzzle of first, second and third U-shaped members and an arcuate crown loop having inwardly extending arms at the free ends thereof. The end of the arms on the first, second and third U-shaped members have rings to connect the first member to the second member, the second member to the third member, and the third member to the crown loop. An elongate loop shaped key loop is provided for movement along the components of the puzzle and removable therefrom. The inwardly extending



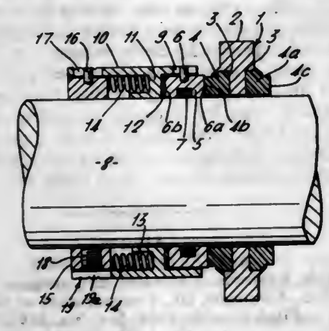
arms on the loop terminate respectively in rings and upstanding members disposed between the rings on the third member.

3,441,283
RECORDING AND/OR PLAY-BACK APPARATUS
Lothar Jager, Vienna, Austria, assignor to North American Philips Company, Inc., New York, N.Y., a corporation of Delaware
Filed July 12, 1966, Ser. No. 564,676
Claims priority, application Austria, July 19, 1965, A 6,619/65
Int. Cl. G11b 25/06
U.S. Cl. 274—11 5 Claims



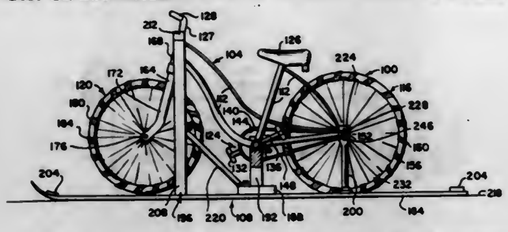
A worm-drive operated index for a tape recorder which uses a cam, operated through a slip clutch to disengage the worm from the gear of the drive and to lock the drive in the disengaged position when the index reaches the limit of its motion.

3,441,284
REVERSIBLE MECHANICAL SEAL
William Murray, Lillington, Leamington Spa, and Gordon Richard Walker, Southam, England, asisgnors to Filton Limited, Leamington Spa, England
Filed June 17, 1966, Ser. No. 558,390
Int. Cl. F16j 15/34
U.S. Cl. 277—9 3 Claims



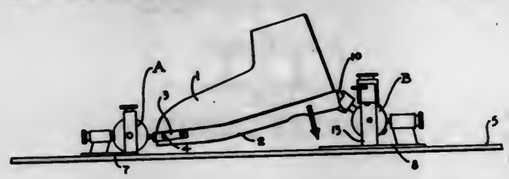
A mechanical seal including a rubbing ring and a rotable seat ring in which each of the co-operating rings has a pair of sealing faces and is adapted to be reversibly mounted.

3,441,285
ICE VELOCIPEDE
George W. Rogers, Easton, Conn., assignor to Goodwill Industries of Western Connecticut, Inc., Bridgeport, Conn., a corporation of Connecticut
Filed Sept. 18, 1967, Ser. No. 668,477
Int. Cl. A63c 17/18; B62k 13/02
U.S. Cl. 280—7.12 6 Claims



An ice velocipede for use on frozen surfaces consists of an ice carriage and a detachable bicycle having a rear driving wheel and a front steering wheel. The ice carriage has a pair of parallel runners connected together by several cross members, a center one of which serves as a support and pivot point for the bicycle with the other members holding the bicycle upright while permitting the bicycle to pivot to place either the rear driving wheel or the front steering wheel or neither wheel into engagement with the frozen surface. The front wheel may be replaced by a runner and the rear wheel is provided with spikes to engage the frozen surface.

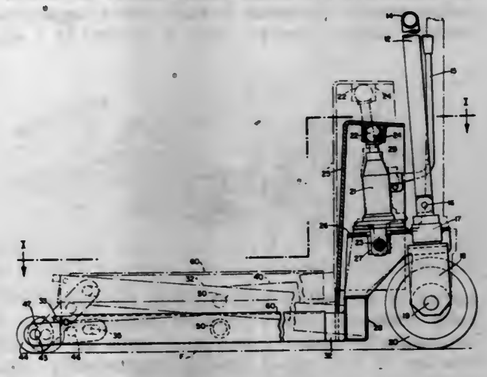
3,441,286
SKI RELEASE HARNESS
Emmett A. de Grood, 3920 35A Ave., Red Deer, Alberta, Canada
Filed June 7, 1967, Ser. No. 644,388
Claims priority, application Canada, Dec. 19, 1966, 978,374
Int. Cl. A63c 9/00
U.S. Cl. 280—11.35 7 Claims



An apparatus mounted on the upper surface of a ski and comprising a toe harness and a heel harness for releasably securing both the toe and heel portions of a boot to the ski. The harness for both the toe and heel portions of a ski boot is adjustable for boots of various sizes as well as thickness of the boot soles and yet the harness is firmly fitted to the toe and the heel of the boot when in operation or use but will release the boot when the skier falls in any direction.

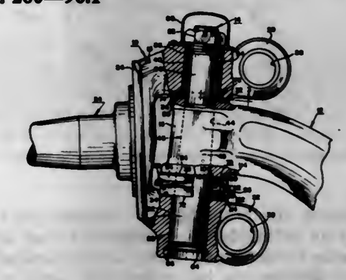
3,441,287
PALLET LOAD-LIFT TRUCK
William L. Leonard, Narberth, and Howard W. Leadbeater, Glenside, Pa., assignors, by mesne assignments, to Universal American Corporation, a corporation of Delaware
Filed July 6, 1967, Ser. No. 651,600
Int. Cl. B62b 1/04
U.S. Cl. 280—43.12 6 Claims

An industrial pallet load-lift truck is disclosed in which the forks include two outer and one inner lever member pivotal about a common pivot shaft to provide a scissors action. Separate pivotal links having floor-engaging wheels at one end interconnect the fore ends of the outer and inner lever members of the forks for lifting the fore end of the pallet load and for supporting and stabilizing the fore ends of the lever members. These fore-end links are pivoted into load-lifting position by the outer and inner



lever members of the fork in response to the scissors motion. No separate or additional linkage is used to connect the fore-end load lifting links to the operating or rearward end of the load-lift vehicle.

3,441,288
STEERING KNUCKLE SEALING MEANS
Lawrence G. Boughner, Birmingham, Mich., assignor, by mesne assignments, to Rockwell-Standard Company, Pittsburgh, Pa., a corporation of Delaware
Filed Apr. 27, 1967, Ser. No. 634,382
Int. Cl. B62; B60g; B60p
U.S. Cl. 280—96.1 11 Claims

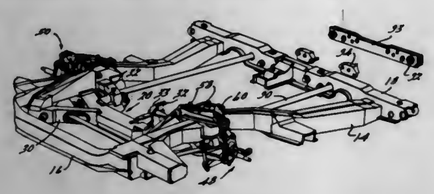


A king pin sealing means for a steering knuckle of a vehicle steering axle having outer ends formed into bosses. Said steering knuckle having a yoke portion comprising upper and lower arms which receive the axle boss to be pivotally secured thereto by means of a king pin extending through said boss and both of said arms, there being a thrust bearing between the axle boss and the lower knuckle arm to absorb the axle load. Lip type sealing means are provided between the upper steering arm and axle boss and between the axle boss and lower thrust bearing to effectively prevent the entrance of dirt and water and keep lubricant in.

3,441,289
DROP OUT FRONT CROSS MEMBER
Robert N. Frantz, Birmingham, Vincent J. Ryszewski, Detroit, and Jack L. Gilmour, Birmingham, Mich., assignors to Chrysler Corporation, Highland Park, Mich., a corporation of Delaware
Filed Sept. 2, 1966, Ser. No. 577,004
Int. Cl. B60g 11/38
U.S. Cl. 280—106 10 Claims

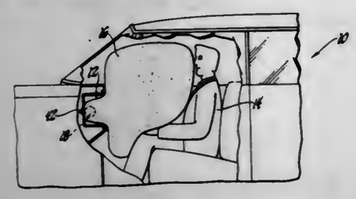
A specially constructed front end assembly for a motor vehicle in which the front wheel assemblies are pivotally

secured to the opposite ends of a cross member which is rubber isolated from the side rails of the vehicle; each end of the cross member is mounted to the adjacent side rail member at two longitudinally spaced points and the rubber isolator comprises in each case a longitudinally oriented tubular member which is received in a socket



carried by the related side rail with the socket in turn being positioned within a pocket defined between two longitudinally spaced, confronting walls on the cross member. A bolt passes through longitudinally aligned apertures in the confronting walls and through the tubular isolator to squeeze the walls against the opposite ends of the isolator.

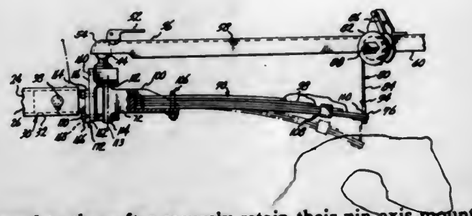
3,441,290
VEHICLE SAFETY SYSTEM
Charles O. Berryman, Detroit, Sidney Oldberg, Birmingham, and William R. Carey, Farmington, Mich., assignors to Eaton Yale & Towne Inc., Cleveland, Ohio, a corporation of Ohio
Filed Mar. 10, 1967, Ser. No. 622,348
Int. Cl. B60r *21/02*
U.S. Cl. 280—150 **12 Claims**



An assembly for protecting an occupant of a vehicle comprising an inflatable bag, container means supported by the vehicle for storing fluid and in communication with the bag for inflating the bag, receptacle means extending into the container means for defining a chamber which is isolated from the fluid in the container means, and explosive means disposed in the receptacle means for opening the container means upon activation thereof for inflating the bag.

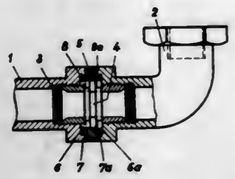
3,441,291
TRAILER HITCH
Alma E. Morris, Jr., 9810 Waller Road, Tacoma, Wash. 98446
Continuation-in-part of application Ser. No. 477,705, Aug. 6, 1965. This application May 11, 1967, Ser. No. 637,805
Int. Cl. B60d; B62d *53/00*
U.S. Cl. 280—406 **10 Claims**

A trailer hitch is used to join a powered vehicle to a towed vehicle so a towed vehicle will track perfectly and will not unduly burden a powered vehicle, the hitching assembly resulting in: (1) substantial transfer of towed vehicle weight to forward wheels of a powered vehicle by using equalizing multiple leaf, initially reversed, spring arms which are adjustable in size and/or number to match current loading requirements; (2) substantial creation of beneficial non tipping and non swaying countering forces by using transverse offset pin axis mounting of forward ends of selective multiple leaf spring arms; (3) convenient, quick, and safe selective adjustments of tensile members connecting cantilevered ends of multiple leaf spring arms to V tongue structure of a towed vehicle; (4) convenient, quick and safe initially transverse tilting positioning of multiple spring arms to pivotally secure them to an interconnector which is so



formed to thereafter securely retain their pin axis mounting ends whenever these spring arms are thereafter moved nearer the V tongue structure of a towed vehicle; and, (5) a three piece interconnector sub-assembly which provides at least four selective relative height adjustments to compensate for towed and powered vehicle vertical height variances in properly positioning a ball to receive a ball socket of a towed vehicle.

3,441,292
PIPEFITTING
Fredrich Gross, Bergfeld, Germany, assignor to Westinghouse-Bremsen- und Apparatebau G.m.b.H., Hannover, Germany
Filed May 2, 1966, Ser. No. 546,861
Claims priority, application Germany, June 8, 1965, W 39,304
Int. Cl. F16d *1/00*
U.S. Cl. 285—39 **4 Claims**

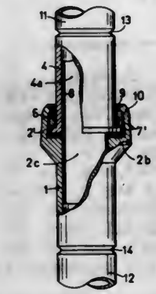


A union fitting having left-hand threads on one end and right-hand threads on the other end is screwed into a pair of pipes to be joined by means of polygonal collar of predetermined axial width fixed to said fitting and axially movable within a hole of conforming contour in an outer polygonal ring member, having an axial width greater than the collar width, interposed between the pipe ends.

3,441,293
PIPE COUPLING
Luigi Bagnulo, Via A. Volta 18, Milan, Italy
Filed July 3, 1967, Ser. No. 650,689
Claims priority, application Italy, July 6, 1966, 15,646/66
Int. Cl. F16l *23/00, 55/00*
U.S. Cl. 285—50 **7 Claims**

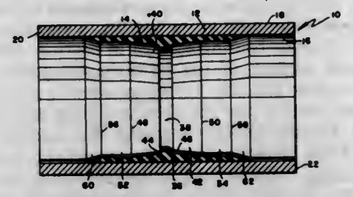
An electrically insulated pipe coupling. An electrically conductive first tubular member is provided with an open-ended axial recess bounded by a peripheral wall including an annular wall portion extending radially inwardly axially spaced from the open end of the recess. An electrically conductive second tubular member has an end portion including an outer peripheral surface and

a radially outwardly extending flange. The end portion is received in the recess and defines therewith a continuous gap extending from the central aperture of the annular wall portion to the open end of the recess. Filler means consisting entirely of electrically non-conductive material is received in and sealingly fills the gap. The filler means includes a rigid annular first portion sur-



rounding the end portion intermediate the flange and the open end and comprising surface portions which cooperate with the wall and the flange for preventing movement of the latter toward the open end. The filler means further comprises a second portion filling the remainder of the gap. A liner of electrically insulating material lines the inner surfaces of adjoining portions of the passages in the tubular members.

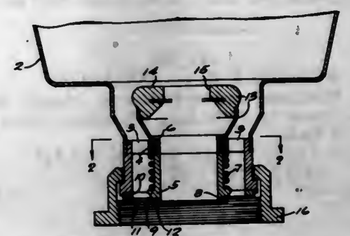
3,441,294
PIPE COUPLING HAVING BONDED LINER
Galen W. Krieg, Wichita, Kans., assignor to Wayne Krieg Co., Inc., Wichita, Kans., a corporation of Kansas
Filed Mar. 16, 1966, Ser. No. 534,779
Int. Cl. F16l *59/16, 13/00, 17/00*
U.S. Cl. 285—55 **8 Claims**



A coupling for coupling adjacent ends of aligned pipes comprising a cylindrical sleeve having an elastomeric liner therein that is securely bonded throughout its axial extent to the internal surface of the sleeve. The liner is of relatively reduced and minimal diameter at a position intermediate its oppoiste ends, and from adjacent such position the liner is of progressively increasing or flaring diameter. The liner can and in a preferred embodiment does have outwardly or oppositely facing internal shoulders formed at the junctures of the flaring portions of the liner with the minimal diameter portion of the liner.

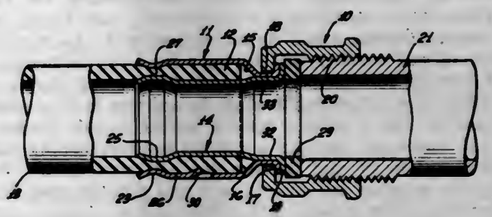
3,441,295
CONCENTRIC PIPE COUPLING HAVING SPRING-BIASED SEALING MEANS
Josef Drabik, near Osnabruck, Germany, assignor to G. Kromschroder Aktiengesellschaft, Osnabruck, Germany, a corporation of Germany
Filed Aug. 26, 1966, Ser. No. 575,365
Claims priority, application Germany, Sept. 30, 1965, K 57,264
Int. Cl. F16l *47/00, 19/00, 17/00*
U.S. Cl. 285—133 **1 Claim**

The coupling provides coaxial flow into and out of a measuring or regulating device (not shown but housed in housing 2) and is adapted to be mounted on a pipeline fitting having coaxial seats against which the coupling gaskets seal with the inner gasket being axially movable



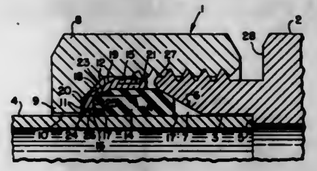
relative to the fixed outer gasket and biased against its seat to effect a gastight joint independent of the compressive force applied to the outer gasket.

3,441,296
HOSE COUPLING
Ellsworth D. Wilkin, 6339 W. 80th St., Los Angeles, Calif. 90045
Filed July 3, 1967, Ser. No. 650,922
Int. Cl. F16l *55/00, 33/00, 47/00, 49/00, 31/00*
U.S. Cl. 285—174 **4 Claims**



A connector assembly which may easily be attached to plastic or rubber hose terminals. The assembly comprises inner and outer sleeves having annular protuberant portions and detent means for securing the sleeves to the hose. An internally threaded coupling member connects the sleeves to a tubular member having external threads.

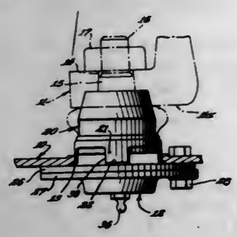
3,441,297
TUBE COUPLING
Jerry V. Koski, Parma, Ohio, assignor to Parker-Hannifin Corporation, Cleveland, Ohio, a corporation of Ohio
Filed Nov. 6, 1967, Ser. No. 680,789
Int. Cl. F16l *19/06, 21/02, 17/00*
U.S. Cl. 285—342 **10 Claims**



Tube coupling wherein axial space around tube between relatively movable coupling members contains a gripping and sealing unit comprising a gripping ring which, upon relative movement of said members toward each other, is radially contracted at one end by one member into firm gripping engagement with the tube while its other end is in abutting engagement with the other member; and a rubber-like sealing ring within said gripping ring squeezed by radial contraction of said one end of the gripping ring into fluid-tight sealing engagement with said tube and with said other member, said sealing ring

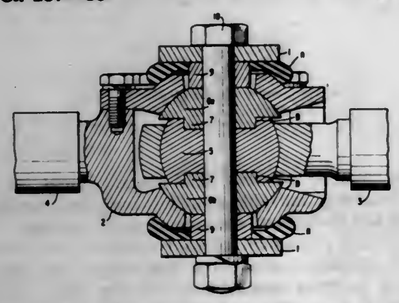
being confined by the gripping ring against extrusion, even under conditions of extremely high fluid pressures, by reason of the abutting and gripping engagement of the gripping ring with said other member and with said tube.

3,441,298
PURGIBLE SEAL ASSEMBLY
Edward J. Herbenar and Sylvester S. Mazur, Detroit, Mich., assignors to TRW Inc., Cleveland, Ohio, a corporation of Ohio
Filed Mar. 7, 1966, Ser. No. 532,329
Int. Cl. F16b 7/02; B25g 3/36
U.S. Cl. 287—87 **4 Claims**



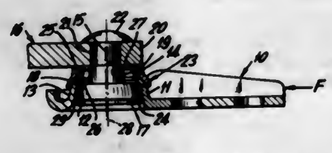
1. In combination in a ball joint assembly for the pivotal interconnection of two members, each having an aperture therein, a stud for securement in the aperture of one of said members and having a head portion thereon, a housing surrounding said head portion and having a portion thereof passing through the aperture in the second member and a further portion unable to pass through said last-named aperture, a resilient seal surrounding said first portion of said housing and said stud, means for tightly securing said seal to said stud adjacent said first member and providing a grease-tight seal therearound, and annular retainer ring means surrounding said seal adjacent said first portion of the housing and passing through said aperture in said second member, said retainer ring means having securing means for holding said retainer ring means in said aperture and having further securing means for preventing movement of said seal relative to said ring.

3,441,299
CONNECTING JOINT FOR A STEERING ARM AND TIE RODS
Adam Pfaar, Besse, Germany, assignor to Rheinstahl Henschel A.G., Kassel, Germany, a corporation of Germany
Filed Dec. 8, 1966, Ser. No. 600,128
Claims priority, application Germany, Dec. 28, 1965, R 42,318
Int. Cl. F16c 11/06; F16b 7/00; B25g 3/38
U.S. Cl. 287—88 **6 Claims**



A connecting joint for the steering arms of a vehicle includes a first steering arm having spaced ends carrying a pivot bolt therebetween, spherical means is mounted on the pivot bolt and includes a central portion of reduced diameter and two outer portions at either side thereof of greater diameter. A second one of the steering arms includes spaced ends engaging the outer portions of the spherical means and these spaced ends are positioned between the spaced ends of the first-mentioned arm. A third arm includes an end portion disposed in surrounding engaging relation to the central part of the spherical means and is positioned between the spaced ends of said second arm.

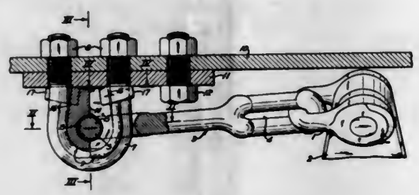
3,441,300
LINKAGE JOINTS
Ho Chow, River Edge, N.J., assignor to The Heim Universal Corporation, Fairfield, Conn., a corporation of Delaware
Application Oct. 4, 1965, Ser. No. 496,247, now Patent No. 3,333,876, dated Aug. 1, 1967, which is a continuation-in-part of applications Ser. No. 164,817, Jan. 8, 1962, Ser. No. 225,825, Sept. 24, 1962, Ser. No. 278,004, May 6, 1963, and Ser. No. 480,243, Aug. 5, 1965. Divided and this application Mar. 15, 1967, Ser. No. 644,037
Int. Cl. F16c 11/06; F16b 7/00; B25g 3/38
U.S. Cl. 287—90 **2 Claims**



1. A linkage joint for tilting and rotation comprising a sheet metal linkage member including a bowl-shaped portion with a hole at the bottom of the bowl, the bowl-shaped portion having interior and exterior segmental spherical bearing surfaces, the bowl-shaped portion being open opposite the hole at its bottom, a ring-like retainer having an interior bearing surface in bearing contact with the exterior surface of the bowl-shaped portion of the linkage member and also having an annular exterior bearing surface, and a stud member including an outer head having a bottom surface engaging the exterior bearing surface of the retainer and a shank secured to the head and extending with a substantial clearance all around through the bottom hole in the bowl-shaped portion of the linkage member and extending with substantial clearance all around through the hole in the retainer. The shank having a neck portion forming a shoulder, the stud having an inner head with an exterior bearing surface which bears against the interior bearing surface of the bowl-shaped portion, and the diameter of said interior segmental spherical portion being larger than the diameter of the inner head exterior bearing surface so as to provide a bearing clearance therebetween, the upper head being rotatable with respect to the retainer and one of the surfaces of contact between the retainer and the upper head being substantially flat.

3,441,301
RAILROAD CAR BRAKE DEAD LEVER LINK ANCHOR
Roland E. Cale, Mount Lebanon, Pa., assignor to Schaefer Equipment Company, Pittsburgh, Pa., a corporation of Pennsylvania
Filed Aug. 28, 1967, Ser. No. 663,862
Int. Cl. F16b 1/00, 3/00, 5/00
U.S. Cl. 287—189.36 **7 Claims**

A U-bolt that is adapted to extend through a circular hole in one end of a dead lever link has parallel threaded ends for attachment to a car body. Between and in engagement with the sides of the bolt is a pair of filler blocks having engaging inner sides provided with a pair of registering recesses forming a transverse circular opening to receive the portion of the link that is between the sides of the bolt. The outer sides of the filler blocks have longitudinally extending grooves receiving the adjoining portions of the bolt to hold the blocks in place.



It is among the objects of this invention to provide a link anchor which is simpler and less expensive in construction than those used at present, which will hold itself together before installation, and which can be quickly attached to a car body without requiring new holes to receive it.

3,441,302
KNOTTER
Carl F. Schuldt, Idaho Falls, Idaho, assignor to International Harvester Company, Chicago, Ill., a corporation of Delaware
Continuation-in-part of application Ser. No. 628,863, Apr. 6, 1967. This application June 17, 1968, Ser. No. 744,266
Int. Cl. B65h 69/04
U.S. Cl. 289—14 **20 Claims**

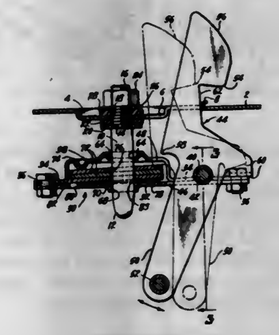


A knotter such as that presently being used on International Harvester Hay Balers including a frame rotatably supporting a twine disc assembly defining front and rear discs separated by a hub and having axially spaced outer peripheral portions forming a radially outwardly opening and circumferentially extending groove therebetween and a blade-like disc cleaner having an end portion provided with concave endwise outwardly facing arcuate edge portions disposed and substantially seated on the hub between the outer peripheral portions of the discs. The disc cleaner includes a recess formed therein opening endwise outwardly through centrally disposed portions of the aforementioned arcuate edge portions of the cleaner and with circumferentially spaced openings formed in one of the discs registrable therewith, the registering recess and openings serving to provide a discharge path for automatically discharging dust and debris tending to build up between the cleaner and the hub. Material build-up in this area produces a condition of high resistance to movement of the hub past the cleaner resulting in excessive wear on the drive gears of the disc assembly.

ERRATUM

For Class 292—165 see:
Patent No. 3,441,269

3,441,303
CLOSURE LATCH
Paul C. Tabor, Clawson, Mich., assignor to Meteor Research Limited (as nominee of Mercury Metalcraft Company), Roseville, Mich., a partnership
Filed June 28, 1967, Ser. No. 649,608
Int. Cl. E05c 17/38, 3/14, 17/50
U.S. Cl. 292—306 **6 Claims**



An enclosing housing containing a stack of loose plates having aligned openings therethrough aligned with pilot or guide means on both sides of the stack, spring means and an offset abutment urge the plates to tilt to grip a hardened latch pin guided through the housing by the pilot means and held thereby against tilting. The latch pin is resiliently mounted on a movable closure means.

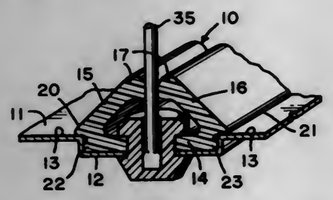
3,441,304
SHIPPING SEAL
John S. Chidley, Atlanta, Ga., George J. Nylund, Staten Island, and Hyman Dolinsky, New York, N.Y. (all of 45 John St., New York, N.Y. 10038)
Filed July 24, 1967, Ser. No. 655,607
Int. Cl. E05c 19/18; B65d 55/06
U.S. Cl. 292—307 **9 Claims**



This disclosure relates to a band-like seal for use with a shipping container. The seal is connectable between the container and its door. Ends of the seal are joined together. The inventors teach an apparatus by which tampering with the seal at its connection can be easily detected. The seal is provided with reservoirs of dye at the connection, so that on any tearing in that locality, the dye is released and thereby one is alerted to the broken seal. A solid medial

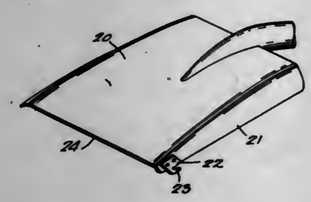
portion of the band is provided between dye reservoirs so that the band may be stamped or otherwise marked for identification and so that the band may be sheared for normal removal of the seal.

3,441,305
RESILIENT BUMPER STRIP
Earl M. Trammell, Jr., Ladue, Mo.
(Box 435, St. Louis, Mo. 63166)
Filed Nov. 23, 1966, Ser. No. 596,622
Int. Cl. B60r *19/08, 21/14*
U.S. Cl. 293—1 11 Claims



The bumper strip is formed of resilient material. The strip includes a base and outwardly extending side flanges. The base includes a transversely arched cushion portion, which is deformable when attached by a fastener to a support member, and is tightly clamped to the support by spring action of the arch. When used in conjunction with a support having a compatible channel depression, the clamping action is enhanced considerably.

3,441,306
HOOK ATTACHMENT FOR SHOVELS
Gino Ramon, 7123 W. Blue Mound Road,
Wauwatosa, Wis. 53213
Continuation-in-part of application Ser. No. 662,530, Aug. 22, 1967. This application Feb. 1, 1968, Ser. No. 702,339
Int. Cl. A01b *1/02*
U.S. Cl. 294—59 1 Claim



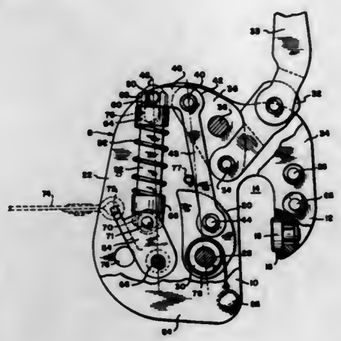
An attachment for a shovel for cement or concrete workers comprising a hook or claw integral with a plate to be attached to the under surface of a shovel, about two inches from the blade edge, said hook being backwardly directed to enable a worker to pull reinforcement mesh toward himself to raise and tighten the same during the operation of shoveling and laying cement or concrete.

3,441,307
ELECTROMAGNETIC WELL SERVICE TOOL
Charlie F. Farmer, San Angelo, Tex., assignor of fifty percent to Ray E. Dorrance, San Angelo, Tex.
Filed July 25, 1967, Ser. No. 655,959
Int. Cl. B66c *1/06;* E21b *31/06;* E21c *19/02*
U.S. Cl. 294—65.5 8 Claims

A fishing tool for recovering magnetically attractable objects from within a well bore, body of water and the like which tool includes a cable supported sealed extensible electromagnet means telescopingly, sealingly and normally nestingly received within a cable guided nonmagnetic outer shield means comprising a downwardly opening member normally supported by the electromagnet means and wherein the electromagnet means preferably includes a downwardly depending magnetizable probing means to assist in magnetically attracting magnetizable objects buried beneath loosely consolidated shale, dirt, silt and the like.

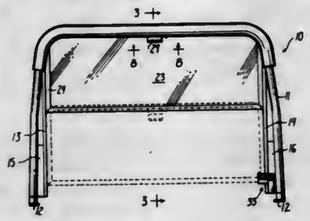


3,441,308
PLATE LIFTING CLAMP WITH LOCKING MECHANISM
Edward Merrill Gardner, Cornwall on the Hudson, N.Y., assignor to Merrill Brothers, Maspeth, N.Y., a corporation of New York
Filed May 25, 1967, Ser. No. 641,295
Int. Cl. B66c *1/48*
U.S. Cl. 294—101 14 Claims



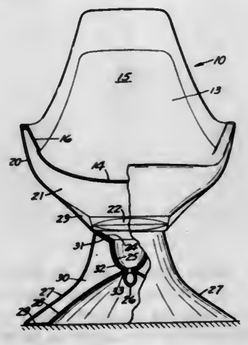
The plate lifting clamp disclosed in the present application includes a clamp body provided with a pivoted gripping cam rotatable across a slot into and out of engagement with a plate. The cam is attached to and rotated by a connecting means pivoted on one end of a fulcrumed radius link, the other end of which is connected to a lifting shackle. In this construction a cam-actuating and locking mechanism is provided including a coil spring maintained continuously under compression and used to actuate one arm of a bell crank lever fulcrumed on the radius link, the other arm of which provides the connecting means therefrom to the gripping cam, and an actuating lever pivoted to the body of the clamp and to the spring mechanism, and adapted to effect rotation of the cam to a retracted position and to rotate the cam to a locked plate-gripping position. The clamp also includes a direct spring on the cam biasing it to plate-gripping position.

3,441,309
PARTITIONING APPARATUS FOR AUTOMOBILES
Robert E. Halstead and Harold A. Halstead, Jr., Spokane, Wash., assignors to Novelty Carriage Works, Inc., a corporation of Washington
Filed Feb. 20, 1967, Ser. No. 617,276
Int. Cl. B60r *7/00;* E05f *1/00*
U.S. Cl. 296—24 4 Claims



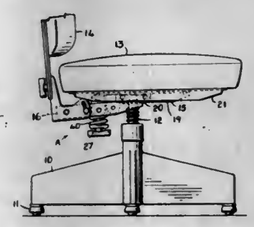
The disclosure describes an automobile partitioning device for separating the front compartment from the rear compartment. The device includes a roll bar 11 that is mounted to the interior of the auto adjacent the backrests of the front seats. A pair of facing side frames 13 and 14 are mounted to the bar 11. Each of the side frames has a track 18 vertically mounted thereto. A partition frame 24 is slidably mounted in the track 18 from a lower position to an upper position. Springs 32 urge the frame 24 upwardly. A locking mechanism 33 holds the frame 24 in the lower position. A locking mechanism 46 holds the partition frame 24 in the upper position.

3,441,310
SEATING STRUCTURE
John A. Gale, Wayzata, Minn., assignor to John Gale Company, Minneapolis, Minn., a corporation of Minnesota
Filed Mar. 27, 1963, Ser. No. 268,492
Int. Cl. A47c *3/02, 1/06, 7/00*
U.S. Cl. 297—294 3 Claims



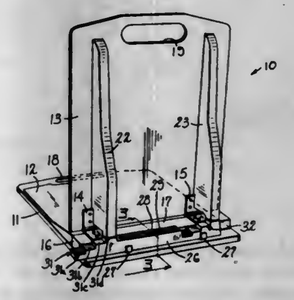
1. A chair structure comprising upper and lower chair sections each being of integral molded construction and each being formed of yieldable, resilient plastic material, said upper chair section comprising an integral, continuous, occupant-supporting panel contoured and shaped to define a seat portion and a back rest portion, a supporting panel spaced from said occupant-supporting panel to define a cavity therebetween, and being integrally formed at its peripheral edges with the peripheral edges of the seat and back rest portions of the occupant-supporting panel, said lower chair section having portions thereof engageable with a support structure such as a floor to support said upper chair section and an occupant supported thereon, and releasable coupling means releasably and pivotally interconnecting said chair sections and permitting relative revolving movement of said sections about a substantially vertical axis, at least one said chair section being provided with an expansible and retractable means integrally formed therewith and which during expansion and contraction thereof permits tilting of the upper chair section about a substantially horizontal axis upon an occupant weight shift.

3,441,311
CHAIR CONTROL
Frank Doerner, Waterloo, Ontario, Canada
Frank Doerner, Waterloo, Ontario, Canada, assignor to Doerner Products Co., Limited, Waterloo, Ontario, Canada, a corporation of Canada
Filed July 24, 1967, Ser. No. 655,628
Int. Cl. A47c *1/023;* B60n *1/02*
U.S. Cl. 297—305 4 Claims



A chair control in which the spring mechanism that resists the tilting action of the chair seat or back is mounted perpendicular to the pivotally connected frame members, the mounting for the spring of the mechanism being arranged and constructed so that the spring has axial deflection without lateral distortion when the spring deflects in response to the tilting of the seat or chair back.

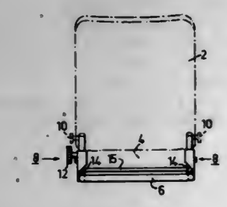
3,441,312
FOLDABLE SEAT
Lawrence A. Loeb, 39 Trumbull St., New Haven, Conn. 06510
Filed Dec. 7, 1966, Ser. No. 599,814
Int. Cl. A47c *3/00*
U.S. Cl. 297—374 12 Claims



This application discloses a portable folding chair which comprises seat and back panels where the back panel is pivotally mounted to the seat panel adjacent to but spaced from the rear edge of the seat panel. Means are

provided on the back of the back panel and also on the seat panel between the pivotal mounting and the rear edge thereof to support the back panel on the seat panel in a predetermined position of angular relationship and such angular relationship is adjustable.

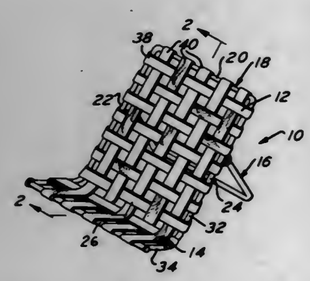
3,441,313
MECHANISM FOR ADJUSTING THE BACKREST OF SEATS IN VEHICLES
Bror Gothe Persson, Idrottsvagen 5, Oskarshamn, Sweden
Filed Apr. 27, 1967, Ser. No. 634,176
Claims priority, application Sweden, May 5, 1966, 6,195/66
Int. Cl. B60n 1/02, 1/06
U.S. Cl. 297—374 1 Claim



This invention discloses a mechanism for adjusting the inclination of the backrest of a seat in a vehicle by means of a cam device.

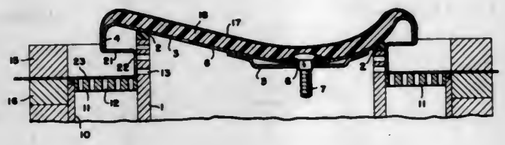
According to the invention a mechanism is provided which permits quick and continuous adjustment of the inclination of the backrest by a simple hand movement so that the backrest will fit each individual person. This is attained by using an eccentric which cooperates with a lower extension member from the backrest and which is lockable in any desired angular position.

3,441,314
PORTABLE SEAT
Robert S. Duffield 3430 N. 2nd St., Philadelphia, Pa. 19140
Filed July 19, 1967, Ser. No. 654,590
Int. Cl. A47c 3/00
U.S. Cl. 297—377 5 Claims



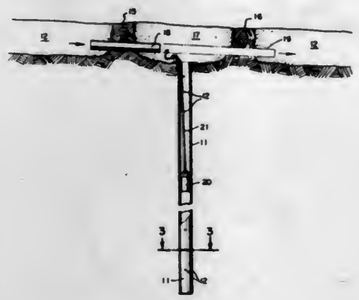
A portable seat comprising a backrest portion and a lower portion which are connected by an integral junction. The lower portion extends from the junction at the bottom at an angle from the back portion of the seat. The seat also includes a support member for the backrest portion so that the seat is solely supported by the support member and the junction, both of which rest against the ground.

3,441,315
SEAT AND METHOD FOR MANUFACTURING THE SAME
Dale R. Paes, Mansfield, and F. Eugene Jeffers, Shelby, Ohio, assignors to Artnell Company, Chicago, Ill., a corporation of Delaware
Filed July 7, 1967, Ser. No. 651,866
Int. Cl. A47c 7/02
U.S. Cl. 297—458 9 Claims



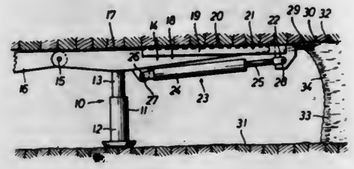
A seat and process for manufacturing the same including a preformed base with a depending flange having an adhesively coated porous cushion material placed thereon which sub-assembly is positioned right side up on a supporting male mold pedestal in a vacuum forming machine, a peripherally clamped preheated sheet of cover upholstery material is draped thereover and vacuum formed over the sub-assembly and inwardly beneath the depending flange assembling and shaping both the cover and cushion material to the base; the seat is then removed from the machine, turned upside down and the cover is trimmed adjacent the corner formed by the periphery of the pedestal and the inwardly projecting edge of the cover is adhered to the interior of the depending flange to form the finished seat.

3,441,316
RECOVERY OF METAL VALUES BY LEACHING
Martin K. Hannifan and James Ballard, Butte, Mont., assignors to The Anaconda Company, New York, N.Y., a corporation of Montana
Filed July 6, 1967, Ser. No. 651,592
Int. Cl. B21c 41/08; B21b 21/00; C22b 3/00
U.S. Cl. 299—5 11 Claims



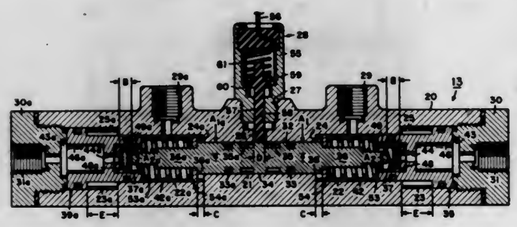
Leaching of waste dumps and in situ deposits is accomplished by introducing the leach liquor through wells which are cased with liquid-impervious pipe and perforated at the levels where the liquor is to be delivered into the dump or deposit. Solution is delivered to the well heads through surface distribution ditches arranged to provide a basin at each well head, and provided with means to deliver leach solution at the desired rate into each basin. A header ditch supplies to the distribution ditches. Aeration of the leach solution is accomplished by allowing the solution to fall freely through the upper portion of the well and there induct and entrain air with it.

3,441,317
ROOF SUPPORTING ARRANGEMENT INCLUDING CANTILEVERED ROOF BAR CARRYING EXTENSIBLE ROOF SUPPORTING CAP AND CUTTER MEANS
Günther Dommann, Altlunen, Westphalia, Germany, assignor to Gewerkschaft Eisenhutte Westfalia, Wethmar, near Lunen, Westphalia, Germany
Filed Feb. 24, 1967, Ser. No. 618,364
Claims priority, application Germany, Mar. 1, 1966, G 46,170
Int. Cl. E21d 17/02
U.S. Cl. 299—33 10 Claims



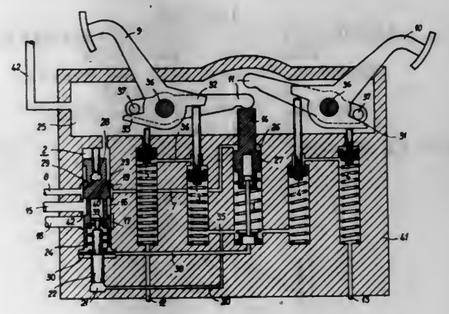
Roof supporting arrangement for a mine roof adjacent a mine face including an extensible pit prop carrying a cantilevered longitudinal roof bar, a preliminary roof cap and cutting means mounted slidably on top of the bar and extensible partially beyond the free end thereof yet in supporting engagement therewith, outwardly inclined drive means of changeable longitudinal length, e.g. a piston-cylinder means, pivotally connected between said bar and roof cap and cutting means, and a blade on the cap and cutting means outer end having an edge directed toward the interface between the adjacent mine face and roof, whereby upon drive means displacement to extend said cap and cutting means preliminary mine roof support will be provided and said blade will cut away overhanging roof coal at the mine face ahead of such arrangement.

3,441,318
CONTROL VALVE
Richard C. Bueler, Glendale, Mo., assignor to Wagner Electric Corporation, Newark, N.J., a corporation of Delaware
Filed Jan. 25, 1968, Ser. No. 700,513
Int. Cl. B60t 13/00, 15/46; G05d 11/00
U.S. Cl. 303—6 32 Claims



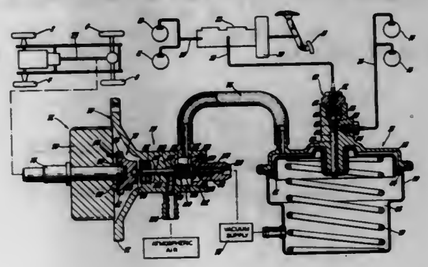
A control valve having a pair of opposed proportioning members to effect metered applications through said control valve of separate fluid pressures supplied thereto, and warning means biased between said proportioning members for metering engagement therewith and movable toward opposed translated warning positions in response to a predetermined differential between the magnitudes of the separately supplied fluid pressures acting thereon.

3,441,319
HYDROSTATIC BRAKING APPARATUS WITH SERVOCONTROL FOR TRACTOR VEHICLE AND ITS TRAILER
Raymond Boueil and Gérard Gardeux, Billancourt, France, assignors to Regie National des Usines Renault, Billancourt, France
Filed July 31, 1967, Ser. No. 657,115
Claims priority, application France, Aug. 2, 1966, 71,817
Int. Cl. B65t 13/00; B60t 13/16, 17/02
U.S. Cl. 303—7 7 Claims



Hydrostatic braking apparatus with servocontrol, for a tractor vehicle and its trailer, comprising a master cylinder and a servo distributor connected thereto and to the circuit of the said trailer and comprising brake pedals, each brake pedal acting mechanically on the control elements of the hydraulic circuit of the wheel to be braked and on the master cylinder supplying the hydrostatic braking pressure, the latter acting simultaneously on the servo distributor producing in return, from the liquid delivered by the vehicle pump, a hydraulic servo pressure on the said master cylinder in addition to and proportionally to the said mechanical braking force.

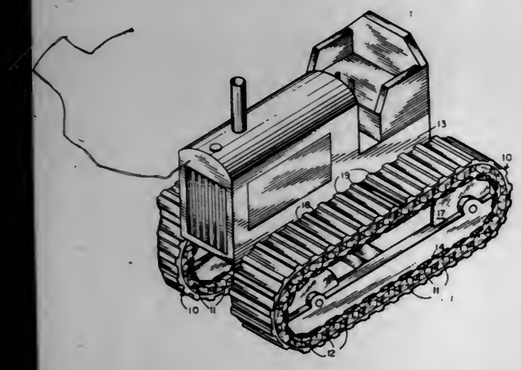
3,441,320
VEHICLE WHEEL BRAKE ANTILOCK SYSTEM AND METHOD
Donald M. Flory, Arcanum, Ohio, assignor to General Motors Corporation, Detroit, Mich., a corporation of Delaware
Filed Aug. 4, 1967, Ser. No. 658,420
Int. Cl. B60t 8/02, 13/00, 8/12
U.S. Cl. 303—21 11 Claims



A vehicle wheel brake system and method of vehicle braking which utilize signals developed from wheel acceleration and deceleration rates to control a brake apply pressure modulator so as to cycle the pressures provided at the wheel brake to obtain a maximum braking effect without permitting the wheel slip to approach a full lock

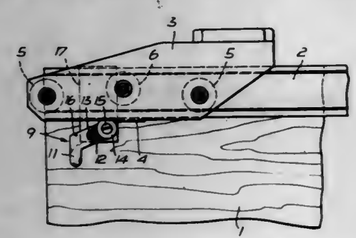
condition. The system and method use a unique control principle of the extremal type in which a brake apply pressure sufficient to cause substantially increasing wheel slip is released to permit wheel acceleration, and consequent decreasing wheel slip. The brake apply pressure is then held at a value permitting wheel acceleration, and, therefore, a decrease in wheel slip, while maintaining a brake torque on the wheel until the wheel acceleration ceases. The brake apply pressure is then again increased to cause wheel deceleration. The cycle is repeated as necessary.

3,441,321
AUXILIARY NONMETALLIC CRAWLER TRACTOR OVERTRACK
David W. Darland, 5417 2nd Ave. S., Seattle, Wash. 98108
Filed Dec. 30, 1966, Ser. No. 606,137
Int. Cl. B62d *55/24*
U.S. Cl. 305—35 1 Claim



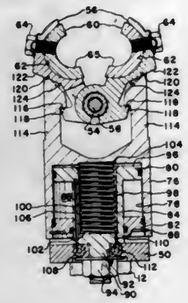
A continuous overtrack releasably positionable about the principal track of a tractor to allow transit over improved structures without damage thereto. Bridge elements maintain the auxiliary overtrack at a spaced distance from outwardly projecting cleats of the principal track to prevent damage therefrom.

3,441,322
CARRIAGE-TYPE DRAWING APPARATUS
Franz Leschinger, Lahr, Black Forest, Germany, assignor to Albert Nestler A.G., Lahr, Black Forest, Germany
Filed Jan. 6, 1967, Ser. No. 607,677
Claims priority, application Germany, Sept. 1, 1966, N 19,108
Int. Cl. F16c *29/06, 35/04, 41/00*
U.S. Cl. 308—3.8 3 Claims



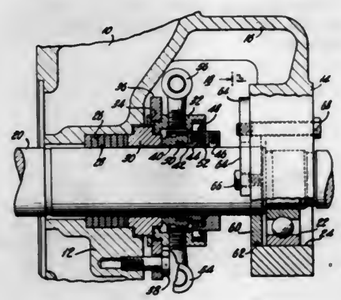
A releasable stop member for limiting the extent of travel of a carriage along a guide rail of a drawing apparatus and for permitting the carriage to be removed from the rail.

3,441,323
CENTRALIZER
Robert R. Vincent and Mervin C. Huffman, Denver, Colo., assignors to Gardner-Denver Company, a corporation of Delaware
Filed June 7, 1967, Ser. No. 644,183
Int. Cl. F16c *1/26, 21/00, 35/00*
U.S. Cl. 308—3.9 4 Claims



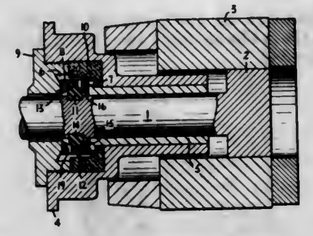
A centralizer for drill rods, including pivoted jaws operated by pneumatic or hydraulic pressure, and consisting of a single actuating member for actuating the jaws between open and closed positions and for clamping a drill rod coupling between the jaws. The actuating member consists of a sliding cylinder with extensions having cam surfaces engaging corresponding surfaces on the jaws. The centralizer features a minimum number of moving parts, a slim profile in the plane perpendicular to the drill rod axis, and a coil spring lightly biasing the jaws in the closed position for minimizing danger to operating personnel.

3,441,324
HOUSING FOR A SEALED ROTATING SHAFT
Clarence R. Libby, Norwalk, Conn., assignor to Nash Engineering Company, South Norwalk, Conn., a corporation of Connecticut
Filed June 22, 1967, Ser. No. 648,042
Int. Cl. F16c *33/76*; F16j *15/16, 15/54*
U.S. Cl. 308—36.1 14 Claims



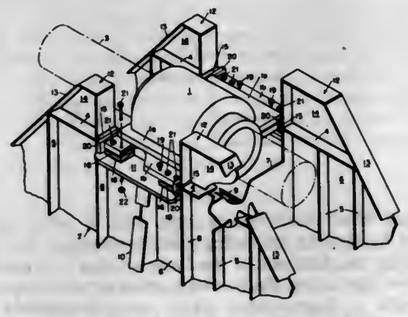
An auxiliary bearing housing is provided integral with the main housing through which a rotating shaft passes. The shaft is journaled in the auxiliary housing and sealing means are provided about the shaft to prevent fluid leakage. The auxiliary housing is spaced from the main housing to define a manipulation area therebetween. The sealing elements for the shaft are secured thereto by means of a clamp member that is radially removable within the manipulation space. All of the sealing elements may be removed axially from the bearing opening in the auxiliary housing.

3,441,325
DETACHABLE STOP RING FOR A SHAFT
Kyrre Guttorm Sjøtun, Nordborg, Denmark, assignor to Danfoss A/S, Nordborg, Denmark, a company of Denmark
Filed Apr. 18, 1967, Ser. No. 631,837
Claims priority, application Germany, Apr. 21, 1966, D 49,906
Int. Cl. F16c *17/00, 17/04, 17/10*
U.S. Cl. 308—161 7 Claims



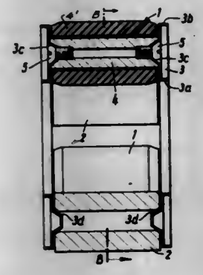
Key assembly for use in rotary apparatus keying a shaft longitudinally holding the shaft axially thereby holding a rotor driven by the shaft in axial position. The key assembly comprises a resilient support ring on the shaft cooperative with one or a pair of ring elements removably mounting the shaft and rotor in the apparatus. The ring elements cooperate with axially spaced abutment surfaces that are stationary axially and define the limits of permitted axial movement of the shaft and therefore of the rotor. When engaged with respective abutment surfaces the ring elements bear on the support ring and develop jointly therewith a force having an axial component tending to oppose axial movement of the shaft away from its operating axial position and restore the shaft to its designated operating axial position. The force developed by each of the rings also has a radial component tending to urge the resilient support ring into contact with the shaft and carry out a centering function. The assembly carries out self-centering and self-aligning functions.

3,441,326
THRUST BEARING FOUNDATION AND MOUNTING
Gerald C. Swensson, Media, Pa., assignor to Sun Shipbuilding & Dry Dock Company, Chester, Pa., a corporation of Pennsylvania
Filed June 16, 1967, Ser. No. 646,714
Int. Cl. F16c *17/00*
U.S. Cl. 308—161 11 Claims



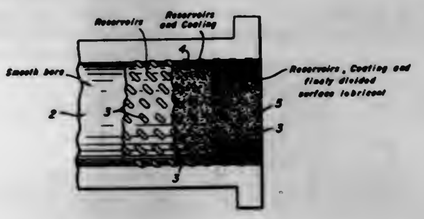
The thrust load is transmitted from the casing of a thrust bearing directly to the structural foundation through a set of four chocks, which are located at the four corners of the bearing and are loaded in compression. Four chocks, arranged transversely of the bearing under the lower bearing casing flanges, enable vertical adjustment of the bearing.

3,441,327
ROLLER BEARING
Oskar Erich Peter, Brackenheim, Wurttemburg, and Lothar Peter, Guglingen, Wurttemburg, Germany, assignors to Peter KG, Brackenheim, Wurttemburg, Germany
Filed Dec. 13, 1967, Ser. No. 690,226
Claims priority, application Germany, July 27, 1967, P 42,690
Int. Cl. F16c *19/26*
U.S. Cl. 308—217 11 Claims



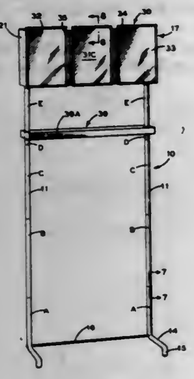
A roller bearing is disposed between two relatively rotatable members and comprises a cage which includes two axially spaced annular members disposed in parallel planes and adapted to surround one of the rotatable members and be in turn surrounded by the other of the rotatable members. A plurality of roller elements are arranged intermediate the annular members connected to the same with equidistant angular spacing and with freedom of rotation about respective axes which parallel the axis which is common to the annular members. Some of these roller elements consist of synthetic plastic material and have a diameter which is slightly greater than the corresponding dimension of the other roller elements.

3,441,328
PRELUBRICATED BEARING SURFACE, AND METHOD OF PREPARING THE SAME
Forbes M. Hurley, 5841 Vermont St. 46409, and William A. Nault, 1721 W. 60th Place 46408, both of Gary, Ind.
Filed Oct. 20, 1966, Ser. No. 588,206
Int. Cl. F16c *27/00, 33/00*
U.S. Cl. 308—238 7 Claims



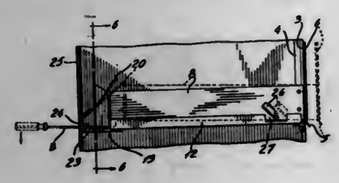
A pre-lubricated bearing surface and method of producing the same. The surface includes a plurality of reservoirs, adapted to receive and gradually feed out dry lubricants contained therein. The dry lubricants include a low friction coating, which upon curing forms a hard glossy film. Also, finely divided dry lubricants are dusted onto the coating, while the coating is in a tacky state prior to curing.

3,441,329
STAND CABINET CONSTRUCTION
Jack Solomon, Brooklyn, N.Y., assignor to Lincoln Metal Products Corporation, Brooklyn, N.Y., a corporation of New York
Filed Sept. 8, 1967, Ser. No. 666,427
Int. Cl. A47b 67/02
U.S. Cl. 312—245 10 Claims



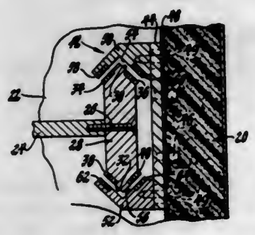
This invention is directed to a stand-type, space-saving cabinet construction in which a cabinet is supported between a pair of spaced-apart upright stanchions which are normally incapable of being supported in an upright position unless the cabinet supported thereon is backed-up against a vertical wall. Each stanchion is provided with forwardly and laterally extending foot portions arranged to normally tilt the stanchion in the direction of the supporting wall. The cabinet supported between the stanchions comprises a full open front, box-type cabinet provided with a plurality of closure sections which includes slidably mounted section for movement along the front opening of the cabinet and to which there are connected one or more hingedly mounted closure sections arranged to pivot relative to the slidable closure section.

3,441,330
CONSOLE-MOUNTED MODULAR UNIT
Theodore Wildi, 1365 De Longueuil St., Quebec, Quebec, Canada
Filed Oct. 30, 1967, Ser. No. 678,861
Claims priority, application Canada, Sept. 27, 1967, 1,156
Int. Cl. A47b 88/00, 95/00; E05c 7/06
U.S. Cl. 312—333 7 Claims



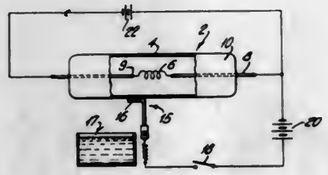
The invention is directed to a novel drawer and slide combination which is particularly intended for use in modular electric or electronic equipment. Eccentric spring biasing force acts to urge the rear end of the drawer to fall in locked position as it reaches the end of the track course; the lock cannot be released from the front but only through use of an implement through the back of the console to raise the rear against the biasing force; the drawer then snaps out but means are additionally foreseen to stop the outward travel thereof; said means being releasable by raising the liberated front end of the drawer from the front.

3,441,331
GLIDING SHELF
Keith K. Kesling, Dayton, Ohio, assignor to General Motors Corporation, Detroit, Mich., a corporation of Delaware
Filed Oct. 23, 1967, Ser. No. 677,332
Int. Cl. A47b 88/00; F16c 35/00, 39/00
U.S. Cl. 312—341 5 Claims



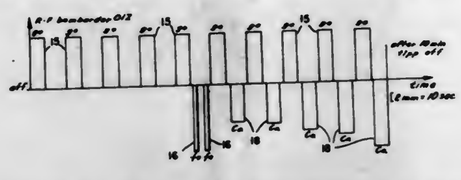
In the preferred form, a refrigerator cabinet is provided with a laterally movable shelf supported on opposite sides thereof in glideways by magnetic repulsion. Each side of the shelf has a glide member with beveled upper and lower faces which are fitted with magnetic strips. The side walls of the refrigerator cabinet are provided with glideways having complementary beveled surfaces also provided with magnetic strips. The magnetic strips are magnetized in such a way as to provide like poles creating the repulsion which provides the floating of the glide members by magnetized repulsion within the glideway supports.

3,441,332
METHOD FOR GETTERING COMPLETED GAS FILLED LAMPS AND THE PRODUCT RESULTING THEREFROM
Nickolas P. Demas, Cranford, N.J., assignor, by mesne assignments, to Wagner Electric Corporation, South Bend, Ind., a corporation of Delaware
Filed July 15, 1966, Ser. No. 565,616
Int. Cl. H01j 9/38
U.S. Cl. 316—26 4 Claims



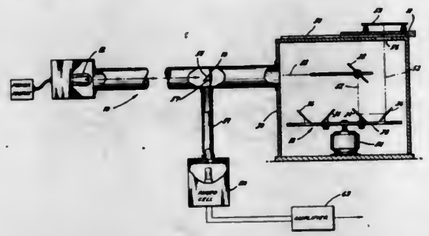
A gas filled incandescent lamp with a getter spot is formed by heating the sealed glass envelope of the lamp, energizing the filament of the lamp so that it is electron-emissive, contacting the heated portion of the lamp envelope with a disassociated alkali metal compound, and causing the conduction of alkali metal ions through the glass by applying a voltage between the filament and the disassociated alkali metal compound, thereby forming a getter spot corresponding to the area of contact of the alkali metal compound.

3,441,333
METHOD OF MANUFACTURING CATHODE RAY TUBE
Laszlo Javorik, Chicago, Ill., assignor to National Video Corporation, Chicago, Ill., a corporation of Illinois
Filed Sept. 26, 1967, Ser. No. 670,534
Int. Cl. H01j 9/02, 9/38
U.S. Cl. 316—26 8 Claims



During the final stages of manufacture of a cathode ray tube for color television while exhausting the tube for producing a low vacuum, the grids are periodically bombarded with radio frequency energy. This periodic energization intermittently raises the temperature of the grids for outgassing while maintaining the temperature of the cathode below its critical activation temperature. After a number of such cycles of grid outgassing, the filament is outgassed and then the periodic bombardment of the grids is resumed with alternate and progressively increasing, periodic activation of the cathode. The final step is one of cathode activation for driving off remaining gases and enhancing the emissivity of the cathode.

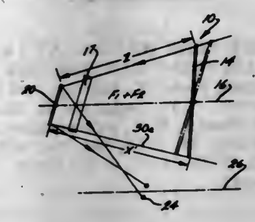
3,441,334
NON-CIRCULAR ROTARY SCANNING MEANS
Bruce G. Marks, Lansdale, and George Revesz, Bala Cynwyd, Pa., assignors to Philco-Ford Corporation, Philadelphia, Pa., a corporation of Delaware
Filed May 21, 1965, Ser. No. 457,725
Int. Cl. G02b 17/00; H04n 3/00; G01n 21/30
U.S. Cl. 350—7 3 Claims



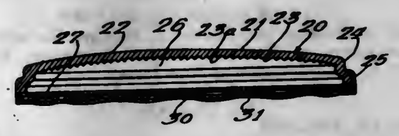
Rotatable scanning means for achieving non-circular scanning comprising a pair of confronting, plane reflecting surfaces carried by rotatable support structure and positioned in reflective alignment and in angular relation to the plane of rotation and in predetermined spaced relationship from each other and from the rotational axis of said structure, and means for focusing radiation onto one or the other of said surfaces for reflection thereof by the other of said surfaces and productive upon rotation of said surfaces, of a non-circular trace.

3,441,335
PERISCOPIC REARVIEW SYSTEM
Roger D. Johnson, Zeeland, Mich., assignor to Donnelly Mirrors, Inc., Holland, Mich., a corporation of Michigan
Filed June 1, 1964, Ser. No. 371,513
Int. Cl. G02b 17/00, 23/02, 5/08
U.S. Cl. 350—55 4 Claims

A periscopic rearview system in which an elongated eye lens means and an elongated transparent objective lens of substantially greater length than the eye lens means is provided, both the eye lens means and objective lens being substantially located on the centerline of the vehicle but transverse thereto whereby the eye lens means is located a transverse distance from the driver's seat such that it is necessary to tilt and face the eye lens across the vehicle's centerline creating an imbalance of image distortion from one end to the other. This imbalance is corrected by slanting or tilting the objective lens so that the ends of the eye lens and objective lens are spaced apart the same distance.



3,441,336
ADHESIVE REFLECTOR UNIT WITH FLEXIBLE BACKING
Ralph R. Gunderson, 1028 W. 92nd Place, Chicago, Ill. 60620
Continuation-in-part of application Ser. No. 469,436, July 6, 1965. This application Nov. 17, 1966, Ser. No. 616,138
Int. Cl. G02b 17/00
U.S. Cl. 350—67 2 Claims



An adhesive reflector unit including a reflector member having a rearwardly opening cavity with a flexible deformable backing member spanning the cavity for confining air pressure therewithin and adhesive means on the exposed face of the backing member responsive to deformation of the backing member by confined air pressure in the inner cavity for adhering the reflector unit to a mounting surface.

3,441,337
THERMAL GASEOUS WAVEGUIDE WITH GAS-COOLING COMPARTMENTS LONGITUDINALLY DISTRIBUTED THEREALONG
Stewart E. Miller, Middletown, N.J., assignor to Bell Telephone Laboratories, Incorporated, New York, N.Y., a corporation of New York
Filed July 2, 1965, Ser. No. 469,153
Int. Cl. G02b 5/14, 3/12
U.S. Cl. 350—96 5 Claims



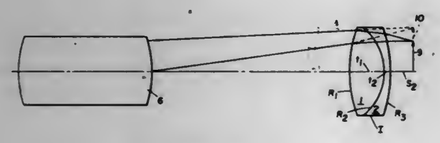
A thermal gaseous waveguide comprising a heated inner cylinder through which a beam of electromagnetic wave energy is guided, and a plurality of separate, gas-cooling compartments longitudinally distributed thereabout. The compartments are arranged so that a cooled transparent gas is forced out of one compartment, into

the inner cylinder where it is heated in a manner to form a radial thermal gradient, and then out of the inner cylinder and into another compartment where it is again cooled. Wave guidance is essentially continuous throughout the system.

3,441,338
ACCESSORY LENS HAVING AT LEAST ONE BRAVAIS POINT OUTSIDE THE LENS

James R. Johnson, James E. Harvey, and Rudolf Kingslake, Rochester, N.Y., assignors to Eastman Kodak Company, Rochester, N.Y., a corporation of New Jersey

Filed June 30, 1965, Ser. No. 468,265
Int. Cl. G02b 15/02, 9/06; G03b 21/00
U.S. Cl. 350—183 7 Claims

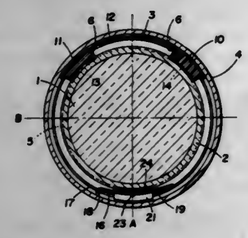


An accessory lens, having each of its principal points closer to its respective focal point than to the other focal point and having at least one of its principal points within the outside surfaces of the lens, is disclosed for use in an optical system to change the magnification of a primary lens in the system.

3,441,339
LENS HOLDING ASSEMBLY

Carl G. Rederer and Gerald L. Jenkins, Rochester, N.Y., assignors to Eastman Kodak Company, Rochester, N.Y., a corporation of New Jersey

Filed Jan. 7, 1966, Ser. No. 519,371
Int. Cl. G02b 7/10
U.S. Cl. 350—255 5 Claims



A lens holding assembly in which a threaded spring held insert secured to the inside surface of a lens housing biases the engaged screw thread surface of a lens holder toward two arcuately spaced threaded inserts secured to the inside surface of the housing members.

3,441,340
UNITARY LIGHT PROJECTING ASSEMBLY FOR DIAGNOSTIC INSTRUMENTS

William C. Moore, Skaneateles, and John D. Connors, Auburn, N.Y., assignors to Welch Allyn, Inc., Skaneateles Falls, N.Y., a corporation of New York

Filed Sept. 28, 1965, Ser. No. 490,884
Int. Cl. A61b 3/12
U.S. Cl. 351—16 5 Claims

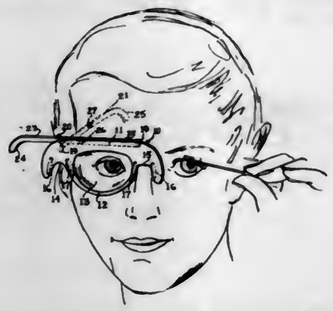
An ophthalmoscope has a plastic head with an axial passage and an intersecting transverse passage. A metal tube in the axial passage has an internal annular flange forming a shoulder adjacent the transverse passage. An objective lens, tubular spacer means, an apertured spacer, a condensing lens, a collar, and a lamp are telescopically and successively fitted within the tube, the lamp being frictionally engaged with the tube. A mirror in the passage intersection is secured to the tube end at an angle for reflecting light from the lamp out through the transverse passage, the tube bearing the entire light projection system.



3,441,341
EYEGLASS FRAME

Grace Thompson Dunn, 2400 N. Lakeview Ave., Chicago, Ill. 60614

Filed Apr. 26, 1967, Ser. No. 633,845
Int. Cl. G02c 1/06, 5/02
U.S. Cl. 351—41 4 Claims



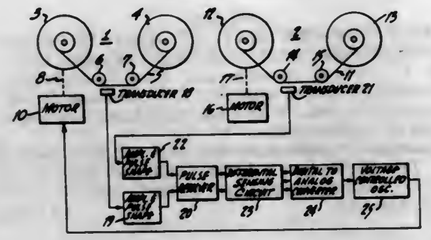
A frame for a single eye lens, including two nose bridges projecting laterally from either side of the single eyeglass frame for cooperating with temples or side pieces by which the eyeglass frame may be positioned over either of the eyes to either side of the nose of the user, the temples or side pieces preferably being of two-piece construction so that they may be retracted into a compact design easily carried in the pocket or purse.

3,441,342
FREQUENCY AND PHASE ERROR DETECTION MEANS FOR SYNCHRONIZATION SYSTEMS

Henry Ball, Burbank, and Donald N. McLaughlin, Los Angeles, Calif., assignors to Radio Corporation of America, a corporation of Delaware

Filed Mar. 29, 1965, Ser. No. 443,232
Int. Cl. G03b 31/00; H03k 9/06; H03d 3/00
U.S. Cl. 352—17 12 Claims

A frequency and phase error detection system for synchronizing the operation of devices having periodic characteristics. A first set of pulse trains of a phase and frequency corresponding to that of the signals derived from the devices to be synchronized are examined for coincidence in a digital pulse resolver. In the absence of coincidence a second set of pulse trains are generated which

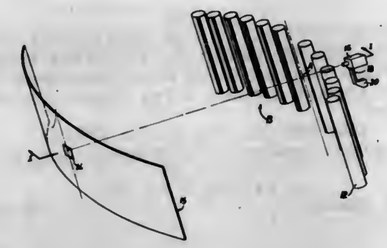


contain the frequency and/or phase error information of the input signals. The errors are digitally detected and separated by a differential sensing circuit which provides an output useable to minimize the phase and frequency differences.

3,441,343
CARTOON ANIMATION PROCESS

Claude Piron, Nantes, and Ragnar Van Leyden, Paris, France, assignors of one-third to Omnium Technique d'Etudes et Realisations (OTER), Nantes, Loire- Atlantique, France

Filed July 21, 1965, Ser. No. 473,611
Claims priority, application France, July 29, 1964, 983,534
Int. Cl. G03b 19/18
U.S. Cl. 352—87 2 Claims



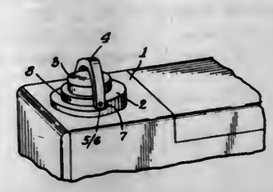
Apparatus for producing cartoon animation film comprising a camera facing a reflective screen formed of a plurality of small orientable reflecting elements, said screen facing a color panel, and a control panel having means for orienting said reflecting elements so as to reflect a desired portion of said color panel to produce colored light point images for recording by said camera.

3,441,344
CAMERA RELEASE PARTICULARLY FOR MOTION PICTURE

Heinz Kuppenbender, Heidenheim (Brenz), and Roland Hochstein, Stuttgart-Mohringen, Germany, assignors to Zeiss-Ikon Aktiengesellschaft, Stuttgart, Germany, a corporation of Germany

Filed Feb. 28, 1966, Ser. No. 530,425
Claims priority, application Germany, Mar. 6, 1965, Z 11,387
Int. Cl. G03b 19/18
U.S. Cl. 352—169 5 Claims

A photographic camera is provided with an axially movable annular release button in the bore of which is mounted an independently axially depressible switch control

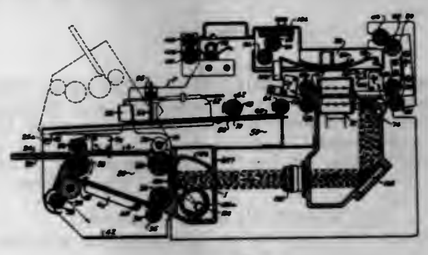


member which projects from the annular release button for a disconnectible automatic exposure adjusting device.

3,441,345
PHOTOCOPYING

James A. Kolibas, Cleveland, Ohio, assignor to Addressograph-Multigraph Corporation, Cleveland, Ohio, a corporation of Delaware

Filed May 20, 1963, Ser. No. 281,706
Int. Cl. G03b 21/00, 27/32
U.S. Cl. 355—10 8 Claims



A photocopier of the electrostatic type embodies means for accepting an original document fed in by the operator, feeding it downwardly past an exposure station and then returning the same to the operator. Switch means actuated by the original activates a charging station and triggers the feeding of a photoconductive copy sheet from a stack of sheets. The copy sheet moves horizontally through a charging station and an exposure station in time with the original, meanwhile controlling the energization of an illumination means by its leading edge and deenergization thereof by its trailing edge. The copy sheet then turns upwardly a short distance, and is finally returned in a generally horizontal path towards the operator via a liquid development bath and special offset-preventing squeegee rollers. A heater for drying the sheet is the final station before delivery. The feed path for the original includes a selectably settable guide such that the original can either be discharged or recirculated to produce plural copies. In the latter mode the illumination and charging apparatus are conditioned to remain continuously energized rather than being switched rapidly off and on.

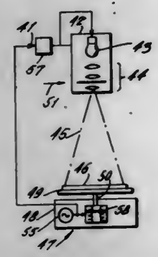
3,441,346
LINE ACCURACY ENHANCER

Herbert H. Naldich, Rego Park, and John T. Mealy, Bayside, N.Y., assignors to Kollsman Instrument Corporation, Elmhurst, Queens, N.Y., a corporation of New York

Filed Mar. 7, 1966, Ser. No. 532,293
Int. Cl. G03b 27/50
U.S. Cl. 355—77 3 Claims

A method for producing an encoder sheet having alternating transparent and opaque sections with a high degree of definition between adjacent sections. The method

utilizes photosensitive material having a sharp exposure saturation threshold characteristic. A master is machined with a predetermined pattern of lines and light energy is passed through the master to focus in a corresponding pattern of line positions on the photosensitive material. The photosensitive sheet is moved relative to the master



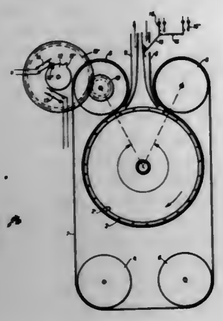
to register the pattern of line positions with different lines and another exposure is made. This process is repeated to superimpose the successive line exposures a number of times before saturation of the exposed photosensitive material. The number of superimposed exposures before saturation increases the degree of definition of the line positions.

3,441,347

APPARATUS FOR PRODUCING REFLEX COPIES

Wolfgang Lassig, Cologne-Stammheim, and Wolfgang Ludloff, Porz-Westhoven, Germany, assignors to Agfa Aktiengesellschaft, Leverkusen, and Gesellschaft fur Multiblitzgerate Dr. Ing. D.A. Mannesmann G.m.b.H., Porz-Westhoven, Germany, both corporations of Germany

Filed May 19, 1965, Ser. No. 457,023
Claims priority, application Germany, June 4, 1964, A 46,218
Int. Cl. G03b 27/22
U.S. Cl. 355—104 **6 Claims**



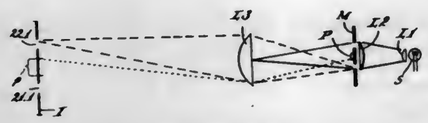
Flash apparatus for thermal copying has a flash tube of 600 to 1,000 watt-seconds power input and a flash time of 10^{-3} to 10^{-4} seconds, using a single flash to copy an image 20 by 32 centimeters with reflex exposure. Flash tube is surrounded by transparent cylinder around which sheet having image to be copied is carried by automatically operated belt driven by motor that is energized when the sheet is introduced into a feed slot, and automatically deenergized when the belt has carried the sheet a complete revolution around the cylinder. A step-down cam automatically flashes the tube after half a revolution. Flashing is effected by condenser charged from secondary of a power transformer, a voltage doubling circuit being used to get the charging voltage up to about twice that available at the secondary. Charging is terminated by opening a switch combination at the capacitor when a sampled voltage produces a discharge in a glow lamp, and the switch combination is automatically held open once the sheet has passed through the feed slot, so that the next charging to flashing voltage does not take place until the next sheet is introduced.

3,441,348

ENERGY CONCENTRATING AND SIGHTING DEVICE FOR RADIOMETRIC APPARATUS

Ivan A. Nichols, Ipswich, and Alan S. Anderson, Cochituate, Mass., assignors to Williamson Development Co., Inc., West Concord, Mass., a corporation of Massachusetts

Continuation of application Ser. No. 374,999, June 15, 1964. This application Feb. 20, 1968, Ser. No. 706,994
Int. Cl. G01j 5/48; G01n 21/00
U.S. Cl. 356—43 **10 Claims**



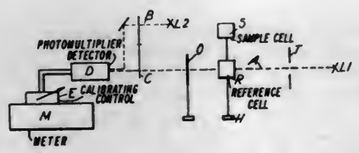
A sighting device for radiometric instruments, such as for temperature measurement of a distant object, has a flat mask sharply defining an aiming pattern. On one side of the mask is an aiming light at a distance accommodating a collector system. On the other side of the mask is a variable focus projecting lens system, and a sensing element at the mask. The transparent mask portions preferably define a parentheses pattern whose inner circle is coextensive with a round sensor face, or whose opposite parentheses edges are distanced to indicate the width of a sensor such as of rectangular configuration.

3,441,349

OPTICAL APPARATUS FOR MEASURING THE LIGHT TRANSMISSION OF A SAMPLE BODY

Edgar Frank Daly and Derek David Shrewsbury, Cambridge, England, assignors to Pye Limited, Cambridge, England

Filed June 30, 1964, Ser. No. 379,193
Claims priority, application Great Britain, July 4, 1963, 26,471/63
Int. Cl. G01j 3/42, 3/46
U.S. Cl. 356—93 **4 Claims**



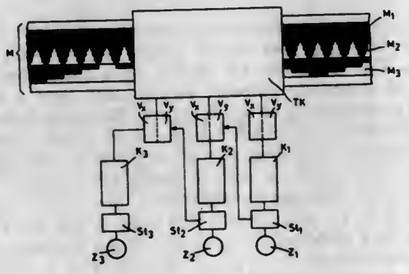
Apparatus and method for measuring the relative intensities of light transmission through a sample body and a reference body, e.g. in a spectrophotometer, comprises a light sensitive detector, a light source providing a first beam of light onto the detector, means for alternatively positioning the sample body and the reference body in said first beam and means providing a second beam of light onto said detector. At least one of the two beams is chopped so as to provide an alternating electrical output at the detector. The intensity of one of the beams of light is adjusted so that, when the reference body is in the first beam, the two beams may be brought to equality. The sample body is then positioned in the first beam and the amplitudes of the two alternating components of the detector output are then used to indicate the ratio of the amplitude of the first beam to that of the second beam and hence the ratio of the light transmission of the sample body compared with the reference body.

3,441,350

POSITIONING DEVICE FOR THE ABSOLUTE DIGITAL DETERMINATION OF MEASURING VALUES

Kurt Räntsch, Heidenheim (Brenz), and Otto Trötscher, Aalen, Germany, assignors to Carl Zeiss-Stiftung, doing business as Carl Zeiss, Heidenheim (Brenz), Wurttemberg, Germany, a corporation of Germany

Filed Jan. 11, 1966, Ser. No. 519,932
Claims priority, application Germany, Jan. 14, 1965, Z 11,275
Int. Cl. G01b 11/04
U.S. Cl. 356—170 **13 Claims**



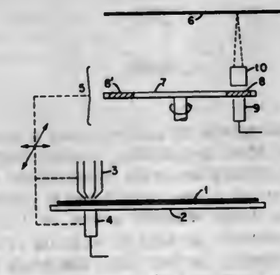
A positioning device for the absolute digital determination of measuring values employing a scanning head and a measuring gauge relatively movable to said scanning head. For each decimal of the measuring value is generated a sequence of electrical signals of a predetermined periodic characteristic when said measuring gauge is scanned, and said sequence of signals is decimally coded after amplification in an electronic analog-digital transformer.

3,441,351

COLOR RECORDING AVERAGING LIGHT INTENSITY METER

Persa R. Bell and Cecil C. Harris, Oak Ridge, Tenn., assignors to the United States of America as represented by the United States Atomic Energy Commission

Filed May 3, 1965, Ser. No. 452,951
Int. Cl. G01j 3/46; G01n 21/06, 21/22
U.S. Cl. 356—175 **3 Claims**



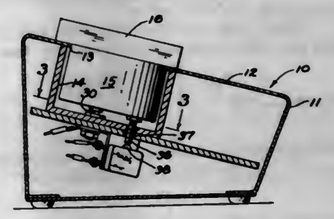
A system is provided for quantitatively analyzing data contained in chromatograms, electrophoresis records, and many photographic images particularly those depicting the distribution of radioactive substances in a structure such as body organs, and more particularly to a means for producing color rescans from such images of original scan records of medical patients, such that color is injected into the rescan record rather than into the original scan as is done in prior systems, and a color rescan record is thus provided that is not preprejudiced and in which the time lag between sensing and recording is greatly reduced.

3,441,352

COLORIMETER USING INTERCHANGEABLE METERS

Leonard A. Hughes, Oakland, Calif., assignor, by mesne assignments, to Nuclear-Chicago Corporation, Des Plaines, Ill., a corporation of Delaware

Filed Jan. 25, 1965, Ser. No. 427,808
Int. Cl. G01n 21/00; G01j 3/00; G01r 1/38
U.S. Cl. 356—189 **7 Claims**



A colorimeter. A receptacle receives a colorimeter cuvette containing a specimen, a spring in the cuvette urging it against one side thereof. At one side of the receptacle is an electric lamp as a light source and on the diametrically opposite side, against which the cuvette is urged, are a plurality of vertically displaced photoelectric cells. Each cell has maximum sensitivity to a different monochromatic light and has associated with it a filter for transmitting to the cell that monochromatic light to which its said cell has maximum sensitivity. An electric circuit includes the lamp, switch means for placing each cell in the circuit, only one at any time, a bridge circuit responsive to the current of the cell then in the circuit, and an electrical heater, which operates an incubator having a plurality of cuvette receptacles. A plurality of interchangeable meters, each relevant to one particular test and calibrated for direct reading in that test in conjunction with one cell and each insertable into and removable from the electric circuit is supplied, but only one is used at a time across the bridge circuit for measuring light transmissivity of said specimen as expressed by the current passing through the said photoelectric cell then in the electric circuit. Some of these meters have an actuator and some do not, the actuator, when present, throwing the switch means to place a different cell in the electric circuit.

3,441,353

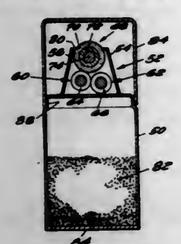
PERFUME DISPENSER

Clarence Lloyd Claff, 5 Van Beal Road, Randolph, Mass. 02368

Filed Jan. 31, 1967, Ser. No. 612,923
Int. Cl. A45d 34/00
U.S. Cl. 401—132 **4 Claims**

This invention relates to a perfume dispenser and to the combination of the dispenser and encapsulated perfume contained therein. Several species of container are provided for holding perfume which has been microencapsulated, the capsules either being held on tape material such as absorbent thin paper, cloth, or plastic within the container, or loosely; and manually operable

means are provided for bringing the encapsulated perfume to a position where the capsules may be crushed, thus



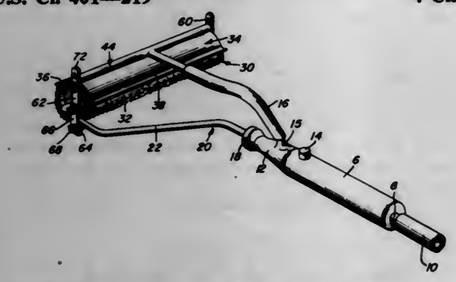
releasing perfume exteriorly of the container for use by the user thereof.

3,441,354
TUBULAR WRITING PEN
Helmuth Riepe, Hamburg, Germany, assignor, by mesne assignments, to Rapidograph, Inc., Bloomsbury, N.J., a corporation of New Jersey
Filed Jan. 16, 1967, Ser. No. 609,370
Claims priority, application Germany, Jan. 22, 1966, R 42,475
Int. Cl. B43k 5/06
U.S. Cl. 401—182 4 Claims



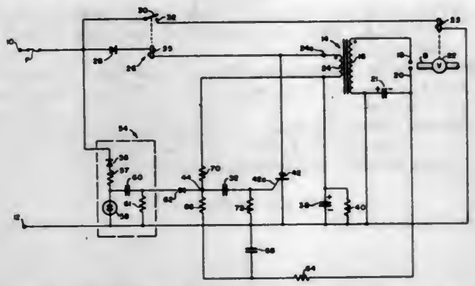
The present invention relates to a writing pen comprising a barrel forming a main ink reservoir, a writing head fixed in the open end of the barrrel, a sealing piston slidably contained in the front half of the barrel relative to the open end thereof, a rod attached to the back of the piston and contained in the hear half of the barrel, a retractable actuating plunger and a releasable coupling means for coupling the rod and plunger when the plunger is in an extended position, whereby the pen may be filled with ink by drawing it in by withdrawal of the piston from a forward position in the front half of the barrel.

3,441,355
PRESSURE-SUPPLIED PAINT ROLLER
Roger S. Brown, 401 Poplar Drive, Thomaston, Ga. 30286
Filed May 12, 1967, Ser. No. 638,121
Int. Cl. B44d 3/28, 3/00
U.S. Cl. 401—219 4 Claims



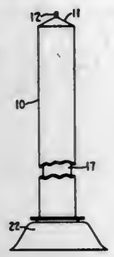
A valved reservoir provides a handle which has a pick-up hose at its trailing end and a delivery hose at its leading end. An L-shaped rod provides a shaft and shank, the latter being joined to said leading end. Usual type roller rotates on the shaft. A curvate shield and manifold unit is adjustably bracketed on the shaft. The manifold receives pressurized paint, has orifices which feed paint through ports which are aligned with plurality of diagonal slots formed distributively in a spreading plate in wiping contact with roller's applicator sleeve.

3,441,356
PULSED SPARK GAS IGNITION AND FUEL CONTROL SYSTEM
Lyman H. Walbridge, Ashland, Mass., assignor to Fenwal Incorporated, Ashland, Mass., a corporation of Massachusetts
Filed Sept. 12, 1967, Ser. No. 667,254
Int. Cl. F23n 5/00
U.S. Cl. 431—66 8 Claims



The application discloses a control system for a fuel burner including fuel supply means and ignition electrodes. The electrodes are excited by a spark-producing pulse of essentially unipolar voltage each time a switch in the pulse forming circuit is closed. The switch is periodically closed by a circuit responsive to pulses produced by a control pulse generator when power is first applied to the circuit and the control pulses are supplied for a time period sufficient to establish a flame. The control circuit is so arranged that it will cease to fire the switch after a time sufficient for ignition unless a condition sensing signal supplied by a circuit responsive to a condition which measures the performance of the burner is present. The fuel supply means acts to supply fuel to the burner in response to repeated closing and opening of the switch. The full specification should be consulated for an understanding of the invention.

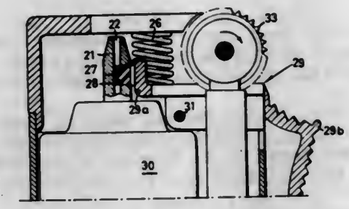
3,441,357
GASEOUS FUEL CANDLE
Burghard K. Schicklein, Gillette, N.J., assignor to Eastern Seaboard Plastics, Inc., Newark, N.J., a corporation of New Jersey
Filed Aug. 15, 1967, Ser. No. 660,620
Int. Cl. F23q 2/32; F23d 11/24
U.S. Cl. 431—125 5 Claims



This invention relates to candles using a gaseous fuel, such as butane. More specifically, it deals with a candle having a hollow body movably mounted in a base. A hollow needle serves as the "wick" and it projects downwardly into the body wherein a can of fuel, such as butane under pressure, is held in aligning relation with respect to the needle, so that when the body is pressed downwardly, the lower end of the needle enters the nozzle of the fuel can and presses open the valve therein, so as to permit fuel to pass through the hollow needle.

Locking means are provided in the base to lock the candle body in fuel "on" or "off" position, and spring means are provided at the candle top to impose pressure on the fuel can top to maintain the candle body in the desired position.

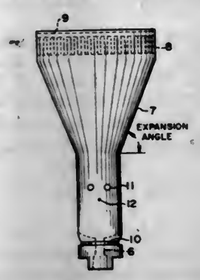
3,441,358
GAS LIGHTER HAVING A LEVER ACTUATED EXPANSIBLE VALVE MEANS
Olof Sune Grop, Maratonvagen 78, Enskede, Sweden
Filed Jan. 2, 1964, Ser. No. 335,297
Claims priority, application Sweden, Jan. 9, 1963, 204/63
Int. Cl. F23q 7/12, 2/16
U.S. Cl. 431—143 1 Claim



A gas lighter of the fluid and friction wheel type has a shut off valve which is comprised of a plug of elastic material that normally protrudes into and blocks the fuel duct through a lateral opening in its wall. The plug is actuated and normally pressed into the fuel duct by one arm of a spring-biased, two-armed lever which is so mounted below the friction wheel that a person's finger leaving said friction wheel must invariably fall on the second arm of the lever to thereby release the pressure against the plug and partly unblock the fuel duct.

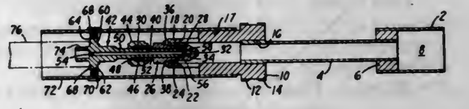
3,441,359
CATALYTIC RADIANT HEATER
Carl D. Keith, Summit, and John J. Mooney, Wyckoff, N.J., assignors to Engelhard Industries, Inc., Newark, N.J., a corporation of Delaware
Filed Apr. 26, 1967, Ser. No. 633,803
Int. Cl. F23d 13/12
U.S. Cl. 431—328 9 Claims

This disclosure concerns heaters which utilize a fuel, generally gaseous in nature, and an oxygen-containing gas such as air. The fuel and oxidizing gas are combined catalytically and burn without flame formation at the surface of a non-combustible unitary ceramic skeletal block



with gas flow channels. The devices are useful as heaters when the temperature of this surface is sufficiently high by virtue of the combustion to cause emission of substantial amounts of heat by radiation.

3,441,360
LOW PRESSURE TORCH
Joseph N. Johnson, Urbana, Ohio, assignor to Associated Development Corporation, Pinellas County, Fla., a corporation of Florida
Filed Nov. 22, 1966, Ser. No. 596,329
Int. Cl. B23d 13/00, 13/26
U.S. Cl. 431—345 7 Claims



A self-regulating, low pressure torch which mixes a large volume of air with the incoming combustion gas. The torch comprises a gas inlet nozzle mounted within an enlarged tubular handle member, a combustion chamber located forward of said inlet nozzle, and an air passage means in said tubular member whereby air flows through said tubular member and around said gas inlet nozzle to mix with the gas in the combustion chamber, while providing air cooling means for the handle member.

CHEMICAL

3,441,361
DYED POLYVINYL ACETAL SHEET CONTAINING AN ALKYLATED HYDROXY PHENYL BENZOTRIAZOLE STABILIZER
Jacques J. Tocatlian, Trenton, N.J., assignor to Monsanto Company, St. Louis, Mo., a corporation of Delaware
No Drawing. Filed Jan. 5, 1965, Ser. No. 423,572
Int. Cl. D06p 3/00, 5/00
U.S. Cl. 8—4 9 Claims

Light stabilized colored polyvinyl acetal sheets, suitable for use as interlayer material for pellucid laminates; which contain at least 0.10%, based on the weight of the polyvinyl acetal resin, of an alkylated hydroxy phenyl benzotriazole.

3,441,362
METHOD FOR COLORING POROUS STONES
Clemens Streck, Loudonville, N.Y., assignor to GAF Corporation, a corporation of Delaware
No Drawing. Filed Dec. 30, 1965, Ser. No. 517,817
Int. Cl. D06p 3/80, 1/02
U.S. Cl. 8—8 6 Claims

Naturally occurring porous stones, such as granite, marble, and limestone, and aquatic animal shells are artificially colored by applying thereto a solution of an azoic pigment, the solvent being a relatively volatile alkanolamine or lower alkyl amine. The solution may contain additional volatile solvents, dispersing agents, and other additives. An excess of caustic beyond that needed to form the alkali metal salt of the pigment gives best results.

3,441,363
DYEING OF HYDROPHOBIC MATERIALS
Donald Keighley Clough, Bolton, Bradford, England, assignor to Sandoz Ltd. (also known as Sandoz A.G.), Basel, Switzerland
No Drawing. Filed Oct. 7, 1965, Ser. No. 493,911
Int. Cl. D06p 5/02, 1/20
U.S. Cl. 8—39 6 Claims

A process for improving the wet fastness and sublimation fastness properties of a dyeing produced with dyestuffs of the anthraquinone series containing amino groups, which consists of aftertreatment of the dyeing with a polyhalogeno-quinone.

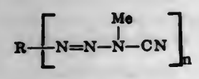
3,441,364

PROCESS FOR THE PRODUCTION OF WATER-INSOLUBLE AZO DYESTUFFS ON TEXTILE MATERIAL COMPRISING CELLULOSE OR PROTEIN FIBERS

Hasso Hertel and Werner Kirst, Offenbach am Main, Germany, assignors to Farbwerke Hoechst Aktiengesellschaft vormals Meister Lucius & Bruning, Frankfurt am Main, Germany, a corporation of Germany

No Drawing. Filed Oct. 16, 1964, Ser. No. 404,503
Claims priority, application Germany, Oct. 19, 1963, F 41,036
Int. Cl. D06p 1/12
U.S. Cl. 8—46 2 Claims

Process for the production of water-insoluble azo dyestuffs on textile material comprising treating the textile material in an alkaline bath containing a coupling component and a compound of the formula



wherein R is a radical of an aromatic or heterocyclic amine, Me is an alkali metal or alkaline earth metal and n is 1 or 2, a wetting or dispersing agent and, optionally, an inorganic salt, and producing the dyestuff by treatment with acid agents below 40° C.

3,441,365

PROCESS AND COMPOSITIONS FOR TREATING LEATHER AND LEATHERS OBTAINED

John A. Lowell, Philadelphia, and Peter R. Buechler, Langhorne, Pa., assignors to Rohm & Haas Company, Philadelphia, Pa., a corporation of Delaware

No Drawing. Filed Dec. 23, 1965, Ser. No. 516,113
Int. Cl. C14c 9/00, 3/22
U.S. Cl. 8—94.21 5 Claims

In accordance with the present invention it has been found that leathers can be improved in break and resistance to scuffing and can be greatly improved in flexibility and in case of extension so that they are not subject to grain-cracking even in such severe flexing and extending operations as the bending thereof over a last in forming the upper of a shoe by impregnation of the leather with a composition comprising an organic solvent solution containing (1) the reaction product of a polyisocyanate or of a polyisothiocyanate with a polymeric compound, having an average molecular weight of about 400 to about 10,000 and two or more groups containing a reactive hydrogen atom selected from the group consisting of hydroxyl, thiol (SH), carboxyl, amino, and amido (—CONH— or —$CONH_2$) groups, said compound being selected from the group consisting of polyethers, polyesters, polyamines, polyaminoethers, polyesters, polyether esters, polyamides, polyether amides and polyester amides and (2) certain acrylic copolymers as defined hereinafter containing about 3.5 to about 25 mole percent of units containing a group having a reactive hydrogen atom selected from the group consisting of hydroxyl, thiol, carboxyl, amino and amido groups. The reaction product (1) used in making up the impregnating composition preferably contains unreacted isocyanate or isothiocyanate groups, e.g. about 0.2% to 8%, and preferably about 1 to 5%, by weight thereof in the reaction product. The amount of copolymer (2) may be from 5% to 95% by weight of the total weight of reaction product (1) and (2).

ERRATUM

For Class 8—116.2 see:
Patent No. 3,441,954

3,441,366

WRINKLE-RESISTANT COTTON FABRICS WITH IMPROVED MOISTURE ABSORPTION

Andrew G. Pierce, Jr., and John G. Frick, Jr., New Orleans, La., assignors to the United States of America as represented by the Secretary of Agriculture

No Drawing. Filed Aug. 23, 1965, Ser. No. 481,985
Int. Cl. D06m 11/08
U.S. Cl. 8—116.3 6 Claims

Moisture regain properties of "aminoplast"-treated, wrinkle-resistant cellulosic textile fabrics are improved by adding an inert inorganic salt to the treating formulation.

3,441,367

METHOD FOR SETTING FINISHES ON CELLULOSIC TEXTILES WITH CATALYST COMPOSITION OF MAGNESIUM HALIDE AND ORGANIC ACID

Andrew G. Pierce, Jr., and John G. Frick, Jr., New Orleans, La., assignors to the United States of America as represented by the Secretary of Agriculture

No Drawing. Filed Dec. 22, 1965, Ser. No. 515,709
Int. Cl. D06m 13/14, 15/12
U.S. Cl. 8—116.3 5 Claims

This invention relates to a mixed catalyst composition for setting crosslinking finishes on cellulosic fabrics. The mixed catalyst composition consists of magnesium chloride hexahydrate and a member selected from the group consisting of citric acid, tartaric acid, methoxyacetic acid, hydroxybutyric acid, and glycolic acid. The two constituents are operable in ratio mixtures of from 25 to 75 parts by weight of one to 75 to 25 parts by weight of the other.

3,441,368

WOOL SCOURING PROCESS

Raymond Arthur Couche, 168 Adelaide Terrace, Perth, Western Australia, Australia

No Drawing. Filed July 11, 1966, Ser. No. 568,095
Claims priority, application Australia, July 12, 1965, 61,308/65
Int. Cl. D06l 1/02, 1/22
U.S. Cl. 8—139.1 12 Claims

The present process is for scouring wool by washing the wool with water to remove suint and then passing the washed wool through a series of stages in which it is washed with a solvent moving countercurrent to the wool with the solvent of one of the stages treated to remove substantially all the wool wax dissolved therein before the solvent is fed to the next stage.

3,441,369

METHOD FOR CONSERVING WATER

Frederic C. McCoy, Beacon, Edwin C. Knowles, Poughkeepsie, and Howard V. Hess, Glenham, N.Y., assignors to Texaco Inc., New York, N.Y., a corporation of Delaware

No Drawing. Continuation-in-part of application Ser. No. 127,810, July 31, 1961. This application June 1, 1965, Ser. No. 460,559
Int. Cl. B01j 1/18
U.S. Cl. 21—60.5 7 Claims

Method of inhibiting the evaporation of water from a water containing surface by contacting the surface in powdered form with a urea complex formed from urea and a C_{13}–C_{20} hydrocarbyl-amine or -acid or the corresponding hydroxy-substituted hydrocarbyl-amine or -acid and forming a substantially monomolecular layer of the hydrocarbyl compound thereon.

3,441,370

METHOD OF REMOVING SULFUR COMPOUNDS FROM GASES

William R. Gutmann and James H. Wright, Louisville, Ky., assignors to Catalysts and Chemicals, Inc., Louisville, Ky., a corporation of Delaware

No Drawing. Filed Apr. 25, 1966, Ser. No. 544,836
Int. Cl. B01d 47/00
U.S. Cl. 23—2 7 Claims

Method of removing sulfur compounds from gases containing steam wherein said gases at a temperature in excess of 300° F. are contacted with zinc oxide having a surface area in excess of 30 square meters per gram.

3,441,371

ZIRCONIUM HEXAFLUOROGERMANATE [$Zr(GeF_6)_2$] AND ZIRCONYL HEXAFLUOROGERMANATE [$ZrOGeF_6$]

Joseph C. Muhler, Indianapolis, Ind., assignor to Indiana University Foundation, Bloomington, Ind., a corporation of Indiana

No Drawing. Filed May 3, 1966, Ser. No. 547,188
Int. Cl. C01g 25/04; A61k 7/16
U.S. Cl. 23—51 3 Claims

New compositions of matter, namely, zirconium hexafluorogermanate [$Zr(GeF_6)_2$] and zirconyl hexafluorogermanate [$ZrOGeF_6$], have been discovered. These compounds, when incorporated in oral compositions for dental caries prophylaxis (e.g., as constituents of a dentifrice, prophylaxis paste, or mouthwash), have demonstrated substantial utility as anticariogenic agents.

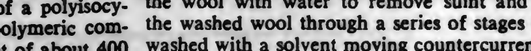
3,441,372

SOLVENT EXTRACTION PROCESS FOR SEPARATION OF ZINC FROM CADMIUM

John Lionel Pegler and David Peter Pepworth, Avonmouth, England, assignors to Imperial Smelting Corporation (N.S.C.) Limited, London, England, a British company

No Drawing. Filed Jan. 24, 1966, Ser. No. 522,364
Claims priority, application Great Britain, Feb. 1, 1965, 4,271/65
Int. Cl. C01g 9/00, 11/00; B01d 11/02
U.S. Cl. 23—55 10 Claims

A method of separating zinc from an aqueous chloride solution containing zinc, cadmium and sodium chloride involving subjecting the solution at a pH of 1.5–6 to liquid/liquid extraction with an alkyl ester of phosphoric acid of the formula



where $n>3$ and x is an integer from 1 to 3, to form an organic phase containing zinc values and recovering zinc values from said organic phase and cadmium values from the aqueous solution.

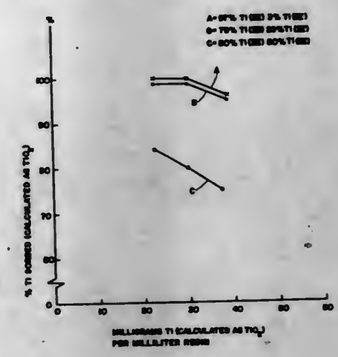
3,441,373

TITANIUM SALT PURIFICATION

James P. Bonsack, Aberdeen, Md., assignor, by mesne assignments, to SCM Corporation, New York, N.Y., a corporation of New York

Filed Sept. 19, 1966, Ser. No. 580,458
Int. Cl. C01b 9/02; C07f 7/28
U.S. Cl. 23—87 10 Claims

A novel improved process for purifying an aqueous titanium salt solution containing trace impurities by contacting the solution with a cation exchange resin in the acid form, thereby sorbing titanium ion values on said resin and subsequently eluting the titanium ion values from the resin with an aqueous acid solution to form an effluent comprising a purified titanium salt solution is described. The invention is advantageous in that titanium salt solutions which are more highly purified than was heretofore possible can be obtained and provides titanium



oxide products more suitable for use in ceramic capacitors.

3,441,374

ALKALI METAL CONDENSED PHOSPHATE MATERIALS, PROCESSES FOR PREPARING SAME AND RESULTING COMPOSITIONS

Chung Yu Shen, Olivette, Mo., assignor to Monsanto Company, a corporation of Delaware

No Drawing. Original application Aug. 14, 1963, Ser. No. 301,965, now Patent No. 3,321,406, dated May 23, 1967. Divided and this application Dec. 21, 1966, Ser. No. 619,098
Int. Cl. C01b 25/38, 25/30
U.S. Cl. 23—106 3 Claims

1. An amorphous, non-vitreous, free-flowing alkali metal condensed phosphate having an alkali metal to phosphorus molar ratio of between about .5 to about 5 and the ability to sequester in an aqueous solution at least 1 gram of calcium per 100 grams of said phosphate.

3,441,375

PROCESS FOR THE PRODUCTION OF PHOSPHORIC ACID AND CEMENT MATERIAL

William P. Moore, Chester, and Rob Roy MacGregor, Hopewell, Va., assignors to Allied Chemical Corporation, New York, N.Y., a corporation of New York

Filed Jan. 13, 1967, Ser. No. 609,107
Int. Cl. C01b 33/20, 25/18
U.S. Cl. 23—110 16 Claims

A continuous process for producing orthophosphoric acid which involves the treatment of a moving aqueous slurry of phosphate rock with a countercurrent stream of vapor-phase hydrochloric acid. The by-product calcium chloride brine is reacted directly with silica in a fluidized bed of sand and calcium silicate particles at the combustion temperature of a fluid hydrocarbon fuel burned within the bed to yield calcium silicate, which is useful for making cement, and hydrochloric acid, which is recycled.

3,441,376

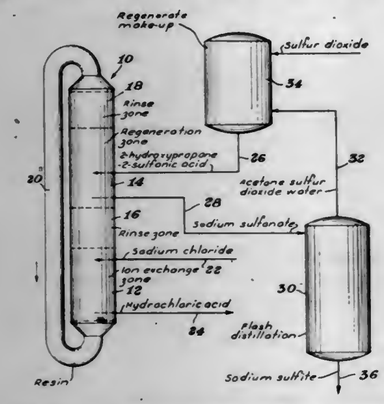
PROCESS FOR PRODUCING AN ACID AND A BASIC SALT FROM AN ALKALI METAL HALIDE

Robert E. Anderson, Midland, Mich., assignor to The Dow Chemical Company, Midland, Mich., a corporation of Delaware

Filed Dec. 26, 1967, Ser. No. 693,541
Int. Cl. C01b 17/62, 7/08
U.S. Cl. 23—129 8 Claims

An ion exchange process is provided for the production of an acid and a basic salt from an alkali metal halide. The process includes contacting a solution containing an alkali metal halide with a cation exchange resin in hydro-

gen form to produce an acid halide, subsequently regenerating the cation exchange resin with a complex sulfonic

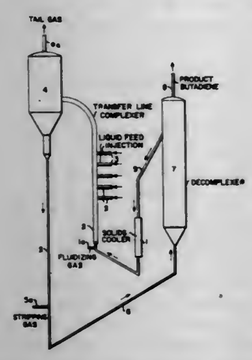


acid, and treating the regenerant effluent to recover the sulfonic acid regenerant and produce a basic solution containing alkali metal sulfite.

3,441,377
COMPLEXING LIGANDS WITH A FLUIDIZED BED OF CUPROUS CHLORIDE

Willard Hall Sawyer, Baton Rouge, La., Robert B. Long, Atlantic Highlands, Donald J. Gardner, Murray Hill, and Ralph Cecchetti, Hanover, N.J., assignors to Esso Research and Engineering Company, a corporation of Delaware

Filed July 2, 1965, Ser. No. 469,102
Int. Cl. C01b *31/18, 21/00*
U.S. Cl. 23—204 **33 Claims**



Complexible ligands are selectively recovered from feed streams containing them by injecting the feed as a ligand into a gas fluidized bed of cuprous halide sorbent particles, whereby the desired ligand is selectively complexed; the ligand may be recovered by desorbing the complex which also regenerates the sorbent; ligands, such as butadiene, useful as a chemical intermediate, may be recovered in this manner.

3,441,378
PROCESS FOR THE MANUFACTURE OF CARBON TEXTILES

Carbide Corporation, a corporation of New York
Rostislav Didchenko, Cleveland, Ohio, assignor to Union
No Drawing. Filed May 10, 1966, Ser. No. 548,862
Int. Cl. C01b *31/07*; D06m *1/00*
U.S. Cl. 23—209.1 **9 Claims**

An improved process for producing carbon textiles from cellulosic textiles is provided which comprises heating a cellulosic textile to a temperature up to about 400° C. in an atmosphere which contains a strongly hydroscopic reactive Lewis acid-base type gas which chemically modifies the starting cellulosic textile following by carbonizing the so-modified textile in an inert atmosphere to produce a substantially all carbon textile.

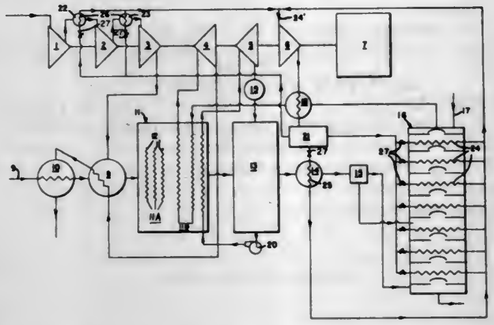
3,441,379
PROCESS FOR CONVERTING HYDROGEN SULFIDE INTO ELEMENTARY SULFUR

Philippe Renault, Neuilly-sur-Seine, France, assignor to Institut Francais du Petrole, des Carburants et Lubrifiants, Rueil-Malmaison, France
Filed Mar. 30, 1966, Ser. No. 538,652
Claims priority, application France, Mar. 30, 1965, 11,307
Int. Cl. C01b *17/04, 17/06*
U.S. Cl. 23—226 **7 Claims**

By utilizing a liquid ester of a phosphoric acid, such as tri-n-butyl orthophosphate, as the reaction medium for producing elementary sulfur by the reaction of hydrogen sulfide with sulfur dioxide, the yield and rate of reaction are increased, and the sulfur is obtained in the form of readily filterable particles. In addition, atmospheric pollution due to waste gases from the Claus process and other processes containing low concentrations of SO_2 and/or H_2S, can be substantially reduced.

3,441,380
ACID PRODUCING PLANT

David R. Morrow, Irwin, Pa., assignor to Carrier Corporation, Syracuse, N.Y., a corporation of Delaware
Filed Oct. 22, 1965, Ser. No. 500,912
Int. Cl. B01j *1/14, 9/04*; C01b *21/40*
U.S. Cl. 23—260 **7 Claims**



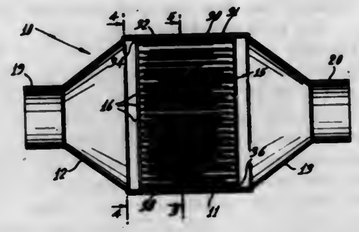
A nitric acid producing plant employing a refrigeration unit which utilizes energy given off by the chemical reactions productive of nitric acid to cool the substances produced by the chemical reactions and to reduce the temperature of the plant absorption tower to increase reaction efficiency and decrease reaction time to increase plant efficiency.

3,441,381
APPARATUS FOR PURIFYING EXHAUST GASES OF AN INTERNAL COMBUSTION ENGINE

Carl D. Keith, Summit, Teunis Schreuders, Irvington, and Charles E. Cunningham, East Orange, N.J., assignors to Engelhard Industries, Inc., Newark, N.J., a corporation of Delaware
Filed June 22, 1965, Ser. No. 465,955
Int. Cl. B01j *9/04*
U.S. Cl. 23—288 **8 Claims**

Apparatus for purifying internal combustion engine exhaust gases comprises a catalyst, having a cylindrical unitary ceramic skeletal structure with gas flow passages

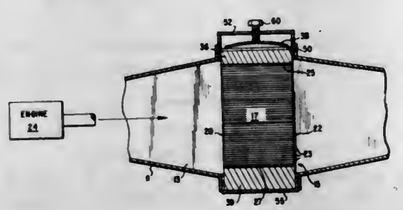
therethrough, disposed in a metal cylindrical housing of larger diameter leaving a narrow annular space between the ceramic structure and the metal housing. Annular flanges provide a continuous barrier to gas flow around the periphery of the supported catalyst as well as a barrier



to gas flow through the narrow space. In addition a shell of corrugated knitted metal mesh in the narrow annular space serves to absorb mechanical shock, to secure the ceramic structure laterally, and to compensate for the difference in thermal expansion between the ceramic structure and the metal housing.

3,441,382
CATALYST CARTRIDGE

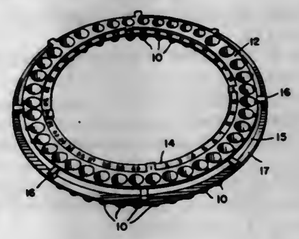
Carl D. Keith, Summit, N.J., and Teunis Schreuders, Johannesburg, Transvaal, Republic of South Africa, assignors to Engelhard Industries, Inc., a corporation of Delaware
Continuation-in-part of application Ser. No. 256,856, Feb. 7, 1963. This application Jan. 27, 1967, Ser. No. 612,134
Int. Cl. B01j *9/20, 11/06*
U.S. Cl. 23—288 **12 Claims**



The disclosure is of a fluid-treating catalyst having a metallic housing holding a ceramic body endowed with a plurality of unobstructed fluid flow paths between the inlet and outlet. Means can be provided between the housing and the ceramic body to heat insulate one from the other and to provide for resilient mounting of the ceramic body. Also, the arrangement of the insulating and resilient components blocks any substantial fluid flow path around the ceramic body and no substantial portion of this component is in contact with the housing. The ceramic body may be provided with adjacent metal plates and the resilient component can be placed between such plates and the housing. The heat-insulating component may be a ceramic of sufficient size to avoid loss of heat to the point where the catalyst temperature is lowered below that needed for conversion of the fluid being treated, and the resilient component may be disposed between the housing and the heat-insulating means. Also, the resilient means and the heat-insulating means may be a single member performing both functions. The device is particularly suitable for treating exhaust gases from automobiles and other gas streams.

3,441,383
MULTIPLE CUP TRAY

Francis C. Moore, 3935 Arthington Blvd., and Leon R. Perkinson, 4925 E. 40th St., both of Indianapolis, Ind. 46226
Filed Oct. 26, 1966, Ser. No. 589,586
Int. Cl. B01l *3/00*
U.S. Cl. 23—292 **8 Claims**



1. An article for use with automatic analysis equipment having a horizontal turntable defining a plurality of apertures positioned equidistant from the center of said turn table comprising:
a plurality of cups adapted for placement in the apertures of said turntable;
a horizontal flange integral with each of said cups and positioning said cups at relative spacial relationship for insertion into adjacent apertures of said turntable; and
lip means integral with said flange and extending radially ouwardly therefrom beyond the turntable for lifting of the entire article and the contents of the cups away from the turntable.

3,441,384
PIPETTE HAVING RELATIVELY FLAT CROSS-SECTION

Vaughan Morrill, Jr., Creve Coeur, Mo., assignor to Clay-Adams, Inc., New York, N.Y., a corporation of New York
Filed Nov. 17, 1966, Ser. No. 595,116
Int. Cl. B01l *3/00*
U.S. Cl. 23—292 **4 Claims**



1. A pipette comprising a transparent tubular portion having an outer predetermined flat configuration and a lumen of substantially similar cross-sectional configuration, the tubular portion having substantially wide and flat faces and interconnecting sides, said tubular portion being tapered at one end and open at both ends, a scale on one of the flat faces, and said tubular portion having walls of predetermined thickness so as to substantially eliminate parallax when viewing a column of fluid contained within said tubular portion.

3,441,385

REDUCING DISLOCATION DEFECTS OF SILICON SEMICONDUCTOR MONOCRYSTALS BY HEAT TREATMENT

Otto Schmidt, Erlangen, Germany, assignor to Siemens Aktiengesellschaft, a corporation of Germany

No Drawing. Filed Aug. 2, 1966, Ser. No. 569,573
Claims priority, application Germany, Aug. 5, 1965, S 98,654
Int. Cl. B01j 17/20; C01b 33/02
U.S. Cl. 23—293 8 Claims

Described is a method of reducing dislocation defects of silicon semiconductor monocrystals. The method comprises the steps of tempering the monocrystal at a temperature below the melting point by at most 300° C. for a minimum period of about one hour, then cooling the monocrystal at a rate of less than 7° C. per minute down to about 500° C. below the melting point, and thereafter continuing the cooling of the monocrystal at a faster rate but less than 20° C. per minute.

3,441,386

LEACHING POTASSIUM SALTS FROM MIXTURES IN THE PRESENCE OF SOLUBLE FERRIC, CHROMIC AND ALUMINUM SALTS

Giacinto Veronica, Novara, Italy, assignor to Montecatini Edison S.p.A., Milan, Italy

No Drawing. Filed Sept. 29, 1966, Ser. No. 583,090
Claims priority, application Italy, Oct. 1, 1965, 22,032/65
Int. Cl. C01d 1/30
U.S. Cl. 23—297 4 Claims

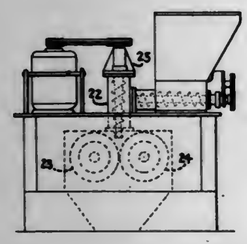
1. A process for separating sodium chloride from solid mixtures with potassium salts which comprises leaching the starting mixture at 40–60° C. with an aqueous salt solution saturated with sodium chloride and potassium salt, to which from 1 to 4 g./l., calculated as metal oxide, of a water soluble salt selected from the group consisting of sulfates, chlorides and nitrates of Al^{+++}, Cr^{+++} and Fe^{+++} has been added thereby modifying the saturation equilibrium of the potassium salt, but not of the other ions present, separating the potassium salt enriched aqueous solution from the NaCl solid phase, and cooling the precipitate solution to 15–25° C. to separate the potassium salt.

3,441,387

DEAERATION AND COMPACTION OF SILICEOUS PIGMENT

Cloyde G. Dye, Barberton, Ohio, assignor to PPG Industries Inc., Pittsburgh, Pa., a corporation of Pennsylvania

Filed Aug. 12, 1965, Ser. No. 479,129
Int. Cl. B01j 9/00
U.S. Cl. 23—313 11 Claims



Powdery siliceous pigments are provided in a compacted form suitable for bulk handling. This is accomplished by deaerating powdery siliceous pigment while increasing its bulk density to between about 12 and about 15 pounds per cubic foot. This deaerated pigment is subsequently compacted to produce a product of low friability and acceptable dispersibility.

3,441,388

EFFERVESCENT COMPOUNDS AND PROCESS FOR PRODUCING SAME

Kenneth W. Knapp, Palo Alto, Calif., and Michael J. McCarthy, Fanwood, and Leonard R. Darbee, Trenton, N.J., assignors to FMC Corporation, New York, N.Y., a corporation of Delaware

No Drawing. Filed Dec. 14, 1965, Ser. No. 513,856
Int. Cl. C09k 3/00; C01b 15/00
U.S. Cl. 23—315 7 Claims

Effervescent compounds are produced by suspending particles of (1) alkali metal, alkaline earth metal or ammonium persulfates, perphosphates or percarbonates, (2) alkali metal, alkaline earth metal or ammonium salts of a polybasic acid or (3) amines, amides or imides that have hydrogen peroxide hydrogen-bonded thereto in a stream of inert gas, maintaining the average distance between the particles at least 0.07 times the diameter of the particles and heating the particles to a temperature of from 40° to 300° C. until evolved water has been removed.

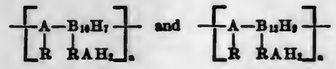
3,441,389

POLYMERIC PRODUCTS OF $B_{10}H_{10}^{=}$ AND $B_{12}H_{12}^{=}$-CONTAINING COMPOUNDS

Seymour Yolles, Newark, Del., assignor to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware

No Drawing. Continuation-in-part of application Ser. No. 455,949, May 14, 1965. This application Apr. 9, 1968, Ser. No. 719,852
Int. Cl. C01b 6/20, 21/06
U.S. Cl. 23—358 12 Claims

Polymers having structural formula characterized by at least one of the repeating units



where A is nitrogen or phosphorus; R is hydrogen or C_1–C_8 alkyl and n is 2–50; and hydrolyzates thereof.

3,441,390

FUEL CELL ELECTRODE

Eugene K. Backe, Milwaukee, and Gary J. Wiskow, West Allis, Wis., assignors to Allis-Chalmers Manufacturing Company, Milwaukee, Wis.

No Drawing. Filed Feb. 2, 1966, Ser. No. 524,462
Int. Cl. B22f 3/10
U.S. Cl. 29—182.2 5 Claims

A sintered porous fuel cell electrode comprised of about 80 to 90% nickel powder and about 1 to 20% fibrous or filamentary nickel. The electrode is made by heating a uniform mixture of the nickel powder and nickel fibers, at a temperature of about 1300–2200° F. in a reducing atmosphere for a period of 10 to 60 minutes.

3,441,391

TUNGSTEN-BASE ALLOYS

Stephen Foldes, San Jose, Calif., assignor to General Electric Company, a corporation of New York

No Drawing. Continuation-in-part of application Ser. No. 423,389, Jan. 4, 1965. This application Jan. 26, 1967, Ser. No. 611,818
Int. Cl. B22f 3/10
U.S. Cl. 29—182.5 3 Claims

Powder-metallurgy alloys of W with 10–20% Mo, 0.1–1.0% Ti and 200–1000 p.p.m. oxygen are ductile at low temperatures and strong at intermediate temperatures. They may be used to line die casting dies.

3,441,392

PREPARATION OF FIBER-REINFORCED METAL ALLOY COMPOSITES BY COMPACTION IN THE SEMIMOLTEN PHASE

Amarnath P. Divecha, Falls Church, and Henry Hahn, Fairfax, Va., and Paul J. Lare, Bowie, Md., assignors to Melpar, Inc., Falls Church, Va., a corporation of Delaware

Filed Mar. 27, 1967, Ser. No. 626,190
Int. Cl. B22f 3/14
U.S. Cl. 29—182.8 26 Claims

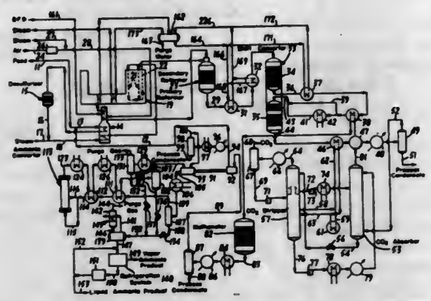
Processes of preparing metal alloy-whisker composites exhibiting significant increases in mechanical strength over alloys without fiber reinforcement, by hot pressing the composite with the metal matrix in a partly solid and partly liquid state.

3,441,393

PROCESS FOR THE PRODUCTION OF HYDROGEN-RICH GAS

James A. Finneran, Garden City, and Hays C. Mayo, Huntington, N.Y., Robert H. Multhaup, London, England, and Ronald B. Smith, Old Greenwich, Conn., assignors to Pullman Incorporated, Chicago, Ill., a corporation of Delaware

Filed Jan. 19, 1966, Ser. No. 521,697
Int. Cl. C01b 2/08, 2/14
U.S. Cl. 48—197 27 Claims



In a process for the production of hydrogen-rich gas at elevated pressure, particularly ammonia synthesis gas, by any one or a combination of steps comprised of partial oxidation, primary reforming, secondary reforming and shift conversion, at elevated temperatures and intermediate pressures followed by compression of the hydrogen-rich gas to an elevated pressure, the improvement of producing steam at pressures substantially higher than said intermediate process pressure by indirect heat exchange between water and hydrogen-rich gas at the intermediate pressure, expanding the high pressure steam to a pressure at least that of the process pressure, utilizing the energy derived from the expansion for gas compression within the process, and utilizing at least a portion of the expanded steam as process steam. Further expansion of portions of the expanded steam provides additional energy for gas compression and liquid pumping within the overall process.

3,441,394

MAKING STEAM FOR GASIFYING COAL

John C. St. Clair, Madison County, Ohio (Box 333, R.R. 2, London, Ohio 43140)

No Drawing. Filed May 2, 1967, Ser. No. 635,376
Int. Cl. C10j 3/46; C10b 57/12
U.S. Cl. 48—202 2 Claims

A method for using impure water for making steam for gasifying coal, by heating molten lead by a furnace, contacting and heating superheated steam, containing 0.1% added hydrogen, by the molten lead, reheating the molten lead from the preceding step so that it can heat additional superheated steam, contacting the heated superheated steam with impure water so that the impure water is evaporated at a temperature at which any salts from the impure water that are present in the superheated steam are present in a dry form, removing steam that has been evaporated from the impure water from the larger body of superheated steam and using the removed steam to gasify coal, and reheating the larger body of steam from the preceding step by contacting it with heated molten lead so that the superheated steam can evaporate more impure water.

3,441,395

PRODUCTION OF COMBUSTIBLE GASES

Frederick James Dent, Solihull, England, assignor to The Gas Council, London, England, a corporation of Great Britain

No Drawing. Filed June 2, 1965, Ser. No. 460,816
Claims priority, application Great Britain, June 8, 1964, 23,698/64
Int. Cl. C10g 11/28
U.S. Cl. 48—214 8 Claims

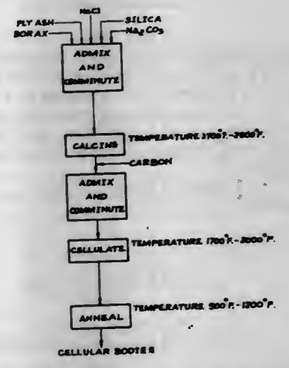
Low temperature steam reforming of hydrocarbon feedstocks having from 4 to 15 carbon atoms per molecule in a two-stage process consisting of gasification and reforming stages, and particularly to the second stage of this process. The gaseous mixture from the first stage is passed through at least one pair of stages consisting of, first, an externally fired preheater and, secondly, a reforming stage in which the preheated gases are subjected to the action of a reforming catalyst at a temperature above 550° C. to bring about the conversion of methane contained therein by reaction with steam to form carbon monoxide and hydrogen.

3,441,396

PROCESS FOR MAKING CELLULAR MATERIALS

Dominic D'Eustachio, Pittsburgh, and Howard E. Johnson, Trafford, Pa., assignors to Pittsburgh Corning Corporation, Port Allegany, Pa., a corporation of Pennsylvania

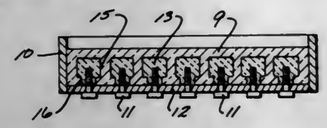
Filed June 3, 1965, Ser. No. 460,997
Int. Cl. C03b 19/08
U.S. Cl. 65—22 4 Claims



This disclosure relates to a process for making lightweight, closed celled cellular bodies from constituents including crystalline silica without first melting the materials and forming a viscous liquid mass. The process includes mixing the finely divided constituents including the crystalline silica and thereafter heating the constituents without liquifaction to a temperature of between 1700° F. and 2300° F. for a sufficient period of time to cause an interaction between the constituents, dissolve a substantial portion of the crystalline material in the mixture and convert substantially all the crystalline silica to a vitreous form of silica. The treated material is then rapidly cooled to prevent recrystallization and comminuted to a rela-

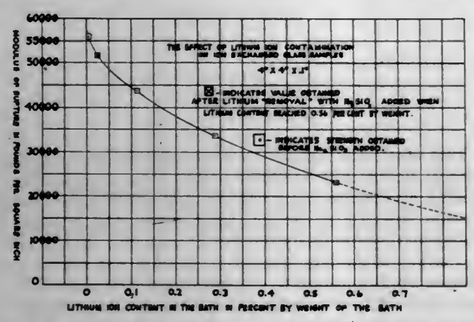
tively fine size. The comminuted, treated material is mixed with a cellulating agent and heated at a controlled rate to a temperature of between 1700° F. and 2000° F. where the admixture coalesces and cellulates to form cellular bodies having physical properties comparable with cellular glass. Various minerals containing crystalline silica, as for example, fly ash and sand, may be used as a raw batch constituent. Fluxing agents and oxidizing agents may also be used in the raw batch.

3,441,397
METHOD OF FORMING A GLASS-CERAMIC ARTICLE HAVING AN INTERNAL CAVITY
Dennis T. Sturgill, Toledo, Ohio, assignor to Owens-Illinois, Inc., a corporation of Ohio
Filed Dec. 8, 1966, Ser. No. 600,164
Int. Cl. C03b *19/02, 27/00*
U.S. Cl. 65—23 9 Claims



Method of forming from molten thermally crystallizable glass, a shaped glass-ceramic article having at least one internal cavity, including the steps of molding the article and using at least one module or male mold part to create the cavity or cavities herein. The glass is solidified around the module or modules and thereafter is thermally crystallized to form a glass-ceramic article. The cavity-forming module is composed of a refractory material having structural strength sufficiently high that it maintains its shape during the solidification of the glass yet sufficiently low that it yields during the shrinkage of the cavity during the crystallization of the glass. The article increases in density and the cavity or cavities shrink during the crystallization, and thereby causing the module to yield under the compressive force created by the volumetric contraction of the cavity during the crystallization, without, however, cracking said article. Thereafter the module material is removed from the cavity.

3,441,398
METHOD OF REMOVING ION FROM SALT BATH BY ION EXCHANGE REGENERATION
Albert R. Hess, Pittsburgh, Pa., assignor to PPG Industries, Inc., a corporation of Pennsylvania
Continuation-in-part of application Ser. No. 388,371, Aug. 10, 1964. This application Oct. 28, 1966, Ser. No. 598,577
Int. Cl. C03c *21/00*
U.S. Cl. 65—30 9 Claims



This invention relates to a method for strengthening glass. More particularly, the invention relates to an improvement in a method of chemically treating an alkali metal containing glass article with a salt of an alkali metal with a larger atomic diameter than the alkali metal of the glass to increase the strength of the article, said improvement pertaining to a method of maintaining a low concentration of the alkali metal of smaller ionic diameter in admixture with the salt of the alkali metal of larger atomic diameter. The invention especially pertains to a method of effectively removing from the treating bath or rendering insoluble the contaminating smaller alkali metal ion, for example, lithium in a sodium salt bath, in order to maintain the concentration of said smaller ion sufficiently low in order to consistently produce high strength glass.

3,441,399
ABRASION RESISTANT GLASS SURFACES
Leon Levene and Ian M. Thomas, Toledo, Ohio, assignors to Owens-Illinois, Inc., a corporation of Ohio
No Drawing. Filed Aug. 16, 1965, Ser. No. 480,154
Int. Cl. C03c *17/06*
U.S. Cl. 65—60 7 Claims

Method for increasing the scratch resistance of a glass surface which includes treating the glass surface, while hot, with a chemically reduced material; and the article produced thereby.

3,441,400
POROUS MINERAL CARRIER IMPREGNATED WITH A NITROGEN FERTILIZER
Joseph V. Otrhalek, Dearborn, Mich., assignor to Wyandotte Chemicals Corporation, Wyandotte, Mich., a corporation of Michigan
Filed June 28, 1965, Ser. No. 467,653
Int. Cl. C05g *3/00*; C05c *1/00*
U.S. Cl. 71—54 8 Claims

A solid product suitable for use in growing plants consisting essentially of about 60 to 99 weight percent of (A) porous angular particles of a solid mineral carrier having a pore size ranging from about 4 to 35 angstroms, a particle size ranging from about 6 to 80 mesh, and which weigh about 30 to 45 pounds per cubic foot, consisting essentially of about 40 to 80 weight percent silica as SiO_2, about 2 to 30 weight percent alumina as Al_2O_3, about 0.5 to 15 weight percent of iron as Fe_2O_3, about 0.5 to 10 weight percent of lime as CaO, and about 0.5 to 10 weight percent magnesium as MgO, impregnated with about 1 to 40 weight percent of (B) a nitrogen-containing fertilizer composition.

3,441,401
METHOD OF REMOVING FATTY ACID COATING FROM HEMATITE CONCENTRATE
Rodney L. Stone, Allentown, and William M. Aubrey, Jr., Bethlehem, Pa., assignors to Bethlehem Steel Corporation, a corporation of Delaware
No Drawing. Filed Oct. 26, 1966, Ser. No. 589,513
Int. Cl. C21b *1/14*; B03c *1/00*; B03d *1/10*
U.S. Cl. 75—5 4 Claims

1. A method of producing indurated pellets of magnetite-hematite concentrate recovered from a low grade magnetite ore containing hematite, pyrite, silica and apatite comprising:

(a) wet grinding the ore to a fineness suitable for magnetic separation,
(b) magnetically separating the magnetite concentrate from the siliceous-bearing hematite,
(c) adding an anionic fatty acid collector to the slurry and removing the hematite concentrate as a "float" product from the siliceous gangue,
(d) grinding the hematite concentrate slurry to a fineness suitable for pelletizing,
(e) adding not less than 45 pounds of leonardite per ton of hematite concentrate during the grinding thereof,

(f) mixing the recovered magnetite concentrate with the leonardite and hematite concentrate slurry,
(g) filtering the magnetite concentrate-leonardite-hematite concentrate slurry to remove substantially all the leonardite therefrom,
(h) pelletizing the magnetite-hematite concentrate, and
(i) indurating the pellets.

3,441,402
CONTINUOUS PROCESS FOR THE PRODUCTION OF MAGNESIUM
Ellington M. Magee, Scotch Plains, and Benjamin Eisenberg, Parsippany, N.J., assignors to Esso Research and Engineering Company, a corporation of Delaware
Filed Dec. 15, 1965, Ser. No. 513,992
Int. Cl. C22d *7/02*; C22b *45/00*
U.S. Cl. 75—10 8 Claims

This invention relates to a process for the continuous production of magnesium metal, which comprises introducing a mixture of magnesium ores into a submerged arc electric furnace together with a reducing agent. The furnace temperature is maintained below about 1500° C. and operated at one atmosphere. The magnesium vapor is withdrawn from the furnace and condensed to obtain liquid magnesium. The molten slag is removed from the furnace and handled as desired.

3,441,403
RECOVERY OF COPPER VALUES FROM COPPER-CONTAINING ORES
Robert E. Fredrickson, Lake Jackson, Tex., and Albert E. Erhard, Denver, Colo., assignors to The Dow Chemical Company, Midland, Mich., a corporation of Delaware
No Drawing. Filed June 8, 1966, Ser. No. 555,988
Int. Cl. C22b *1/06, 15/00, 3/00*
U.S. Cl. 75—74 6 Claims

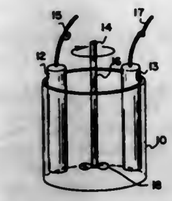
This invention relates to an improvement in the process of sulfate roasting of copper-containing ores using SO_2 in the presence of O_2 (or air) in order to convert the copper values to water-soluble copper sulfate. The present invention increases the efficiency of the copper conversion by the addition of HCl to the SO_2 and air during the roasting step.

3,441,404
EXTRACTION OF COPPER FROM MOLTEN METAL MELTS
Kenneth H. Ivey, Adelphi, Md., and Sidney J. Chastain, Knoxville, Tenn., assignors to the United States of America as represented by the Secretary of the Interior
No Drawing. Filed Nov. 25, 1966, Ser. No. 597,162
Int. Cl. C22b *15/00*
U.S. Cl. 75—76 10 Claims

Removing copper from molten scrap iron by adding sulfur and halide-containing compound to the melt whereby resultant halide vapor strips off copper-sulfur compound.

3,441,405
ELECTROCHEMICAL CHELATION AND PRECIPITATION PROCESS FOR EXTRACTION OF BERYLLIUM FROM ORES
William A. Rhodes, 4421 N. 13th Place, Phoenix, Ariz. 85014
Filed Jan. 24, 1966, Ser. No. 522,660
Int. Cl. C22b *3/00*
U.S. Cl. 75—101 4 Claims

A method for extraction of beryllium from ores consisting in placing crushed ore in a solution of oxalic acid to form a mixture having a pH ranging between 4 and 5, and subjecting said mixture to alternating current by means of carbon electrodes; the alternating current being at a wattage of approximately 7 per square inch to provide a beryllium pregnant liquor, then introducing an excess of hydrochloric acid to the pregnant liquor for reaction with the amount of beryllium in liquor, then



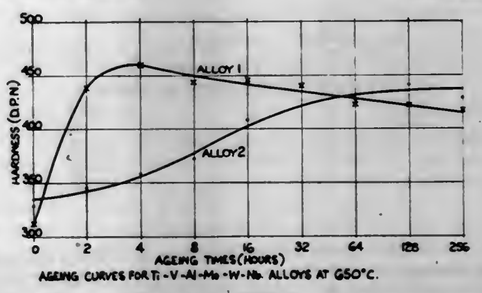
percolating benzene through the pregnant liquor to concentrate beryllium chloride, then boiling the benzene away to leave a concentrated precipitate of beryllium chloride.

3,441,406
PRECIPITATION HARDENABLE AUSTENITIC STEEL
Karl Bungardt and Wolfgang Spyra, Krefeld, Germany, assignors to Germany Edelstahlwerke Aktiengesellschaft, Krefeld, Germany
No Drawing. Continuation of application Ser. No. 409,586, Nov. 6, 1964. This application Apr. 8, 1968, Ser. No. 721,120
Claims priority, application Germany, Nov. 14, 1963, D 42,938
Int. Cl. C21d *7/14*; C22c *39/20*
U.S. Cl. 75—128 8 Claims

1. A steel having a coefficient of expansion of between 19×10^{-6} mm./mm. ° C. and 22×10^{-6} mm./mm. ° C., and a 0.2% elastic limit of at least 85 kg./mm.², said steel consisting essentially of:

	Percent
Carbon	0.60–0.75
Nitrogen	0.05–0.08
Nickel	11.5–12.5
Manganese	4.5–5.5
Niobium and/or tantalum	0.2–0.5
Vanadium	0.9–1.2
Chromium	2.5–3.5
Silicon	<0.3
Phosphorus	<0.02
Sulphur	<0.02
Iron	Remainder

3,441,407
TITANIUM-BASE ALLOYS
Evan William Evans, Hagley, and John Robert Moon, Jesmond, Newcastle-upon-Tyne, England, assignors to Imperial Metal Industries (Kynoch) Limited, London, England, a corporation of Great Britain
Filed Mar. 11, 1965, Ser. No. 438,987
Claims priority, application Great Britain, Mar. 11, 1964, 10,307/64
Int. Cl. C22c *15/00*
U.S. Cl. 75—175.5 13 Claims



Beta titanium-base alloys containing vanadium and aluminium and a beta stabilizer from the group tungsten,

molybdenum, niobium and tantalum. The alloys possess high creep strength and ductility and considerable fire resistance.

3,441,408

HIGH STRENGTH METAL FILAMENTS AND THE PROCESS AND APPARATUS FOR FORMING THE SAME

Hermann J. Schladitz, 12–14 Ruffini Strasse, Munich, Germany

Filed Nov. 10, 1965, Ser. No. 507,121
Claims priority, application Germany, Nov. 11, 1964, Sch 36,084
Int. Cl. B22f 7/02
U.S. Cl. 75—208 8 Claims

A metal filament of predetermined length and thickness whose core is formed from the gas phase of small quantities of a ferromagnetic carbonyl within a temperature gradient sufficient to decompose the carbonyl and form a chain-like aggregate along the lines of force of an induced magnetic field. Thereafter the temperature gradient is reduced and relatively greater quantities of metal atoms of carbonyl vapor of ferromagnetic and/or paramagnetic carbonyls are deposited on the aggregate to form said filament.

3,441,409

METHOD OF PRODUCING A CORROSION RESISTANT ALLOY OF Cu-Ni BY LIQUID PHASE SINTERING

Malcolm F. Burr, Bethlehem, Conn., assignor to Chase Brass and Copper Co., Inc., Waterbury, Conn., a corporation of Connecticut

No Drawing. Filed Jan. 26, 1967, Ser. No. 611,843
Int. Cl. C22c 1/04, 19/00
U.S. Cl. 75—208 12 Claims

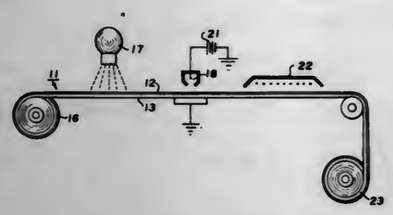
A corrosion resistant, nonhomogeneous copper-nickel alloy containing from about 20% to 50% by weight copper and from about 50% to 80% by weight nickel is produced by forming a mixture of finely divided copper and nickel powder in the desired proportions, forming the mixture into an article of the desired shape, and heating the shaped powder mixture in a reducing atmosphere at a temperature in excess of the melting point of copper and below the melting point of nickel to obtain a coherent metal shape comprising mutually adhering particles of nonhomogeneous copper-nickel alloy.

3,441,410

DEFORMATION IMAGING PROCESSES USING ELECTRICALLY PHOTOSENSITIVE PHOTOCHROMIC MATERIALS

Carl Brynko, West Webster, N.Y., assignor to Xerox Corporation, Rochester, N.Y., a corporation of New York

Filed July 1, 1965, Ser. No. 468,733
Int. Cl. G03g 13/22
U.S. Cl. 96—1.1 14 Claims



The subject matter of this invention is directed towards an imaging system whereby a photochromic material may be exposed in such a manner that its conductivity properties may be altered to form an electrostatic latent image. Upon softening by exposure to heat or other suitable means a deformation pattern forms in the surface corresponding to said latent image.

3,441,411

IMAGE FORMATION THROUGH THE CHEMICAL REACTION OF PHOTOCHROMIC MATERIALS

Alan B. Amidon, Penfield, and Carl Brynko, West Webster, N.Y., assignors to Xerox Corporation, Rochester, N.Y., a corporation of New York

Filed Oct. 1, 1965, Ser. No. 492,204
Int. Cl. G03c 1/40, 5/40
U.S. Cl. 96—27 11 Claims



An image is formed by exposing an imaging layer comprising a photochromic material to actinic electromagnetic radiation in image configuration to convert at least a portion of the photochromic material from one photochromic state to another, contacting the photochromic material with a reagent which is reactive with only one form of the photochromic material and supplying sufficient heat to cause a reaction between the reagent and one form of the photochromic material.

3,441,412

PHOTOGRAPHIC SILVER HALIDE MATERIAL CONTAINING CARBOXYALKYLATED DEXTRIN

Wolfgang Himmelmann and Franz Moll, Cologne-Stammheim, Rolf-Fred Posse, Cologne-Flittard, and Alexander Riebel and Hans Ulrich, Leverkusen, Germany, assignors to Agfa Aktiengesellschaft, Leverkusen, Germany, a corporation of Germany

No Drawing. Filed Dec. 16, 1964, Ser. No. 418,918
Claims priority, application Germany, Dec. 27, 1963, A 44,892
Int. Cl. G03c 1/06
U.S. Cl. 96—94 5 Claims

This invention relates to photographic gelatin silver halide emulsions and auxiliary layers containing carboxyalkylated dextrin to improve covering power.

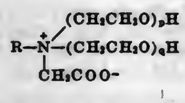
3,441,413

PHOTOGRAPHIC ELEMENTS HAVING GELATINOUS COATING COMPOSITIONS CONTAINING AMPHOTERIC SURFACE ACTIVE AGENTS

Fumihiko Nishio and Kameji Nagao, Kanagawa-ken, Japan, assignors to Fuji Shashin Film Kabushiki Kaisha, Kanagawa-ken, Japan, a corporation of Japan

No Drawing. Filed July 2, 1965, Ser. No. 469,319
Claims priority, application Japan, July 7, 1964, 39/38,556
Int. Cl. G03c 1/02
U.S. Cl. 96—94 12 Claims

Gelatinous photographic coating compositions containing as a coating aid an amphoteric surface active agent having the following general formula:



wherein R is an alkyl group having 8 to 18 carbon atoms, p and q are each integers greater than zero and $p+q$ is an integer from 2 to 18. A photographic material containing the above compounds has good wettability for photographic developer.

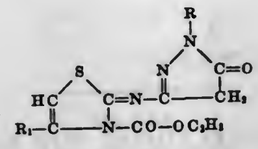
3,441,414

PRODUCTION OF PHOTOGRAPHIC COLOR IMAGES UTILIZING PYRAZOLONE COLOR COUPLERS

Raphael Karel Van Poucke, Mechelen, and Arthur Henri De Cat and Marcel Jacob Monbaliu, Mortsel-Antwerp, Belgium, assignors to Gevaert Photo-Producten N.V., Mortsel, Belgium, a Belgian company

No Drawing. Filed Jan. 28, 1965, Ser. No. 428,835
Claims priority, application Belgium, Jan. 30, 1964, 43,368
Int. Cl. G03c 7/34
U.S. Cl. 96—100 4 Claims

Color couplers are described having the general formula:



wherein:

R represents a substituted aryl radical such as a substituted phenyl radical, e.g., a phenyl radical substituted with a halogen, a phenyloxy group, an alkyl, or a N-dialkylsulphonamido group, and

R_1 is an aliphatic radical containing from about 5 to 20 carbon atoms.

The color couplers are particularly suited for the production of negative color images when developed with aromatic primary amino developing agents.

3,441,415

FOOD PRODUCTS PRODUCED BY ELECTROPHORESIS OF EMBRYOS AND PLACENTAL COTYLEDONS

Gabrielle Jeanne Llouquet, born Llouquet, 43 Rue de Donremy, Paris, France

Filed Sept. 17, 1965, Ser. No. 488,014
Claims priority, application France, Sept. 25, 1964, 989,454
Int. Cl. A23k 1/10; B01k 5/00
U.S. Cl. 99—7 14 Claims

A food product for addition to animal feed is produced by electrophoresis of embryos of animals belonging to the bovine, ovine, caprine, porcine, or equine families or foetal portions of placenta cotyledons of animals belonging to the bovine family. Said electrophoresis is conducted in a bath of distilled water in which the organs to be treated are immersed. The electrophoresis current is provided by a direct current source the terminals of which are connected to two electrodes, respectively, suspended in said bath. In case of embryos said organs are connected to the negative electrode, whereas in case of foetal portions of placenta cotyledons the organs are connected to the positive electrode. The electrophoresis is maintained until the difference in potential between the organs and the bath becomes substantially zero, whereafter the organs are removed from the bath, dehydrated at a temperature not exceeding about 60° C., and comminuted.

3,441,416

METHOD OF PELLETING HOPS AND THEN SOLVENT EXTRACTING

Wilhelm Depmer, 86 Kielmannseggstrasse, 2 Hamburg-Wandsbek-Marienthal, Germany

Filed Mar. 22, 1966, Ser. No. 538,160
Int. Cl. C12c 9/02
U.S. Cl. 99—50.5 3 Claims

A method of processing hops includes conveying a mass of previously untreated hops to a compressing station, mechanically compressing the mass of hops, and simultaneously converting it into at least one rod, and thereupon subdividing the rod into individual sections or pellets of desired size which are subsequently subjected to solvent extraction.

3,441,417

BEVERAGE PRODUCT AND PROCESS

Jacob R. Feldman and Valentine J. Fischer, New City, and Matthew Hamell, Orangeburg, N.Y., and Lewis M. Berkowitz, Baltimore, Md., assignors to General Foods Corporation, White Plains, N.Y., a corporation of Delaware

No Drawing. Continuation-in-part of application Ser. No. 247,311, Dec. 26, 1962. This application Oct. 5, 1965, Ser. No. 493,236
Int. Cl. A23l 1/00
U.S. Cl. 99—79 19 Claims

A dry beverage composition adapted to be reconstituted with an aqueous liquid to produce an effervescent beverage comprising, as an essential carbonating ingredient, an organic compound having a carbonic acid anhydride group, capable of controlled hydrolysis in water to release CO_2 at a substantially uniform rate. Buffers and other adjuncts may be provided for the composition which is adapted to produce a carbonated beverage of improved palatability and effervescence.

3,441,418

PRODUCTION OF INSTANT-TYPE CREAM PUFFS

Yozo Nishikiori, No. 12 Shiba Mishima-cho, Minato-ku, Tokyo, Japan

Filed July 29, 1965, Ser. No. 475,717
Claims priority, application Japan, Aug. 1, 1964, 39/43,669
Int. Cl. A21d 13/08; B65b 23/00
U.S. Cl. 99—86 4 Claims

A process for making cream puffs in which the casing material moves through oven zones of gradually increasing temperature, and the zones have a lateral temperature differential whereby the top and bottom surfaces of the casing are baked at different temperatures. The casings are then dried and stored in a plastic package. Hot custard is then inserted into the casings and the casings are put back into the plastic package which is resealed. The casing will expand and soften into a cream puff due to steam emitted by the hot cream.

3,441,419

PROCESS FOR CLEANING AND CORROSION PROTECTION OF METALS AND A COMPOSITION THEREFOR

Per Albin Atterby, Skotvagen 7, Lidingo, Sweden

Continuation of application Ser. No. 445,653, Apr. 5, 1965. This application Jan. 29, 1968, Ser. No. 703,518
Int. Cl. C23f 11/02, 15/00
U.S. Cl. 106—14 9 Claims

A rust and salt-type corrosion preventing colloidal solution contains water, a hydrocarbon solvent, a petroleum sulphonate or two petroleum sulphonates of different molecular weight, a di or triethanol amine salt of an aromatic carboxylic acid as additional anticorrosion agent, an ester of oleic or ricinoleic acid with an ethylene oxide adduct of a glycol or hexitol as a non-ionic water soluble emulsifier and preferably additional corrosion protective agents, a coupling agent, and viscosity decreasing agents.

3,441,420
INK FORMULATION

Calvin T. Hollowood, Inkster, Mich., assignor to Burroughs Corporation, Detroit, Mich., a corporation of Michigan

No Drawing. Continuation of application Ser. No. 326,385, Nov. 27, 1963. This application Dec. 11, 1967, Ser. No. 689,254

Int. Cl. C09d *11/14*

U.S. Cl. 106—26 11 Claims

A fast setting ink composition for use in high speed printing systems where the ink is transferred from high speed rotating printing drums or wheels to paper documents successively fed thereto. The ink composition comprises a special combination of coloring material, nitrocellulose binder and polyglycol carrier solvent, the relative proportions of which are so designed as to avoid ink throw-off from the high speed moving parts of the printer and to prevent smudging and offsetting. The components of the ink formulation are combined under particular conditions and the resulting ink composition is printable upon paper documents without the assistance of externally applied heat.

3,441,421
CALCIA-MAGNESIA-ALUMINA SEAL COMPOSITIONS

James F. Sarver, Highland Heights, and William C. Louden, South Euclid, Ohio, assignors to General Electric Company, a corporation of New York

Filed Oct. 24, 1966, Ser. No. 588,955

Int. Cl. C04b *35/10;* H01j *61/30*

U.S. Cl. 106—39 2 Claims

1. A calcia-magnesia-alumina composition for sealing to alumina ceramic comprising not less than 46% and not more than 52% Al_2O_3 by weight and the balance CaO and MgO in a ratio one to the other of approximately 5.13 to 1, the actual percentage by weight of MgO within the composition being within 0.5% of the figure determined by the preceding relationship and said composition having a liquidus temperature below 1600° C.

3,441,422
COATING GLASSES FOR ELECTRICAL DEVICES

William A. Graff, Willoughby, Ohio, assignor to General Electric Company, a corporation of New York

No Drawing. Continuation-in-part of application Ser. No. 491,899, Sept. 30, 1965. This application July 26, 1966, Ser. No. 567,834

Int. Cl. C03c *3/08*

U.S. Cl. 106—53 3 Claims

1. A glass having in the vitreous state a fiber softening point of about 635° C. to about 637° C., a liquidus temperature of about 1030° C. to about 1075° C., a coefficient of expansion of approximately 44.5×10^{-7}/° C. to 44.8° C., an electrical resistance of approximately 13.1 to 13.3 log 10 ohm-cm. at 250° C., a dielectric constant of 8.1 and a dielectric dissipation factor of 0.00138 to 0.00145 at room temperature and one megacycle frequency, said glass being capable of thermal devitrification within a period of one hour at a temperature within the range of 750° C. to 850° C. and consisting essentially in weight percent of:

ZnO	60
B_2O_3	23–25
SiO_2	9.4–10.5
CeO_2	3
Bi_2O_3	0–0.1
PbO	2–3
Sb_2O_3	0.5

3,441,423
COATING COMPOSITIONS CONTAINING POLYUNSATURATED BIS-1,3-DIOXOLANES

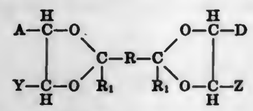
Heinz F. Reinhardt, Claymont, Del., assignor to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware

No Drawing. Continuation-in-part of application Ser. No. 425,601, Jan. 14, 1965. This application Dec. 14, 1967, Ser. No. 690,395

Int. Cl. C09d *3/60*

U.S. Cl. 106—287 3 Claims

Coating compositions containing bis-dioxolanes of the general structure



and a siccative metal drier.

3,441,424
GLASS SURFACES COATED WITH DECORATIVE ORGANIC COATINGS

Nicholas C. Bolgiano, Lancaster County, Pa., assignor to Armstrong Cork Company, Lancaster, Pa., a corporation of Pennsylvania

No Drawing. Filed Jan. 25, 1965, Ser. No. 427,979

Int. Cl. B41m *1/34;* B44d *1/16;* C03c *17/32*

U.S. Cl. 117—12 5 Claims

A glass surface having a coating of 5–100 millimicrons of a refractory metal oxide coating, and having an additional top coating of an ink having a binder of a cured terpolymer consisting essentially of 50–70% by weight styrene, 20–50% by weight 2-ethylhexyl acrylate, and 2-14% by weight of an organic acid selected from the group consisting of acrylic acid and methacrylic acid.

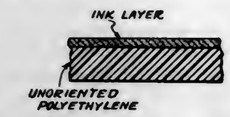
3,441,425
PRESSURE-SENSITIVE, INK-TRANSFER ARTICLES AND PROCESS FOR PREPARING SAME

Milton Richlin, Philadelphia, Pa., assignor to Olivetti Underwood Corporation, New York, N.Y., a corporation of Delaware

Filed July 30, 1965, Ser. No. 476,209

Int. Cl. B41j *31/05;* B41c *1/06;* B44d *1/28*

U.S. Cl. 117—36.1 15 Claims



Ink transfer articles, such as one-use typewriter ribbons, having improved ink release characteristics are provided by using unoriented, low-density polyethylene as the base film for the ink and by applying the ink to the film in such manner that there is substantially no orientation of the film during the coating and winding operations.

3,441,426
ERASURE-PROOF DEVELOPMENT OF ELECTROSTATIC PATTERNS

Walter August Van den Heuvel, Antwerp, Johan Eugeen Vanhaist, Wilrijk-Antwerp, Jozef Leonard Van Engeland, St. Katelijne-Waver, and Noel Jozef De Volder, Aarsele, Belgium, assignors to Gevaert Photo-Producten N.V., Mortsel, Belgium, a Belgian company

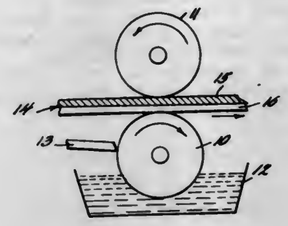
Filed May 18, 1964, Ser. No. 368,312

Claims priority, application Netherlands, May 17, 1963, 292,922

Int. Cl. G03g *7/00*

U.S. Cl. 117—37 2 Claims

Erasure-proof images are produced on a photoconductive zinc oxide containing recording sheet by developing the electrostatic image on the sheet with an aqueous acidic liquid developer containing hexacyanoferrate (III) ions and a reducing compound selected from aromatic and hetrocyclic primary and secondary amines by which cationic dyes are formed upon oxidation. As the developer contacts the electrostatic image in the presence



of the zinc ions in the sheet the amines are oxidized by the hexacyanoferrate (III) ions while the dyes are firmly absorbed to the formed zinc hexacyanoferrates. Agents may be added to the developing solution to lower the surface tension and to slow the drying rate. The amines and the hexacyanoferrate (III) ions may be applied in two separate steps.

3,441,427
METHOD OF PRODUCING OPAQUE SHADOW MARK

Bruce D. Skofronick, Appleton, Wis., assignor to Custom-mark Corporation, Appleton, Wis., a corporation of Wisconsin

No Drawing. Filed Feb. 7, 1966, Ser. No. 525,343

Int. Cl. D21h *3/36*

U.S. Cl. 117—37 6 Claims

A method for producing a sheet of paper having a chemical shadow mark. An area of the paper having a thermosetting curable resin, a curing agent, and an organic solvent is contacted with an aqueous sizing agent before the resin hardens, and the resin is then cured.

3,441,428
LOW TEMPERATURE ELECTROLESS PLATING

George C. Reinhard, 16682 Robert Lane, Huntington Beach, Calif. 92647, and Michael W. O'Mara, 11209 Stamy Road, Whittier, Calif. 90604

No Drawing. Filed Sept. 13, 1965, Ser. No. 486,602

Int. Cl. C23c *3/00;* B44d *1/20*

U.S. Cl. 117—47 7 Claims

A process of plating metals on the cleaned surface of an article of non-conductive material wherein said article is immersed in a solution consisting essentially of nickel and ammonium cations and hypophosphite anions and substantially devoid of chloride and sulfate ions. The solution is maintained in the temperature range of 70° F.–140° F., and replenished from time to time with additional amounts of hypophosphite, ammonia and nickel.

3,441,429
THIN FILM FERRITES

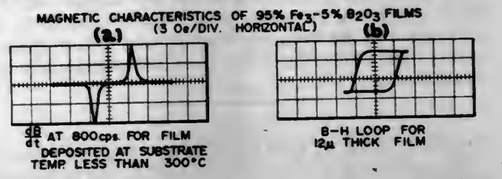
Michael Hacskaylo, Falls Church, Va., assignor to Melpar, Inc., Falls Church, Va., a corporation of Delaware

Filed Mar. 31, 1966, Ser. No. 539,079

Int. Cl. B44d *1/44;* C23c *13/04*

U.S. Cl. 117—62 5 Claims

A thin ferrite film having a thickness ranging from 2,000 angstroms (A.) to 20 microns is deposited under vacuum from a mixed oxide composition of $(100-X)\%$ Fe_3O_4 and $X\%$ B_2O_3, where X ranges upward to 10 percent, onto a substrate maintained at a temperature within the range from approximately 27° C. to approximately



750° C. under vacuum pressure less than 10^{-4} mm. abs. Hg.

3,441,430
ADHESIVES AND ADHESIVE TAPES

Richard L. Peterson, Hudson, Wis., assignor to Minnesota Mining and Manufacturing Company, St. Paul, Minn., a corporation of Delaware

No Drawing. Filed Nov. 19, 1964, Ser. No. 412,329

Int. Cl. C09d *3/66;* C09j *7/02;* C08c *17/16*

U.S. Cl. 117—68.5 10 Claims

Repulpable splicing tapes which adhere to wet or hydrophilic surfaces are made by coating one or both surfaces of a paper backing with a water-soluble copolymer of an acrylic acid and an ether acrylate, plasticized with at least an equal amount of a liquid water-soluble plasticizer having at least one ether linkage, e.g., polyethylene glycol monophenyl ether.

3,441,431
ENHANCING THE REPELLENCY OF FIBROUS MATERIALS WITH FLUOROALKOXYALKYL SILANES OR SILOXANES

Allen G. Pittman, El Cerrito, and William L. Wasley, Berkeley, Calif., assignors to the United States of America as represented by the Secretary of Agriculture

No Drawing. Continuation-in-part of application Ser. No. 526,366, Feb. 10, 1966. This application May 25, 1967, Ser. No. 641,108

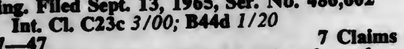
Int. Cl. D06m *15/66, 13/18*

U.S. Cl. 117—121 16 Claims

A fluoroisopropyl allyl (or vinyl) ether, which contains a fluorine atom on the alpha carbon atom of the isopropyl group, is reacted with a silane containing H directly bonded to the Si atom whereby to achieve chemical addition. Typically, heptafluoroisopropyl allyl ether is reacted with methyldichlorosilane to produce



or with trichlorosilane to produce



The silane derivatives are useful, in both monomeric or polymeric form, for imparting a high degree of water- and oil-repellency to fibrous substances, e.g., fabrics made from natural or synthetic fibers. Typically, the monomeric silane derivative is subjected to hydrolytic polymerization and the resulting polysiloxane, dissolved in an inert solvent, is applied to a fabric. The treated fabric is then air-dried and cured in an oven—150° C. for about ½ hour.

3,441,432
METHOD OF RENDERING GLASS SURFACES ABRASION AND SCRATCH RESISTANT

Leon Levene, Toledo, Ohio, assignor to Owens-Illinois, Inc., a corporation of Ohio

No Drawing. Filed Aug. 19, 1965, Ser. No. 481,066

Int. Cl. C03c *17/30*

U.S. Cl. 117—124 15 Claims

Abrasion and scratch resistant glass surfaces, particularly glass containers, are produced by applying to the glass surface a bis(trialkylsiloxy) titanium oxide wherein the alkyl group contains from 1 to 12 carbon atoms while

the glass surface is at a temperature below the pyrolyzing temperature of the coating material. Preferably the titanium compound is dissolved in an inert organic solvent. Glass containers and other glass surfaces treated in accordance with the foregoing method have formed thereon a thin, tightly adhering, transparent and substantially colorless coating.

3,441,433

PROCESS FOR FLAMEPROOFING, WATERPROOFING AND OILPROOFING TEXTILE MATERIALS

Claude Jean Michel, Senez, Chantilly, France, assignor to Ugine Kuhlmann, Paris, France

No Drawing. Filed Dec. 24, 1964, Ser. No. 421,093
Claims priority, application France, Dec. 27, 1963, 958,664
Int. Cl. D06m *15/68, 11/00*
U.S. Cl. 117—137 3 Claims

Process for flameproofing, waterproofing, and oilproofing cellulosic textile material comprising impregnating the material with an aqueous composition containing a phosphonitrile chloride and a polyfluoro aliphatic alcohol polyacrylate and heating.

3,441,434

PRIMER FOR POLYOLEFIN SURFACES

James L. Jezl, Swarthmore, Del., assignor to Avisun Corporation, Philadelphia, Pa., a corporation of Delaware

No Drawing. Filed Sept. 10, 1965, Ser. No. 486,544
Int. Cl. B32b *27/32;* C08j *1/50*
U.S. Cl. 117—138.8 5 Claims

A priming composition for rendering the surface of polyolefin articles receptive to paint and ink which consists essentially of a resin, a drying oil, a dryer, a chlorinated ethylene having at least three chlorine atoms, and dichlorobenzene, in specified proportions.

ERRATUM

For Class 117—139.5 see:
Patent No. 3,441,953

3,441,435

PROCESS AND COMPOSITION FOR IMPARTING ANTISTATIC FINISH TO TEXTILE MATERIALS

Helmut Kirschnek and Wolfgang Lehmann, Leverkusen, and Mathieu Quaedvlieg, Opladen, Germany, assignors to Farbenfabriken Bayer Aktiengesellschaft, Leverkusen, Germany, a German corporation

No Drawing. Filed Mar. 15, 1965, Ser. No. 439,995
Claims priority, application Germany, Apr. 8, 1964, F 42,554
Int. Cl. C08g *20/30;* D06m *15/60*
U.S. Cl. 117—139.5 8 Claims

Composition of matter and process for imparting an antistatic finish to fibrous materials by impregnating with an aqueous solution having as active component the polyaddition product of

(a) A diamine or polyamine having at least two hydrogen atoms with

(b) A polyglycidyl ether, and drying the impregnated material.

3,441,436

TOOL QUALIFICATION FILM COMPRISING A WOVEN FABRIC COATED WITH A RESINOUS MIXTURE FOR USE IN DETERMINING THE EFFECTIVENESS OF TOOLS

Regis Raab, Havre de Grace, Md., assignor to American Cyanamid Company, Stamford, Conn., a corporation of Maine

No Drawing. Filed Feb. 9, 1966, Ser. No. 526,054
Int. Cl. C09d *3/48;* B32b *17/00*
U.S. Cl. 117—161 7 Claims

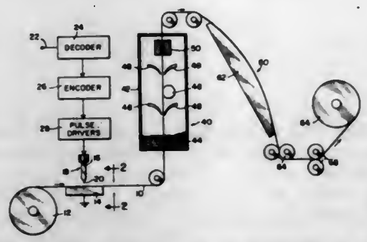
A tool qualification film comprising a woven fabric coated with a resinous mixture of certain polyvinyl acetal-alcohol-acetate resins, polyglycol diepoxides, liquid polyhydric alcohols and 2-ethyl-4-methylimidazole.

3,441,437

RECORDING MEDIUM AND PROCESS OF DEVELOPING LATENT ELECTROSTATIC IMAGE ON A RECORDING MEDIUM

Herman Epstein, Melrose Park, and Robert E. Benn, Bromall, Pa., assignors to Burroughs Corporation, Detroit, Mich., a corporation of Michigan

Continuation of application Ser. No. 714,767, Feb. 12, 1958. This application Jan. 25, 1963, Ser. No. 255,715
Int. Cl. G01d *9/00;* B05b *5/02*
U.S. Cl. 117—17.5 24 Claims



1. The process of developing information on a recording medium comprised of a dielectric layer of high resistivity attached to a backing layer of substantially lower resistivity than said dielectric layer, said information being comprised of electrically charged areas of said dielectric layer, said method comprising; establishing a relatively low resistance electrically conductive circuit of uncharged ink powder between the surface of the dielectric layer remote from said backing layer, and the backing layer to surround both layers, the backing layer of relatively low resistivity facilitating the completion of the electrical circuit between the opposite faces of the dielectric layer, and maintaining said circuit for a sufficient period of time so that a portion of said developing medium will adhere to each of said electrically charged areas of said film by depositing sufficient ink to develop the latent images.

3,441,438

METHOD TO FORM HOT CATHODES

Eberhard Weiss, Stuttgart, Germany, assignor to International Standard Electric Corporation, New York, N.Y., a corporation of Delaware

No Drawing. Filed June 4, 1965, Ser. No. 461,532
Claims priority, application Germany, July 3, 1964, St 22,348
Int. Cl. B32b *31/26;* H01j *9/12*
U.S. Cl. 117—223 2 Claims

A cathode sleeve and emissive coating are heated rapidly to about 1,200° C. with the heating being repeatedly interrupted to maintain a maximum temperature difference between the sleeve and coating to minimize evaporation of the coating.

3,441,439

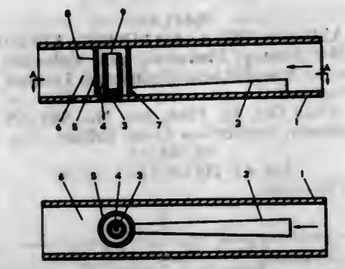
APPARATUS AND METHOD FOR REDUCING FOULING OF UNDERWATER SURFACES

Eric Alec Eagell, Tonbridge, England, assignor to The Distillers Company Limited, Edinburgh, Scotland, a British company

Filed Oct. 18, 1965, Ser. No. 497,045
Claims priority, application Great Britain, Dec. 11, 1964, 50,508/64
Int. Cl. B08h *3/02*
U.S. Cl. 134—37 7 Claims

Distribution of an anti-fouling liquid dispersed in a gas through a pipe system having a plurality of distribution points on or in association with an underwater surface.

Includes improved component design to achieve more even and complete distribution of the anti-fouling liquid uniformly throughout all of the distribution points, by providing supplemental baffles within the piping in association with the primary dispersal devices. The supplemental baffles are usually generally funnel shape, capable of collecting liquid settling out of the gas mixture on the inner walls of the pipes, and have a deflecting surface arranged to reexpose this collected liquid to gas flowing in the pipe in such a manner that sufficient turbulence is caused in the liquid to redisperse it in the gas.



3,441,440

ACTIVATION OF NICKEL FOIL AND PRODUCT SO PRODUCED

Norman Mark Silverstone, Selly Park, Birmingham, England, assignor to The International Nickel Company, Inc., New York, N.Y., a corporation of Delaware

No Drawing. Filed Nov. 8, 1965, Ser. No. 506,897
Claims priority, application Great Britain, Nov. 16, 1964, 46,575/64
Int. Cl. H01m *43/04*
U.S. Cl. 136—29 8 Claims

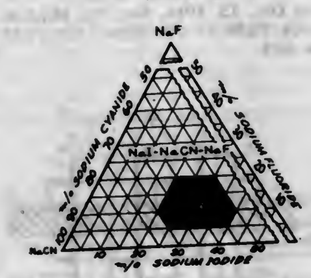
A process for activating nickel foil for accumulator cells, which process comprises masking nickel foil surfaces to be activated with an electrically non-conducting porous mask, initially anodically oxidizing the thus-masked nickel foil surface, removing the mask and then continuing the anodic oxidation treatment, is disclosed. A high capacity activated nickel foil is also disclosed.

3,441,441

GALVANIC CELL ELECTROLYTE

Marlowe L. Iverson, Simi, Calif., assignor to North American Rockwell Corporation, a corporation of Delaware

Filed Apr. 2, 1965, Ser. No. 444,955
Int. Cl. H01m *11/00*
U.S. Cl. 136—83 9 Claims



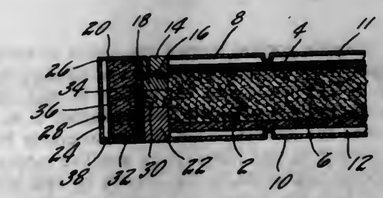
Fusible sodium salt mixtures and a sodium-amalgam galvanic cell utilizing the mixed sodium salts as a fusible electrolyte therein. The salt mixture is a ternary or quaternary salt system and contains at least three components selected from sodium cyanide, sodium fluoride, sodium iodide, and sodium carbonate, no component being present in amount in excess of 80 mole percent, sodium carbonate being present in amount below 20 mole percent. A preferred ternary mixture of eutectic composition contains, in mole percent, 58±1 sodium cyanide, 30±1 sodium iodide, and 12±1 sodium fluoride.

3,441,442

FUEL CELL WITH CONTAINMENT FOR ELECTROLYTE EXPANSION

Calvin L. Bushnell, South Glastonbury, and Howard J. Latimer, Jr., Vernon, Conn., assignors to United Aircraft Corporation, East Hartford, Conn., a corporation of Delaware

Filed July 13, 1966, Ser. No. 564,894
Int. Cl. H01m *27/02*
U.S. Cl. 136—86 4 Claims



1. In a fuel cell system, a fuel cell including spaced opposed electrodes each including an impervious outer wall and an inner porous wall spaced from the first wall and pervious to gas positioned in the chamber between the walls, the outer walls of the opposed electrodes forming the opposite walls of a container for the cell, sealing means between said electrodes adjacent peripheries thereof to define the peripheral wall of the container, an electrolyte substantially filling the space between the electrodes and retained therein by the sealing means, the latter maintaining a substantially fixed spacing between the electrodes, at least one passage through the peripheral wall of the container and a chamber external to the cell and communicating with the electrolyte space through said passage, said chamber having a porous material therein filling a substantial part of the chamber, the latter having also a gas space therein with the porous material positioned between the gas space and passage, said porous material receiving overflow electrolyte as the cell heats up during operation.

3,441,443

PROCESS OF OPERATING FUEL CELL WITH HYDROCARBON FUEL AND PYROPHOSPHORIC ACID ELECTROLYTE

Morton Beltzer, New York, N.Y., and Hugh H. Horowitz, Elizabeth, N.J., assignors to Esso Research and Engineering Company, a corporation of Delaware

Filed Oct. 18, 1965, Ser. No. 497,008
Int. Cl. H01m *27/22*
U.S. Cl. 136—86 1 Claim

Pyrophosphoric acid at between 250° C. and 350° C. is used as the electrolyte in a fuel cell.

3,441,444

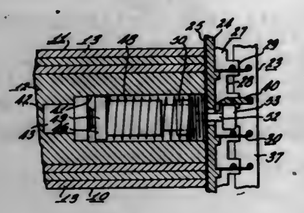
FUEL CELL MODULE WITH SHUTTER ASSEMBLY

Ramon J. Chesner, Brookfield, and James C. Prestridge, Menomonee Falls, Wis., assignors to Allis-Chalmers Manufacturing Company, Milwaukee, Wis.

Filed Feb. 23, 1966, Ser. No. 529,280
Int. Cl. H01m *27/18, 27/14*
U.S. Cl. 136—86 8 Claims

1. An apparatus for controlling the operative temperature of a fuel cell by controlling the radiation of heat from the cell comprising in combination, a fuel cell module comprising a stack of cooperating fuel cells, at

least one shutter assembly mounted on said fuel cell module, said shutter assembly comprised of a heat transfer panel having pivotally mounted on the outer face thereof a plurality of parallel louvers arranged to open and colse, the inner face of said heat transfer panel abutting and dielectrically insulated from the outer surfaces of the fuel cell module, a temperature sensitive means

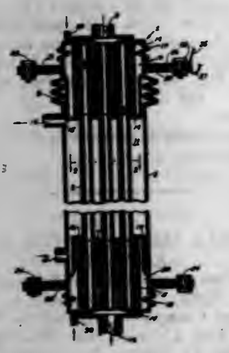


having a movable portion thereof responsive to temperature changes in the fuel cell module, an actuating member connected to open and close the louvers of said shutter assembly, the actuating member being adapted to be activated to open the louvers of the shutter assembly by the movable portion of said temperature sensitive means and resilient means connected to the louvers of said shutter assembly to bias the louvers to a closed position.

3,441,445
MAGNESIUM-CUPRIC OXIDE PRIMARY BATTERY
Melvin P. Ehrlich, Plainview, and Milton Stoller, Flushing, N.Y., assignors to Nuclear Research Associates, Inc., New Hyde Park, N.Y., a corporation of Delaware
Continuation-in-part of application Ser. No. 375,804, June 17, 1964. This application Sept. 25, 1967, Ser. No. 674,052
Int. Cl. H01m *17/00*
U.S. Cl. 136—100 **5 Claims**

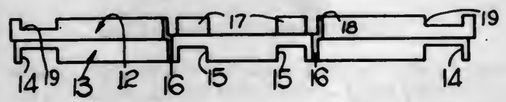
A battery using sea-water as an electrolyte and an improved magnesium-cupric oxide couple.

3,441,446
HIGH TEMPERATURE GALVANIC CELL
Laszlo A. Herédy, Canoga Park, Calif., assignor to North American Rockwell Corporation, a corporation of Delaware
Filed Apr. 2, 1965, Ser. No. 445,016
Int. Cl. H01m *17/00, 35/02*
U.S. Cl. 136—100 **9 Claims**



A matrix-electrolyte element separating molten electrodes in a high temperature galvanic cell, the element comprising an open porous ceramic tube containing in its pores an anhydrous fusible electrolyte. Preferably, a plurality of tubes are operated in parallel with a first molten metal electrode stream flowing in a given direction through the inside of the tubes and a second molten metal electrode stream flowing in countercurrent relation through the common outside region surrounding the tubes.

3,441,447
CASINGS FOR ALKALINE BATTERIES
Stephen Ben Hartop, Maxstoke, near Coleshill, England, assignor to Joseph Lucas (Industries) Limited, Birmingham, England
Filed Oct. 21, 1966, Ser. No. 588,399
Claims priority, application Great Britain, Oct. 27, 1965, 45,595/65
Int. Cl. H01m *1/02, 11/00*
U.S. Cl. 136—166 **3 Claims**

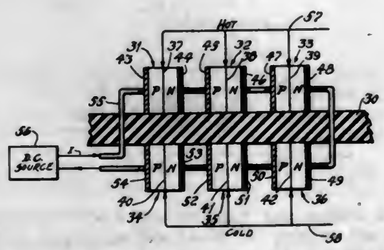


A casing for an alkaline battery comprising a plurality of identical parts interengaged to define the cells of the battery and which further define integral valves for controlling admission of electrolyte to the cells.

3,441,448
METHOD OF MAKING AND SEALING AN ELECTRIC STORAGE BATTERY
Brian Phillip Hayward, 78 Wagon Lane, Solihull, Warwickshire, England, Keith John Bruce McEwan, Rosendene, Littleshaw Lane, Wythall, near Birmingham, England, Robert Thomas Foster, 66 Willow Road, Solihull, Warwickshire, England, and Martin John Hoare, 16 Thorn St., Rawtenstall, Rossendale, Lancashire, England
Filed Apr. 22, 1966, Ser. No. 544,461
Int. Cl. H01m 35/18, *37/02, 1/02*
U.S. Cl. 136—176 **4 Claims**

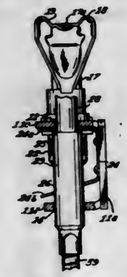
The production of an electric storage battery in which a battery box having integral partition walls defining compartments within the box is moulded from a thermoplastic. Packs of plates and separators are positioned within the compartments and the intercell connections are formed through the partition walls. A lid having a peripheral edge for engaging the top of the box and ribs for engaging the tops of the partition walls is moulded from thermoplastic and the thus formed lid is welded to the box.

3,441,449
THERMOELECTRIC SYSTEM
Milton Green, 980 Flanders Road, Mystic, Conn. 06355
Filed Dec. 13, 1966, Ser. No. 601,830
Int. Cl. F25b *21/02*; H01v *1/30, 1/28*
U.S. Cl. 136—203 **7 Claims**



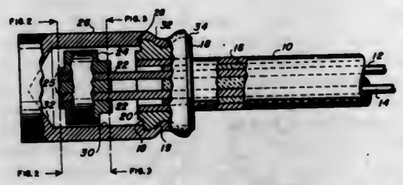
A thermoelectric system having a heat absorbing junction, a heat discharging junction, and ohmic isolation junctions adapted to isolate the heat absorbing region from the heat discharging region.

3,441,450
THERMOELECTRIC GENERATOR INCLUDING A PILOT BURNER
Gerhard Frommel, Torrance, Calif., assignor to Honeywell Inc., a corporation of Delaware
Filed Apr. 27, 1964, Ser. No. 362,795
Int. Cl. H01v *1/00*
U.S. Cl. 136—217 **3 Claims**



A thermoelectric generator of the type used to ignite a main burner and to control a safety valve, wherein a thermocouple is held in its supporting bracket by a quick connect and disconnect holding means. The holding means includes a conventional transom type of holding arm in combination with a resilient arm that does not so function but provides a firm operation of the conventional arm and a releasing aid for the arm.

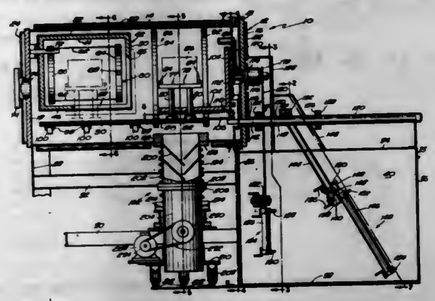
3,441,451
HIGH TEMPERATURE STRESS FREE THERMOCOUPLE JUNCTION
Peter G. Salgado, White Rock, Los Alamos, N. Mex., assignor to the United States of America as represented by the United States Atomic Energy Commission
Filed Oct. 31, 1966, Ser. No. 591,011
Int. Cl. H01v *1/04*
U.S. Cl. 136—232 **4 Claims**



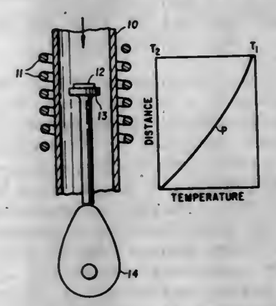
A thermocouple having the thermocouple junction enclosed in a sealed housing and the wires attached to a slidable bridge within the housing, the wires gripped by the bridge and also fused thereto, thereby enabling the thermocouple to withstand high temperatures and high stresses.

3,441,452
HIGH VACUUM ELECTRIC FURNACE
Herbert W. Westeren, Barrington, R.I., assignor to C. I. Hayes, Inc., Cranston, R.I., a corporation of Rhode Island
Filed Dec. 31, 1964, Ser. No. 422,617
Int. Cl. C21d *1/74, 1/34*
U.S. Cl. 148—143 **17 Claims**

A high vacuum electric furnace for heat treating metallic articles in an evacuated heating chamber and including a transfer mechanism for removing the heat treated articles from the heating chamber to a quenching zone without removing the articles from the area that is maintained under vacuum, whereby the articles are quenched under vacuum.



3,441,453
METHOD FOR MAKING GRADED COMPOSITION MIXED COMPOUND SEMICONDUCTOR MATERIALS
Raymond W. Conrad and Ronald H. Cox, Dallas, Tex., assignors to Texas Instruments Incorporated, Dallas, Tex., a corporation of Delaware
Filed Dec. 21, 1966, Ser. No. 603,626
Int. Cl. H01l *7/62, 7/36*
U.S. Cl. 148—175 **4 Claims**



1. The method of making a graded composition Group III–A—V–A compound semiconductor deposit on a substrate, said deposit having the general formula

$$Al_aGa_bIn_cP_dAs_eS_{bf}$$

wherein the values of a, b, c, d, e and f range from zero to one varying with thickness and $a+b+c=1$ and $c+d+e=1$, comprising the steps of

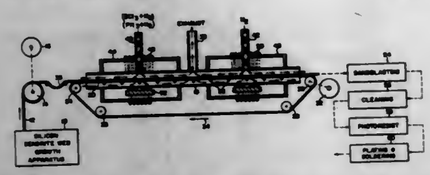
(a) introducing a gaseous mixture containing elements from Groups III–A and V–A of the Periodic Table into a reactor under constant flow conditions such that said mixture is of constant composition,

(b) establishing a temperature gradient across said reactor, the temperature decreasing with distance in the direction of gas flow in said reactor,

(c) placing a substrate within said reactor,

(d) moving said substrate with respect to said reactor, thereby gradually changing the temperature of said substrate so as to deposit said graded composition compound semiconductor.

3,441,454
METHOD OF FABRICATING A SEMICONDUCTOR BY DIFFUSION
Mohammed S. Shaikh, Garland, Tex., assignor to Westinghouse Electric Corporation, Pittsburgh, Pa., a corporation of Pennsylvania
Filed Oct. 29, 1965, Ser. No. 505,688
Int. Cl. H01l 7/66, 7/34
U.S. Cl. 148—188 2 Claims



1. In the process for producing semiconductor bodies of one conductivity type having diffused therein a region of the opposite conductivity type, the steps of (1) continuously withdrawing a ribbon of semiconductor material from a melt, (2) passing the continuous ribbon through an elongated tube, (3) depositing a dopant element on the surface of the ribbon as it passes through the tube, thereafter (4) heating the ribbon within the tube in the presence of an inert gas for a sufficient time to permit the dopant element to diffuse into the ribbon, and finally (5) cutting the ribbon into separated lengths after it has emerged from said tube.

3,441,455
ENCAPSULATED PROPELLANTS AND METHOD FOR THEIR PREPARATION FROM FLUORINATED MONOMERS USING RADIATION
Warren W. Woods and D'Arcy A. Shock, Ponca City, Okla., assignors to Continental Oil Company, Ponca City, Okla., a corporation of Delaware
No Drawing. Filed Jan. 13, 1961, Ser. No. 82,643
Int. Cl. C06b 15/00
U.S. Cl. 149—8 19 Claims

1. A method for encapsulating at least one solid propellant component in a solid polymeric material in the absence of a polymerization catalyst or cross-linking agent which comprises subjecting an admixture consisting essentially of a solid propellant fuel component selected from the group consisting of metals, metal hydrides and mixed hydrides with at least one polymerizable monomer selected from the group consisting of gaseous and liquid monomers and further selected from the group consisting of ethylenically unsaturated hydrocarbons and halogen, carboxy and hydroxy derivatives of ethylenically unsaturated hydrocarbons, at least one monomer being a fluorinated monomer, to between about 1×10^3 and about 1×10^7 reps per hour of gamma radiation to provide a total dosage of between about 1×10^3 and about 1×10^9 reps at a temperature between about —200° C. and about 200° C. whereby said monomer is polymerized to solid polymer by gamma radiation.

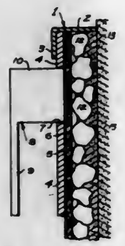
ERRATUM

For Class 149—30 see:
Patent No. 3,441,955

3,441,456
STRIKER COMPOSITIONS
Melville W. Uffner, Easton, Pa., assignor to GAF Corporation, New York, N.Y., a corporation of Delaware
No Drawing. Filed Oct. 31, 1966, Ser. No. 590,483
Int. Cl. C06f 3/08
U.S. Cl. 149—19 10 Claims

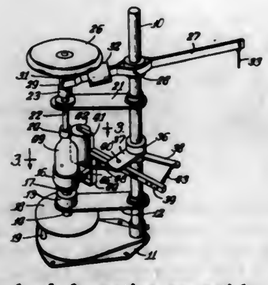
Waterproof match-striker compositions and manufacturing processes therefor are disclosed. These compositions have increased pot-life at elevated temperatures and comprise as the binder therefor: (A) a proteinaceous adhesive material and (B) a hydrolyzed interpolymer of an alkyl vinyl ether and maleic anhydride which are cross-linked in situ to a water-insoluble state, preferably in the presence of an accelerator, at elevated temperatures.

3,441,457
MEANS AND METHOD OF PRODUCING CEMENT TILE VENEER
Charles W. Regnaud, 503 Alcott Ave., Pomona, Calif. 91766
Filed Sept. 22, 1965, Ser. No. 489,343
Int. Cl. B44c 1/06; B28b 5/00
U.S. Cl. 156—71 7 Claims



A means and method of applying a veneer of ornamental stones and a layer of cement to a vertical or horizontal surface, the stones first being placed on a moisture absorbent pad, covered with the cement layer, and then, before the cement has set, the pad stones and cement are transferred as a unit to the selected surface. To accomplish this, the unit is initially held within a frame, then transported to the point of use in a frame equipped with ejector pads to push the unit free.

3,441,458
METHOD OF APPLYING A VITREOUS DECALCOMANIA
Thomas J. Milliken, Chicago, Ill., assignor to The Meyercord Co., Chicago, Ill., a corporation of Illinois
Filed Feb. 10, 1966, Ser. No. 526,445
Int. Cl. C04b 41/02; B32b 9/00; B44c 1/16
U.S. Cl. 156—89 10 Claims



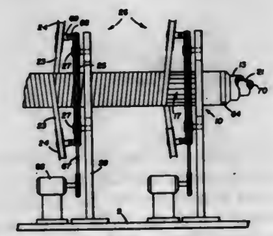
1. A method of decorating an article of glassware, chinaware, or the like by means of a heat release vitreous decalcomania having a backing, a meltable heat release coating on said backing, and a vitreous design disposed over said coating, said vitreous design including a vitrifiable ceramic color in a resinous film, said method comprising:

preheating said article;

interposing between the article and the vitreous design side of the decalcomania an organic liquid material having a partial solvent action on said film and capable of rendering the same tacky at the elevated temperature of the preheated article without vaporization of said liquid material; and

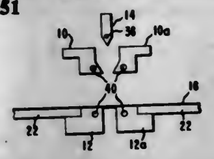
pressing the vitreous design side of said decalcomania progressively into contact with the surface of the preheated article by applying pressure along a restricted area therebetween and moving said area across said decalcomania, said vitreous design being thereby temporarily adhered to said article and being released from said backing upon melting of said coating by the heat of said article, and said liquid material facilitating displacement of air during progressive application of the decalcomania whereby to prevent entrapement of air between said article and said vitreous design.

3,441,459
METHOD AND APPARATUS FOR MAKING ENDLESS REINFORCED WRAPPED PLASTIC TUBING
Joseph C. Weidel, Riverside, Calif., assignor to Rohr Corporation, Chula Vista, Calif., a corporation of California
Filed Oct. 21, 1965, Ser. No. 499,572
Int. Cl. B31c 3/00; B29c 7/00; B29d 23/12
U.S. Cl. 156—195 17 Claims



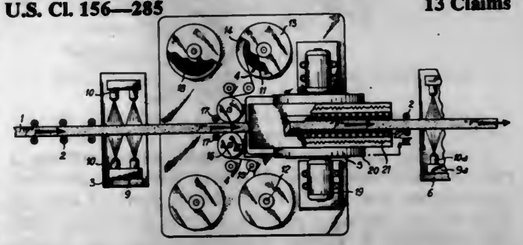
Endless reinforced plastic tubing is formed on a net advancing surface provided by circular mandrel segments of discrete length which are progressively advanced longitudinally in successive order while at least one of the mandrel segments is being returned to a starting position at which the advance begins. Each mandrel segment is T-shaped in cross section and has an abutting sliding connection with its adjacently disposed segments to thus provide a continuous annular surface upon which to form the tubing. Each segment has an inverted T-shaped sliding connection with a fixed mandrel shaft to provide for longitudinal movement of the mandrel segments on one end of the shaft. The shaft and thus also the mandrel segments are fixed against rotation by spaced releasable clamps which clamp the other end of the shaft and permit insertion of tube couplings onto the mandrel shaft. Each mandrel segment has a cam follower slot engaged by a shoulder shaped annular cam which has a gradual advance lead portion and a sharp return lead portion for respectively advancing and returning the segments as the cam is rotated by a pair of spaced releasable power drive connectors which permit insertion of the tube couplings onto the mandrel segments and also permit removal from or insertion of the mandrel segments into operative engagement with the cam ring and mandrel shaft. A plurality of supply reel support rings mounted for rotation concentrically of the mandrel shaft carry payoff heads or supply reels which feed and wrap resin impregnated tapes or rovings onto and circumferentially about the mandrel as the reel support rings rotate. Separate drives for the reel support rings permit certain of the rovings or tapes to be wrapped at the same or different speeds and in the same or opposite directions on the advancing mandrel surface to provide clockwise and/or counterclockwise helical tube sections having the same or different lead angles. An electrical heat source heat-cures the formed tubing as the same moves along the mandrel.

3,441,460
PROCESS FOR SIMULTANEOUSLY SEVERING AND SEALING LAYERS OF THERMOPLASTIC MATERIALS
Keith S. Carmichael, Claymont, Del., assignor to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware
Filed June 9, 1965, Ser. No. 462,600
Int. Cl. B32b 31/18, 31/26
U.S. Cl. 156—251 2 Claims



Multiple layers of thermoplastic film are simultaneously severed and sealed together at the severed edges by clamping the films together in superposed relationship at both sides of, and in close proximity to the line of severance by means of cooled clamps, and severing the superposed films with a heated tapered knife the taper of which is such that as the severed, heated edges of the films shrink to form beads the advancing knife is maintained in contact with the retreating beads to maintain a uniform heat flow from the knife to bead for a period of time after severance has been accomplished whereby to enlarge the beads.

3,441,461
PROCESS AND MACHINE FOR THE CONTINUOUS APPLICATION OF PROTECTIVE OR DECORATIVE COVERINGS
Paul I. Vidal, Villepinte, France, assignor to Rocma Anstalt, Naduz, Liechtenstein, a corporation of Liechtenstein
Filed Feb. 9, 1965, Ser. No. 431,340
Claims priority, application France, Feb. 13, 1964, 963,635
Int. Cl. B32b 7/12, 31/10
U.S. Cl. 156—285 13 Claims

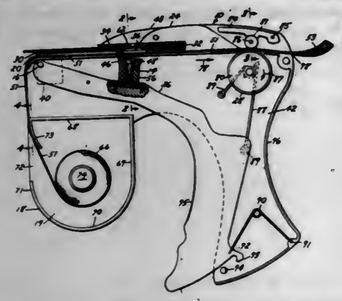


Ways and means are described for continuously applying a protective, decorative coating to vertically-oriented panels by advancing them between guides, coating their faces with an adhesive resin, unrolling a covering strip onto each face and lightly applying it with rolling pressure, and projecting air at a temperature in the range between ambient temperature and 100° C. onto each of the covered faces to hold the strips against the panel faces by flexible pressure while polymerizing, hardening and drying the adhesive resin. In much the same manner, successive sheets and coatings may be applied to the covered panel faces.

3,441,462
REINFORCING PUNCH FOR SHEETS
Morton A. Bogen, 19 Kay St., and Leonard Kantor, 44 Sullivan Drive, both of Jericho, N.Y. 11753
Filed Dec. 22, 1965, Ser. No. 515,584
Int. Cl. B32b 31/00, 31/18
U.S. Cl. 156—513 1 Claim

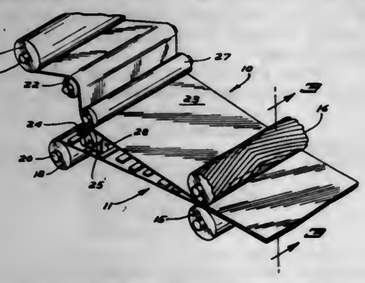
In a device for simultaneously forming and applying a reinforcement to a sheet, in which the reinforcement is formed by cutting the same from an elongated tape, the

provision of tape advancement means on one side of cooperating punch and die means, and tape magazine feeding means on an opposite side thereof, the feeding means



being incrementally operated at the completion of each punching operation in such manner as to impart only tension to the strip, thereby preventing wrinkling or sticking of the strip within the device.

3,441,463
COVERLAY ENCAPSULATION FOR PRINTED WIRING
Norman R. Buck, Northfield, Minn., assignor to G. T. Schjeldahl Company, Northfield, Minn., a corporation of Minnesota
Filed Oct. 24, 1965, Ser. No. 504,561
Int. Cl. B32b *31/10*
U.S. Cl. 156—549 5 Claims

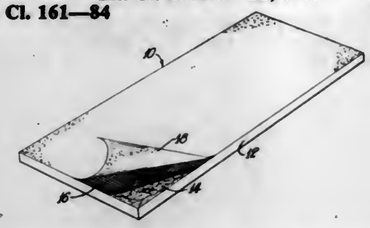


A coverlay encapsulator for printed wiring utilizing a pair of cooperating coaxial rollers having a nip zone therebetween, one of the rollers being provided with an outer surface having a plurality of ribs protruding radially outwardly in spaced relationship from the normal roller surface, these ribs preferably being arranged in a substantially V form with the legs being arranged at an acute angle to the axis of the rollers with the apex being disposed substantially along the central transverse axis of the roller.

3,441,464
CARPET UNDERLAY AND METHOD OF MAKING THE SAME
Sidney D. Blue, New York, N.Y., assignor to Reeves Brothers, Inc., New York, N.Y., a corporation of New York
No Drawing. Continuation-in-part of application Ser. No. 236,657, Nov. 9, 1962. This application Dec. 28, 1966, Ser. No. 605,184
Int. Cl. B32b *5/06, 31/20*
U.S. Cl. 161—67 9 Claims

A method and the resulting article of forming a composite multilayer non-woven fiber-foam structure such as a carpet underlay including, passing a fiber batt and a layer of foam through a needle puuching loom so that the foam is at least partially compressed and the fiber batt is needled onto and through said layer of foam and flame treating at least one side of the compressed foam so as to cause the protruding fiber ends to melt and undergo a characteristic beading and to simultaneously form a transient adhesive at the flamed surface of the foam. A layer of topping material such as a fabric, fiber batt or a sheet of vinyl polymer may be immediately laminated to the flamed surface before cooling and a woven scrim may be inserted between the batt and the foam before passing the assembly through the loom.

3,441,465
FILM FACED FIBROUS BODY
Arthur J. Pearson, Granville, Ohio, assignor to Owens-Corning Fiberglas Corporation, a corporation of Delaware
Continuation-in-part of application Ser. No. 292,350, July 2, 1963. This application Sept. 28, 1966, Ser. No. 582,613
Int. Cl. B32b *17/12, 3/02*
U.S. Cl. 161—84 4 Claims

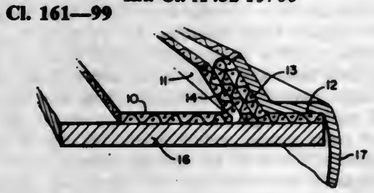


A rigid laminated panel of mineral fibers having a layer of scrim textile material disposed on a major surface thereof; a preformed film of flexible facing material contiguous to and coextensive with the scrim textile material and having portions extending outwardly beyond the panel to form flap-like extensions; and adhesive means securing the scrim textile material to the panel and to the film of facing material.

3,441,466
GLASS FIBER REINFORCED POLYSTYRENE ARTICLE AND PROCESS THEREFOR
Samuel Sterman, Williamsville, and James G. Marsden, Tonawanda, N.Y., assignors to Union Carbide Corporation, a corporation of New York
No Drawing. Filed Feb. 1, 1966, Ser. No. 523,879
Int. Cl. B29c *17/04;* B32b *17/04*
U.S. Cl. 161—93 6 Claims

4. An article of manufacture which is a thermoplastic composite of fibrous glass, polystyrene, and an organofunctional alkyltrialkoxysilane selected from the group consisting of (epoxycycloalkyl)alkyltrialkoxysilane and (acryloxy)alkyltrialkoxysilane or a corresponding hydrolyzate thereof.

3,441,467
RIB STRIPPING
Horace B. Odell, Wellesley, Mass., assignor to Prime Manufacturing Company, Lynn, Mass., a corporation of Massachusetts
Filed July 28, 1964, Ser. No. 385,705
Int. Cl. A43b *15/00*
U.S. Cl. 161—99 2 Claims



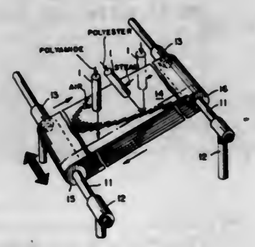
Rib stripping for attachment to Goodyear insoles that will present a precoated adhesive surface to which the

lasted margin of the upper may be directly and securely attached and including an inwardly and downwardly folded intermediate ply.

ERRATUM

For Class 161—161 see:
Patent No. 3,441,959

3,441,468
PROCESS FOR THE PRODUCTION OF NON-WOVEN WEBS
Erhard Siggel, Seckmauern, and Walter Rein, Obernburg, Germany, assignors to Vereinigte Glanzstoff-Fabriken AG., Wuppertal-Elberfeld, Germany
Filed Dec. 20, 1965, Ser. No. 514,825
Claims priority, application Germany, Dec. 24, 1964, V 27,435
Int. Cl. B29f *3/01;* B32b *5/02*
U.S. Cl. 161—169 12 Claims



Production of a non-woven, felt-like web of synthetic thermoplastic polyamide and polyester filaments by extruding continuous filaments of the individual molten polymers into a gaseous stream, using steam at a temperature of 320–340° C. and a velocity of 70–250 meters/second for the polyamide while using air or another inert gas at a temperature of 300–350° C. and a velocity of 70–250 meters/second for the polyester, the individual gas streams intercepting and directing their respective filaments outwardly from a spinning nozzle toward a collecting surface, collecting the filaments onto a moving surface as a web of intermingled substantially non-shrinkable polyamide filaments and shrinkable polyester filaments, and subsequently shrinking the polyester filaments in the web.

3,441,469
PROCESS FOR PREPARING POLYAMIDE/OLEFIN POLYMER GRAFT COPOLYMER ADHESIVE
Chester W. Fitko and Abraham Ravve, Chicago, Ill., assignors to Continental Can Company, New York, N.Y., a corporation of New York
No Drawing. Filed June 7, 1967, Ser. No. 644,046
Int. Cl. B32b *27/34, 27/04*
U.S. Cl. 161—186 11 Claims

An adhesive is prepared by admixing a graft copolymer of an olefin polymer and a synthetic linear polyamide of the nylon type with a small amount of the reaction product of an aromatic polyhydroxy carboxylic acid and an aliphatic diamine and heating the admixture to an elevated temperature for a time sufficient to permit reaction between the graft copolymer and the aromatic polyhydroxy carboxylic acid-aliphatic diamine reaction product.

3,441,470
METHOD OF DISINTEGRATING SPLIT LEATHER OR LEATHER SCRAP
Hiroshi Okamura, Souka-shi, Japan, assignor, by direct and mesne assignments, of one-half to Hisao Sato Nishigahara, Kita-ku, and one-half to Fuji Spinning Company Limited, Tokyo, Japan, a corporation of Japan
No Drawing. Filed Mar. 10, 1966, Ser. No. 533,229
Int. Cl. D01c *3/00*
U.S. Cl. 162—2 4 Claims

A method of disintegrating leather comprising the steps of dipping a leather raw material into warm water containing a non-ionic active agent, rotating the treated leather, dipping the leather again into warm water, and detaining the leather. The treated leather is rotated in a dilute alkaline solution and then washed. The leather is then treated in a urea solution and washed, and then dehydrated partially. Sulfonated olive oil emulsion is added to the treated leather, and the leather is then beaten and pressed against a card clothing roll for disintegration.

3,441,471
PROCESS FOR TREATING COTTON MATERIAL TO INCREASE ELASTICITY AND ELASTIC RECOVERY
Felix Manor, 143 Hayarkon St., Tel-Aviv, Israel
No Drawing. Filed Sept. 21, 1964, Ser. No. 398,057
Claims priority, application Israel, Sept. 27, 1963, 19,990; Nov. 11, 1963, 20,218; Jan. 8, 1964, 20,576
Int. Cl. D21c *3/02*
U.S. Cl. 162—90 7 Claims

A method of treating cotton material produced from cotton fibre for purposes of increasing its elasticity and elastic recovery properties comprises the steps of extracting non-cellulosic matrix substances from the primary wall of the cotton fibre and from the layers between the day-growth-rings underlying the primary wall, heating the cotton material to a temperature of 110°–190° C., and then subjecting it to a mercerizing bath.

3,441,472
METHOD OF FORMING GLASS-ASBESTOS WATER-LAID SHEET
Andrew McMechan Foster, Medfield, Mass., assignor to Hollingsworth & Vose Company, East Walpole, Mass., a corporation of Massachusetts
No Drawing. Filed Oct. 11, 1965, Ser. No. 494,942
Int. Cl. D21h *3/58*
U.S. Cl. 162—145 4 Claims

A water-laid web of asbestos fibers, reinforcing fibers, and synthetic resinous binder. The web is made by mixing an aqueous dispersion of asbestos fibers at pH 2.0 to 5.0 with an aqueous dispersion of binder having an anionic charge on the binder particles to form a first furnish, mixing the first furnish with a second aqueous furnish containing reinforcing fibers, forming a web from the mixture of furnishes, and drying it.

3,441,473
CELLULOSE DERIVATIVE COMPOSITIONS AND PAPER CONTAINING THE DERIVATIVES
Maurice M. Brundige, Laurel, Gunther K. Hunger, Ellicott City, Harry F. Kohne, Jr., Glenwood, and Frederick L. Kurrle, Laurel, Md., assignors to West Virginia Pulp and Paper Company, New York, N.Y., a corporation of Delaware
Original application Mar. 16, 1966, Ser. No. 534,855, now Patent No. 3,342,921, dated Sept. 19, 1967. Divided and this application May 31, 1967, Ser. No. 642,595
Int. Cl. D21h *3/78;* C08b *27/02*
U.S. Cl. 162—146 15 Claims

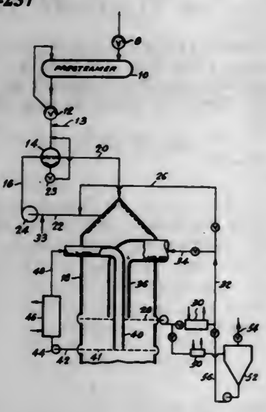
Blushed cellulose derivative compositions in particulate form, preferably fibers which are bright, white and opaque and have the capacity for felting and inter-locking with

each other fibers to form sheet structures, said blushed cellulose derivative fibers being suitable for use as filler material in the manufacture of paper.

3,441,474
PAPER FOR GRAPHIC ARTS CONSISTING OF ASBESTOS FIBERS, ACRYLIC RESIN, AND SIZE
Marsden Clair Hutchins and Robert Gerard Quinn, Bound Brook, N.J., assignors to Johns-Manville Corporation, New York, N.Y., a corporation of New York
No Drawing. Filed Dec. 20, 1965, Ser. No. 515,159
Int. Cl. D21h *5/00*
U.S. Cl. 162—155 8 Claims

An inorganic graphic art paper composed of asbestos fiber, acrylic resin binder and a non-coloring and non-fading hydrophobic size.

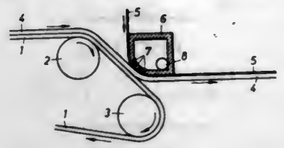
3,441,475
CONTINUOUS PULPING APPARATUS
Charles Lester Tomlinson, Westmount, Quebec, Canada, assignor to Domtar Limited, Montreal, Quebec, Canada
Filed July 9, 1965, Ser. No. 470,757
Int. Cl. D21c *7/12*
U.S. Cl. 162—237 1 Claim



The present invention relates to an improved continuous pulping apparatus in which an impregnation zone is created by providing three circulating paths to said zone, the first of said paths taking liquor from the top of the zone and circulating same through an injection valve and back to the top of the zone, the second path taking liquor from the bottom of said zone and returning it at the top of said zone, and the third path taking liquor peripherally from the bottom of said zone and returning it axially at the bottom of said zone to flow substantially radially across said apparatus.

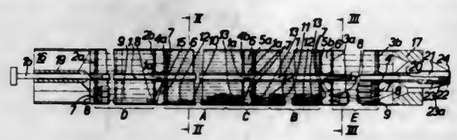
3,441,476
PAPER WEB TRANSFER DEVICE UTILIZING SUCTION BOX
Christian Schiel, Heidenheim (Brenz), Germany, assignor to J. M. Voith GmbH., Heidenheim (Brenz), Germany
Filed Jan. 21, 1966, Ser. No. 522,222
Claims priority, application Germany, Jan. 22, 1965, V 27,590
Int. Cl. D21f *1/52*
U.S. Cl. 162—306 10 Claims

An arrangement for transferring a wet web from the wire of a papermaking machine to a porous belt-like conveyor member in which a stationary suction box is mounted adjacent and parallel to the wire of the papermaking machine and has a convex perforated region on the side nearest the wire and which region engages the back of the conveyor member and supplies suction therethrough to pick up the web from the wire and to transfer it to the conveyor member. The conveyor member may have a wear resilient surface on the suction box side and



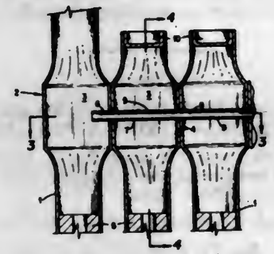
this surface can be in the form of a belt-like member separate from the web engaging side of the conveyor member which can also be a belt-like member.

3,441,477
COOLING OF NUCLEAR REACTORS
Stanley Stamford, Bournemouth, James Bernard Terry, Poole, Charles Peter Gratton, Dorchester, and William Charles May, Poole, England, assignors to United Kingdom Atomic Energy Authority, London, England
Filed Apr. 24, 1967, Ser. No. 633,104
Claims priority, application Great Britain, Oct. 28, 1966, 48,547/66
Int. Cl. G21c *9/00, 3/30*
U.S. Cl. 176—59 5 Claims



Cooling, and particularly emergency cooling, of nuclear reactors in which the fuel is in the form of pin clusters is effected from a sparge pipe located centrally of each cluster supplied with coolant. The sparge pipe has a number of spaced outlets feeding plenum chambers formed axially along the clusters, the chambers communicating with channels between both the adjacent clusters of fuel rods.

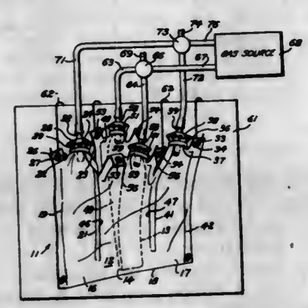
3,441,478
FUEL ELEMENT FOR NEUTRONIC REACTOR AND METHOD OF FABRICATION THEREOF
Leonard C. Williams, Clinton, Tenn., assignor to the United States of America as represented by the United States Atomic Energy Commission
Filed Mar. 29, 1968, Ser. No. 717,115
Int. Cl. G21c *3/30, 19/02, 3/02*
U.S. Cl. 176—78 9 Claims



An integral fuel pin and grid structure for pin-type neutronic reactor fuel elements. Substantially cylindrical fuel pins are deformed into a rectangular cross section along a short segment of the pins adjacent to but spaced apart from one end thereof. The fuel pins are positioned in a row in an abutting relationship along the smaller faces of their deformed rectangular segments, with a connector pin extending along the length of the row through apertures in the abutting faces. The fuel pins are then

brazed to one another along the abutting faces to form a row of integrally connected fuel pins. A plurality of such rows of fuel pins arranged in a side-by-side relationship form a fuel element. Where a vented fuel element is desired, the connector pin in each row of fuel pins may be tubular in form and provided with radial apertures so that fuel pin fluid intercommunication is provided. At least one fuel pin in each row of fuel pins is then vented to an external gas collection system.

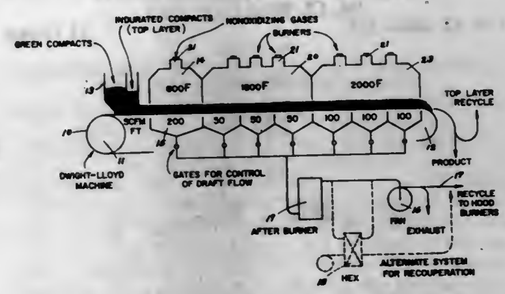
3,441,479
METHOD AND APPARATUS FOR IN VIVO-LIKE MAINTENANCE OF BLOOD IN VITRO
Lester Jankay, 518 E. Rustic Road, Santa Monica, Calif. 90402
Continuation-in-part of application Ser. No. 160,376, Dec. 18, 1961. This application Mar. 19, 1964, Ser. No. 353,304
Int. Cl. C12k *9/00*
U.S. Cl. 195—1.8 13 Claims



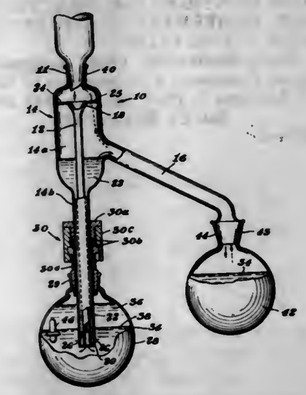
The method employs a U-shaped, tubular sac member formed of a permeable material to hold the blood culture to be treated. A dialysing bag formed of a vinyl contains the dialysing fluid, such as blood plasma, and also contains the tubular sac. Preferably, both of these members are coupled to a source of a gas (oxygen and carbon dioxide) under pressure which is applied in a timed pulsating manner to cause the fluids contained in the members to oscillate relative one to the other. The oscillation renders dialysis more effective, while the addition of CO_2 controls the pH level during dialysis. Further, blood cultures normally are heparinized and the oscillation permits minimum heparin concentration. Excess heparin is toxic to blood. The method further contemplates a preheating of the blood culture to a temperature of about 57° C. before commencing the dialysing process and during the processing, electrolytic equilibrium is maintained by adding distilled water or the like. Also the sugar content of the blood is replenished.

3,441,480
METHOD FOR PROGRESSIVE HEATING OF SOLID PARTICULATE MATERIALS
Thomas E. Ban, Cleveland, Ohio, assignor to McDowell-Wellman Engineering Company, Cleveland, Ohio, a corporation of Ohio
Continuation of application Ser. No. 335,995, Jan. 6, 1964. This application Apr. 3, 1968, Ser. No. 724,673
Int. Cl. C01b *31/04, 47/40*
U.S. Cl. 201—22 5 Claims

There is provided a process for treating solid particulate materials, preferably in the form of moist compacted particles including depositing a burden of such particles on a moving grate to a depth of from 8 inches to 28 inches, superposing over said burden a capping burden of previously treated compacted particles to form a composite burden, passing the composite burden through a preheating zone and raising the temperature of the burden at a predetermined rate by passing heated gases through the burden at a predetermined rate; passing the burden in such zone by passing nonoxidizing gases through the composite burden at a predetermined rate; and then passing the burden through a terminal heating zone to elevate the temperature still further with nonoxidizing gases being passed through the burden at a predetermined rate. The process is particularly useful in graphitizing briquetted powder anthracite coal.

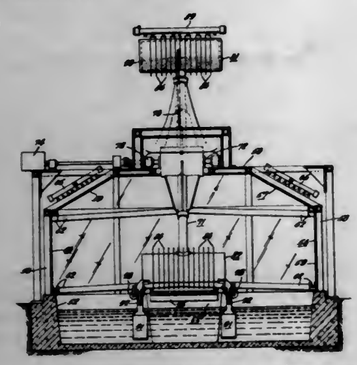


3,441,481
EXTRACTION APPARATUS
Stephen W. Tobey, Sudbury, Mass., assignor to The Dow Chemical Company, Midland, Mich., a corporation of Delaware
Continuation-in-part of application Ser. No. 658,800, Aug. 7, 1967. This application June 6, 1968, Ser. No. 735,055
Int. Cl. B01d *3/00*
U.S. Cl. 202—169 7 Claims



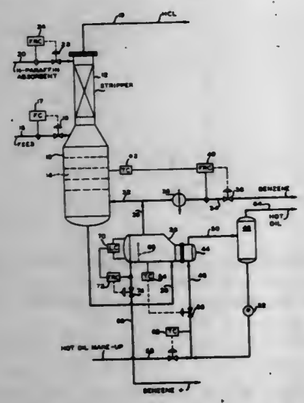
The invention concerns a unique extraction apparatus which combines a distributor tube with an extractor head to provide a one-piece unit or asembly useful for a variety of extraction operations. The distributor tube, in the form of a long stem funnel, is positioned coaxially within the body of the extractor head and is sealingly joined thereto to define a hollow circumferential chamber between the extractor head and the distributor tube. Port holes in the extreme lower end of the chamber provide for passage of a liquid solvent containing dissolved solute upwardly through the chamber to the juncture of a downwardly directed return arm joined to the upper part of the extractor head body. Once the level of the extractant solvent reaches this juncture, the solution spills over into the return arm and is directed into a reboiler flask or other suitable container means from which the dissolved solute can be recovered.

3,441,482
SOLAR ENERGY WATER PURIFICATION APPARATUS
Edward N. Avery, 201 N. Grove St., Dunmore, Pa. 18512
Filed Sept. 5, 1967, Ser. No. 665,618
Int. Cl. B01d *3/10, 3/08*
U.S. Cl. 202—175 13 Claims



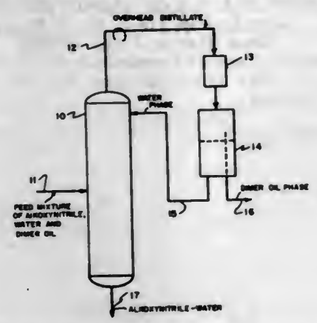
An apparatus for purification of impure water by humidification using solar energy as a heat source, comprising: an impure water heating pool covered by a material to prevent water evaporation therefrom while promoting absorption of solar energy into the heating pool, a solar energy still having an oscillating thermodynamic motor to aid vaporization of the water therein, and a rotary thermodynamic motor to circulate the impure water between the pool and the still.

3,441,483
METHOD OF CONTROLLING FRACTIONATOR OR STRIPPER TEMPERATURE BY CONTROLLING REBOILED VAPOR FLOW
Walter C. Hart, Bartlesville, Okla., assignor to Phillips Petroleum Company, a corporation of Delaware
Filed June 7, 1967, Ser. No. 644,299
Int. Cl. B01d *3/42*
U.S. Cl. 203—2 8 Claims



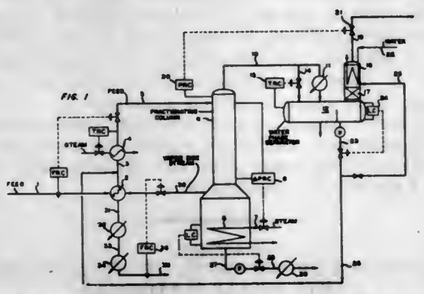
In controlling temperature in a fractionation column, a liquid bottoms stream from the column is passed to a reboiler where it is heated by indirect heat exchange with a heating fluid so as to vaporize a substantial portion of the bottom stream. A portion of the vaporized stream is passed into the bottom of the column as reboil fluid and the remaining portion is separately recovered. Control of column temperature is effected by sensing the temperature on a selected column tray and regulating the flow rate of one of the vapor streams in response to the sensed temperature to maintain a relatively uniform temperature on said tray.

3,441,484
TERNARY AZEOTROPIC DISTILLATION OF ALKOXYNITRILES
Richard Dean Teaney, Houston, Tex., assignor to Monsanto Company, St. Louis, Mo., a corporation of Delaware
Filed Aug. 1, 1967, Ser. No. 657,572
Int. Cl. B01d *3/14;* C07c *121/38*
U.S. Cl. 203—91 10 Claims



A process for the purification of a mixture of alkoxynitriles, dimer oil and water by distilling the mixture in a distillation zone wherein the overhead temperature is maintained from about 85 to 95° C. A ternary azeotrope containing small amounts of alkoxynitrile is removed overhead while a bottoms product is removed which is rich in alkoxynitrile.

3,441,485
RECOVERY OF STREAMS FROM A FEED BY DISTILLATION
Maurice W. Jones, Bartlesville, Okla., assignor to Phillips Petroleum Company, a corporation of Delaware
Filed Dec. 24, 1964, Ser. No. 421,158
Int. Cl. B01d *3/42, 3/26*
U.S. Cl. 203—99 2 Claims



Method for distillation of a feed comprising at least two vaporizable components and a relatively non-vaporizable component comprising feeding feed into an upper portion of a distillation column, taking an overhead vaporous stream containing substantially all of one of the two vaporizable components, together with a portion of the other of the vaporizable feed components, taking a vapor stream of the other vaporizable components from an intermediate portion of the column and removing from the bottom of the column a liquid containing said relatively non-vaporizable component. In one embodiment the stream contains n-hexane solvent, water and 2,6-ditertiary-butyl-4-methyl phenol. Water is taken off as overhead, substantially dehydrated n-hexane is taken off as a side stream and the 2,6-ditertiary-butyl-4-methyl phenol is removed.

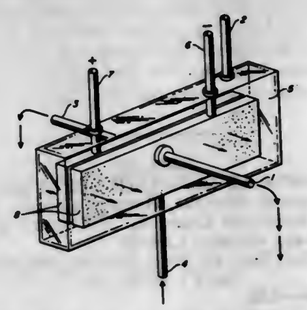
3,441,486
PROCESS FOR PRODUCING PRINTING PLATES
William Rupert Deighton, Reigate, Surrey, England, assignor, by mesne assignments, to International Printers Limited, London, England
No Drawing. Filed Apr. 27, 1965, Ser. No. 451,352
Claims priority, application Great Britain, June 11, 1964, 24,300/64
Int. Cl. C23b *7/08*
U.S. Cl. 204—6 5 Claims

A mould is produced from an original by spraying a relatively low melting metal or metal alloy on to the original and subsequently stripping the sprayed mould from the original.

3,441,487
METHOD OF ACCURATELY PRODUCING AN ABRASIVE SURFACE OF REVOLUTION
Robert F. Rea, Bloomfield Hills, and Francis H. Dulin, Rochester, Mich., assignors to Champion Spark Plug Company, Toledo, Ohio, a corporation of Delaware
Continuation of application Ser. No. 231,099, Oct. 17, 1962. This application May 13, 1966, Ser. No. 549,970
Int. Cl. C23b *7/00*
U.S. Cl. 204—6 11 Claims

A method of bonding hard abrasive particles of a generally uniform predetermined size to a supporting structure which includes the steps of: applying to a surface of a forming body which surface has a predetermined contour, a uniform layer of an electrically conductive paint containing, to impart conductivity, a material having an electrical resistance substantially as low as silver and being substantially as resistant to corrosion as silver, the electrically conductive paint being applied in a uniform layer to a thickness less than one half of the predetermined size of the particles, embedding abrasive particles through the paint in contact with the surface of the forming body having the predetermined contour while the paint is still tacky, electrodepositing metal over the paint and particles to grip the particles, introducing a hardenable material in contact with the electrodeposited metal to form a supporting structure, and separating the forming body from the paint.

3,441,488
ELECTROLYTIC DESALINATION OF SALINE WATER BY A DIFFERENTIAL REDOX METHOD
Edward I. Onstott, Los Alamos, N. Mex., assignor to the United States of America as represented by the United States Atomic Energy Commission
Filed Sept. 3, 1964, Ser. No. 394,370
Int. Cl. C02b *1/82*
U.S. Cl. 204—149 3 Claims

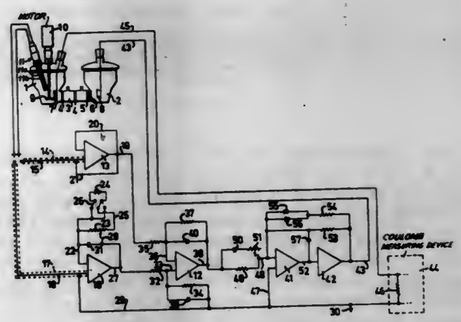


A method and device for desalination of saline water by a differential reduction-oxidation electrolysis in which closely positioned porous electrodes are connected to a power supply, a feed inlet tube positioned in the bottom of the cell, and outlet tubes positioned adjacent to each of the electrodes and a small amount of a halide being added to the feed before the electrolysis begins.

3,441,489
METHOD FOR REMOVING GAS FILM FORMED DURING ELECTRODEPOSITION
Gerald R. Gacesa, Tarentum, Pa., assignor to PPG Industries, Inc., a corporation of Pennsylvania
No Drawing. Filed Oct. 22, 1965, Ser. No. 502,433
Int. Cl. C23b *13/00;* B01k *5/00*
U.S. Cl. 204—181 15 Claims

This invention relates to an improved method of electrodepositing a solubilized synthetic polycarboxylic acid resin on an electrode surface. It has been found that gas bubbles formed on the electrode surface during electrodeposition have an impairing effect on the electrodeposition process. This invention relates to methods of removing the occluded gas film during the electrodeposition process, thereby increasing film build.

3,441,490
COULOMETRIC TITRATION APPARATUS
Gillis Rune Johansson, Lund, Sweden, assignor, by mesne assignments, to Jungner Instrument AB, Stockholm, Sweden, a Swedish joint-stock company
Filed Oct. 18, 1965, Ser. No. 496,936
Claims priority, application Sweden, Nov. 13, 1964, 13,681/64
Int. Cl. B01k *3/00;* G01r *11/34, 1/30*
U.S. Cl. 204—195 9 Claims

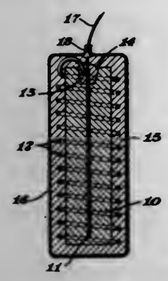


In a coulometric titration apparatus, having a titration electrode system and a Coulomb measuring device both fed by an electronic power amplifier, a measuring electrode and a reference electrode are connected to the two inputs of an electronic difference amplifier the output of which is connected to the input of the power amplifier.

3,441,491
PACKAGED GALVANIC ANODES
Percy F. George, Midland, Mich., assignor to The Dow Chemical Company, Midland, Mich., a corporation of Delaware
Filed Mar. 3, 1966, Ser. No. 531,395
Int. Cl. C23f *13/00*
U.S. Cl. 204—197 6 Claims

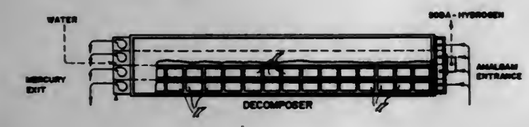
This invention relates to a packaged galvanic anode useful in cathodic protection systems. The packaged galvanic anode includes a relatively low potential high efficiency galvanic anode containing a central ferrous core, a relatively high potential low efficiency galvanic anode having a substantially greater length than width attached at one end to the ferrous metal core but separated from

and encircling at least a portion of the low potential anode. This anode combination is contained within a water-permeable bag containing a backfill composition of a water-



soluble magnesium salt, such as magnesium chloride, in combination with bentonite and alternatively also containing sulfates such as calcium and sodium sulfate.

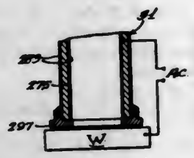
3,441,492
ELECTROLYZING UNIT
Luigi Fornoni, Rua Ibitirana No. 2198, Vila Prudente, Sao Paulo, Sao Paulo, Brazil
Filed May 5, 1965, Ser. No. 453,395
Claims priority, application Brazil, May 5, 1964, 158,913
Int. Cl. C22d *1/04*
U.S. Cl. 204—220 5 Claims



An electrolyzing unit which comprises an assembly of at least two electrolyzing elements each having a graphite anode and a moving mercury cathode, and an assembly of at least two decomposing elements. The electrolyzing elements are electrically connected in series, and the moving layer of mercury of each electrolyzing element is in closed circuit with the mercury in the corresponding decomposing element, but is electrically separated from the mercury in each adjacent electrolyzing element or decomposing element. The entire system of electrical bars of the electrolyzing unit is arranged substantially on the upper part of the elements making up the unit.

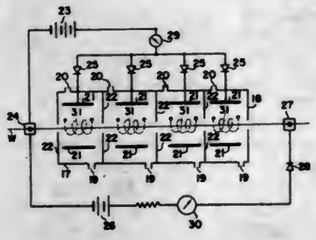
3,441,493
ELECTROLYTIC SHAPING APPARATUS
Lynn A. Williams, Winnetka, Ill., assignor to Anocut Engineering Company, Chicago, Ill., a corporation of Illinois
Original application Nov. 10, 1958, Ser. No. 772,960, now Patent No. 3,058,895, dated Oct. 16, 1962. Divided and this application July 25, 1966, Ser. No. 567,578
Int. Cl. B23p *1/04*
U.S. Cl. 204—224 2 Claims

1. In an electrolytic apparatus for removing material from an electrically conductive and electrochemically eroded workpiece by means of an electrode having a conductive working end, means for relatively moving said electrode and the workpiece toward each other to define a work gap therebetween, means for pumping an electrolyte to and through the work gap, the working end of said electrode being formed of a material having a rectifying action such that when current flows the electrode will be cathodic, and circuit means for impressing



an alternating electric potential between the electrode and the workpiece.

3,441,494
APPARATUS TO DEPOSIT A FERROMAGNETIC FILM ON A CONDUCTIVE WIRE
Shintaro Oshima, Musashino-shi, Kakuo Futami, Mitaka-shi, Takesuke Fukui, Tokyo-to, Tetsusaburo Kamibayashi, Shiiza-machi, Kitaadachi-gun, Saitama-ken, and Yoshihisa Komazawa, Tokyo-to, Japan, assignors to Kokusai Denshin Denwa Kabushiki Kaisha, Tokyo-to, Japan, a joint-stock company of Japan
Filed May 21, 1964, Ser. No. 369,176
Claims priority, application Japan, May 25, 1963, 38/26,376
Int. Cl. C23b *5/68, 5/58, 5/50*
U.S. Cl. 204—228 1 Claim

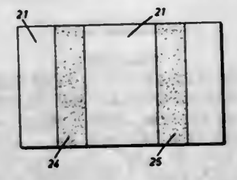


1. An apparatus for carrying out extremely uniform electroplating of a ferromagnetic film on an electrically conductive wire, comprising receptacle means for accommodating electrolyte containing ions to be electroplated on the wire, means for advancing the wire longitudinally through said electrolyte, anode means comprising a plurality of electrodes arranged side by side along the path of travel of the wire through said electrolyte, said electrodes being substantially isolated from one another, a DC current source means for flowing an electroplating current through said electrolyte between said anode means and the wire, a plurality of diodes each connected between each of the electrodes and said DC current source means and effective to check loop currents flowing through any two of the electrodes, a current source for flowing a current to apply a magnetic field to the wire, and a diode connected between the wire and the last-mentioned current source effective to prevent the two current sources from coupling.

3,441,495
BIPOLAR ELECTROLYTIC CELL
John E. Colman, Oakville, Ontario, Canada, assignor to Electric Reduction Company of Canada, Ltd., Islington, Toronto, Ontario, Canada
Filed May 20, 1966, Ser. No. 552,356
Int. Cl. B01k *3/00*
U.S. Cl. 204—268 12 Claims

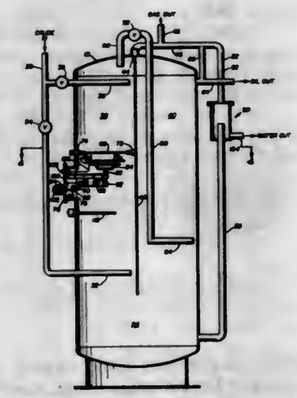
1. For use in an electrolytic process requiring a reaction zone and an electrolysis zone, a bipolar electrolytic

cell comprising two spaced-apart end electrodes, means for defining with said end electrodes an enclosure adapted to receive and contain an electrolyte, said enclosure being divided intermediate said end electrodes by at least one partition into substantially isolated unit cells, each partition being constituted at least in part by a bipolar electrode comprising a plate of a valve metal of which the oxide is chemically resistant under anodic conditions to the electrolyte to be employed, one face of the plate being masked by, and in electrically conductive communication with, a layer of suitable cathodic material chemically resistant under cathodic conditions to the electrolyte to be employed, one portion of the other face of the plate being masked by, and in electrically conductive communication with, a layer of suitable anodic



material chemically resistant under anodic conditions to the electrolyte to be employed, the unmasked portion of the other face being oxidized, the anodic material being so distributed as to protect cathodically the cathodic material of the next adjacent electrode, and being so configured that the unmasked portion of said other face includes at least one vertically elongate area extending over substantially the whole height of the anodic material, there being for each individual unit cell an individual electrolysis zone and an individual reaction zone, substantially isolated from the electrolysis and reaction zones of other unit cells, the electrolysis zone being generally constituted by the electrolyte volume orthogonally adjacent said one portion, and the reaction zone being constituted at least in part by the electrolyte volume orthogonally adjacent said unmasked portion.

3,441,496
ELECTRIC TREATER REGULATED BY A WATER-CONTENT PROBE FOR TREATING CRUDE OIL EMULSIONS
Forrest L. Murdock, Sr., 2420 E. 24th St., Tulsa, Okla. 74114
Filed Sept. 15, 1966, Ser. No. 579,533
Int. Cl. B03c *5/02;* C10g *33/02*
U.S. Cl. 204—304 11 Claims

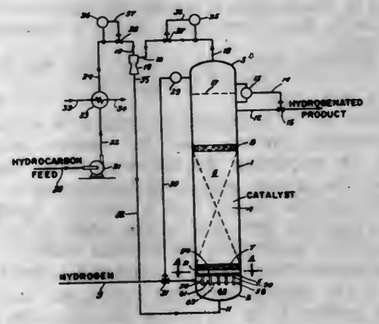


An electric treater for treating petroleum crude emulsions includes a closed vessel with an emulsion inlet; oil, gas and water outlets, an electric grid system within the vessel in the path of liquid flow for imparting an electric field potential between grids. A heater adjacent the grid system raises the temperature of the grids. The spacing between grids may be varied and means are provided for deenergizing the electric grids when the water content of the emulsion exceeds a certain limit. Metering chambers are sequentially filled and emptied and counters are provided to record filling and emptying cycles. Relay means actuated by water-content probes regulates the temperature of the emulsion and automatically interrupts the voltage to the grid system when excessive water content occurs.

3,441,497
JET FUELS FROM HYDROGENATED COAL TAR DERIVATIVES AND PINANE-CONTAINING MATERIALS
Norman S. Boodman, Penn Hills Township, Allegheny County, George W. Perkins, New Salem, and Jack W. Walter, Penn Hills Township, Allegheny County, Pa., assignors to United States Steel Corporation, a corporation of Delaware
No Drawing. Filed Aug. 20, 1965, Ser. No. 481,390
Int. Cl. C10l *1/04*
U.S. Cl. 208—15 6 Claims

A jet-engine fuel composition comprising by weight between about 10% and 50% of a pinane-containing material, between about 10% and 75% of a hydrogenated naphthalene-containing material, between about 3% and 20% of a hydrogenated coal-tar fraction boiling in a range between about 230° and 270° C. prior to hydrogenation and between about 10% and 40% of a hydrogenated coal-tar fraction boiling in a range between about 270° and 315° C., prior to hydrogenation, said naphthalene-containing and said coal-tar fractions being hydrogenated to substantially complete saturation, said hydrogenated material having an initial boiling point of at least about 350° F.

3,441,498
HYDROGENATION METHOD AND APPARATUS
John C. Jubin, Jr., Wallingford, and Stephen F. Zabielski, Reading, Pa., assignors to Atlantic Richfield Company, Philadelphia, Pa., a corporation of Pennsylvania
Filed Mar. 15, 1967, Ser. No. 623,317
Int. Cl. C10g *23/04*
U.S. Cl. 208—143 11 Claims



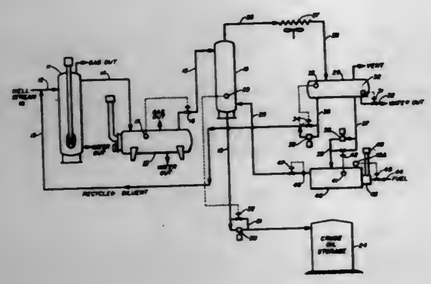
An improved method and apparatus for the hydrogenation of hydrocarbons wherein said hydrogenation is conducted in the liquid-phase in an up-flow reactor utilizing an improved fluid distribution means and an eductor for the circulation of a hydrogen recycle stream wherein the

reaction is carried out at a temperature of from about 200° F. to about 850° F., and at a pressure of from about atmospheric to about 5000 p.s.i.g.

3,441,499
METHOD FOR TREATING CRUDE PETROLEUM PRODUCTION

Alex W. Francis, Jr., and Joseph L. Maher, Tulsa, Okla., assignors to Combustion Engineering, Inc., New York, N.Y., a corporation of Delaware

Filed Sept. 23, 1965, Ser. No. 489,529
Int. Cl. C10g *33/00*
U.S. Cl. 208—187 2 Claims



1. A process for treating a viscous, emulsified crude oil, including:
adding a light hydrocarbon fraction to the viscous, emulsified crude oil to dilute the crude oil and facilitate separation of water from the mixture,
separating water from the mixture of crude oil and the light hydrocarbon fraction,
passing steam through the mixture to vaporize the light hydrocarbon fraction,
cooling the steam and vaporized light hydrocarbon fraction until they condense,
separating the condensed water from the hydrocarbon fraction,
recycling the water separated to generate the steam, and utilizing the light hydrocarbon fraction to dilute the crude oil.

3,441,500
PROCESS FOR ACTIVATING A FIXED BED OF HYDROREFINING CATALYST

Donald K. Wunderlich, Riverdale, Ill., assignor to Sinclair Research, Inc., New York, N.Y., a corporation of Delaware

No Drawing. Filed Aug. 4, 1966, Ser. No. 570,151
Int. Cl. C10g *23/02*
U.S. Cl. 208—213 9 Claims

A fixed bed of hydrorefining catalyst is activated and simultaneously pre-wet, and the reactor placed on-stream, by employing the following serial steps: (1) charging the reactor with solid hydrogenation catalyst; (2) charging the reactor with a normally liquid hydrocarbon, e.g., one having a boiling point above that of gasoline; (3) establishing an internal reactor temperature of about 250 to 500° F., preferably about 300 to 400° F.; (4) passing hydrogen sulfide gas through the reactor, preferably in an upflow direction, for about 3 to 12 hours at a pressure of about atmospheric to 500 p.s.i.g., while maintaining the hydrocarbon in liquid phase; (5) discontinuing hydrogen sulfide flow and removing the liquid hydrocarbon from the catalyst bed; (6) pressuring the reactor to the desired hydrorefining level with hydrogen; and (7) cutting in fresh hydrocarbon feed and hydrogen to establish hydrorefining conditions.

3,441,501
WATER REMOVAL FROM WATER-CONTAINING MEDIA

Jeane Segall and Leonard M. Shorr, Haifa, Israel, assignors to American Metal Climax, Inc., New York, N.Y., a corporation of New York

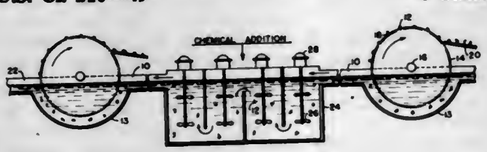
No Drawing. Filed Sept. 6, 1966, Ser. No. 577,125
Claims priority, application Israel, Sept. 14, 1965, 24,318, 24,319
Int. Cl. C02c *5/02*; B01d *17/00*; C02b *1/18*
U.S. Cl. 210—23 8 Claims

Process for the selective removal of water using a hydrophilic polymerized resin having a polyolefin polymer component and a phosphorous-containing component such as phosphoric acid, phosphorous acid and metal and ammonia salts of those acids wherein the metal has a valence from 1 to 4. The components are linked together by a bond of the —P—C— or of the —P—O—C— type.

3,441,502
METHOD AND APPARATUS FOR THE REMOVAL AND DISPOSAL OF SCALE

Carlos A. Tenorio, 3009 Catherine Drive, South Fort Mitchell, Ky. 41017

Filed Feb. 20, 1967, Ser. No. 617,176
Int. Cl. C02b *1/20*; B01d *35/06*
U.S. Cl. 210—49 4 Claims

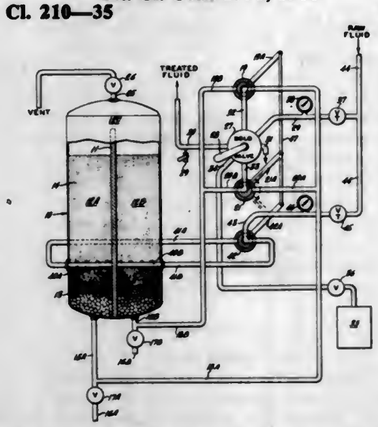


Scale developed from steel mill operations is removed from water by first removing the coarser particles with magnets, then producing a floc to suspend the residual finer particles in a sludge which is subsequently removed by magnets, leaving clarified water suitable for recirculation.

3,441,503
LIQUID TREATING APPARATUS AND METHOD

Frank J. Smith, 7352 Limekiln Pike, Philadelphia, Pa. 19138

Continuation of application Ser. No. 450,115, Apr. 22, 1965. This application Dec. 26, 1967, Ser. No. 693,341
Int. Cl. C02b *1/76, 1/68*
U.S. Cl. 210—35 9 Claims



This application discloses liquid treating apparatus and method, especially for softening water, comprising a dual-chamber reverse-flow arrangement which provides a normal cycle of softening, back-washing and regeneration by master control means and high-velocity back-washing of the upper portion only of the beds of material under separate control means which can be operated independently of the master or main control means, the arrangement avoiding disarrangement of the lower portions of the beds of material while merely shifting the lighter upper portions of treating material between chambers without any substantial loss to the system and with the the elimination of sludge in the flow between chambers without passing it through the beds with the chance of redepositing it in the beds.

ERRATUM

For Class 210—53 see:
Patent No. 3,441,956

3,441,504
DRILLING MUD ADDITIVE FOR FILTRATION CONTROL

William C. Browning, Houston, Tex., assignor to Milchem Incorporated, Houston, Tex., a corporation of Delaware

Continuation of application Ser. No. 339,950, Jan. 24, 1964. This application Mar. 14, 1968, Ser. No. 715,473
Int. Cl. C09k *3/00*
U.S. Cl. 252—8.5 3 Claims

Drilling mud additives for filtration control comprising a colloidally dispersible zinc complex of a lignite having an oxygen content in excess of about 20%.

3,441,505
DEVELOPING POWDER

Ulrich Schmiedel, Hamburg, Germany, assignor to Gevaert Photo-Producten N.V., Mortsel, Belgium, a Belgian company

No Drawing. Filed Oct. 9, 1964, Ser. No. 402,935
Claims priority, application Belgium, Aug. 28, 1964, 43,913
Int. Cl. G03g *9/00, 9/02, 13/08*
U.S. Cl. 252—62.1 8 Claims

Development of latent electrostatic images is accomplished by use of a thermoplastic, conductive, non-electroscopic, polarizable developer powder containing an acceptor-doner complex such as an addition product of a polynuclear hydrocarbon and a halogen, for example.

3,441,506
MAGNETIC MATERIALS HAVING RECTANGULAR HYSTERESIS LOOPS

Hiroshi Kitagawa, Toshio Inoue, Susumu Kurokawa, and Shinkichi Horigome, Tokyo-to, Japan, assignors to Kabushiki Kaisha Hitachi Seisakusho, Tokyo-to, Japan, a joint-stock company of Japan

Continuation-in-part of application Ser. No. 344,005, Feb. 11, 1964. This application Aug. 30, 1967, Ser. No. 664,488.
Claims priority, application Japan, Feb. 12, 1963, 38/5,787
Int. Cl. C04b *35/38*; H01f *1/34*
U.S. Cl. 252—62.2 2 Claims

Magnetic materials most suitable for memory elements consists of 30–45 mol percent Fe_2O_3, 10–50 mol percent MnO, 10–40 mol percent MgO, and CuO in an amount of from trace to 20 mol percent, or of such magnetic materials with further addition of ZnO in an amount of from trace to 15 mol percent. The magnetic materials possess rectangular hysteresis loops of short switching time, high signal-to-noise ratio, low required driving current.

3,441,507
BLEACHING DETERGENTS AND WASHING ADJUVANTS

Joachim Schiefer, Opladen-Lutzenkirchen and Manfred Dohr, Dusseldorf-Holthausen, Germany, assignors to Henkel & Cie. G.m.b.H., Dusseldorf-Holthausen, Germany, a corporation of Germany

No Drawing. Filed Apr. 6, 1966, Ser. No. 540,534
Claims priority, application Germany, July 3, 1965, H 56,466
Int. Cl. C11d *3/04, 7/32, 17/06*
U.S. Cl. 252—95 21 Claims

Coated peroxygen compounds comprising a peroxygen compound in finely powdered or granular form having a coating thereon, water-insoluble at room temperature consisting of (1) 50 to 100% by weight of a nitrogenous condensation product of a fatty acid or hydroxy fatty acid containing 8 to 26 carbon atoms and ammonia, alkyl amine or alkylol amine and (2) 50 to 0% by weight of an ester of glycerin and a fatty acid or hydroxy fatty acid containing 8 to 26 carbon atoms.

3,441,508
DETERGENT CONTAINING ALKOXY HYDROXYPROPYLAMINE OXIDE

Howard F. Drew and Robert E. Hall, Wyoming, Ohio, assignors to The Procter & Gamble Company, Cincinnati, Ohio, a corporation of Ohio

No Drawing. Original application Dec. 4, 1961, Ser. No. 156,993. Divided and this application May 3, 1968, Ser. No. 726,560
Int. Cl. C11d *3/26, 3/20*
U.S. Cl. 252—137 5 Claims

Alkoxy hydroxypropyl amine oxides having improved hygoscopicity and thermal stability properties are employed in detergent compositions containing alkaline builders or other synthetic detergents.

3,441,509
STRIPPING SOLUTION

Keisho Aoki, Tokyo, Japan, assignor to Hagaron Co., Ltd., Tokyo, Japan

No Drawing. Filed Feb. 21, 1966, Ser. No. 528,763
Int. Cl. C11d *1/86*
U.S. Cl. 252—161 1 Claim

An agent for stripping an affix, such as a postage stamp, from a substrate to which it adheres, is constituted by an aqueous solution of alkylbenzenesulfonate or a mixture thereof with polyoxyethylene alkylphenol ether, together with alum (to prevent color blurring of a printing ink), at a pH of 7 to 9.

3,441,510
DETERGENT COMPOSITION

Arthur W. Campbell, Terre Haute, Ind., assignor to Vego Chemical Corporation, Terre Haute, Ind.

No Drawing. Filed Oct. 12, 1965, Ser. No. 495,320
Int. Cl. C11d *7/32, 1/68*
U.S. Cl. 252—153 6 Claims

The present invention relates to new detergent compositions especially adapted for cleaning glass comprising aqueous solutions containing 1–5%, by weight, of a lower alkyl amide and may include a lower aliphatic alcohol, lower alkyl ether of ethylene glycol or other conventional solvent, as well as wetting agents and dyes soluble in the composition.

3,441,511
ALKALI METAL HYDROXIDE-CONTAINING AGGLOMERATES
Joseph V. Otrhalek, Dearborn, and Paul E. Luoma, Grosse Ile, Mich., assignors to Wyandotte Chemicals Corporation, Wyandotte, Mich., a corporation of Michigan
No Drawing. Filed Dec. 20, 1965, Ser. No. 515,249
Int. Cl. C01d 1/44; C11d 11/00
U.S. Cl. 252—135 9 Claims

The preparation of agglomerates by subjecting a mass of finely divided solid particles to a tumbling action by a continuously moving surface, adding a liquid containing alkali metal hydroxide to said tumbling particles, and continuing said tumbling to form said agglomerates.

3,441,512
YTTRIUM VANADATE EUROPIUM PHOSPHOR PREPARATION BY PRECIPITATION USING AMMONIUM CARBONATE
Frank P. Durkee, Novelty, Ohio, assignor to General Electric Company, a corporation of New York
No Drawing. Filed July 18, 1966, Ser. No. 565,720
Int. Cl. C09k 1/44, 1/04
U.S. Cl. 252—301.4 6 Claims

The process for preparing europium activated yttrium vanadate phosphors (YVO_4:Eu) involves precipitating YVO_4:Eu from a nitric acid solution of yttrium, europium, and vanadium ions with ammonium carbonate. The precipitate is heated at elevated temperatures to produce well-crystallized YVO_4:Eu phosphor.

3,441,513
LIQUID CRYSTAL COMPOSITIONS
Wayne E. Woodmansee, Seattle, Wash., assignor to The Boeing Company, Seattle, Wash., a corporation of Delaware
Filed Aug. 5, 1966, Ser. No. 570,617
Int. Cl. G01k 11/16
U.S. Cl. 252—408 18 Claims

Cholesteric liquid crystal materials exhibiting selective light scattering over characteristic temperature ranges having a first component providing color sensitivity at a relatively low temperature of cholesteryl oleate, a second component which narrows the temperature response to a small range of temperatures for the occurrence of the color phenomena selected from the group consisting of cholesteryl nonanoate, cholesteryl decanoate, cholesteryl octanoate, and cholesteryl paranitrobenzoate; and a third component which adjusts the actual temperature at which the color phenomeana occur selected from the group consisting of cholesteryl acetate and cholesteryl propionate. A fourth filler component providing increased visibility of the color patterns may be added selected from the group consisting of carbon, carbon black, black tempera powder, and finely divided metals and nonmetals. These cholesteric materials may be sandwiched between transparent plastic films for efficient handling and application.

3,441,514
ACTIVATION OF AN ISOMERIZATION CATALYST WITH AN INITIAL SULFUR CHLORIDE TREATMENT AND SUBSEQUENTLY WITH AN OXYGEN-CONTAINING GAS
Joseph P. Giannetti, Allison Park, Howard G. McIlvried III, Pittsburgh, and Raynor T. Sebulsky, Verona, Pa., assignors to Gulf Research & Development Company, Pittsburgh, Pa., a corporation of Delaware
No Drawing. Filed Oct. 24, 1966, Ser. No. 588,744
Int. Cl. B01j 11/16, 11/74
U.S. Cl. 252—441 12 Claims

Highly active low temperature isomerization catalysts are produced by contacting a composite catalyst comprising a major portion of alumina and containing a minor portion of a metalliferous material having hydrogenating activity with a sulfur chloride and then with an oxygen-containing gas under non-reducing conditions at a temperature in the range of between about 750° F. and about 1100° F. Alternatively, a highly active catalyst may be produced by contacting the composite material with a gaseous halogen and an oxygen-containing gas at a temperature in the range between about 750° F. and about 1100° F. prior to contacting the composite material with a sulfur chloride.

3,441,515
METHOD FOR MANUFACTURING IMPROVED PERLITE FILTERAID PRODUCTS
Otto A. Oshida, John P. Gilmore, and James H. Lowe, Albuquerque, N. Mex., assignors to Grefco, Inc., Philadelphia, Pa., a corporation of Delaware
No Drawing. Filed Feb. 13, 1967, Ser. No. 615,396
Int. Cl. B01d 39/02; B01j 11/32
U.S. Cl. 252—455 6 Claims

The filtration characteristics, particularly regarding improved flow rate, of perlite filteraids are substantially improved by treating these materials uniformly with a solution of an alkali metal (M) silicate having an SiO_2/M_2O weight ratio greater than 1.5:1, in an amount between 0.5 to 5% by weight of the perlite filteraid. Preferably, sodium silicate is used with a ratio of SiO_2/Na_2O between about 2 to 4:1. A sufficient amount of water or other solvent is used to dissolve the alkali metal silicate product and then a controlled amount of the solution is mixed with the perlite filteraid product in order to uniformly wet and treat the filteraid particles. The resulting treated product is then heated to a temperature sufficiently high to remove substantially all of the solvent but below the fusion point of the treated filteraid product. Where water is used as a solvent, the heat-treatment will be within a range of 220° to about 1000° F. and preferably within a range of 500 to 1000° F.

3,441,516
VITREOUS ENAMEL RESISTOR COMPOSITION AND RESISTOR MADE THEREFROM
William A. Mulligan, Willingboro, N.J., and Remington M. Murphy, Roslyn, Pa., assignors to TRW, Inc., Philadelphia, Pa.
Continuation-in-part of application Ser. No. 254,919, Jan. 30, 1963. This application Apr. 21, 1966, Ser. No. 544,128
Int. Cl. H01b 3/08, 1/02; H01e 7/02
U.S. Cl. 252—512 9 Claims

A vitreous enamel resistance composition is disclosed comprising a vitreous frit or enamel, particles of an electrically conductive material and kaolin. In general, the invention is in the discovery that the temperature coefficient of resistance of a vitreous enamel resistance material is reduced by the addition of kaolin thereto.

3,441,517
CERAMIC BODIES OF FERROELECTRIC MATERIAL WITH PEROVSKITE STRUCTURE WHICH IS PARTIALLY p-CONDUCTING AND PARTIALLY n-CONDUCTING
Horst Brauer and Erich Fenner, Munich, and Renate Kuschke, Freising, Germany, assignors to Siemens Aktiengesellschaft, Munich, Germany, a corporation of Germany
Filed Mar. 16, 1966, Ser. No. 534,792
Claims priority, application Germany, Mar. 19, 1965, S 96,060
Int. Cl. H01l 3/18, 3/16
U.S. Cl. 252—520 11 Claims

This invention is directed to a polycrystalline ceramic structure which forms an electronic impedance device. The structure has an average crystallite size between 1 and 50 microns and is partially n-conducting and partially p-conducting. The ceramic body includes a doping substance of perovskite ferromagnetic material having the general formula $Me^{II}Me^{IV}O_3$. The doping substance is between 0.1 and 0.12 by weight and wherein Me^{II} comprises at least one metal selected from the class consisting of barium, strontium and calcium lead, and wherein Me^{IV} comprises at least one metal selected from the class consisting of titanium, zircon and tin. Either copper or iron is added to the structure and concentrated at the crystallite surface.

3,441,518
DIFLUOROAMINO EPOXY ALKANE OR CYCLOALKANE AND POLYMERS THEREOF
Eugene L. Stogryn, Fords, and Perry A. Argabright and Ralph J. Leary, Cranford, N.J., assignors to Esso Research and Engineering Company, a corporation of Delaware
No Drawing. Filed Jan. 18, 1962, Ser. No. 168,015
Int. Cl. C08g 23/06; C07d 1/02
U.S. Cl. 260—2 13 Claims

1. A difluoramino epoxy alkane containing 5 to 8 carbon atoms, an NF_2 substituent group being attached to each of 2 of the carbon atoms of an alkyl radical, and said carbon atoms with attached NF_2 groups being separated by a methylene group from an epoxy group.

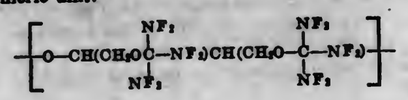
3,441,519
EPOXY RESIN HAVING AT LEAST ONE ACTIVE METHYLENE ETHER DIRECTLY CONNECTED TO TWO AROMATIC NUCLEI AND A PROCESS FOR PRODUCING THE SAME
Ching Yun Huang, Minoo-shi, and Masayoshi Maeda, Itami-shi, Japan, assignors to Japan Gas-Chemical Company, Inc., Tokyo, Japan, a corporation of Japan
No Drawing. Filed July 20, 1964, Ser. No. 383,961
Claims priority, application Japan, July 22, 1963, 38/39,201
Int. Cl. C08g 30/02
U.S. Cl. 260—2 10 Claims

A process for producing an epoxy resin having at least one active methylene ether radical ($-CH_2OCH_2-$) directly connected to two aromatic hydrocarbon nuclei in the molecular chain and an average of from 1.6 to 2.0 terminal vicinal epoxy radicals which comprises reacting a polyaromatic hydrocarbon glycol or dimethylol aromatic hydrocarbon formaldehyde resin with epichlorohydrin in the presence of a Friedel-Crafts catalyst and then diglycidylating with an alkali metal hydroxide. The produced resin is a useful heat-resistant epoxy resin because the active methylene ether groups in addition to the epoxy groups contribute to cross-linking reactions.

3,441,520
POLYMER OF 1,4-BIS-[TRIS-(NF_2)METHOXY] 2-BUTENE OXIDE
David S. Breslack, New York, N.Y., and Eugene L. Stogryn, Fords, and Joel G. Berger, Elizabeth, N.J., assignors to Esso Research and Engineering Company, a corporation of Delaware
No Drawing. Filed July 29, 1964, Ser. No. 386,087
Int. Cl. C08f 13/00
U.S. Cl. 260—2 6 Claims

1. A method of preparing crystalline solid polymers of 1,4-bis[tris - (NF_2)methoxy]2 - butene oxide monomer which comprises polymerizing said monomer with a catalytic action of a catalyst selected from the group consisting of $SbCl_5$ and SbF_5.

6. Solid polymer of 1,4 - bis - [tris-(NF_2)methoxy]2-butene oxide having the composition of the recurring monomeric unit:



with melting points above 192° C. and showing X-ray crystallinity.

3,441,521
ALKENE OXIDE POLYMERIZATION WITH A SUPPORTED COBALT OXIDE-MOLYBDENUM OXIDE CATALYST
Henry L. Hsieh, Bartlesville, Okla., assignor to Phillips Petroleum Company, a corporation of Delaware
No Drawing. Filed June 7, 1965, Ser. No. 462,120
Int. Cl. C08d 1/26, 1/32, 3/00
U.S. Cl. 260—2 10 Claims

Vicinal alkene oxides are polymerized by contacting at least one alkene oxide monomer with a catalyst system comprising a supported cobalt oxide-molybdenum oxide catalyst system. The resulting poylmer products are rubbery polymers. The efficiency of the catalyst system can be further improved by utilizing an organometallic compound in conjunction with the supported cobalt oxide-molybdenum oxide catalyst system.

3,441,522
CURABLE, TACKY POLYMERS OF WATER AND A POLYEPOXIDE AND PROCESS FOR THE PREPARATION THEREOF
Anthony C. Soldatos, Kendall Park, and Allison S. Burhans, Millington, N.J., assignors to Union Carbide Corporation, a corporation of New York
No Drawing. Filed Aug. 16, 1965, Ser. No. 480,194
Int. Cl. C08g 30/00; C09j 3/16
U.S. Cl. 260—2 18 Claims

This invention relates to curable, tacky polymers of water and a polyepoxide having at least two epoxy groups per molecule, formed on reacting water with the polyepoxide in the presence of a tertiary amine. The polymers of this invention can be used as binders in structural laminates and in filament wound structures.

3,441,523
FILLED CELLULAR URETHANES
Frank J. Dwyer and Richard J. Herdlein, Buffalo, N.Y., assignors to Allied Chemical Corporation, New York, N.Y., a corporation of New York
No Drawing. Filed Nov. 12, 1964, Ser. No. 410,752
Int. Cl. C08g 22/46, 22/14, 51/02
U.S. Cl. 260—2.5 6 Claims

1. A one-shot process for preparing flexible urethane foams comprising admixing and reacting:
(a) an organic diisocyanate;
(b) a mixture of polyether polyols consisting essentially of about 50% to about 90% by weight of a polyoxyalkylene triol having a molecular weight of about 1000 to about 5000 and a hydroxyl number of about 30 to about 170 and 10% to about 50% by weight of a polyoxyalkylene diol having a molecular weight of about 1000 to about 3000 and a hydroxyl number of about 40 to about 110, at least one of said polyether polyols containing terminal hydroxyethylene groups, said mixture having a primary hydroxyl group content of about 10% to about 65%;
(c) a particulate filler which is substantially insoluble in, and non-reactive with the other components of the reaction mixture and, which is at least about 5% by weight of the materials used herein, the particles of said filler being less than about 50 microns in the largest dimension;
(d) water; and
(e) a catalyst.

3,441,524
SELF-EXTINGUISHING THERMOPLASTIC COMPOSITIONS
Heinz Burger, Ludwigshafen (Rhine), Heinrich Mohr and Edmund Priebe, Frankenthal, Pfalz, and Lothar Reuter and Heinz Weber, Ludwigshafen (Rhine), Germany, assignors to Badische Anilin- & Soda-Fabrik Aktiengesellschaft, Ludwigshafen (Rhine), Germany
No Drawing. Filed Aug. 16, 1966, Ser. No. 572,680
Claims priority, application Germany, Aug. 25, 1965, B 83,428
Int. Cl. C08g 47/08, 47/10; C09k 3/28
U.S. Cl. 260—2.5 8 Claims

The invention relates to an improved self-extinguishing composition comprising a styrene polymer, an organic bromide and a synergistic phenyl alkane compound. The composition can also contain a foaming agent.

3,441,525
PROCESS FOR THE PRODUCTION OF AQUEOUS DISPERSIONS OF RUBBER CONTAINING LIGHT-COLORED REINFORCED FILLERS AND RUBBERS RESULTING THEREFROM
Rudolf Kern, Neustadt-Weinstrasse, Gregor Groppenbacher, Schwetzingen, Bavaria, and Hans Scheurer, Heidelberg-Schlierbach, Germany, assignors to Rhein-Chemie G.m.b.H., Mannheim-Almenhof, Germany
No Drawing. Continuation-in-part of application Ser. No. 241,525, Dec. 3, 1962. This application June 12, 1967, Ser. No. 645,494
Int. Cl. C08c 9/16; C08j 1/46
U.S. Cl. 260—4 15 Claims

Aqueous dispersions or latices of rubbery polymers, which are reinforced with light-colored reinforcing pigments and which are suitable for direct production of rubber articles of high tear strength without mastication, are made by incorporation under shearing force into the solid rubbery polymer or mixture of such polymer with a polymer of a vinylidene compound, at least 10% of a light-colored reinforcing pigment, a wetting agent which is selected from anionic and nonionic surface-active agents, an alkaline substance, and a suitable water-swellable to water-soluble high polymer, such as polyacrylic acid, salts and amides thereof, having a hydrocarbon backbone with carboxyl groups or salts or amides thereof depending therefrom, and adding water to the mixture while generally free of objectionable volatile solvents and tackifiers until a dispersion of said high polymer mixture in a continuous phase of aqueous liquid is formed.

3,441,526
PREPARATION OF GRAFT POLYMERS OF SYNTHETIC POLYAMINO ACIDS ON NATURAL POLYHYDROXY COMPOUNDS, THEIR DERIVATIVES AND SYNTHETIC POLYHYDROXY POLYMERS
Albert Zilkha and Yair Avny, Jerusalem, Israel, assignors to The State of Israel, Prime Minister's Office, Jerusalem, Israel
No Drawing. Continuation of application Ser. No. 372,366, June 3, 1964. This application Oct. 25, 1967, Ser. No. 678,496
Claims priority, application Israel, June 10, 1963, 19,380
Int. Cl. C08g 20/08, 41/07; C08b 15/06
U.S. Cl. 260—9 16 Claims

New graft polymers of synthetic polyamino acids (polypeptides) are prepared on natural polyhydroxy polymers such as cellulose, starch, their derivatives and modified forms; on synthetic polymers, having free hydroxyl groups, such as polyvinyl-alcohol, polyvinyl esters, and their derivatives, polyglycol ethers having hydroxyl groups, etc.; and on synthetic graft polymers of vinyl monomers, epoxides, etc. on natural and synthetic polyhydroxy polymers by the interaction of the N-carboxyanhydride derivatives of amino acids with the hydroxyl groups of the polymer backbone or with the alkali metal-oxide derivatives of these hydroxyl groups, which serve as initiators of polymerization.

3,441,527
PHENOLIC AGENT-ACID CATALYST MODIFIED LIGNOCELLULOSE DERIVATIVE AND PROCESS
Ronald L. Broadhead, Addison, and William R. Dunlop, Maywood, Ill., assignors to The Richardson Company, Melrose Park, Ill., a corporation of Ohio
No Drawing. Filed Nov. 2, 1964, Ser. No. 408,351
Int. Cl. C08g 5/18, 37/16, 37/18
U.S. Cl. 260—17.2 11 Claims

A mixture of lignocellulose, a phenolic agent, and an acid catalyst soluble in said phenolic agent are subjected to the action of steam in a closed reaction chamber to produce a product having a high curable resin content.

3,441,528
METHOD OF PRODUCING ELASTIC GELS FROM THE RESIDUE OF ACID HYDROLYZED PENTOSAN-CONTAINING LIGNOCELLULOSIC MATERIAL
Joseph B. Dede, Jr., McHenry, Ill., assignor to The Quaker Oats Company, Chicago, Ill., a corporation of New Jersey
No Drawing. Filed Dec. 16, 1965, Ser. No. 514,365
Int. Cl. C09j 3/16; C08g 37/18
U.S. Cl. 260—17.2 11 Claims

The residue remaining after the acid hydrolysis of pentosan-containing lignocellulosic materials selected from the group corn cobs, cotton seed hulls, oat hulls, rice hulls and bagasse is admixed with water and converted to a viscose gel by vigorous agitation. This method eliminates the alkali digestion step which has been used heretofore.

3,441,529
CARBONACEOUS CEMENT
Laurence W. Tyler, Strongsville, Ohio, assignor to Union Carbide Corporation, a corporation of New York
No Drawing. Filed Nov. 16, 1966, Ser. No. 594,669
Int. Cl. C09j 3/16; C08g 37/06
U.S. Cl. 260—19 22 Claims

A thermosetting cement of superior strength for bonding together carbonaceous structures, particularly those structures used as refractory linings in metallurgical equipment such as cupolas and blast furnaces, comprising a mixture of an oil, a soap, finely-divided carbonaceous particles, furfuryl alcohol, a phenolic novolac resin, and a hardening agent for the phenolic resin.

3,441,530
BLOCK COPOLYMER POWDERS
Ralph H. Bauer, Huntington Beach, Calif., and Marvin A. Delsz, Akron, Ohio, assignors to Shell Oil Company, New York, N.Y., a corporation of Delaware
No Drawing. Filed Jan. 27, 1965, Ser. No. 428,528
Int. Cl. C08d 3/02; C08f 21/02
U.S. Cl. 260—28.5 5 Claims

Free flowing block copolymer powders are obtained by forming a hydrocarbon solution of the copolymer and precipitating the polymer with certain polar non-solvents while agitating, the solubility parameters being selectively defined.

3,441,531
VINYLIDENE FLUORIDE POLYMER DISPERSIONS HAVING LOW VISCOSITY
Francis Frederick Koblitz, Erdenheim, and Robert Gabriel Petrella, Philadelphia, Pa., assignors to Pennsalt Chemicals Corporation, Philadelphia, Pa., a corporation of Pennsylvania
No Drawing. Filed Jan. 17, 1966, Ser. No. 520,849
Int. Cl. C08f 47/20, 47/18; C09d 3/78
U.S. Cl. 260—29.1 5 Claims

The viscosity of a polymeric dispersion comprising particulate polyvinylidene fluoride dispersed in organic latent solvent is reduced by mixing therewith from about 0.01 to about 2 parts by weight of a quaternary ammonium salt cationic surfactant per 100 parts by weight of dispersion solids. The decreased viscosity permits higher solids content dispersions, gives improved flow and leveling characteristics and improved wetting of pigments and substrates, all of which results in the attainment of better coatings from the dispersions.

3,441,532
LIQUID POLYAMIC ACID COMPOSITION AND PROCESS FOR PREPARING SAME
Claus Victorius, Media, Pa., assignor to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware
No Drawing. Filed Jan. 14, 1966, Ser. No. 520,638
Int. Cl. C08g 51/26, 41/02
U.S. Cl. 260—30.4 9 Claims

The disclosure shows a process for preparing a suspension of polyamic acid polymer particles in an ether, which process is adapted to provide a liquid composition of the polymer having low viscosity at high solids content and having beneficial utility in the preparation of curable polyamic acid layers; the process comprises a polymer-forming reaction between a dianhydride and a diamine in a suitable ether which does not dissolve the polymer.

3,441,533
PROCESS FOR THE PRODUCTION OF ACRYLONITRILE POLYMERS BY POLYMERIZING ON THE PRESENCE OF AN AROMATIC SULFONAMIDE
Carlhans Suling, Leverkusen, and Heino Logemann, Leverkusen-Schlebusch, Germany, assignors to Farbenfabriken Bayer, Aktiengeseilschaft, Leverkusen, Germany, a corporation of Germany
No Drawing. Filed Mar. 20, 1967, Ser. No. 624,222
Claims priority, application Germany, Mar. 30, 1966, F 48,806
Int. Cl. C08f 1/08, 1/76, 3/76
U.S. Cl. 260—30.8 2 Claims

Process for preparing acrylonitrile polymer solutions by polymerizing acrylonitrile in an organic solvent at a temperature of −68° C. to +10° C. in the presence of a catalytic amount of an alkali metal salt of an aromatic sulfonamide ofthe formula

$$Ar-SO_2-\underset{\displaystyle R_1}{\underset{|}{N}}-Me^+$$

wherein Me is lithium, sodium, potassium, rubidium, or caesium, Ar is an aryl radical, and R_1 is an alkyl radical. The polymer solutions prepared by this process may be employed to produce moldings, films, or the like.

3,441,534
CURABLE COMPOSITIONS
Edgar W. Knaub, Schenectady, N.Y., assignor to General Electric Company, a corporation of New York
No Drawing. Filed Jan. 3, 1966, Ser. No. 517,921
Int. Cl. C08g 47/10
U.S. Cl. 260—37 10 Claims

Room temperature vulcanizing compositions are provided in the form of blends of organopolysiloxane polymers and organic polymers, such as polyethers or polyesters. The various polymers have chemically combined organosilyl radicals with hydrolyzable radicals, such as acyloxy, ketoximator and amino radicals attached to silicon. The subject compositions are useful as sealants and caulking compounds.

3,441,535
TRANSPARENT REINFORCED COMPOSITIONS CONTAINING DIALLYL PHTHALATE PREPOLYMERS
Harry Hoyt Beacham, Severna Park, Md., Jerry M. Kreinik, Parkersburg, W. Va., and James Larue Thomas, Baltimore, Md., assignors to FMC Corporation, New York, N.Y., a corporation of Delaware
No Drawing. Filed May 19, 1967, Ser. No. 639,599
Int. Cl. C08f 21/00; B32b 17/06
U.S. Cl. 260—40 17 Claims

This specification discloses translucent reinforced, thermosetting plastic structures with improved transparency composed of diallyl phthalate or diallyl isophthalate polymers, a reactive monomer or a high maleic or fumaric unsaturated polyester resin that will copolymerize with the polymer, a glass coupling agent incorporated in the polymer-monomer mixture, reinforcing glass treated with a glass coupling agent and a polymerization catalyst to convert the polymer system to the cured state when heated. The polymer and monomer or polyester are mixed in a ratio so that when cured the refractive index of the polymer system will match the refractive index of the glass. An inhibitor for the allylic resins may be incorporated in the polymer-monomer mixture to promote the flow of the polymer system under cure conditions and reduce the exotherm.

3,441,536
SYNTHETIC RESIN COMPOSITIONS CONTAINING ALPHA - PHENYLTHIOANTHRAQUINONES AS COLORANTS
Chi K. Dien, Buffalo, N.Y., assignor to Allied Chemical Corporation, New York, N.Y., a corporation of New York
No Drawing. Continuation of application Ser. No. 396,376, Sept. 14, 1964. This application Jan. 26, 1968, Ser. No. 701,011
Int. Cl. C08f 47/04, 29/46, 33/02
U.S. Cl. 260—41 10 Claims

Pigmented synthetic resin compositions containing alpha-phenylthioanthraquinones as pigments or colorants, said resin compositions resistant to shade alteration upon exposure to elevated temperatures and long exposure to light.

3,441,537
ORGANOPOLYSILOXANES
Guenther Fritz Lengnick, Manitou Beach, Mich., assignor to Stauffer Chemical Company, New York, N.Y., a corporation of Delaware
No Drawing. Filed July 12, 1967, Ser. No. 652,672
Int. Cl. C08g 31/28, 33/10
U.S. Cl. 260—46.5 25 Claims

The invention relates to curable one-component organophosphatosiloxanes and to the preparation of these room temperature curing systems by reacting organophosphatosilanes with hydroxyl terminated organopolysiloxanes.

3,441,538

BORON TRIFLUORIDE - HYDROGEN FLUORIDE CATALYZED SYNTHESIS OF POLY(AROMATIC KETONE) AND POLY(AROMATIC SULFONE) POLYMERS

Barnard M. Marks, Brandywine Hills, Wilmington, Del., assignors to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware

No Drawing. Continuation-in-part of application Ser. No. 477,294, Aug. 4, 1965. This application July 17, 1967, Ser. No. 653,618

Int. Cl. C08g 43/00, 37/00, 15/00

U.S. Cl. 260—49 18 Claims

Synthesis of polymers such as poly(aromatic ketones) and poly(aromatic sulfones) with a mixed boron fluoride-hydrogen fluoride catalyst.

3,441,539

CONDENSATION PRODUCTS OF UREA, A SATURATED ALDEHYDE OF 3–4 CARBON ATOMS AND FORMALDEHYDE AND PROCESS FOR MAKING THEM

Helmut Karl Schafer and Rudolf Kohlhaas, Frankfurt am Main, Germany, assignors to Farbwerke Hoechst Aktiengesellschaft vormals Meister Lucius & Bruning, Frankfurt am Main, Germany, a corporation of Germany

No Drawing. Filed July 10, 1964, Ser. No. 381,890

Claims priority, application Germany, July 19, 1963, F40,276

Int. Cl. C08g 9/10; C05c 9/02

U.S. Cl. 260—69 4 Claims

A novel condensation product of urea, a saturated aldehyde, having 3–4 carbon atoms and formaldehyde has been provided which is especially suitable as a fertilizer in a granulated form. The product is obtained by condensing (a) urea, (b) a saturated aldehyde having from 3 to 4 carbon atoms, and (c) formaldehyde. The mole ratio of the three components, *a*:*b*:*c*, being, respectively, 2:0.8—*n* to 2—*n*, wherein "*n*" is 0.05 to 1. The condensation is effected by means of sulfuric acid and by keeping the reactant mixture in a plastic phase throughout the entire reaction.

3,441,540

METHOD FOR THE PRODUCTION OF HIGH-MOLECULAR POLYESTERS OR CO-POLYESTERS

Klaus R. A. Müller and Georg M. Sych, Premnitz, Kreis Rathenow, and Heinz Zimmermann, Teltow-Seehof, Germany, assignors to Veb Chemiefaserwerk "Friedrich Engels," Premnitz, Kreis Rathenow, Germany

No Drawing. Filed June 28, 1965, Ser. No. 468,189

Int. Cl. C08g 17/04, 51/54, 39/00

U.S. Cl. 260—75 4 Claims

An improved method for the production of high molecular resinous polyesters of thermal stability and a high degree of whiteness, wherein a glycol ester or mixture of glycol esters with a dicarboxylic aromatic or aliphatic acid is subjected to polycondensation, the improvement consisting in the use of a stabilizer-catalyst system comprising ester mixtures of phosphoric or phosphorous esters of polyhydric aliphatic alcohols in the presence of an active polycondensation catalyst consisting of an antimony or titanium oxide or salt.

3,441,541

FULLY CAPPED POLYMETHYLENE POLYPHENYL ISOCYANATES

Victor V. D'Ancicco, 4456 Timberlane Drive, Kalamazoo, Mich. 49001, and Adnan A. R. Sayigh, 999 Hartford Turnpike Road, North Haven, Conn. 06473

No Drawing. Continuation-in-part of application Ser. No. 508,129, Nov. 16, 1965. This application Oct. 17, 1966, Ser. No. 586,961

Int. Cl. C08f 45/72; C08g 51/76

U.S. Cl. 260—77.5 1 Claim

Polymethylene polyphenyl isocyanate mixtures containing from about 35 to about 85 percent by weight of methylenebis(phenylisocyanate) and having each isocyanate group capped with a thermally releasable capping agent having active hydrogen directly attached to nitrogen, are disclosed. Preferred capping agents are ε-caprolactam, 2-pyrrolidone, and polymeric 1,2-dihydro-2,2,4-trimethylquinoline. The capped isocyanates are useful in aqueous latex systems, as promoters in curing hydrocarbon high polymers, as components of storage stable polyurethane compositions, and in reducing the tendency of nylon cord to flat spot.

3,441,542

PREPARATION OF POLYESTERS CONTAINING BORON AND NITROGEN

Olden E. Paris, Wilmington, Del., assignor to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware

No Drawing. Filed Feb. 20, 1964, Ser. No. 346,119

Int. Cl. C08g 17/137; C06d 5/00; C10l 5/40

U.S. Cl. 260—78.4 2 Claims

Process for preparing solid polyesters containing nitrogen and boron, which comprises condensing essentially equimolar amounts of hydroxyalkylammonium or hydrazonium salt of decahydrodecaboric acid or dodecahydrododecaboric acid and a dicarboxylic acid or anhydride at a temperature of from 150 to 250° C. in an inert atmosphere. Said compositions being useful as high energy propellants.

3,441,543

THERMOSETTABLE COMPOSITION CONTAINING POLYANHYDRIDE, AN OLEFINICALLY UNSATURATED MONOOXIRANE COMPOUND AND AN OLEFINICALLY UNSATURATED MONOMER AND THE METHOD OF MAKING

William J. Hellman, Allison Park, Pa., assignor to Gulf Research & Development Company, Pittsburgh, Pa., a corporation of Delaware

No Drawing. Filed Aug. 3, 1966, Ser. No. 569,800

Int. Cl. C08f 15/40, 27/00

U.S. Cl. 260—78.5 26 Claims

A new liquid composition which is capable of being cured to a solid infusible resin and which contains a solid polyanhydride, for example the copolymer of maleic anhydride and an alpha-olefin, an olefinically unsaturated monoxirane compound which is capable of being polymerized by free-radical means, such as glycidyl methacrylate, and an olefinically unsaturated monomer capable of polymerization by free-radical means, such as styrene. The resin forms through reaction of the anhydride and epoxide groups and interaction of the olefinic double bonds of the olefinically unsaturated components.

3,441,544

PHOSPHORIC ACID ESTERS AND POLYMERS THEREOF

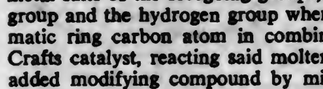
Thomas E. Roney, Oak Park, and Robert D. Dexheimer, Naperville, Ill., assignors to The Richardson Company, Melrose Park, Ill., a corporation of Ohio

No Drawing. Filed July 10, 1962, Ser. No. 208,921

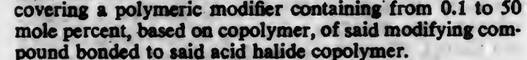
Int. Cl. C07f 9/03; C08g 33/16

U.S. Cl. 260—78.5 7 Claims

1. A phosphoric ester of the formula



wherein X is the ester group



wherein R and R′ are selected from the group consisting of hydrogen, a lower alkyl, and cyclic alkyl radicals and their halogen substituted derivatives, wherein R″ and R‴ are selected from the group consisting of hydrogen, halogen and a lower alkyl and wherein *m* is a whole number from 0–3 and *n* is a whole number from 1–3.

6. A hard solid product obtained by the addition reaction of an ester as described in claim 1 and a compound containing vinyl unsaturation.

3,441,545

MODIFICATION OF OLEFIN-CARBOXYLIC ACID HALIDE COPOLYMERS

Philip Strubing Blatz and Daniel Edwin Maloney, Wilmington, Del., assignors to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware

No Drawing. Filed Nov. 1, 1963, Ser. No. 320,848

Int. Cl. C08f 27/12, 27/08, 27/06

U.S. Cl. 260—78.5 10 Claims

1. A process for preparing polymeric modifiers which comprises forming a molten olefin carboxylic acid halide copolymer containing at least 50 mole percent, based on copolymer, of a polymerized olefin wherein the olefin monomer has the formula $RCH{=}CH_2$, where R is a radical selected from the class consisting of hydrogen, alkyl radicals having from 1 to 8 carbon atoms, alkenyl radicals having 1 to 8 carbon atoms and aryl radicals having from 6 to 12 carbon atoms and at least 0.1 mole percent, based on copolymers, of a polymerized halide of an α,β-ethylenically unsaturated carboxylic acid having from 3 to 8 carbon atoms, adding to said molten copolymer at least one modifying compound having a molecular weight of less than 2000 containing at least one group reactive with alkanoic acid halides, which group is selected from the class consisting of the alcoholic hydroxyl group, amino groups containing at least one hydrogen bonded to nitrogen, groups containing enolizable hydrogen attached to carbon, the mercapto group, the phosphino group, alkali metal salts of the foregoing groups, the Grignard reagent group and the hydrogen group where attached to an aromatic ring carbon atom in combination with a Friedel Crafts catalyst, reacting said molten copolymer and said added modifying compound by milling said molten copolymer and said added modifying compound, and recovering a polymeric modifier containing from 0.1 to 50 mole percent, based on copolymer, of said modifying compound bonded to said acid halide copolymer.

3,441,546

POLYMERIZATION CATALYST

Harold K. Garner, Wayne, and Demetreos N. Matthews, Bloomfield, N.J., assignors to Uniroyal, Inc., a corporation of New Jersey

No Drawing. Continuation-in-part of application Ser. No. 304,634, Aug. 26, 1963. This application Mar. 19, 1965, Ser. No. 441,307

Int. Cl. C08f 1/56, 1/42; B01j 11/84

U.S. Cl. 260—80.7 11 Claims

A coordination catalyst for the polymerization of olefins comprising a vanadium salt and an organo metallic material is improved by the addition to a monomer or monomers containing such a catalyst of an organic nitro compound. The latter compound serves to activate the catalyst and as a regulator of the molecular weight of the resulting polymer.

3,441,547

VINYL ACETATE-METHYL BUTENOL COPOLYMERS

Martin K. Lindemann, Somerville, N.J., assignor, by mesne assignments, to Air Reduction Company, Incorporated, New York, N.Y., a corporation of New York

No Drawing. Filed Dec. 30, 1966, Ser. No. 606,018

Int. Cl. C07f 15/40, 15/10, 15/16

U.S. Cl. 260—85.7 5 Claims

This invention relates to new and useful water soluble film materials. More particularly this invention relates to vinyl alcohol-methyl butenol copolymers or interpolymers which form clear, colorless and flexible films. These films are water soluble over a wide temperature range, have adequate tensile and tear strength characteristics to form effective packaging materials, and retain their water solubility and physical strength characteristics even when stored under high temperature and high relative humidity conditions.

3,441,548

COMPOSITIONS OF AMMONIUM SALT OF WEAK ACIDS AND ALKALINE-EARTH METAL OXIDES USEFUL FOR VULCANIZING HALOGEN-CONTAINING ELASTOMERS

Jack Horstmann Thelin, Somerville, N.J., assignor to American Cyanamid Company, Stamford, Conn., a corporation of Maine

No Drawing. Filed June 25, 1964, Ser. No. 378,053

Int. Cl. C08f 27/06, 45/72

U.S. Cl. 260—86.1 10 Claims

A process for curing a reactive halogen-containing elastomer which comprises mixing the said elastomer with an ammonium salt of a weak acid and an alkaline-earth metal oxide and heating the resulting mixture.

3,441,549

ACRYLATES OF NF_2-CONTAINING POLYETHERS

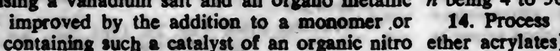
John B. Gardiner, Mountainside, and Anthony J. Passannante, Metuchen, N.J., assignors to Esso Research and Engineering Company, a corporation of Delaware

No Drawing. Filed Sept. 11, 1962, Ser. No. 224,885

Int. Cl. C08f 3/64; C07c 135/00, 87/26

U.S. Cl. 260—88.3 14 Claims

1. Acrylates of NF_2-containing polyethers having the compositional formula:



wherein the polyether recurring unit, *x* is 4 to 6, *y* is 6 to 8, *z* is 2 to 4, *n* is 4 to 50, R is of the group consisting of hydrogen and C_1 to C_3 alkyl substituent, and *v* is 1 to 3, the C_xH_y group being a substituted saturated acyclic hydrocarbon group containing the NF_2 substituent groups.

2. Diacrylate of poly (bis-(NF_2)-pentene-1 oxide) having the composition:

n being 4 to 50.

3. Diacrylate of poly (divinyl ethylene oxide-N_2F_4 adduct) having the composition:

n being 4 to 50.

14. Process for the preparation of poly (NF_2-polyether acrylates), which comprises reacting an acrylating agent with an NF_2-containing polyether alcohol selected from the group consisting of poly (bis(NF_2)-pentene-1-oxide), poly (divinyl ethylene oxide-N_2F_4 adduct) and

poly (butadiene oxide-N_2F_4 adduct), modified to have about two OH groups per molecule by a modifying reactant selected from the group consisting of water, glycidol, ethylene glycol and trimethylol propane to replace the OH groups by acrylate groups, and polymerizing the resulting acrylates to form rubbery polymers.

3,441,550

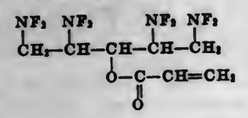
TETRAKIS NF_2 ADDUCT OF DIVINYLCARBINOL AND ACRYLATE AND POLYMER THEREOF

Abraham A. Zimmerman, New York, N.Y., assignor to Esso Research and Engineering Company, a corporation of Delaware

No Drawing. Filed Sept. 11, 1962, Ser. No. 224,886
Int. Cl. C08f *3/64*; C07c *135/00, 87/26*
U.S. Cl. 260—89.5 9 Claims

1. Tetrakis NF_2 adduct of divinylcarbinol.

2. Acrylate of tetrakis NF_2 adduct of divinylcarbinol represented by the formula:



3. Polymer of 3-(1,2,4,5-tetrakis-(NF_2)-pentyl) acrylate.

3,441,551

NOVEL CATALYST AND OLEFIN POLYMERIZATION THEREWITH

James L. Jezl, Swarthmore, Habet M. Khelghatian, Springfield, and Louise D. Hague, Villanova, Pa., assignors to Avi Sun Corporation, Philadelphia, Pa., a corporation of Delaware

No Drawing. Filed May 1, 1961, Ser. No. 106,487
The portion of the term of the patent subsequent to Apr. 14, 1981, has been disclaimed
Int. Cl. C08f *1/56, 3/10*
U.S. Cl. 260—93.7 9 Claims

A process for polymerizing propylene and higher olefins with a catalyst consisting of titanium trichloride alkyl aluminum dihalide and methyl tetrahydrofuran.

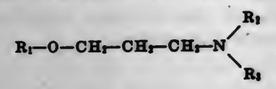
3,441,552

ANTISTATIC COMPOSITION

Konrad Rombusch and Ursula Eichers, Marl, Germany, assignors to Chemische Werke Huls, A.G., Marl, Germany

No Drawing. Filed Sept. 30, 1966, Ser. No. 583,417
Claims priority, application Germany, Oct. 9, 1965, C 37,116
Int. Cl. C08d *3/04*; C09k *3/16*
U.S. Cl. 260—93.7 8 Claims

1. An antistatic composition comprising a normally solid polymer of an α-ethylenically unsaturated hydrocarbon having 2–8 carbon atoms and an antistatically effective amount of an alkoxypropylamine of the formula:



wherein

R_1 represents an alkyl, alkenyl, alkylcycloalkyl, aryl. alkylaryl, or alkenylaryl group of 6–25 carbon atoms in the alkyl or alkenyl group, 4 to 18 carbon atoms in the cycloalkyl moiety, and 6 to 14 carbon atoms in the aryl moiety, and

R_2 and R_3 each represents a hydrogen atom, or an alkyl or alkenyl of 1 to 5 carbon atoms.

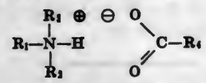
3,441,553

CRACK-FREE ANTI-ELECTROSTATIC MOLDED BODIES MADE FROM POLYETHYLENE

Konrad Rombusch, Marl, and Ursula Eichers, Recklinghausen, Germany, assignors to Chemische Werke Huls Aktiengesellschaft, Marl, Germany, a corporation of Germany

No Drawing. Filed Sept. 27, 1966, Ser. No. 582,247
Claims priority, application Germany, Oct. 8, 1965, C 37,095
Int. Cl. C08d *3/04*; C09k *3/16*
U.S. Cl. 260—94.9 1 Claim

1. An anti-electrostatic molded body consisting essentially of an intimate mixture of a polyethylene and from 0.1 to 4% by weight, based upon the weight of the polyethylene of a salt of the formula



in which R_1 represents a member selected from the group consisting of alkyl, alkenyl, alkylcycloalkyl, aryl, alkylaryl and alkenyl aryl groups containing from 6 to 26 carbon atoms in the alkyl and alkenyl groups, R_2 and R_3 each represents a member selected from the group consisting of alkyl groups containing from 1 to 26 carbon atoms, alkenyl, alkylcycloalkyl, aryl, alkylaryl and alkenylaryl groups containing 6 to 26 carbon atoms in the alkyl and alkenyl groups, and the group $(C_xH_{2x}O)_nH$ in which x stands for one of the numbers 2 and 3 and n stands for one of the numbers 0 to 10, and R_4 stands for a member selected from the group consisting of alkyl, alkenyl and aryl groups containing from 5 to 25 carbon atoms in the alkyl and alkenyl groups.

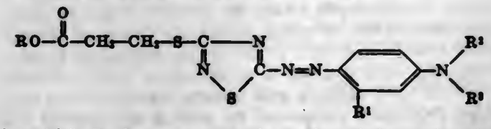
3,441,554

THIADIAZOLE MONOAZO DYES

Erwin Hahn, Viernheim, Hesse, and Hans Guenter Wippel, Ludwigshafen (Rhine), Germany, assignors to Badische Anilin- & Soda-Fabrik Aktiengesellschaft, Ludwigshafen (Rhine), Germany

No Drawing. Filed Nov. 22, 1966, Ser. No. 596,058
Claims priority, application Germany, Dec. 3, 1965, B 84,820
Int. Cl. C09b *29/36*
U.S. Cl. 260—158 5 Claims

1. A dye having the general formula



in which R denotes a member selected from the class consisting of methy and ethyl, R^1 denotes a member selected from the class consisting of hydrogen, chlorine and methyl, R^2 denotes a member selected from the class consisting of β-cyanoethyl, β-carbomethoxyethyl, β-carboethoxyethyl, β-acetoxyethyl and β-propionyloxyethyl, and R^3 denotes a member selected from the class consisting of methyl, ethyl, propyl, butyl, β-hydroxyethyl, β-acetoxyethyl, β-propionyloxyethyl, β-methoxyethyl, β-ethoxyethyl, β-hydroxypropyl and β,γ-dihydroxypropyl.

3,441,555

DISAZO PIGMENTS

Jack L. Towle, East Cleveland, and Anton Mudrak, Broadview Heights, Ohio, assignors to Kewanee Oil Company, Bryn Mawr, Pa., a corporation of Delaware

No Drawing. Filed Aug. 24, 1966, Ser. No. 574,540
Int. Cl. C09b *33/14*
U.S. Cl. 260—176 5 Claims

A yellow disazo pigment of improved properties containing two lower alkyl sulfonamide groups, prepared by coupling two molar proportions of a diazotized aniline derivatives having a methoxy substituent in the two position and a lower alkyl sulfonamide group in the five position, with a para-phenylene-bisacetoacetamide derivative having at least two chlorine atoms substituted in the phenylene nucleus. These pigments are particularly useful for their non-bleeding properties, particularly in hot paraffin and in organic solvents that might be encountered in the printing of wax-coated wrappers.

3,441,556

PROCESS FOR THE PRODUCTION OF AZO COMPOUNDS

Erwin Scheitlin, Oberwil, Basel-Land, Switzerland, assignor to Sandoz Ltd. (also known as Sandoz AG), Basel, Switzerland

No Drawing. Continuation-in-part of application Ser. No. 424,847, Jan. 11, 1965. This application Aug. 17, 1967, Ser. No. 661,202
Claims priority, application Switzerland, Jan. 13, 1964, 303/64; Jan. 17, 1964, 565/64
Int. Cl. C09b *29/00*; C07c *103/20*
U.S. Cl. 260—192 7 Claims

A process for the production of azo diestuffs, in which the coupling of the diazonium compounds and the coupling compounds is achieved under non hazardous conditions, in a solvent containing 70 to 100% by volume of a glycol ether or a cyclic ether and 30 to 0% of water.

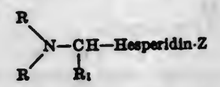
3,441,557

DIALKYLAMINOALKYL-HESPERIDIN CONTAINING COMPOUNDS

Hans Voigt, Berlin, Germany, assignor to Dr. med. Hans Voigt Chem.-Pharm. Fabrik, Berlin-Waldmannslust, Oranienbamm, Germany

No Drawing. Filed Nov. 18, 1966, Ser. No. 595,371
Claims priority, application Austria, Sept. 23, 1966, A 8,953/66
Int. Cl. C08b *19/00*; C07g *3/00*
U.S. Cl. 260—210 9 Claims

Novel complex molecular compounds of hesperidin of the formula:



wherein R is a substituted or unsubstituted lower alkyl radical; R_1 is lower alkyl, phenyl, or pyridyl, and Z is an organic substance insoluble or difficultly soluble in water, e.g. organic carboxylic acid, amide, xanthine, etc. Additionally, a process is provided wherein such water soluble complex molecular compounds of hesperidine are obtained by reacting a dialkylaminoalkyl hesperidine or hesperidine, an aldehyde and a primary or secondary amine with an organic substance soluble or difficultly soluble in water. Such compounds are useful as diuretics, as agents for combating inflammations and fever, and for venous therapy.

3,441,558

SULFATION OF STARCH FRACTIONS

Leo H. Kruger, Kendall Park, and Otto B. Wurzburg, Whitehouse Station, N.J., assignors to National Starch and Chemical Corporation, New York, N.Y., a corporation of Delaware

No Drawing. Continuation-in-part of application Ser. No. 430,731, Feb. 5, 1965. This application Mar. 4, 1968, Ser. No. 709,967
Int. Cl. C08b *19/12, 19/04*
U.S. Cl. 260—233.5 4 Claims

An improved process for the sulfation of the amylopectin fraction of the starch molecule via reaction with the addition product of trimethylamine and sulfur trioxide; said process resulting in the preparation of amylopectin sulfates which are devoid of the objectionable odor and taste as well as the variations in biological activity and physical properties which are typical of the amylopectin sulfates resulting from prior art preparative procedures. The subject process is far more efficient than the prior art techniques, both with respect to the mechanics of the reaction as well as with regard to the degree of sulfation in the resulting derivatives, and is characterized by the use, therein, of a systematic addition of alkali during the entire course of the preparative procedure as well as by the utilization of a specific stripping program for the removal of residual trimethylamine.

3,441,559

PREPARATION OF 9(11)-DEHYDRO STEROIDS FROM THEIR 11β-HYDROXY COUNTERPARTS

David R. Buss, Kalamazoo, Mich., assignor to The Upjohn Company, Kalamazoo, Mich., a corporation of Delaware

No Drawing. Filed Dec. 20, 1967, Ser. No. 691,989
Int. Cl. C07c *167/14*
U.S. Cl. 260—239.55 10 Claims

This invention relates to a novel process for the dehydration of steroids, more particularly to the preparation of 9(11)-dehydro steriods from their 11β-hydroxy counterparts.

3,441,560

CYCLOPROPYL-2-SULPHANILAMIDO-PYRIMIDINES

Markus Zimmermann, Riehen, Switzerland, assignor to Geigy Chemical Corporation, Ardsley, N.Y., a corporation of New York

No Drawing. Filed Mar. 14, 1967, Ser. No. 622,899
Int. Cl. C07d *51/44*; A61k *27/00*
U.S. Cl. 260—239.75 12 Claims

2-sulfanilamido-pyrimidines substituted by a cyclopropyl group in 4-, 5- or 6-position which are antibacterial agents against gram-positive bacteria such as staphylococci, streptococci, pneumococci and against gram-negative bacteria such as Salmonella, Escherichia and Klebsiella strains; pharmaceutical compositions containing the aforesaid pyrimidines as antibacteria ingredients, and method of treating diseases caused by such bacteria, by administration of such pyrimidines or pharmaceutical compositions containing them.

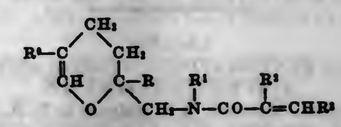
3,441,561

AMIDES OF PYRAN DERIVATIVES AND ACRYLIC OR SUBSTITUTED ACRYLIC ACID

Edward George Gazzard and James Nairn Greenshields, Manchester, England, assignors to Imperial Chemical Industries Limited, London, England, a corporation of Great Britain

No Drawing. Filed July 19, 1965, Ser. No. 473,168
Claims priority, application Great Britain, Aug. 5, 1964, 31,817/64
Int. Cl. C07d *7/10*; C08f *7/12, 19/00*
U.S. Cl. 260—240 11 Claims

A polymerisable monomer of the formula



wherein R^0 and R represent hydrogen, a hydrocarbon radical or a halogen atom, R' represent hydrogen, a hydrocarbon radical or a group $R^4 \cdot CO$ where R^4 represents hydrogen or a hydrocarbon radical, R^2 represents hydrogen, a hydrocarbon radical, a halogen atom or a cyano group and R^3 represents hydrogen, a hydrocarbon radical or alkoxy radical.

3,441,562

PROCESS FOR PREPARING 2-(4-STILBYL) NAPHTHOTRIAZOLES

Sigmund C. Catino, Castleton, and Albert F. Strobel, Delmar, N.Y., assignors to GAF Corporation, a corporation of Delaware

No Drawing. Filed Sept. 1, 1967, Ser. No. 664,910
Int. Cl. C07d 55/04; D06l 3/12
U.S. Cl. 260—240 4 Claims

A process for preparing 2-(4-stilbyl)naphthotriazoles useful as brightening agents wherein 2-amino-1-naphthalenesulfonic acid is coupled with a diazotized 4-aminostilbene, the coupling reaction being initiated at a temperature below 10° C.

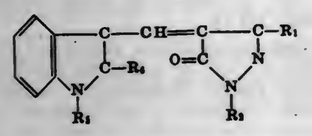
3,441,563

PROCESS FOR THE PRODUCTION OF SUBSTITUTED PYRAZOLONES AND OF MONOMETHINE DYESTUFFS THEREOF

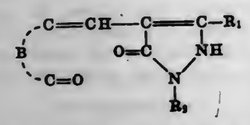
Oskar Weissel, Krefeld-Uerdingen, and Roderich Raue and Hubertus Psaar, Leverkusen, Germany, assignors to Farbenfabriken Bayer Aktiengesellschaft, Leverkusen, Germany, a corporation of Germany

No Drawing. Original application Dec. 9, 1959, Ser. No. 858,333. Divided and this application Jan. 5, 1965, Ser. No. 427,205
Claims priority, application Germany, Dec. 12, 1958, F 27,222, F 27,223
Int. Cl. C09b 23/04; C07d 49/14
U.S. Cl. 260—240.2 9 Claims

A monomethine dyestuff exemplified by the following formulae and definitions as:



or



wherein R_1 is a member selected from the group consisting of hydrogen, methyl, phenyl, methoxyphenyl, carboxyl, carboxyethyl, carboxy dimethylamide, and carboxy diethylamide, R_2 is a member selected from the group consisting of hydrogen, phenyl, methyl phenyl, chlorophenyl, nitrophenyl, carboxyphenyl, amidino and cyanoethyl, R_5 is a member selected from the group consisting of hydrogen and methyl, R_4 is a member selected from the group consisting of methyl and phenyl; and B is the residue of a cyclic ring such as pyrazolone, pyridazine, or hydantoin.

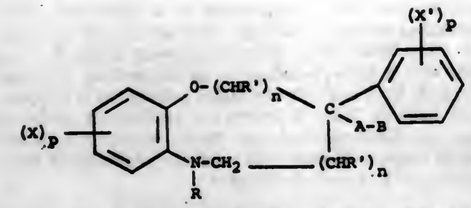
3,441,564

NOVEL BENZOXAZINES, BENZOXAZEPINES AND BENZOXAZOCINES

John Krapcho, Somerset, N.J., assignor to E. R. Squibb & Sons, Inc., New York, N.Y., a corporation of Delaware

No Drawing. Original application Aug. 1, 1966, Ser. No. 569,020, now Patent No. 3,401,166. Divided and this application Jan. 29, 1968, Ser. No. 701,088
Int. Cl. C07d 87/54, 87/38; A61k 27/00
U.S. Cl. 260—244 4 Claims

Compounds of the formula



wherein R is lower alkyl, lower alkenyl, aralkyl or aralkenyl; R' is hydrogen or lower alkyl; X and X' are the same or different and are hydrogen, lower alkyl, lower alkoxy, amino, dialkylamino, halo, lower alkylthio, hydroxy, cyano, nitro or trifluoromethyl; A is lower alkylene; B is a basic nitrogen containing radical having less than twelve carbon atoms; p is an integer from one to three and n is zero or one, and salts thereof are prepared. These new compounds are useful as tranquilizers, inter alia.

3,441,565

PYRIDAZONE DERIVATIVES

Henri Marie Laborit, Paris, France, assignor to Seperic, a Swiss body corporate

Filed Feb. 21, 1966, Ser. No. 528,975
Claims priority, application Great Britain, Mar. 3, 1965, 9,040/65
Int. Cl. C07d 87/34, 51/00; C07c 65/02
U.S. Cl. 260—247.2 7 Claims

The new derivatives are 4-alkyl-5-H or alkyl-6-phenyl or substituted phenyl-3-pyridazones or corresponding 4-hydroxy-pyridazinones substituted at position 2 by a dialkylaminoalkyl group or a nitrogenated heterocycle-N-alkyl group. They are useful as psychotropic compounds.

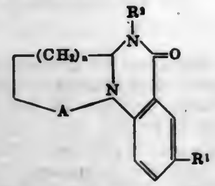
3,441,566

SUBSTITUTED QUINAZOLINES

William J. Houlihan, Mountain Lakes, N.J., assignor to Sandoz, Inc., Hanover, N.J.

No Drawing. Filed Nov. 9, 1964, Ser. No. 409,949
Int. Cl. C07d 57/12, 51/48; A61k 27/00
U.S. Cl. 260—251 10 Claims

Compounds of the formula



wherein n=0 or 1, A represents carbonyl or methylene, R^1 represents H or Cl, R^2 represents H or phenyl and R^3 represents lower alkyl, phenyl, p-fluorophenyl, p-chlorophenyl, p-straight chain (lower) alkoxy phenyl or 3,4-di (lower) straight chain alkyl phenyl. The compounds are used as anthihypertensives.

3,441,567

AMINOMETHYLDIBENZOBICYCLOALKENES

Eugene E. Galantay, Morristown, N.J., assignor to Sandoz Inc., Hanover, N.J.

No Drawing. Filed June 1, 1965, Ser. No. 460,521
Int. Cl. C07d 93/10, 87/26; C07c 87/38
U.S. Cl. 260—293 10 Claims

The compounds are 2-aminomethyl-1,2,6,7-tetrahydro-(11bH)-benzo[j]benz[c,d]azulenes and 2-aminomethyl-1,2,6,7,8,12b - hexahydrocyclopenta[d,e]dibenzo[a,d]cyclooctenes, e.g., 2-methylaminomethyl-1,2,6,7-tetrahydro-(11bH)-benzo[j]benz[c,d]azulene. The compounds are useful pharmaceutically.

3,441,568

METHOD OF PREPARING NICOTINAMIDE AND NOVEL INTERMEDIATES THEREFOR

Norman L. Wendler, Summit, David Taub, Metuchen, and Chan Hwa Kuo, South Plainfield, N.J., assignors to Merck & Co., Inc., Rahway, N.J., a corporation of New Jersey

No Drawing. Filed June 3, 1966, Ser. No. 554,997
Int. Cl. C07d 31/44, 29/40, 29/38
U.S. Cl. 260—294.9 20 Claims

Nicotinamide is produced by acylating 3-cyano-4-amino-1,2,5,6-tetrahydropyridine to produce the 1-acyl or 1,4-diacyl derivatives, reacting these derivatives with concentrated mineral acid to produce 1-acyl-4-ketohexahydronicotinamide, reducing this compound to produce the cis- or trans- form of 1-acyl-4-hydroxyhexahydronicotinamide, acylating this compound to produce the corresponding 4-acyloxy compounds, and dehydrogenating these compounds by treatment with a noble metal. Alternatively, the 4-acyloxy compounds are partially dehydrogenated to 1-acyl - 1,4,5,6 - tetrahydronicotinamide, 1-acyl - 1,2,5,6 - tetrahydronicotinamide or 1-acyl-1,2-dihydronicotinamide, which are dehydrogenated by reaction with a noble metal to produce nicotinamide.

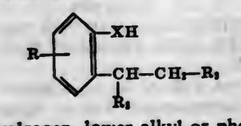
3,441,569

METHOD FOR PREPARING POLYCYCLIC HETEROCYCLIC COMPOUNDS

Charles W. Hargis, Johnson City, and Howard S. Young, Kingsport, Tenn., assignors to Eastman Kodak Company, Rochester, N.Y., a corporation of New Jersey

No Drawing. Filed May 31, 1966, Ser. No. 553,630
Int. Cl. C07d 27/56, 27/00, 63/00
U.S. Cl. 260—319.1 15 Claims

Method of preparing an arylheterocyclic compound comprising contacting, at an elevated temperature, a compound of the formula:



wherein R is hydrogen, lower alkyl or phenyl; R_2 and R_3 are hydrogen or the same or different lower alkyl group; and X is NH, O, S or the group >N—R_1 wherein R_1 is lower alkyl with a contact agent selected from the group consisting of an arsenic, antimony, or bismuth oxide, an arsenic, antimony, or bismuth sulfide, and an arsenic, antimony, or bismuth salt. The products are useful in the manufacture of dyes, pharmaceuticals, cosmetics, perfumes and plant growth regulators.

3,441,570

3-TERTIARY AMINOALKYLAMINO-3-PHENYL OXINDOLE COMPOUNDS

Robert F. Meyer, Ann Arbor, Mich., assignor to Parke, Davis & Company, Detroit, Mich., a corporation of Michigan

No Drawing. Continuation-in-part of application Ser. No. 521,807, Jan. 20, 1966. This application Dec. 19, 1966, Ser. No. 602,590
Int. Cl. C07d 27/40
U.S. Cl. 260—325 8 Claims

3-tertiary aminoalkylamino-3-phenyl (or substituted phenyl or benzyl) oxindole compounds, optionally substituted at the 1-position by lower alkyl or di(lower alkyl) amino and optionally substituted in the carbocyclic ring by lower alkyl, lower alkoxy, or halogen; and acid-addition salts. The compounds have pharmacological activity and can be produced by (a) reacting a 3-halooxindole compound with a tertiary aminoalkylamine, (b) introducing an alkyl group on the heterocyclic nitrogen atom, or (c) reacting a 3-substituted iminooxindole compound with a phenyl-, substituted phenyl-, or benzyl-reactive metal derivative followed by hydrolyzing the product.

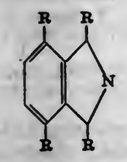
3,441,571

PRODUCTION OF SUBSTITUTED ISOINDOLENINES

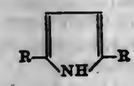
Henry Fletcher, Moston, Manchester, England, assignor, by mesne assignments, to Wallace & Tiernan Inc., Orange, N.J., a corporation of Delaware

No Drawing. Original application Nov. 16, 1964, Ser. No. 411,597, now Patent No. 3,322,785, dated May 30, 1967. Divided and this application Jan. 20, 1967, Ser. No. 627,576
Claims priority, application Great Britain, Nov. 19, 1963, 45,548/63, 45,549/63, 45,550/63
Int. Cl. C07d 27/56, 27/54
U.S. Cl. 260—326.1 5 Claims

Compounds of formula



are obtained by reacting a 2,5-dialkyl-substituted pyrrole having the formula:



wherein the groups R are the same of different and each is a lower alkyl group containing from one to six carbon atoms, with an aqueous, nonoxidizing mineral acid, the reaction being carried out substantially in the absence of molecular oxygen.

3,441,572

11b-PHENYL-1,2,3,4,5,11b-HEXAHYDRO-7H-[1,3] DIAZEPINO[2,1-a]ISOINDOL-7-ONE

William J. Houlihan, Mountain Lakes, N.J., assignor to Sandoz Inc., Hanover, N.J.

No Drawing. Original application Dec. 18, 1963, Ser. No. 331,372, now Patent No. 3,334,113, dated Aug. 1, 1967. Divided and this application Jan. 24, 1967, Ser. No. 611,248
Int. Cl. C07d 57/02, 57/14
U.S. Cl. 260—326.5 5 Claims

The compounds are of the class of tricyclic compounds having a heterocyclic ring of at least 5 ring atoms fused to the b-side of a 3-phenylphthalimidine, the heterocyclic ring containing one additional hetero atom which is in a 1,3-relationship with respect to the other hetero atom and also ortho to the point of fusion. The compounds are useful as antiinflammatories and are prepared by reacting an o-benzoylbenzoic acid (or acid halide) with an appropriate ω-substituted alkyleneamine.

3,441,573

PRODUCTION OF 2,6-DIFORMYL-TETRAHYDROPYRAN AND 2-FORMYL-6-HYDROXYMETHYL-TETRAHYDROPYRAN

Rudolf Fahnenstich, Grossauheim, and Wolfgang Weigert, Offenbach am Main, Germany, assignors to Deutsche Gold- und Silber-Scheideanstalt vormals Roessler, Frankfurt am Main, Germany

No Drawing. Filed Apr. 8, 1965, Ser. No. 446,724
Claims priority, application Germany, Apr. 15, 1964, D 44,156
Int. Cl. C07d 7/14
U.S. Cl. 260—345.9 2 Claims

2,6-diformyl-tetrahydropyran and 2-formyl-6-hydroxymethyl-tetrahydropyran which are useful in the production of polymeric products, for example, the former can

be condensed with pentaerythritol to produce a colorless spinnable polymer and the reduction product of either compound, namely, 2,6-bis-hydroxymethyl-tetrahydropyran, forms valuable polyesters with dicarboxylic acids and their production by reacting a compound selected from the group consisting of 2-formyl-3,4-dihydro-2H-pyran and 2-hydroxymethyl-3,4-dihydropyran at a temperature between 100–200° C. in contact with a hydroformylation catalyst and carbon monoxide and hydrogen at a pressure between about 50 and about 800 atmospheres.

3,441,574

PROCESS FOR MAKING ANTHRAQUINONE

Marcus S. Morgan, Mount Lebanon Township, Allegheny County, and Albert W. Simon, White Oak Borough, Pa., assignors to United States Steel Corporation, a corporation of Delaware

Filed Jan. 12, 1966, Ser. No. 520,147
Int. Cl. C09b 1/00; C07c 45/00
U.S. Cl. 260—369 11 Claims

1. A process for oxidizing 9,10-dihydroanthracene to anthraquinone comprising dissolving 9,10-dihydroanthracene in a dipolar aprotic solvent containing a catalyst chosen from sodium hydroxide, sodium methoxide, potassium hydroxide or potassium methoxide that forms a carbanion with said 9,10-dihydroanthracene, contacting the solution with an oxygen-containing gas and recovering precipitated anthraquinone.

3,441,575

ESTERS OF DI(LOWER)ALKYLHYDROXYPHENYL ALKANOIC ACID CONTAINING A HETRO ATOM

Martin Dexter, Briarcliff Manor, John D. Spivack, Spring Valley, and David H. Steinberg, Bronx, N.Y., assignors to Geigy Chemical Corporation, Greenburgh, N.Y., a corporation of Delaware

No Drawing. Continuation-in-part of application Ser. No. 276,192, Apr. 29, 1963. This application Mar. 24, 1964, Ser. No. 354,464
Int. Cl. C08g 23/22, 25/00
U.S. Cl. 260—399 15 Claims

Esters of di(lower)alkylhydroxyphenyl alkanoic acid formed with alcohols containing a sulfur atom, a divalent oxygen atom or the group



wherein A is an alkyl or alkanoyl of 1 to 20 carbon atoms are useful in the stabilization of organic material normally subject to oxidative deterioration. Material stabilized by the subject compounds includes polyolefins, such as polypropylene.

3,441,576

PROCESS FOR THE RECOVERY OF NAPHTHOQUINONE FORMED IN THE CATALYTIC VAPOR PHASE OXIDATION OF NAPHTHALENE

Berndt Sigurd Berndtsson, Goteborg, Sweden, assignor to Svenska Oljeslageri Aktiebolaget, Molndal, Sweden, a corporation of Sweden

No Drawing. Filed Dec. 22, 1964, Ser. No. 420,454
Claims priority, application Great Britain, Dec. 23, 1963, 50,690/63
Int. Cl. C07c 45/04, 49/66; C07d 5/00
U.S. Cl. 260—396 4 Claims

The invention involves a process for the recovery of naphthoquinone formed in the catalytic vapor phase oxidation of naphthalene by feeding the vapors formed by such oxidation to a water scrubber wherein the water temperature is not below 30° C. and does not exceed 75° C., and recovering the naphthoquinone precipitated from the scrubber water.

3,441,577

PROCESS FOR THE CO-OLIGOMERIZATION OF CONJUGATED UNSATURATED FATTY ACIDS OR THEIR ESTERS WITH INDENE AND/OR COUMARONE

Josef Baltes, Hamburg, Friedrich Weghorst, Hamburg-Harburg, and Otto Wechmann, Westerhof, Germany, assignors to Harburger Fettchemie Brinckman & Mergell G.m.b.H., Hamburg-Harburg, Germany, a corporation of Germany

No Drawing. Filed Mar. 22, 1965, Ser. No. 441,874
Claims priority, application Germany, Aug. 22, 1964, H 53,613
Int. Cl. C09f 7/06
U.S. Cl. 260—407 9 Claims

Conjugated unsaturated fatty acids and their esters are co-oligomerized with indene and/or coumarone at a temperature of 40 to 180° C. in the presence of an acid or Friedel-Crafts catalysts.

3,441,578

PIGMENTS COMPRISING METAL DERIVATIVES OF COMPLEX SCHIFF'S BASES

Peter Dimroth, Ludwigshafen (Rhine), Germany, assignor to Badische Anilin- & Soda-Fabrik Aktiengesellschaft, Ludwigshafen (Rhine), Germany

No Drawing. Filed May 2, 1967, Ser. No. 635,365
Int. Cl. C07f 3/08, 3/06, 15/04
U.S. Cl. 260—429 3 Claims

Aromatic 1-formyl-2-hydroxy compounds may be reacted with 1,2,4,5-tetraminobenzene to form new azines which are capable of forming metal complexes. The complexes containing zinc, manganese, nickel or cadmium are valuable pigments.

3,441,579

ORGANIC IMINO COMPOUND METAL HALIDE COMPLEXES AND PROCESS FOR PRODUCING THE SAME

Yoshikazu Isowa, Tokyo, Japan, assignor to Toyo Koatsu Industries, Incorporated, Tokyo, Japan, a corporation of Japan

Filed June 16, 1967, Ser. No. 646,535
Int. Cl. C07f 7/28; C09d 5/32
U.S. Cl. 260—429.5 8 Claims

Novel organic imino compound metal chloride complexes produced by reacting an aliphatic or aromatic nitrile, such as, acetonitrile or benzonitrile, an active methylene compound, such as, diethyl malonate and stannic chloride or titanium tetrachloride. The complexes are useful as intermediates for plastic additives, medicines agricultural chemicals and as intermediates for the synthesis of amino and keta compounds.

3,441,580

BIS(TRIALKYLTIN) OXYPOLETHYLENE OXY COMPOUNDS

Tatsuo Katsumura, Osaka-fu, Yohei Kawakami, Takatsuki-shi, Osaka-fu, and Hiroshi Tsuji, Kishiwada-shi, Osaka-fu, Japan, assignors to Nitto Chemical Industrial Co., Ltd., Osaka, Japan, a corporation of Japan

No Drawing. Filed Aug. 31, 1964, Ser. No. 393,343
Claims priority, application Japan, Aug. 31, 1963, 38/45,525
Int. Cl. C07f 7/22; A61l 13/04, 13/00
U.S. Cl. 260—429.7 4 Claims

In accordance with certain of its aspects, this invention relates to novel compounds of the formula

$$R_3SnO(CH_2CH_2O)_mCH_2CH_2OSnR_3$$

wherein R is selected from the group consisting of propyl and butyl, and m is an integer greater than 5; and to a process for preparing these novel compounds.

3,441,581

AMMONIA COMPLEX OF THE ZINC SALT OF ETHYLENE BIS-DITHIOCARBAMIC ACID

Hermann Windel, Frankenthal, Pfalz, and Ernst-Heinrich Pommer, Limburgerhof, Pfalz, Germany, assignors to Badische Anilin- & Soda-Fabrik Aktiengesellschaft, Ludwigshafen (Rhine), Germany

Filed Mar. 24, 1966, Ser. No. 537,202
Claims priority, application Germany, Mar. 27, 1965, B 81,209
Int. Cl. C07f 3/06; A01n 9/12
U.S. Cl. 260—429.9 1 Claim

The ammonia complex of the zinc salt of ethylene-bis-dithiocarbamic acid which contains 1 mole of ammonia per atom of zinc; uses thereof as fungicide.

3,441,582

PREPARATION OF MIXED TETRAALKYL LEAD COMPOUNDS

Edward E. Johnson, Sweeny, and Alfred O. Walker, Lake Jackson, Tex., assignors to Nalco Chemical Company, Chicago, Ill., a corporation of Delaware

No Drawing. Filed Mar. 24, 1966, Ser. No. 537,019
Int. Cl. C07f 7/24, 7/26
U.S. Cl. 260—437 7 Claims

Tetraorganolead compounds containing at least two different organosubstituents are reacted in the presence of a silicon tetrafluoride catalyst to produce mixed organolead compounds.

3,441,583

AMINOXYORGANOSILICON MATERIALS

Robert A. Murphy, Burnt Hills, N.Y., assignor to General Electric Company, a corporation of New York

No Drawing. Filed Jan. 4, 1965, Ser. No. 423,354
Int. Cl. C07f 7/02, 7/18
U.S. Cl. 260—448.2 13 Claims

Aminoxyorganosilicon materials are provided, including aminoxyorganosilicon compounds, and polymers, such as aminoxyorganosilanes, aminoxyorganocyclopolysiloxanes, and aminoxyorganopolysiloxanes. These aminoxyorganosilicon materials can be made by effecting contact between a hydroxylamine and an organosilicon hydried in accordance with the following equation,

$$YOH+HSi\equiv\rightarrow YOSi+H_2\rightarrow$$

where Y is an amino radical. The aminoxyorganosilicon materials can be employed as curing agents and coupling agents for silanol-containing organosilicon materials.

3,441,584

PROCESS FOR THE SEPARATION OF ORGANOTRICHLOROSILANES

Andre Rene Marcel Bazouin, Lyon, and Marcel Joseph Celestin Lefort, Caluire, France, assignors to Rhone-Poulenc S.A., Paris, France, a French body corporate

No Drawing. Filed Dec. 1, 1966, Ser. No. 598,177
Claims priority, application France, Dec. 9, 1965, 41,617
Int. Cl. C07f 7/20
U.S. Cl. 260—448.2 13 Claims

1. Process for the separation of an organotrichlorosilane from a liquid mixture containing the same which comprises contacting said mixture with tris(dimethylamino)phosphine oxide and separating the solid complex formed.

11. A complex of the formula:

$$C_2H_5SiCl_3.2O{=}P[-N(CH_3)_2]_3$$

in which R is an alkyl radical of 1 to 4 carbon atoms, an alkenyl radical of 2 to 4 carbon atoms, a cycloaliphatic radical having 5 or 6 ring carbon atoms, a mononuclear aryl radical, a mononuclear aralkyl radical, or such a radical in which one or more hydrogen atoms have been replaced by atoms or groups compatible with the complex and inert to tris(dimethylamino)phosphine oxide.

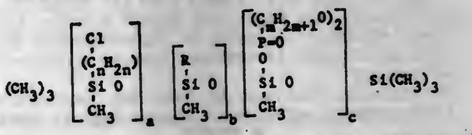
3,441,585

COPOLYMERIC ORGANOPOLYSILOXANE LUBRICANT COMPOSITION

Edgar D. Brown, Jr., Schenectady, N.Y., assignor to General Electric Company, a corporation of New York

No Drawing. Filed Dec. 12, 1966, Ser. No. 600,767
Int. Cl. C07f 7/08; C10m 1/50
U.S. Cl. 260—448.2 5 Claims

1. A liquid organopolysiloxane of improved lubricating characteristics having the formula:



where R is an alkyl radical containing at least 8 carbon atoms, n is an integer equal to from 2 to 6, inclusive, m is an integer equal to from about 2 to 10, inclusive, the sum of a plub b plus c is equal to from about 4 to 40, inclusive, the ratio of a over a plus b plus c is equal to from 0.10 to 0.40, inclusive, the ratio of b over a plus b plus c has an average value of from 0.50 to 0.88, inclusive, and the ratio of c over a plus b plus c has an average value of from 0.03 to 0.25, inclusive.

3,441,586

PREPARATION OF NONVICINAL TOLUENE DIISOCYANATES

Benjamin J. Luberoff, Monsey, N.Y., and Daniel H. Gold, Plainfield, N.J., assignors to The Lummus Company, New York, N.Y., a corporation of Delaware

Original application May 21, 1963, Ser. No. 281,905, now Patent No. 3,314,996, dated Apr. 18, 1967. Divided and this application June 27, 1966, Ser. No. 574,488
Int. Cl. C07c 119/04
U.S. Cl. 260—453 10 Claims

1. A process for preparing a nonvicinal toluene diisocyanate from a solution containing a mixture of vicinal and nonvicinal toluene diamines comprising:

(a) contacting the solution with a saturated solution of a metallic compound, said metal being selected from the group consisting of metals having atomic numbers 22 through 30 and 40 through 48, thereby forming a precipitate containing said vicinal toluene diamine;

(b) separating the precipitate from the solution containing nonvicinal toluene diamine; and

(c) reacting said nonvicinal toluene diamine with phosgene to produce a nonvicinal toluene diisocyanate.

3,441,587

PREPARATION OF NONVICINAL TOLUENE DIISOCYANATES

Benjamin J. Luberoff, Monsey, N.Y., and Daniel H. Gold, Plainfield, N.J., assignors to The Lummus Company, New York, N.Y., a corporation of Delaware

Original application May 21, 1963, Ser. No. 281,933, now Patent No. 3,317,606, dated May 2, 1967. Divided and this application June 27, 1966, Ser. No. 620,563
Int. Cl. C07c 119/00, 85/16
U.S. Cl. 260—453 9 Claims

1. A process for preparing a nonvicinal toluene diisocyanate from a solution containing a mixture of vicinal and nonvicinal toluene diamines comprising:

(a) extracting the vicinal toluene diamine from the diamine solution with an unsaturated solution of a metallic compound, said solution containing a concentration of metallic compound that is at least 10 percent of the saturation concentration, said diamine solution and said solution containing a metallic compound being substantially immiscible with each other, said metal being selected from the group consisting of metals having atomic numbers 22 through 30 and 40 through 48.

(b) separating the metallic compound solution containing extracted vicinal toluene diamine from the diamine solution, and

(c) reacting the nonvicinal toluene diamine in the diamine solution with phosgene to produce a nonvicinal toluene diisocyanate.

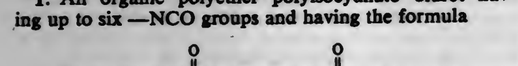
3,441,588

POLYETHER POLYISOCYANATO BIURETS

Kuno Wagner, Otto Bayer, and Rudolf Schroter, Leverkusen, Germany, assignors to Farbenfabriken Bayer Aktiengesellschaft, Leverkusen, Germany, a corporation of Germany

No Drawing. Filed Sept. 12, 1963, Ser. No. 308,346
Claims priority, application Germany, Sept. 19, 1962, F 37,835
Int. Cl. C07c *127/24*
U.S. Cl. 260—453 18 Claims

1. An organic polyether polyisocyanato biuret having up to six —NCO groups and having the formula



wherein R is an organic hydrocarbon radical selected from the group consisting of aliphatic, hydroaromatic, araliphatic and aromatic radicals, R' is a radial obtained by removing the $—NH_2$ groups from an ω,ω'-diamino polyether having a molecular weight of from 200 to 6,000 and wherein both terminal groups of the radical are $—CH_2—$ groups after the removal of the $—NH_2$ groups and X is selected from the group consisting of hydrogen and —CO—NX—R—NCO.

3,441,589

THIOL ADDUCTS OF UNSATURATED ESTERS AND PREPARATION OF SAME

Alexis A. Oswald, Mountainside, N.J., assignor to Esso Research and Engineering Company, a corporation of Delaware

No Drawing. Filed June 1, 1965, Ser. No. 460,565
Int. Cl. C07c *153/01*; B01j *1/10*
U.S. Cl. 260—455 18 Claims

Thiol compounds such as mercaptans, dimercaptans, and thiolcarboxylic acids are selectively added to esters formed by the reaction of maleic acid, fumaric acid, or maleic anhydride with terminally unsaturated alcohols, in particular allyl alcohol, at either the terminal double bonds of the ester functionality or at the maleic or fumaric side of unsaturation with the use of either free radical or ionic catalysts. Free radical catalysis causes the thiol addition to occur selectively at the terminal double bond of the ester functionality whereas ionic catalysts promote the addition of the thiol to the esters at either the maleic or fumaric double bond. Linear and crosslinked polythioether esters can be formed with the process technique. Adducts of diallyl maleate and thiocarboxylic acids are effective pesticides.

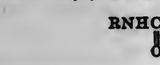
3,441,590

PROCESS FOR PREPARING S-(2-CHLOROETHYL) THIOCARBAMATES FROM S-(2-CHLOROETHYL) ISOTHIOCARBAMYL CHLORIDES

Gerhard F. Ottmann, Hamden, and Haywood Hooks, Jr., West Haven, Conn., assignors to Olin Mathieson Chemical Corporation, New Haven, Conn., a corporation of Virginia

No Drawing. Filed Aug. 10, 1965, Ser. No. 478,762
Int. Cl. C07c *155/02*; C07d *91/14*; A01n *9/12*
U.S. Cl. 260—455 4 Claims

S-(2-chloroethyl)thiocarbamates of the formula



wherein R is an alkyl, cycloalkyl, aralkyl, aryl or substituted aryl group and X is an alkylene, substituted alkylene or cycloalkylene group, are provided in high yield and purity by the reaction of the corresponding S-(2-chloroethyl)isothiocarbamyl chlorides with water. The S-(2-chloroethyl)thiocarbamates are useful agricultural chemicals.

3,441,591

PREPARATION OF NITRILES FROM α-UNSATURATED HYDROCARBONS AND HNO_2

Lüdwig Hüter, Weisskirchen, Taunus, Germany, assignor to Deutsche Gold- und Silber-Scheideanstalt vormals Roessler, Frankfurt am Main, Germany

No Drawing. Filed July 30, 1965, Ser. No. 476,205
Claims priority, application Germany, Aug. 6, 1964, D 45,123
Int. Cl. C07c *121/02*
U.S. Cl. 260—464 6 Claims

Process for the production of nitriles wherein hydrocarbons containing at least one free—CH_3 group or alkyl substituted pyridines are reacted in the gas phase with HNO_2 or equilibrium mixtures thereof consisting of HNO_2, N_2O_3 and H_2O in a catalyst free reaction space at a temperature between 200 and 800° C.

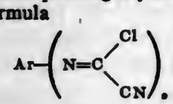
3,441,592

ARYLIMINO CHLOROCARBONYL CYANIDES AND PREPARATION THEREOF

Eberhart Degener, Opladen, and Hans Holtschmidt, Leverkusen, Germany, assignors to Farbenfabriken Bayer Aktiengesellschaft, Leverkusen, Germany, a corporation of Germany

No Drawing. Filed Dec. 13, 1965, Ser. No. 513,596
Claims priority, application Germany, Apr. 14, 1965, F 48,514
Int. Cl. C07c *121/02, 121/66, 121/78*
U.S. Cl. 260—465 11 Claims

Arylimino chlorocarbonyl cyanides are prepared by reacting an aryl isothiocyanate adduct with at least a stoichiometric amount of a chlorinating agent exemplified by chlorine. The corresponding arylimino chlorocarbonyl cyanides of the formula



wherein

n is 1–2; and

Ar is an aryl radical selected from the group consisting of phenyl, naphthyl, diphenyl, and corresponding substituted compounds containing as substituents a member selected from the group consisting of fluoro, chloro, bromo, nitro, alkyl having 1–4 carbon atoms, trifluoro methyl, alkoxy having 1–4 carbon atoms, alkylmercapto having 1–4 carbon atoms, CN, COOR in which R is alkyl having 1–4 carbon atoms and alkylsulphone having 1–4 carbon atoms are useful as insecticides and intermediates for plant protection agents.

3,441,593

METHOD FOR PRODUCING FUMARONITRILE AND/OR MALEONITRILE

Naoto Hashimoto, Suita, and Katsura Morita, Ikeda, Japan, assignors to Takeda Chemical Industries, Ltd., Osaka, Japan

No Drawing. Filed Mar. 14, 1967, Ser. No. 622,891
Claims priority, application Japan, Mar. 15, 1966, 41/16,232
Int. Cl. C07c *121/28*
U.S. Cl. 260—465.8 8 Claims

A method for the production of fumaronitrile and/or maleonitrile comprises reacting acetonitrile with halogen in the vapor phase in a molar ratio of less than one mol of halogen per mol of acetonitrile.

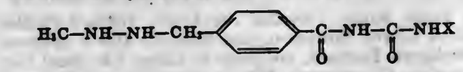
3,441,594

SUBSTITUTED HYDRAZINE COMPOUNDS

Roland Jaunin, Basel, and Paul Zeller, Allschwil, Switzerland, assignors to Hoffmann-La Roche Inc., Nutley, N.J., a corporation of New Jersey

No Drawing. Filed Feb. 10, 1966, Ser. No. 526,373
Claims priority, application Switzerland, Mar. 5, 1965, 3,127/65
Int. Cl. C07c *127/16, 125/06, 109/02*
U.S. Cl. 260—471 6 Claims

Substituted hydrazines of the formula



wherein X is hydroxy or lower alkoylcarbonyl, and intermediates are described. The end products demonstrate useful cytostatic activity.

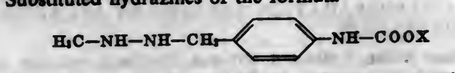
3,441,595

SUBSTITUTED HYDRAZINE COMPOUNDS

Roland Jaunin, Basel, and Paul Zeller, Allschwil, Switzerland, assignors to Hoffmann-La Roche Inc., Nutley, N.J., a corporation of New Jersey

No Drawing. Filed Feb. 10, 1966, Ser. No. 526,374
Claims priority, application Switzerland, Mar. 5, 1965, 3,126/65
Int. Cl. C07c *125/06, 109/02*; A61k *27/00*
U.S. Cl. 260—471 9 Claims

Substituted hydrazines of the formula



wherein X is lower alkyl, and intermediates are described. The end products demonstrate useful cytostatic activity.

3,441,596

PROCESS FOR PRODUCING POLYESTERS OF MONOTHIODIPOLYCARBOXYLIC ACIDS

Charles Kezerian, Orinda, Calif., assignor to Stauffer Chemical Company, New York, N.Y., a corporation of Delaware

No Drawing. Filed July 24, 1964, Ser. No. 385,039
Int. Cl. C07c *139/00*
U.S. Cl. 260—481 5 Claims

A process for producing polyesters of monothiodipolycarboxylic acids by reacting under substantially anhydrous conditions hydrogen sulfide with a polyester of an α,β-unsaturated olefinic polycarboxylic acid in a liquid phase said hydrogen sulfide being maintained in the liquid phase of said polyester in an essentially saturated state, in the presence of an alkali metal alkoxide at a temperature of about —10° C. to about 50° C., and recovering from the resultant reaction mixture the polyester of a monothiodipolycarboxylic acid thereby produced.

3,441,597

PROCESS FOR THE PREPARATION OF METHYL AND ETHYL ACETOACETATE

Otto Probst and Lothar Hörnig, Frankfurt am Main, and Lothar Hirsch, Kelkheim, Taunus, Germany, assignors to Farbwerke Hoechst Aktiengesellschaft vormals Meister Lucius & Bruning, Frankfurt am Main, Germany, a corporation of Germany

No Drawing. Filed July 18, 1966, Ser. No. 565,679
Claims priority, application Germany, July 24, 1965, F 46,706
Int. Cl. C07c *67/00, 69/72*
U.S. Cl. 260—483 3 Claims

An improved method for preparation of methyl and ethyl acetoacetate has been provided whereby a diketene is reacted with methanol or ethanol in presence of a specific tertiary amine catalyst, the improvement residing in carrying out the process at a pressure within the range of 0.4 to 6 atmospheres gage.

3,441,598

ACRYLATE PRODUCTION

Richard L. Rowton, Austin, Tex., assignor to Jefferson Chemical Company, Inc., Houston, Tex., a corporation of Delaware

No Drawing. Filed Jan. 6, 1966, Ser. No. 518,990
Int. Cl. C07c *67/00*
U.S. Cl. 260—486 4 Claims

The invention is an improved process for the production of acrylates wherein acrylic or methacrylic acid is initially mixed with at least a stoichiometric amount of an alkylene oxide, based on the chlorine content of aluminum trichloride catalyst, followed by sequential addition of the aluminum trichloride catalyst and an amount of alkylene oxide which is at least equivalent to the amount of acrylic or methacrylic acid initially employed.

3,441,599

PROCESS FOR PREPARING HYDROXYALKYLACRYLATE OR HYDROXYALKYLMETHACRYLATE

Masayuki Murayama, Niigata-shi, Japan, assignor to Japan Gas-Chemical Company, Inc., Tokyo, Japan, a corporation of Japan

No Drawing. Filed May 9, 1966, Ser. No. 548,397
Int. Cl. C07c *69/52, 65/54*
U.S. Cl. 260—486 4 Claims

A process for preparing a hydroxyalkylacrylate or a hydroxyalkylmethacrylate by a very rapid reaction which comprises reacting an alkylene oxide with acrylic or methacrylic acid employing a catalyst system consisting of an iron (III) compound as a catalyst and one or more of mercury, chromium and iodine as promoters.

3,441,600

LIQUID ESTERS OF NEOALKYL POLYOLS AND NEOALKYL FATTY ACIDS

Tai S. Chao, Homewood, Ill., Manley Kjonaas, Hammond, Ind., and William D. Hoffman, Park Forest, Ill., assignors to Sinclair Research, Inc., New York, N.Y., a corporation of Delaware

No Drawing. Filed June 16, 1966, Ser. No. 557,898
Int. Cl. C07c *69/32*; C10m *1/00*
U.S. Cl. 260—488 8 Claims

Normally liquid esters of certain neoalkyl polyols are prepared by esterifying at least three of the hydroxyl groups on these neoalkyl polyols with neoalkyl fatty acids. These liquid esters which have excellent susceptibility to amine antioxidants and remain liquid at low temeratures, are particularly useful as components in lubricants.

3,441,601

PROCESS FOR THE MANUFACTURE OF VINYL ACETATE

Kurt Sennewald, Wilhelm Vogt, and Hermann Glaser, Knapsack, near Cologne, Germany, assignors to Knapsack Aktiengesellschaft, Knapsack, near Cologne, Germany, a corporation of Germany

No Drawing. Filed Mar. 25, 1966, Ser. No. 537,265
Claims priority, application Germany, Apr. 7, 1965, K 55,743
Int. Cl. C07c *67/00*
U.S. Cl. 260—497 1 Claim

An improved process for the catalytic, vapor phase production of vinyl acetate from ethylene, acetic acid and molecular oxygen is shown. A catalyst for the synthesis reaction comprising metallic palladium supported on an inert carrier is substantially activated by exposure to air and nitrogen. Fresh catalysts, prepared by reducing palladium salt to metallic palladium in the presence of an inert carrier are subjected first to air at elevated temperatures and pressures, and then to nitrogen to effect the desired improvement.

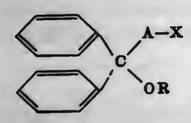
3,441,602

1,1 - DIPHENYL - 1 - LOWER ALKOXY - 3 - OR - 4-AMINO-ALKANES AND THE SALTS THEREOF

Roderich Höllinger and Wolf Wendtlandt, Linz, Austria, assignors to Österreichische Stickstoffwerke Aktiengesellschaft, Linz, Austria

No Drawing. Filed Mar. 21, 1966, Ser. No. 535,715
Claims priority, application Austria, Mar. 22, 1965, A 2,558/65
Int. Cl. C07c *87/04*
U.S. Cl. 260—501.12 11 Claims

Basic diphenylmethyl ethers of the formula



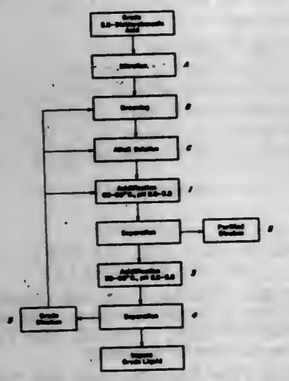
in which R is alkyl with four carbon atoms as a maximum, A is ethylene or trimethylene and X is lower dialkylamino, benzyl (lower alkyl) amino or dibenzylamino, their salts and lower alkylammoniumhalides and a process of preparing same by reacting the corresponding diphenylmethyl ethers with alkali metal amides and subsequently with compounds of the formula Hal—A—X, both steps being carried out in liquid ammonia as solvents. The novel basic diphenylmethyl ethers have antitussive properties.

3,441,603

PROCESS FOR THE PURIFICATION OF CRUDE 2,5 - DICHLORO - 3 - NITROBENZOIC ACID (DINOBEN)

Eldred Welch, Westfield, N.J., assignor to GAF Corporation, a corporation of Delaware

Filed Mar. 3, 1966, Ser. No. 531,556
Int. Cl. C07c *51/42*
U.S. Cl. 260—525 4 Claims



1. In a process for purifying 2,5-dichloro-3-nitrobenzoic acid from a crude nitration admixture which consists essentially of nitrating 2,5-dichlorobenzoic acid, drowning the crude nitrated admixture with water, dissolving it in an alkaline hydroxide and precipitating the desired 2,5-dichloro-3-nitrobenzoic acid with a mineral acid the improvement which comprises the steps of (1) performing the acidification at a temperature of 60–80° C. and a pH of about 2.8–3.2; (2) separating and recovering the precipitated purified 2,5-dichloro-3-nitrobenzoic acid; (3) reacidifying the separated crude admixture at a temperature of 30–60° C. and a pH of about 2.5–2.8, with the proviso that the temperature and pH is lower than employed in Step 1; (4) separating precipitated impure 2,5-dichloro-3-nitrobenzoic acid and (5) recycling the impure precipitate to a point prior to the initial separating (Step 2) specified above.

3,441,604

PROCESS FOR PRODUCING DICARBOXYLIC ACIDS

Eric Keith Baylis, Offerton, Stockport, Wilfred Pickles, Hazel Grove, Stockport, and Kenneth David Sparrow, Stockport, England, assignors to Geigy Chemical Corporation, Greenburgh, N.Y., a corporation of Delaware

No Drawing. Filed Aug. 27, 1965, Ser. No. 483,359
Claims priority, application Great Britain, Sept. 1, 1964, 35,652/64
Int. Cl. C07c *51/06*
U.S. Cl. 260—533 8 Claims

The reaction of a cycloalkene and ozone to form dicarboxylic acids is improved by forming the ozonide without the addition of water and adding at least 10% by weight water during the ozonide decomposition step.

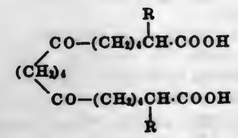
3,441,605

DIKETO-DICARBOXYLIC ACIDS AND SALTS AND PREPARATION THEREOF BY ALKALINE OXIDATION

Stephen Blake, Fullwood, Preston, England, assignor, by mesne assignments, to Wallace & Tiernan Inc., East Orange, N.J., a corporation of Delaware

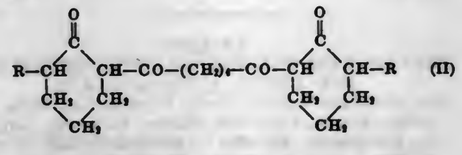
No Drawing. Filed Feb. 15, 1966, Ser. No. 527,474
Claims priority, application Great Britain, Feb. 17, 1965, 6,745/65
Int. Cl. C07c *55/02, 49/12, 49/30*
U.S. Cl. 260—537 6 Claims

Novel diketo-dicarboxylic acids useful as polyvinyl chloride plasticizers are provided having the formula



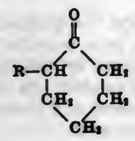
(I)

wherein the groups R are the same and each is H or CH_3. The compounds of Formula I are prepared by process which comprises hydrolyzing a tetraketone having the formula



(II)

The tetraketones of Formula II are novel and are produced by a process which comprises reacting adipoyl dichloride with an excess over the stoichiometric proportion of an enamine of a cyclohexanone, the cyclohexanone having the formula



(III)

3,441,606

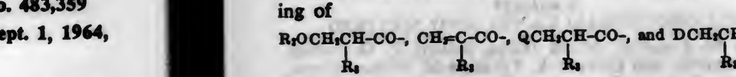
ACYLATED HYDRAZINE COMPOUNDS

Donald R. Moore, Washington Township, N.J., and Giuliana C. Tesoro, Dobbs Ferry, N.Y., assignors to J. P. Stevens & Co., Inc., New York, N.Y., a corporation of Delaware

No Drawing. Continuation-in-part of application Ser. No. 301,875, Aug. 3, 1963. This application Sept. 27, 1963, Ser. No. 312,002
Int. Cl. C07c *141/00, 121/60, 109/00*
U.S. Cl. 260—561 12 Claims

Reactive hydrazine compounds represented by the structural formula:

wherein X is a member selected from the group consisting of



these compounds being suitable as chemical modifying agents for polymers containing active hydrogen atoms and particularly as crosslinking agents for textiles.

3,441,607

2-AMINO-α-SUBSTITUTED-BENZYLIDENEAMINES

Stanley C. Bell, Penn Valley, Pa., assignor to American Home Products Corporation, New York, N.Y., a corporation of Delaware

No Drawing. Continuation of application Ser. No. 297,705, July 25, 1963, which is a continuation-in-part of application Ser. No. 213,003, July 27, 1962. This application Jan. 23, 1967, Ser. No. 610,760
Int. Cl. C07c *79/16, 79/38, 69/02*
U.S. Cl. 260—562 6 Claims

The invention describes the preparation of novel 2-aminobenzylideneamines by the reaction of 2-aminobenzophenones with alkanolamines. The compounds so prepared are pharmacologically useful, demonstrating anticonvulsant, sedative and muscle relaxant activity.

3,441,608

5β - N - METHYLAMINO - ETHOXYIMINO - 5H - DIBENZO - [a,d] - 10,11 - DIHYDROCYCLOHEPTENE AND NON-TOXIC PHARMACEUTICALLY ACCEPTABLE SALTS THEREOF AND THEIR PRODUCTION

Siegismund Schütz, Wuppertal-Elberfeld, and Friedrich Hoffmeister, Wuppertal-Vohwinkel, Germany, assignors to Farbenfabriken Bayer Aktiengesellschaft, Leverkusen, Germany, a corporation of Germany

No Drawing. Filed Nov. 24, 1965, Ser. No. 509,608
Claims priority, application Germany, Nov. 26, 1964, F 44,539
Int. Cl. C07c *131/08, 131/00*
U.S. Cl. 260—566 1 Claim

5β-N-methylamino-ethoxyimino-5H-dibenzo - [a,d]10, 11-dihydro-cycloheptene and pharmaceutically acceptable non-toxic salts thereof possess antidepressive activity in humans and in vitro exhibit strong spasmolytic effect.

3,441,609

AMMONIA-EPICHLOROHYDRIN REACTION PRODUCTS

John B. McKelvey, Ruth R. Benerito, and Ralph J. Berni, New Orleans, La., and Beverly G. Burgis, Clearwater, Fla., assignors to the United States of America as represented by the Secretary of Agriculture

No Drawing. Original application Mar. 24, 1964, Ser. No. 354,479, now Patent No. 3,351,420, dated Nov. 7, 1967. Divided and this application July 7, 1967, Ser. No. 665,941
Int. Cl. C07c *85/00, 87/00*
U.S. Cl. 260—583 2 Claims

A crosslinking reagent for cellulose is prepared by aging a solution consisting of a 1:3 mole ratio of ammonia and epichlorohydrin dissolved in methanol at room temperature for at least 1800 hours. This reagent is capable of imparting both wet and dry crease resistance to a cellulose fabric treated therewith.

3,441,610

CATALYTIC HYDROGENATION OF NITROALKANES TO N-ALKYLHYDROXYLAMINES

John W. Dietz and John R. McWhorter, Jr., Wilmington, Del., assignors to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware

No Drawing. Continuation-in-part of application Ser. No. 307,807, Sept. 10, 1963. This application Oct. 12, 1967, Ser. No. 674,727
Int. Cl. C07c *87/02;* C07b *1/00;* B01j *11/08*
U.S. Cl. 260—583 5 Claims

Preparing N-alkylhydroxylamines by reacting a nitroalkane with hydrogen in the presence of a recovered palladium catalyst and a cation of iron, nickel or cobalt, in a two-phase liquid system of aqueous sulfuric acid and an immiscible organic solvent.

3,441,611

HYDROXYALKYLAMINE OXIDE DETERGENT COMPOUNDS

Howard F. Drew and Robert E. Hall, Wyoming, Ohio, assignors to The Procter & Gamble Company, Cincinnati, Ohio, a corporation of Ohio

No Drawing. Filed Dec. 4, 1961, Ser. No. 156,993
Int. Cl. C07c *93/02*
U.S. Cl. 260—584 4 Claims

Hydroxyalkylamine oxides have improved hygroscopicity and thermal stability properties and can be advantageously employed in detergent compositions.

3,441,612

HYDROXYALKYLAMINE OXIDE

Howard F. Drew, Wyoming, Ohio, assignor to The Procter & Gamble Company, Cincinnati, Ohio, a corporation of Ohio

No Drawing. Original application Dec. 4, 1961, Ser. No. 156,993. Divided and this application Jan. 23, 1968, Ser. No. 699,787
Int. Cl. C07c *87/127;* C11d *1/40, 3/06*
U.S. Cl. 260—584 3 Claims

Hydroxyalkyl amine oxides having improved hygroscopicity and thermal stability properties when employed in detergent compositions, particularly containing alkaline builders.

3,441,613

METHOD FOR THE PREPARATION OF ACROLEIN

Joseph W. Nemec, Rydal, Pa., and Francis W. Schlaefer, Pennsauken, N.J., assignors to Rohm & Haas Company, Philadelphia, Pa., a corporation of Delaware

No Drawing. Continuation-in-part of application Ser. No. 495,318, Oct. 12, 1965. This application Aug. 22, 1966, Ser. No. 573,863
The portion of the term of the patent subsequent to Dec. 17, 1985, has been disclaimed
Int. Cl. B01j *11/34;* C07c *45/10, 47/22*
U.S. Cl. 260—604 5 Claims

This invention is directed to a method for preparing acrolein by oxidation of propylene. More particularly the invention relates to a method of preparing acrolein by reacting propylene with oxygen and water in a temperature range of about 300° C. to 500° C. and in the presence of a specific novel catalyst system. The process of the present invention gives consistently good yields of desired product over prolonged periods of catalyst use. The novel catalyst system comprises a copper molybdate-copper telluride catalyst.

3,441,614

PROCESS FOR THE PRODUCTION OF β-CHLOROORGANOSULFONES

Meir Asscher and David Vofsi, Rehovoth, and Aharon Katchalsky, Tel-Aviv, Israel, assignors to Yeda Research and Development Co. Ltd., Rehovoth, Israel, a corporation of Israel

No Drawing. Filed Oct. 19, 1964, Ser. No. 404,974
Claims priority, application Israel, Oct. 21, 1963, 20,106
Int. Cl. C07c *147/06*; C07d *51/16, 55/00*
U.S. Cl. 260—607 14 Claims

A process for the production of adducts of organic sulfonyl chlorides and olefinic compounds in the presence of catalytic amounts of iron or copper compounds. Additional chloride salts may also advantageously be added to the reaction medium.

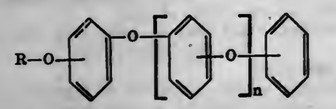
3,441,615

ALKOXY AROMATIC ETHERS

Edward P. Merica, Midland, Mich., assignor to The Dow Chemical Company, Midland, Mich., a corporation of Delaware

No Drawing. Filed Nov. 5, 1962, Ser. No. 235,549
Int. Cl. C07c *43/20, 41/10*
U.S. Cl. 260—613 7 Claims

1. A compound having the formula



wherein R represents an alkyl radical having from about 8 to about 20 carbon atoms and *n* represents an integer from 0 to 4.

3,441,616

PROCESS FOR RECOVERY OF POLYETHER POLYOLS FROM POLYURETHANE REACTION PRODUCTS

Louis C. Pizzini, Trenton, and John T. Patton, Jr., Wyandotte, Mich., assignors to Wyandotte Chemicals Corporation, Wyandotte, Mich., a corporation of Michigan

No Drawing. Filed Nov. 7, 1966, Ser. No. 592,311
Int. Cl. C07c *43/26, 43/22*
U.S. Cl. 260—615 6 Claims

Polyether polyols may be recovered from polyether-based polyurethane reaction products by hydrolyzing said products in a water/dimethylsulfoxide medium followed by extracting the polyols from said medium with an organic solvent immiscible with said medium.

3,441,617

OXIDATION OF AROMATIC COMPOUNDS

William G. Lloyd, Dover, N.J., assignor to The Lummus Company, Bloomfield, N.J., a corporation of Delaware

No Drawing. Filed Mar. 15, 1966, Ser. No. 534,419
Int. Cl. C07c *39/04, 39/14, 39/00*
U.S. Cl. 260—621 12 Claims

A process for directly oxidizing an aromatic compound having one unsubstituted position on the aromatic nucleus, such as benzene, to produce the corresponding aromatic alcohol having the hydroxy group on the aromatic nucleus wherein the aromatic compound is contacted with an alcohol, such as ethylene glycol, in the presence of a noble metal compound of Group VIII of Mendeleeff's Periodic Table, such as palladium chloride. The process may be effected in the presence of a redox promoter, such as copper chloride.

3,441,618

HYDROGENATION PROCESS

Earl Dan Flickinger, El Dorado, Kans., assignor to Skelly Oil Company, Tulsa, Okla., a corporation of Delaware

Filed June 15, 1966, Ser. No. 557,744
Int. Cl. C07c *39/12, 5/10*
U.S. Cl. 260—621 4 Claims

A process of hydrogenating a mixture comprising phenol, cumene and α-methylstyrene utilizing a hydrogenation catalyst containing nickel, molybdenum or palladium to convert α-methylstyrene to cumene and to improve the quality of the phenol.

3,441,619

FLUORONITROALKANES AND METHOD

David M. Gardner, North Wales, Robert E. Oesterling, Flourtown, and Edward A. Tyczkowski, Willow Grove, Pa., assignors to Pennsalt Chemicals Corporation, Philadelphia, Pa., a corporation of Pennsylvania

No Drawing. Filed Oct. 11, 1961, Ser. No. 144,814
Int. Cl. C07c *79/12*
U.S. Cl. 260—644 9 Claims

1. 1,1-difluorotetranitroethane.

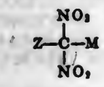
2. The process of making fluoronitroalkanes having the structural formula



where X is a radical selected from the group consisting of $-NO_2$ and



radicals which comprises reacting elemental fluorine with a compound having the structural formula



where M is an alkali metal and Z is a radical selected from the group consisting of $-NO_2$ and



radicals, said process being carried out at a temperature between about −5° C. and about 15° C.

3,441,620

ALKALI METAL DIALKYL PHOSPHATE STABILIZED CHLORINATED HYDROCARBONS

Harold McDonald, Harrington Park, N.J., assignor to Stauffer Chemical Company, New York, N.Y., a corporation of Delaware

No Drawing. Filed Jan. 17, 1967, Ser. No. 609,780
Int. Cl. C07c *17/42*; C07f *1/04, 9/08*
U.S. Cl. 260—652.5 6 Claims

Liquid chlorinated hydrocarbons of from 1 to 4 carbon atoms are stabilized with alkali metal dialkyl phosphates wherein said alkyl groups contain from 6 to 12 carbon atoms.

3,441,621

PROCESS FOR THE PREPARATION OF ALKALI METAL ACETYLIDES

Robert J. Tedeschi, Whitehouse Station, and George L. Moore, South Plainfield, N.J., assignors to Air Reduction Company, Incorporated, New York, N.Y., a corporation of New York

No Drawing. Filed Dec. 30, 1966, Ser. No. 613,376
Int. Cl. C07f *3/04*
U.S. Cl. 260—665 8 Claims

A process for producing alkali metal acetylides by the interaction of alkali metals with liquified acetylene.

3,441,622

PROCESS FOR CYCLOALKENES AND VARIOUS SUBSTITUTED CYCLOALKENES

David F. Gavin, New Haven, and Gerhard F. Ottmann, Hamden, Conn., assignors to Olin Mathieson Chemical Corporation, a corporation of Virginia

No Drawing. Filed Sept. 22, 1967, Ser. No. 669,684
Int. Cl. C07c *1/20, 5/00*
U.S. Cl. 260—666 5 Claims

A process for preparing cycloalkenes and lower alkyl substituted cycloalkenes which comprises the vapor phase conversion of a nitrocycloalkane or a selected alkyl substituted nitrocycloalkane to the desired cycloalkene in the presence of aluminum phosphate in an inert atmosphere at a temperature between about 350° and 700° C.

3,441,623

PROCESS FOR THE PREPARATION OF β-CAROTENE AND INTERMEDIATES THEREOF FROM WASTE MOTHER LIQUORS

Joseph Donald Surmatis, West Caldwell, N.J., assignor to Hoffmann-La Roche Inc., Nutley, N.J., a corporation of New Jersey

No Drawing. Continuation-in-part of application Ser. No. 543,018, Apr. 18, 1966. This application Mar. 24, 1967, Ser. No. 625,591
Int. Cl. C07c *1/00, 1/20*
U.S. Cl. 260—666 18 Claims

A process whereby the waste mother liquors containing uncrystallizable C_{20} vitamin A active material such as vitamin A alcohol and alkyl esters thereof or uncrystallizable C_{20} intermediates convertible to a vitamin A active material are utilized to produce β-carotene, including process for producing intermediates of β-carotene from these waste mother liquors.

3,441,624

HYDROGENATION ISOMERIZATION OF AROMATICS AND CYCLOPARAFFINS

John W. Myers, Bartlesville, Okla., assignor to Phillips Petroleum Company, a corporation of Delaware

Filed May 8, 1967, Ser. No. 636,634
Int. Cl. C07c *5/10*
U.S. Cl. 260—666 6 Claims

Aromatic hydrogenation and cycloparaffin isomerization are effected simultaneously in contact with a Group VIII noble metal catalyst on halogen treated alumina at a temperature in the range of 150 to 275° F., a pressure in the range of 50 to 1500 p.s.i.g., a liquid hourly space velocity in the range of 0.1 to 10, and with hydrogen feed rate in the range of 0.5 to 10 mols per mol of hydrocarbon feed.

3,441,625

PREPARATION OF VINYLIDENE AROMATIC COMPOUNDS BY PYROLYSIS OF DIARYL ALIPHATIC COMPOUNDS

Kim G. Bargeron, Tucson, Ariz., and Fred J. Soderquist, Essexville, Mich., assignors to The Dow Chemical Company, Midland, Mich., a corporation of Delaware

No Drawing. Filed Feb. 26, 1968, Ser. No. 707,940
Int. Cl. C07c *3/00, 3/42, 15/10*
U.S. Cl. 260—669 5 Claims

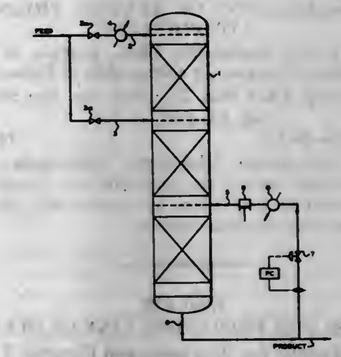
The invention makes styrene and nuclear substituted styrenes by pyrolysis of diaryl aliphatic compounds, e.g. styrene by pyrolysis of 1,3-diphenylbutane.

3,441,626

TEMPERATURE CONTROL OF EXOTHERMIC REACTIONS

Carl S. Kelley, Bartlesville, Okla., assignor to Phillips Petroleum Company, a corporation of Delaware

Filed Mar. 6, 1967, Ser. No. 620,979
Int. Cl. C07c *5/08, 11/24*
U.S. Cl. 260—677 5 Claims



The desired reaction temperature or temperatures are maintained in an exothermic chemical reaction process by splitting the feed stream thereto into at least two portions, heating a first portion to a suitable reaction temperature and passing it to a reactor, and passing at least one (unheated) portion of the feedstream to the reactor downstream from the point of introduction of the first portion to serve as quench and yet also supply feed material. If several unheated portions are used, they are passed to the reactor progressively to provide a desired temperature profile.

3,441,627

PREPARATION OF CIS-1,4-DIENES

Wolfgang Schneider, Broadview Heights, Ohio, assignor to The B. F. Goodrich Company, a corporation of New York

No Drawing. Filed July 6, 1965, Ser. No. 469,880
Int. Cl. C07c *11/12*
U.S. Cl. 260—680 4 Claims

Cis-1,4-dienes, which are useful third monomers in the preparation of vulcanizable rubbers with ethylene and propylene, are obtained by reacting a 1,3-diene containing 4 to 6 carbon atoms with ethylene in the presence

of a catalyst consisting of an iron compound, an alkyl aluminum compound and an organic nitrogen compound.

3,441,628
PROCESS FOR PRODUCING WAXLIKE LOW MOLECULAR ETHYLENE POLYMERS AND COPOLYMERS

Manfred Rätzsch and Horst Grundmann, Leuna, and Rolf Kilian, Bad Durrenberg, Germany, assignors to VEB Leuna-Werke Walter Ulbricht, Leuna, Germany

No Drawing. Filed Dec. 13, 1965, Ser. No. 513,540
Int. Cl. C07c 3/40
U.S. Cl. 260—683 8 Claims

A process for producing waxlike low molecular weight substantially linear ethylene polymers and copolymers by thermal degradation of plastic-like high molecular weight ethylene polymers and copolymers in the absence of air or oxygen, which comprises introducing plastic-like high molecular weight ethylene polymers and copolymers into a prepared melt of partly degraded ethylene polymers or copolymers at temperatures between 300 and 600° C. preferably between 360 and 420° C. for a dwell time from 30 seconds to 5 hours, preferably 2 to 5 minutes.

3,441,629
ISOMERIZATION OF ACYCLIC TRIENE COMPOUNDS

Ernest A. Zuech, Bartlesville, Okla., assignor to Phillips Petroleum Company, a corporation of Delaware

No Drawing. Filed June 27, 1966, Ser. No. 560,822
Int. Cl. C07c 5/24
U.S. Cl. 260—683.2 10 Claims

Acyclic unbranched 1,3,6-triene compounds containing 8–12 carbon atoms per molecule are isomerized to the corresponding 2,4,6-triene by contact with potassium amide as an isomerization catalyst.

3,441,630
PROCESS FOR PREPARING LINEAR OLEFINS

Arthur W. Langer, Jr., Watchung, and Herschel T. White, Montclair, N.J., assignors to Esso Research and Engineering Company, a corporation of Delaware

No Drawing. Continuation-in-part of application Ser. No. 428,836, Jan. 28, 1965. This application July 1, 1966, Ser. No. 562,132
Int. Cl. C07c 3/10; C08d 3/04
U.S. Cl. 260—683.15 10 Claims

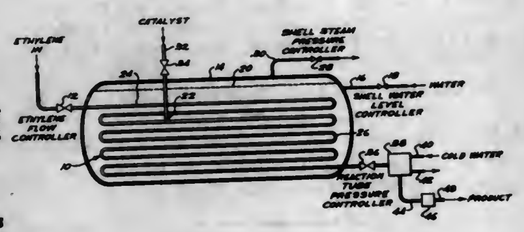
Ethylene is polymerized to form low molecular weight linear alpha olefins by reaction above 50 p.s.i.a., below 25° C. and in the presence of a catalyst which is the reaction product of an aluminum alkyl and a transition metal halide, the reaction being effected in a polar solvent, the the product being useful as a chemical intermediate.

3,441,631
METHOD FOR CONVERTING ETHYLENE TO ALPHA-OLEFINS IN THE PRESENCE OF PHENOTHIAZINE

Herbert B. Fernald and William Gall, Glenshaw, and Harold E. Swift, Gibsonia, Pa., assignors to Gulf Research & Development Company, Pittsburgh, Pa., a corporation of Delaware

Filed Nov. 9, 1966, Ser. No. 593,155
Int. Cl. C07c 3/10
U.S. Cl. 260—683.15 1 Claim

Solid polymer formation in the triethylaluminum catalyzed conversion of ethylene to linear alpha-olefins is reduced by the addition of various organic inhibitors. The presence of phenothiazine during the reaction inhibits polymer formation without any substantial adverse effect upon the efficiency of the process.



3,441,632
PROCESS FOR PRODUCING UNSATURATED POLYESTER RESINS OF IMPROVED AIR DRY

Hisao Tanaka and Isamu Nishikawa, Hitachi-shi, Japan, assignors to Hitachi Chemical Company, Ltd., Tokyo, Japan, a corporation of Japan

No Drawing. Filed June 21, 1966, Ser. No. 559,092
Claims priority, application Japan, June 25, 1965, 40/37,571
Int. Cl. C08f 21/00; C08g 17/18
U.S. Cl. 260—863 11 Claims

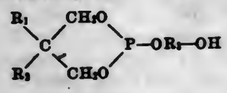
A process for producing an unsaturated polyester resin having improved air-drying properties which comprises reacting an unsaturated polyester with allyl alcohol and formaldehyde (or paraformaldehyde) to obtain as the reaction product a formalized unsaturated polyester, and admixing the resultant reaction product with a polymerizable ethylenically unsaturated monomer.

3,441,633
CYCLIC PHOSPHITES

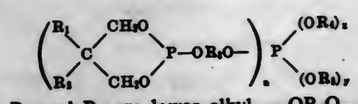
Lester Friedman, Beachwood, Ohio, assignor to Weston Chemical Corporation, Newark, N.J., a corporation of New Jersey

No Drawing. Filed Dec. 3, 1965, Ser. No. 511,335
Int. Cl. C07d 105/04; C08f 45/58
U.S. Cl. 260—927 17 Claims

Compounds are prepared having a formula selected from the group consisting of

(a) 

and

(b) 

where R_1 and R_2 are lower alkyl, $—OR_3O—$ is the divalent residue of a member of the group consisting of (1) dihydric alcohols having at least 4 carbon atoms separating the hydroxyl groups, any substituents on the dihydric alcohol other than hydrogen being ether oxygen, said dihydric alcohol having a molecular weight up to 2025, and (2) dihydric phenols having at least 4 carbon atoms separating the phenolic groups, said dihydric phenol having the formula



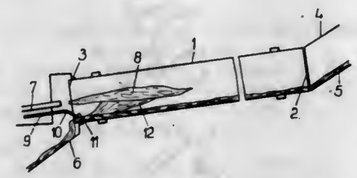
where R_6 is selected from the group consisting of lower alkylidene, S, SO, SO_2 and the chloro and bromo derivatives thereof wherein the chlorine or bromine is attached to the phenyl groups when R_6 is alkylidene, R_4 and R_5 are

selected from the group consisting of 1 to 18 carbon atom alkyl, phenyl, methylphenyl and chlorophenyl, n is an integer from 1 to 3, and $x+y$ equals $3-n$. The compounds are useful as stabilizers for halogen-containing polymers and polymeric hydrocarbons.

3,441,634
PROCESS FOR PRODUCING CEMENT AND SIMILAR MATERIALS

Horst Iken, Dusseldorf, and Manfred Schrage, Osterath, Germany, assignors to Messer Griesheim G.m.b.H., Frankfurt am Main, Germany, a corporation of Germany

Filed June 2, 1967, Ser. No. 643,161
Int. Cl. F27d 9/00; C04b 7/44
U.S. Cl. 263—53 5 Claims

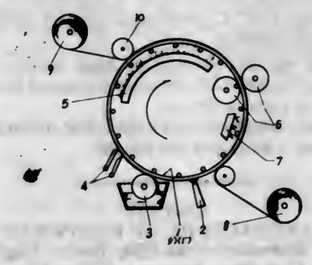


Process for producing cement and similar materials by burning a combustible mixture in a kiln and introducing a stream of oxygen into the kiln directly onto the heated material therein and then deflecting the heated oxygen stream into the burning mixture.

3,441,635
MANUFACTURING METHOD OF PARTLY COLORED AND PATTERNED LACE WORKS MADE OF THERMOPLASTIC SYNTHETIC RESIN

Yasuhiro Oshima, Meiwagravure Chemical Co. Ltd., 860 Kashida, Fuse, Osaka, Japan

Filed June 22, 1966, Ser. No. 559,478
Int. Cl. B29c 13/04; C23f 7/06
U.S. Cl. 264—166 2 Claims



A method of manufacturing partly colored and patterned lace works of thermoplastic resin wherein an oxidizing or reducing agent is fed on the surface of a metallic pattern which is constituted of at least two different metals. As a result, one or more of them undergo a chemical change and particles of colored metallic compounds are produced on the surface of the metallic pattern. Then the surface is coated with a thermoplastic synthetic resin paste, which attaches the colored metallic particles. A lace pattern work tinged to the colors of the attached colored metallic particles is produced by heating the thermoplastic synthetic resin paste in order to gel the same.

3,441,636
MANUFACTURE OF SHAPED REFRACTORIES FROM DOLOMITE

Josef Wuhrer and Klaus Wiensz, Wulfrath, Germany, assignors to Dolomit-Werke G.m.b.H., Wulfrath, Germany, a corporation of Germany

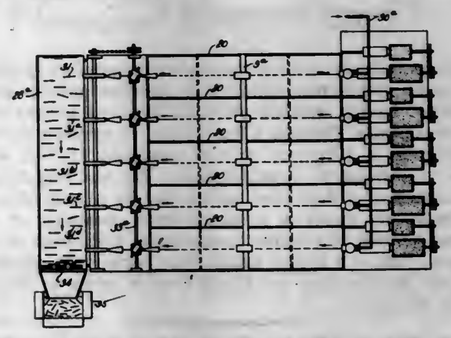
No Drawing. Filed Apr. 19, 1968, Ser. No. 722,568
Claims priority, application Germany, Apr. 20, 1967, D 52,854
Int. Cl. C04b 35/62
U.S. Cl. 264—65 5 Claims

The properties of lime-containing refractories are improved by adding to the burned refractory magnesium carbonate and heating the mixture under conditions where the magnesium carbonate is decomposed and the liberated carbon dioxide is taken up by the free lime.

3,441,637
METHOD AND APPARATUS FOR MAKING STIRRERS

Harry E. Davis, 544 Vinita Ave., Akron, Ohio 44320

Filed Nov. 22, 1966, Ser. No. 603,075
Int. Cl. B29d 23/04; B32b 1/08; A47g 19/22
U.S. Cl. 264—95 3 Claims

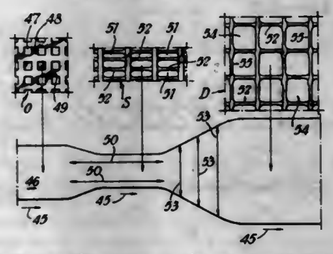


The present invention pertains to stirrers of the type adapted for stirring the ingredients in drinking glasses or the like. More particularly the invention relates to a continuous method and apparatus for extruding such stirrers having a spirally striped and undulated body which is subsequently shaped and is substantially the same as shown in Harry E. Davis patent, D. 199,298, dated October 6, 1964, for Drinking Straw.

3,441,638
PROCESS FOR MAKING AN OPEN NETWORK STRUCTURE

Albert George Patchell, Welwyn Garden City, Ronald Lloyd, Sawbridgeworth, and Arthur Ripon Stephenson, Skidby, England, assignors to T. J. Smith & Nephew Limited, Hull, Yorkshire, England, a British company

Filed Nov. 19, 1965, Ser. No. 508,644
Claims priority, application Great Britain, Nov. 20, 1964, 47,397/64
Int. Cl. B29f 5/00; B29c 17/02
U.S. Cl. 264—154 12 Claims



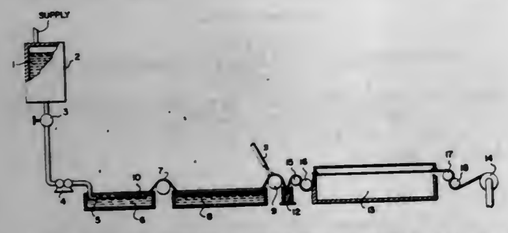
An open network structure is produced by biaxially stretching a sheet of thermoplasic material having a plu-

rality of non-connected depressions which are convergent downwardly from the open outer end, said stretching being sufficient to split the material below said depressions.

3,441,639
METHOD OF MAKING ELASTIC POLYURETHANE FILAMENTARY MATERIAL

William Robert Killen, Jr., Warwick, and Daniel Vincent Capuano, North Providence, R.I., assignors to Crown Chemical Corporation, Providence, R.I., a corporation of Rhode Island

Filed July 19, 1965, Ser. No. 473,247
Int. Cl. D01f 7/06
U.S. Cl. 264—184 12 Claims



Improved polyurethane threads are prepared by spinning a liquid prepolymer which is a reaction product of a polymer having terminal alcoholic hydroxyl groups with a diisocyanate, through a fine nozzle, or spinnerette, into a solution of a hydroxy solvent containing 15–90% of a 1,4-cyclohexane bis (methylamine). The resulting thread, consisting of a fluid core surrounded by a solid skin, is subsequently cured in a second bath consisting of the same diamine at a higher temperature. Utilization of the second bath at a higher temperature permits the diffusion of the diamine into the liquid core in order to further cure the same.

3,441,640
PROCESS FOR WET-SPINNING POLYBENZIMIDAZOLES

Joseph G. Santangelo, Morristown, N.J., assignor to Celanese Corporation, New York, N.Y., a corporation of Delaware

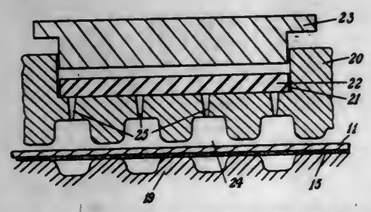
No Drawing. Filed Dec. 7, 1964, Ser. No. 416,593
Int. Cl. D06m 5/04
U.S. Cl. 264—203 8 Claims

A process is provided for the wet spinning of shaped articles by spinning a solution of polybenzimidazole in sulfuric acid into a coagulation bath containing sulfuric acid at a concentration lower than that in the spinning solution.

3,441,641
METHOD OF MAKING BELTS

Albert Roberts, Edinburgh, Scotland, assignor to The North British Rubber Company Limited, Edinburgh, Scotland, a corporation of Scotland

Filed Jan. 3, 1966, Ser. No. 518,110
Int. Cl. B29d 29/02
U.S. Cl. 264—229 2 Claims

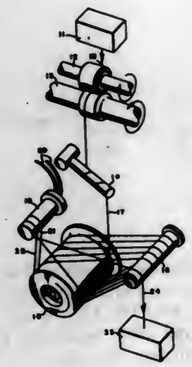


A method for making a positive drive belt having tension cables wherein a stock material, such as rubber, is treated and forced through transfer ports by way of a plunger into a belt mold. The transfer ports are arranged so as not to disturb the position of the tension cables in the mold during entry of the stock material.

3,441,642
DRAWING AND HEAT RELAXING NYLON YARN

Frederick H. Engelman, Cary, N.C., and Michael M. McNamara, Gulf Breeze, Fla., assignors to Monsanto Company, St. Louis, Mo., a corporation of Delaware

Continuation-in-part of application Ser. No. 306,659, Sept. 3, 1963. This application Oct. 18, 1966, Ser. No. 587,596
Int. Cl. D02j 13/00, 1/22
U.S. Cl. 264—237 2 Claims



1. A process for producing relaxed drawn continuous filament nylon–66 yarn, comprising in combination the steps of:

(a) drawing said yarn several times its original length at a temperature of from about 110–190° C.,

(b) cooling said yarn to about 40–130° C.,

(c) relaxing said yarn by:

(1) heating said yarn a plurality less than four times by rolling contact for periods between 0.005 and 0.1 second in each pass with a rotating surface heated to 140° C. and 225° C., and

(2) cooling said yarn to a temperature less than about 130° C. after each contact with said rotating surface,

(d) taking up said yarn in package form at a speed between 4% and 12% less than the speed immediately after said yarn is drawn,

(e) the yarn tension during steps *c* and *d* being between 0.050 and 1.80 grams per denier.

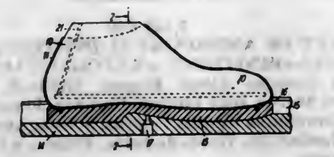
3,441,643
MANUFACTURE OF FOOTWEAR

John Tusa, Horndon-on-the-Hill, Essex, England, and Johannes Gerardus Janssen, Willowdale, Toronto, Canada, assignors to Bata Shoe Company Inc., Belcamp, Md.

Continuation of application Ser. No. 274,565, Apr. 22, 1963. This application Feb. 10, 1967, Ser. No. 615,264
Claims priority, application Great Britain, Apr. 24, 1962, 15,456/62
Int. Cl. B29h 7/08; B29f 1/022; A43d 65/00
U.S. Cl. 264—244 2 Claims

The production of shoes having a molded thermoplastic material outer sole adhered to a textile component in which a last having such textile component thereon is applying heat to a mold closing portion of the last with positioned in molding relationship to a cavity adapted to receive thermoplastic outer sole forming material and the heat being transferred therefrom to at least that area

of the textile component to be adhered to the outer sole for raising the temperature of such area to substantially above ambient temperature. The thermoplastic sole forming material is preheated and then injected in hot molten condition into the cavity to form an out sole adhered to the textile component upon the setting of the material.



3,441,644
POST CURE METHOD FOR WIRE REINFORCED RUBBER HOSE

Charles E. Grawey, Peoria, Ill., assignor to Caterpillar Tractor Co., Peoria, Ill., a corporation of California

No Drawing. Filed Feb. 27, 1967, Ser. No. 619,040
Int. Cl. B29c 25/00
U.S. Cl. 264—346 3 Claims

A high pressure wire reinforced rubber hose carcass usually consists of a rubber core on which are wound several plies of reinforcing wires in a spiral pattern, each ply being separated by a layer of rubber. Normally, when the carcass is fabricated the rubbers (elastomers) are in an uncured state and subsequent to wrapping the carcass within an outer scuff cover of rubber it is vulcanized as a unit. During vulcanization of the carcass, atomic hydrogen is liberated within the wall structure of the hose which apparently accumulates on, and diffuses into the reinforcing wires causing hydrogen embrittlement of these wires. It has been found that the service life of the hose can be manifestly improved by a thermal post cure of the vulcanized hose to reduce the quantity of atomic hydrogen within the wall structure of the hose thereby reducing hydrogen embrittlement of the reinforcing wires. In practice, shortly after vulcanization is completed, the finished hose is post cured by annealing it at temperatures from 200° F. to 350° F. for at least 15 hours.

3,441,645
COMPOSITION FOR TREATING NAILS

Robert W. McKissick, Tulsa, Okla., and John F. Eberhard, Coral Gables, Fla., assignors, by direct and mesne assignments, of eighty percent to Robert W. McKissick, and twenty percent to E. V. McKissick, both of Tulsa, Okla.

No Drawing. Filed May 28, 1964, Ser. No. 376,288
Int. Cl. A61k 7/04
U.S. Cl. 424—61 6 Claims

1. A composition for treating nails comprising:

ethyl alcohol in an amount of from 79.40% to 66.85% by weight;

acetone in an amount of 19.85% to 28.65% by weight; and

N-lauryl beta-amino propionic acid in an amount of from .75% to 4.50% by weight.

3,441,646
BACITRACIN METAL METHANE SULFINATE AND PROCESS FOR PRODUCING

Robert S. Baldwin, Montezuma, Ind., assignor to Commercial Solvents Corporation, a corporation of Maryland

No Drawing. Filed Jan. 22, 1965, Ser. No. 427,505
Int. Cl. A61k 21/00; A23k 1/17; C07g 11/00
U.S. Cl. 424—177 14 Claims

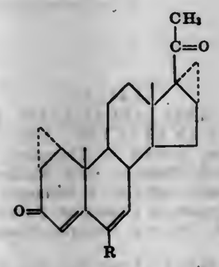
Bacitracin metal methane sulfinate in which the metal is preferably an alkali metal or a metal of Groups IIa, IIb and VIIb. The products of this invention can be prepared by dissolving bacitracin and a substantially water soluble metal formaldehyde sulfoxylate in water and allowing the mixture to stand. The products of the invention have less nephrotoxicity than bacitracin without substantial lessening of the antibacterial properties.

3,441,647
1,2α;16,17α-BISMETHYLENE-$\Delta^{4,6}$-PREGNADIENES

Friedmund Neumann and Rudolf Wiechert, Berlin, Germany, assignors to Schering Aktiengesellschaft, Berlin, Germany

No Drawing. Filed Sept. 21, 1966, Ser. No. 580,907
Claims priority, application Germany, Sept. 30, 1965, Sch 37,813
Int. Cl. A61k 17/00; C07c 169/26
U.S. Cl. 424—242 9 Claims

A compound of the following formula:



wherein R is halogen, the treatment of gynecological disorders therewith, and a method of preparing the above compound by subjecting 1,2α-methylene-$\Delta^{4,6,16}$-pregnatriene-3,20-dione to a methylenating reaction, treating the recovered 1,2α;16,17α-bismethylene compound with a percarboxylic acid to epoxidize the Δ^6-double bond and subjecting the 6,7α-oxido compound formed where (a) R designates a member selected from the group consisting of chlorine, bromine and iodine to a treatment with the corresponding hydrohalic acid under simultaneous splitting of both cyclopropane rings and the epoxide ring to produce the 1α,16α-bis(halomethyl)-6-halo-$\Delta^{4,6}$-3-keto compound, (b) R designates fluorine, to a treatment with hydrofluoric acid to produce the 6β-fluor-7α-hydroxy-1,2α;16,17α-bismethylene intermediate and reacting the intermediate with a member selected from the group consisting of hydrochloric, hydrobromic and hydroiodic acids whereby the 7α-hydroxy group is eliminated, converting the resulting compound into the 1α,16α-bis(halomethyl)-6-fluor-$\Delta^{4,6}$-3-keto compound, and thereafter treating the 3-keto compound with a base whereby the 1α- and 16α-halomethyl groups are closed to form cyclopropane rings.

3,441,648
COMPOSITIONS AND METHODS FOR LOWERING BLOOD PRESSURE WITH 1,4-DIHYDROPYRIDINES

Bernard Loev, Broomall, Pa., and Ralph E. Tedeschi, Cherry Hill, N.J., assignors to Smith Kline & French Laboratories, Philadelphia, Pa., a corporation of Pennsylvania

No Drawing. Filed Feb. 7, 1967, Ser. No. 614,393
Int. Cl. A61k 27/00; C07d 29/40
U.S. Cl. 424—263 10 Claims

Hypotensive compositions containing 4-aryl, 4-aralkyl, 4-aralkenyl or 4-heteroaryl-1,4-dihydropyridines and methods of lowering blood pressure. 1,4-dihydro-4-(2-trifluoromethylphenyl)pyridines which have hypotensive

activity are prepared by reacting a 2-trifluoromethylbenzaldehyde with two equivalents of a keto compound and ammonia, with two equivalents of an unsaturated amino compound or with one equivalent of a keto compound and one equivalent of an unsaturated amino compound.

3,441,649

SUPPRESSION OF CARDIAC VENTRICULAR FIBRILLATION AND CARDIAC ARRHYTHMIAS WITH BRETYLIUM TOSYLATE

Marvin B. Bacaner, Minneapolis, Minn., assignor to The Regents of the University of Minnesota, Minneapolis, Minn.

No Drawing. Filed Aug. 18, 1966, Ser. No. 573,209
Int. Cl. A61k *27/00*
U.S. Cl. 424—315 **5 Claims**

A method for suppressing cardiac ventricular fibrillation and cardiac arrhythmias in animals, both human and otherwise, by administration of ortho-bromo benzyl ethyldimethylammonium p-toluene-sulfonate (bretylium tosylate). The drug may be administered prophylactically in the prevention of or in the treatment of ventricular fibrillation or cardiac arrhythmias.

3,441,650

THERAPY OF AMMONIACAL INTOXICATIONS BY DI-L-ORNITHINE α-KETOGLUTARATE

Jacques Georges Albert Eugene Maillard, Paris, and Michel Marius Jean Vincent, Bagneux, France, assignors to Laboratoires Jacques Logeais, Societe Anonyme, Issy-les-Moulineaux, Hauts-de-Seine, France, a French body corporate

No Drawing. Filed July 23, 1965, Ser. No. 474,502
Int. Cl. A61k *27/00, 9/00;* **C07c** *101/24*
U.S. Cl. 424—316 **5 Claims**

Di-L-ornithine α-ketoglutarate is useful for the treatment of ammoniacal intoxications. To this effect, it is administered to patients suffering from these intoxications at a daily dose of 0.50–20 g. either orally or by venous perfusion.

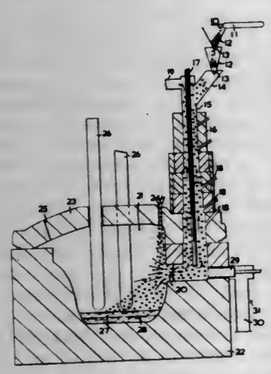
ELECTRICAL

3,441,651

METHOD AND APPARATUS FOR HEAT RECOVERY IN ELECTRIC ARC FURNACES

George E. Viens, Robert A. Campbell, and George N. Banks, Ottawa, Ontario, and Roshan L. Sachdeva, Toronto, Ontario, and Guy V. Sirianni, Ottawa, Ontario, Canada, assignors to Canadian Patents and Development Limited, Ottawa, Ontario, Canada, a company of Canada

Filed Feb. 17, 1967, Ser. No. 616,984
Claims priority, application Canada, Feb. 23, 1966, 953,024
Int. Cl. H05b *7/18*
U.S. Cl. 13—10 **15 Claims**



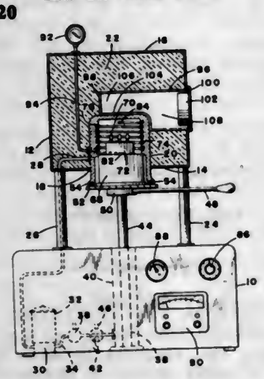
This invention involves the concept of carrying out a continuous heating or reducing procedure on a metal or a metal oxide. It involves the concept of a first step and a first means for continuously feeding the metal or metal oxide to a preheating zone, such as a shaft furnace. Following this is a second step, or second means for either continuously preheating the metal or metal oxide to from 800° C. to 1200° C. or heating the metal or metal oxide while simultaneously partially reducing the metal oxide. Finally, there is the step, and the means for, periodically and cyclically injecting a measured amount of the metal or metal oxide into a reducing zone. The measured amount is correlated to provide a particular desired temperature in the reducing zone.

3,441,652

FURNACE FOR CERAMIC DENTAL PRODUCTS

Robert Eicker, Gevelsberg, Germany, assignor to Zahnfabrik Wienand Sohne & Co. G.m.b.H., Sprendlingen, Kreis Offenbach am Main, Germany, a corporation of Germany

Filed Oct. 19, 1967, Ser. No. 676,457
Int. Cl. H05b *3/60*
U.S. Cl. 13—20 **7 Claims**



A furnace for fusing ceramic dental products provided with a furnace chamber for fusing such products and a preliminary muffle directly contacting the walls of such chamber to derive heat therefrom adequate to perform preheating or drying of dental products prior to the same being placed in the furnace chamber to be fused.

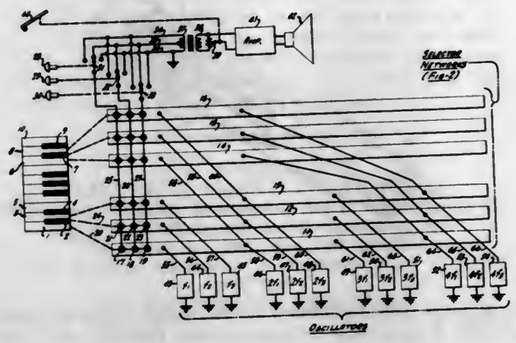
3,441,653

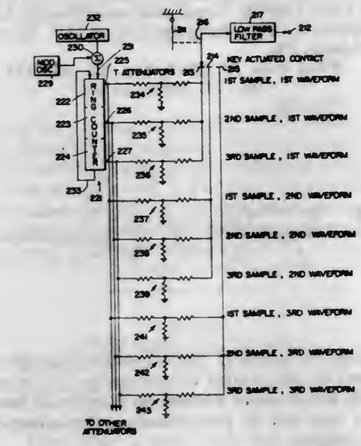
SIGNAL WAVEFORM GENERATION

Melville Clark, Jr., 8 Richard Road, Cochituate, Mass. 01778

Continuation-in-part of application Ser. No. 15,421, Mar. 16, 1960. This application Sept. 30, 1963, Ser. No. 313,415
Int. Cl. G10h *3/06, 1/02, 3/00*
U.S. Cl. 84—1.17 **48 Claims**

1. Signal waveform generation apparatus comprising,
a source of a plurality of cyclical basis signals,
an output terminal,
means for selectively superposing said plurality of cyclical basis signals according to a first pattern and selectively coupling the basis signals superposed according to said first pattern to said output terminal during a first time interval,
and means for selectively superposing said plurality of cylical basis signals according to a second pattern different from said first pattern and interrupting the selective coupling to said output terminal of the basis





signals superposed according to said first pattern and selectively coupling the basis signals superposed according to said second pattern to said output terminal the sum of said first and second time intervals being no greater than the duration of a musical tone during a second time interval contiguous with said first time interval.

3,441,654

TRANSPOSED ELECTRIC LINE, PARTICULARLY FOR USE IN TELECOMMUNICATION SYSTEMS

Sven Sigurd Nordblad, Mexico City, Mexico, assignor to Telefonaktiebolaget L M Ericsson, Stockholm, Sweden

Filed Jan. 12, 1967, Ser. No. 608,761
Claims priority, application Sweden, Jan. 14, 1966, 473/66
Int. Cl. H01b *11/00, 11/06*
U.S. Cl. 174—33 **7 Claims**

An electric line, particularly useful in telecommunication systems, and a method of manufacturing such a line in which at least three conductors or three pairs of conductors are combined into a group of conductors and at least three groups of conductors are combined to form the line and the group or the line or both, as the case may be, includes a plurality of relatively-short sections of predetermined lengths, at least two of the conductors or groups in a given section are in juxtaposition and the



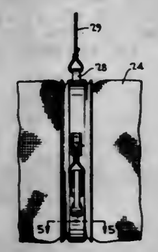
relative cross-sectional spacing of the conductors within the group or the groups within the line remain substantially the same over the full length of the section in question.

3,441,655

COUPLING FOR FLEXIBLE TUBING

James K. Turner, Warsaw, Ind., assignor to American Brattice Cloth Corporation, Winona Lake, Ind., a corporation of Indiana

Filed May 23, 1968, Ser. No. 731,478
Int. Cl. F16l *31/00, 23/00;* **H01b** *7/00*
U.S. Cl. 174—47 **4 Claims**



A device for coupling two sections of flexible tubing such as is used for ventilation of mines and the like, the coupling device being so constructed and arranged that one section of tubing remains in secure engagement with the coupling device while the latter is in expanded position for receiving the end of a further section of tubing. The coupling device comprises a resilient, compressible split rim adapted to be selectively compressed and released through the use of a toggle-type fastener which, in one position, tightly clamps the rim against rigid rings defining the adjacent ends of respective tubing sections. Release of the fastening device enables installation or removal of one of said rings and the corresponding tubing section while retaining the other ring and tubing section in engagement with the split rim.

3,441,656

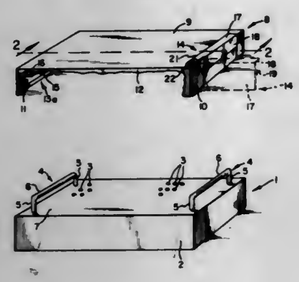
PROTECTIVE COVER CONSTRUCTION

Leonard Marvin Selden, 2501 Bellaire Drive 48910, and William F. Graves, 12405 Madonna Drive 48917, both of Lansing, Mich.

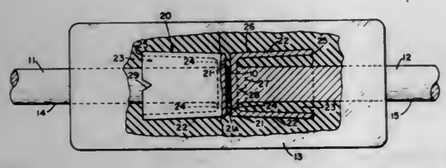
Filed June 16, 1966, Ser. No. 557,951
Int. Cl. H05k *5/03*
U.S. Cl. 174—50 **12 Claims**

A protective cover for a plug board of the kind having a base provided with a pair of upstanding, spaced apart

handles adjacent opposite ends of the base, the cover including a panel member adapted to overlie the base and from which depend flanges spaced from one another a distance to lie adjacent the respective handles. The cover is provided with a first latch bar carried by one of the flanges and projecting inwardly to fit into the space between the base and the adjacent handle. The cover includes a second latch member mounted for swinging movement through an opening in the other flange to project inwardly of the body and into the space between the base and the adjacent handle. The second latch member may be swung outwardly of the body to enable the cover to be removed from the base.



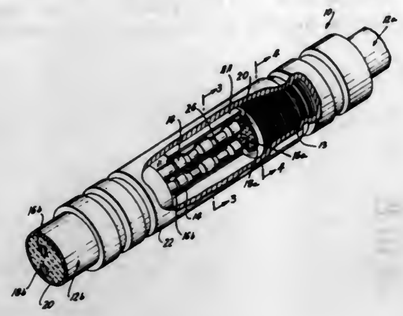
3,441,657
SEMICONDUCTOR LEAD ASSEMBLIES
Robert C. Trombley, Phoenix, Ariz., assignor to Motorola, Inc., Franklin Park, Ill., a corporation of Illinois
Filed Dec. 21, 1966, Ser. No. 603,604
Int. Cl. H05k *5/00*
U.S. Cl. 174—52 **10 Claims**



Semiconductor device leads are formed in a cup shaped member with the base of the cups facing each other for holding a semiconductor unit or die therebetween. The cups extend coaxially with the leads. Plastic material encapsulates the entire assembly and is forced into the space between the cups and the leads for forming a moisture retardation assembly. The material forming the cup acts as a momentary heat sink for protecting the semiconductor unit from burn-out during a current surge.

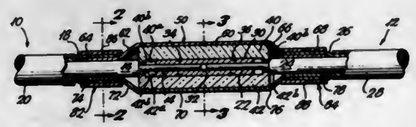
3,441,658
CERAMIC INSULATOR IN CABLE CONNECTIONS
Frank Benjamin Stark, Wormleysburg, and Donald Lee Smith, Middletown, Pa., assignors to AMP Incorporated, Harrisburg, Pa.
Filed Apr. 29, 1966, Ser. No. 546,316
Int. Cl. H02g *15/02, 15/08*
U.S. Cl. 174—88 **3 Claims**

An insulating device useful within electrical connection for joining metal shielded cable. The insulating device being formed of a dielectric ceramic shaped to mate together to rigidly space and insulate internal connections between the cable conductors. This insulating device and the resulting connection are particularly useful in joining metal sheathed mineral-insulated electrical cable. This



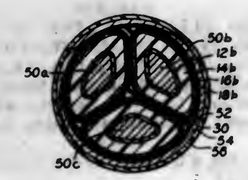
device is typically formed of two mating half shells which form a cylindrical insulator closely enclosing and positioning the internal cable conductor connections.

3,441,659
SHIELDED HEATER CABLE CONNECTION
Ronald Clair Laudig, Camp Hill, and Donald Lee Smith, Middletown, Pa., assignors to AMP Incorporated, Harrisburg, Pa.
Filed Feb. 13, 1967, Ser. No. 615,654
Int. Cl. H02g *15/18*
U.S. Cl. 174—88 **2 Claims**



A splice for a pair of heated cables whereby a ferrule is crimped to the central conductor, and a ceramic shell surrounds the crimped portion to provide an electrically-insulated heat sink to permit escape of the heat from the crimped section.

3,441,660
SOLID ALUMINUM CONDUCTOR INSULATED WITH CROSS-LINKED POLYETHYLENE
Oscar G. Garner, Westfield, N.J., assignor to General Cable Corporation, New York, N.Y., a corporation of New Jersey
Filed July 12, 1966, Ser. No. 564,658
Int. Cl. H01b *7/18*
U.S. Cl. 174—102 **8 Claims**



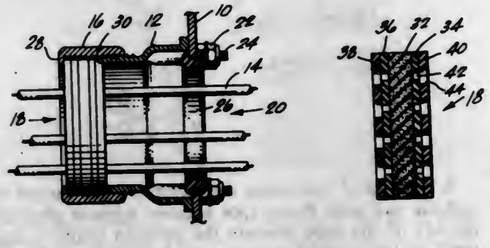
A lightweight power cable is made with solid aluminum conductors having semiconducting layers bonded both to the inside and outside of an insulating layer. The inner semiconducting layer is preferably bonded to the conductor. These bonded layers adhere tightly to each other so that there are no voids formed between layers when the conductors are twisted in the original cabling operation, and the insulating layer of cross-linked polyethylene is not permanently degraded in electric strength by the twisting as would be expected. The cables can, therefore, be manufactured with solid conductors and without "preforming" the solid conductors to give them a twist in the direction of their lay in the finished cable. To impart added tensile strength to the solid aluminum conductors one embodiment of the invention has a steel core embedded in each of the aluminum conductors.

3,441,661
ELECTRICAL CONNECTOR HOUSING
Wilhelmus Johannes Brummans, Asten, Netherlands, assignor to AMP Incorporated, Harrisburg, Pa.
Filed Dec. 13, 1967, Ser. No. 690,244
Claims priority, application Netherlands, Dec. 15, 1966, 6617646
Int. Cl. H01b *17/00;* **H01r** *13/50*
U.S. Cl. 174—138 **4 Claims**



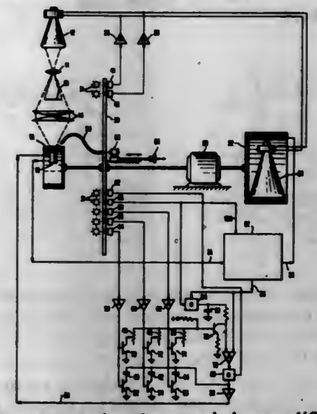
An electrical connector housing comprises a body of resilient, electrically insulating material formed with a connector-receiving passageway and having a wall bounding the passageway cut to define an integrally hinged flap dimensioned such that on pressing the free end of the flap into the passageway it is held therein by a part of the flap engaging a part of the wall.

3,441,662
FEED-THROUGH SEAL
John G. Augenstein, Placentia, and Neal C. Enault, Long Beach, Calif., assignors, by mesne assignments, to McDonnell Douglas Corporation, Santa Monica, Calif., a corporation of Maryland
Filed May 2, 1967, Ser. No. 635,593
Int. Cl. H01b *17/26, 17/30*
U.S. Cl. 174—151 **4 Claims**



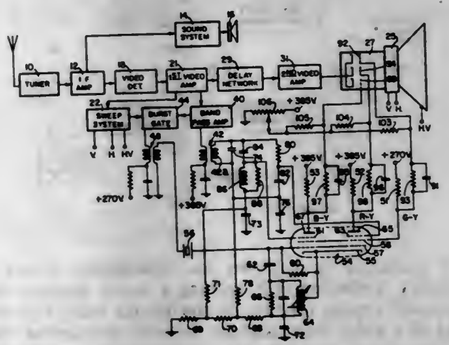
Innerchangeable seals are provided for feeding electrical or fluid conductors through a differential pressure chamber wall. The sealing assembly consists of a mounting housing containing a feed-through gland having an inner cellular core having resilient glands on both sides with retainers on the outer sides to compress the cellular core around a conductor that is passed therethrough.

3,441,663
NON-LINEAR AMPLIFIERS AND SYSTEMS
Alex W. Dreyfoos, Jr., Port Chester, N.Y., and George W. Mergens, Wilton, Conn., assignors to Photo Electronics Corporation, Byram, Conn., a corporation of New York
Filed Dec. 10, 1965, Ser. No. 512,844
Int. Cl. H04n *1/46, 5/38, 5/44*
U.S. Cl. 178—5.2 **16 Claims**



An adjustable gain characteristic amplifier which is particularly useful in combination in electronic viewer systems for providing a positive pictorial representation of a photographic negative, the amplifier including a controllable current carrying device (144, FIG. 2) with at least one slope adjustment circuit 158 connected in parallel with one electrode thereof. The slope adjustment circuit includes a diode, a variable resistor, and a separate adjustable regulated voltage source connected in series circuit relationship.

3,441,664
COLOR TELEVISION RECEIVER
Robert B. Hansen, Arlington Heights, and Henry C. Waldschmidt, Matteson, Ill., assignors to Motorola, Inc., Franklin Park, Ill., a corporation of Illinois
Filed Feb. 9, 1966, Ser. No. 526,177
Int. Cl. H04n *5/38, 5/44*
U.S. Cl. 178—5.4 **4 Claims**



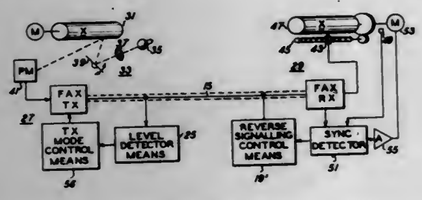
In a demodulator system for a color television signal the operating point of a tube is selected so that the amplification of signals applied thereto is non-linear. By properly selecting the operating point there is less amplitude of translated signal for a given variation of an applied signal from a reference level in one direction than the amplitude of the translated signal for an equal variation of the applied signal from the reference level in the other direction. By this means the proportions of color signals applied to the cathode ray tube are selectively distorted to improve the color picture.

3,441,665

TRANSMISSION SYSTEM UTILIZING A SINGLE CABLE FOR ACCOMPLISHING FORWARD TRANSMISSION AND REVERSE SUPERVISORY CONTROL SIGNALLING

Walter J. Wuensch, Ontario, N.Y., assignor to Xerox Corporation, Rochester, N.Y., a corporation of New York

Filed Nov. 10, 1965, Ser. No. 507,176
Int. Cl. H04n 7/10
U.S. Cl. 178—6 5 Claims



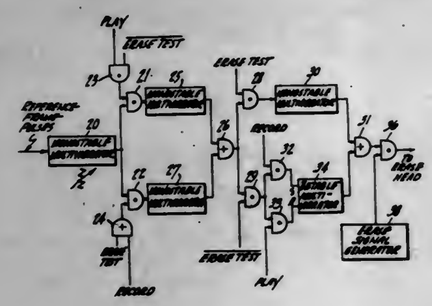
In a graphic communication system, apparatus for accomplishing forward transmission and reverse supervisory control signalling and including a single cable which serves to carry both forward video and control signals and reverse supervisory signals, and a control switching means at the receiving end which selectively couples a receiver cable terminator to one of two appropriate sources of bias in response to a detected condition, and establishes a predetermined quiescent D.C. voltage level on the transmission cable. Means are provided at the transmitter to recognize the D.C. level as a reverse supervisory control signal indicating synchronism between the transmitter and receiver.

3,441,666

ELECTRONIC SPLICING CONTROL SYSTEM

Morris B. Finkelstein, Collingswood, N.J., assignor to Radio Corporation of America, a corporation of Delaware

Filed July 26, 1965, Ser. No. 474,721
Int. Cl. H04n 5/78
U.S. Cl. 178—6.6 13 Claims



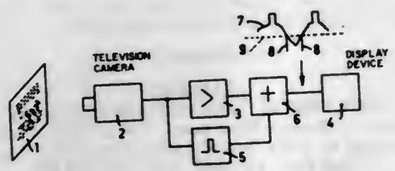
A technique is disclosed for establishing proper sequencing in electronically splicing a record medium for a particular spatial relation of the record head and erase head of a video tape recorder. Selected portions of video on the record medium are synchronously erased by a repetitive pulsed erase signal applied to an erase device while the recorder is in playack operation. A visual monitor is provided to allow observation of the signals representing the erased portion of the record medium, immediately following erasure, with respect to the unerased portion, thereby providing simultaneous observation of the erased and unerased portions. An operator controlled delay device is provided to establish the proper timing between the erased portions and synchronizing signals present in the video recorded on the record medium.

3,441,667

RADIOGRAPHIC DISPLAY DEVICE WITH AREAS OF INTEREST SET OFF WITH MARKING PULSES

Tom Novacek, Vienna, Austria, assignor, by mesne assignments, to U.S. Philips Corporation, New York, N.Y., a corporation of Delaware

Filed July 26, 1965, Ser. No. 474,558
Claims priority, application Austria, July 29, 1964, A 6,510/64
Int. Cl. H04l 15/00; H03k 3/04, 1/00
U.S. Cl. 178—6.8 5 Claims



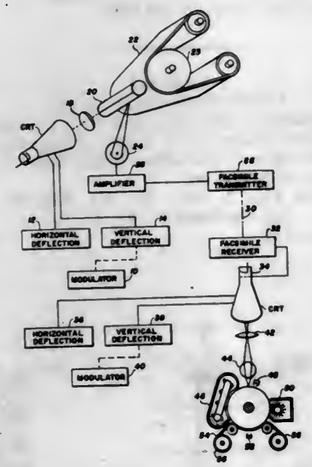
A device for providing an accurate display of selected areas of a radiation characteristic includes a camera for providing a signal indicative of observed radiation level, a thresholding device responsive to the signal for producing a marker pulse each time the radiation measured by the signal passed through the predetermined threshold, a summing device for combining both signals and pulses, and a display tube for displaying both signals and pulses on a coincident time base.

3,441,668

HIGH INTENSITY FLYING SPOT SCANNER

Stephen E. Townsend, Rochester, N.Y., assignor to Xerox Corporation, Rochester, N.Y., a corporation of New York

Filed Jan. 3, 1966, Ser. No. 518,062
Int. Cl. H04n 5/40, 3/10
U.S. Cl. 178—7.2 4 Claims



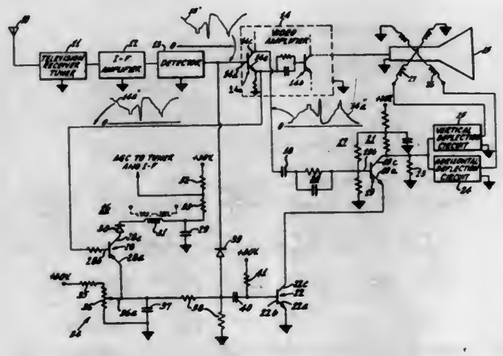
A method of increasing the effective light output of a cathode ray tube flying spot scanner without shortening the life of the tube wherein the electron beam is modulated in the vertical direction as it is recurringly swept across the face of the tube. The amplitude of modulation is small as compared to that necessary for full deflection, resulting in the electron beam sweeping a larger area of the phosphor face of the tube. A lens system between the tube and a document to be scanned collimates and refocuses the rays into a fine point of light on the document.

3,441,669

THRESHOLD CONTROL FOR SYNC SEPARATOR NOISE PROTECTION CIRCUIT AND FOR AGC STAGE

Eugene Ernst Janson and Lucius Ponder Thomas, Indianapolis, Ind., assignors to Radio Corporation of America, a Corporation of Delaware

Filed Feb. 26, 1965, Ser. No. 435,657
Int. Cl. H04n 5/14, 5/44
U.S. Cl. 178—7.3 7 Claims



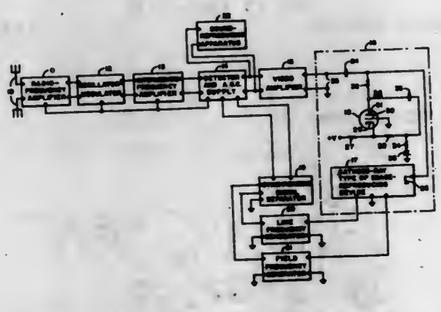
A protective circuit is provided for disabling a television synchronizing signal separator circuit in the presence of noise. The protective circuit comprises a noise-responsive switch including a threshold diode and a transistor. The noise response threshold of the switch is controlled by means of a variable voltage supply which also serves as the threshold control for the automatic gain control (AGC) system in the television receiver.

3,441,670

BLACK LEVEL CONTROL CIRCUIT FOR A TELEVISION RECEIVER

Bernard D. Loughlin, Centerport, N.Y., assignor to Hazeltine Research, Inc., a corporation of Illinois

Continuation of application Ser. No. 223,347, Sept. 13, 1962. This application Jan. 20, 1966, Ser. No. 526,945
Int. Cl. H04n 3/16, 5/44
U.S. Cl. 178—7.5 7 Claims



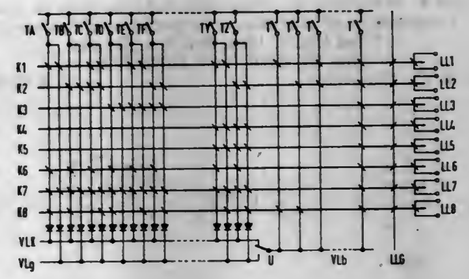
A reference level or black level control circuit is provided in a television receiver for controlling the CRT beam current. The control circuit is series connected in the CRT D.C. beam current path and both are supplied with a television signal via an A.C. coupled path. The control circuit is responsive to the average value of the A.C. video component of the television signal and maintains an average value of CRT beam current which is in accordance with the detected average value of the video signal.

3,441,671

SWITCHING ARRANGEMENT FOR CODING AND CONVERTING INFORMATION SIGNALS

Fritz Hennig, Munich-Solln, Germany, assignor to Siemens Aktiengesellschaft, a corporation of Germany

Filed Sept. 16, 1965, Ser. No. 487,804
Claims priority, application Germany, Sept. 15, 1964, S 93,151
Int. Cl. H04l 15/18, 15/12, 15/24
U.S. Cl. 178—17 6 Claims



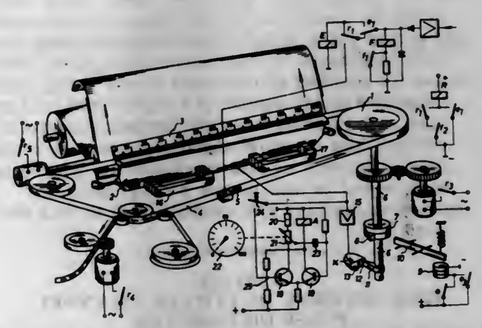
A switching arrangement for use in teletypewriter or data writing machines which allows a shift key to make a selection between two symbols allocated to a common key so that a substantial saving in the number of keys may be made. A plurality of storage lines corresponding to the number of symbols to be coded are coupled over windings to ring cores and are connected to switches each actuatable by a key and are connected to one of several distributor lines. Change switches are suitably actuatable through a shifting mechanism to allow a saving in the total number of keys and elements in the switching system.

3,441,672

APPARATUS FOR PHASE CORRECTION OF PAGE PRINTERS FOR FACSIMILE RECEIVERS

Christoph Baldrich, Cologne-Dunnwald, Germany, assignor to Dr.-Ing Rudolf Hell Kommanditgesellschaft, Kiel-Dietrichsdorf, Germany, a German company

Filed Sept. 1, 1965, Ser. No. 484,479
Claims priority, application Germany, Sept. 17, 1964, H 53,797
Int. Cl. H04l 7/00; H04n 1/04
U.S. Cl. 178—69.5 3 Claims



A device for phase correction of page printers for facsimile receivers having a measured scale arranged in front of the sheet to be recorded, the scale allowing positioning of the separating line on the recorded facsimile document to be read when phasing error occurs, a potentiometer provided with the same scale division, the slider of the potentiometer adjustable according to the position read on the first scale, a monostable switch the reversion time of

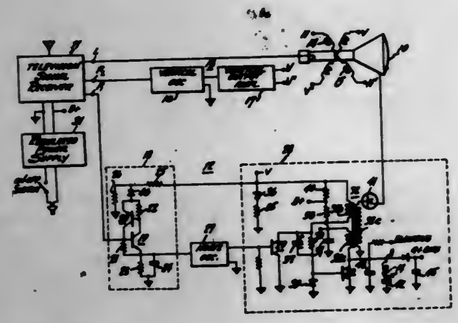
which is adjustable by means of the potentiometer, the switch selectively actuatable to stop a source of printing pulses and thereafter release the pulses after the elapse of an adjusted reversion time sufficient to overcome the phasing error and re-align the print's position.

3,441,673

TELEVISION DEFLECTION SYSTEM INCLUDING AFC CIRCUIT WITH REGENERATIVE PHASE DETECTOR

Carl F. Wheatley, Jr., Somerset, N.J., assignor to Radio Corporation of America, a corporation of Delaware

Filed Oct. 3, 1966, Ser. No. 583,609
Int. Cl. H04l 7/08; H04n 3/16
U.S. Cl. 178—69.5 8 Claims



1. In a television receiver, the combination comprising means for providing a source of synchronizing pulse signals,
a deflection waveform generating circuit for producing a recurring deflection waveform including trace and retrace portions,
oscillator means coupled to said generating circuit for supplying a triggering signal thereto timed to initiate each said retrace portion prior to the occurrence of a corresponding synchronizing pulse,
means coupled to said generating circuit for providing a reference pulse signal during said retrace portion,
an automatic frequency control circuit including first and second gating signal responsive means coupled respectively to said reference pulse signal means and to said synchronizing pulse signal means,
said first gating signal responsive means being conditioned for conduction by said reference pulse signal,
said second gating signal responsive means being similarly conditioned by said synchronizing pulse signal,
means for coupling said first and second gating signal responsive means together in a regenerative configuration such that said automatic frequency control circuit provides a control signal representative of the time occurrence of said synchronizing pulse signal with respect to said retrace portion, and
means for supplying said control signal to said oscillator.

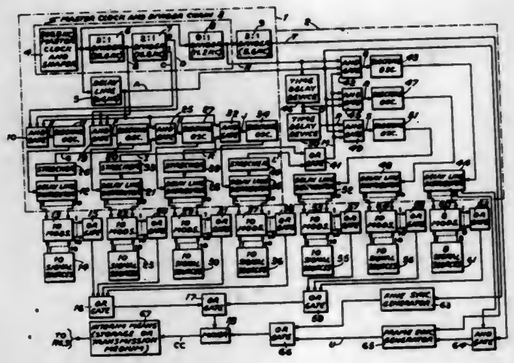
3,441,674

TIME DIVISION MULTIPLEX CHANNEL PULSE DISTRIBUTOR

Ames F. Giordano, Newark, and Walter H. Caldwell, Kenilworth, N.J., assignors to International Telephone and Telegraph Corporation, Nutley, N.J., a corporation of Maryland

Filed July 29, 1965, Ser. No. 475,679
Int. Cl. H04m 5/04; H04j 1/02
U.S. Cl. 179—15 18 Claims

There is disclosed a TDM system for combining several wideband signals and several narrow band signals into one frame of a composite pulse modulated TDM channel signal. It employs pulse modulation with a rapid sampling rate for the wideband channels in combination with a slow sampling rate for the narrow band channels. The heart of the multiplexer and demultiplexer is the pulse distributor which delivers channel timing pulses at a rapid repetition rate to each of several wideband pulse modulators and also delivers channel timing pulses at a slow repetition rate to each of several narrow band pulse modulators. The combined output makes efficient use



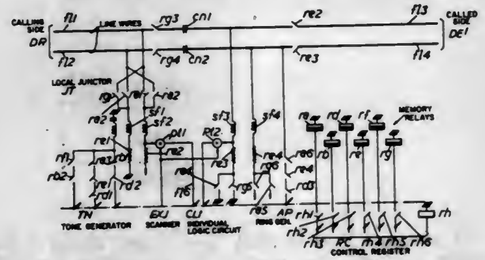
of its bandwidth by matching sampling rate to signal bandwidth. The channel pulses of rapid repetition rate are produced by time coincidence of master clock pulses and certain ones of a plurality of different timing pulses derived from the master pulses while the slow repetition rate channel pulses are produced by time coincidence of the master pulses, others of the plurality of timing pulses and at least one channel pulse of rapid repetition rate.

3,441,675

DIAL PULSE DETECTING SYSTEM

Henri Benmussa, Meudon, and Pierre Rene Louis Marty and Stanislas Kobus, Paris, France, assignors to International Standard Electric Corporation, New York, N.Y., a corporation of Delaware

Filed Nov. 20, 1964, Ser. No. 412,621
Claims priority, application France, Nov. 20, 1963, 954,411
Int. Cl. H04m 3/46
U.S. Cl. 179—16 4 Claims



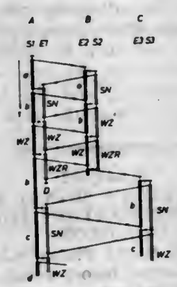
A dial pulse detecting system for distinguishing between dial pulses and noise. Detection is made by comparing the time length of the received pulses with a standard time interval. If the pulses or the intervals between pulses are of too long duration, they are known to be undesirable and are not used further. Pulses of the proper length are routed through the system.

3,441,676

MULTI-FREQUENCY CODE SIGNALLING METHODS

Theodor Burian, Ditzingen, and Hermann Schoo, Leonberg, Germany, assignors to International Standard Electric Corporation, New York, N.Y., a corporation of Delaware

Filed Feb. 24, 1965, Ser. No. 434,906
Claims priority, application Germany, Mar. 6, 1964, St 21,796
Int. Cl. H04m 3/00
U.S. Cl. 179—16 2 Claims



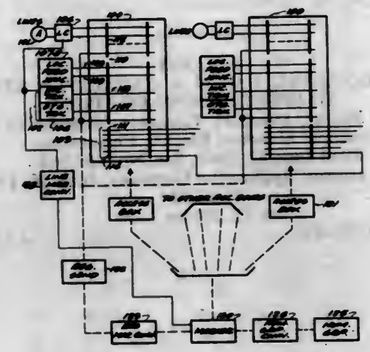
Multi-frequency code compelled method wherein the speed is increased by transmitting the signals without intervals. If the signals are equal, succeeding signals are marked by separate repeating signals. The difficulties at through-signalling with such signals are avoided in that the through-office cuts through only when, if so required, a normal code signal is transmitted for evaluation through an additional repeating step for the next following exchange office.

3,441,677

AUTOMATIC SWITCHING MATRIX

Edson Lockwood Erwin, Morris County, N.J., and Joseph Patrick Field and Robert John Mahood, San Juan, Puerto Rico, assignors to International Telephone and Telegraph Corporation, New York, N.Y., a corporation of Maryland

Filed Feb. 3, 1965, Ser. No. 430,136
Int. Cl. H04m 7/10
U.S. Cl. 179—18 15 Claims



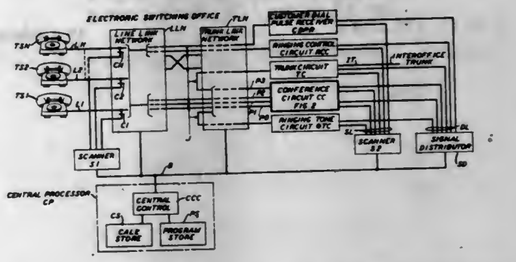
The invention provides a crossbar switch having verticals which are cut to provide mechanically integrated but electrically separated crosspoint sections. Lines are attached to the crosspoints in some of the sections, and control links are attached to the crosspoints in other of the sections. This way each vertical may act as either a primary or a secondary switching circuit, and calls may be completed via a single vertical. Optical modes are provided for completing calls via two or more verticals.

3,441,678

CONFERENCE CIRCUIT WITH SELECTIVE CALL SPLITTING

Albert H. Budlong, Lincroft, Edward T. D. Calhoun, Long Branch, and Leopold F. Goeller, Jr., Holmdel Township, Monmouth County, N.J., assignors to Bell Telephone Laboratories, Incorporated, New York, N.Y., a corporation of New York

Filed Sept. 3, 1965, Ser. No. 484,888
Int. Cl. H04m 3/56
U.S. Cl. 179—18 16 Claims



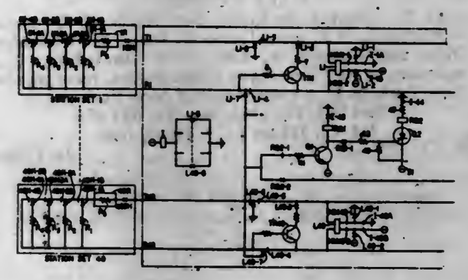
A conference circuit, for use in a telephone switching system, comprising a plurality of identical conferee circuits is disclosed. The input terminals of each of the conferee circuits may be connected to any subscriber line or any trunk, by means of the switching system network. The output terminals of each of the circuits are connected to a transformer-amplifier arrangement for coupling the circuits together and each circuit comprises relays which are controlled by the telephone switching system in response to codes dialed by a controlling one of the conferees. Selective operation of the relays of a circuit causes a conferee which is connected to the input terminals thereof to be either connected to or isolated from the conference coupling arrangement.

3,441,679

POTENTIAL SENSING PBX CLASS-OF-SERVICE SELECTOR CIRCUIT

Reed J. Braund, Middletown, and Seymour B. Weinberg, Old Bridge, N.J., assignors to Bell Telephone Laboratories, Incorporated, New York, N.Y., a corporation of New York

Filed Sept. 22, 1965, Ser. No. 489,110
Int. Cl. H04m 1/00
U.S. Cl. 179—18 3 Claims



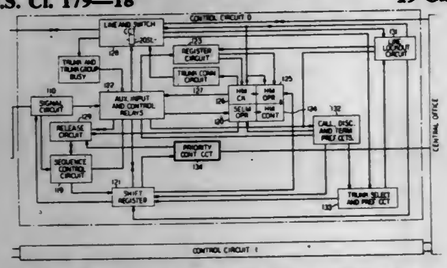
To transmit signals indicating the type of service a particular telephone extension desires when placing a call one of a plurality of different valued resistors is inserted by depression of a nonlocking key into a path either between the tip and a signalling conductor or across the tip and ring conductors. At a control unit this resistor forms one leg of the Wheatstone bridge and different valued resistors are successively inserted into a second leg of the bridge until a balance is obtained to indicate the type of service requested. If only the tip and ring conductors

are utilized a connecting circuit at the control unit prevents connection of the Wheatstone bridge to the ring conductor until after a signalling key is depressed.

3,441,680
TELEPHONE LINE CONCENTRATOR SIGNALING SYSTEM

Charles W. Zebe, New Shrewsbury, N.J., assignor to Bell Telephone Laboratories, Incorporated, New York, N.Y., a corporation of New York

Filed Oct. 22, 1965, Ser. No. 500,972
Int. Cl. H04m *3/20*; H04q *3/66*
U.S. Cl. 179—18 19 Claims

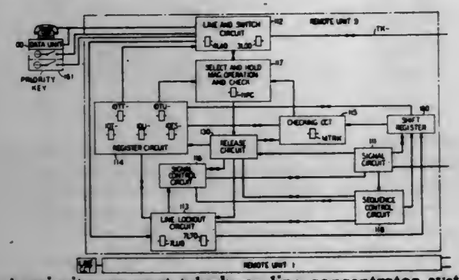


A priority preempt telephone line concentrator system is disclosed having a plurality of priority orders. A line concentrator is located distant from a central office but contiguous to the substations of the system. Initiation of a normal service request seizes a speech trunk from the remote line concentrator to the distant central office. Signals transmitted over the seized trunk operate a relay at the central office which identifies the initiating line. Under an all-speech-trunks-busy condition, it is still possible to initiate a priority call. Operation of a key at a substation, corresponding to the order of priority of the call being initiated, causes signals to be transmitted to the central office over a control trunk. These signals cause additional relays at the central office to operate, which identify not only the initiating line but also the priority of the call being initiated. A line having a call in progress of the lowest priority below that of the initiated call will then be selected. Tone signals will be applied to the line, the line will be "bumped" and the call disconnected, and the higher priority call will then be completed over the now idle line.

3,441,681
TELEPHONE LINE CONCENTRATOR PRIORITY CALL SYSTEM

George F. Clement, Holmdel, and Harry B. Compton, Morristown, N.J., and Uberto K. Stagg, Jr., Columbus, Ohio, and Charles W. Zebe, New Shrewsbury, N.J., assignors to Bell Telephone Laboratories, Incorporated, New York, N.Y., a corporation of New York

Filed Oct. 22, 1965, Ser. No. 501,878
Int. Cl. H04m *3/20*; H04q *3/66*
U.S. Cl. 179—18 18 Claims

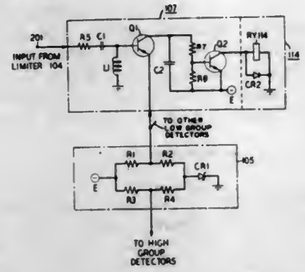


A priority preempt telephone line concentrator system is disclosed having a plurality of priority orders. A line concentrator is located distant from a central office but contiguous to the substations of the system. Initiation of a normal service request seizes a speech trunk from the remote line concentrator to the distant central office. Signals transmitted over the seized trunk operate a relay at the central office which identifies the initiating line. Under an all-speech-trunks-busy condition, it is still possible to initiate a priority call. Operation of a key at a substation, corresponding to the order of priority of the call being initiated, causes signals to be transmitted to the central office over a control trunk. These signals cause additional relays at the central office to operate, which identify not only the initiating line but also the priority of the call being initiated. A line having a call in progress of the lowest priority below that of the initiated call will then be selected. Tone signals will be applied to the line, the line will be "bumped" and the call disconnected, and the higher priority call will then be completed over the now idle line.

3,441,682
MULTIFREQUENCY SIGNAL RECEIVER WITH COMPENSATION FOR POWER SOURCE VARIATIONS

Gerald P. Pasternack, Scotch Plains, N.J., assignor to Bell Telephone Laboratories, Incorporated, New York, N.Y., a corporation of New York

Filed May 28, 1965, Ser. No. 459,651
Int. Cl. H04m *1/00*
U.S. Cl. 179—84 12 Claims

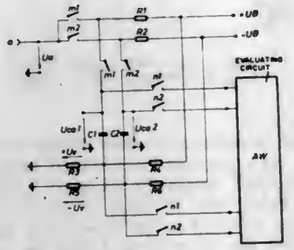


A signal receiver for detecting oscillatory signals within a preselected frequency band employs a transistor biasing circuit to compensate for changes in receiver bandwidth that would otherwise be caused by variations in the voltage level of the power source.

3,441,683
D.C. SIGNALING USING A CAPACITOR STORE TO SPEED RESPONSE TIME

Eberhard Herter, Stuttgart, Germany, assignor to International Standard Electric Corporation

Filed June 22, 1965, Ser. No. 465,868
Claims priority, application Germany, June 30, 1964, St 22,324
Int. Cl. H04m *1/00*
U.S. Cl. 179—84 4 Claims



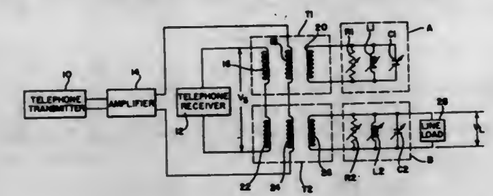
A circuit arrangement for interrogating lines in D.C. signalling systems. The duration of the entire interroga-

tion period is shortened according to the invention by the use of analogue quick storage devices that are connected to one of the line wires during the impression of the interrogating signal. The analogue storage devices, such as capacitors, are immediately disconnected when the interrogation signal applied to the line reaches stability. Another interrogation signal can immediately be impressed on the line and at the same time another analogue quick storage device is also applied to the line to store the voltage level when the line reaches stability. Thus, the invention removes the time previously used for measuring after the line has reached stability. Herein, measurements may be made while the next interrogating signal is being applied.

3,441,684
ANTI-SIDE TONE CIRCUIT

Robert B. McLeod, Clinton, Mass., assignor to E. W. Bliss Company, Canton, Ohio, a corporation of Delaware

Filed Sept. 12, 1966, Ser. No. 578,769
Int. Cl. H04m *1/58*, *1/19*
U.S. Cl. 179—81 5 Claims

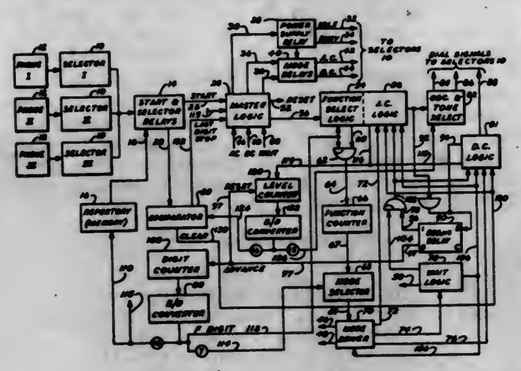


Anti-side tone circuit wherein the effective impedance of the line load is transformed into essentially a constant resistive load, thereby enabling proper side tone operation for a large variety of line loads. Two parallel RLC networks of substantially equal impedance are used. One such network is in the line circuit; the other, in the hybrid balancing circuit, provides improved frequency range of operation.

3,441,685
ELECTRONIC TRANSMITTING DEVICE

Jacob L. Wallace, Jr., Springfield, Va., assignor to The Susquehanna Corporation, a corporation of Delaware

Original application Oct. 24, 1965, Ser. No. 504,526. Divided and this application Sept. 19, 1968, Ser. No. 760,859
Int. Cl. H04m *1/26*
U.S. Cl. 179—90 16 Claims

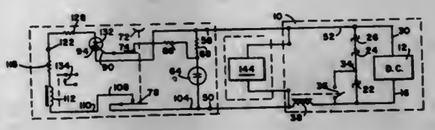


A repertory dialer for common use by a group of subscribers has an address card memory store. Logic circuitry provides four modes of call selecting: AC, DC pulse, a combination of AC and DC, and PBX out-dialing by way of digit 9. The memory is encoded with specific information as to the mode desired and with the called subscriber's number and area code.

3,441,686
DICTATION PRIVACY SYSTEM

Leonard E. Earling, % The Gray Manufacturing Co., Tecumseh, Mich. 49286

Filed Aug. 15, 1966, Ser. No. 572,523
Int. Cl. H04m *11/10*
U.S. Cl. 179—100.1 11 Claims



11. A dictation system comprising a recording station including a voltage source; a dictating station including a gas tube, a resistor, and a gating device having anode and cathode electrodes and a control element; said stations including a first series circuit comprising said voltage source, said gas tube and said resistor, said first series circuit producing a voltage across said gas tube sufficient to ionize said gas tube; a second series circuit comprising said voltage source, said gas tube, said control element, and one of said electrodes for firing said gating device; and a third series circuit of lower resistance than either of said first and second series circuits comprising said voltage source and said electrodes; energization of said third circuit reducing the voltage across said gas tube to a value below its ionization voltage.

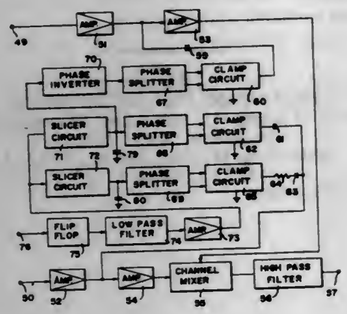
3,441,687
CHANNEL MIXING SYSTEM FOR MULTIPLE ROTATING HEADS

Yuzuru Inoue, Tokyo, and Akiyoshi Morita, Yokohama, Japan, assignors to Victor Company of Japan, Limited, Yokohama, Japan, a corporation of Japan

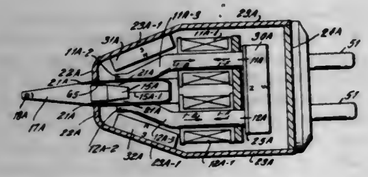
Filed Mar. 31, 1965, Ser. No. 444,226
Claims priority, application Japan, Apr. 1, 1964, 39/18,229
Int. Cl. G11b *5/00*; H04n *5/76*
U.S. Cl. 179—100.2 5 Claims

The invention provides a channel mixing system for producing a continuous FM signal in response to a plurality of received FM signals. Each of the received FM signals has alternate on and off portions. The on portion of each signal ends after the beginning of the on portion of the next signal to provide an overlap period when the two signals occur simultaneously. All of the signals are applied to the mixer circuit at substantially the same amplitude level during non-overlap periods. Clamping pulse signals are produced during the overlap periods for clamping the amplitude level of one of the overlapped signals to a lower value than the amplitude level of an-

other overlapped signal so that a substantially constant output signal is produced by the mixer circuit irrespective of variations in the relative phase of the overlapped signals.



3,441,688
ELECTROMAGNETIC PHONOGRAPH PICKUP CARTRIDGES WITH ZERO BALANCED ARMATURE FLUX
Harry B. Shaper, East Hills, N.Y., assignor to Empire Scientific Corporation, Garden City, N.Y., a corporation of New York
Filed Apr. 18, 1966, Ser. No. 543,136
Int. Cl. H04r 1/16, 9/12, 11/08
U.S. Cl. 179—100.41 12 Claims



1. In an electromagnetic pickup for playing back two distinct undulations from two distinct segments of a stereophonic-type record groove,

a support,

a magnetic core structure held by said support including two core sets each having two cooperating pole members, each set of two pole members having two pole ends with two spaced apart confronting pole faces and constituting a distinct pole-piece core path with the two sets of confronting pole faces defining a common air gap,

at least one set of windings interlinked with each core set,

said core structure also including a permanent field magnet forcing a distinct unidirected field flux through each distinct core path of each pole member and their pole face air gap,

a stylus held to be moved by said two distinct groove undulations,

an armature connected to said stylus and biased to a neutral position and caused to be undulated by each of said distinct stylus undulations from said neutral position along each of the respective corresponding distinct air gap paths between said confronting pole faces and cause corresponding field-flux undulations along each of said set of two pole members and generation of corresponding distinct signal sequences in their respective set of windings,

a permeable magnetic shield surrounding at least part of said core structure including the regions of said pole member ends and their said common air gap and spaced apart from at least the outer side regions of said distinct pole ends,

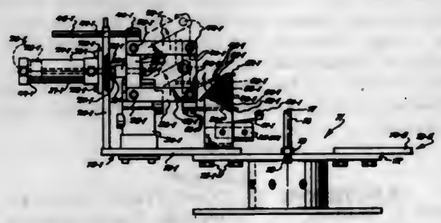
two adjacent pole members one from each of said two pole member sets being laterally spaced from the two other adjacent pole members,

and at least one balancing permanent magnet held between the said outer side regions of each two adjacent pole-member ends of each of said two adjacent pole members and the respective two surrounding portion of said shield and forcing through each of said two sets of two pole members a balancing flux opposing and reducing to a balanced near zero flux state the field flux in each of said two sets of pole members in the neutral position of said armature,

undulations of said armature from said neutral position along each of said distinct air-gap path upsetting said balanced near zero flux state in each of said two pole-member sets,

and causing corresponding alternating flux undulations in and generation of distinct corresponding signals in the windings of each of the so affected set of pole members.

3,441,689
PROGRAMMING SWITCH AND KILN UNLOADER CONTROL
Gordon E. Beeman, Loogootee, Ind., assignor to National Gypsum Company, Buffalo, N.Y., a corporation of Delaware
Filed Aug. 24, 1965, Ser. No. 482,244
Int. Cl. H01h 9/00; H04q 3/00
U.S. Cl. 200—4 9 Claims

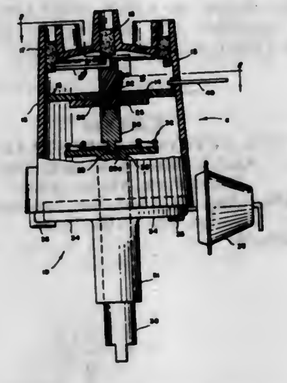


A programming system for effecting a sequence of later actions in the same order as a sequence of earlier stimuli including a base member having a plurality of motors mounted thereon and each including a finger associated therewith and a linkage for placing the finger into a post on the base member or withdrawing it therefrom, first control means for actuating each motor to move its associated finger onto said post in a predetermined sequence as the stimuli are sensed, and second control means for causing each motor to remove its associated finger from the post in the sequence it was placed thereon and effecting each subsequent action in the order in which said fingers are withdrawn.

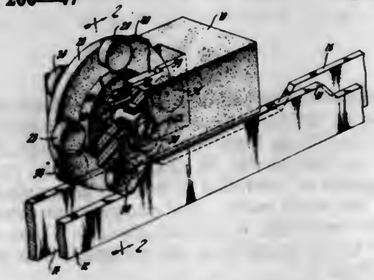
3,441,690
AIR-TIGHT DISTRIBUTOR CAP
Oscar F. Tibbs, Ripley, Tenn., assignor of one-half to John W. Buzick, Monette, Ark.
Filed Feb. 15, 1967, Ser. No. 616,214
Int. Cl. H01h 19/02, 19/04
U.S. Cl. 200—19 3 Claims

A distributor for use with an ignition system of an internal combustion engine or the like, said distributor

having a sealed pressure tight chamber enclosing the rotating electrode and the electrical contacts that cooperate therewith. Means for maintaining either vacuum or high pressure conditions in the chamber. A distributor cap including the chamber and designed for universal application to any existing distributor body.



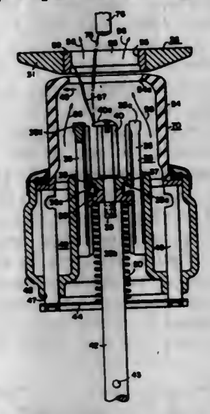
3,441,691
ROTARY LIMIT SWITCH
Stanley F. Newman, Troy, Gerald H. Dion, Warren, and Walter Cwycyshyn, Detroit, Mich., assignors to General Motors Corporation, Detroit, Mich., a corporation of Delaware
Filed June 9, 1967, Ser. No. 645,058
Int. Cl. H01h 3/16
U.S. Cl. 200—47 2 Claims



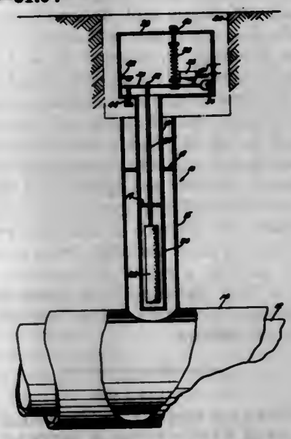
In a preferred form, this disclosure relates to a limit switch for sensing linear movement of an object. The limit switch includes a stationary housing carrying one or more reed switches and positioning means rotatably supported by the housing and carrying magnets for actuating and de-actuating the reed switches when the magnets are positioned adjacent to and spaced from the reed switches, respectively. The positioning means is adapted to be engaged and rotated to effect actuation and de-actuation of the reed switches by the linearly movable object as the latter reaches an extreme limit of movement.

3,441,692
MOVABLE BRIDGING CONTACT STRUCTURE FOR POWER CIRCUIT INTERRUPTERS
Charles F. Cromer, Trafford, and Charles B. Wolf, Irwin, Pa., assignors to Westinghouse Electric Corporation, Pittsburgh, Pa., a corporation of Pennsylvania
Filed Dec. 2, 1966, Ser. No. 598,857
Int. Cl. H01h 31/14, 33/82
U.S. Cl. 200—48 11 Claims

Double-ended movable flexible bridging contact fingers are provided to open and close the electrical circuit between spaced stationary contacts. In some forms of the invention, removable double-ended contact fingers are held captive by a pair of abutting retainer elements, which additionally provide flexible spring pressure for the individual contact fingers. A centrally-located arcing horn may be provided as a mounting bolt for the assemblage.



3,441,693
VAPOR DETECTING DEVICE
Clinton O. Bunn, 5210 Columbia Road, Springfield, Va. 22151
Filed Oct. 3, 1966, Ser. No. 583,888
Int. Cl. H01h 29/00, 29/06
U.S. Cl. 200—61.04 6 Claims

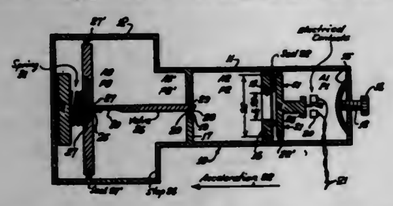


A vapor-sensing detector for detecting relatively elevated vapor pressures comprising a body of adsorptive material enclosed by housing means protecting such body from atmospheric conditions and simultaneously controlling the flow of vapor to such body. The body of adsorptive material is operatively connected to a switch through an adjustable lever, with a predetermined increase in weight of said body closing said switch to signal the elevated pressure condition.

3,441,694
ACCELERATION RESPONSIVE APPARATUS
Robert L. Vannatter, Ventura, Calif., assignor to General Dynamics Corporation, a corporation of Delaware
Filed Sept. 8, 1966, Ser. No. 577,874
Int. Cl. H01h 35/14, 35/38
U.S. Cl. 200—61.53 12 Claims

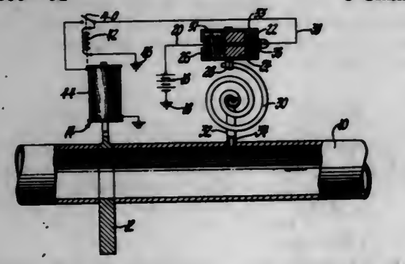
1. An acceleration responsive apparatus comprising a housing having partitions with apertures therein to pro-

vide a series arrangement of first, second, and third pressure chambers, an inertial mass actuating system reactive within said first pressure chamber, a triggering inertial mass assembly seated within said third pressure chamber, said inertial mass actuating system under the influence of the acceleration generates a pressure which, when applied to said third pressure chamber unseats said triggering inertial mass assembly; said inertial mass actuating system including first and second mass elements, a valving member operatively connected to one of said mass elements and which, under certain conditions, blocks said first pressure chamber from communication with said second pressure chamber, said valving member being provided with means which provide communication between said first and second series pressure chambers by moving through one of said apertures under predetermined conditions of acceleration, and resilient means operatively interconnecting said first and second mass elements; said first pressure chamber being provided with stop means for said inertial



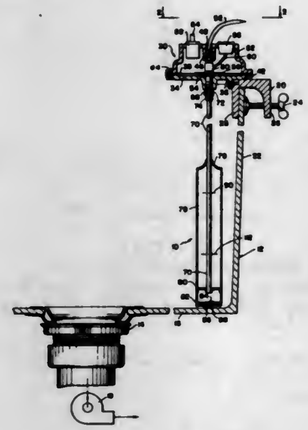
mass actuating system, whereby upon a predetermined acceleration one of said first and second mass elements bottoms against said stop means and said valving member is moved through one of said apertures so as to block communication between said first and second pressure chambers allowing a pressure sufficient to unseat said triggering mass assembly to develop in said first pressure chamber, and whereby upon predetermined additional acceleration, the other of said first and second mass elements moves against said resilient means and said valving member is moved so as to provide communication between said first and second pressure chambers providing in said second pressure chamber and against said triggering mass assembly a pressure sufficient to move said triggering mass assembly against the pressure in said third pressure chamber, said triggering mass assembly being moved in a step fashion thus causing a rapid displacement thereof and maintaining of said triggering mass assembly in the actuated position until acceleration has been reduced below a predetermined amount.

3,441,695
RATE OF FLUID PRESSURE CHANGE SENSOR FOR EFFECTING A SIGNAL
Rowland L. Stedfeld, Indianapolis, Ind., assignor to General Motors Corporation, Detroit, Mich., a corporation of Delaware
Filed Nov. 14, 1966, Ser. No. 594,154
Int. Cl. H01h *35/24, 35/36*
U.S. Cl. 200—81 **5 Claims**



This invention relates to sensors and more particularly to sensors of predetermined fluid pressure rate changes, as distinguished from mere changes in extent of fluid pressures, for effecting a warning signal or circuit. One purpose of such a sensor would be to detect a sudden leak in a gas line despite the widely varied pressures to which main gas schedules may be subjected and accordingly give rise to a signal or ameliorating effect.

3,441,696
DELAYED ACTION HYDROSTATIC SWITCH
Axel L. Nielsen, 1316 E. Elza, Hazel Park, Mich. 48030
Filed Aug. 28, 1967, Ser. No. 663,718
Int. Cl. H01h *35/24*
U.S. Cl. 200—81 **5 Claims**



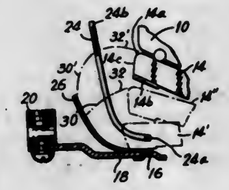
A delayed action hydrostatic switch is disclosed which provides for the rapid force draining of a receptacle, such as an accumulating sump, a basement floor riser, a laundry tray or tub, and the like, by a motorized pump. The switch is disciplined or controlled to delay its deenergization and that of the pump motor, once pumping has commenced, until the receptacle is substantially dry. Thus, water is drained by the pump from the receptacle in a very fast way, indeed.

The result is brought about by maintaining within the receptacle a column of liquid distinct from the liquid being directly pumped from the receptacle. This liquid column surrounds the lower end of an upright pressure transmitting tube and traps therein a column of air acting on a flexible diaphragm of the switch. The upper end of the outer tube, into which the liquid initially enters in substantial volume and at a flooding rate from the main liquid body in the receptacle, is at an elevation no less than that at which the liquid within the inner tube will sufficiently drop the compression of the trapped air column to permit opening of the motor switch and terminate pumping. Actually, and as disclosed herein, the upper end of the outer tube will be well above this level, in the interest of securing a more extended period of pumping.

An essential feature resides in the fact that the outer tube has valve or equivalent restriction means, as at its lower portion, to insure that the columns of liquid in it and in the inner tube will drain therefrom much more slowly than the dropping of liquid level in the remainder of the receptacle by pumping. This is to such an extent, preferably, that the sump, riser, tub, tray, or other receptacle will normally be wholly emptied before the level in the inner tube has dropped enough to lower the hydrostatic-pressure on the switch diaphragm and stop the pump. The cycle repeats after both tubes have drained empty and the liquid level in the main receptacle has risen sufficiently to raise hydrostatic-pressure on the switch diaphragm to start the pump again.

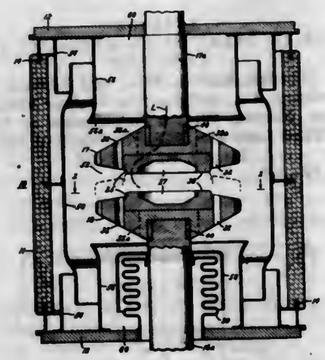
A simple adjustment of the valve or like drain control restriction of the outer tube permits a reliable regulation of the rate of draining of the outer tube, for a tube of any given inner diameter and height.

3,441,697
CIRCUIT INTERRUPTERS WITH IMPROVED ARC CHUTES
Henry S. Wingard, Cranford, N.J., assignor to Federal Pacific Electric Company, a corporation of Delaware
Filed Apr. 5, 1966, Ser. No. 540,370
Int. Cl. H01h *9/36, 33/08*
U.S. Cl. 200—144 **9 Claims**



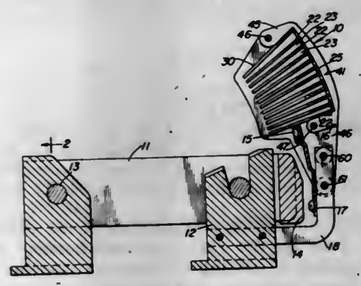
A circuit interrupter in which a curved arc splitter plate is disposed in the space between a movable contact and an arc runner. The moving contact travels along a given line which diverges from the arc runner. The arc splitter plate extends along a line which is between the arc runner and the path of the movable contact.

3,441,698
VACUUM-TYPE CIRCUIT INTERRUPTER
Joseph C. Sofianek, Broomall, Pa., assignor to General Electric Company, a corporation of New York
Filed Oct. 3, 1966, Ser. No. 583,893
Int. Cl. H01h *33/66, 9/30*
U.S. Cl. 200—144 **6 Claims**



1. A vacuum-type circuit interrupter comprising:
(a) a highly evacuated envelope comprising a tubular casing primarily of insulating material,
(b) a pair of electrodes within said casing defining an arcing gap therebetween across which arcs are established during a circuit-interrupting operation,
(c) a main vapor-condensing metal shield of tubular form surrounding said arcing gap and extending longitudinally of said tubular casing for substantial distances on opposite sides of said gap,
(d) means for maintaining said main shield at a potential intermediate that of said electrodes following interruption,
(e) a first pair of auxiliary metal shields of generally tubular form respectively surrounding the ends of said main shield and spaced radially outward therefrom,
(f) means for respectively electrically connecting said auxiliary shields to said electrodes,
(g) a pair of additional auxiliary metal shields of generally tubular form respectively surrounded by said main shield at its opposite ends,
(h) said additional auxiliary shields being spaced radially inward from said main shield and being electrically connected to said electrodes.

3,441,699
ARC CONTROL APPARATUS FOR LOAD-BREAK SWITCHES
John W. Erickson, Park Ridge, Ill., assignor to Erickson Electrical Equipment Co., Chicago, Ill., a corporation of Illinois
Continuation-in-part of application Ser. No. 542,937, Apr. 15, 1966. This application May 27, 1968, Ser. No. 736,526
Int. Cl. H01h *9/38, 33/12, 33/18*
U.S. Cl. 200—144 **8 Claims**

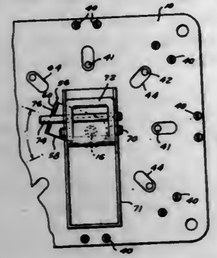


Arc control apparatus for a load-break switch having a movable contact that is movable along a given path into and out of engagement with a stationary contact; the arc control apparatus comprises an arc-quenching chute including a plurality of metal grid plates slotted to receive the movable contacts, the backs of the grid plates being closed by a back member formed of a material that releases a deionizing gas in the present of an arc, with apertures in the back member permitting escape of gases but precluding recombination of the arc behind the chute. An end grid plate of degassing material is also used. A separate arcing contact of spring construction backed up by a support member prevents arching between the main switch contacts.

3,441,700
MULTIPOLE MECHANICALLY HELD RELAY
Frank P. Spinelli, Brookside, and Dominik M. Wiktor, Cranford, N.J., assignors to Automatic Switch Company, a corporation of New York
Filed Sept. 20, 1967, Ser. No. 669,116
Int. Cl. H01h *3/02*
U.S. Cl. 200—153 **7 Claims**

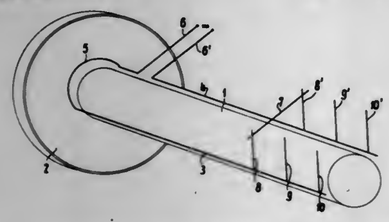
Plurality of rows of switches arranged in circular pattern around a shaft rotatable through limited angle. Pairs of toggle members rotatable with shaft alternatively open switches in every other row and close switches in the alter-

nate rows. Springs within switches for urging the switches toward normal conditions produce a moment about the



shaft serving to hold the shaft in either of its two operative positions.

3,441,701
METHOD AND APPARATUS FOR INDUCTIVELY HEATING WORKPIECES COMPRISING A FLANGED SHAFT
Gerhard Seulen and Friedhelm Reinke, Remscheid, and Edgar Stengel, Wuppertal-Hahnerberg, Germany, assignors to AEG-Elotherm G.m.b.H., Remscheid-Hasten, Germany
Filed Apr. 1, 1968, Ser. No. 717,866
Claims priority, application Germany, Nov. 16, 1967, A 57,396
Int. Cl. H05b 5/02
U.S. Cl. 219—10.43 8 Claims



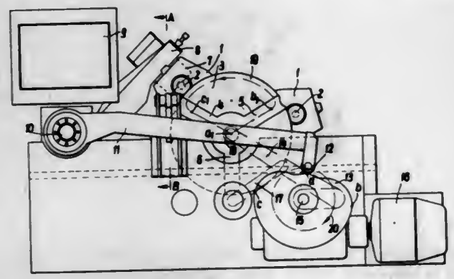
Workpieces comprising a flanged shaft are difficult to inductively heat by the rotary surface heating method to obtain depths of heating of differing degrees in the shaft and flange portions. This is particularly important when the thickness of the flange is less than the diameter of the shaft. The difficulty is overcome according to the invention by arranging the longitudinal elongate conductors of the heating inductor slightly parallel to the shaft during the total heating period, so that the coupling gap between the cross conductor and the flange is altered from a non-heating value to a heating value, the heating of the shaft being maintained.

3,441,702
METHOD AND APPARATUS FOR HEATING THREAD-LIKE PRODUCTS
Andre Benoit de la Bretoniere, Oosterbeek, Gelderland, Netherlands, assignor to American Enka Corporation, Enka, N.C., a corporation of Delaware
Filed Apr. 25, 1967, Ser. No. 633,465
Claims priority, application Netherlands, Apr. 30, 1966, 6605877
Int. Cl. H05b 9/06
U.S. Cl. 219—10.61 14 Claims



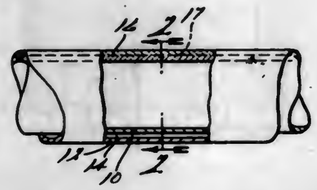
An improved method of heating a continuously advancing thread-like product wherein the product is wrapped at least one turn around the heated casing of a transport roller, the casing being heated by the heat evolved therein when a metal portion of the casing is moved through a magnetic field, the method including the steps of producing a rotating magnetic field, inducing electric currents in the casing and forcing the induced currents to flow along orderly directed current paths therein.

3,441,703
INDUCTIVE HEATING APPARATUS
Friedhelm Reinke, Remscheid, and Edgar Stengel, Wuppertal-Hahnerberg, Germany, assignors to AEG-Elotherm G.m.b.H., Remscheid-Hasten, Germany
Filed Mar. 8, 1968, Ser. No. 711,671
Claims priority, application Germany, July 1, 1967, A 56,157
Int. Cl. H05b 5/00, 9/02
U.S. Cl. 219—10.69 4 Claims



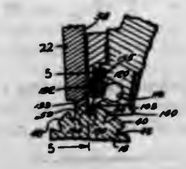
Improved apparatus for inductively heating metal workpieces, comprising two rotatable spiders adapted to carry workpieces between centres consecutively into several treating positions by an indexing mechanism; the improvement which comprises an automatic control mechanism for lifting and lowering the inductor from and to a heating position when a workpiece is indexed to a heating station, said control mechanism comprising a rocking lever adapted and arranged to raise and lower an inductor in response to rocking motions thereof derived from the interaction of a roller on an end thereof with a heart-shaped disc cam mounted on the drive shaft for the indexing mechanism.

3,441,704
METHOD OF MAKING AN EXHAUST SYSTEM CONDUIT
Donald P. Worden, Racine, Wis., and Edward F. Abbott, Harrisonburg, Va., assignors to Walker Manufacturing Company, Racine, Wis., a corporation of Delaware
Filed June 15, 1966, Ser. No. 557,733
Int. Cl. B23k 31/06
U.S. Cl. 219—67 8 Claims



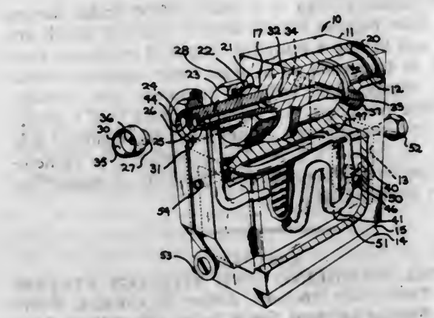
A laminated conduit is formed by rolling overlapped sheets into telescoped tubes and simultaneously welding the edges of each sheet together to form longitudinal seams in each tube which are stronger than any cross welded between the tubes so that the tubes are separable and movable relative to each other.

3,441,705
FLUID MANIFOLD FOR ELECTRICAL DISCHARGE MACHINING APPARATUS
Glenn E. Johnston, Birmingham, and Meredith M. Windsor, Detroit, Mich., assignors to Star Cutter Company, Farmington, Mich., a corporation of Michigan
Filed Apr. 19, 1965, Ser. No. 449,196
Int. Cl. B23k 9/18
U.S. Cl. 219—69 6 Claims



Apparatus for forming milling cutters, such as hobs, by the electrical discharge machining process in which a manifold is provided for discharging dielectric flushing and cooling fluid through the discharge gap between the electrode and the workpiece. The manifold is mounted for movement between an operative position in which it extends into a flute between the rows of teeth on the workpiece and an inoperative position in which it is out of the path of travel of the workpiece during indexing.

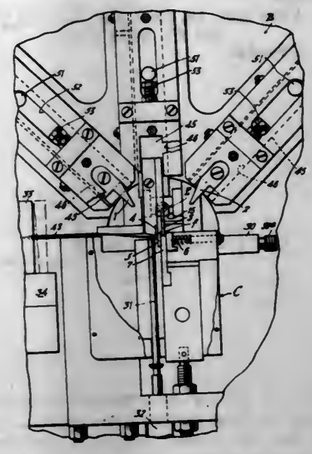
3,441,706
INDUCTION HEATING APPARATUS
Gerard Karol Van Steyn, Columbus, Ohio, assignor to Owens-Illinois, Inc., a corporation of Ohio
Filed Sept. 9, 1966, Ser. No. 578,383
Int. Cl. H05b 5/08
U.S. Cl. 219—10.75 6 Claims



An apparatus for electrically heating a metal stud for insertion into the faceplate of a cathode-ray tube. The primary coil and the secondary coil having a portion of their circuitry common to each other. The primary and secondary coils being cooled by a common fluid source.

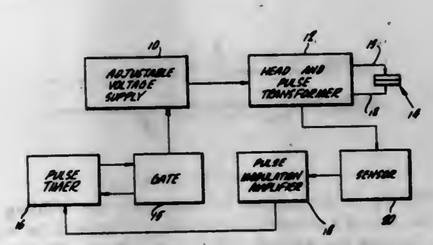
3,441,707
MACHINE FOR MAKING WIRE TERMINALS
Samuel Warner, Hillside, N.J., assignor to Joyal Mfg. Corp., Long Branch, N.J., a corporation of New Jersey
Filed Aug. 10, 1965, Ser. No. 478,679
Int. Cl. B23k 9/02, 11/02, 11/04
U.S. Cl. 219—103 5 Claims

A strip of metal is fed longitudinally in steps at the end of each of which the leading end portion of the strip is disposed over a channel-shaped die adjacent which is a fixed cutter blade. A complemental blade and a forming finger are moved together relatively to and cooperate with said fixed cutter blade and said channel-shaped die, respectively, to sever the leading end portion of the strip and to press it into a channel-shape in said die respectively. Two other forming fingers move in succession relatively to the die each to bend one flange of said



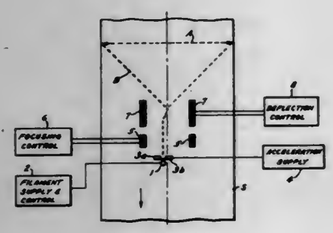
channel-shaped piece over wires placed in the channel, and there is welding means including an electrode movable in timed relation to said fingers to contact with said flanges to weld them to said wires to complete a wire terminal.

3,441,708
WELDING
John A. Gilbert, Upland, Calif., assignor to Unitek Corporation, Monrovia, Calif., a corporation of California
Continuation-in-part of application Ser. No. 389,901, Aug. 17, 1964. This application July 16, 1965, Ser. No. 478,012
Int. Cl. B23k 11/24
U.S. Cl. 219—110 1 Claim



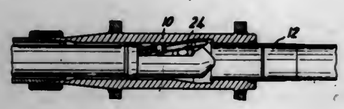
A resistance welding apparatus operating on the stored energy principle. The apparatus includes a regulated voltage supply connected to a welding energy storage capacitor which is in turn connected to a transformer and a pair of welding electrodes. Supporting circuitry is connected to the transformer-welding electrode circuitry for measuring electrical parameters at the weld. The supporting circuitry also adjusts the duration of the welding energy pulse supplied from the power supply-capacitor circuitry in response to deviations of electrical parameters at the weld from a reference value. Additional circuitry may be inserted between the capacitor and transformer for periodically interrupting the flow of energy therebetween permitting additional flexibility in the selection of the type of transformer used.

3,441,709
METHOD OF SETTING AN ELECTRON-PROJECTING APPARATUS TO UNIFORMLY HEAT A COATED METAL BASE
Anthony P. Martocci, Bethlehem, Pa., assignor to Bethlehem Steel Corporation, a corporation of Delaware
Filed Apr. 18, 1968, Ser. No. 722,296
Int. Cl. B23k 9/00
U.S. Cl. 219—121 7 Claims



A method of setting an apparatus projecting one or more moving electron beams onto a metallic coated metal base such that the coated surface is uniformly heated. The apparatus is adjusted until the coated surface is at the lowest temperature at which a substantially uniform color of an alloy composed of the coating and base occurs over the coated surface. The color of this alloy is different than the color of the coating itself, and the occurrence of the alloy's color indicates temperature uniformity over the coated surface.

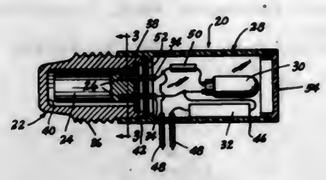
3,441,710
WELDING PROCESS AND APPARATUS
Henri Fouiquier, Thibault-Rueil-Malmaison, and Jean-Pierre Peyrot, Paris, France, assignors to Commissariat à l'Energy Atomique, Paris, France
Filed Mar. 2, 1965, Ser. No. 436,444
Claims priority, application France, Mar. 5, 1964, 966,289
Int. Cl. B23k 9/12, 31/06
U.S. Cl. 219—125 7 Claims



Welding is performed by mounting the welding unit on the axis of a circular, non-horizontal zone to be welded and rotating the welding unit about said axis. The welding tip is slowly oscillated radially during rotation to subscribe a mean circle, the axis of which is displaced upwardly off-center with respect to the axis of the circular zone and that of the welding unit. Also during rotation, the welding tip is rapidly oscillated radially in a welding motion back and forth across the circular zone.

3,441,711
ELECTRIC HEATER PLUG FOR WATER SYSTEMS
Abram S. Hirschowitz, Oran, Mo. 63771
Filed Apr. 11, 1966, Ser. No. 541,741
Int. Cl. H05b 3/06; F24h 1/18
U.S. Cl. 219—328 1 Claim

A drain plug or the like for use with water tanks or other water containers provided with means for preventing freezing. The drain plug has a cavity receiving an electrical heating element and a socket receiving a housing containing a thermostat and a visual light bulb warning system indicating actuation of the heating element upon energization. The housing can simply be removed from the drain plug through the socket arrangement in the absence of cold weather conditions.

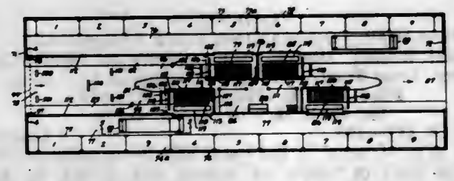


3,441,712
FLEXIBLE MULTICONDUCTOR HEATER
Lee P. Hynes, Haddonfield, N.J., assignor to Hynes Electric Heating Company, Kenilworth, N.J., a corporation of New Jersey
Filed Oct. 23, 1967, Ser. No. 677,149
Int. Cl. H05b 3/06
U.S. Cl. 219—539 3 Claims



The invention relates to a multiresistor heater having at least three parallel helical electric resistors which are resilient and having a plurality of spaced insulators each of which is composed of at least three segments which laterally engage and radially compress the resistors against their resilience, the segments being held together by a circumferential band. In one form the segments grip the resistors against a core. The invention also contemplates a special end construction. Methods of assembling the heater are involved.

3,441,713
MATERIAL HANDLING AND STORAGE SYSTEM
Anthony Pinto, New Rochelle, Arthur H. Cornish, White Plains, Eugene Leonard, Sands Point, Edgar Wolf, New York, and Edward H. Lau, Huntington, N.Y., assignors to Otis Elevator Company, New York, N.Y., a corporation of New Jersey
Filed Nov. 29, 1961, Ser. No. 159,813
Int. Cl. G06k 1/00; G06f 15/48
U.S. Cl. 235—61.6 59 Claims



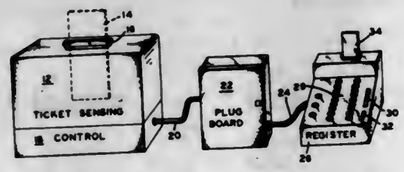
An automatic material handling and storage system in which each of a plurality of storage spaces is identified by an individual electrical signal or signals which may,

if desired, be binary coded and converted to decimalized form for transport control purposes. One or more transports, each bearing a load conveyor arranged to move a load between the transport and storage space, are provided. A combination of stall-identifying and operation-defining signals control the transport means and may be stored for delivery to the tranpsort controlling means until accepted thereby; after which the stored signals are extinguished.

The centralized transport control system includes information storage facilities incorporating a "memory" cell individual to each storage space and may, if desired, include storage space-identifying and time-utilization means in conjunction with storage-fee calculating means.

Each combination of space-identifying and operation-defining signals acts to sample the operational state of the associated memory and the transport means is prevented from responding to control signals if the operational state of the memory and the intended operation of the transport are not in agreement. Various other system operations are included.

3,441,714
COMPUTING AND RECORDING SYSTEM
Luther G. Simjian, Greenwich, Conn., assignor to General Research, Inc., Greenwich, Conn., a corporation of Connecticut
Filed July 9, 1965, Ser. No. 470,779
Int. Cl. G06c 29/00
U.S. Cl. 235—61.6 2 Claims



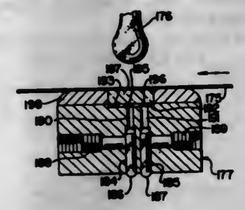
In a merchandise ordering system a preprinted ticket is provided which is encoded by the user to signify particular article selections. The ticket after coding by the user is inserted in a sensing means which scans sequentially the appropriate locations on the ticket to determine the presence or absence of coding. A plugboard, serving as a selectively adjustable monetary conversion unit, is provided and by means of a switching means each coded location causes an associated output signal denoting a monetary value of the article selected. A register receives the output signals and provides a total of the monetary value of the selections made on the ticket.

3,441,715
SENSING MEANS
Gene L. Amacher, Dayton, Ohio, assignor to The National Cash Register Company, Dayton, Ohio, a corporation of Maryland
Continuation of application Ser. No. 158,610, Dec. 11, 1961, which is a division of application Ser. No. 109,998, May 15, 1961, now Patent No. 3,067,934, dated Dec. 11, 1962. This application Feb. 4, 1966, Ser. No. 520,552
Int. Cl. G06k 7/06
U.S. Cl. 235—61.11 10 Claims

1. An optical sensing device for sensing perforations in at least one channel in a record medium as it traverses a sensing station having at least one sensing channel for sensing said perforations, comprising, in combination,

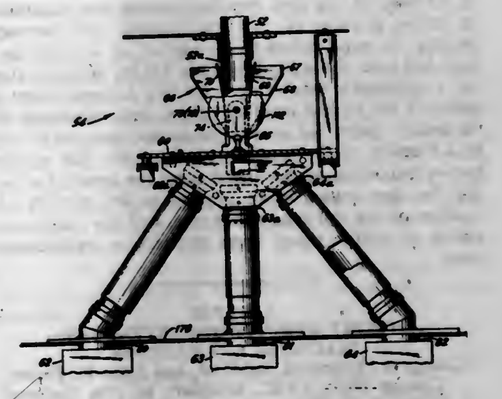
a supporting member on which the record medium is adapted to move, said member including a first and a second aperture therein, positioned in a single sensing channel and displaced with respect to each other in the direction of record medium movement to enable sensing of each of the perforations in said one channel in the record medium twice as the record medium moves over said member;

first and second radiation-sensitive means capable of translating radiation directed thereon, through said perforations and apertures, into electrical signals; and



radiation-conducting means positioned on the same side of said supporting member as said first and second radiation-sensitive means for conducting radiation from said first and second apertures in the supporting member to the first and second radiation-sensitive means, respectively, the distance between the leading edges of said first and second apertures in the supporting member differing from the distance between the leading edges of successive perforations in said one channel of the record medium to enable the generation of temporally overlapping signals by the first and second radiation-sensitive means as the record medium is sensed.

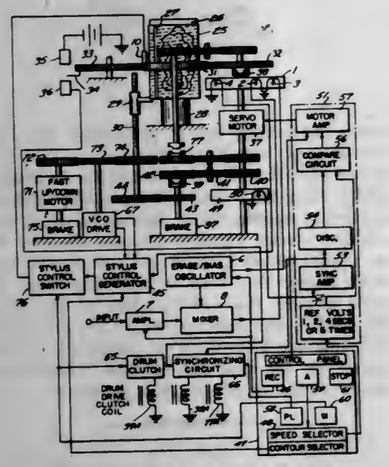
3,441,716
FARE COLLECTION SYSTEM
Herman Lopata, Bronx, N.Y., assignor to Automatic Tool Systems, Inc., Bronx, N.Y., a corporation of New York
Filed Nov. 19, 1965, Ser. No. 508,792
Int. Cl. G06c 29/00
U.S. Cl. 235—92 13 Claims



A fare collection system for receiving fares in the form of tokens or coins having a coin counting machine and chutes for carrying the deposited fares to remote vaults. The vaults are provided with switch means for indicating proper fare receiving position of the vault. When in place the vault may be selected by a selection switch means, either manually or automatically operated,

for energizing a movable funnel included within the chute means to the inlet of a selected vault. The system is rendered substantially tamperproof by the interlock circuits and mechanisms of the fare collection system while any vault is out of position.

3,441,717
SYNCHRONIZATION SYSTEM
Richard Holzman, Framingham, and Kenton J. Ide, Lincoln, Mass., assignors, by mesne assignments, to Signatection, Inc., Waltham, Mass., a corporation of Massachusetts
Filed Feb. 18, 1966, Ser. No. 528,450
Int. Cl. G06c 29/00
U.S. Cl. 235—92 4 Claims

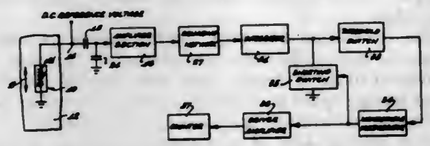


1. Apparatus for determining when two rotating members have attained an angular relationship, comprising a counter for providing an output signal when the two rotating members have attained the angular relationship, means for deriving sync signals upon rotation of the first member, each sync signal indicating an equal increment of rotation of the first member, means for ascertaining an initial position of the first member and thereupon causing the sync pulses to be applied to the counter at their full rate, the second member having an index thereon, a stationary sensor for providing a signal when the index of the second member rotates into alignment with the sensor, means for causing the second member to rotate at a fraction of the rotational rate of the first member, means responsive to the signal from the sensor for causing the sync pulses to be applied to the counter at a fraction of the full sync signal rate, and the counter providing an output signal upon attaining a predetermined count.

3,441,718
STROKE COUNTING SYSTEM FOR MACHINE OPERATIONS
George A. Hatherell, Sunland, and John K. Frantz, Canoga Park, Calif., assignors to The National Screw & Manufacturing Company, Los Angeles, Calif., a corporation of Ohio
Filed Apr. 6, 1966, Ser. No. 540,738
Int. Cl. G06f 7/385
U.S. Cl. 235—92 8 Claims

1. In a machine for performing operations on parts, the machine having a characteristic main work blow and work cycle, and the machine having a portion which undergoes minute dimensional changes, the most pronounced changes occurring during work blows, the combination of:

a strain gauge to be mounted on the aforementioned portion of the machine and adapted to undergo changes in resistance conforming to the dimensional changes thereof;

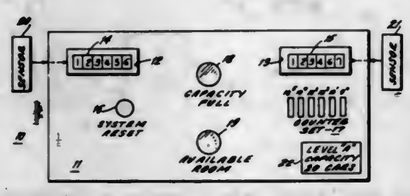


means to develop a voltage which varies in response to said changes in resistance;

electrically operative stroke counting means;

and means operable during the portion of said voltage occurring during each main work blow to operate said stroke counting means, and operable during other portions of the work cycle to prevent operation of said stroke counting means.

3,441,719
MONITORING MEANS
Willi Haller, Teaneck, and Rudolf Faude, Fort Lee, N.J., assignors, by mesne assignments, to Hecon Corporation, New Shrewsbury, N.J., a corporation of New Jersey
Filed Apr. 7, 1966, Ser. No. 541,004
Int. Cl. G06f 11/00, 7/38, 11/02
U.S. Cl. 235—92 16 Claims

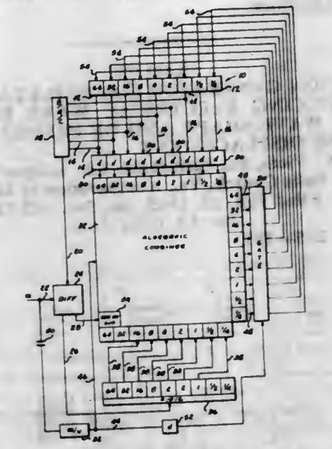


A control device for monitoring the state or capacity of a machine or a parking lot, for example, A pair of forward stepping counters have their switch positions electrically interconnected. Each of the counter electro-magnets are operative under control of a sensing device to advance the total count of the reading and the associated switch positions. One of the counters may be preset to a predetermined reading which may indicate the capacity of the machine or of the parking area being monitored, for example. The incoming vehicles energize suitable sensing devices advancing the state of one of the counters. As soon as coincidence exists between the two counter readings and indication of capacity fault is generated. As cars leave the parking area, the present counter is advanced to upset the coincidence condition. Printout means may be provided, if desired.

3,441,720
APPARATUS FOR PROVIDING A DIGITAL AVERAGE OF A PLURALITY OF ANALOGUE INPUT SAMPLES
Stanislaw V. Lazecki, Stamford, Conn., assignor to United Aircraft Corporation, East Hartford, Conn., a corporation of Delaware
Filed Dec. 10, 1964, Ser. No. 417,366
Int. Cl. G06j 1/02
U.S. Cl. 235—150.5 8 Claims

A digital filter for providing a digital average of a plurality of analog input samples. An incoming analog sample is subtracted from the analog of an average value

of a plurality of samples, the digital equivalent of which average is stored in a register. The digital equivalent of



the analog difference is divided by a selected factor and applied to the register to update the digital average.

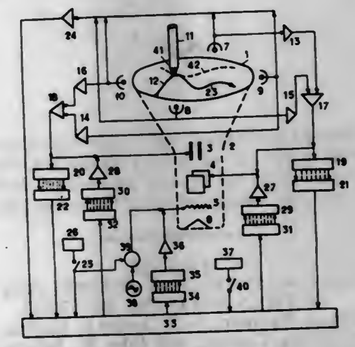
3,441,721
DEVICE FOR GAUGING THE EFFECT OF THE CARGO DISTRIBUTION ON A VESSEL
Ferenc Arpas, Goteborg, and Clas Ove Thorsson, Torslanda, Sweden, assignors to Aktiebolaget Gotaverken, Goteborg, Sweden
Filed Dec. 13, 1965, Ser. No. 513,501
Claims priority, application Sweden, Dec. 21, 1964, 15,472/64
Int. Cl. G06g 7/70
U.S. Cl. 235—150.2 6 Claims

For determining the influence of the cargo distribution on a ship an apparatus has been used which comprises a Wheatstone bridge and a series of resistors, each resistor being settable to represent the load in a particular compartment of the ship and the influence of said particular load upon bending moments and shearing forces with respect to a certain transverse plane in the ship.

The present apparatus is a development of the former designs, and is adapted for gauging the bending moments, shear forces, deadweight and draft of a ship in relation to any of a number of previously chosen transverse sections in the ship, thereby also taking into account the displacement in the longitudinal direction of the ship of the point of gravity within each compartment of the ship.

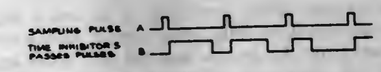
3,441,722
SYSTEM OF COMMUNICATION BETWEEN MAN AND MACHINE
Paul François Marie Gloess, Paris, France, assignor to Societe d'Electronique et d'Automatisme, Courbevoie, Hauts-de-Seine, France
Filed Sept. 28, 1964, Ser. No. 399,613
Claims priority, application France, Oct. 31, 1963, 952,541
Int. Cl. G06f 3/14; G06k 15/20
U.S. Cl. 235—151 10 Claims

There is disclosed herein a man-machine communication system wherein a digital computer is operative to produce a graphical display on a light display surface of a light display device. Transducers are arranged in a plane adjacent to the said surface for detecting the display thereon. The transducers are operatively connected to the computer through signal conversion means to supply information thereto, and they are connected through means



to the said display device to control raster scanning. In operation, an opaque stylus is employed by the man for drawing purposes on the screen which action results in signals being produced by the transducers which signals are utilized to control the movement of a light spot on the light display surface.

3,441,723
COUNTING CODER
Berthold Reidel, Stuttgart, Germany, assignor to International Standard Electric Corporation, New York, N.Y., a corporation of Delaware
Filed May 14, 1965, Ser. No. 455,783
Claims priority, application Germany, June 3, 1964, St 22,203, 22,204
Int. Cl. G06f 5/00
U.S. Cl. 235—154 15 Claims



A reversible binary counter is reset to provide a binary "one" from its most significant stage and a binary "zero" from its other stages and the driving pulses for the counter are coupled to a stage of greater significance than the least significant stage to reduce the counting frequency. The instantaneous amplitude of an analog signal is compared with the decoded output of the counter. The counting is stopped when the decoded output exceeds the analog amplitude with an adjustment being made to the count of the counter by controlling the binary condition of the least significant stage if the decoded output equals or is greater than a single quantized step to produce the final count or binary code. The direction of the count of the counter is controlled by the output of an analog polarity detector.

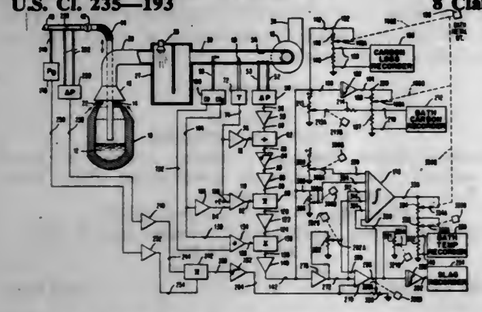
3,441,724
OPTICAL CORRELATOR
Donald R. Taylor, Jr., Philadelphia, Pa., assignor to Philco-Ford Corporation, Philadelphia, Pa., a corporation of Delaware
Filed Dec. 8, 1964, Ser. No. 416,739
Int. Cl. G06g 9/00
U.S. Cl. 235—181 3 Claims

A self-scanning electro-optical correlator for use in pattern recognition and comprising a birefringent delay line into which information to be correlated is fed in the form of an amplitude modulated ultrasonic vibration for

propagation through the delay line as a mechanical stress wave. The delay line is irradiated with polarized light and the modulations of light induced by such stresses are observed through an analyzer and a plurality of readout slits located along the axis of stress propagation. To test correlation the modulated light is transmitted through templates containing coded replicas of the recognition pattern.

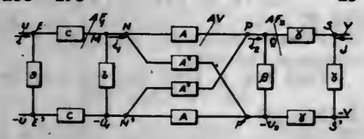


3,441,725
PROCESS MEASUREMENT SYSTEM FOR BASIC OXYGEN REFINING OF STEEL
Bernard Blum, Kenmore, N.Y., James R. Gowen, Laronge, Saskatchewan, Canada, and John W. Schwartzenberg, Maple Glen, Pa., assignors to Leeds & Northrup Company, Philadelphia, Pa., a corporation of Pennsylvania
Filed Mar. 30, 1965, Ser. No. 444,014
Int. Cl. G06g 7/48
U.S. Cl. 235—193 8 Claims



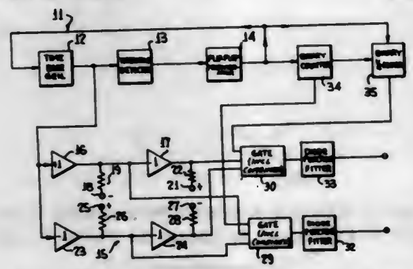
In an oxygen blown steel refining process a heat balance is calculated by integrating signals representing the heat losses from the process and the heat gains and then dividing the integrated difference between the two by the bath weight to produce a signal representing the bath temperature. The rate of slag formation is also calculated and integrated to obtain an indication of the amount of slag with the rate being determined from the carbon loss rate and the oxygen flow rate.

3,441,726
TRANSFORMER ARRANGEMENT FOR AN ANALOGUE COMPUTER AND OTHER USES
Etienne Honore and Emile Torcheux, Paris, France, assignors to Compagnie Generale de Telegraphie Sans Fil, a corporation of France, and Societe Marocaine de Recherches, d'Etudes et de Developpements Somarede, a corporation of Morocco
Filed Oct. 15, 1965, Ser. No. 496,582
Claims priority, application France, Oct. 30, 1964, 933,330
Int. Cl. G06g 7/02
U.S. Cl. 235—193 13 Claims



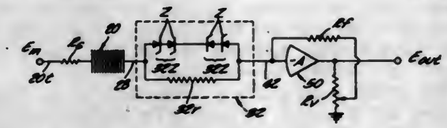
A transformer circuit comprises a set of interconnected inductors and capacitors, tuned to an operating frequency. The transformation ratio is adjusted to a desired value by electrical control means controlling the capacitance values of the capacitors.

3,441,727
FUNCTION GENERATOR FOR SIMULTANEOUSLY PRODUCING ELECTRICAL WAVE FORMS OF LIKE WAVE SHAPE AND OF PREDETERMINED PHASE DISPLACEMENT
George C. Vieth, Jr., Springfield, Va., assignor to Melpar, Inc., Falls Church, Va., a corporation of Delaware
Filed Feb. 12, 1965, Ser. No. 432,323
Int. Cl. G06f 1/02
U.S. Cl. 235—197 9 Claims



A function generator generates waveforms of like wave shape and fixed phase displacement by initially generating a triangular waveform and supplying that waveform to circuitry for synthesizing related triangular waveforms of different phase and having reference levels selected in accordance with the signal functions to be generated. These related waveforms are supplied to gates where various segments are selectively passed or blocked and the passed segments are linearly combined to provide the desired output waveforms or functions.

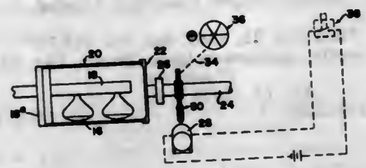
3,441,728
SQUARE LAW FUNCTION GENERATOR
Donald W. Halfhill, Riverside, and William Comley, Jr., Los Angeles, Calif., assignors by direct and mesne assignments, of one-half each to Bourns, Inc., Riverside, Calif., a corporation of California, and McDonnell Douglas Corporation, Santa Monica, Calif., a corporation of Maryland
Filed Aug. 29, 1966, Ser. No. 575,575
Int. Cl. G06g 7/26
U.S. Cl. 235—197 3 Claims



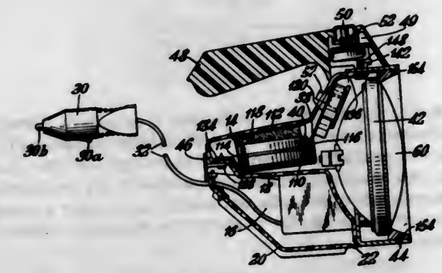
A precision square law function generator comprising a series of serially-connected resistive elements connected in series with a parallel network comprising selective sets of Zener diodes in shunt or parallel relation with a resistor, and utilized with an operational amplifier acting as an input or feedback element. Error swing is minimized for selecting Zener diodes having a soft-knee characteristic.

3,441,729
SAFETY HEADLIGHT
Burton D. Morgan, 302 Aurora St., Hudson, Ohio 44236
Filed May 23, 1967, Ser. No. 640,592
Int. Cl. B60q 1/04
U.S. Cl. 240—7.1 6 Claims

A vehicular headlight assembly formed from a lamp mounted on the vehicle and a rotatable, cylindrical body which encapsulates the lamp. The body has several arcuate surfaces which can be selectively rotated into position in front of the lamp to provide different lens mediums therefor.



3,441,730
PORTABLE RECHARGEABLE LIGHTING DEVICE
William H. Doring, Old Greenwich, Conn., and Robert E. Brindley, New York, N.Y., assignors to Union Carbide Corporation, a corporation of New York
Filed June 28, 1967, Ser. No. 649,631
Int. Cl. F21l 9/00
U.S. Cl. 240—10.63 10 Claims



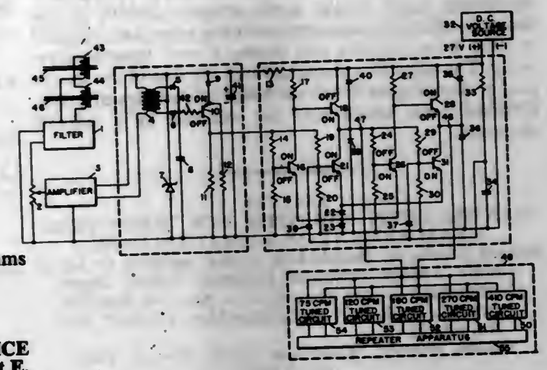
A portable rechargeable lighting device featuring attractive appearance, ease and economy of assembly and manufacture together with versatility of operation. The device may be operated from internal batteries or an external current source such as an automobile cigarette lighter outlet. A storage compartment is provided with a plug and transformer assembly for recharging the battery or operating the device from external current means.

ERRATUM

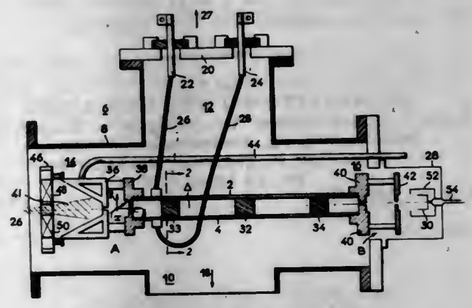
For Class 240—26 see:
Patent No. 3,441,957

3,441,731
SOLID STATE SWITCHING DEVICE FOR USE IN CAB SIGNALING SYSTEMS
Clinton S. Wilcox and Roelof P. Wormsbecher, Rochester, N.Y., assignors to General Signal Corporation, Rochester, N.Y., a corporation of New York
Filed June 20, 1966, Ser. No. 558,931
Int. Cl. B61l 21/00, 1/18; H04g 9/00
U.S. Cl. 246—63 10 Claims

Apparatus in a railway cab signaling system which changes voltage from a D.C. source to an alternating voltage of a predetermined code frequency for controlling train operation. Sensing circuitry generates pulses corresponding to a code signal transmitted in the rails, and a plurality of solid state switching devices responsive to the generated electric pulses pole changes the voltage from the D.C. source at the transmitted code frequency. Signaling apparatus tuned to the code frequency gives distinctive indications in the railway cab.



3,441,732
MASS SPECTROMETER COMPRISING MEANS FOR PRODUCING A HIGH-FREQUENCY TRANSVERSE ELECTRIC FIELD
Guy Gautherin, Massy, and Albert Septier, Bourg-La-Reine, France, assignors to Commissariat à l'Energie Atomique, Paris, France
Filed Jan. 22, 1965, Ser. No. 427,340
Claims priority, application France, Jan. 31, 1964, 962,324
Int. Cl. B01d 59/44; H01j 39/34
U.S. Cl. 250—41.9 5 Claims



The present invention relates to a method and apparatus for isolating ions of a predetermined mass from a beam of ionized particles as in mass spectrometry. The method of the present invention includes selecting those ionized particles of the beam which have a zero transverse velocity, passing those particles into a high frequency electric field oriented perpendicular to the axis of the ionized beam, and selecting from the resulting beam the ionized particles which still have a zero transverse velocity.

A mass spectrometer for carrying out the process of the present invention includes a polarizing ring through which the sample beam is admitted to the spectrometer. A pair of parallel diaphragms are located in spaced relationship adjacent to the polarizing ring and each diaphragm includes a slit aligned with the beam axis to pass those particles having zero transverse velocity. Ionized particles emitted from the slits pass between a single pair of electrode plates which are energized by a high frequency alter-

nating voltage to cause an electric field perpendicular to the beam axis. A second pair of spaced parallel diaphragms are located behind the electrode plates, each diaphragm again having a slit oriented parallel to the electrode plates in alignment with the beam axis in order to pass those particles still having a zero transverse velocity. The particles passing through the slits of the second pair of diaphragms define the beam of particles of predetermined mass which may be collected by a suitable electrode.

3,441,733

SCINTILLATION COUNTER FOR IMPROVING MEASUREMENT OF RADIATION DOSE

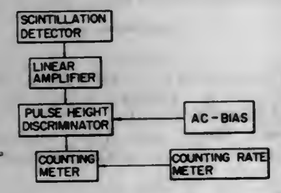
Shigeru Moriuchi, Ibaraki-ken, Japan, assignor to Japan Atomic Energy Research Institute, Tokyo, Japan

Continuation-in-part of application Ser. No. 406,730, Oct. 27, 1964. This application Mar. 13, 1967, Ser. No. 634,014

Claims priority, application Japan, Nov. 1, 1963, 38/58,480

Int. Cl. G01t *1/20*; H01j *39/18*

U.S. Cl. 250—71.5 3 Claims



A radiation dose measuring device having means for flattening the energy response of a scintillation counter by applying an A.C. bias to the crest discriminator. The A.C. bias is determined by the type of radiation detector and the type of the radiation dose to be measured.

3,441,734

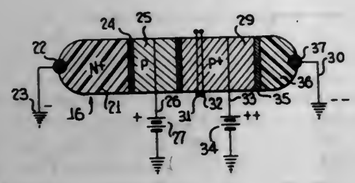
SOLID STATE INFRARED OSCILLATOR

Roger C. Jones, Tucson, Ariz., assignor to Melpar, Inc., Falls Church, Va., a corporation of Delaware

Filed Dec. 10, 1965, Ser. No. 512,970

Int. Cl. H04b *9/00*

U.S. Cl. 250—199 13 Claims



A solid state infrared oscillator includes a semiconductor body, and a pair of spaced-apart electrodes thereon. The body contains a region coincident with the gap between the electrodes in which the mean free path of an electron therethrough exceeds the length of that gap. Electrons are injected into the aforementioned region at one side of the gap and are density modulated at the other side of the gap. The density modulated beam of electrons is subjected to reversals of direction to cause drifting thereof back and forth through the aforementioned region. Energy is extracted from the drifting beam via the electrodes.

3,441,735

BOUNDARY FOLLOWER USING OSCILLATING PHOTOCELLS

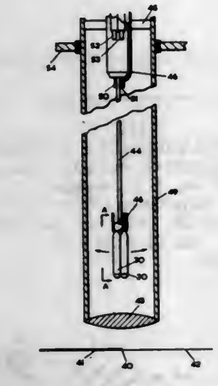
Brian Edmund King, Harrow Weald, England, assignor to The British Oxygen Company Limited, a British company

Filed Oct. 22, 1965, Ser. No. 501,797

Claims priority, application Great Britain, Oct. 28, 1964, 17,648/64

Int. Cl. G05b *1/01, 11/32*

U.S. Cl. 250—202 6 Claims



A device for tracing or following a boundary between two areas of dissimilar optical reflectivities comprises two photocells oscillated in unison transversely to that portion of the boundary which is aligned with the photocells. The signals from the cells are combined to give a signal used to steer the device back to the boundary when it deviates from it.

3,441,736

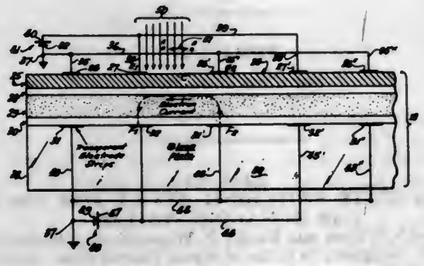
IMAGE INTENSIFIER INCLUDING SEMICONDUCTOR AMPLIFIER LAYER

Benjamin Kazan, Pasadena, and John S. Winslow, Altadena, Calif., assignors to Electro-Optical Systems, Inc., Pasadena, Calif., a corporation of California

Filed June 1, 1965, Ser. No. 460,193

Int. Cl. H01j *39/12*

U.S. Cl. 250—213 18 Claims



A solid state light image intensifier including preferably a photoconductor layer arranged to receive a source of light. A semiconductor solid state amplifier in the form of a layer of semiconductor material is disposed adjacent the photoconductor layer. On the opposite side of the photoconductor layer is an electroluminescent layer. Separating the photoconductor layer from the semiconductor amplifier layer is an insulator layer. A plurality

of electrodes are placed on the exposed surface of the photoconductor layer and the electroluminescent layer. These electrodes are maintained at different D.C. potentials. The photoconductor develops an intensified light emission corresponding to light variations received by the photoconductor.

3,441,737

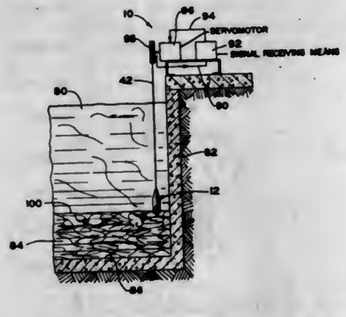
RADIATION SENSITIVE SLUDGE LEVEL TESTING DEVICE

George J. Topol, Hamilton, Ontario, Canada, assignor to Bowser, Inc., Cookeville, Tenn., a corporation of Indiana

Filed June 10, 1965, Ser. No. 462,810

Int. Cl. G01n *21/26*

U.S. Cl. 250—218 5 Claims



The sludge level in a settling tank is indicated by a device containing a light source and a light sensitive device spaced and positioned so that light from the source passes through the sludge toward the light sensitive device. An electrical circuit is connected to the light sensitive device for producing an electrical and audible signal having a frequency indicative of the sludge concentration.

3,441,738

SLUB-CATCHER FOR THREADS WITH ESSENTIALLY ONE-DIMENSIONAL LIGHT SOURCE AND SENSOR LOCATED IN PLANE PERPENDICULAR TO THREAD

Peter Dosch, im Rank, Jona, and Karl Galia, Wattwil, Switzerland, assignors to Heberlein & Co. AG, Wattwil, Switzerland, a corporation of Switzerland

Filed July 13, 1966, Ser. No. 564,922

Claims priority, application Germany, July 24, 1965, H 56,684

Int. Cl. G01n *21/30*

U.S. Cl. 250—219 7 Claims



1. Apparatus of the class described for sensing variations in cross-section of relatively linearly advancing threads comprising light transmitter means and light receiver means arranged so that the thread advances therebetween, said transmitter and receiver means each approximating linear configurations and having their longitudinal axes in a plane perpendicular to the axis of the advancing thread.

3,441,739

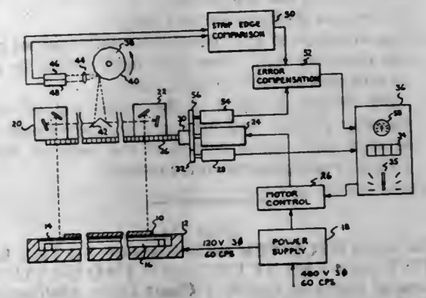
WIDTH GAGE WHICH GENERATES PULSE WIDTH PROPORTIONAL TO DEVIATION FROM DESIRED WIDTH

Robert C. Clark and Jerry M. Jones, Roanoke, Va., assignors to General Electric Company, a corporation of New York

Filed Feb. 1, 1968, Ser. No. 702,311

Int. Cl. G01n *21/30*; H01j *3/14*

U.S. Cl. 250—219 6 Claims



For measuring strip width deviation, a gage including a polygonal drum with peripheral mirrors. As the drum rotates perpendicularly to the strip edges, the peripheral mirrors "scan" across the edges through intermediate mirrors. The mirrors reflect the "scanned" view to photosensitive circuits which generate a first signal when one edge is sensed and a second signal when the opposite edge is sensed. If the first signal appears first, a first current source is energized. If the second signal appears first, another current source is energized. Both current sources are de-energized when both the first and second signals have appeared. The magnitude and polarity of the current produced indicates the magnitude and type of width deviation. Modified gages permit infrared scanning and and scanning of extremely narrow strips.

3,441,740

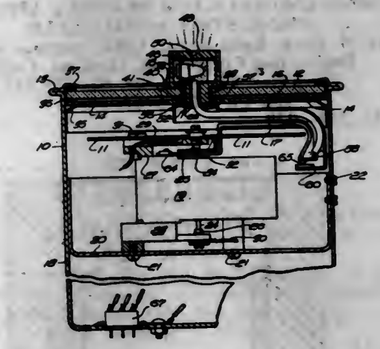
INDICATING METER RELAY WITH PHOTOELECTRIC MEANS FOR SENSING THE OVERLAPPING OF INDICATING POINTER OVER SET POINTER

Richard J. DeCloux, Manchester, and John Robert Madsen, Concord, N.H., assignors to Beede Electrical Instrument Co., Inc., Penacook, N.H., a corporation of New Hampshire

Filed Sept. 12, 1966, Ser. No. 578,756

Int. Cl. G01d *5/34*; H01j *5/16*; G08b *21/00*

U.S. Cl. 250—231 8 Claims



1. An indicating instrument relay, comprising:
an indicating meter movement having a fixed scale and an indicating pointer pivotally mounted on the front thereof and rotatable about a predetermined axis, said indicating pointer cooperating with said

scale to present a visual indication of the value of a variable being measured;

a pivotally mounted set pointer extending radially outwardly from and rotatable about said axis, said set pointer cooperating with said scale to provide a visual indication of the position thereof;

photosensitive means for providing a predetermined signal in respsonse to a change in illumination, said photosensitive means being fixedly attached to the outer end of said set pointer;

a light source positioned o said axis;

means attached to and coextensive with said set pointer for directing light from said light source in a path to said photosensitive means; and

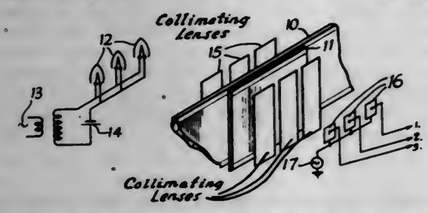
a vane fixedly attached to the outer end of said indicating pointer and arranged for movement in an arcuate path which intersects the path of light directed to said photosensitive means.

3,441,741

SYNCHRO RECEIVER RESPONSIVE TO THE RELATIVE MOVEMENT BETWEEN TWO GRATINGS

Conrad Reginald Cooke, 1 Court Drive, Shillingford, Oxford, England

Filed Sept. 28, 1964, Ser. No. 399,585
Int. Cl. H01j *39/12, 3/14, 5/16*
U.S. Cl. 250—237 **12 Claims**



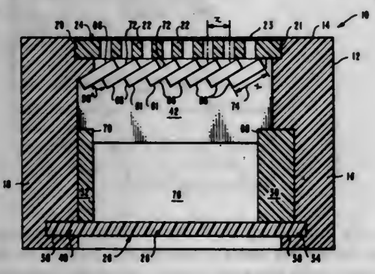
An apparatus which is responsive to relative movement between two members. Such movement is caused to produce relative movement between movement between wo optical or magnetic gratings which in turn produces a moving pattern of interference fringes. Movement of the fringe pattern is detected by means which produce a plurality of alternating current signals modulated in accordance with the fringe movement and these signals are modified to provide a set of signals capable of operating synchro type receivers which in turn may be used to exercise a control function on the relative movement of the members.

3,441,742

HOUSING AND RACK FOR READOUT APPARATUS USING STRIP PHOTOCELLS

Jeffrey M. Bevis, Long Beach, Calif., assignor to Chalco Engineering Corporation, Gardena, Calif.

Filed Mar. 23, 1967, Ser. No. 625,542
Int. Cl. H01j *5/02, 39/12*
U.S. Cl. 250—239 **6 Claims**



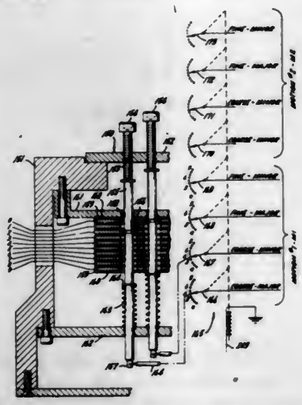
In order to use strips of photocells in a perforated tape readout apparatus when the strips have a width which is greater than the size of the perforations plus the separation between perforations, a rack and housing are disclosed which mount the strips in stepped relation at an angle to the plane of the tape. Thus, the strip width projection in the plane of the tape of each strip of photocells does not exceed the desired amount.

3,441,743

SELECTOR SWITCH FOR MULTIPLE CIRCUIT CONTROL

Robert P. Carroll, Chicago, Ill.
(1315 E. Randolph Court, Milwaukee, Wis. 53212)

Original application Mar. 15, 1965, Ser. No. 439,693, now Patent No. 3,361,231, dated Jan. 2, 1968. Divided and this application Sept. 15, 1967, Ser. No. 680,277
Int. Cl. H02j *1/00, 3/00*
U.S. Cl. 307—28 **3 Claims**



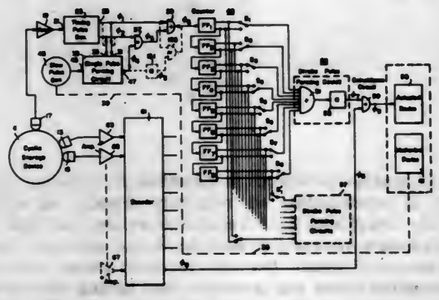
A selector switch for multiple circuit control having a number of planes of conductors arranged side by side. Each plane of conductors contains a number of individual conductors electrically separate from one another. A number of selectors are arranged in alignment with each plane of conductors. Each selector can be moved relative to the conductors to connect any one of the conductors in its plane with its outlet terminal. Screws engage the selectors and extend through an apertured plate in the switch housing to facilitate movement of the selectors.

3,441,744

SYNCHRONIZED CONTROL SYSTEM FOR SLOW MOVING EQUIPMENT

David S. Noble, Carpinteria, Calif., assignor to Noble Electronics Inc., Carpinteria, Calif., a corporation of California

Filed Feb. 19, 1968, Ser. No. 706,430
Int. Cl. G05b *13/02, 15/02, 19/16*
U.S. Cl. 307—40 **10 Claims**



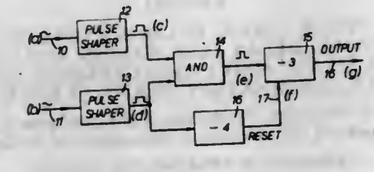
A cyclic electronic circuit, such as a binary counter, is operated in synchronism with a cylic high speed storage device, such as a magnetic drum, sonic delay line or shift registers operated in a cyclic manner, to generate different strobe pulses for each and any or all of its states corresponding to any desired points in the cycle of the storage. The cyclic circuit is synchronized with the storage by means of a reference or timing pulse channel in or coupled to the storage unit in such a manner that pulses are added to the timing pulses or timing pulses are subtracted from the series of timing pulses in accordance with a slow speed pulse generator coupled to the slow moving physical equipment. The movement of the slow moving physical equipment will thus cause a precession of the cyclic circuit and its associated strobe pulses with respect to the storage unit.

3,441,745

APPARATUS FOR FREQUENCY AND PHASE COMPARISON OF TWO PERIODIC SIGNALS

John R. Reeves, Billericay, and David Charles Sanders, Romford, England, assignors to The Plessey Company Limited, Ilford, England, a British company

Filed Apr. 30, 1965, Ser. No. 452,149
Claims priority, application Great Britain, May 7, 1964, 19,090/64
Int. Cl. H02j *3/00*
U.S. Cl. 307—87 **4 Claims**



Apparatus for the frequency and phase comparison of two periodic signals including means for producing two pulse trains, each corresponding in frequency and phase to one of the periodic input signals, the pulses of the two pulse trains having the same fixed duration irrespective of the periodic input signals, a coincidence gate to which the two pulse trains are applied and which affords an output pulse whenever a pulse in one train overlaps a pulse in the other pulse train, a first scaler circuit to which the said output pulse is fed, the first scaler circuit delivering an output pulse whenever it reaches a position corresponding to its maximum stored count and capable of being reset to its initial or zero count by means of a reset pulse, and a second scaler circuit having a division factor greater than that of the first scaler circuit, said second scaler circuit being fed from one of said periodic pulse trains and effective for affording a reset pulse for resetting the first scaler circuit.

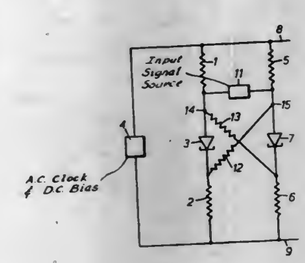
3,441,746

CLOCKED BISTABLE TUNNEL-DIODE LOGIC CIRCUIT

Christopher Paradine, London, England, assignor to Elliott Brothers (London) Limited, London, England, a British company

Filed Oct. 21, 1965, Ser. No. 500,134
Claims priority, application Great Britain, Oct. 23, 1964, 43,245/64
Int. Cl. H03k *19/10*
U.S. Cl. 307—206 **1 Claim**

A tunnel diode logic circuit comprises two tunnel diodes connected in parallel between two supply lines which are energised in anti-phase so as periodically to switch both tunnel diodes into their active state, and an input signal source which produces an input signal for switching one diode from the active state into one stable state and for switching the other diode from the active state into the other stable state according to the polarity of the input signal.



3,441,747

DETECTOR FOR BIPOLAR DIGITAL SIGNALS

Gilbert A. Van Dine, Middletown, N.J., assignor to Bell Telephone Laboratories, Incorporated, New York, N.Y., a corporation of New York

Filed Dec. 13, 1965, Ser. No. 513,424
Int. Cl. H03k *5/20*
U.S. Cl. 307—236 **19 Claims**

A circuit is developed for detecting bipolar signals from a magnetic tape. The circuit includes diodes for threshold detection and for steering positive and negative signals respectively to base and emitter electrodes of a transistor. The transistor is arranged to operate as a common-emitter amplifier and as a common-base amplifier respectively for positive and negative polarity signals. The transistor circuit acts as a current generator producing full-wave rectified output signals. A coil in the collector circuit differentiates output signals prior to peak detection by a current switch.

3,441,748

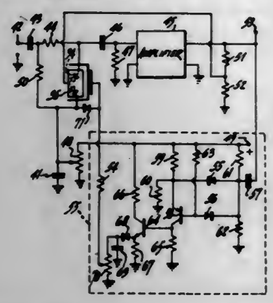
BIDIRECTIONAL IGFET WITH SYMMETRICAL LINEAR RESISTANCE WITH SPECIFIC SUBSTRATE VOLTAGE CONTROL

Richard E. Werner, Trenton, N.J., assignor to Radio Corporation of America, a corporation of Delaware

Filed Mar. 22, 1965, Ser. No. 441,495
Int. Cl. H03k *5/08, 3/26, 19/08*
U.S. Cl. 307—237 **4 Claims**

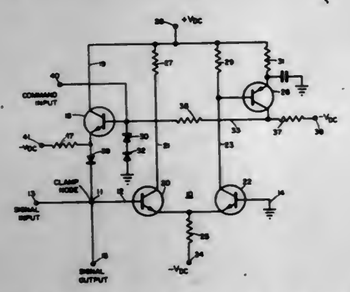
A voltage-controlled variable resistance circuit including an insulated-gate field-effect transistor in which linearity of signal translation is improved by coupling to the substrate of the transistor a portion of the signal voltage developed across its output electrodes, the portion

being given by the fraction $gm_O/2gm_{s_u}$ where gm_{s_u} represents the transconductance exhibited by the substrate



and where gm_O represents the transconductance exhibited by the substrate and gate when connected together.

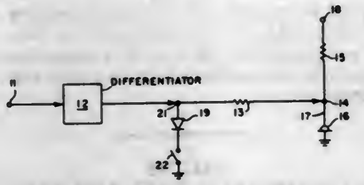
3,441,749
ELECTRONIC CLAMP
Amram Rasiel, Rockport, and William M. Henebry, Marblehead, Mass., assignors, by mesne assignments, to EG & G, Inc., Bedford, Mass., a corporation of Massachusetts
Filed Nov. 15, 1965, Ser. No. 507,871
Int. Cl. H03k 5/08
U.S. Cl. 307—237 3 Claims



A system for switching a source of recurrent pulses, selectively between an output and substantially zero potential by applying the recurrent signals simultaneously to an output terminal and to an operational amplifier. The operational amplifier being provided with a feedback loop having a series switch so that when the recurrent pulses are applied thereto, the operational amplifier will generate pulses of equal magnitude and frequency and opposite polarity with the equal and opposite pulses being applied to a junction point common to the input recurrent pulses, the output terminal, the feedback circuit and the input to the operational amplifier. Thus, when it is desired to utilize the recurrent pulses, the switch is opened to present a high impedance to the incoming signal and allow the incoming signals to be passed on to the output terminal.

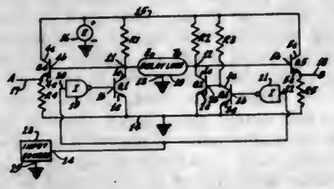
3,441,750
SELECTIVE CONTROL OF BISTABLE CIRCUIT WITH DIFFERENTIATED PULSES
Masao Kawashima, Shigehiko Hinoshita, and Maroshi Hoshino, Yokohama-shi, Japan, assignors to Fujitsu Limited, Kawasaki, Japan, a corporation of Japan
Filed Sept. 24, 1965, Ser. No. 490,037
Claims priority, application Japan, Sept. 26, 1964, 39/55,156
Int. Cl. H03k 17/58
U.S. Cl. 307—238 8 Claims

A differentiator to which a square wave read-in pulse is supplied provides a sharp positive trigger pulse at one of the leading and trailing edges of the read-in pulse and a sharp negative trigger pulse at the other of the leading and trailing edges of the read-in pulse. A control circuit comprising a diode and a switch connected in series circuit arrangement to a common point in the connection between the differentiator and a bistable circuit controls



the application of at least one of the positive and negative trigger pulses to the bistable circuit. The bistable circuit comprises a tunnel diode in series circuit arrangement with a resistor and a source of constant DC bias voltage. The positive trigger pulse triggers the bistable circuit to one stable state and the negative trigger pulse triggers such circuit to another stable state.

3,441,751
TWO PHASE CLOCK PULSE GENERATOR EMPLOYING DELAY LINE HAVING INPUT-OUTPUT MEANS AND CHARACTERISTIC IMPEDANCE TERMINATION MEANS AT EACH END
Gerald P. Benedict, Northridge, Calif., assignor to Radio Corporation of America, a corporation of Delaware
Filed Oct. 4, 1966, Ser. No. 584,227
Int. Cl. H03k 1/18
U.S. Cl. 307—262 6 Claims



1. A pulse generator for providing first and second output pulse sequences at first and second ends, respectively, of a delay line, said generator comprising

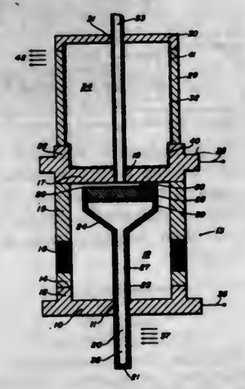
input signal means for providing first and second input voltage transitions,

first means responsive to said first input transitions to terminate said first end in the characteristic impedance of said line while simultaneously developing thereat the leading edges of said first ouput pulses,

said second means responsive to said second input transitions to terminate said second end in the characteristic impedance of said line while simultaneously developing thereat the leading edges of said second output pulses,

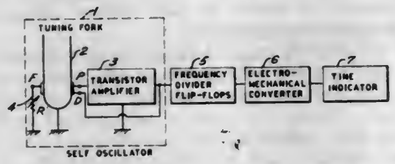
said first and second means further being responsive to said second and first input transitions, respectively, to terminate said first and second ends, respectively, in a short circuit whereby the trailing edges of said first and second output pulses are formed by the reflected and inverted forms of the corresponding leading edges of said first and second output pulses.

3,441,752
THERMIONIC CONVERTER DEVICE
George M. Grover, Los Alamos, N. Mex., Claus A. Busse, Laveno, and René Jean Coron, Ispra, Italy, assignors, by direct and mesne assignments, to the United States of America as represented by the United States Atomic Energy Commission
Filed Oct. 23, 1965, Ser. No. 504,269
Claims priority, application Germany, Dec. 14, 1964, E 28,353
Int. Cl. H02n 3/00
U.S. Cl. 310—4 4 Claims



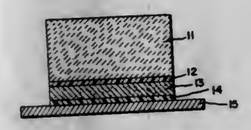
A thermionic converter or directly converting heat into electrical energy comprising an emitter, a collector, a first heat pipe for transferring heat from a heat source to the emitter surface, a second heat pipe for transferring heat away from the collector surface to a heat sink, tubular means for introducing an easily ionizable gas into the space between the emitter and collector and means enclosing the aforementioned elements.

3,441,753
ELECTRIC TIMEPIECE REGULATOR
Toshio Terayama, Tokyo, Japan, assignor to Kabushiki Kaisha Daini Seikosha
Filed July 19, 1967, Ser. No. 654,570
Claims priority, application Japan, July 26, 1966, 41/70,345
Int. Cl. H01v 7/02
U.S. Cl. 310—8.2 10 Claims



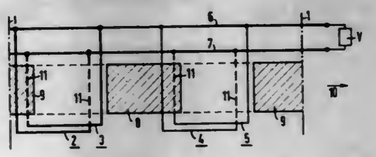
There is disclosed a regulator for an electric timepiece whereby the oscillation frequency of the frequency standard is selectively varied from the outside of the timepiece case by a variable resistor. Three piezoelectric electrode elements are secured to a tuning fork frequency standard. A transistor amplifier has its input connected to one of the electrodes and with its output fed back to a second of the electrodes. The variable resistor is connected between ground and the third electrode, whereby the oscillation frequency of the tuning fork is selectively varied in accordance with the resistance of the variable resistor.

3,441,754
BASE MOUNTED PIEZOELECTRIC TRANSDUCER ASSEMBLY HAVING INTERMEDIATE STRESS ABSORBING MEMBER
Steve Heny, Hublersburg, Pa., assignor to Linden Laboratories, Inc., State College, Pa., a corporation of Pennsylvania
Filed May 31, 1966, Ser. No. 554,124
Int. Cl. H01v 7/00
U.S. Cl. 310—9.1 2 Claims



A transducer assembly. The assembly has at least one polycrystalline ceramic piezoelectric transducer element bonded to at least one intermediate stress absorbing element which has a high tensile strength and a coefficient of thermal conductivity and a coefficient of thermal expansion which is substantially the same as that of the transducer element. The intermediate stress absorbing element is in turn bonded to a base.

3,441,755
DIRECT-CURRENT MACHINE
Erich Grünwald, Erlangen, and Wilhelm Kafka, Tennenlohe, Germany, assignors to Siemens Aktiengesellschaft, Berlin-Siemensstadt, Germany, a corporation of Germany
Filed Dec. 20, 1965, Ser. No. 515,105
Claims priority, application Germany, Dec. 18, 1964, S 94,680
Int. Cl. H02k 3/00, 23/26, 27/02
U.S. Cl. 310—10 9 Claims

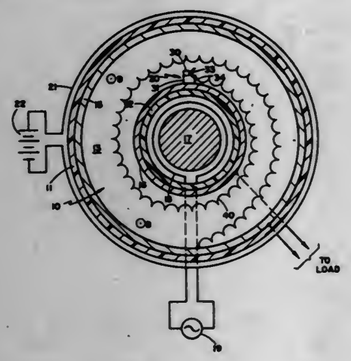


A direct current machine having a superconducting armature winding which has a plurality of sections includes a commutating arrangement which comprises apparatus for providing an operating magnetic field which is applied to the sections to cause a transition in the sections from the superconducting to the normally conducting state. Commutating poles provide a field through which the sections are passed to render them current-free. The sections are caused to alternate between the states by relative motion between the magnetic field and the sections to pass the sections through the magnetic field.

3,441,756
ELECTRICAL DEVICES
George S. Janes, South Lincoln, and Richard H. Levy, Boston, Mass., assignors to Avco Corporation, Cincinnati, Ohio, a corporation of Delaware
Filed Apr. 5, 1965, Ser. No. 445,357
Int. Cl. H02k 45/00
U.S. Cl. 310—11 17 Claims

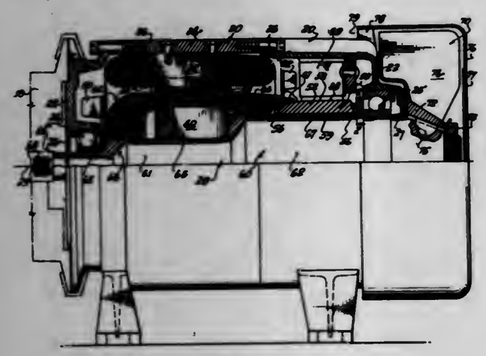
An electrical device of the crossed field type having a tubular geometry defining a highly evacuated region wherein electrons are injected into the region during

variation of a magnetic field in the region having a strength sufficient to provide an electron gyro radius in the region that is small compared to the size of the region



whereby electrons are trapped on "magnetic flux shells" and transported within the region in a generally radial direction.

3,441,757
COOLING OF DYNAMOELECTRIC MACHINES
John W. Erickson, Huntington Beach, Calif., assignor to Preco, Inc., Los Angeles, Calif., a corporation of California
Filed Aug. 7, 1967, Ser. No. 658,841
Int. Cl. H02k 9/06, 9/22
U.S. Cl. 310—62 11 Claims

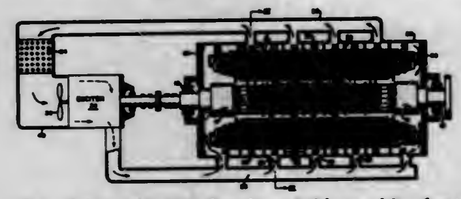


Heat generated in the rotor of a dynamoelectric machine, or at the commutator surface when a commutator is used, is transferred out of the machine housing by axial conduction within the shaft. For that purpose all or a large portion of the shaft cross-section is formed of a metal such as aluminum or copper having high heat conductivity. The invention is especially useful in machines having a flameproof housing.

Alternatively, especially in a machine having a short duty cycle, rotor heat may be transferred by conduction along the shaft to a body capable of absorbing a large fraction of the heat developed during a single cycle. That form of the invention is especially useful when cooling air is not available.

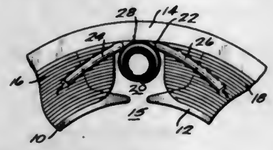
To facilitate conduction of heat from the commutator surface to the conductive shaft, the commutator segments are preferably separated from the shaft only by an insulating layer. That is accomplished by binding the segments together typically with glass roving impregnated with synthetic resinous material.

3,441,758
DYNAMOELECTRIC MACHINE COOLING ARRANGEMENT
Donald R. Albright, Allan C. Shartrand, and Albert J. Otteson, Scotia, N.Y., assignors to General Electric Company, a corporation of New York
Filed Feb. 3, 1967, Ser. No. 613,871
Int. Cl. H02k 9/14
U.S. Cl. 310—58 4 Claims



Gap-pickup dynamoelectric machine with shortened bearing span and reduced casing diameter made possible by having fans and part of cooling gas circuit external to casing said circuit is externally connected by conduits communicating through wrapper plate at a plurality of axially spaced locations.

3,441,759
LEAD ASSEMBLY
William H. Watkins, Jacksonville, Ark., assignor to Controls Company of America, Melrose Park, Ill., a corporation of Delaware
Filed Dec. 27, 1966, Ser. No. 604,953
Int. Cl. H02k 11/00
U.S. Cl. 310—71 9 Claims

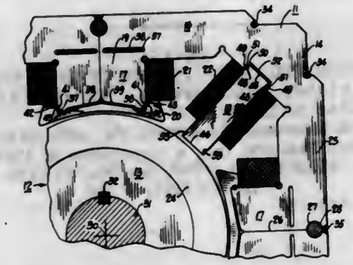


1. In a dynamoelectric machine,
means defining a winding channel,
first and second electrical windings each terminating in a terminal lead portion extending into said channel, said terminal lead portions arranged in relative spaced relationship in said channel,
holding means in said channel between said terminal lead portions and holding said terminal lead portions in spaced relation, said holding means characterized by having a normal configuration and a tendency to return to said normal configuration when deformed therefrom,
and said holding means arranged in said channel with a configuration deformed from said normal configuration and the force resulting from said holding means tending to return to said normal configuration being applied against said terminal lead portions and wedging said terminal lead portions in said channel.

3,441,760
FRAME FOR DYNAMOELECTRIC MACHINE WITH RELUCTANCE VARYING MAGNETIC SHIM SPACE
Granger H. Collens, Shaker Heights, Ohio, assignor to The Reliance Electric and Engineering Company, a corporation of Ohio
Filed June 29, 1967, Ser. No. 650,070
Int. Cl. H02k 5/04
U.S. Cl. 310—91 22 Claims

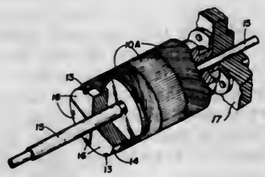
A dynamoelectric machine stator assembly having main poles and interpoles. The main poles are integral with the yoke, and pole shoes are fastened to the main poles with

keys and cooperating grooves. Slots in the yoke receive separate interpoles which are fastened to the yoke with keys and cooperating grooves. The interpoles have additional grooves on the distal ends whereby the interpole ends may be interchanged to obtain a different air space. Elongated narrow apertures are provided in the yoke op-



posite the main poles for receiving reluctance varying magnetic shims. Such shims may also be inserted in the bottom of the yoke slots receiving the interpoles and between the main pole faces and pole shoes. Foot locator notches and metal foot bars are provided on the lower part of the stator frame for accurately establishing the machine shaft height.

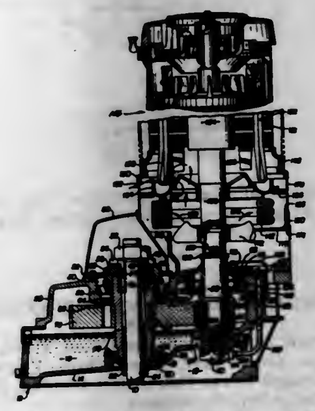
3,441,761
IRONLESS ROTOR FOR ELECTRIC MOTOR
Richard Clarence Painton and Clarence Albert Burke, Rochester, N.Y., assignors to Eastman Kodak Company, Rochester, N.Y., a corporation of New Jersey
Filed July 25, 1966, Ser. No. 567,671
Int. Cl. H02k 23/56, 15/04
U.S. Cl. 310—154 7 Claims



An ironless rotor is made by winding a length of wire about a form, separating the winding from the form, flattening the length of wire into a flat strip, and joining the ends of that flat strip of wire to form a hollow cylindrical rotor. Stationary ferromagnetic materials are positioned both inside and outside the ironless rotor to create magnetic flux paths. The ironless rotor is the only part of the electric motor which is movable relative to the motor frame.

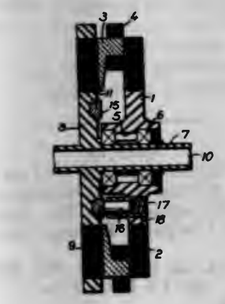
3,441,762
DEMOUNTABLE VERTICAL PUMP MOTOR WITH REDUCER GEAR, HEAT EXCHANGER, AND LUBRICATION SYSTEM
Frederick O. Luenberger, Los Angeles, and Charles J. Tucker, Santa Ana, Calif., assignors to Emerson Electric Co., St. Louis, Mo., a corporation of Missouri
Filed Mar. 31, 1966, Ser. No. 539,217
Int. Cl. H02k 7/116
U.S. Cl. 310—157 41 Claims

A combined motor and gear reduction mechanism is provided for low speed operation of a pump shaft. A hollow low speed driven shaft is supported by the casing and telescopes over the upper end of the pump shaft. An adjustment nut carried on the top of the pump shaft rests directly or indirectly on the hollow shaft. A high speed



driving shaft is supported in spaced parallel relationship to the driven shaft. Gears connect the shafts. A high speed motor is detachably mounted on the casing directly to connect with the high speed shaft.

3,441,763
SLIPRING MOTOR OR GENERATOR WITH AN AXIAL AIRGAP
Leonida Patrignani, deceased, late of Florence, Italy, by Nida Patrignani, nee Balasso; Anna-Maria Patrignani, and Sergio Patrignani, legal representatives, all of 23 Via Desiderio de Settignano, Florence, Italy
Filed Jan. 23, 1967, Ser. No. 611,175
Claims priority, application France, Jan. 24, 1966, 46,914
Int. Cl. 1/04, 3/00, 3/30
U.S. Cl. 310—179 5 Claims

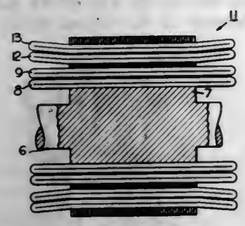


A slipring motor or generator with an axial airgap. The armatures of both stator and rotor are made of magnetic wire embedded in synthetic resin and the rotor winding is made of flat coils of wire embedded in synthetic resin and mounted on an end face of the rotor facing pole pieces of the stator.

3,441,764
MULTIPLEX GENERATOR SYSTEM
Franklin H. Grooms, and Paul D. Wagner, Cincinnati, Ohio, assignors to Allis-Chalmers Manufacturing Company, Milwaukee, Wis.
Filed June 1, 1965, Ser. No. 460,379
Int. Cl. H02k 3/00, 19/00
U.S. Cl. 310—198 5 Claims

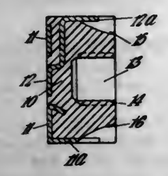
A generator having a single rotating element and a single stationary element capable of producing two inde-

pendent electrical powers. The stationary element and rotating element each having a pair of electrically insulated



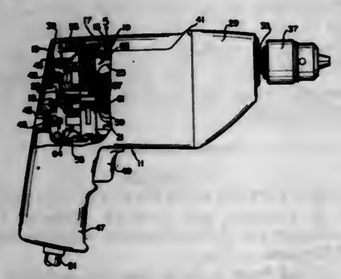
concentric radially aligned coil sets which are connected in a manner to provide a different number of poles for each coil set.

3,441,765
SLIPRING UNIT FOR DYNAMOELECTRIC MACHINES
Gordon Howard Maybury, Solihull, and Frank Woodward Moore, Great Barr, Birmingham, England, assignors to Joseph Lucas (Industries) Limited, Birmingham, England, a British company
Filed June 30, 1966, Ser. No. 561,894
Claims priority, application Great Britain, July 7, 1965, 28,748/65
Int. Cl. H01r *39/08*
U.S. Cl. 310—232 **1 Claim**



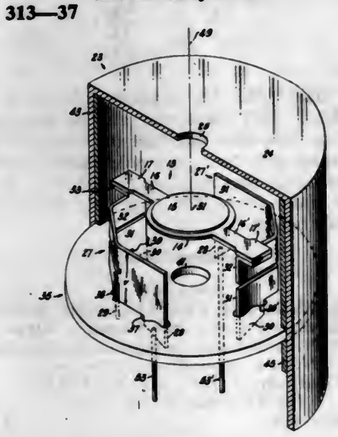
In a face-type slipring unit, an insulating body is provided which has a bore for engagement with one end of a shaft. Exposed on one end face of the body is a central conductor which extends within the body to within a slot formed in the periphery of the body, together with an annular conductor surrounding the first conductor and extending within the body to a second slot formed in the periphery of the body.

3,441,766
ELECTRICAL MOTOR BRUSH HOLDER ASSEMBLY
Carl J. Amrein, Baltimore, and Thaddeus E. Bednarski, Timonium, Md., assignors to The Black and Decker Manufacturing Company, Towson, Md., a corporation of Maryland
Filed Oct. 26, 1966, Ser. No. 589,716
Int. Cl. H02k *5/14*
U.S. Cl. 310—239 **12 Claims**



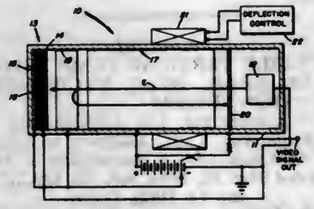
The device disclosed herein is a portable electric drill which includes a housing having an electric motor therein and a pendant type handle rigid therewith. The motor drives a rotary spindle and chuck and is powered from an electrical source. A trigger switch is provided on the handle for motor control and current is delivered thereto through electrical brushes which engage a commutator. The brushes are carried by and form part of a novel brush holder assembly supported in a novel manner within the housing.

3,441,767
TENSIONED DIRECTLY HEATED CATHODE HAVING IMPROVED TEMPERATURE CHARACTERISTICS
Donald R. Kerstetter, Emporium, Pa., assignor to Sylvania Electric Products Inc., a corporation of Delaware
Filed Feb. 1, 1967, Ser. No. 613,150
Int. Cl. H01j *61/52*
U.S. Cl. 313—37 **3 Claims**



A directly heated cathode for use in a cathode ray tube whereof the cathode is a rapid warm-up structure in the form of a substantially planar metallic formation of continuous uniform thickness and differential widths tensioned in a free suspension manner between supporting means. The cathode is formed to have a defined high temperature section in the shape of a substantially circular central portion with an electron emissive coating disposed on one surface thereof. Extending in a substantially radial manner in diametrical opposition from the central high temperature portion, to effect reduced heat loss therefrom, are two heat loss deterrent sections of reduced width each having a cross sectional area to provide predetermined limited heat conduction therethrough.

3,441,768
CHARACTER GENERATOR
Donald J. Pugh and Bill C. Knisley, San Diego, Calif., assignors to Stromberg-Carlson Corporation, Rochester, N.Y., a corporation of Delaware
Filed June 15, 1966, Ser. No. 557,701
Int. Cl. H01j *31/48*
U.S. Cl. 313—68 **8 Claims**



An electron discharge device for generating a signal representative of selective characters or symbols wherein

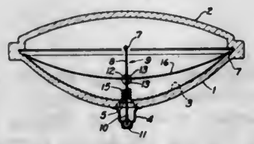
a charge pattern on a composite target is converted to an electrical signal representative of the characters or symbols, the composite target including a pin face plate and character matrix in contact therewith.

3,441,769
SLOTTED CONVERGENCE CUP ELECTRODE FOR COLOR TELEVISION TUBE WITH FLANGED RIM SNUBBER SPRINGS, AND HAVING FLANGED MAGNETIC POLE PIECES THEREIN
Jay H. Johnson, Owensboro, Ky., assignor to Kentucky Electronics Inc., Owensboro, Ky., a corporation of Delaware
Filed Apr. 26, 1967, Ser. No. 633,822
Int. Cl. H01j *29/46*
U.S. Cl. 313—84 **4 Claims**



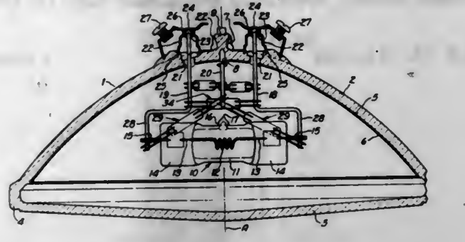
Uninterrupted flanges are provided to extend outwardly around the top edge of a generally cylindrical thin walled non-magnetic convergence electrode body having a closed bottom, thus being shaped as a cup. Internally mounted Y-shaped shield inserts of magnetic material are affixed to the inner wall of the body, so that only six slots are needed for insertion of magnetic pole pieces, all spaced to pass through the walls between the top edge and closed bottom. Snubber springs are either affixed to the inside walls of the cup electrode or are offset to bypass the top edge flanges when affixed to the outside walls of the cup electrode.

3,441,770
ELECTRIC INCANDESCENT LAMP WITH SHOCK AND VIBRATION RESISTANT FILAMENT SUPPORT STRUCTURE
Wilfred H. Hough, Cleveland Heights, Ohio, assignor to General Electric Company, a corporation of New York
Filed Apr. 10, 1967, Ser. No. 629,461
Int. Cl. H01k *1/30*
U.S. Cl. 313—113 **8 Claims**



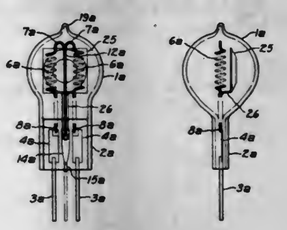
In an incandescent lamp, especially of the sealed-beam type, having a filament supported on lead-in wires which are tied together by a bridge and are formed below the bridge into spring portions which permit the filament, lead wires and bridge to flex as a unit in all directions, there is provided a resilient damper wire which extends transversely of the bridge with its ends engaging the bulb wall at opposite sides thereof and which has its mid-portion frictionally engaged by the bridge and held thereby in a depressed or bowed position.

3,441,771
LIGHT PROJECTION DEVICE AND LIGHT SOURCE SUPPORT MEANS THEREFOR
Murray Honeycutt, Lyndhurst, Ohio, assignor to General Electric Company, a corporation of New York
Filed Sept. 1, 1966, Ser. No. 576,680
Int. Cl. H01j *5/16;* **H01k** *1/28, 1/18*
U.S. Cl. 313—113 **7 Claims**



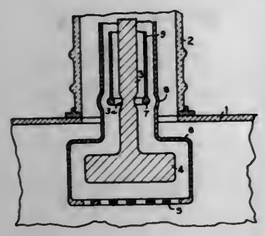
A light projection device having a compact double-ended electric lamp supported within a concave reflector transversely of the axis thereof by three rigid support wires fastened in the reflector and extending thereinto in triangularly disposed relation about the reflector axis, the lamp being connected across two of the support wires which serve as the current supply wires for the lamp and being additionally supported by a pair of rigid brace members fastened to the third support wire and to respective ones of the current supply wires adjacent their points of connection to the lamp lead-in conductors.

3,441,772
FILAMENT MOUNT STRUCTURE FOR ELECTRIC LAMPS AND MANUFACTURE THEREOF
John G. Cardwell, Jr., Kirtland, Ohio, assignor to General Electric Company, a corporation of New York
Filed May 12, 1967, Ser. No. 637,955
Int. Cl. H01k *3/20;* **H01j** *19/48*
U.S. Cl. 313—113 **8 Claims**



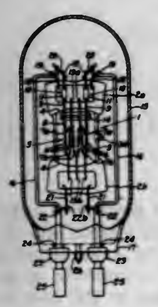
In a single-ended pinch seal lamp comprising a bulb of fused silica having a pinch seal at one end with a pair of parallel lead wires sealed therethrough and including thin foil portions hermetically sealed in the pinch and electrically connected to the ends of a coiled filament in the bulb which may also contain a metal reflector adjacent to the filament, a support wire member which includes a thin foil section is provided between the lead wires and includes a portion which extends into supporting relation to a portion of the filament or to the reflector or both so that, during assembly of the lamp, the support wire member is securely held in position, together with the lead wires, while the pinch seal is formed to hermetically seal all the foil sections and to embed adjacent portions of the lead wires and support wire member therein, after which the outer portion of the support wire member is severed at a point adjacent to the end of the pinch seal.

3,441,773
MERCURY VAPOR RECTIFIER HAVING A POTENTIAL CONTROL ELECTRODE IN LEAD-IN STRUCTURE
Karl Roth, Nussbaumen, Aargau, Elmar Anwander, Baden, and Max-Josef Schonhuber, Zurich, Switzerland, assignors to Aktiengesellschaft Brown, Boveri & Cie., Baden, Switzerland, a joint-stock company
Filed July 1, 1966, Ser. No. 562,172
Claims priority, application Switzerland, July 15, 1965, 9,960/65
Int. Cl. H01j *13/20*
U.S. Cl. 313—163 3 Claims



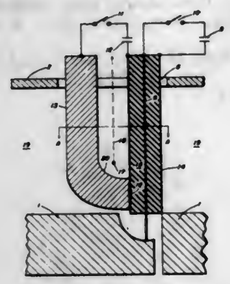
A mercury vapor rectifier structure features an anode structure which terminates in an enlarged head, the head being surrounded at a uniform distance by an imperforate grid sleeve which supports a control grid located between the underface of the anode head and the cathode, and there being an electrode disposed intermediate the shank portion of the anode and the grid supporting sleeve for potential control.

3,441,774
HALOGEN-CYCLE INCANDESCENT LAMP WITH PLANAR FILAMENT
Melvin L. Stone, Cleveland, and George K. Danko, Chesterland, Ohio, assignors to General Electric Company, a corporation of New York
Filed Dec. 12, 1966, Ser. No. 600,853
Int. Cl. H01j *19/68, 61/24*
U.S. Cl. 313—174 8 Claims



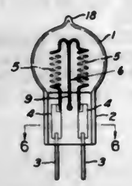
An incandescent halogen-cycle lamp embodying a planar type filament and unique supporting structure, wherein the compact lamp envelope has pinch seals at opposite ends and located in a plane which also generally contains the coiled segments of the planar filament which segments are supported from the pinch seals. The halogen lamp may be mounted inside an outer bulb or envelope through supplementary support wires embedded in respective pinch seals and connected to rigid lead-in and support members in the outer envelope.

3,441,775
DIPOLE CURRENT LEAD FOR A PLASMA CONTAINMENT DEVICE
Jay E. Hammel, Don A. Baker, Louis C. Burkhardt, Joseph N. Di Marco, Robert M. Henson, Hugh J. Karr, and John Marshall, Los Alamos, N. Mex., assignors to the United States of America as represented by the United States Atomic Energy Commission
Filed Oct. 31, 1966, Ser. No. 591,001
Int. Cl. H01j *17/26, 61/28*
U.S. Cl. 313—231 2 Claims



A device to provide current feed to an inner conductor of a plasma containment machine without introducing a field null and corresponding plasma leakage. The inner lead of a coaxial cable supplies current to said inner conductor and a conducting arm contacts the outside of the cable shield near but not in contact with said inner conductor thereby terminating the field null before contact with said inner conductor.

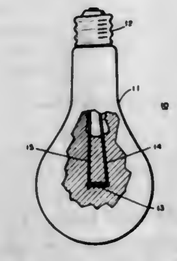
3,441,776
FILAMENT SUPPORT FOR INCANDESCENT ELECTRIC LAMPS
John G. Cardwell, Jr., Kirtland, Ohio, assignor to General Electric Company, a corporation of New York
Filed May 12, 1967, Ser. No. 637,954
Int. Cl. H01j *1/94*
U.S. Cl. 313—273 2 Claims



In a single-ended incandescent electric lamp, particularly of the high intensity halogen regenerative cycle type, comprising a sealed envelope of vitreous material containing a coiled filament and having a pinch seal at one end and a pair of lead-in conductors having portions thereof hermetically sealed in said pinch seal, the coiled filament is composed of sections which extend in generally side-by-side relation longitudinally of the envelope with their lower ends electrically connected to the lead-in conductors. The sections of the filament are physically separate segments, and their upper ends are supported by, and electrically connected together by, a support member preferably in the shape of an inverted double-J consisting of a length of wire formed as J-shaped wire sections arranged back-to-back. The stem portion of the double-J extends longitudinally between the filament segments, has its lower

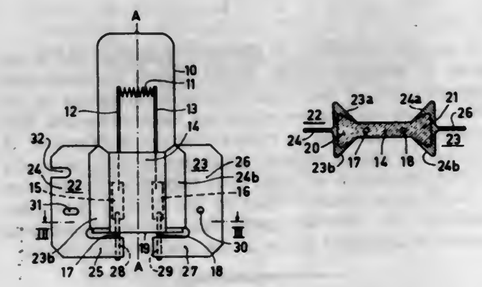
end embedded in the pinch seal, and has its upper hook-shaped ends fitted or threaded as supporting mandrels within the interior of respective helically coiled upper end portions of the respective filament sections.

3,441,777
ELEMENTS FOR INCANDESCENT DEVICES
Robert Steinitz, Harrison, N.Y., assignor to General Telephone & Electronics Laboratories Incorporated, a corporation of Delaware
Filed June 1, 1966, Ser. No. 554,422
Int. Cl. H01j *1/14, 19/06*
U.S. Cl. 313—311 9 Claims



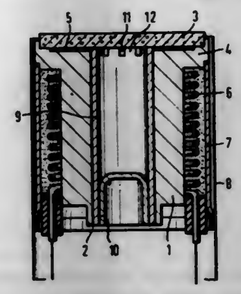
An incandescent lamp for operation at high temperatures wherein the filament and supports, as initially placed in the lamp envelope, comprise non-stoichiometric tantalum carbide having the general formula $(Ta,A)C_x$ where x is between 0.98 and 0.78, and A is an additive from the group zirconium, hafnium, niobium and titanium. By initially incorporating a filament of non-stoichiometric composition in the lamp, blackening of the lamp envelope is substantially reduced and the temperature coefficient of resistivity is lowered.

3,441,778
BASE FOR ELECTRIC LAMP
Claude Deles, Paris, France, assignor to Fabriques Reunies de Lampes Electriques, Camille Desmoulins, Issy-les-Moulineau, Hauts-de-Seine, France
Filed June 23, 1966, Ser. No. 559,815
Claims priority, application France, June 23, 1965, 21,924
Int. Cl. H01j *5/48, 5/50*
U.S. Cl. 313—318 4 Claims



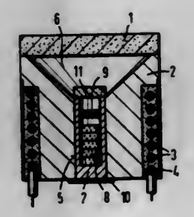
This invention concerns electric lamps with at least one end sealed in the form of a pinch which is generally rectangular in cross-section. The two edges of the pinch are thicker than the central portion and a current-supply member engages in heat-conductive contact only those edges, thus leaving the major portion of the pinch exposed for direct radiation of heat to the atmosphere.

3,441,779
CATHODE HAVING AN END FACE CARRIER FOR AN EMISSION SUBSTANCE AND THE PRODUCTION THEREOF
Erwin Hübner, Munich, Germany, assignor to Siemens Aktiengesellschaft, Munich, Germany, a corporation of Germany
Filed Apr. 6, 1966, Ser. No. 540,576
Int. Cl. H01j *1/14*
U.S. Cl. 313—346 4 Claims



A large-surface emitting cathode with a front-side emission substance carrier plate and a construction including two telescoped construction groups, the outer construction group comprising a mushroom-shaped cathode carrier, the emission material carrier plate being soldered or welded to the flange-like end of said cathode carrier, and the inner construction group being telescoped into the single opening of the outer construction group and comprises a sheet metal cylinder as a storage tank having a sealed bottom substantially curved inwardly and being welded at the bottom edge so that its tined upper edge bears against the emission material carrier plate.

3,441,780
INDIRECTLY HEATED DISPENSER CATHODE FOR ELECTRONIC DISCHARGE DEVICES
Arno Hinkeldey, Munich, Germany, assignor to Siemens Aktiengesellschaft, Berlin, Germany, a corporation of Germany
Filed Mar. 22, 1967, Ser. No. 629,858
Claims priority, application Germany, Mar. 29, 1966, S 102,855
Int. Cl. H01j *1/20, 19/14*
U.S. Cl. 313—346 6 Claims

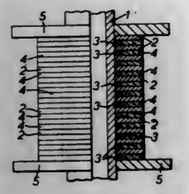


An indirectly heated cathode structure in which the primary cathode is provided with a bore in which an auxiliary cathode, constructed in the form of a cartridge containing a supply of emission substance, is disposed, such auxiliary cathode being inserted in the bore of the primary cathode body from the rear thereof, which insertion may follow mounting of the cathode body and heating means therefor in the associated electrode system.

3,441,781
MICROWAVE TUBE CATHODE OF THE BARIUM-CALCIUM ALUMINATE TYPE

Brian Frederick Cooper, Springfield, Chelmsford, England, assignor to English Electric Valve Company Limited, London, England, a British company

Continuation of application Ser. No. 445,348, Apr. 5, 1965. This application Jan. 4, 1968, Ser. No. 695,804
Claims priority, application Great Britain, May 11, 1964, 19,505/64
Int. Cl. H01j 1/14, 19/06; H01k 1/04
U.S. Cl. 313—346 2 Claims

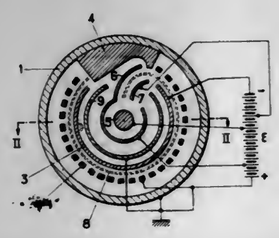


A microwave tube of the barium-calcium aluminate type comprises a stack of members of a metal selected from the group consisting of tungsten and molybdenum, assembled to leave narrow spaces between parts of adjacent members in the stack, and a filling comprising at least mainly aluminate in the spaces, the working surface of the cathode comprising areas which are at least mainly of aluminate separated by areas of the selected metal. The members may be annular with central holes fitted over a central support member, and may be separated by interspersed spacers of smaller diameter than the members so as to form gaps between the outer portions of the members which are filled with the aluminate material which may comprise a mixture of 40% by weight of barium-calcium aluminate mixture and 60% by weight of molybdenum or tungsten powder.

3,441,782
CROSSED-FIELD MICROWAVE DEVICES WITH GUN SHIELDING MEANS

Jacques Arnaud, Paris, France, assignor to CSF—Compagnie Generale de Telegraphie Sans Fil, a corporation of France

Filed Aug. 10, 1965, Ser. No. 478,576
Claims priority, application France, Aug. 26, 1964, 986,209
Int. Cl. H01j 25/34
U.S. Cl. 315—3.5 7 Claims

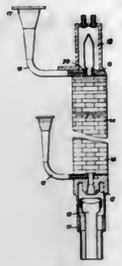


A crossed-field electronic tube comprising inside a metallic vacuum-tight envelope a delay line and an electrode called "sole," an interaction space therebetween, and an electron gun producing and injecting into the interaction space a beam of electron. According to the invention, an electro-static shield is located between the electron gun and the assembly of the delay line and the sole, the shield being biased at the potential of the envelope.

3,441,783
TRAVELLING WAVE AMPLIFIER TUBES

Neville Wreford Harris, Great Baddow, and Brian Geoffrey Hughes, Chelmsford, England, assignors to English Electric Valve Company Limited, a British company

Filed Nov. 8, 1965, Ser. No. 506,718
Claims priority, application Great Britain, Dec. 7, 1964, 49,789/64
Int. Cl. H01j 25/34, 19/80
U.S. Cl. 315—3.5 11 Claims

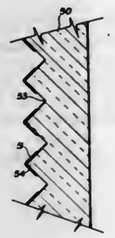


A travelling wave tube having a coupling device between its retarded wave structure and an associated output waveguide, the coupling device being of the coupling hole and tuning stub type having a shape which is not a circular shape symmetrical about the axis. Either the tuning stub or the coupling hole may be non-circular.

3,441,784
RIDGED DIELECTRIC WINDOW WITH TITANIUM SUBOXIDE SOLELY ON RIDGES

Oskar Heil, San Mateo, Calif., assignor, by mesne assignments, to Varian Associates, a corporation of California

Continuation of application Ser. No. 314,181, Oct. 7, 1963. This application Apr. 26, 1967, Ser. No. 634,438
Int. Cl. H01j 25/02
U.S. Cl. 315—5 12 Claims



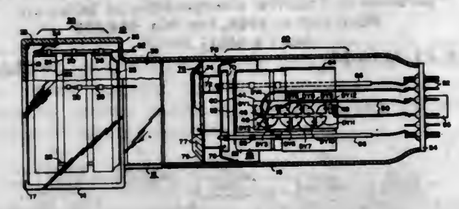
A window structure of dielectric material and transparent to electromagnetic fields present in microwave tubes and used in the output transmission system of the tubes has its surface on which the electromagnetic field is incident structured to reduce electron multipactor. A plurality of spaced peaked ridges are located along the dielectric surface at an angle with respect to the direction of the lines of force formed by the electric field components of the electromagnetic field. Titanium suboxide material is deposited solely at the peaks of the ridges.

3,441,785
TELEVISION CAMERA DEVICES

James L. Levan, Elmira, and James F. Nicholson, Pine City, N.Y., assignors to Westinghouse Electric Corporation, Pittsburgh, Pa., a corporation of Pennsylvania

Filed Oct. 5, 1964, Ser. No. 401,565
Int. Cl. H01j 31/48
U.S. Cl. 315—11 10 Claims

This invention relates to a television camera device illustratively including a photocathode element for emitting an electron image in response to an incident radiation image, an apertured member, an electron multiplier disposed remotely with respect to the photocathode element

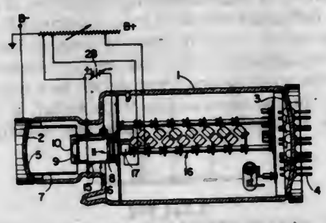


to receive electrons directed through the aperture of the member, and shielding means for allowing only those electrons which pass through the aperture to be directed upon the electron multiplier.

3,441,786
CAMERA TUBE HAVING A VARIABLE RESOLVING APERTURE

Robert H. Clayton, Fayetteville, N.Y., assignor to International Telephone and Telegraph Corporation, a corporation of Delaware

Filed Nov. 29, 1966, Ser. No. 597,618
Int. Cl. H01j 31/48, 29/41
U.S. Cl. 315—11 10 Claims

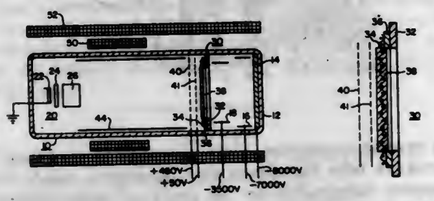


An image tube is provided with a variable apertured electrode wherein the image is focused onto the electrode and an adjustable electric field is applied thereto which varies the effective aperture size. The focusing of electrons of an increment of the image is not changed by variation of the aperture size.

3,441,787
SECONDARY ELECTRON CONDUCTION STORAGE SYSTEM

Gerhard W. Goetze and Alvin H. Boerio, Elmira, N.Y., assignors to Westinghouse Electric Corporation, Pittsburgh, Pa., a corporation of Pennsylvania

Filed Apr. 27, 1967, Ser. No. 634,304
Int. Cl. H01j 29/41, 31/48
U.S. Cl. 315—12 4 Claims

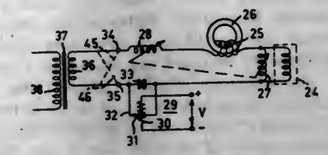


A secondary electron conduction target storage tube in which the secondary electron conduction material is disposed as a porous material upon a mesh support member and which fills the interstices of the mesh and covers both sides of the mesh.

3,441,788
CIRCUIT ARRANGEMENTS FOR DYNAMIC LATERAL CONVERGENCE

Rijk Hooghordel and Anthonie Jannis Moggre, Emmasingel, Eindhoven, Netherlands, assignors to North American Philips Co. Inc., New York, N.Y., a corporation of Delaware

Filed Dec. 20, 1966, Ser. No. 603,379
Claims priority, application Netherlands, Jan. 18, 1966, 6600602
Int. Cl. H01j 29/50
U.S. Cl. 315—13 13 Claims

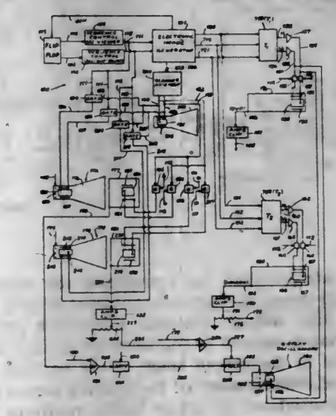


The device disclosed is a system for producing dynamic lateral convergence of one or more of the three electron beams of a wide angle color television display tube. The color tube includes a magnetic yoke arranged about the neck of the tube and one or more adjustable permanent magnets cooperating therewith to produce an adjustable static lateral convergence of the three electron beams. In addition, dynamic lateral convergence is applied to one or more of the electron beams by means of one or more coils arranged on the yoke to produce lateral convergence magnetic fields within the tube. An alternating current having a waveform which can be adjusted to compensate for various degrees of divergence of the three electron beams is supplied to said coils by means of a circuit including a saturable reactor connected in series therewith and to a winding of the horizontal deflection transformer.

3,441,789
MEANS AND METHOD FOR GENERATING SHADOWS AND SHADING FOR AN ELECTRONICALLY GENERATED DISPLAY

Lee Harrison III, 8343 E. Briarwood Place, Englewood, Colo. 80110

Continuation-in-part of application Ser. No. 607,078, Jan. 3, 1967. This application Jan. 12, 1968, Ser. No. 697,456
Int. Cl. H01j 29/70
U.S. Cl. 315—18 14 Claims



A network for generating voltages for modulating the intensity of the beam of a display oscilloscope which

itself is programmed by an electronic image generator. The electronic image generator produces X, Y and Z voltages corresponding to the continuous loci of all points of a three-dimensional subject. In one embodiment of the invention, these voltages are resolved into two sets of horizontal and vertical deflection voltages which are simultaneously fed to first and second scanning devices. The first scanning device has an output which modulates the intensity of the display beam to prevent overlap of parts of the display subject. The other scanning device has an output that modulates the intensity of the display beam according to shading produced by a light source viewing the display subject from the point of view of the light source. In another embodiment, overlap modulating voltages are stored in a first scan converter and shadow modulating voltages are stored in a second scan converter. On alternate display frames, the electronic image generator is sequenced in an order determined by the viewer's point of view and in an order determined by the light source point of view. In one frame, the voltages from the overlap prevention scanning device are combined with the stored shadow modulating voltages to modulate the beam of the display scope. In the next frame, the voltages from the stored overlap prevention storage device are combined with the generator shadow modulating voltages to modulate the beam of the display scope.

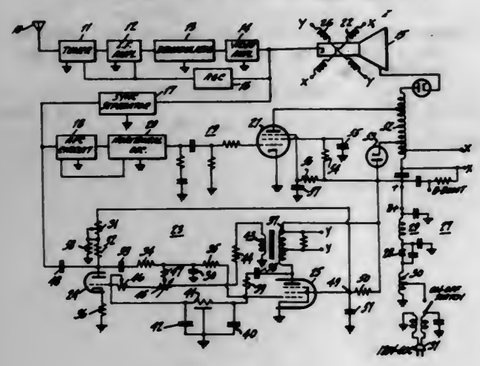
ERRATUM

For Class 315—27 see:
Patent No. 3,441,958

3,441,790
STABILIZATION OF TELEVISION DEFLECTION CIRCUITS

James A. McDonald and Paul C. Wilmarth, Indianapolis, Ind., assignors to Radio Corporation of America, a corporation of Delaware

Filed Nov. 15, 1965, Ser. No. 507,926
Int. Cl. H01j 29/70
U.S. Cl. 315—27 5 Claims

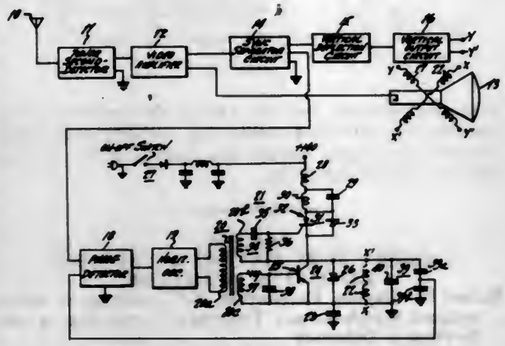


Means are provided for maintaining the aspect ratio of a television image substantially constant despite variations in power line voltage. Filtering means are provided for direct voltages applied to the linearity control and to the screen grid of the output stage of the vertical deflection circuit. The time-constant of the filtering means is selected such that variations in image height resulting from line voltage variations are reduced so as to be in substantially the same proportion with respect to variations in image width as the normal aspect ratio.

3,441,791
DEFLECTION CIRCUIT WITH BIDIRECTIONAL TRACE AND RETRACE SWITCHES

John B. Beck, Indianapolis, Ind., assignor to Radio Corporation of America, a corporation of Delaware

Filed Oct. 6, 1966, Ser. No. 584,698
Int. Cl. H01j 29/70
U.S. Cl. 315—27 16 Claims

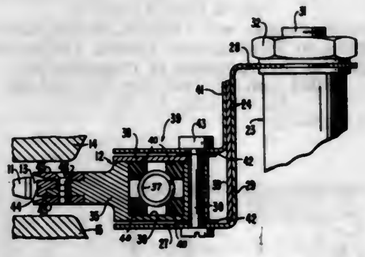


A solid state deflection circuit adapted for use in a television receiver. A bidirectionally conductive trace switch couples a deflection winding to a substantially constant voltage during the trace interval of each deflection cycle and a bidirectionally conductive retrace switch couples the deflection winding and trace switch to a primary voltage supply during retrace. The trace switch is turned off and energy is supplied to the deflection winding during retrace.

3,441,792
REVERSE MAGNETRON HAVING A TIE RING STIFFENING STRUCTURE FOR ITS CATHODE SUPPORT FINGERS

George E. Glenfield, Scotch Plains, N.J., assignor to S-F-D Laboratories, Inc., Union, N.J., a corporation of New Jersey

Filed July 8, 1966, Ser. No. 563,824
Int. Cl. H01j 25/50
U.S. Cl. 315—39.51 6 Claims

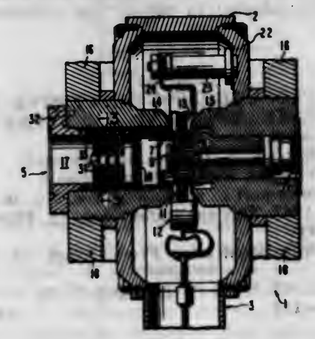


A reverse magnetron microwave tube is disclosed. The microwave tube includes a circular electric mode cavity resonator surrounded by an array of vane resonators coupled to the fields of the cavity resonator via an array of axially directed coupling slots communicating through the side wall of the cavity resonator. A thermionic cathode emitter concentrically surrounds the array of vane resonators for producing an electron stream for interaction with the fields of anode vane resonators. The cathode emitter is supported in concentricity with the anode vane resonators by means of a plurality of S-shaped spring fingers disposed at intervals about the outer periphery of the cathode emitter. A tubular tie ring is coaxially disposed of the cathode emitter and is fixedly secured to and circumferentially interconnects the axially directed central portions of the spring fingers to stiffen the spring supports, thereby suppressing certain mechanical resonant modes of vibration which otherwise render the tube microphonic.

3,441,793
REVERSE MAGNETRON HAVING A CIRCULAR ELECTRIC MODE PURIFIER IN THE OUTPUT WAVEGUIDE

Peter du Fosse, Cranford, and George E. Glenfield, Scotch Plains, N.J., assignors to S-F-D Laboratories, Inc., Union, N.J., a corporation of New Jersey

Filed July 8, 1966, Ser. No. 563,822
Int. Cl. H01j 25/50
U.S. Cl. 315—39.53 3 Claims



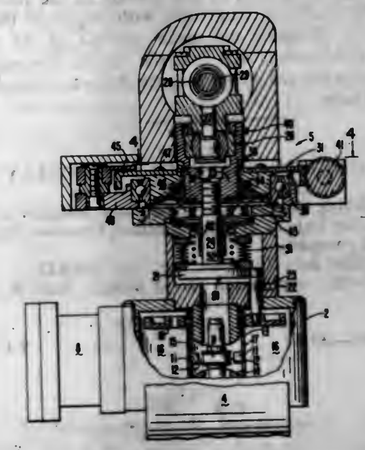
A reverse magnetron microwave tube is disclosed. The tube includes a circular electric mode cavity resonator surrounded by an array of vane resonators coupled to the fields of the circular electric mode resonator via the intermediary of an array of axially directed slots. A cathode emitter surrounds the vane resonators to define a magnetron interaction region therebetween. A magnetic circuit which includes a magnetic pole structure provides an axially directed magnetic field in the interaction region. The pole structure includes an axially directed bore containing a tubular output waveguide operable in the circular electric mode for coupling output wave energy from the circular electric mode cavity to a suitable load. A microwave window is sealed across the output waveguide internally of the magnetic pole structure. The output waveguide includes an array of slots communicating through the wall of the tubular waveguide to provide coupling between a lossy mode absorbing element and the fields of the waveguide for selectively absorbing wave energy of the non-circular electric mode in the waveguide, thereby purifying the output wave energy to the desired circular electric mode.

3,441,794
DITHER-TUNED TUNABLE MICROWAVE TUBE APPARATUS

Herbert H. Chun, Marblehead, Mass., assignor to Varian Associates, Palo Alto, Calif., a corporation of California

Filed June 15, 1966, Ser. No. 557,784
Int. Cl. H01j 25/50
U.S. Cl. 315—39.61 8 Claims

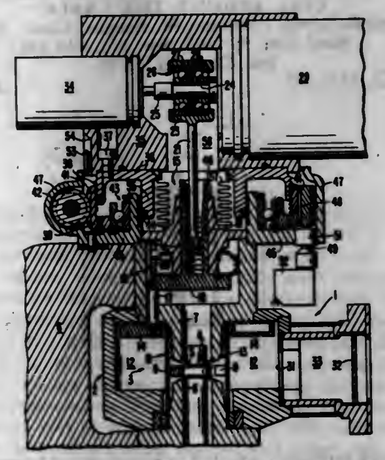
A dither-tuned microwave tube is disclosed. The tube includes a tuning mechanism for tuning the operating frequency to a certain center frequency within a certain relatively broadband of frequencies. A motor is coupled to the tuning mechanism through the intermediary of an eccentric cam on a crank shaft for oscillating the tuning structure at a relatively high frequency to dither the operating frequency over a narrow band of frequencies centered at the first certain frequency. The tuner structure includes an elongated actuating member coupled at one end to the motor and coupled at the other end to the tuning structure operating within the microwave circuit. Intermediate the length of the tuner actuating member includes a nut forming a first portion and a threaded rod mating with the nut forming the second portion and means for producing rotation of one of the members relative to the other, whereby the length of the activating mechanism is changed to change the frequency about which the tube is dithered.



3,441,795
DITHERABLE AND TUNABLE MICROWAVE TUBE HAVING A DITHERED TUNER ACTUATOR OF FIXED LENGTH

Richard M. Hynes, Westfield, and George E. Glenfield, Scotch Plains, N.J., assignors to S-F-D Laboratories, Inc., Union, N.J., a corporation of New Jersey

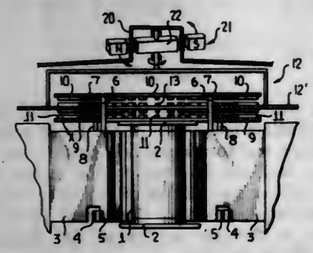
Filed June 24, 1966, Ser. No. 560,213
Int. Cl. H01j 25/50, 25/58
U.S. Cl. 315—39.61 9 Claims



A ditherable and tunable microwave magnetron tube is disclosed. The tube includes a microwave circuit for interaction with an electron stream to produce output

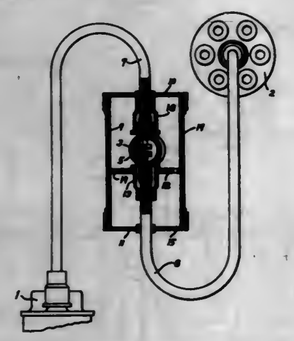
microwave energy. The tuning structure is disposed adjacent the microwave circuit for tuning the output wave energy. A tuner actuating rod mechanism is affixed to the tuning structure and extends outwardly of the tube through the tube's envelope. A dithering mechanism is affixed to the tunner actuating rod for diethering the tuning structure within the tube to diether the frequency of the output signal. The dithering mechanism is carried from a platform affixed to the outside of the tube's envelope. The platform is movable with respect to the tube envelope for changing the mean position of the tuning actuating mechanism such that the carrier frequency of the dithered outward signal may be shifted or tuned over a desired range.

3,441,796
MAGNETRONS HAVING CYCLICALLY VARYING FREQUENCIES
Brian Frederick Cooper, Essex, England, assignor to English Electric Valve Company Limited, London, England, a British company
Filed July 20, 1966, Ser. No. 566,612
Claims priority, application Great Britain, Aug. 9, 1965, 33,991/65
Int. Cl. H01j *25/50*
U.S. Cl. 315—39.61 **9 Claims**



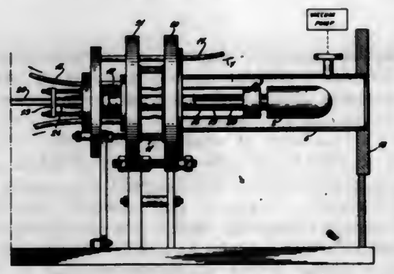
A strapped magnetron having each one of a pair of alternate anode connecting straps provided with discrete surfaces to cooperate with the surfaces of the other of the pair to constitute inter-strap capacitances. The magnetron is provided with a rotor having discrete conductive parts arranged so that, upon rotation, the parts traverse the dielectric spaces of, and vary the values of, the capacitances.

3,441,797
SPARK INTENSIFIER GAP WITH A TRANSFORMER COIL AROUND THE CABLE
Ralph R. Lewis, 3 Whitney St., Saugus, Mass. 01906
Filed Feb. 9, 1967, Ser. No. 614,858
Int. Cl. H01j *29/96*
U.S. Cl. 315—57 **1 Claim**



A spark intensifier adapted to be connected between the high voltage terminal of the ignition coil and the central terminal of a distributor head of an internal combustion engine comprising an auxiliary gap defined by a first electrode having a threaded shank connected through a wire to the high voltage terminal of the ignition coil and a second electrode spaced about 0.095 inch opposite said first electrode having a threaded shank connected through a wire to the central terminal of the distributor head, a cylindrical ring-shaped supporting member of acid-resistant, corona-resistant insulating material with diametrically opposite threaded holes into which the threaded shanks are screwed, enlarged heads having smooth, parallel faces preferably slightly concave, on said electrodes defining the adjacent ends of said electrodes, a coil of insulated copper wire having about 40 turns surrounding the threaded shank of the first electrode, preferably wound tightly and smoothly over the lead wire resulting in a cone-shaped coil close to ring-shaped supporting member, a cylindrical housing of acid-resistant, corona-resistant insulating material having a partition near the middle thereof adapted to support and center the second electrode, centrally apertured and walls on each end of the housing in alignment with the axis of the auxiliary gap adapted to maintain the auxiliary gap coaxial with the housing and perforations in the partition and in the end wall nearest the distributor, adapted to permit free circulation and change of air.

3,441,798
PLASMA GUN UTILIZING SUCCESSIVE ARCS FOR GENERATING AND ACCELERATING THE PLASMA
Didier Veron, 18 Rue Jean Mermoz, Villejuif, Val-de-Marne, France
Continuation-in-part of application Ser. No. 303,567, Aug. 21, 1963. This application Aug. 15, 1966, Ser. No. 572,414
Claims priority, application France, Sept. 19, 1962, 909,899
Int. Cl. H05b *31/26;* **H01j** *17/26*
U.S. Cl. 315—111 **1 Claim**



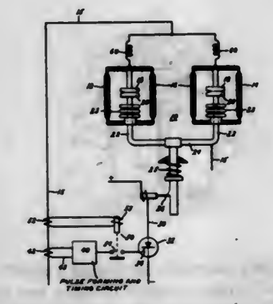
1. In a plasma gun of the coaxial type for the production and acceleration of a plasma obtained from a neutral gas, said gun having a first and a second coaxial cylindrical electrode of different diameters between which a steady potential is applied, said gun also having a device for the preliminary ionization of said gas including a third cylindrical electrode coaxial with said first and second electrodes and a source of electrical impulses connected between said first and third electrodes, the preliminarily ionized gas to serve for the triggering of a high energy discharge between said first and second electrodes to accelerate said plasma and drive it out of said gas, the improvement wherein:
   (a) said first and third electrodes are located within said second electrode and are axially offset from one another to define a radially extending preliminary ionization chamber;
   (b) means are provided to inject a predetermined quantity of gas for ionization generally centrally of said radially extending preliminary ionization chamber whereby said injected gas expands into a radial ring of plasma in said radially extending chamber under said preliminary ionization and comes in contact with said second electrode whereby triggering said high energy discharge between said first and second electrodes causes ejection of said plasma axially of said electrodes and outwardly of said gun; and
   (c) wherein the forward end of said third electrode is rounded.

3,441,799
RECEPTACLE OVERLOAD SWITCH
Kenneth M. Delafrange, 96 Washington Ave., Westwood, N.J. 07675, and Max Rappaport, River Edge, N.J.; said Rappaport assignor to said Delafrange
Filed Dec. 20, 1965, Ser. No. 515,043
Int. Cl. H02h *3/08*
U.S. Cl. 317—9 **6 Claims**



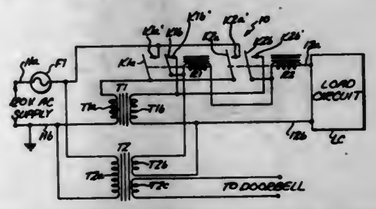
A movable protection switch for preventing unnecessary delays and safety hazards in correcting domestic power overloads. A pivotable arm is maintained in a first position by natural magnetic attraction whereby the power circuit is uninterrupted. When an overload occurs, current flow creates an electro-magnetic field to pivot the arm to a second position which "breaks" the circuit. After the overload is corrected, the arm can be manually reset to the first position.

3,441,800
ELECTRIC CIRCUIT BREAKER COMPRISING PARALLEL-CONNECTED INTERRUPTERS
Thomas H. Lee, Nether Providence, Pa., assignor to General Electric Company, a corporation of New York
Filed Jan. 12, 1967, Ser. No. 608,899
Int. Cl. H02h *3/08, 7/00*
U.S. Cl. 317—11 **12 Claims**



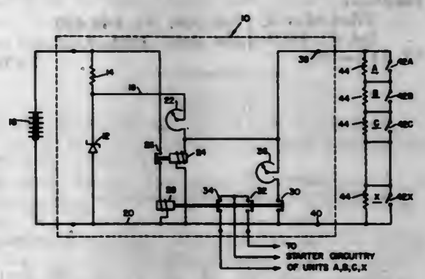
An alternating current electric circuit breaker comprising parallel-connected interrupters and opening means for parting the contacts of the interrupters substantially simultaneously. The opening means is controlled by current sensing means that consistently prevents the contacts from parting on opposite sides of current zero in the alternating current through the circuit breaker. In the event that a high current is improperly shared by the parallel interrupters during a high current interruption, the parallel-connected interrupters are immediately reclosed, and another interruption is initiated.

3,441,801
ELECTRICAL DISTRIBUTION SYSTEM
Arthur A. Kraus, Sr., Joliet, Ill., assignor to Electronic Safety Controls Inc., Joliet, Ill., a corporation of Illinois
Continuation of application Ser. No. 523,101, Jan. 26, 1966. This application Feb. 14, 1968, Ser. No. 705,563
Int. Cl. H02h *3/00, 7/26*
U.S. Cl. 317—18 **13 Claims**



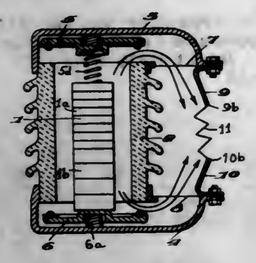
An ungrounded electrical power supply system is described. The power supply includes an isolation transformer for converting the common ground supply to an ungrounded supply and a circuit for rendering the isolation transformer active only in the presence of a load. Means are also provided for sensing the condition of an accidental ground in the ungrounded system.

3,441,802
VOLTAGE RESPONSIVE RELAY TYPE QUANTIZER FOR MONITORING PLURAL SOURCES
Robert W. Bradley, Howard County, Md., assignor to Powercon, Inc., Severn, Md., a corporation of Maryland
Filed Dec. 20, 1966, Ser. No. 603,249
Int. Cl. H02h *3/12, 3/26*
U.S. Cl. 317—31 **4 Claims**



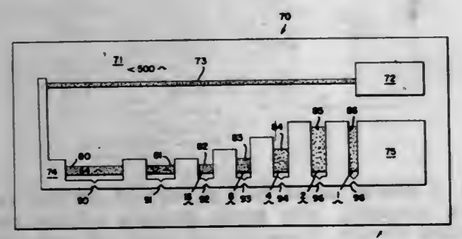
1. A monitor circuit for a plurality of electrical devices, comprising, relay means having a coil and coil actuated contacts, resistances associated with each said electrical device, contact means across each resistance closed when its respective device is operating and open when its respective device is non-operating, said resistances being in a series connection circuit, with said series connection circuit being connected across said relay coil, a constant voltage source, adjustable means for serially feeding electric current from said constant voltage source to said relay coil to energize said relay coil, adjustable means for bypassing current around said relay coil, one pair of said coil operated relay contacts being connected to open said bypassing current flow and other pairs of relay contacts for further utilization with said electrical devices.

3,441,803
LIGHTNING ARRESTER
Hanspeter Christener, Ennetbaden, Switzerland, assignor to Aktiengesellschaft Brown, Boveri & Cie, Baden, Switzerland, a joint-stock company
Filed Sept. 9, 1966, Ser. No. 578,204
Claims priority, application Switzerland, Sept. 17, 1965, 12,913/65
Int. Cl. H02h 1/04
U.S. Cl. 317—65 6 Claims



A lightning arrester comprises a stack of arrester components such as arc quenching gaps and resistances enclosed within a housing which is closed at both ends by spring-loaded valve plates but which open in response to creation of an over-pressure within the housing and vent the gases through a discharge channel to atmosphere. The mouth of each discharge channel is normally blocked by a cover strip but the free ends of these cover strips are bent when subjected to the over pressure within the housing in a direction towards each other to establish electrodes between which an arc can be struck outside of the housing. The bent strips also serve as a visual signal that the arrester has faulted.

3,441,804
THIN-FILM RESISTORS
Jack W. Klemmer, Costa Mesa, Calif., assignor to Hughes Aircraft Company, Culver City, Calif., a corporation of Delaware
Filed May 2, 1966, Ser. No. 546,650
Int. Cl. H02b 1/04, 9/00; H01c 7/08
U.S. Cl. 317—101 7 Claims



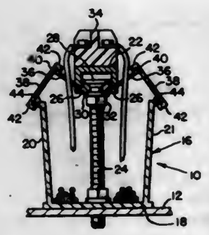
The disclosed thin-film resistors include a basic resistor intercoupled with a network of selectively intercoupled individual trimming resistors which add or subtract selected increments of resistance to that of the basic resistor. The smallest value trimming resistor provides a predetermined impedance Z_1, while each other trimming resistor provides an impedance equal to a different power of two times Z_1. A severable electrical conductor is associated with each trimming resistor to selectively effectively electrically connect or not connect the associated resistor into the network. The trimming resistors may be connected in series, with each severable conductor in parallel with a different trimming resistor; or the trimming resistors may be connected in parallel, with each severable conductor in series with a different trimming resistor.

3,441,805
PROCESS AND PRODUCT FOR INTERCONNECTING INTEGRATED CIRCUITS
Kendall G. Paulson, Santa Ana, Calif., assignor to Electronic Engineering Co. of California, Santa Ana, Calif., a corporation of California
Original application Apr. 15, 1965, Ser. No. 448,314. Divided and this application June 28, 1967, Ser. No. 659,257
Int. Cl. H02b 1/04
U.S. Cl. 317—101 14 Claims



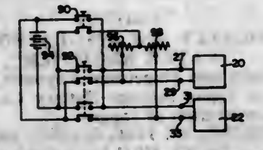
An article of minimum bulk for interconnecting plural flat integrated circuits. Plural similar metallic combs have selected fingers and spaced parallel central electrical connections, with attached insulation. Plural integrated circuits are positioned with external connections horizontally aligned with selected fingers of the combs, which fingers are slightly bent vertically and are conductively bonded to the external connections of the integrated circuits. All combs can be positioned on one side of the flat packs, allowing a heat sink to directly contact the same. The interconnected structure can be provided with external connection pins and all save the pins encapsulated. The central connections can be segmented.

3,441,806
PANEL BOARD WIRING CHANNEL WITH RIGIDLY FIXED SUPPORT FOR TERMINAL STRIPS
Allan H. Schwing, 111 St. Regis Drive N., Rochester, N.Y. 14618
Filed Apr. 10, 1967, Ser. No. 629,777
Int. Cl. H02b 1/06, 9/00
U.S. Cl. 317—122 3 Claims



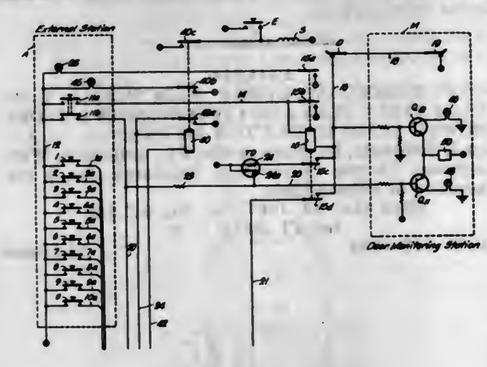
A channel wiring assembly including a rigidly fixed support for terminal strips, control devices and the like extending centrally along the channel opposite from the base of the channel, and including laterally extending longitudinally spaced fingers shaped and positioned to cooperate with the free edges of the side walls of the channel for supporting and releasably securing a cover panel between the free ends of the fingers and the side walls of the channel.

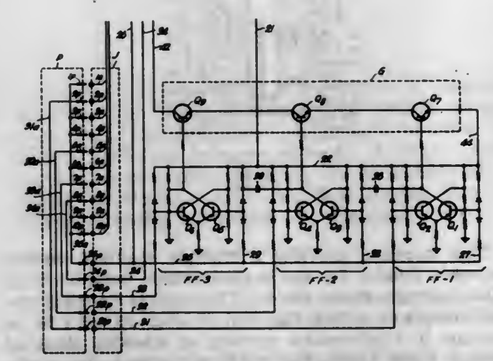
3,441,807
FLUX TRANSFER LIFTING APPARATUS
Lester G. Tubbs, Pittsburgh, Pa., assignor to Westinghouse Electric Corporation, Pittsburgh, Pa., a corporation of Pennsylvania
Filed July 19, 1966, Ser. No. 566,350
Int. Cl. H01h 47/12
U.S. Cl. 317—123 4 Claims



Lifting apparatus of the permanent magnet type is disclosed wherein a permanent magnet is utilized to supply a majority of its flux to either a keeper or to a magnetic load desired to be lifted. A control winding is utilized for determining which path receives the majority of flux with the direction and magnitude of the control signal provided to the control winding determining the load lifting and load dropping operation of the apparatus.

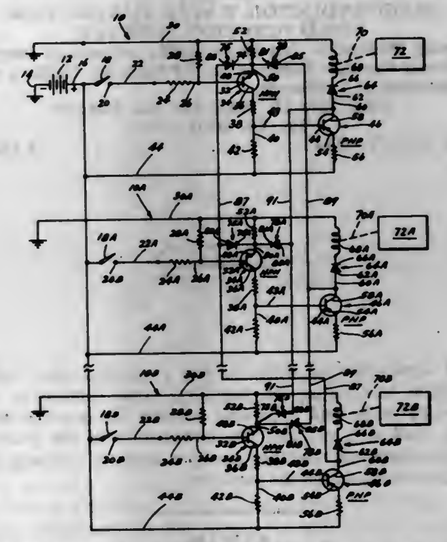
3,441,808
ELECTRONIC DOOR LOCK AND SUPERVISORY SYSTEM
Charles V. Crane, 605 W. Oak, Olathe, Kans. 66061
Filed Oct. 23, 1965, Ser. No. 503,618
Int. Cl. H01h 47/14
U.S. Cl. 317—134 16 Claims





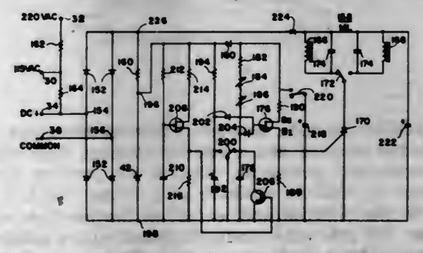
An electronic control and supervisory system provides control and supervision of a normally locked access door. The door can only be opened by those having knowledge of a predetermined arbitrary "combination" or code. The system has a plurality of bistable flip-flop circuits which are either in a register or a reset condition, depending upon the selection of certain digit switches, however, prior to utilization of the switches, all circuits are simultaneously placed in the reset condition. The flip-flops, when all are in the register condition, enable a gate circuit which is used to assist in the activating of a lock releasing door relay circuit.

3,441,809
ELECTRONIC CHANNEL CUT-OFF MEANS
Albert J. Newland, Glen Rock, N.J., assignor to The Bendix Corporation, Teterboro, N.J., a corporation of Delaware
Filed Sept. 27, 1966, Ser. No. 582,391
Int. Cl. H01h 47/02, 47/22
U.S. Cl. 317—136 8 Claims



An electronic interlock network for preventing simultaneous operation of separate signal channels wherein a circuit connection is provided from the output transistor of one channel to the input transistor of another channel. The output transistor of a channel that first conducts in response to an input signal thus serves as a control to prevent conduction of the other channels until the input signal first applied has been removed.

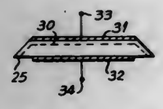
3,441,810
MULTIPLE-MODE SOLID-STATE TIME DELAY APPARATUS INCLUDING CHARGE-MONITORING TIMING CIRCUITS
Richard O. Traina, Parsippany, N.J., assignor, by mesne assignments, to Plessey Airborne Corporation, Hillside, N.J., a corporation of New Jersey
Continuation-in-part of application Ser. No. 427,035, Jan. 21, 1965. This application Dec. 21, 1966, Ser. No. 607,354
Int. Cl. H01h 47/18, 47/32
U.S. Cl. 317—142 31 Claims



Multiple-mode solid-state time delay circuits in which the charge on a capacitor is monitored by a high-input-

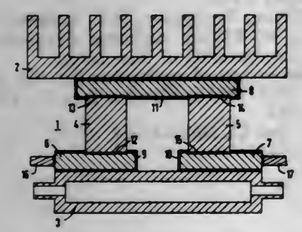
impedance temperature-stabilized amplifier or by a semiconductor switch, to actuate a relay. The relay may be locked electrically by establishing an amplifier operating bias or may be a mechanical latching type with set and reset coils. In one embodiment a unijunction transistor alternately monitors the charge stored upon a pair of condensers and triggers an SCR to supply alternate set and reset pulses. The relay controls its connection to the SCR, discharges the condensers, and provides output switching. A regulated power supply accommodates diverse power sources.

3,441,811
SEMICONDUCTOR WAFER HAVING LOW FIELD JUNCTION SURFACE
Harold Weinstein, Van Nuys, Calif., assignor to International Rectifier Corporation, El Segundo, Calif., a corporation of California
Filed July 11, 1966, Ser. No. 564,355
Int. Cl. H01l *9/00*
U.S. Cl. 317—234 **1 Claim**



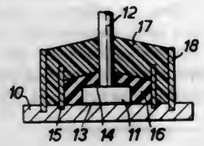
A semiconductor wafer having a bevelled edge with a junction terminating on the large area surface of the bevelled wafer and extending beneath the bevelled sides and small area surface. The termination of the junction on the large area surface is at an angle to decrease the field gradient across the junction.

3,441,812
FUSED JUNCTION BETWEEN A GERMANIUM-SILICON SEMICONDUCTOR MEMBER AND A JUNCTION ELEMENT AND METHOD OF PRODUCING THE SAME
Eugen Szabo de Bucs, Erlangen, and Gerhard Oesterhelt and Doris Pietsch, Nuremberg, Germany, assignors to Siemens Aktiengesellschaft, a corporation of Germany
Filed Dec. 7, 1966, Ser. No. 599,934
Claims priority, application Germany, Dec. 11, 1965, S 100,912
Int. Cl. H01l *3/12, 1/12*
U.S. Cl. 317—234 **7 Claims**



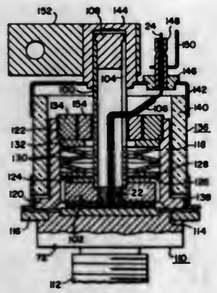
Electrical junction between a germanium-silicon semiconductor member and a junction element, especially for thermoelectric generators, wherein the junction element consists of titanium disilicide or a silicon-enriched variant of this material and, except at the junction surface proper, the junction element is coated with a mixture of silicon oxides and titanium oxides. To produce the junction, the junction element is heated to a temperature as close as possible below the melting point thereof to form the oxides thereon which are fused to a glaze. After cooling, the junction surface proper of the junction element which is to engage the semiconductor member is freed of the glaze, and the semiconductor member is then fused to the glaze-free junction surface proper of the junction element.

3,441,813
HERMETICALLY ENCAPSULATED BARRIER LAYER RECTIFIER
Kenji Takatsuka and Shigetsugu Toyooka, Kyoto, Japan, assignors to Japan Storage Battery Co., Ltd., Kyoto, Japan, a corporation of Japan
Filed Dec. 21, 1966, Ser. No. 603,511
Int. Cl. H01l *1/10, 9/00*
U.S. Cl. 317—234 **8 Claims**



A solid state rectifier is embedded in elastomer material for accommodating expansion differentials. An encircling member is disposed around and confines the elastomer mass. The assembly is then encapsulated in an insulative resin material.

3,441,814
INTERLOCKING MULTIPLE ELECTRICAL CONTACT STRUCTURE FOR COMPRESSION BONDED POWER SEMICONDUCTOR DEVICES
John J. Steinmetz, Jr., Monroeville, Pa., assignor to Westinghouse Electric Corporation, Pittsburgh, Pa., a corporation of Pennsylvania
Filed Mar. 30, 1967, Ser. No. 627,148
Int. Cl. H01p *1/10*
U.S. Cl. 317—234 **12 Claims**



This invention provides a multiple electrical contact assembly suitable for use in compression bonded encapsulated semiconductor devices. The multiple electrical contact comprises a first electrical contact disposed in an aperture in a deformable member of a second electrical contact. Upon application of a force to the multiple contact assembly, the deformable member of the second electrical contact is caused to flow about the first electrical contact urging it to move along its vertical axis in a downward direction and locking it in place. In this manner, the multiple electrical contact assembly is able to be electrically connected to two or more regions of a semiconductor element upon which it is disposed.

3,441,815
SEMICONDUCTOR STRUCTURES FOR INTEGRATED CIRCUITRY AND METHOD OF MAKING THE SAME
Larry J. Pollock, Odenton, Md., and Wallace N. Shaunfield, Richardson, Tex., assignors to Westinghouse Electric Corporation, Pittsburgh, Pa., a corporation of Pennsylvania
Continuation-in-part of application Ser. No. 379,961, July 2, 1964. This application Sept. 14, 1966, Ser. No. 579,418
Int. Cl. H01l *19/00, 11/06*
U.S. Cl. 317—235 **7 Claims**



A diode structure particularly for use in integrated circuits is provided of two regions that are both highly doped of which one may be formed by a region diffused at the same time as integrated circuit isolation walls rather than at the time of transistor base diffusion. The second diode region may be formed at the time of the transistor emitter diffusion. Device characteristics include those desirable for the diodes used in the base circuit of a fast switching transistor in DTL integrated circuits.

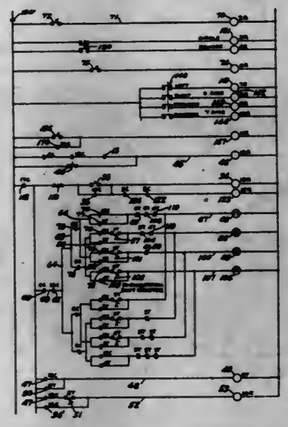
3,441,816
MULTISECTION POWER FACTOR CORRECTION CAPACITOR
Frank A. Butrico, South Plainfield, N.J., assignor to Federal Pacific Electric Company, a corporation of Delaware
Filed Apr. 5, 1967, Ser. No. 628,699
Int. Cl. H01g *1/08*
U.S. Cl. 317—243 **11 Claims**



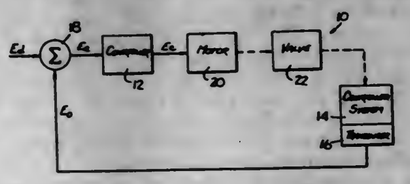
A power capacitor made of a plurality of capacitor units in a case connected in series and parallel arrangement. Each unit contains a plurality of sections. The sections within the units are made up of wound capacitors having an exposed electrode on the outside of the section for electrical connection and another electrode with an extending foil portion for connection.

3,441,817
MACHINE CONTROL SYSTEM FOR GENERATING RECTILINEAR AND CURVILINEAR GEOMETRICAL FORMS
Robert H. Eisengrein, Skaneateles, and Francis O. Blackwell III and Forrest B. Golden, Seneca Falls, N.Y., assignors to SFM Corporation, a corporation of New Jersey
Filed Jan. 18, 1965, Ser. No. 426,276
Int. Cl. H02p *5/46;* **G05b** *11/12*
U.S. Cl. 318—18 **15 Claims**

A machine having first and second parts movable along first and second orthogonally related axes and drive motors for moving the parts. For each axis a variable inductance provides an electrical indication of the actual part position, and a transformer variably topped by a plurality of switches plus a variable resistance for each axis electrically indicates the desired part start position. A second set of switches and resistance on the same transformer and for each axis provides a voltage indicative of the distance to be traveled. A bidirectional shift register operates in response to an equality between signals indicative of actual position and distance to be traveled to sequentially activate a switching means which adds these two signals to each other. For each axis an amplifier and servomotor are included which are responsive to differences between the signals. A resolver is included having a first winding connected to a variable source of voltage and second quadrature windings connected through variable resistances to the amplifiers and servomotors for each axis. Circles can be generated by applying to the first winding a voltage indicative of the desired radius and then rotating the second windings; ellipses can be so generated by varying the magnitudes of the resistances connected to the quadrature windings. An acceleration control is connected in the amplifier-servomotor circuit and includes a variable gain amplifier, a limiting circuit, a conversion circuit for providing exponentially increasing waveforms and an attenuating network.



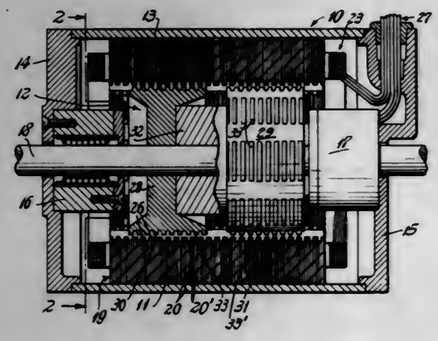
3,441,818
"ON-OFF" SERVO SYSTEM WITH DEAD ZONE COMPENSATION AND MAGNETIC SERVO AMPLIFIERS
John R. Tiskus, Monroeville Borough, and Regis A. Vey, Ben Avon, Pa., assignors to United States Steel Corporation, a corporation of Delaware
Filed Sept. 21, 1965, Ser. No. 488,851
Int. Cl. G05f *1/46*
U.S. Cl. 318—18 **21 Claims**



A closed-loop controller is disclosed which includes an "On-Off" type servomechanism. The "On-Off" control consists of a pair of bi-stable magnetic amplifiers which control relays for actuating the servomotor in opposite

directions. The servomotor is of the slow-speed type which is directly coupled to the load to eliminate a geartrain. The magnetic amplifiers include an adjustable bias to provide a "deadband" for stability purposes. Certain embodiments also include compensation circuitry to further enhance the "deadband" stability circuit.

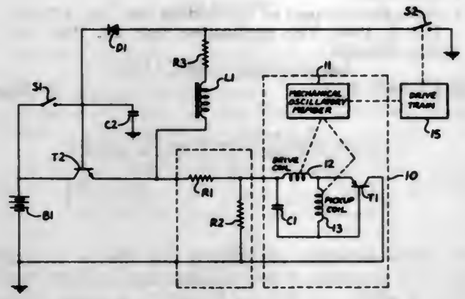
3,441,819
RECIPROCATING LINEAR MOTOR
Albert Palmero, Wallingford, Conn., assignor to The Superior Electric Company, Bristol, Conn., a corporation of Connecticut
Filed Apr. 18, 1966, Ser. No. 543,219
Int. Cl. H02p 3/02, 5/06, 7/06
U.S. Cl. 318—115 4 Claims



An electric motor for producing small, discrete linear steps by the rotation of a rotor cooperating with a stator in which both the rotor and stator are formed with teeth with the teeth of one being in radial planes and the teeth of the other lying on a helical path and in which energization of the stator causes the rotor to move a finite rotational increment which includes a linear movement with the latter being a fraction of the tooth pitch.

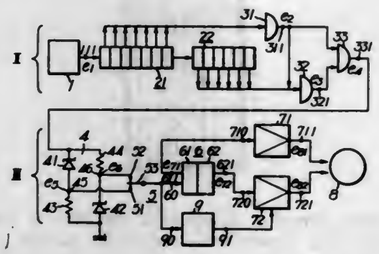
3,441,820
TIMING SYSTEM HAVING ELECTRO-MECHANICAL OSCILLATOR WITH FAIL-SAFE IMPROVEMENT
Charles J. Heermans, Chicago, Ill., assignor to General Time Corporation, Stamford, Conn., a corporation of Delaware
Filed Aug. 18, 1967, Ser. No. 661,705
Int. Cl. H02k 33/02
U.S. Cl. 318—127 5 Claims

A fail-safe system for a timing system in which the time-keeping standard is an electromechanical oscillator having a mechanical oscillatory member such as a spring-loaded balance wheel, an electrical power source such as a battery, and an electronic impulsing circuit for applying driving impulses from the power source to the oscillatory member. The fail-safe system includes an auxiliary electronic switching means such as a transistor which is connected to the drive train and the impulsing circuit for enabling the circuit in response to driving movement of the drive train, and for disabling the impulsing circuit in response to cessation of driving movement of the drive train. In the specific system illustrated, the transistor representing the auxiliary electronic switching means is maintained in a conductive state, to enable the impulsing circuit, by a capacitor which is periodically recharged by the repetitive opening and closing of a mechanical switch operated by the drive train. An inductor is connected to the mechanical switch so as to draw current from the battery whenever the switch is closed, and then generate a recharging pulse which is applied to the capacitor each time the mechanical switch is open so as to maintain the charge on the capacitor



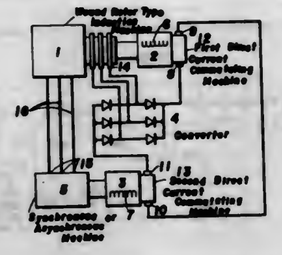
at the required level for maintaining the transistor in its conductive state. If the drive train stops, the mechanical switch is no longer opened and closed, so that the charge on the capacitor is dissipated to render the transistor non-conductive, and thereby disable the impulsing circuit of the oscillator.

3,441,821
DRIVING DEVICE FOR STEP MOTORS
Miyaji Tomota and Bunjiro Saito, Tokyo, Japan, assignors to Kabushikikaisha Yokogawa Denki Seisakusho (Yokogawa Electric Works Ltd.), Tokyo, Japan, a corporation of Japan
Filed Dec. 27, 1966, Ser. No. 604,915
Claims priority, application Japan, Jan. 18, 1966, 41/2,737
Int. Cl. H02k 29/00
U.S. Cl. 318—138 2 Claims



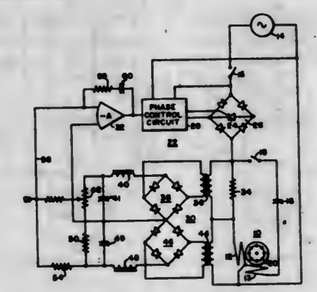
1. A driving device for step motors comprising a reference pulse generator producing a pulse of a certain constant frequency, circuit means for converting the output pulse of the reference pulse generator into pulse signals of more than two kinds of frequencies each having incorporated therein a bias, a circuit for superposing the pulse signals of more than two kinds of frequencies, a pulse discriminator circuit for discriminating the superposed pulse signal into the pulse signals of more than two kinds of frequencies by utilizing the biases, a monostable multivibrator circuit, a change-over switch for separately feeding the discriminated pulse signals to the monostable multivibrator circuit, and a step motor driven by two output signals produced in accordance with the condition of the monostable multivibrator circuit.

3,441,822
ELECTRIC CONTROL SYSTEMS FOR WOUND ROTOR TYPE INDUCTION MACHINES
Fukuo Shibata, No. 13, Tokiwa-cho, Nishinomiya, Hyogo Prefecture, Japan
Filed Sept. 23, 1964, Ser. No. 398,539
Claims priority, application Japan, Sept. 30, 1963, 38/52,875
Int. Cl. H02k 17/24, 3/18, 1/26
U.S. Cl. 318—197 10 Claims



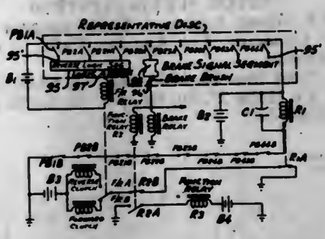
An electric control system for a wound rotor type induction machine can be obtained by an arrangement in which there are at least two direct current machines, and a first direct current machine whose rotor is coupled with the said induction machine is connected electrically in series with a second direct current commutating machine whose rotor is mechanically coupled with a rotor or a rotating shaft of another rotating machine than the said induction machine to a direct current terminals of a converter whose A.C. terminals are connected with secondary output terminals of the induction machine.

3,441,823
TACHOMETERLESS INDUCTION MOTOR SPEED CONTROL
Leland A. Schlabach, Pittsburgh, Pa., assignor to Westinghouse Electric Corporation, Pittsburgh, Pa., a corporation of Pennsylvania
Filed July 13, 1966, Ser. No. 564,807
Int. Cl. H02k 17/04; H02p 1/42
U.S. Cl. 318—221 10 Claims



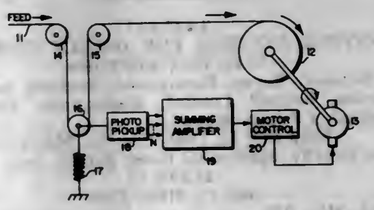
1. A speed control system for an induction motor having field windings, said system comprising:
means for sensing the impedance of the circuit of at least one of said field windings and for developing an output signal determined by said impedance,
means for applying a voltage to said circuit including a switching means serially connected in said circuit, and further connected to receive the output signal determined by said circuit impedance,
said switching means being effective to control the magnitude of the voltage applied to said circuit in response to changes in said output signal in a manner which maintains an essentially zero change in the speed of said motor.

3,441,824
EMBOSSING MACHINE
Walter E. Rudisch, East Amherst, N.Y., and Frank D. Gross, Freedom, Pa., assignors to The Pannier Corporation, Pittsburgh, Pa., a corporation of Pennsylvania
Original application Aug. 13, 1964, Ser. No. 389,364, now Patent No. 3,282,389, dated Nov. 1, 1966. Divided and this application Mar. 23, 1966, Ser. No. 536,890
Int. Cl. H02p 1/22, 3/20
U.S. Cl. 318—265 19 Claims



A motor driven insulating member having mounted in alignment thereon a logic circuit contact and a function circuit contact to engage with a mounted aligned series of stationary brushes each of which when individually energized initiates a specific logic circuit that may include the logic circuit contact to determine and induce the shortest direction of movement of the motor driven insulating member to end the logic movement and to engage the energized brush with the function circuit contact to initiate and complete the function then clear these selective circuits for the next consecutive energized brush to continue and complete integrated functions. This novel insulated member has only one logic circuit contact in spaced alignment with a small function circuit contact for engagement by an energized selected brush. Or this novel insulated member has two aligned logic circuit contacts in spaced alignment with a small function circuit contact therebetween. These novel insulated members being either a circular disc with a rotary motor drive, or a flat insulated strip having two logic circuits in alignment with a small function contact and a motor drive to move the strip in opposite directions and a relay circuit means to determine the direction of movement of the strip relative to the logic circuit contact and a selected energized brush in a series to complete the logic movement and thereafter engage the energized brush with the function circuit contact to initiate and complete a function and then clear the circuits for energization of the next selected circuit brush to complete its function.

3,441,825
SELECTED GAIN CONTROL SYSTEM
Edward H. Dinger, Waynesboro, Va., assignor to General Electric Company, a corporation of New York
Filed Nov. 29, 1965, Ser. No. 528,319
Int. Cl. H02p 5/12, 7/58
U.S. Cl. 318—313 11 Claims



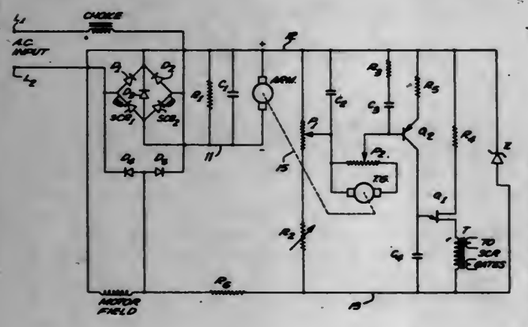
A feedback control system having nonlinear system gain with a selected number of gains for different amounts

of detected error is described. The control signal of the system is both a rate of change command developed by a capacitor subjected to different charge and discharge rates depending upon the amount of error and also a lead command, i.e., a step voltage wave, to overcome inertia and obtain quick response of the machine being controlled.

3,441,826
TACHOMETER FEEDBACK CIRCUIT FOR D.C. MOTOR SPEED CONTROL

Raymond J. Mason, Lynwood, Calif., assignor to Minarik Electric Company, Los Angeles, Calif., a corporation of California

Filed Dec. 21, 1966, Ser. No. 603,614
Int. Cl. H02k 27/20; H02p 5/00; G05b 5/00
U.S. Cl. 318—327 5 Claims



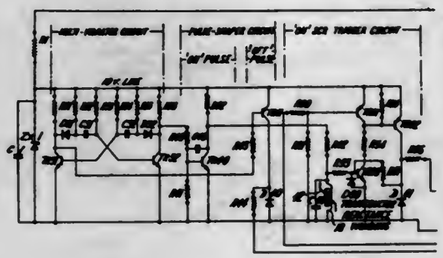
A complete motor speed controller including a full-wave solid-state rectifier circuit for converting alternating current into direct current, a pulse transformer associated with a pair of silicon-controlled rectifiers that are contained in the full-wave rectifier circuit for initiating their conductivity during respective half-cycles of the applied A.C. voltage, a unijunction transistor for pulsing the pulse transformer, a charging capacitor associated with the unijunction transistor for controlling its firing times, a transistor for controlling the bias of the unijunction, a potentiometer for establishing the bias of the transistor and hence establishing the ordinary operating speed of the motor, a tachometer generator, a shaft mechanically coupling the tachometer generator to the motor armature so that the D.C. output voltage of the tachometer generator is proportional to the speed of rotation of the motor armature, and a circuit connecting the output of the tachometer generator in opposition to the potential derived from the potentiometer so that the bias voltage of the transistor is equal to that supplied by the potentiometer minus that supplied by the tachometer generator, with the result that increases in the motor speed diminish the bias on the transistor and delay the firing of the unijunction to a later point in each half-cycle while decreases in the motor speed have the opposite effect.

3,441,827
CONTROL SYSTEMS FOR DIRECT CURRENT ELECTRIC MOTORS

Ivan Salisbury Payne, Basingstoke, England, assignor to Lansing Bagnall Limited, Basingstoke, Hampshire, England, a British company

Filed July 13, 1966, Ser. No. 564,921
Claims priority, application Great Britain, July 14, 1965, 29,898/65
Int. Cl. H02p 5/06
U.S. Cl. 318—332 4 Claims

A direct current electrical drive system in which a direct current motor is connected to be energised by a direct current source and controllable switch means such as a thyristor is connected as a power switch between the source and the motor for energising the motor intermittently with current pulses. A speed control system which controls the feeding of control pulses to the controllable switch means comprises a saturable reactor carrying a winding through which armature current from the motor passes and another winding which constitutes a variable shunt between an astable multi-vibrator and the control

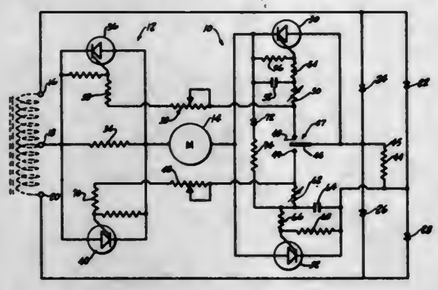


input of the controllable switch means. A movable magnet is provided for adjusting the flux density in the saturable reactor independently of the armature current. Thus, when the armature current is relatively high, the variable shunt, due to the saturation of the reactor, is of low impedance and thereby inhibits the passage of control pulses to the thyristor. This inhibition is controlled by the magnet to vary the speed of the motor.

3,441,828
SCR PHASE RESPONSIVE POWER CONTROL CIRCUIT HAVING EXTENDED ANALOG RANGE

Richard J. Henry, Escondido, Calif., assignor, by mesne assignments, to DoAll Company, Des Plaines, Ill., a corporation of Illinois

Filed Feb. 17, 1965, Ser. No. 433,266
Int. Cl. H02p 7/24; G05b 11/26; H01c 1/14
U.S. Cl. 318—345 2 Claims

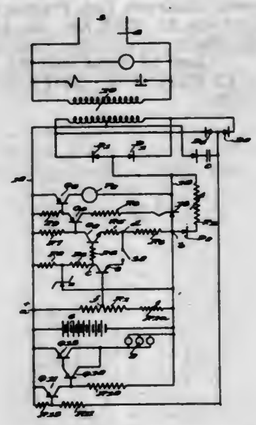


A motor control circuit including a pair of silicon-controlled rectifiers for controlling the power in each direction of motor rotation. The second silicon-controlled rectifier of each pair extends the controllable power range of the circuit. The first SCR is fired at a controllable firing angle to provide a pulsating current in the motor. The firing pulse is also applied to the gate of the second SCR and the pulsating current is applied across anode-cathode of the second SCR. A resistance in parallel with the second SCR limits current to the motor when the firing angle of the first SCR is large. However for small firing angles of the first SCR, the pulsating current applied to the second SCR is large enough to cause it to fire thereby shorting the resistance and increasing the power applied to the motor.

3,441,829
EMERGENCY STAND-BY ELECTRIC SERVICE APPARATUS

Frederick G. Perkins, Thomasville, Pa., and Carl Edward Minick, Nashua, N.H., assignors, by mesne assignments, to Frederick G. Perkins, Thomasville, Pa.

Continuation of applications Ser. No. 584,002, Oct. 3, 1966, and Ser. No. 330,825, Dec. 16, 1963. This application Mar. 25, 1968, Ser. No. 717,471
Int. Cl. H02j 7/10, 7/16
U.S. Cl. 320—40 5 Claims

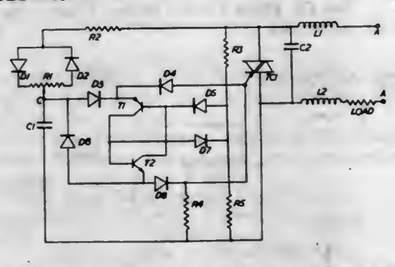


A battery charging arrangement has a transformer-rectifier for producing direct current connected by two conductors to a battery for charging it; in one of the conductors is an SRC and a control circuit for the SRC which includes a valve responsive to the voltage of the battery to render the SRC conductive when the battery voltage drops so as to recharge the battery, and a Zener diode in parallel with the control valve of the circuit to regulate the voltage at which the second valve becomes operative; a light is so connected as to connect it to the battery if the alternating current fails.

3,441,830
ADJUSTABLE BIPOLAR POWER SUPPLY

Geoffrey Duddridge, Aldwych, London, England, assignor to International Standard Electric Corporation, New York, N.Y., a corporation of Delaware

Filed Nov. 26, 1965, Ser. No. 509,782
Claims priority, application Great Britain, Dec. 2, 1964, 48,965/64
Int. Cl. H02m 7/78
U.S. Cl. 321—43 5 Claims

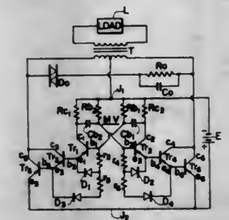


An A.C. source voltage fed to a bipolar potential divider circuit provides signals of either polarity depending upon the setting. The output of the divider circuit controls a trigger circuit to give trigger signals on alternate half cycles, timing being determined by polarity of the divider circuit output. The trigger signals place a five-layer semiconduction device, interrelating the load and A.C., into conduction.

3,441,831
DC TO AC CONVERTER

Tatsuo Goto and Takashi Nishimura, Tokyo, Japan, assignors to Hitachi, Ltd., Tokyo-to, Japan

Filed Nov. 29, 1966, Ser. No. 597,625
Claims priority, application Japan, Nov. 29, 1965, 40/72,872
Int. Cl. H02m 7/44, 7/68
U.S. Cl. 321—45 8 Claims

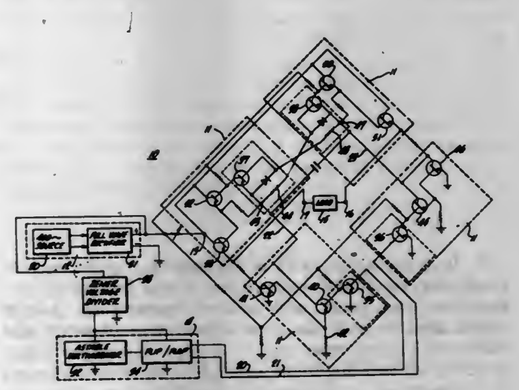


The disclosure provides a DC to AC converter comprising a pair of transistors alternately switched to the conductive state by respective outputs of a multivibrator connected thereto. The bases of each of the transistors of the multivibrator are connected through individual diodes to the base of the switching transistor controlled thereby so as to reverse bias the switching transistor during the non-conductive period of its operation. Reverse bias at the proper time is also provided by secondary timing circuits connected through diodes to the base of the switching transistors. Reverse bias is also derived from a separate winding on the coupling transformer to the load.

3,441,832
TRANSISTOR DIRECT CURRENT TO ALTERNATING CURRENT CONVERSION CIRCUIT

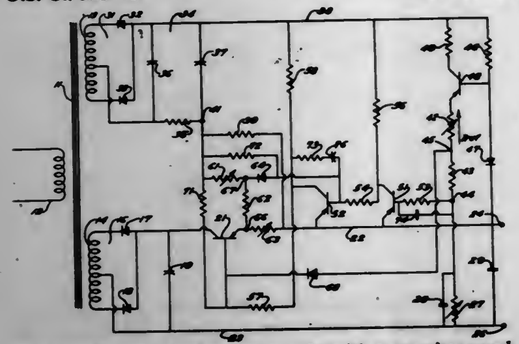
Gilbert Leu, Los Angeles, Calif., assignor to Ex-Cell-O Corporation, Hawthorne, Calif., a corporation of Michigan

Filed May 29, 1967, Ser. No. 642,015
Int. Cl. H02m 7/52
U.S. Cl. 321—45 5 Claims



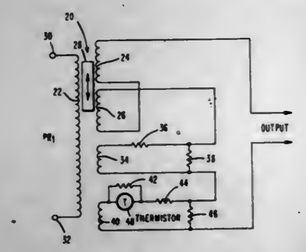
The present invention is directed to an all solid state direct current to alternating current conversion circuit. The conversion is effected by means of a bridge network having a pair of power transistors arranged in a complementary fashion in each arm of the bridge network. The complementary pair are alternately rendered conductive for defining alternating current paths through the bridge network to load terminals.

3,441,833
REGULATED POWER SUPPLY HAVING CURRENT COMPARATOR REFERENCED TO COMMON CONDUCTOR
George S. Bahrs and Malcolm M. McWhorter, Menlo Park, Calif., assignors to Hewlett-Packard Company, Palo Alto, Calif., a corporation of California
Filed May 26, 1958, Ser. No. 737,788
Int. Cl. G05f 1/10
U.S. Cl. 323—9 16 Claims



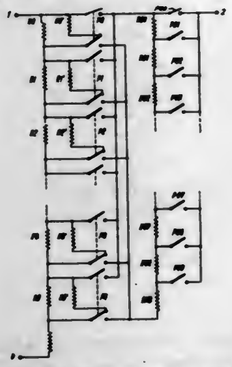
A voltage regulated power supply with a transistor and a current limiting resistor connected in series between the input and output of the supply. A current proportional to the output voltage is compared to a fixed reference current. Any difference current activates a D-C amplifier to control the transistor and maintain the output voltage at a predetermined value. The current limiting resistor develops a voltage proportional to the output current and is employed to limit the output current.

3,441,834
TEMPERATURE COMPENSATION CIRCUIT FOR A DIFFERENTIAL TRANSFORMER
Lawrence Moskowitz, Camden, and David W. Thomas, Palmyra, N.J., assignors to Schaevitz Engineering, a corporation of New Jersey
Filed Feb. 3, 1964, Ser. No. 342,207
Int. Cl. H02p 13/04, 13/10; H02m 5/12
U.S. Cl. 323—48 3 Claims



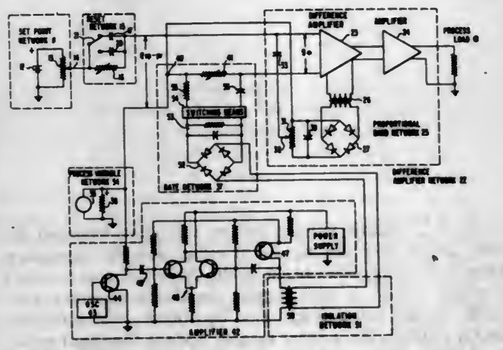
1. In combination with a differential transformer for producing an output information signal in one of two directions and being subjected to temperature changes which tend to shift the zero reference voltage of said differential transformer and to change the output signal in either of two directions dependent upon said changes in temperature, a temperature compensation circuit for eliminating said shift in the zero voltage level caused by said temperature changes comprising first and second compensating windings associated with said differential transformer, a first resistive network connected across said first compensating winding to produce a signal so that the output signal produced by said differential transformer by temperature changes is of a single direction, said signal of a single direction representing the total signal variation from said differential transformer resulting from said temperature changes, and a second resistive network connected to said second compensating winding to cancel the portion of the output signal produced by said temperature changes.

3,441,835
STEP-BY-STEP NONLINEAR VOLTAGE DIVIDER FOR DIGITAL PHOTOMETER
Jan Hekrdle, Roztoky, Czechoslovakia, assignor to Ceskoslovenska akademie Ved, Prague, Czechoslovakia
Filed Jan. 21, 1965, Ser. No. 426,811
Claims priority, application Czechoslovakia, Jan. 28, 1964, 494/64
Int. Cl. G01r 23/00; G01j 5/08, 5/20
U.S. Cl. 323—80 2 Claims



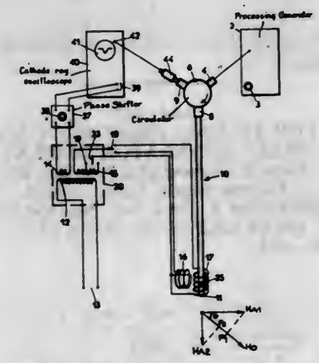
A step-by-step nonlinear voltage divider for a digital photometer has individual steps of different values which may be further subdivided. Each step comprises a pair of resistors connected in parallel. The resistance value of one of the resistors is the same in all the steps. An additional voltage divider has an overall resistance value which is equal to the value of the one of the resistors. A switching arrangement is connected between the resistors and the additional voltage divider for disconnecting a selected one of the one of the resistors from the corresponding other of the resistors and connecting the additional voltage divider.

3,441,836
PROCESS CONTROLLER WHEREIN RATE ACTION IS DEPENDENT SOLELY UPON THE PROCESS VARIABLE
John E. Riley, Saugus, Mass., assignor to General Electric Company, a corporation of New York
Filed Mar. 20, 1967, Ser. No. 624,244
Int. Cl. H02p 13/16; H02m 3/04, 5/04
U.S. Cl. 323—100 6 Claims



A first differential controller amplifier input is connected to a set point signal source; and a second input, through a rate resistor to a process variable signal source. A proportional band network couples the controller amplifier output to the first input and the process variable signal source. Amplifying and differentiating means, energized by the process variable signal, includes the rate resistor in the output. Amplified rate signals appear across the rate resistor; however, the differential input to the controller amplifier remains substantially zero.

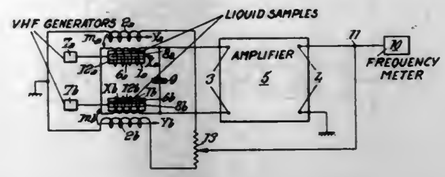
3,441,837
GYROMAGNETIC RESONANCE MAGNETOMETER WITH FERRIMAGNETIC SAMPLE
Bernard P. L. Desormiere, Antony, Jean Claude Paronty, Fontenay-aux-Roses, and Andre L. Piechon, Paris, France, assignors to Compagnie Francaise Thomson-Houston, Paris, France, a corporation of France
Filed Mar. 5, 1965, Ser. No. 437,386
Claims priority, application France, Mar. 12, 1964, 967,125
Int. Cl. G01n 27/00; G01r 33/08
U.S. Cl. 324—.5 14 Claims



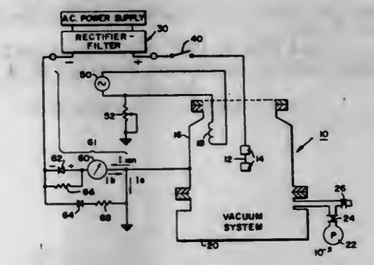
Gyromagnetic resonance magnetometer for measuring steady magnetic fields of relative strong intensity at very low temperatures, wherein a ferrimagnetic body is supported within a probe member constituting a tubular transmission line. The ferrimagnetic sample is subjected to the action of the unknown magnetic field to be measured together with that of a high frequency magnetic field of a given direction. The absorption line of the ferrimagnetic sample is observed and the corresponding resonance frequency is measured accordingly which is related to the steady magnetic field.

3,441,838
NUCLEAR MAGNETIC RESONANCE MAGNETOMETERS OF THE SPIN COUPLING OSCILLATOR TYPE
Antoine Salvi, Fontaine, France, assignor to Commissariat à l'Energie Atomique, Paris, France, an organization of France
Filed Apr. 18, 1966, Ser. No. 543,113
Claims priority, application France, Apr. 22, 1965, 14,225
Int. Cl. G01r 33/00, 33/08
U.S. Cl. 324—.5 5 Claims

The magnetometer comprises two vessels containing a solvent including the same atomic nuclei having the same gyromagnetic ratio, and, dissolved in the solvent, a paramagnetic substance which may be the same or different in the two vessels. A pair of excitation coils, fed by the output of a linear amplifier, are wound respectively around the vessels. A pair of pick up coils feeding the input of the amplifier are also wound respectively around the vessels. A frequency meter is connected to the amplifier output for measuring the resonance frequency of the atomic nuclei when the magnetometer is operating in a magnetic field.



3,441,839
POWER SUPPLY FOR VACUUM PUMP WITH AUXILIARY PRESSURE MEASUREMENT FUNCTION
Leendert J. K. van Opijnen, Needham, Mass., assignor to National Research Corporation, Newton Highlands, Mass., a corporation of Massachusetts
Filed Nov. 22, 1966, Ser. No. 596,152
Int. Cl. G01n 27/62
U.S. Cl. 324—33 6 Claims

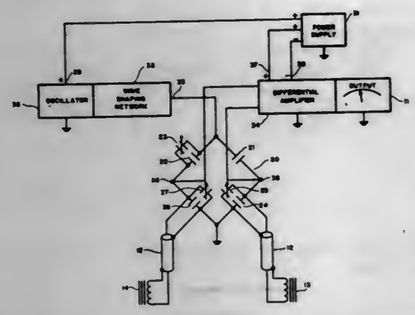


An improvement in electrical power supply circuitry for oscillating electron types of vacuum pumps (e.g., orbitrons) is described. The improvement comprises an electrically floating portion of the power supply with a microammeter and a special rectifying circuit mounted in the floating portion of the power supply to separate ion, electron and X-ray derived currents derived from the pump. This allows the microammeter to measure an ion current which varies as a linear function of pressure down to 10^{-7} torr and below, thus providing an inexpensive gauging function as a supplement to the principal function (e.g., pumping) of the old apparatus.

3,441,840
ELECTRONIC THICKNESS METER HAVING DIRECT READOUT OF COATING THICKNESS
William R. Randle, Orlando, Fla., assignor to Martin-Marietta Corporation, New York, N.Y., a corporation of Maryland
Filed Mar. 31, 1967, Ser. No. 627,435
Int. Cl. G01r 33/00
U.S. Cl. 324—34 4 Claims

The present invention involves a device for measuring the thickness of nonconductive coatings on conductive surfaces using a bridge circuit with a pair of inductive coil probes connected across legs of the bridge circuit. The bridge circuit is balanced with one probe placed on a nonconductive coating to be measured and the other probe, which has a built in micrometer for varying the distance the coil is from a surface, placed on a reference conductive surface similar to the conductive surface under

the nonconductive coated surface being measured. The unknown coating thickness may then be read directly from the micrometer scale on the probe having the micrometer.

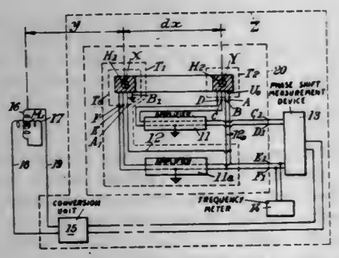


3,441,841

METHODS AND DEVICES FOR COMPENSATION OF PARASITIC MAGNETIC FIELDS, IN PARTICULAR ON AN AIRCRAFT CARRYING A MAGNETOMETER

Antoine Salvi, Fontaine, and Henri Glenat, Grenoble, France, assignors to Commissariat à l'Energie Atomique, Paris, France

Filed Feb. 3, 1967, Ser. No. 613,892
Claims priority, application France, Feb. 4, 1966, 48,471
Int. Cl. G01r 33/02; H01s 4/00
U.S. Cl. 324—43 4 Claims



There is determined, by means of two magnetometer heads, the total magnetic field difference between two points where the intensity of the external magnetic field is substantially the same but the intensities of the parasitic magnetic field are different. With a phase discriminator and a converting unit, there is produced a control magnitude substantially proportional to this difference, and therefore to the parasitic magnetic field difference, and there is produced, in response to variations of said magnitude, by means of a pair of coils, a compensation magnetic field which cancels said difference.

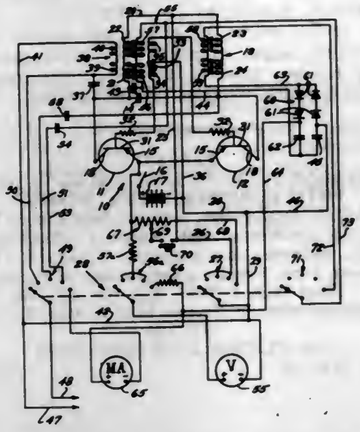
3,441,842

LINE FAULT DETECTION METHOD AND APPARATUS UTILIZING A TEST SIGNAL HAVING A NONSINUSOIDAL WAVEFORM PREFERABLY WITH AT LEAST ONE PIP PER CYCLE

Rudolph J. Sturm, Jr., 1255 N. St. Albans, St. Paul, Minn. 95117

Filed Oct. 8, 1963, Ser. No. 314,727
Int. Cl. G01r 31/10
U.S. Cl. 324—52 9 Claims

A line fault detection method and apparatus having a manually portable transistorized multivibrator for producing a distinctive signal having a pip, and a hand-size amplified inductive pickup responsive to the magnetic field produced by the unabalance of currents of the distinctive signal.

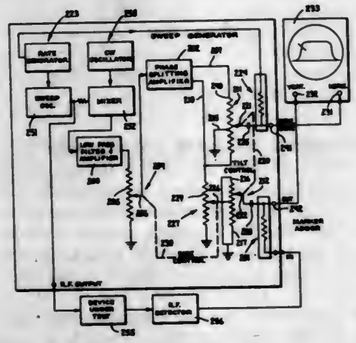


3,441,843

SYSTEM FOR TILTING FREQUENCY MARKER IN SWEEP GENERATOR DISPLAY

Claire R. Wainwright, P.O. Box 277, Laguna Beach, Calif. 92652

Filed June 8, 1966, Ser. No. 556,151
Int. Cl. G01r 27/00, 25/00, 23/14
U.S. Cl. 324—57 20 Claims



A sweep generator circuit having a marker generator which produces a marker pulse when the sweep generator sweeps through a given frequency. The marker signal is added to both the horizontal and vertical outputs of the sweep generator which drive an oscilloscope. Attenuation of the marker signal added to each of the outputs may be varied selectively so that the marker signal which appears on the oscilloscope trace is selectively tilted from its normal vertical position. Additional attenuation is included to vary the amplitude of the tilted marker.

3,441,844

MICROWAVE MOISTURE SENSING SYSTEM

Leroy H. Busker, Rockton, Ill., and Wesley E. Grenlund, Clinton, Wis., assignors to Beloit Corporation, Beloit, Wis., a corporation of Wisconsin

Filed June 16, 1965, Ser. No. 464,398
Int. Cl. G01h 27/04
U.S. Cl. 324—58.5 2 Claims

Apparatus and method for measuring characteristics of a sample such as moisture content with a microwave generator connected to a first wave guide and a microwave indicator connected to a second wave guide and with a section joining the first and second wave guides



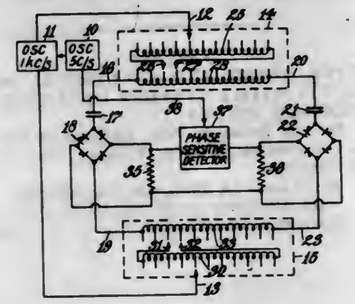
which has a higher dielectric constant than the sample so that energy passing through the section will pass through the sample to be attenuated.

3,441,845

RESISTANCE COMPARISON MEANS HAVING A PAIR OF RECTIFYING CIRCUITS CONNECTED ACROSS A LOW FREQUENCY SIGNAL SOURCE

James Stewart Johnston, Bognor Regis, England, assignor to Rosemount Engineering Company Limited

Filed Sept. 27, 1965, Ser. No. 490,403
Claims priority, application Great Britain, Oct. 15, 1964, 42,157/64
Int. Cl. G01r 27/02, 17/10
U.S. Cl. 324—62 10 Claims



Resistance comparison means for measuring the ratio of two electrical resistances by comparing the voltages across the resistances when currents in known ratio are fed through them is characterized in that adjustable inductive current dividing means are provided for dividing the current from an alternating current source between two paths, one path including one of said resistances and a first rectifying circuit and the other path including the other resistance and a second rectifying circuit.

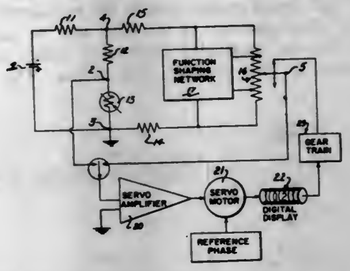
3,441,846

DIGITAL READOUT INSTRUMENT EMPLOYING A NON-LINEAR TRANSDUCER AND A LINEAR POTENTIOMETER

Harry Petrohilos, Yellow Springs, Ohio, assignor to United Systems Corporation, Dayton, Ohio, a corporation of Ohio

Filed Nov. 16, 1964, Ser. No. 411,230
Int. Cl. G01r 17/06, 27/02
U.S. Cl. 324—65 5 Claims

A digital reading meter which employs a non-linear transducer for measuring an unknown parameter as one arm in a null-seeking bridge circuit. Another arm of the bridge is formed by a function shaping network comprising a series of resistances closely approximating the resistance vs. parameter characteristic of the transducer and employing a linear potentiometer to different taps of which the resistances are connected. The unbalance in the bridge caused by the transducer arm variance is detected by a servo amplifier which operates through a servo motor and the linear potentiometer to change the ratio of the fixed resistance bridge arms to rebalance the bridge and also drive a turns counter to indicate a digital representation of the parameter. A fixed resistor is connected in series with the bridge and is so selected as to minimize variations in the rebalancing signal with respect to incremental changes of values of said parameter.

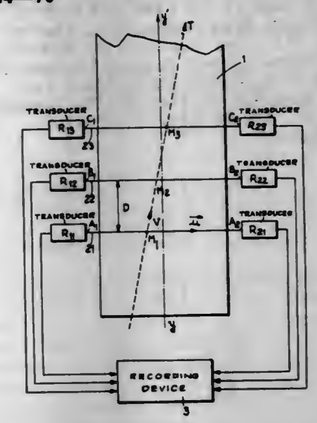


3,441,847

SYSTEM FOR MEASURING THE VECTOR COMPONENTS OF THE SPEED OF A BODY

Michel Hassid and Francois Garnier, Paris, France, assignors to Societe Pour l'Etude et la Realisation des Procedes Electroniques de Calcul "Analac," a corporation of France

Filed Nov. 26, 1965, Ser. No. 509,917
Claims priority, application France, Nov. 27, 1964, 996,536, Patent 1,423,961
Int. Cl. G01r 11/02; G01v 1/30; G01b 5/24
U.S. Cl. 324—70 4 Claims



A system for measuring the components of the speed vector of a body moving along a given path with respect to the longitudinal axis of the path, comprising at least two identical conduits arranged, perpendicular to the axis of said path. The conduits are filled with a fluid and at each end thereof is coupled a transducer, generating a signal upon the contact of said body with said conduits and means are provided for determining the instants of occurrence of said signal.

3,441,848

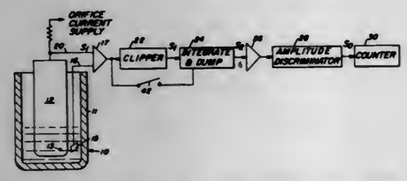
PARTICLE LENGTH MEASURING APPARATUS

Richard B. Valley and Theodore H. Morse, Rochester, N.Y., assignors, by mesne assignments, to Coulter Electronics, Hialeah, Fla., a corporation of Illinois

Continuation of application Ser. No. 348,239, Feb. 28, 1964. This application Apr. 29, 1968, Ser. No. 725,228
Int. Cl. G01n 27/02; H03k 5/01
U.S. Cl. 324—71 12 Claims

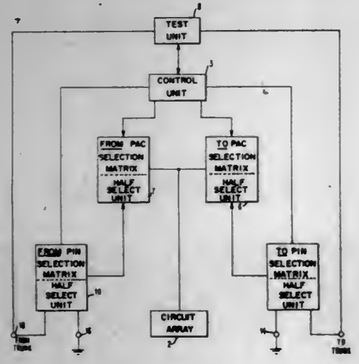
Fiber or particle studying apparatus employing a particle studying circuit wherein electrical insulating means

define an orifice through which separated portions of a particle containing fluid sample may communicate, and electrical circuit means establishing a completed circuit between the respective portions by way of the fluid in said orifice; said circuit means, due to the measurably different electrical characteristics of the fluid and the particles suspended therein, producing detectable pulses as particles are caused to pass through said orifice. The apparatus



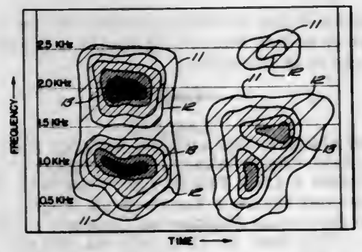
further including wave-shaping electrical circuit means for receiving the aforementioned pulses and deriving constant amplitude signals therefrom and then converting said signals into saw-tooth wave forms the amplitudes of which are a function of the duration of said pulses and thereby representative of particle length; and means, receptive of said saw-tooth wave forms, capable of detecting and counting those wave forms having an amplitude greater than a pre-selected level.

3,441,849
TESTING AND ADDRESSING APPARATUS FOR AN ARRAY OF CIRCUIT ELEMENTS
Jack P. Bennett, West Hurley, N.Y., Charles A. Harring, Raleigh, N.C., and William Teo, Berkeley, Calif., assignors to International Business Machines Corporation, Armonk, N.Y., a corporation of New York
Filed Jan. 13, 1967, Ser. No. 609,085
Int. Cl. G01r *15/12, 31/02*
U.S. Cl. 324—73 **10 Claims**



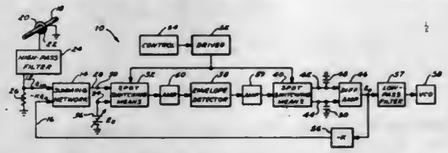
Disclosed is a circuit tester for detecting shorts and opens in large electrical circuit arrays or other large multiple-element electrical devices. Selection units for addressing the elements to be tested employ coincident selection allowing variable sized groups to be addressed. A scan counter in cooperation with an address register addresses groups of decreasing and increasing size to detect the particular faulty element within an initially large group, and a group size decoder in cooperation with the above allows the selection of decreasingly smaller or larger groups wholly within or containing, respectively, the preceding group addressed.

3,441,850
SPECTRUM ANALYSIS APPARATUS
John F. Frazer, Lexington, Richard Holzman, Framingham, Kenton J. Ide, Lincoln, and Richard K. Moore, South Weymouth, Mass., assignors, by mesne assignments, to Signatection, Inc., Waltham, Mass., a corporation of Massachusetts
Filed Feb. 18, 1966, Ser. No. 528,433
Int. Cl. G01r *23/18, 13/02*
U.S. Cl. 324—77 **3 Claims**



In a spectrograph for visually representing the analysis of a complex wave, amplitude is represented by spaced gradations, and discrete levels of amplitude are further shown as contour lines.

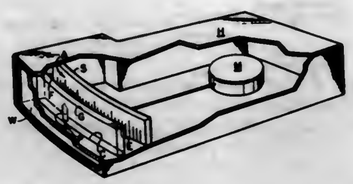
3,441,851
CHOPPER STABILIZED ELECTRICAL METER CIRCUIT WITH ENVELOPE DETECTOR AND FEEDBACK MEANS
John W. Savage, Bethesda, Md., assignor to The Susquehanna Corporation, Fairfax County, Va., a corporation of Virginia
Filed June 14, 1966, Ser. No. 557,516
Int. Cl. G01r *17/06, 19/18, 19/22*
U.S. Cl. 324—99 **10 Claims**



The present invention has many applications including the measurement of high frequency voltage and currents and high field intensities. The meter employs chopping techniques by switching at the input rapidly between the high frequency input signal and a reference or feedback signal. This composite signal is then envelope detected to give a square wave whose peak to peak amplitudes are proportional to the difference between the input signal level and the feedback or reference voltage. This signal is then applied to a differential amplifier by means of a second switch which operates in unison with the input switch. This second switch applies the square wave to one input of the differential amplifier during the input signal sample period and to another input of the amplifier during the reference signal or feedback period. The output of the differential amplifier is applied to a meter or recorder, and is also fed back to the input for system stabilization.

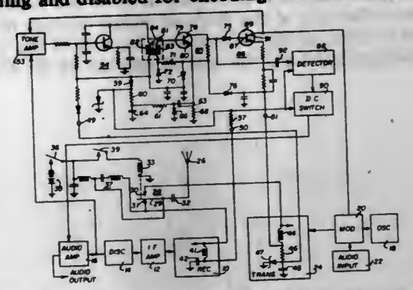
3,441,852
ELECTROSTATICALLY SHIELDED INDICATOR
Bennett L. Hallenbeck, Ogden, N.Y., assignor to Sybron Corporation, Rochester, N.Y., a corporation of New York
Filed May 21, 1965, Ser. No. 457,688
Int. Cl. G01r *1/04, 1/18;* **H05k** *5/00*
U.S. Cl. 324—156 **20 Claims**

An electrical meter has its pointer shielded by a unipotential element enveloping the pointer. For example, the pointer moves along the space between two parallel, space strips of electrically conductive glass, one strip being the



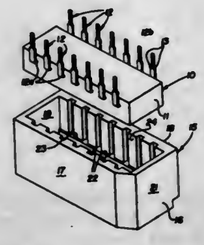
meter cover glass, the other lying over the meter scale between the pointer and scale. The strips are electrically connected together.

pass for the degenerative feedback circuit is provided for decoding and disabled for encoding. The disabling of the



bypass circuit for encoding is delayed in order to provide a rapid start for the encoding oscillator circuit.

3,441,853
PLUG-IN INTEGRATED CIRCUIT PACKAGE AND CARRIER ASSEMBLY AND INCLUDING A TEST FIXTURE THEREFOR
Charles M. Bodine, Los Altos, Calif., assignor to Signetics Corporation, Sunnyvale, Calif., a corporation of California
Filed June 21, 1966, Ser. No. 559,162
Int. Cl. G01r *35/00*
U.S. Cl. 324—158 **5 Claims**

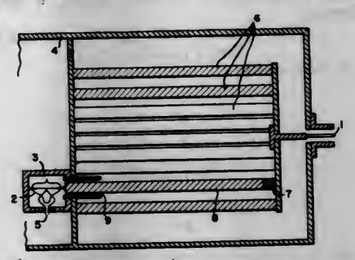


The assembly consists of an integrated package and a carrier enclosing the package. The circuit package comprises a body having a plurality of leads extending outwardly from two sides of the body and downwardly in substantially parallel relationship. The carrier comprises four interconnected side walls forming a rectangle, two opposed side walls having slots therein for frictionally engaging the leads of the circuit package and shoulder means forming a termination for said slots. A mating test fixture is also provided for testing the circuit package while it remains within the carrier.

3,441,854
ENCODER-DECODER CIRCUIT INCLUDING DIODE SWITCHING OF A STAGE FROM AN AMPLIFIER TO AN OSCILLATOR
William J. Cole, Arlington Heights, Ill., assignor to Motorola, Inc., Franklin Park, Ill., a corporation of Illinois
Filed Mar. 31, 1966, Ser. No. 539,026
Int. Cl. H04b *1/40*
U.S. Cl. 325—18 **12 Claims**

A tone signal encoder-decoder circuit uses an amplifier and a single tuned circuit for decoding or encoding a tone signal. A switching network enables a feedback circuit to cause operation of the circuit as an encoder and disables the feedback circuit to cause operation as a decoder. The switching circuit also changes the gain levels of the amplifier in order to prevent distortion. The amplifier includes degenerative feedback circuit for regulating gain. A by-

3,441,855
HIGH FREQUENCY WATTMETER EMPLOYING INDUCTIVE SHIELDING AND A CAPACITIVE SHUNT FOR FREQUENCY COMPENSATION
Yoshikazu Aida, Tokyo-to, and Toshizo Kakizawa, Yokohama-shi, Japan, assignors to Agency of Industrial Science and Technology, Ministry of International Trade and Industry, Chiyoda-ku, Tokyo-to, Japan, an authority of the Japanese government
Filed Sept. 22, 1964, Ser. No. 398,283
Claims priority, application Japan, Sept. 30, 1963, 38/51,759
Int. Cl. G01r *5/26, 27/02*
U.S. Cl. 324—106 **1 Claim**

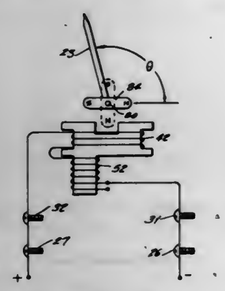


The invention relates to a high frequency thermocouple wattmeter of load type employinng a resistance load which comprises a plurality of parallel resistance elements and a thermocouple connected to the resistance load to measure the power dissipated therein. Electromagnetic shielding means are disposed about the thermocouple to reduce inductance coupling between the thermocouple and the other members. Compensating means in the form of at least one of the following: a capacitor, inductor, combination of a capacitor and inductor and parallel resistor are provided to compensate for the current flowing through the resistance load adjacent the junction between the thermocouple and the resistance connected to the thermocouple. Thus, the electric power consumed between resistance load and the thermoelectromotive force remain in a constant state regardless of frequency.

3,441,856
WIDE SWING MOVING MAGNET METER HAVING FIRST AND SECOND WINDINGS WITH PARALLEL SPACED AXES
Ivan L. Blowers, Otsego, Mich., assignor to Kal-Equip Company, Otsego, Mich., a corporation of Michigan
Filed Oct. 23, 1965, Ser. No. 504,018
Int. Cl. G01r *1/20, 1/16*
U.S. Cl. 324—146 **7 Claims**

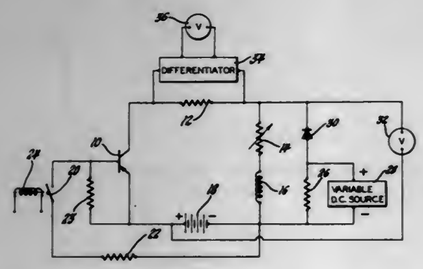
An inexpensive ammeter having a pointer movement of greater than 90°. A permanent magnet is connected to

the pointer and is driven by the magnetic field generated by two coils which are connected in series and have parallel axes. The axis of the first coil passes through the axis of the rotation of the pointer and the axis of the second coil is displaced from the axis of rotation of the pointer.



This invention relates to a novel ammeter construction, and more specifically relates to a novel ammeter of the moving magnet type which is of inexpensive construction and yet obtains a pointer movement of 90° and more with good linearity over the full scale.

3,441,857
METHOD FOR DETERMINING TRANSISTOR VOLTAGE CAPABILITY BY DECAY TIME EVALUATION
Ronald W. Vahle, Kokomo, Ind., assignor to General Motors Corporation, Detroit, Mich., a corporation of Delaware
Filed Apr. 5, 1967, Ser. No. 628,761
Int. Cl. G01r *27/02*
U.S. Cl. 324—158 **3 Claims**



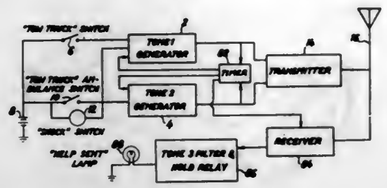
A transistor is rated for maximum applied voltage capability under predetermined current conditions by saturating and then cutting the transistor off at various increasing output voltage values determined by a variable clamp, monitoring transistor current decay time and rating the transistor at an output voltage which produces a predetermined percent decay time increase.

ERRATUM

For Class 325—18 see:
Patent No. 3,441,854

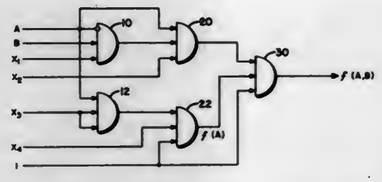
3,441,858
ELECTRONIC CALLING AND REPLY SYSTEM
Gordon Graham, 903 Quackenbos St. NW., Washington, D.C. 20011
Filed Dec. 9, 1965, Ser. No. 513,150
Int. Cl. H04b *7/20*; G08g *1/08*
U.S. Cl. 325—55 **6 Claims**

The system includes a transceiver unit which may be actuated, either manually or automatically, to broadcast a selected one of a plurality of coded signals to a central station unit. After locating the broadcasting transceiver,



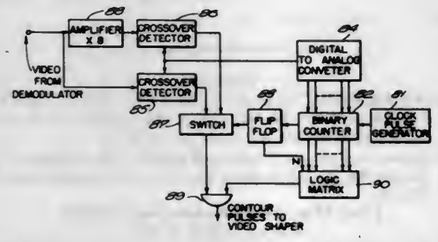
the central station unit responds by transmitting a unique coded signal, and the transceiver continuously indicates this response even after transmission has ceased.

3,441,859
GENERAL PURPOSE BOOLEAN FUNCTION GENERATOR UTILIZING DUAL-THRESHOLD LOGIC ELEMENTS
Marius Cohn, Minneapolis, Minn., assignor to Sperry Rand Corporation, New York, N.Y., a corporation of Delaware
Filed Dec. 28, 1965, Ser. No. 516,892
Int. Cl. H03k *19/12*
U.S. Cl. 328—92 **3 Claims**



A network of five dual-threshold logic elements interconnected to provide a device which receives two input variables A and B and provides any one of the sixteen possible Boolean functions of two variables.

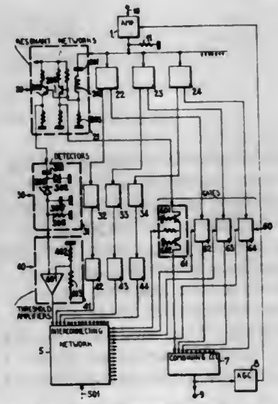
3,441,860
WAVE AMPLITUDE SENSING APPARATUS
Kenton J. Ide, Lincoln, and John F. Frazer, Lexington, Mass., assignors, by mesne assignments, to Signatection Inc., Waltham, Mass., a corporation of Massachusetts
Filed Feb. 18, 1966, Ser. No. 528,617
Int. Cl. H03k *5/20*, *3/02*
U.S. Cl. 328—147 **3 Claims**



1. Apparatus for determining when an analog signal attains predetermined amplitude levels comprising:
a binary counter;
means for causing the binary counter to repetitively count through a sequence of numbers;
a digital to analog converter connected to the binary counter, the converter responding to signals from the counter by generating a staircase waveform;

a first crossover detector for comparing two input signals and emitting an energizing signal when the compared signals are of equal amplitude, the staircase waveform being applied as an input to the first crossover detector;
means applying the analog signal to the other input of the first crossover detector;
an AND gate;
level setting means connected to the binary counter for emitting an energizing signal to the AND gate at predetermined values of the binary count; and
means for coupling the output of the first crossover detector to the AND gate whereby that gate is enabled when it simultaneously receives energizing signals from the crossover detector and the level setting means to provide an output signal indicating that the analog signal has attained one of the predetermined amplitude levels.

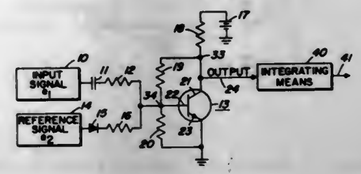
3,441,861
SELF-TUNING FILTER SYSTEM
Pierre J. F. Deman, Paris, France, assignor to Compagnie Francaise Thomson Houston-Hotchkiss Brandt, Paris, France, a corporation of France
Filed Jan. 18, 1966, Ser. No. 521,455
Claims priority, application France, Jan. 21, 1965, 2,785
Int. Cl. H03b *1/04*; H03k *1/10*
U.S. Cl. 328—165 **14 Claims**



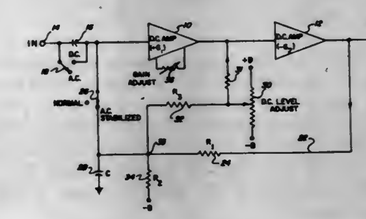
A self-tuning filter system comprising a plurality of tuned circuits connected to receive a common input signal and having respective resonance frequency values, a plurality of gates having signal inputs connected to the outputs of respective tuned circuits and having gating inputs, threshold detector means, and means selectively interconnecting the outputs of the threshold detector means with the gating inputs.

3,441,862
BI-PHASE DEMODULATING CIRCUIT INDEPENDENT OF REFERENCE SIGNAL AMPLITUDE DISTORTION
Daniel M. Mitchell, Marion, Iowa, assignor to Collins Radio Company, Cedar Rapids, Iowa, a corporation of Iowa
Filed Mar. 21, 1966, Ser. No. 536,101
Int. Cl. H03d *3/18*, *1/18*
U.S. Cl. 329—50 **4 Claims**

A phase detector comprising a transistor with the base electrode D-C biased to about the center of its operating range, and a voltage divider comprised of first and second resistors with a tap therebetween connected to the transistor base. A reference signal supplied through a diode to one end terminal of the voltage divider means is of sufficient magnitude to drive said transistor into saturation during that half cycle thereof when the diode is caused to be conducted. A second input signal is supplied to the other terminal of the voltage divider through coupling means and functions to control the level of conductivity of said transistor during that portion of the half cycle thereof coincided with that half cycle of said first signal which is blocked from the transistor. The average D-C voltage of the transistor collector is indicative of the phase relation.



3,441,863
DRIFT COMPENSATED DIRECT COUPLED AMPLIFIER CIRCUIT HAVING ADJUSTABLE D.C. OUTPUT VOLTAGE LEVEL
Hiro Moriyasu, Portland, Oreg., assignor to Tektronix, Inc., Beaverton, Oreg., a corporation of Oregon
Filed Aug. 2, 1965, Ser. No. 476,542
Int. Cl. H03f *1/02*
U.S. Cl. 330—9 **8 Claims**

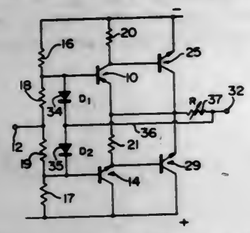


A direct coupled amplifier circuit is described which is compensated to prevent drift in its D.C. output voltage level, and is provided with a level control for adjusting such output voltage level. The amplifier circuit includes a pair of amplifier stages with the level control connected to the input of the second stage and a bipolar D.C. feedback circuit connected between the output of the second stage to the input of the first stage to provide negative feedback. A voltage comparator is connected in the feedback circuit with one input connected to the output of the second amplifier stage and another input connected to the level control, and produces a difference signal output which is applied to the input of the first amplifier as the negative feedback signal. This negative feedback difference signal cancels drift without canceling level control adjustments in the D.C. output voltage level of such amplifier.

3,441,864
TRANSISTOR AMPLIFIER PROTECTIVE CIRCUITS
David Hafler, Merion Station, Pa., assignor, by mesne assignments, to TLD, Inc., Philadelphia, Pa., a corporation of Pennsylvania
Filed Feb. 7, 1966, Ser. No. 525,401
Int. Cl. H03f *3/18*, *21/00*, *3/68*
U.S. Cl. 330—11 **11 Claims**

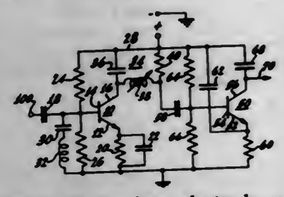
A protective network for a push-pull class B unity gain transistor amplifier employing series connected transistors, in which a semi-conductor switch is connected be-

tween the input terminal and the load to pass the input signal into the load when the input signal amplitude



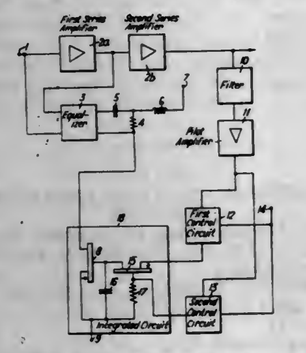
instantaneously exceeds the voltage across the load by a predetermined amount.

3,441,865
INTER-STAGE COUPLING CIRCUIT FOR NEUTRALIZING INTERNAL FEEDBACK IN TRANSISTOR AMPLIFIERS
Karol Siwko, Indianapolis, Ind., assignor to Radio Corporation of America, a corporation of Delaware
Filed May 14, 1965, Ser. No. 455,708
Int. Cl. H03f *3/04, 3/68, 1/00*
U.S. Cl. 330—21 **12 Claims**



Neutralization of the inter-electrode collector-to-base feedback of a transistor amplifier is accomplished by coupling input signals to the amplifier through a parallel-resonant circuit having an inductive component, a capacitive component, and a resistive component having a resistance value at least several times less than the value of the input reactance of the amplifier stage at the applied signal frequency.

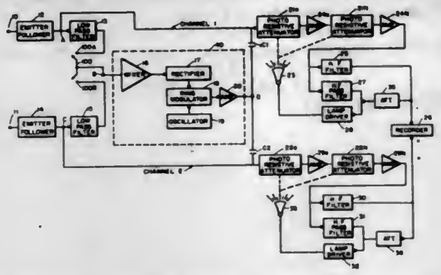
3,441,866
AMPLIFIER REGULATION
Donald Robert Barber, Bishop's Stortford, and Richard Alfred Nye, Woodside, Thornwood Common, Essex, England, assignors to International Standard Electric Corporation
Filed May 10, 1967, Ser. No. 637,416
Claims priority, application Great Britain, May 13, 1966, 21,299/66
Int. Cl. H03g *3/30;* **H03f** *3/66*
U.S. Cl. 330—29 **9 Claims**



A gain control circuit for repeater amplifiers. An insulated gate field effect transistor (IGFET) is used in the feedback loop between a pilot signal level detector and a variable equalizing network for the repeater. A second IGFET is normally conducting so as to allow the pilot signal level to be applied to one plate of a capacitor and to the gate of the first IGFET whose channel resistance is varied according to the pilot level deviation from a reference level.

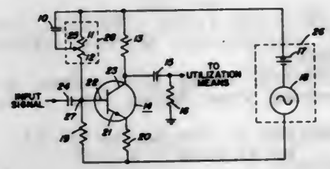
In the event of pilot signal or power failure, the second IGFET is cut off, leaving the capacitor charged to the value of the pilot signal immediately prior to cut off. The high gate leakage resistance and drain leakage resistance of the IGFET's provide a memory regulation for the amplifier.

3,441,867
MASTER AUTOMATIC GAIN CONTROL OF SEISMIC AMPLIFIERS
Thomas M. Davison, Houston, Tex., assignor to Dresser Systems, Inc., Dallas, Tex., a corporation of Delaware
Filed June 30, 1967, Ser. No. 650,524
Int. Cl. H03f *3/66;* **H03g** *3/20, 5/16*
U.S. Cl. 330—52 **10 Claims**



A plurality of seismic geophone stations are connected to a 4000 hertz oscillator and ring modulator circuit, the output of which is coupled into a plurality of individual seismic amplifiers, one amplifier for each geophone station. The output voltage from each geophone station is also respectively connected into each of the seismic amplifiers. Each seismic amplifier has a plurality of photo resistive units responsive to a lamp circuit driven by the varying amplitude of the modulated oscillator signal, the gain of each amplifier having an inverse relationship to the amplitude of the modulated oscillator signal.

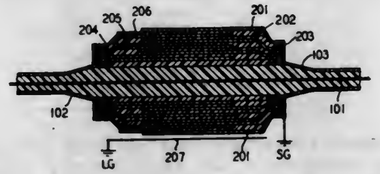
3,441,868
AMPLIFIER WITH HUM ELIMINATING CIRCUIT
Dean T. Anderson, Marion, Iowa, assignor to Collins Radio Company, Cedar Rapids, Iowa, a corporation of Iowa
Filed Aug. 16, 1967, Ser. No. 661,103
Int. Cl. H03f *1/26, 1/30*
U.S. Cl. 330—149 **1 Claim**



A circuit for eliminating hum in a transistorized amplifier employing a hum containing D-C source with said hum being supplied to the transistor collector along with the D-C signal. A portion of the hum is also supplied to the transistor base electrode with a magnitude sufficient

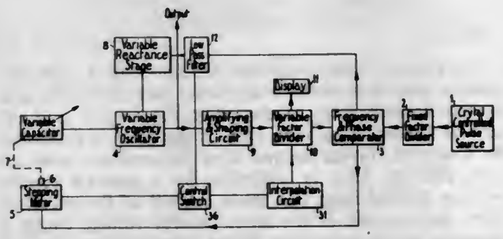
to produce at said collector electrode a hum component equal, but opposite in phase, to the hum supplied directly thereto from the D-C source, thus effectively canceling said hum.

3,441,869
COAXIAL CAPACITOR
William J. Thompson, Mountain Lakes, N.J., assignor to Bell Telephone Laboratories, Incorporated, Murray Hill, N.J., a corporation of New York
Filed Apr. 20, 1967, Ser. No. 632,384
Int. Cl. H03f *1/42*
U.S. Cl. 330—199 **1 Claim**



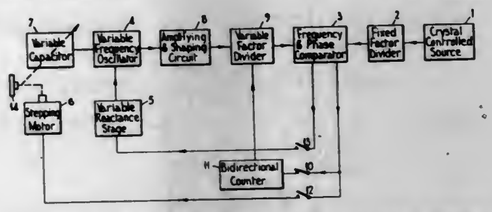
In a submarine cable repeater a four terminal coaxial capacitor is employed to minimize the transfer of energy from currents in the outer conductor branch to the transverse signal path of the repeater's coaxial structure. Additionally, the coaxial capacitor is provided with a third foil electrode over the basic structure so that the outer conductor branch is bypassed to local ground with a minimum of effective series inductance.

3,441,870
FREQUENCY SYNTHESIZER USING AUTOMATICALLY VARIED DIVISION FACTORS IN A PHASE-LOCKED LOOP
Reginald Gordon Wicker, Coventry, England, assignor to The General Electric Company Limited, London, England, a British company
Filed Jan. 5, 1968, Ser. No. 696,091
Claims priority, application Great Britain, Jan. 5, 1967, 696/67
Int. Cl. H03b *3/04, 3/00*
U.S. Cl. 331—11 **12 Claims**



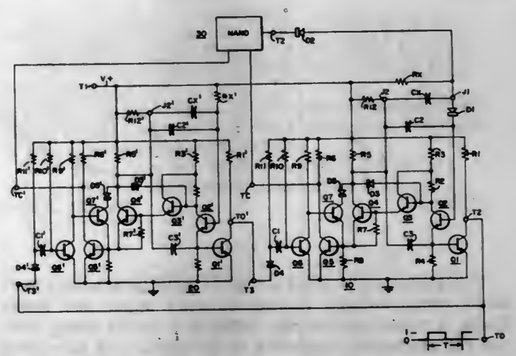
A frequency synthesizer comprises a slave oscillator whose frequency is controlled via a control loop incorporating a variable factor divider whose output is compared in a comparator with a train of pulses of reference frequency. In order to obtain slave oscillator frequencies corresponding to fractional division factors of the divider, a control signal is applied to the slave oscillator from the comparator via a smoothing circuit so that the control signal has a value representative of the average value of the output of the comparator over a period corresponding to a plurality of successive counts by the divider, and means is provided for automatically setting the division factor of the divider at different values during each said period.

3,441,871
OSCILLATOR SYSTEM SELECTIVELY OPERABLE AS FREQUENCY MEASURING DEVICE OR AUTOMATIC FREQUENCY CONTROL
Reginald Gordon Wicker, Coventry, England, assignor to The General Electric Company Limited, London, England, a British company
Filed Jan. 5, 1968, Ser. No. 696,089
Claims priority, application Great Britain, Jan. 5, 1967, 697/67
Int. Cl. H03b *3/04, 3/00;* **G01r** *23/14*
U.S. Cl. 331—11 **4 Claims**



An apparatus for indicating the frequency of a variable frequency oscillator comprising a frequency comparator to one input of which is applied a train of pulses of predetermined frequency and to whose other input is applied a train of pulses at the frequency of the oscillator divided by the division factor of a variable factor divider whose setting is automatically maintained in predetermined relation with the reading of a pulse counter to which the output of the comparator is applied. The stable reading of the counter indicates the frequency of the oscillator. The apparatus can be converted to an automatic frequency control system by disconnecting the comparator output signal from the counter and utilizing this signal to control the oscillator frequency.

3,441,872
SELF-STARTING OSCILLATOR WITH PLURAL MONOSTABLE MULTIVIBRATORS
Paul W. Wagener and Francis H. Downhower, Jr., Lancaster, N.Y., assignors to Westinghouse Electric Corporation, Pittsburgh, Pa., a corporation of Pennsylvania
Filed Sept. 18, 1967, Ser. No. 668,502
Int. Cl. H03b *5/06*
U.S. Cl. 331—52 **8 Claims**

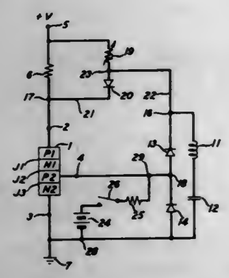


The subject matter of the present disclosure relates to a self-starting oscillator wherein a pair of one shot monostable multivibrators have their outputs respectively coupled to provide an input to the other of the multivibrators. A complementary output is supplied by each of the multivibrators as an input to a logic element which supplies a logic output whenever both of the complementary outputs are of the same output state. The logic output is coupled to one of the multivibrators to change its output state and thereby initiate oscillation to the oscillator.

3,441,873
THYRISTOR SWITCH CIRCUIT HAVING DIODE CONTROLLED FIRING MEANS

William B. Harris, Bernardsville, N.J., assignor to Bell Telephone Laboratories, Incorporated, Murray Hill and Berkeley Heights, N.J., a corporation of New York

Filed Aug. 11, 1967, Ser. No. 659,954
Int. Cl. H03b 5/12
U.S. Cl. 331—107 4 Claims

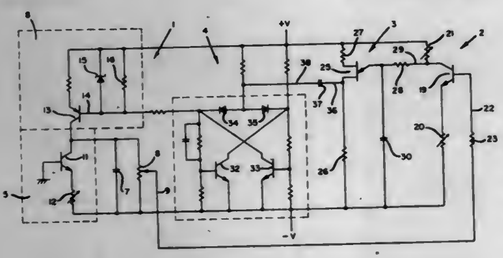


Square wave generators based on multivibrator circuits generally require two tubes or transistors for repetitively triggering one from the other. It has been discovered that a switch circuit employing a single thyristor with resonant turn-off means and reverse current diodes can be adapted to function as an astable oscillator by connecting a battery between the diodes and the gate of the thyristor. The fall time of a pulse produced by this switch circuit can be materially shortened by employing a serially connected resistor and a step recovery diode in parallel with the load circuit.

3,441,874
SWEEP GENERATOR

Donald R. Bennett, Los Gatos, Calif., assignor to Sylvania Electric Products Inc., a corporation of Delaware

Filed June 30, 1966, Ser. No. 561,787
Int. Cl. H02h 1/04
U.S. Cl. 331—111 8 Claims

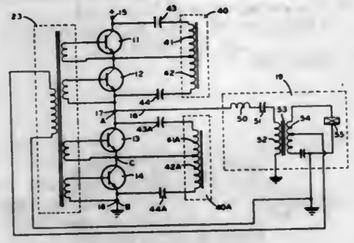


This generator includes a sweep circuit producing a sawtooth sweep voltage varying between upper and lower limits, a transistor amplifier responsive to the sweep voltage for alternately operating in the active and saturation region, and a unijunction transistor threshold circuit. The amplifier operates in the saturation region producing an output voltage proportional to the sweep voltage and equal to the threshold voltage when the sweep voltage is at its upper limit. The amplifier operates in the active region producing an output voltage inversely proportional to the sweep voltage and equal to the threshold voltage when the sweep voltage is at its lower limit. The sweep circuit is response to operation of the unijunction for changing the slope of the sweep voltage each time it reaches one of its limits.

3,441,875
ELECTRICAL SWITCHING CIRCUIT USING SERIES CONNECTED TRANSISTORS

Andrew Shoh, Ridgefield, Conn., assignor to Branson Instruments, Incorporated, Stamford, Conn., a corporation of Delaware

Filed Aug. 15, 1967, Ser. No. 660,810
Int. Cl. H03b 5/02
U.S. Cl. 331—117 6 Claims

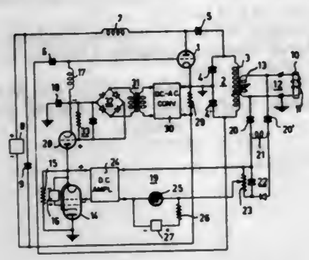


To provide substantially equal electrical potential distribution across series connected switching transistors, an autotransformer is capacitively coupled to the transistors.

3,441,876
HIGH-FREQUENCY OVEN

Gooitzen Zwanenburg, Emmasingel, Netherlands, assignor, by mesne assignments, to U.S. Philips Corporation, New York, N.Y., a corporation of Delaware

Continuation of application Ser. No. 556,378, June 9, 1966. This application Apr. 15, 1968, Ser. No. 721,514
Claims priority, application Netherlands, July 2, 1965, 6508506
Int. Cl. H03b 1/02
U.S. Cl. 331—183 8 Claims



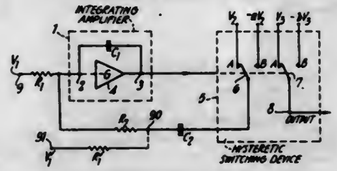
An electron tube oscillator for use with a high frequency heating aparatus comprises a pair of serially connected electron tubes connected in the control grid circuit of the oscillator tube. One of the tubes is controlled by a control voltage derived from the oscillator load circuit, and the other is controlled by a separate control voltage derived from the anode current of the oscillator tube. An increase of the latter control voltage causes a decrease in the impedance of the corresponding electron tube.

3,441,877
PULSE-WIDTH MODULATORS

Lionel R. F. Thompson, Hatfield, England, assignor to Hawker Siddeley Dynamics Limited, Hatfield, England, a company of Great Britain

Filed June 14, 1966, Ser. No. 557,440
Claims priority, application Great Britain, June 14, 1965, 25,099/65
Int. Cl. H03k 7/08, 5/04
U.S. Cl. 332—9 11 Claims

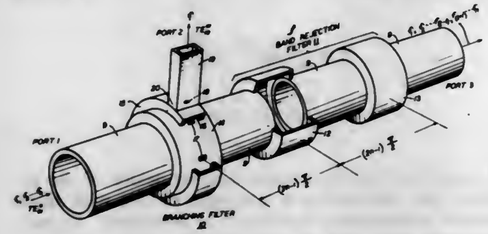
1. A pulse width modulator comprising a first input line for receiving a first electrical input signal, a second input line for receiving a second electrical input signal, the first and second input signals being combined to form an effective electrical input signal, an integrating circuit responsive to the effective input signal to generate an electrical output signal, the magnitude of which is a function of the time integral of the magnitude of the said effective input signal, first switching means connected to the second input line and arranged to respond to the magnitude of the said output signal t oassume a first state to switch the magnitude of the second input signal to a first value as a result of that output signal attaining a first selected value and to assume a second state to switch the magnitude of the second input signal to a second value as a result of that output signal attaining a second selected value different from the first selected value, the said first and second values of the magnitude of the said second input signal being so selected that, each time the first switching means operates, the polarity of the said effective input signal is reversed such that oscillation occurs, and means for generating an electrical load signal whose magnitude varies between first and second values in synchronism with the first switching means whereby the load signal is pulse width modulated, and in which the first switching means is arranged to effectively connect the second input line to first and second difference sources by way of a reactance whereby the average value of the load signal is a function of the time integral of the magnitude of said first electrical input signal.



3,441,878
TWO-POLE CHANNEL-DROPPING FILTER

Robert D. Standley, Shrewsbury, N.J., assignor to Bell Telephone Laboratories, Incorporated, Murray Hill, N.J., a corporation of New York

Filed Sept. 7, 1967, Ser. No. 666,123
Int. Cl. H01p 5/12
U.S. Cl. 333—6 4 Claims



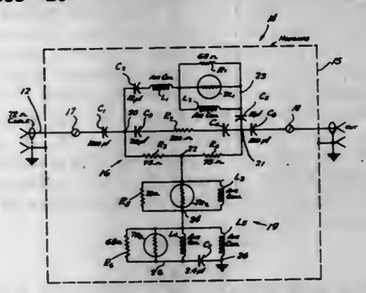
Channel-dropping filters having steeper skirt selectivity are realized in an arrangement that includes a two-stage band-rejection filter and a multiple-resonant branching filter. The latter comprises a resonant section of dual-mode circular waveguide that is supportive of both the $TE_{01}°$ and $TE_{02}°$ circular electric modes over the band of frequencies occupied by the channel to be dropped, and is resonant for the $TE_{02}°$ mode. A second resonator, comprising a section of rectangular waveguide, is wrapped around the dual-mode resonator such that one of the wide walls of the rectangular guide and a portion of the wall of the circular guide are shared in common.

Coupling between the two resonators is provided by means of a multiplicity of apertures uniformly distributed about the portion of common wall. Coupling out of the second resonator is through an aperture located in the other wide wall.

3,441,879
TRANSMISSION LINE THERMAL EQUALIZER

Edward J. Tomcavage, 83 Weston Place, Shenandoah, Pa. 17976

Filed May 13, 1966, Ser. No. 549,992
Int. Cl. H03h 5/10, 7/38
U.S. Cl. 333—28 3 Claims

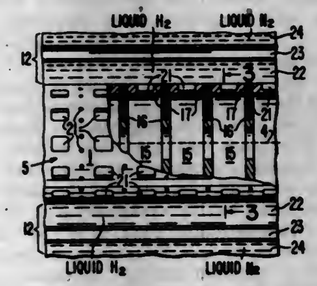


A temperature-compensating signal level and impedance matching network for use in a high frequency transmission system, consisting of a temperature-responsive attenuation branch having an electrically-centered junction and a temperature-responsive phase-shift control branch connected between the centered junction and ground. Each temperature-responsive branch includes an inductor with a thermistor in shunt therewith to vary the inductive reactance of the branch with temperature. The phase-shift control branch includes a coarse temperature-responsive phase-shift portion and a fine temperature-responsive phase-shift portion, each having an air coil shunted by a thermistor.

3,441,880
HIGH Q RADIO FREQUENCY CIRCUIT EMPLOYING A SUPERCONDUCTIVE LAYER ON A POROUS THERMALLY MATCHED SUBSTRATE

Ira Weissman, Palo Alto, and Malcolm L. Kinter, Menlo Park, Calif., assignors to Varian Associates, Palo Alto, Calif., a corporation of California

Filed Apr. 20, 1967, Ser. No. 632,415
Int. Cl. H01p 1/00, 7/06; H01j 7/26
U.S. Cl. 333—99 10 Claims



High Q radio frequency circuits such as reference cavity resonators for frequency standards and coupled cavity circuits for linear particle accelerators are disclosed. Such

circuits comprise a radio frequency wave supportive structure formed by a superconductive layer disposed on a porous metallic substrate. The substrate has a coefficient of linear thermal expansion which is about equal to that of the superconductive layer such that thermally produced strains of the superconductive layer are prevented in use and fabrication.

In a preferred embodiment, the porous metal substrate is made of the same material as that of the superconductive layer to facilitate obtaining a good bond therebetween. Suitable superconductive layers include pure lead and pure niobium. Suitable substrate materials include sintered lead-antimony and lead-arsenic alloys for use with a lead superconductive layer and sintered niobium for use with a non-porous niobium superconductive layer.

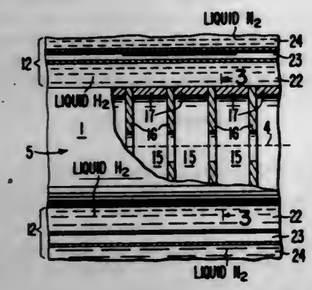
The porous substrate is immersed in superfluid helium, i.e. liquid helium below 2.2° K. Superfluid helium is characterized by having zero viscosity and infinite thermal conductivity. The superfluid helium permeates the pores of the substrate to cool the superconductive layer. In the process, at least some of the superfluid helium is heated to normal liquid helium which forms a counter stream flowing away from the superconductive layer. In one embodiment, the substrate is provided with a multitude of larger holes which penetrate into the substrate, in a waffle-like manner, to facilitate the counter flow of normal liquid helium.

3,441,881

HIGH Q RADIO FREQUENCY CIRCUITS EMPLOYING A SUPERCONDUCTIVE LAYER ON A THERMALLY MATCHED AGGREGATE METALLIC SUBSTRATE

Ira Weissman, Palo Alto, Calif., assignor to Varian Associates, Palo Alto, Calif., a corporation of California

Filed Apr. 20, 1967, Ser. No. 632,416
Int. Cl. H01p *1/00*; H01j *25/34, 7/26*
U.S. Cl. 333—99 **11 Claims**



High Q radio frequency circuits such as reference cavity resonators for frequency standards and coupled cavity circuits for linear accelerators are disclosed. Such circuits comprise a radio frequency wave supporting structure formed by a superconductive layer deposited upon or otherwise formed on a metallic substrate member. The substrate is matched to the coefficient of linear thermal expansion of the superconductive layer such that thermally produced strains of the superconductive layer are prevented in fabrication and use. The metallic substrate member is formed of a porous metal structure of a first metal having substantial strength with the pores infiltrated with a second metal having a relatively high thermal conductivity at cyrogenic temperature, as of 1.85° K. Suitable superconductive layers include niobium, niobium-tin, niobium-zirconium, niobium-titanium, tantalum, and vanadium. Suitable aggregate substrate materials include a tungsten or niobium porous metal matrix impregnated with a good thermal conductor such as copper or silver.

In a preferred embodiment, pure niobium is deposited upon a substrate member comprising a porous tungsten matrix impregnated with purified annealed copper with the substrate comprised of about 65% by volume of tungsten and 35% by volume of copper.

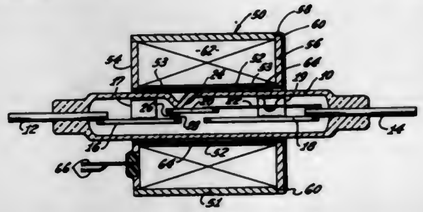
The superconductive layer is preferably polished, as by chemical polishing or electropolishing, to remove surface irregularities greater than 1 micron in size. X-band linear accelerator cavities constructed according to the present invention provide Qs of the order of 10^8 to 10^9.

3,441,882

VACUUM RELAY

Victor E. De Lucia, Santa Monica, Calif., assignor to Torr Laboratories Inc., Los Angeles, Calif., a corporation of California

Filed June 26, 1967, Ser. No. 648,697
Int. Cl. H01h *1/66*
U.S. Cl. 335—154 **9 Claims**



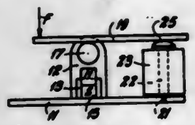
A vacuum relay is described in the specification, in which the switching components of the relay operate in an evacuated envelope. The relay uses magnetizable members within the envelope, not only to provide a movable armature and to complete a magnetic path through the envelope, but also to serve as the stationary and movable electrical contacts of the relay. These members are constructed, as will be described, so as to provide a miniature relay which is capable of high voltage and high current operation and which is extremely sensitive but immune to external shocks and vibrations.

3,441,883

SENSITIVE ELECTRO-MAGNETIC TRIPPING DEVICE OF THE RE-SETTING TYPE

Jean Alletru, Villemomble, France, assignor to L'Industrie Electrique de la Seine, Romainville, France

Filed Mar. 17, 1967, Ser. No. 623,909
Claims priority, application France, Mar. 22, 1966, 54,562
Int. Cl. H01f *3/12, 7/00, 7/08*
U.S. Cl. 335—234 **7 Claims**



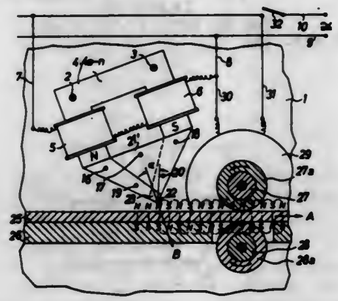
A sensitive electro-magnetic tripping device of the resetting type, comprising a magnetic circuit with three branches containing respectively a permanent magnet, a magnetic shunt and an operating coil, and a magnetic vane acting as a balance bridge on the second branch, and a spherical cap terminating the third branch, a first series air-gap being formed between the operating coil and the vane, this first air-gap being formed between the spherical cap and the vane, a circular cylinder terminating the second branch and a second series air-gap being formed between the magnetic shunt and the vane, this second air-gap being formed between the circular cylinder and the vane, and two guides holding the vane bi-laterally on the circular cylinder with a pre-determined play which is equal on both sides.

3,441,884

LAMINATED MAGNETIC HEAD FOR EFFECTING CHECKERBOARD PATTERN MAGNETIZATION OF A MAGNETIC MATERIAL

Rudolf Eppe, Taufkirchen, Munich, Germany, assignor to Agfa-Gevaert Aktiengesellschaft, Leverkusen, Germany

Filed May 11, 1966, Ser. No. 549,272
Claims priority, application Germany, May 21, 1965, A 49,275
Int. Cl. H01f *13/00*
U.S. Cl. 335—284 **2 Claims**



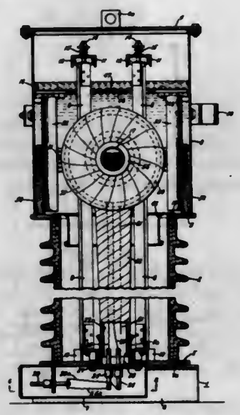
A magnetizing apparatus has a pole piece including a row of pairs of pole shoes of opposite polarity producing magnetic areas of alternate polarity, along a sharp edge of the pole piece. A magnetizable element is transported transverse to the edge while the pole piece is energized to have an alternate polarity so that along the edge magnetic areas of alternate polarity are created in the magnetizable element in the direction of relative movement whereby a checkerboard pattern of magnetized areas of opposite polarity is produced.

3,441,885

HIGH VOLTAGE CURRENT TRANSFORMER HAVING RIGID SECONDARY EYE BOLT AND FLEXIBLE PRIMARY CABLES IN HIGH VOLTAGE TANK

Louis W. Marks, Pittsfield, Mass., assignor to General Electric Company, a corporation of New York

Filed June 14, 1965, Ser. No. 463,750
Int. Cl. H01f *15/04*
U.S. Cl. 336—84 **15 Claims**



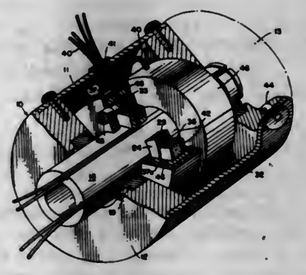
The application discloses a high voltage current transformer of the liquid-immersed type in which a metal enclosing tank is mounted upon an insulating column and adapted for operation at high voltage. Entirely within the tank is wound a primary circuit formed of lightly insulated flexible cable traversing a horizontal conduit. A rigid heavily insulated secondary eye bolt is mounted on the conduit and its radial stem extends through the supporting insulator. The cable conduit is provided with a part of the primary to secondary insulation, and turn ratio is determined by variation in the number of primary turns. Means are provided to support the primary turns against magnetic forces and to connect such turns selectably in series or parallel circuit relation through exterior terminals on the tank.

3,441,886

ROTARY TRANSFORMER WITH INTEGRAL BEARING

Richard S. Tveter, Glenview, Ill., assignor to Sidney Himmelstein, Chicago, Ill.

Filed Mar. 2, 1967, Ser. No. 620,144
Int. Cl. H01f *21/04, 21/06*; H02k *5/16*
U.S. Cl. 336—120 **10 Claims**



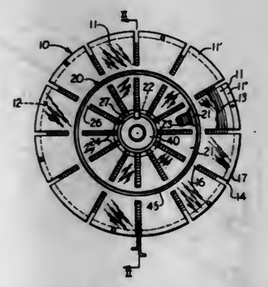
An easily assembled rotary transformer in which the critical clearance between the rotor and the stator is accurately maintained. The stator is supported by the rotor rather than by the transformer frame. The stator includes a cylindrical coil form and associated coil ensleeved about the rotor. The stator further includes a pair of hemi-cylindrical stator cores (which enclose the stator coil and rotor) and which are locked together. Adjacent surfaces of the stator and rotor are bearing surfaces so that the rotor may rotate within the stator without the necessity of an independent mounting for the stator.

3,441,887

HIGH FREQUENCY ROTARY INDUCTIVE COUPLING

Philip J. Costa, Chillicothe, Ill., assignor to Caterpillar Tractor Co., Peoria, Ill., a corporation of California

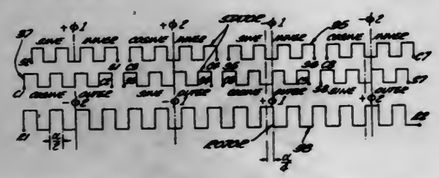
Filed Sept. 1, 1967, Ser. No. 665,127
Int. Cl. H01f *21/02, 21/06*
U.S. Cl. 336—120 **1 Claim**



To improve the coefficient of coupling between a stationary circular primary, which may be impressed with a voltage having a frequency ranging from 200 cycles to 10 kc., and which encircles a relatively rotatable circular

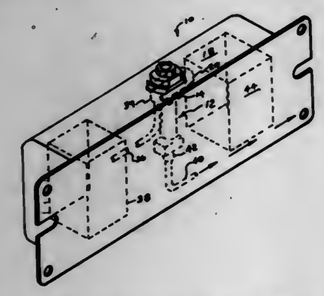
secondary that may rotate at speeds of 6000 r.p.m. and faster, the secondary and primary coil forms are made in the configurations of a reel and a complementary inverted reel respectively, the cores and a major portion of each of the side flanges of the reels being slotted to minimize the eddy current effect, the remaining portion of each of the side flanges of the reels being unslotted and the unslotted peripheral edges adjacent thereto being opposingly faced and defining the lateral boundaries of the air gap between the primary and secondary.

3,441,888
MULTI-LAYER WINDINGS FOR POSITION MEASURING TRANSFORMERS
Clair L. Farrand, Bronxville, N.Y., assignor to Inductosyn Corporation, Carson City, Nev., a corporation of Nevada
Filed Oct. 3, 1966, Ser. No. 589,166
Int. Cl. H01f *21/04*
U.S. Cl. 336—123 **23 Claims**



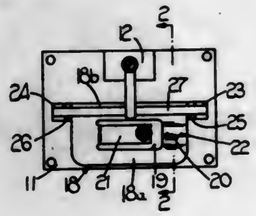
The invention provides relatively movable transformer members, one member having a plurality of arrays of cofunction windings, wherein the arrays in one form of the invention are arranged in juxtaposition in multilayers, and in another form of the invention are arranged laterally disposed from each other in a single layer. Each layer or array comprises a plurality of staggered groups of windings having a cofunction significance, with the windings of one significance of each array or layer arranged in the gaps of the group of the associated significance. The groups of one layer are opposite the groups of other significance in the other layer and the opposite groups of the layers are noninductively related to each other. Each cofunction significance, such as sine or cosine, of all of the layers as a whole present substantially the appearance of a continuous winding in a direction facing the other transformer member.

3,441,889
FLUORESCENT LAMP BALLAST WITH INTEGRAL FUSEHOLDER AND REPLACEABLE FUSE
Christopher B. Boone, Shelton, Conn.
(21 Station Square, Bergenfield, N.J. 07621)
Filed Feb. 9, 1967, Ser. No. 615,008
Int. Cl. H01b *85/24*
U.S. Cl. 337—1 **3 Claims**



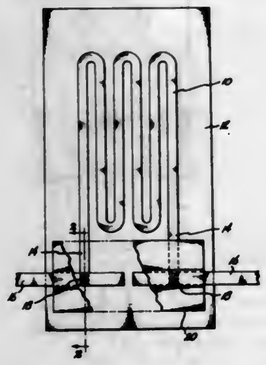
A ballast unit for fluorescent lamps, with an integral, accessible fuseholder and a replaceable fuse. The fuseholder permits the replacement of a burned out fuse with another fuse of the same rating only. The fuseholder is removably secured to the unit by either elliptical or U-shaped fasteners.

3,441,890
THERMALLY OPERABLE FLASHER UNITS
Alfred Donald Prickett, Handsworth Wood, Birmingham, England, assignor to Joseph Lucas (Industries) Limited, Birmingham, England
Filed Mar. 10, 1967, Ser. No. 622,331
Claims priority, application Great Britain, Mar. 30, 1966, 14,040/66
Int. Cl. H01h *61/08, 81/02*
U.S. Cl. 337—138 **4 Claims**



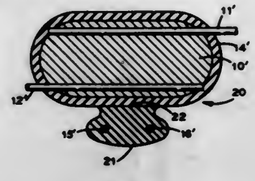
A flasher unit for controlling the indicator lamps of a road vehicle, including a resilient vane which can snap from a first stable position to second stable position when lateral bending forces are applied to it. The vane is controlled by a thermally expansible strip connected in the indicator lamp circuit of the vehicle and the snapping of the vane between its stable positions is utilized to make and brake the indicator lamp circuits. The particular form of the vane is claimed.

3,441,891
STRAIN GAGE HAVING A STRAIN RESISTANT ELECTRICAL CONNECTION
Darrell R. Harting, Seattle, Wash., assignor to The Boeing Company, Seattle, Wash., a corporation of Delaware
Filed May 31, 1967, Ser. No. 642,560
Int. Cl. G01b *7/16, 11/00*
U.S. Cl. 338—6 **5 Claims**



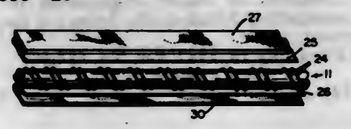
An electrical connection to a strain gage with one conductor permitted limited movement with respect to the other and having liquid metal alloy between them. The conductors are mounted perpendicular to each other and held in place on a backing by polyfluorcarbon adhesive tape.

3,441,892
THERMALLY-CONTROLLED RESISTORS
Robert T. Luedeman, Metuchen, N.J., assignor to Weston Instruments, Inc., Newark, N.J., a corporation of Delaware
Filed June 27, 1967, Ser. No. 649,268
Int. Cl. H01c *7/04*
U.S. Cl. 338—23 **12 Claims**



An oval bead composed of a material having both good thermal conductive and electrical insulative properties is joined to a discrete surface portion of a layer of electrical insulation encapsulating a resistor having a high negative temperature coefficient of resistance. The bead is of small size and embeds typically two heater wires in small spaced-apart relationship and provides (1) a heat sink of negligible size and (2) a common thermal conductive path to heat transfer between the heater wires and the discrete surface portion of the layer of electrical insulation.

3,441,893
RESISTANCE TEMPERATURE DETECTOR
William D. Gordon, Lynn, and Joe A. Warburton, Melrose, Mass., assignors to General Electric Company, a corporation of New York
Filed Dec. 28, 1966, Ser. No. 605,469
Int. Cl. H01c *7/08, 3/00*
U.S. Cl. 338—26 **6 Claims**

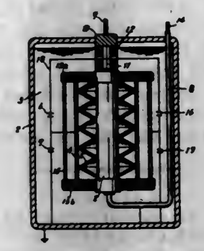




This disclosure sets forth a resistance temperature detector structure especially adapted for Class H motor operation. The resistance temperature detector is constructed of a temperature sensing element surrounded by insulating barriers of a polyimide film and a compatible fluorocarbon resin.

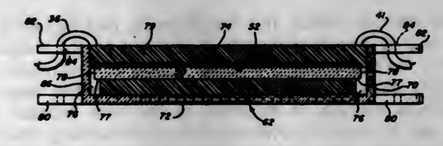
3,441,894
HIGH VOLTAGE RESISTOR
Makoto Yamamoto, Minoru Fujisawa, and Eiji Watanabe, Tokyo, Japan, assignors to Nihon Denshi Kabushiki Kaisha, Tokyo, Japan, a corporation of Japan
Continuation-in-part of application Ser. No. 511,984, Dec. 3, 1965. This application Apr. 30, 1968, Ser. No. 725,379
Claims priority, application Japan, Dec. 10, 1964, 39/69,554
Int. Cl. H01c *1/02*
U.S. Cl. 338—231 **10 Claims**

A high voltage resistor including a resistor immersed in oil and surrounded by a cylinder of electrically conductive material. Between the resistor and cylinder is an insulating corrugated baffle for restraining movement of the oil when a voltage is applied to the cylinder, to reduce noise and change in voltage value between the input and output of the resistor. A second cylinder of conductive material can be positioned around the first cylinder and connected in the same manner. In an embodiment of the



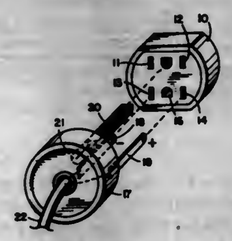
invention, the first cylinder can be made of a suitable resistance material connected directly to the input and grounded whereby the potential drop across the resistor and the cylinder can be equalized to substantially eliminate oil turbulence and corona discharge.

3,441,895
CERMET RESISTANCE MODULE
Jack Schwartz, Chicago, Ill., assignor to Admiral Corporation, Chicago, Ill., a corporation of Delaware
Filed Mar. 8, 1967, Ser. No. 621,571
Int. Cl. H01c *1/02*
U.S. Cl. 338—256 **4 Claims**



A modular electrical resistor for use in high voltage circuits which is fabricated by encapsulating a cermet resistance element in a mold filled with high dielectric material. The mold becomes a permanent part of the module, and includes integral therewith, lead restraints and mounting tabs.

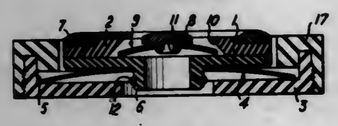
3,441,896
COMPATIBLE ELECTRICAL OUTLET SOCKET AND PLUG
Robert D. Hawkins, 206 W. Anapamu St., Santa Barbara, Calif. 93104
Filed May 29, 1967, Ser. No. 641,953
Int. Cl. H01r *3/06, 13/46, 13/64*
U.S. Cl. 339—14 **4 Claims**



This disclosure relates to electrical outlets and plugs of the three-pronged type wherein one of the prongs constitutes a ground contact. The outlet includes double outlet socket pairs which may be employed with conventional plugs. In addition, the outlet includes two ground contact sockets positioned such that one of the ground

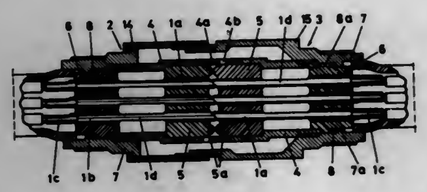
contact sockets receives the ground prong of the three-pronged plug when the plug is received in one of the outlet socket pairs and the other of the ground contact sockets receives the ground prong of the three-pronged plug when the plug is removed and rotated 180° and received in the other of the outlet socket pairs. The internal connections of the sockets are such that regardless of the position in which the three-pronged plug is inserted, proper polarity will result so that no thought need be given to insertion of the three-pronged plug to insure proper polarity. The disclosure further relates to a unique three-pronged plug for use with the outlets.

3,441,897
DEVICE FOR TRANSMITTING ELECTRICAL MEASUREMENTS
Jean Charlade, Bagnols-sur-Ceze, France, assignor to Commissariat à l'Energie Atomique, Paris, France
Filed June 7, 1966, Ser. No. 555,831
Claims priority, application France, June 23, 1965, 21,958
Int. Cl. H01r *13/20, 25/00;* G21c *3/30*
U.S. Cl. 339—30 6 Claims



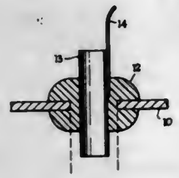
An electric switch for use between fuel elements in the duct of a nuclear reactor is actuated by the temperature at the fuel element and has a base of electrically insulating material with a cap screwed onto the base. A bimetallic element is mounted in the base beneath the cap and is centrally connected to an insulating washer. An insulating ring is mounted on the washer and a circular contact is mounted on the ring. A central contact is mounted within the ring and spaced from the circular contact. A second bimetallic element supports the central contact.

3,441,898
CONNECTION DEVICE FOR ELECTRIC CABLES
Nils Ingvar Nodfelt, Jarnvagsgatan 76, Gnosjo, Sweden
Filed Apr. 6, 1967, Ser. No. 628,901
Int. Cl. H01r *31/02, 7/06*
U.S. Cl. 339—48 4 Claims



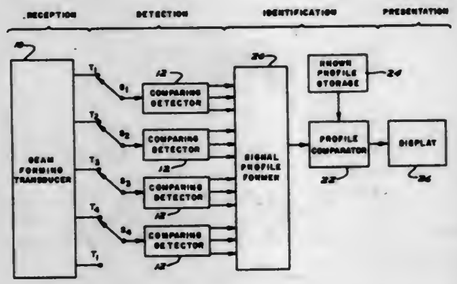
In a contact device for electric cables consisting of two coupling halves provided with mating contact members, the feature of an oblique front end contact surface and an intermediate strip-shaped portion of each member to make the same resilient. When the coupling parts are tightened together by axial movements the oblique surfaces slide against each other to displace the members sidewards. Hereby any oxide coating of the contact surfaces will be removed, and a continuous contact under pressure is ensured.

3,441,899
ELECTRICAL CONNECTOR
Percy E. Gold, 53 Nascot Wood Road, Watford, Hertfordshire, England
Filed Apr. 20, 1967, Ser. No. 638,175
Int. Cl. H01r *11/20, 25/00, 29/00*
U.S. Cl. 339—95 5 Claims



The basic idea underlying the invention is to have an electrically conducting stud and a resilient member which presses the wires to be connected against the stud to make the electrical connection. The resilient member may be in the form of an insulating rubber ring around the outside surface of the stud, or a rubber plug inside the stud where this is tubular.

3,441,900
SIGNAL DETECTION, IDENTIFICATION, AND COMMUNICATION SYSTEM PROVIDING GOOD NOISE DISCRIMINATION
Meredith S. Ulstad and Arthur E. Neuman, Minneapolis, Minn., assignors, by mesne assignments, to Control Data Corporation, Minneapolis, Minn., a corporation of Delaware
Filed July 18, 1967, Ser. No. 654,270
Int. Cl. H04b *13/00*
U.S. Cl. 340—5 7 Claims

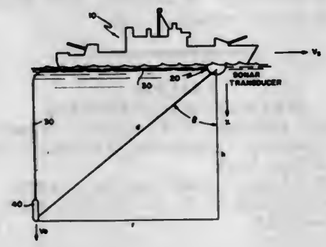


A sonar system providing good noise discrimination is disclosed. The input to the system is formed by suitable transducers which divide the space under investigation into several beams. The system then compares the signals and noise of adjacent beams and provides an output indicating the power density spectrum of the difference found. Since the noise power density spectrum is equal in both beams, the noise effect is cancelled by the comparison.

The various power density spectra found may then be processed to determine the identities of their probable sources.

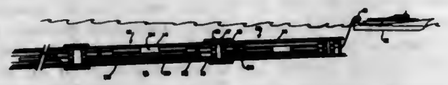
A method for communicating using transmitted signals approximating a series of normally occurring ocean signals in a prearranged pattern is also disclosed.

3,441,901
SYSTEM FOR MEASURING SOUND VELOCITY IN WATER AS A FUNCTION OF DEPTH
John H. Cawley, Lexington, and Daniel Schiff, Framingham Center, Mass., assignors, by mesne assignments, to the United States of America as represented by the Secretary of the Navy
Filed Aug. 21, 1967, Ser. No. 662,206
Int. Cl. H04b *13/00*
U.S. Cl. 340—5 4 Claims



A freely sinking probe containing a transducer is launched from a moving vessel and connected thereto by a wire link. A sound transmitter aboard the vessel transmits an acoustic pulse into the water which is received by the transducer and transmitted to instrumentation through the wire link. The sound velocity as a function of the depth of the probe is computed and another acoustic pulse transmitted into the water.

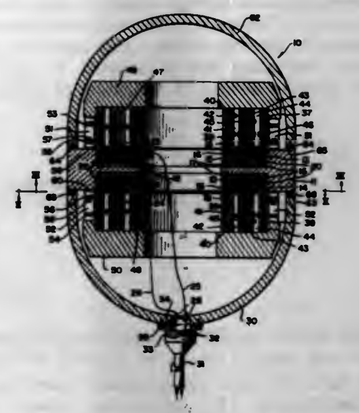
3,441,902
EXTENDABLE INTERSECTION HYDROPHONE ARRAYS
Carl H. Savit, Houston, Tex., assignor to Western Geophysical Company of America, Los Angeles, Calif., a corporation of Delaware
Filed Apr. 1, 1968, Ser. No. 717,534
Int. Cl. H04b *13/00, 13/02;* G10k *11/00*
U.S. Cl. 340—7 10 Claims



This invention relates to improved streamer cables for use in marine seismic exploration, and, more particularly, to improved streamer sections each comprising at least two overlapped component arrays of hydrophones for detecting reflected seismic waves during marine exploration. Means are provided to detachably connect at the end of each section, the component arrays of adjacent sections to obtain composite intersection arrays for spatial mixing of signals and for optimum attenuation of noise and of unwanted signals. Desirable hydrophone response patterns and curves can be selectively achieved.

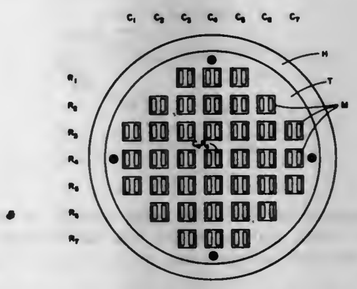
3,441,903
ELECTROACOUSTIC TRANSDUCER WITH IMPROVED ELECTROMAGNETIC DRIVE
Frank Massa, Jr., Cohasset, Mass., assignor to Massa Division, Dynamics Corporation of America, Hingham, Mass.
Original application Feb. 1, 1966, Ser. No. 524,013, now Patent No. 3,363,227, dated Jan. 9, 1968. Divided and this application Sept. 22, 1967, Ser. No. 683,751
Int. Cl. H04b *13/00*
U.S. Cl. 340—8 10 Claims

The invention provides an improved electromagnetic transducer made from laminates, which may be extremely thin, and which are nestingly bonded in cup-shaped openings on spaced parallel plates. The laminate may be made by winding ribbons of magnetic material on coil winding equipment. By changing the widths of the ribbons, it is possible to build a magnetic structure having a concentric



annular slot for receiving an electrical coil. The entire unit is bonded together with a suitable material, such as an epoxy cement.

3,441,904
ELECTRO-MECHANICAL DIRECTIONAL TRANSDUCER
Geoffrey L. Wilson, State College, Pa., assignor, by mesne assignments, to the United States of America as represented by the Secretary of the Navy
Filed Dec. 15, 1967, Ser. No. 690,900
Int. Cl. H04b *13/00*
U.S. Cl. 340—9 2 Claims

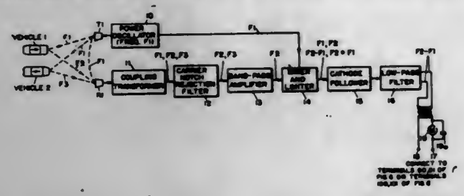


An electro-mechanical directional transducer having an odd number of rows and columns of transducer vibratory elements. The central row and column have a common element at the geometric center of the transducer which eliminates the phase difference between the sum transducer output and the single central element output.

3,441,905
VEHICLE DETECTION AND SPEED MEASURING APPARATUS
John H. Auer, Jr., Fairport, and Klaus H. Frielinghaus, Rochester, N.Y., assignors to General Signal Corporation, Rochester, N.Y.
Original application Apr. 12, 1961, Ser. No. 102,558, now Patent No. 3,233,212. Divided and this application Oct. 24, 1965, Ser. No. 504,787
Int. Cl. G08g *1/06*
U.S. Cl. 340—38 6 Claims

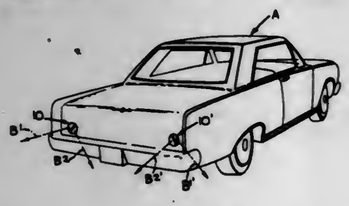
1. In a Doppler vehicle speed measuring system of the type wherein a beat frequency signal is produced which has its frequency proportional to the speed of said vehicle the improvement which comprises, first circuit means responsive to said beat frequency signal for providing an

electrical signal whose amplitude is proportional to the frequency of said beat frequency signal, storage means, means responsive to said beat frequency signal for operatively connecting said storage means to said first circuit means for only a limited time for each said electrical signal produced to thereby transfer said signal to said storage means, indicating means coupled to said storage means for giving a distinctive indication of vehicle speed,



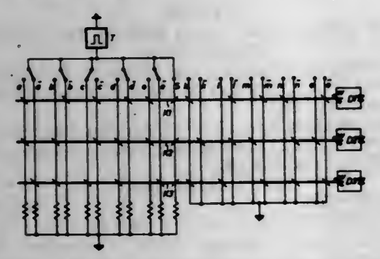
and second circuit means for connecting said indicating means to said storage means in response to each said electrical signal produced for a predetermined time interval commencing only after said storage means has been connected to said first circuit means, whereby the speed of the last-detected vehicle is stored in said storage means and is represented on said indicating means for said predetermined time interval.

3,441,906
SIGNAL APPARATUS FOR AUTOMOTIVE VEHICLES
Arthur Nielsen, 12 Normandy Way, Santa Clara, Calif. 95050
Filed Oct. 24, 1965, Ser. No. 504,594
Int. Cl. B60q *1/44*
U.S. Cl. 340—72 **2 Claims**



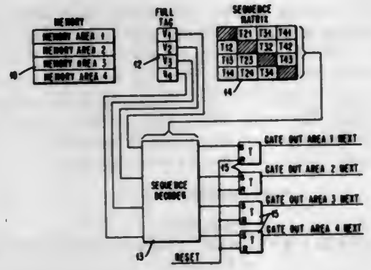
Signal apparatus for an automotive vehicle including a pair of tail lights, each of which has two sections arranged for alternate energization to produce divergent light beams.

3,441,907
MAGNETIC TRANSLATOR
Friedrich Ulrich, Stuttgart-Bad Cannstatt, Germany, assignor to International Standard Electric Corporation
Filed July 2, 1965, Ser. No. 469,270
Int. Cl. G11b *5/00*; H04q *1/00*
U.S. Cl. 340—166 **11 Claims**



Magnetic translator circuitry wherein a magnetic core is provided for each translation. The magnetic cores are selectively threaded by input control leads to form the input code. Similarly, output leads selectively thread the same cores to form the output code. Several groups of input and/or output leads are provided so that multiple translations can be accomplished simultaneously using one translator. To facilitate the use of the translator on one or more codes simultaneously each core is equipped with two additional windings which are used as blocking oscillators to increase the operative speed and the output power of the translator. In addition, short circuit windings are provided to minimize noise.

3,441,908
DATA STORAGE SYSTEM
John V. Mizzi, Highland, N.Y., assignor to International Business Machines Corporation, Armonk, N.Y., a corporation of New York
Filed June 18, 1965, Ser. No. 464,910
Int. Cl. G11b *13/00, 31/00*; G11c *5/02*
U.S. Cl. 340—172.5 **17 Claims**

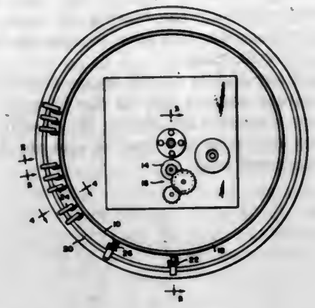


Apparatus for controlling the sequence in which data are stored and retrieved from a data store. The apparatus comprises a sequence matrix provided with bi-stable storage devices in rows and columns of the matrix. Each individual memory area in the data store has an associated area-full tag in the matrix. Each individual memory area also has a control bit register arranged in columns of the matrix having control bits identifying each of all of the remaining memory areas. When an individual memory area is loaded, its area-full tag is turned on. All remaining areas which have information stored in them will have area-full tag bits on from a preceding operation. When a memory area is loaded, its control bits in the column associated with that area are turned on in rows in which other area-full tag bits are on. Whenever information is read from a memory area, its area-full tag and all of the control bits in the row where that tag resides are reset to zero. Thus, the matrix maintains current information as to the sequence of utilization and the current usage of each memory area. This is accomplished by decoding circuits which decode the combination of sequence control bits within the matrix.

3,441,909
MAGNETIC MEMORY SYSTEM
Franklin L. Monohan, 6814 SW. 32nd St., Mercer Island, Wash. 98040
Filed Apr. 21, 1966, Ser. No. 544,260
Int. Cl. G06f *7/06*
U.S. Cl. 340—172.5 **15 Claims**

A control system comprises a drum provided with endless magnetizable tracks and is rotatably journalled to a base and encircled by a support rail. The support rail mounts magnetic write heads for imposing a magnetic code on the tracks, read out switches actuatable by the magnetic code, and erase heads for removing the

magnetic code. The read out switches are carried by switch circuit blocks adapted to be clamped onto the



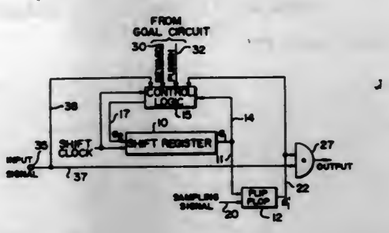
support rail at any locus required to correspond with the locus of the controlled positions of the device to be controlled.

3,441,910
DATA PROCESSING
William M. Kahn, Brookline, Mass., assignor to Barry Wright Corporation, Watertown, Mass., a corporation of Massachusetts
Filed Aug. 15, 1966, Ser. No. 572,607
Int. Cl. G06f *7/08*
U.S. Cl. 340—172.5 **6 Claims**

A recirculating memory system has a delay means, input gating means and input and output gating means. The input gating means receives both new input data and recirculated data provided by the output gating means. The output gating means delivers both data for recirculation to the input gating means and stored data for external use. There is input-output gating means that exchanges data with the input and output gating means having a read-write timing line that carries an enabling signal for only a single bit period at 64-bit-period intervals to enable the input-output gating means for 32 such staggered bit intervals during each 2048 bit period recirculation cycle period.

3,441,911
INTEGRATED CIRCUIT STATISTICAL SWITCH
Edward M. Connelly and James H. Worthen, Springfield, Va., assignors to Melpar, Inc., Falls Church, Va., a corporation of Delaware
Filed Dec. 30, 1966, Ser. No. 606,130
Int. Cl. G66f *11/00*
U.S. Cl. 340—172.5 **12 Claims**

A switching device in which the property of variable probability of passing or blocking a digital input signal is implemented by use of a recirculating shift register, a portion of the contents of which is applied to a gating circuit to direct the passage or blockage of the input signal, the contents of the shift register being selectively and continually modified in the recirculating loop according



to the desired switch response to a specific input until a high probability of switch operation to manifest that response is assured.

3,441,912
FEEDBACK CURRENT SWITCH MEMORY CELL
Robert A. Henle, Hyde Park, N.Y., assignor to International Business Machines Corporation, Armonk, N.Y., a corporation of New York
Filed Jan. 28, 1966, Ser. No. 523,678
Int. Cl. G11b *13/00*
U.S. Cl. 340—173 **12 Claims**

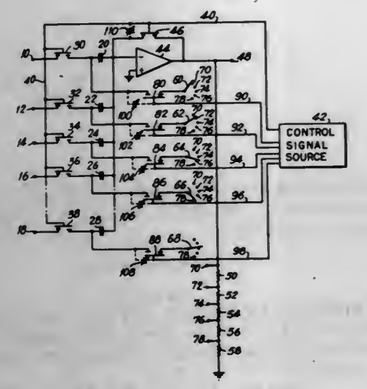
1. A memory system comprising a plurality of memory cells, each memory cell comprising at least first, second and third transistors, the collector of the first of said transistors being directly connected to the base of the second transistor, a load impedance connected to the collector of said first transistor, and a common impedance connected to the emitters of said first, second and third transistors,

each memory cell having two quiescent states, a first state in which said first transistor is conductive and the second transistor is nonconductive, and a second state in which the second transistor is conductive and the first transistor is nonconductive, said first state defining the storage of a "1" by said cell, and the second state defining the storage of a "0,"

at least three lines connected to each of the memory cells, one of said lines being connected to the base of said third transistor,

means, connected to each of said three lines, for selectively applying pulses to the bases respectively of each of said first, second and third transistors in each of said memory cells.

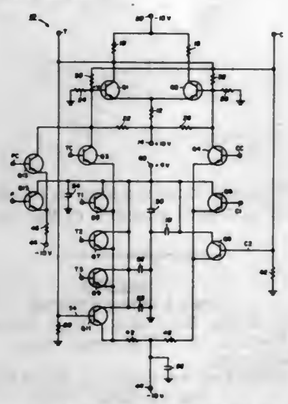
3,441,913
MULTIPLE SIGNAL SAMPLING AND STORAGE ELEMENTS SEQUENTIALLY DISCHARGED THROUGH AN OPERATIONAL AMPLIFIER
James J. Pastoriza, Old Farm Road, Lincoln, Mass. 01773
Filed Apr. 12, 1966, Ser. No. 542,028
Int. Cl. G11b 9/00
U.S. Cl. 340—173 12 Claims



2. Signal sampling apparatus comprising:
means for supplying a plurality of input signals;
an operational amplifier;
a plurality of capacitors, one for each of said input signals, a first side of each of said capacitors connected to the input of said operational amplifier and a second side of each of said capacitors adapted to be connected first to receive its associated input signal during a first time interval and second to the output of said operational amplifier during a second time interval;
first switching means for simultaneously coupling all said input signals to the second sides of their associated capacitors and said output of said operational amplifier to said input of said operational amplifier for said first time interval;
and second switching means for sequentially coupling said output of said operational amplifier to said second sides of said capacitors for said second time interval.

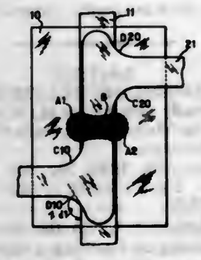
3,441,914
HIGH FREQUENCY BINARY MEMORY AND LOGIC CIRCUIT
William E. Bray, Houston, Tex., assignor to Texas Instruments Incorporated, Dallas, Tex., a corporation of Delaware
Filed July 1, 1966, Ser. No. 562,189
Int. Cl. G11b 9/00
U.S. Cl. 340—173 5 Claims

1. In a binary memory and logic circuit, the combination of:
first and second memory transistors of one type, the emitters of which are common, and the collectors of which form the first and second outputs,
first circuit means including a resistance for connecting the emitters of the first and second memory transistors to an emitter supply voltage,
second circuit means for connecting the collectors of the first and second memory transistors through separate resistances to a collector supply voltage,
first feedback circuit means comprising a resistance interconnecting the collector of the first memory transistor and the base of the second memory transistor,
second feedback circuit means comprising a resistance interconnecting the collector of the second memory transistor and the base of the first memory transistor,
first voltage divider circuit means connected between two voltage sources and to the base of the first memory transistor for biasing the base of the first memory transistor to a level to operate the transistor in the current mode,
second voltage divider circuit means connected between two voltage sources and to the base of the second memory transistor for biasing the base of the second memory transistor to a level to operate the transistor in the current mode,



first and second reference transistors of the other type, the collectors of which are common with the bases of the first and second memory transistors, respectively,
first and second input transistors of said other type the emitters of which are common with the emitters of the first and second reference transistors, respectively, and the collectors of which are connectable to a collector supply voltage,
third circuit means comprising a resistance for connecting the emitters of the first reference transistor and the first input transistor to an emitter supply voltage, and
fourth circuit means comprising a resistance for connecting the emitters of the second reference transistor and second input transistor to an emitter supply voltage.

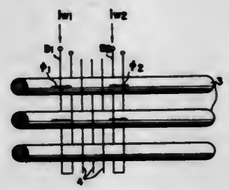
3,441,915
SUPERCONDUCTIVE DATA STORAGE DEVICE
Joseph André Hug, Ormesson-sur-Marne, France, assignor to Societe Industrielle Bull-General Electric (Societe Anonyme), Paris, France
Filed Apr. 15, 1966, Ser. No. 542,932
Claims priority, application France, Apr. 22, 1965, 14,182
Int. Cl. G11b 9/00
U.S. Cl. 340—173.1 2 Claims



1. A data storage device having at least one data storage element and comprising a data storage medium

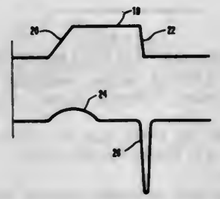
in the form of a sheet of superconducting material, and control conductors in the form of ribbon-like strips of superconducting material for controlling a data storage element of said device, each of said control conductors lying in a plane parallel to the plane of said sheet, these control conductors being so formed and arranged that pre-determined areas of said sheet become resistive under the action of coincident control currents flowing through said control conductors, in order to store a datum in said data storage element, the flow of control current through either one or more of said control conductors causing the setting up of a resistive zone in an area of said sheet along which the edge of said control conductor forms a curve having a radius inferior to a given radius value, and in an area along which the edge of said control conductor forms with an edge of another control conductor an angle inferior to a given angle value, said data storage device being characterized in that the value of the radius of any curve and the value of any angle thus formed along an area of said sheet other than said predetermined areas, are respectively larger than said given radius value and said given angle value.

3,441,916
MAGNETIC MEMORY DEVICES
Akira Matsushita, Takashi Sakuma, and Mitsuo Sekiya, Tokyo-to, Japan, assignors to Toko Kabushiki Kaisha Tokyo-to, Japan, a joint-stock company of Japan
Filed July 9, 1964, Ser. No. 381,356
Claims priority, application Japan, July 11, 1963, 38/36,968
Int. Cl. G11b 5/66
U.S. Cl. 340—174 5 Claims



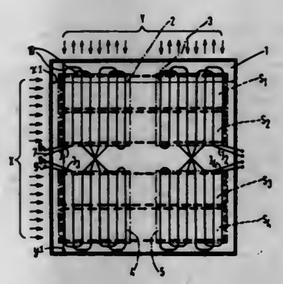
A magnetic memory device of the matrix type has interwoven conductors as word lines transmitting word drive current, and magnetic film coated conductors transmitting digit current; and the word lines are so arranged that directions of two kinds of magnetic fluxes, produced by word drive currents passing through adjacent word lines, are directed opposite to each other.

3,441,917
DRIVE ARRANGEMENT FOR MEMORY DEVICE
Edward N. Schwartz, Philadelphia, Pa., assignor to Sperry Rand Corporation, New York, N.Y., a corporation of Delaware
Filed Dec. 23, 1964, Ser. No. 420,528
Int. Cl. G11b 5/00
U.S. Cl. 340—174 7 Claims



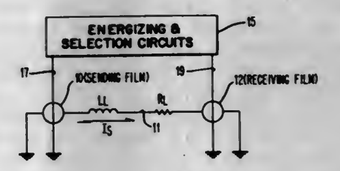
This invention comprises reading-out the information stored in a memory location by utilizing the fast trailing rather than the slow leading edge of the interrogation pulse applied to an associated drive line. The trailing edge is generated as a function of the inductance and distributive capacity of the drive line whereas the leading edge is a function of the above-named parameters as well as the impedance of the driving source.

3,441,918
MAGNETIC STORE EMPLOYING AT LEAST TWO INHIBIT CONDUCTORS PER STORAGE PLANE
Hans Glock, Germering, Germany, assignor to Siemens Aktiengesellschaft, a corporation of Germany
Filed Sept. 29, 1965, Ser. No. 491,084
Claims priority, application Germany, Sept. 30, 1964, S 93,508
Int. Cl. G11b 5
U.S. Cl. 340—174 10 Claims



A magnetic store employs inhibit conductors which are transposed through the store so that they lie in lamellar relation to any other conductor for only a portion of their lengths.

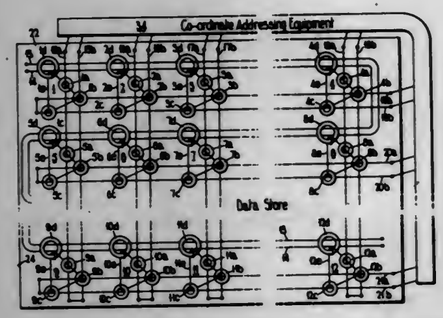
3,441,919
PARTIAL SWITCHING OF A MAGNETIC ELEMENT
Alexander Turczyn, Philadelphia, Pa., assignor to Sperry Rand Corporation, New York, N.Y., a corporation of Delaware
Filed Mar. 31, 1966, Ser. No. 539,140
Int. Cl. G11b 5/00
U.S. Cl. 340—174 7 Claims



1. The combination comprising:
(a) first and second data storage elements, the information which is stored in said elements being indicated by a remanent state of magnetization,
(b) means linking said first and second data storage elements to one another,
(c) second energizing means coupled to said second data storage element to condition said second data storage element to change or in the alternative to retain its remanent state of magnetization,
(d) first energizing means coupled to said first data storage element, said last mentioned means being energized at least twice in succession while said second data storage element is conditioned, each said successive energizing of said first data storage element inducing a signal in said means linking said first and second data storage elements,

(e) the remanent state of magnetization of said second data storage element being partially changed or in the alternative retained by each said induced signal,
(f) the information stored in said first data storage element being thereby transferred to said second data storage element.

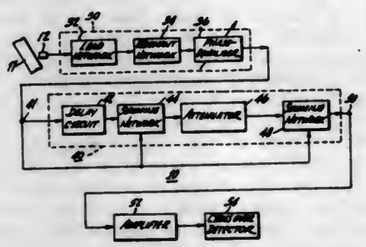
3,441,920
MULTI-CORE PER BIT STORAGE ARRAY
Anthony Eric Raoul Keach, Coventry, and Michael Charles Smith, Rugby, England, assignors to The General Electric Company Limited, London, England, a British company
Filed May 23, 1966, Ser. No. 552,164
Claims priority, application Great Britain, May 21, 1965, 21,719/65
Int. Cl. G11b *5/44*



1. A magnetic data store device wherein there are provided first and second members which each is fabricated of ferromagnetic material having an approximately rectangular hysteresis characteristic and hence a large retentivity and which each has an aperture, a further member which is fabricated of high permeability ferromagnetic material having a small retentivity and which has an aperture, a continuous electric conductor path which passes through all three apertures and in which electric signals are induced by and induce magnetic flux changes respectively in said first and second members and in said path, and a second control conductor which passes through the aperture of said further member and in which output signals are induced by magnetic flux changes in said further member, a first control conductor which passes through the aperture of said first and second members and which is coupled to said conductor path in one sense through said first member and equally in the opposite sense through said second member whereby electric control signals supplied to this control conductor produce mutually cancelling signals in said conductor path, and a second control conductor which passes through the aperture of said second member, an output signal being obtained in said output conductor as the result of the supply of electric control signals to both control conductors.

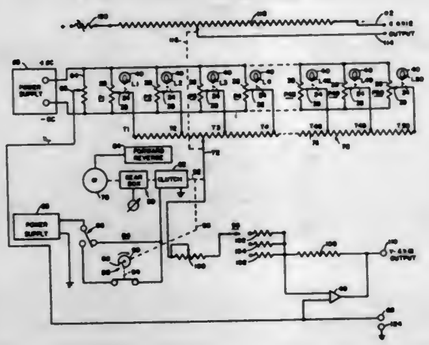
3,441,921
SELF-SYNCHRONIZING READOUT WITH LOW FREQUENCY COMPENSATION
George V. Jacoby, Bala-Cynwyd, Pa., assignor to Radio Corporation of America, a corporation of Delaware
Filed Oct. 5, 1965, Ser. No. 493,132
Int. Cl. G11b *5/00*
U.S. Cl. 340—174.1 5 Claims

The low frequency components in the readback signal are boosted to correct for the attenuation that occurs during the readback process. The boosting is accomplished by extracting from the readback signal the low frequency components thereof so as to provide a correction signal.



The correction signal is then added back iinto the initial readback signal.

3,441,922
GRAPHICAL TO ELECTRICAL FUNCTION TRANSLATOR
Thomas W. Thompson, 3836 Orleans Road, Birmingham, Ala. 35243
Filed Dec. 5, 1966, Ser. No. 599,218
Int. Cl. G08c *19/16*
U.S. Cl. 340—182 5 Claims

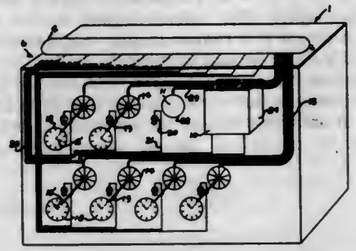


A device for translating a curve drawn on a sheet of light permeable paper to an electrical representation of that curve. The device employs a plurality of point output light sources which are movable on parallel tracks to be positioned to correspond with points on the curve. A potentiometer is associated with each light source to provide an output which is a function of the position of that light source. The outputs of the potentiometers are brought out to tapped positions on a scanning potentiometer which, when its movable arm is moved, provides an electrical output corresponding to the curve.

3,441,923
AUTOMATED METER READING SYSTEM
William R. King, Liberal, Kans., assignor to Anadasko Production Company, Liberal, Kans., a corporation of Delaware
Filed Jan. 10, 1966, Ser. No. 519,668
Int. Cl. G08u *19/00, 25/04*
U.S. Cl. 340—188 4 Claims

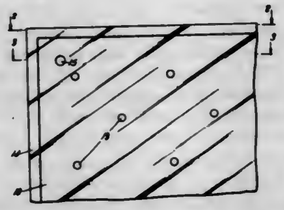
A meter reading and recording system having a meter arranged to indicate the quantity of material passing therethrough with a light source and photosensitive members to sense the meter reading and provide responses having a level of intensity related to the quantity reading. A probe

movable into a socket in the metering device to make electrical contact whereby the signal is transmitted and converted to a binary code which may be recorded on



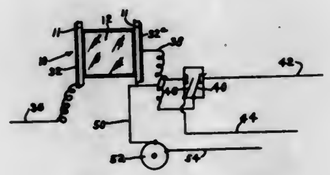
a recording means to show the meter reading, the meter and the sensing apparatus including a code signal indicating the particular meter being read.

3,441,924
WINDOW AND ALARM APPARATUS INCORPORATING SAME
Cecil Herbert Peek and Kenneth Rodney Peek, both of 2 Russell Drive, Stanwell, Middlesex, England
Filed May 7, 1965, Ser. No. 454,116
Int. Cl. G08b *21/00, 13/08*
U.S. Cl. 340—240 13 Claims



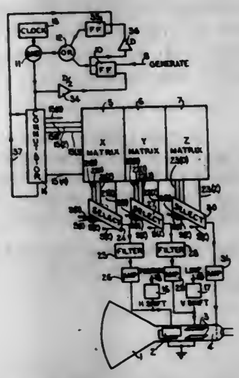
A window for actuating an alarm upon being broken comprising two substantially identical panes of glass mounted in spaced parallel relationship. The panes are held apart by a plurality of spacer means and are sealed about their peripheries by a sealing means. An orifice is provided to at least partially evacuate the space between the panes and pressure responsive means are mounted in this orifice to actuate a suitable alarm.

3,441,925
WINDOW APPARATUS HAVING A SIGNAL
Andrew J. White, South Lee, N.H. (Post Office Newmarket, N.H. 03857)
Filed Feb. 9, 1966, Ser. No. 526,200
Int. Cl. G08b *13/08*
U.S. Cl. 340—274 1 Claim



A window pane carries conducting material and a window frame is electrically connected thereto. Connected to the latter is a first relay switch arm connected to a source of electrical current thus completing a first circuit which is normally closed. A separate circuit includes another switch arm that is normally open. If the window pane is broken the first circuit opens and the other switch arm is activated to close the second circuit which activates a signal in the latter to give an alarm.

3,441,926
GRAPHIC DISPLAY SYSTEMS FOR CRT RESPONSIVE TO SELECTED PARTS OF PLURAL FILTERED STEP WAVEFORMS INCLUDING PRECURSOR, LINEAR AND OVERSHOOT PARTS
Roy William Mitchell, Bracknell, and Gordon George Scarrott, Wokingham, England, assignors to International Computers and Tabulators Limited, London, England
Filed July 8, 1966, Ser. No. 563,737
Claims priority, application Great Britain, July 22, 1965, 31,178/65
Int. Cl. G08b *23/00*
U.S. Cl. 340—324 7 Claims

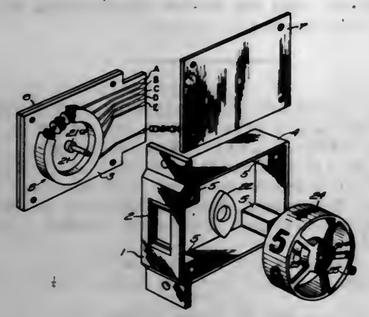


A graphic display system is disclosed in which a clock pulse generator causes a commutator or stepping register to produce a plurality of sequential output signals. Each such signal is fed to a corresponding matrix row with a selecting switch being coupled by a plurality of lines to corresponding matrix columns. Upon energising an appropriate channel of the selecting switch, signals stored in a particular matrix column representative of a character to be displayed are fed to a CRT deflection means through a filter. Signals read out of the matrix are essentially of step waveform with the filter output comprised of precursor, linear and overshoot portions corresponding to each step input. The high cut-off frequency of the filter substantially equals the timing or clock signal repetition rate while the output supplied to the CRT deflection means in a single clock pulse interval is comprised of the precursor, linear and overshoot portions of the step waves of separate consecutive clock pulse intervals. A beam intensity control means and character position stabilising means are also disclosed.

3,441,927
ELECTROMAGNETIC INDICATOR WHEEL RESPONSIVE TO CODED ELECTRICAL SIGNALS HAVING POSITIONING COILS ENERGIZED IN PAIRS
John A. Watkins, Cheshire, and Elliot R. Lang, Hamden, Conn., assignors, by mesne assignments, to United-Carr Incorporated, Boston, Mass., a corporation of Delaware
Filed May 28, 1965, Ser. No. 459,575
Int. Cl. G08b *5/00, 23/00*
U.S. Cl. 340—378 2 Claims

An indicator has a rotor carrying symbols to be displayed in a window. The indicator's stator has diametri-

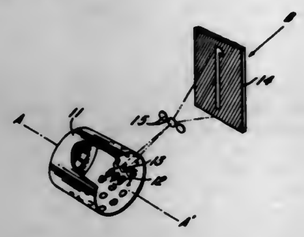
cally disposed windings encircling an annular ferromagnetic core. Diametrical windings are connected in pairs and each pair can be separately energized by a coded electrical signal. The symbol to be displayed is selected by simultaneously applying a set of coded electrical signals to the pairs of windings to cause the establishment of a discretely oriented magnetic field externally of the core. A permanent magnet, which is part of the rotor, turns into alignment with the stator's field and positions the selected symbol in the window.



3,441,928
ROTATING CYLINDER CHARACTER PROJECTION APPARATUS

Alan R. Hatch, La Jolla, Calif., assignor to the United States of America as represented by the Secretary of the Navy

Filed Aug. 25, 1967, Ser. No. 663,451
Int. Cl. G08b 23/00
U.S. Cl. 340—378 5 Claims



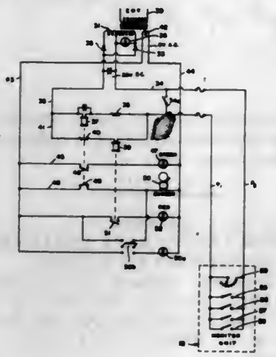
A rear-projection type data readout device having a high capacity of different characters. A film containing numerous particular indicia or characters is arranged in the shape of a cylinder and rotatably mounted along its central axis. The characters on the film are circumferentially arranged in a plurality of rows. Associated with each row is a light source which when energized will project a particular character on the film to a ground glass plate for readout. The film cylinder is angularly positionable by means of an electromagnetic device. Any character on the film can therefore be displayed on the ground glass by selectively energizing the proper light source and rotating the film cylinder to a particular angular position.

3,441,929
REMOTE REPORTING SYSTEM

William E. Coffer, Robert L. Miller, and John Shewan, Valparaiso, Ind., assignors to Ref-Con Corporation, Valparaiso, Ind., a corporation of Indiana

Filed Dec. 30, 1965, Ser. No. 517,538
Int. Cl. G08b 29/00
U.S. Cl. 340—409 7 Claims

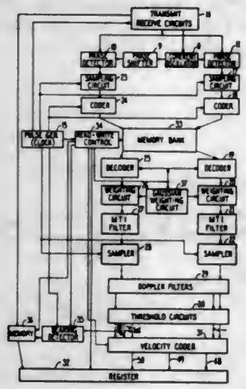
1. A system for detecting faults at a first station and reporting said faults at a remote station comprising: a source of EMF at said remote station, conductive means coupling said source to said first station, resistive means at said first station connected to said conductive means for setting a current in said conductive means to a first predetermined level, first current-sensing means including alarm means at said remote station responsive to said first level of current in said conductive means for generating a sensible alarm signal when said current in said conductive means is interrupted, a plurality of fault sensing means at said first station for detecting at least two different alarm conditions thereat, switching means at said first station connected in circuit with said resistive means and energized by said fault sensing means, each fault sensing means energizing said switching means at a repetition rate representative of the alarm condition sensed for transmitting an alarm current pulse signal of a second predetermined level through said conductive means to said remote station, and second current-sensing means including alarm means at said remote station for generating a sensible signal representative of the alarm condition detected at said first station in response to the repetition rate of said alarm current pulse signal.



3,441,930
DOPPLER RADARS

Gérard Marie Edouard van den Broek d'Obrenan, Versailles, and Jean-François Marie Maurice Edmond Mercier, Sceaux, France, assignors to International Standard Electric Corporation, New York, N.Y., a corporation of Delaware

Filed Sept. 20, 1967, Ser. No. 669,107
Claims priority, application France, Sept. 21, 1966, 77,058
Int. Cl. G01s 9/42
U.S. Cl. 343—7.7 6 Claims



A coherent pulse-Doppler radar system is described, including pulsed transmitting, receiving and duplexing means, a coherent oscillator, and phase comparison means for comparing the phase of received energy with that of the related transmitted signals. The repetition frequency of the transmitted pulses is randomly varied preferably in accordance with a Gaussian function.

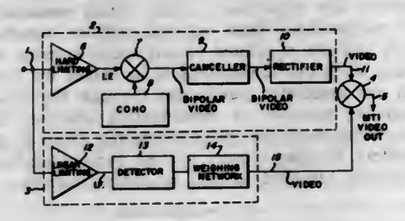
The video data processing is carried out in conjunction with digital techniques, the signals being stored in digital form and evaluated historically by fixed range increment, from which Doppler velocities with sense are extracted. An output storage (register) holds range, bearing, velocity and sense information for a large number of targets in digital form.

Structure is included for randomizing the pulse repetition rate to eliminate "second-time around" echoes and "blind speeds."

3,441,931
MOVING TARGET INDICATOR CLUTTER REDUCING APPARATUS

William W. Shrader, West Newton, Mass., assignor to Raytheon Company, Lexington, Mass., a corporation of Delaware

Filed Jan. 22, 1968, Ser. No. 699,621
Int. Cl. G01s 9/42
U.S. Cl. 343—7.7 7 Claims

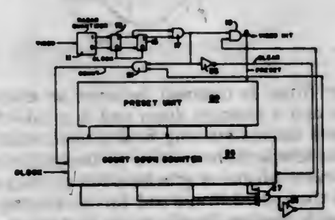


A moving target indicator clutter reducing apparatus for use with an object location system having a first and second signal processing path. The first signal processing path is responsive only to the phase information of each pulse of a series of periodically received echo pulses for generating a signal varying as the phase difference between successive pulses and a reference phase. The second path includes means for extracting the pulse envelope from each pulse. Signal enhancement is achieved by means for forming a product signal of the phase difference signal and the pulse envelope.

3,441,932
DYNAMIC HIT-WIDTH DISCRIMINATOR

Ronald V. Hamill, King of Prussia, and Walter E. Murphy, Malvern, Pa., assignors to the United States of America as represented by the Secretary of the Army and/or the Administrator of the Federal Aviation Administration

Filed Mar. 8, 1968, Ser. No. 711,561
Int. Cl. G01s 7/28
U.S. Cl. 343—17.1 6 Claims

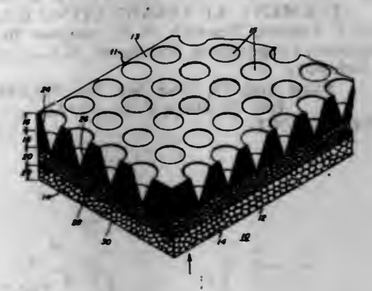


The present invention relates to apparatus for use in a radar system which prevents multiple range reporting of single targets which extend over more than a single range cell. This is accomplished by use of logic gating circuitry and a counter which counts at a desired range clock rate so as to permit only one hit to be declared during the counter cycle.

3,441,933
RADIO FREQUENCY ABSORBER

Raymond P. Tuinila, Beverly, and Richard O. Bayrd, Wakefield, Mass., assignors to Raytheon Company, Lexington, Mass., a corporation of Delaware

Filed Apr. 3, 1967, Ser. No. 628,039
Int. Cl. G01s 7/36
U.S. Cl. 343—18 22 Claims

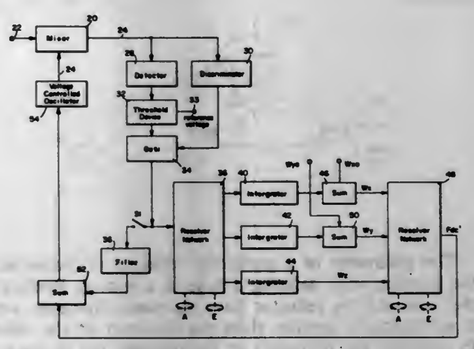


A radio frequency energy absorber comprising a material having a plurality of layers, each of the layers including a plurality of porous, hollow, ceramic spheres of substantially uniform diameter within a layer and varying in diameter from layer to layer, the layers containing the larger spheres being exposed to the radio frequency energy before the layers containing the smaller spheres, the effective absorption depth of the absorber being several times greater than its geometric dimensions.

3,441,934
DOPPLER SHIFT CORRECTION ANALOG COMPUTER

Samuel Thaler, Encino, Calif., assignor to Hughes Aircraft Company, Culver City, Calif., a corporation of Delaware

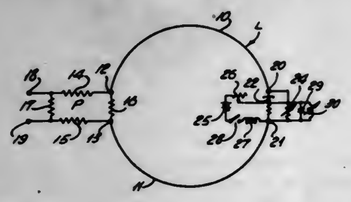
Filed July 12, 1967, Ser. No. 652,797
Int. Cl. G01s 9/46
U.S. Cl. 343—8 8 Claims



An analog motion compensation loop provides a Doppler shift computed by a clutter tracking loop. The motion compensation loop attempts to predict the instantaneous measured Doppler shift of a received radar Doppler signal and to control a controlled oscillator

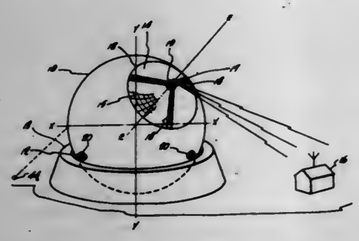
to remove clutter signals. The Doppler error is measured by a discriminator which has an output voltage proportional to the Doppler error. A detector and threshold circuit sense the amplitude of the clutter signal and control a gate which forces the discriminator output to a minimum when the clutter power falls below a predetermined reference value. The feedback control loop continues to function in the desired manner as long as the clutter is present over part of the selected azimuth and elevation search pattern.

3,441,935
LOOP ANTENNA WITH NEGATIVE RESISTANCE ELEMENT AT TERMINATING GAP
Robert T. Leitner, Norwich, N.Y., assignor to Technical Appliance Corporation, Sherburne, N.Y., a corporation of Delaware
Filed Aug. 19, 1965, Ser. No. 481,035
Int. Cl. H01q 1/26, 11/12
U.S. Cl. 343—701 15 Claims



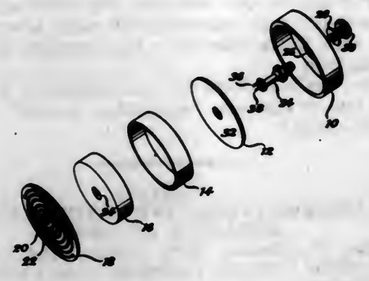
This invention relates to a loop antenna having a feed gap and an impedance terminating tap. The impedance at said terminating gap is negative and matched in absolute value to the impedance of said antenna.

3,441,936
SPHERICALLY MOUNTED FLOATING RADIATION REFLECTOR
Otto R. Heise, Playa del Rey, Calif., assignor to Lear Siegler, Inc., Los Angeles, Calif., a corporation of Delaware
Filed Mar. 29, 1965, Ser. No. 443,524
Int. Cl. H01q 3/00, 19/12
U.S. Cl. 343—709 7 Claims



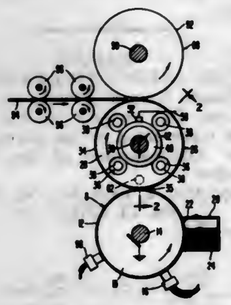
The perimeter of a parabolic reflector is connected to the circular edge defining a hole in a sphere. Preferably, the hole and the reflector have the same diameter, which is substantially smaller than the diameter of the sphere. In addition, the perimeter of the reflector lies in the same plane as the hole in the sphere and extends inside of the sphere. The sphere floats on a fluid and is held in place by three rotatable drive members that are compressively loaded to remain in contact with the sphere. The drive members are adapted for a swivel motion. At least one of the drive members is coupled to a power source to orient the sphere.

3,441,937
CAVITY BACKED SPIRAL ANTENNA
David N. Claeby, Newhall, and Roger D. Hall, Encino, Calif., assignors to The Bendix Corporation, a corporation of Delaware
Filed Sept. 28, 1967, Ser. No. 671,380
Int. Cl. H01q 1/36
U.S. Cl. 343—895 7 Claims



A microwave antenna including a flat microwave cavity consisting of a small diameter cylindrical aluminum member having its interior lined with microwave-absorbent material, the remaining volume being essentially filled with polyurethane foam material, and the outside face of which includes a printed circuit spiral antenna structure having electrical connections at its center for connecting with the associated equipment through the axis of the aluminum member. A modification discloses electrical connections from the spiral conductive tracts to a pair of members forming closely spaced parallel surfaces in a waveguide attached to said aluminum member.

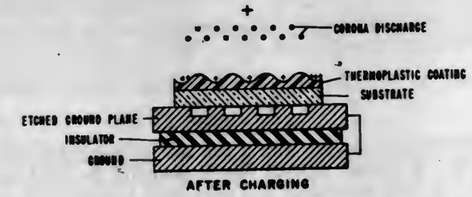
3,441,938
ELECTROSTATIC AND MAGNETIC RECORDING METHOD
Andreas G. Markgraf, Phoenixville, Pa., assignor to Burroughs Corporation, Detroit, Mich., a corporation of Delaware
Filed June 1, 1964, Ser. No. 371,468
Int. Cl. G01d 9/00
U.S. Cl. 346—1 3 Claims



A transfer drum is disposed between an electrostatic record drum and a pressure drum and is provided with a heating means for maintaining it at a substantially constant elevated temperature relative to the temperature of the record drum. Means is provided for printing electrostatically on the record drum and for developing the latent image with thermoadhesive pigmented ink in powder form. The heated transfer drum heats and transfers the inked image from the record drum to the transfer drum and then cooperates with the pressure drum for transferring the inked image to a record medium.

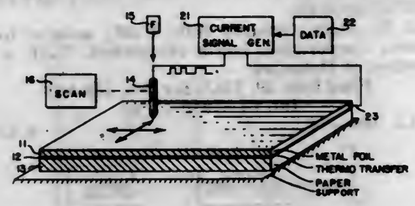
In a variation of the invention, the record drum is a magnetic drum and means is provided for magnetizing surface portions of the magnetic drum and for developing the latent image by applying magnetically attractable thermoadhesive pigmented ink to the magnetized regions. The inked image is then similarly heated and transferred by a heated transfer drum from the magnetic record drum to the transfer drum, and then the transfer drum similarly cooperates with a pressure drum for transferring the inked image to a record medium.

3,441,939
THERMOPLASTIC RECORDING TECHNIQUE
Herbert R. Anderson, Jr., Pound Ridge, N.Y., assignor to International Business Machines Corporation, New York, N.Y., a corporation of New York
Filed Sept. 2, 1964, Ser. No. 393,924
Int. Cl. G01d 9/00
U.S. Cl. 346—1 19 Claims



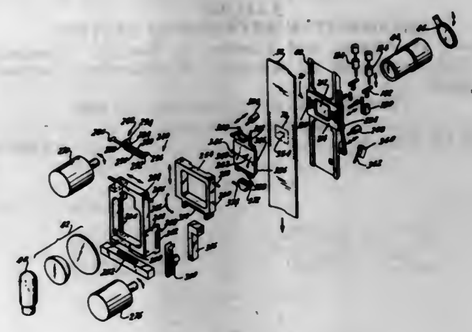
An improved thermoplastic recording technique is provided. An electrostatic charge is applied to a recording medium which deforms spontaneously to provide an image according to the distribution of the electrostatic charge. The image may be read optically. The recording medium is molecularly designed to control its molecular weight, molecular weight distribution and plasticity. The medium, so designed, has a glass transition which permits surface deformation thereof at or about room temperature. The heat developing step necessary in the prior art is eliminated in this invention.

3,441,940
PROCESS FOR ELECTRO-JUNCTION THERMOGRAPHY
Roy George Salaman and Robert J. Taylor, Boulder, Colo., assignors, by mesne assignments, to Phonocopy, Inc., Wilmington, Del., a corporation of Delaware
Filed Sept. 15, 1966, Ser. No. 579,772
Int. Cl. G01d 15/10
U.S. Cl. 346—1 11 Claims



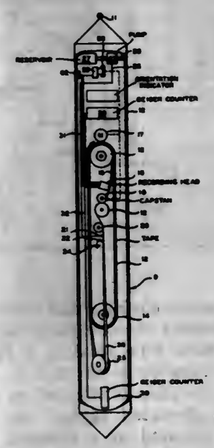
A process for producing visual images from electrical signals employs a localized junction contact between two electrical conductors for generating heat by passing current across the junction and using the elevated temperature to activate a thermally responsive marking system directly opposed to the junction. As used for a particular facsimile printing system a conductive scanning probe is energized with signal current and directly contacts one surface of a thin metallic foil which has the opposite side coated with thermotransfer compound.

3,441,941
FILM STRIP PRECISION DYNAMIC PLOTTING PROJECTOR
Bernhard A. Bullwinkel, Roslyn Heights, Herbert R. Epstein, Woodmere, and William P. Olson, College Point, N.Y., assignors to Belock Instrument Corporation, New York, N.Y., a corporation of New York
Filed May 9, 1966, Ser. No. 548,544
Int. Cl. G01d 9/16
U.S. Cl. 346—17 21 Claims



A dynamic plotting projector comprising a long length of transparent film having an opaque scribable coating on one surface thereof. The film is intermittently fed between two reels past a plotting station having a film gate therein. A glass plate supports the front of the film at the plotting station. A scribing stylus is located behind the film at the plotting station and is arranged to be moved into contact with the coating on the film and then from point to point on the film while the film is stationary. A projection lamp shines light through the track of the stylus in the coating and the modulated beam passing through the film gate is directed by a projection lens on to a display surface.

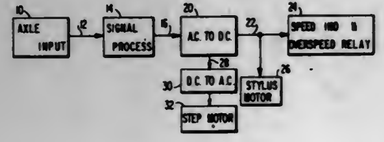
3,441,942
MEASURING AND RECORDING APPARATUS
Bruce F. Wiley, Bartlesville, Okla., assignor to Phillips Petroleum Company, a corporation of Delaware
Filed Dec. 20, 1965, Ser. No. 514,828
Int. Cl. G01d 9/38
U.S. Cl. 346—33 4 Claims



A continuous multiple-loop tape recorder is provided with two loop rollers, a drive capstan and a pressure roller

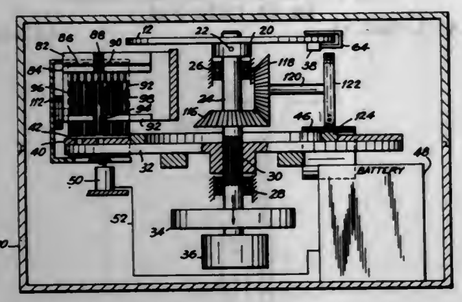
in a single plane with a guide roller outside of the plane to withdraw the tape from the inner loop and pass it to the outer loop. The tape can be provided with electrically conductive sections to actuate a switch to control the release of a radioactive tracer, while the outputs of two radiation detectors are recorded on the same tape. The tape drive can actuate an azimuth sensor with the output of the sensor being recorded on the tape. A flow spinner can actuate a switch to apply pulses to the recording tape.

3,441,943
LOCOMOTIVE RECORDING SYSTEM
David D. McCue and Thomas A. Brendle, Hamburg, N.Y., assignors to Aeroquip Corporation, Jackson, Mich.
Filed Dec. 4, 1967, Ser. No. 687,588
Int. Cl. G01d 9/26
U.S. Cl. 346—33 6 Claims



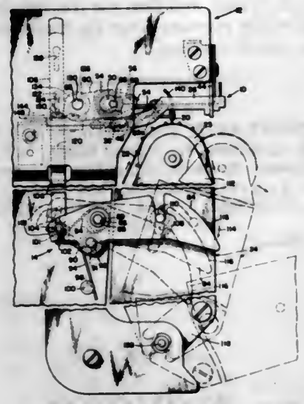
A system for recording conditions or events incidental to the operation of a locomotive. Locomotive speed is measured on the basis of signal frequency converted to an analog signal for visual speed indication and to a lower frequency for driving a record paper supply, the analog signal also being used to drive a stylus motor for recording speed on the record paper.

3,441,944
PORTABLE PRINT PUNCH
Werner Flieg, Newton Center, Mass., assignor, by mesne assignments, to Digitronics Corporation, Albertson, N.Y., a corporation of Delaware
Filed Nov. 2, 1967, Ser. No. 680,133
Int. Cl. G01d 9/10
U.S. Cl. 346—66 9 Claims



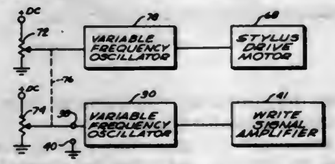
Portable print punch having a dial controllably rotating a disc having elements thereon cooperating with punch pins and at the same time rotating a print wheel such that a punching operation is effected on one paper tape while a printing operation is effected on a second paper tape. The disc is displaced against the punch pins by means of a link actuated by a solenoid. The tapes are stepped by a solenoid transporting mechanism and a rechargeable battery is employed to actuate the solenoids.

3,441,945
DUAL LIFTERS FOR A RECORDING PEN
Lester R. Leidy, Jr., Oreland, and Paul A. Aldinger, Warminster, Pa., assignors to Honeywell Inc., Minneapolis, Minn., a corporation of Delaware
Filed Aug. 25, 1967, Ser. No. 663,252
Int. Cl. G01d 15/18
U.S. Cl. 346—68 2 Claims



Dual lifters for use with a pen that is associated with a chart of a chart module that is pivotally mounted for removal from the chassis of a strip chart recorder, wherein the first lifter has a manually operated spring return push rod actuator that is positioned in either a nonlatched position with the chassis of the recorder when it is desired to retain the pen in a recording position with the chart or in a latched position with the chassis when it is desired to retain the pen in a lifted off chart nonrecording position, a second one of the dual pen lifters is connected for movement with another latch releasably connecting the chart module to the recorder chassis to affect a lifting of the pen from a recording position with the chart as this latch is released and to restore the pen to its recording position when this latch is reengaged and wherein the dual lifters are interconnected by way of a lost motion connection in the form of spring biased pins in associated elongated slot connections to enable the actuations of the latch associated with the chart module to take place and the pen to remain in the lifted-nonrecording position with the chart when the push rod actuator is in its latched position.

3,441,946
CIRCUIT FOR SUPPLYING WRITING SIGNALS FOR USE WITH ELECTROSENSITIVE PAPER RECORDERS
Erland W. Rudy, Granada Hills, Calif., assignor to The Bendix Corporation, North Hollywood, Calif., a corporation of Delaware
Filed June 29, 1965, Ser. No. 468,043
Int. Cl. G01d 15/06
U.S. Cl. 346—74 4 Claims



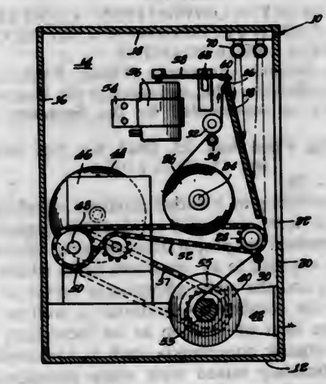
An electrical "write" circuit for controlling the amount of instantaneous power supplied to the writing stylus of a recording device using electrosensitive recording paper. Input pulses are supplied from a source which may vary greatly in voltage amplitude. These pulses are connected

to the stylus through a switching circuit including a transistor which is enabled to conduct by a frequency-sensitive device including an oscillator-controlled pulse transformer. Thus the input pulses are converted to a series of short pulses whose total power level is insufficient to excessively blacken the recording paper. These pulses are amplified and then coupled to the stylus through a transformer. The stylus drive speed is coordinated with the frequency of the writing pulses. The oscillator output is variable to alter the pulse frequency with changing conditions such as a changed scale with slower or faster movement of the recording paper.

3,441,947
THERMOPLASTIC RECORDING PROCESS
Ulrich Schmiedel, Hamburg, Germany, Louis Achille Meeussen and Paul Maria Cassiers, Mortsel-Antwerp, and Rene Maurice Hart, Wilrijk-Antwerp, Belgium; said Meeussen, said Cassiers, and said Hart, assignors to Gevaert Photo-Producten N.V., Mortsel, Belgium, a Belgian company
No Drawing. Continuation-in-part of application Ser. No. 110,342, May 16, 1961. This application Oct. 7, 1965, Ser. No. 493,866
Claims priority, application Great Britain, May 17, 1960, 17,452/60
Int. Cl. G01d 15/14, 15/12
U.S. Cl. 346—74 9 Claims

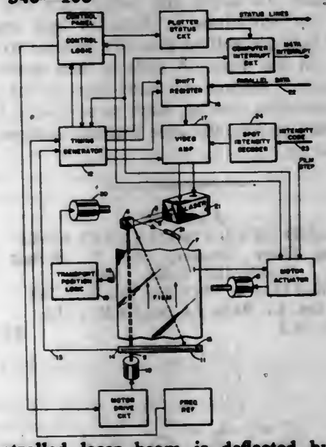
1. A process for recording optical information on a deformable layer in the form of a relief pattern, which comprises electrostatically charging a layer of a thermoplastic photoconductive polymeric layer superimposed upon a layer of conductive material before or after said layer is subjected to electromagnetic radiation to which said photoconductive layer is sensitive in a pattern according to said information to be recorded so as to produce on said layer an electrostatic charge pattern in accordance with the information to be recorded, heating said material to a degree sufficient to soften at least the surface layer of the polymeric said layer whereby said softened surface layer is deformed physically under the influence of the electrostatic forces existing between the charge pattern at the surface of said photoconductive layer and said conductive layer, and cooling said heated layer to fix the deformations therein.

3,441,948
RECORDER UTILIZING LUMINESCENT TRACE
Albert W. Ondis, North Kingstown, R.I., assignor to Techni-Rite Industrial Park, Warwick, R.I.
Continuation-in-part of applications Ser. No. 361,217, Apr. 20, 1964, and Ser. No. 614,297, Feb. 6, 1967. This application Sept. 29, 1967, Ser. No. 684,579
Int. Cl. G01d 15/10
U.S. Cl. 346—76 5 Claims



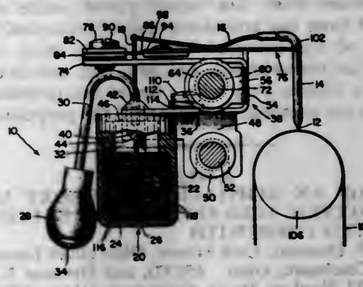
The recording apparatus utilizes, as a recording sheet, a laminate sheet having an outer, initially opaque layer adapted to be rendered locally transparent when impinged upon by a variable responsive moving stylus or localized beam of radiant energy, and an inner layer of luminescent material which becomes brilliantly luminescent when impinged upon by invisible radiant energy. A source of such invisible radiant energy is provided which continuously floods a relatively large area of the recording sheet acted upon by said stylus or localized beam of radiant energy to provide a readily visible trace where the outer layer of the recording sheet has been made transparent, to expose the inner luminescent layer thereof.

3,441,949
LASER BEAM RECORDER WITH DUAL MEANS TO COMPENSATE FOR CHANGE IN ANGULAR VELOCITY OF SWEPT BEAM
Arnaldo Rolon, Houston, Tex., assignor to Dresser Systems, Inc., a corporation of Delaware
Filed Apr. 17, 1967, Ser. No. 631,269
Int. Cl. G01d 9/42
U.S. Cl. 346—108 1 Claim



A controlled laser beam is deflected by a rotating mirror onto a parabolic mirror to a photographic film, the parabolic mirror providing partial compensation for the nonlinear effect of sweeping the flat surface of the film with a light beam.

3,441,950
RECORDER INK RESERVOIR CONTAINING ANTI-BUBBLE MATERIAL
Robert L. Miller, Horsham, Pa., assignor to Honeywell Inc., Minneapolis, Minn., a corporation of Delaware
Filed Aug. 15, 1967, Ser. No. 660,820
Int. Cl. G01d 15/16
U.S. Cl. 346—140 6 Claims



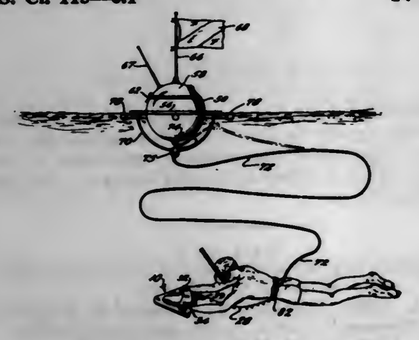
The ink reservoir consists of a receptacle containing interconnected strands of skeletal fibrous material which minimizes air bubbles tending to be formed in the ink within the receptacle. The material is a polyurethane foam.

3,441,951
ZIPPERED BELT FOR A ROTARY FILTER
Charles A. Lee, Knoxville, Tenn., assignor, by mesne assignments, to Appleton Wire Works Corporation, Appleton, Wis., a corporation of Wisconsin
Filed Jan. 25, 1968, Ser. No. 700,483
Int. Cl. B01d 33/00
U.S. Cl. 24—31 10 Claims



A filter medium is provided in the form of a belt for attachment about the circumferential surface of a filter drum. Opposing ends of the filter medium are at a bias angle, usually less than 10° to the transverse dimension of the belt, and slide fastener sections are fastened to these belt ends. To adjust the belt length and thereby compensate for variations in drum or belt length, the ends of the belt are shifted laterally relative to one another when on the drum. A slide is then passed across the slide fastener sections to unite them at the adjusted length. A protective coating, such as an epoxy adhesive, may be applied to coat the slide fastener sections and fill any voids therein.

3,441,952
HAND HELD PROPULSION UNIT
John Gary Strader, 360 N. Saltair Brentwood, Calif. 94513
Filed Dec. 4, 1967, Ser. No. 687,768
Int. Cl. B63c 11/00; B63h 1/14
U.S. Cl. 115—6.1 14 Claims



A small hand held propulsion unit is shaped in the form of a delta wing with a bulbous housing for an electric motor drive. The battery power source which is separated from the propulsion unit is connected thereto by way of the swimmer being in one mode directly mounted on the swimmer, e.g., in a belt, and in another mode in a floating buoy with a power line umbilical connected to the swimmer and thence to the propulsion unit.

3,441,953
ESTER OF AN ALIPHATIC DIHYDROXY MONOCARBOXYLIC ACID AND A TEXTILE MATERIAL TREATED THEREWITH
Thomas P. Dumont, Golf Manor, Ohio (2666 Losantiville Ave., Cincinnati, Ohio 45237), and Herman T. Buckley, 6233 Sharlene Drive, Cincinnati, Ohio 45211
No Drawing. Filed Oct. 22, 1965, Ser. No. 502,621
Int. Cl. B44d 1/22
U.S. Cl. 117—139.5 19 Claims

Ester of an aliphatic dihydroxy monocarboxylic acid. The ester is used in the treatment of a textile material.

3,441,954
MODIFICATION OF REACTIVE HYDROGEN-CONTAINING POLYMERS WITH 2:1 ADDUCTS OF DIVINYL SULFONE AND POLYFUNCTIONAL REACTIVE HYDROGEN-CONTAINING MONOMERS
Giuliana C. Tesoro, Dobbs Ferry, N.Y., and Frank V. Mattei, Plainfield, N.J., assignors to J. P. Stevens & Co., Inc., New York, N.Y., a corporation of Delaware
No Drawing. Filed May 5, 1961, Ser. No. 107,893
Int. Cl. D06m 13/38; C08b 23/00
U.S. Cl. 8—116.2 11 Claims

1. A method for improving the properties of polymers containing active hydrogen atoms, comprising reacting said polymers, in the presence of an alkaline catalyst, with a sulfone compound selected from the group consisting of compounds corresponding to the structures:

$$(CH_2{=}CHSO_2CH_2CH_2O)_nQ$$

wherein n has a value from 2 to 3 and Q is a member selected from the group consisting of $(-C_aH_{2a}-)_3{\equiv}N$ and $(-C_aH_{2a}-)_2{=}NR$ wherein a has a value from 1 to 8 and R is an alkyl group;

$$\left(CH_2{=}CHSO_2CH_2CH_2N\begin{matrix}\\ R_2\end{matrix}\right)_2^{Q}$$

wherein R^2 is a lower alkyl group, b has a value from 0 to 1 and Q is a bivalent organic group selected from the group consisting of

$$-\overset{X}{\overset{\|}{C}}-$$

wherein X is selected from the group consisting of oxygen and sulfur, and $-C_aH_{2a}$ wherein a has a value from 2 to 10;

$$CH_2{=}CHSO_2CH_2CH_2N\begin{matrix}CH_2{-}CH_2\\ \diagdown\quad\diagup\\ CH_2{-}CH_2\end{matrix}N{-}CH_2CH_2SO_2CH{=}CH_2$$

and

$$CH_2CHSO_2CH_2CH_2{-}N\begin{matrix}X\\ \|\\ C\\ \diagup\quad\diagdown\\ Z\end{matrix}NCH_2CH_2SO_2CH{=}CH_2$$

wherein X is a member selected from the group consisting of oxygen and sulfur and Z is a member selected from the group consisting of $-CH_2CH_2-$, $-CH_2CH_2CH_2-$, and

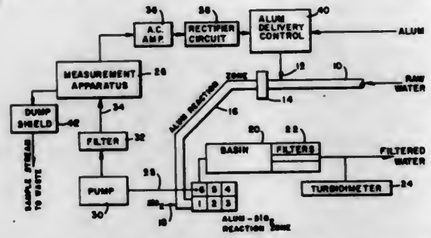
$$-CH_2\underset{\displaystyle R^3}{N}CH_2-$$

wherein R^3 is a lower alkyl group.

3,441,955
INCENDIARY COMPOSITION CONTAINING WHITE PHOSPHORUS AND HEXAMETHYLENETETRAMINE
Samuel Sass, Bel Air, Benjamin Witten, Baltimore, and Paul Davis, Bel Air, Md., assignors to the United States of America as represented by the Secretary of the Army
No Drawing. Filed Aug. 25, 1967, Ser. No. 663,443
Int. Cl. C06d 1/02
U.S. Cl. 149—30 7 Claims

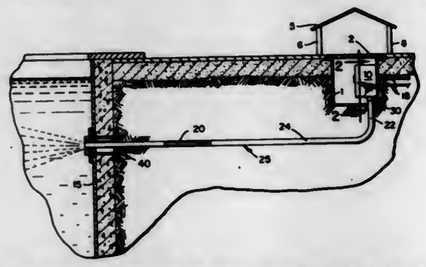
New compositions of blended mixtures of white phosphorus with at least one solid combustible organic compound and method of preparation thereof. White phosphorus, when exposed to air, produces flame which ignites the solid fuel, and the white phosphorus serves as a fuze (igniter) for the combustible material as well as a contributor to the heat of ignition as an incendiary agent. Combustible organic compounds, such as hexamethylenetetramine, intimately mixed with white phosphorus, reduce the required temperature for ignition of the phosphorus.

3,441,956
LIQUID TREATMENT METHOD AND APPARATUS
Willard Farnham, 3055 NE. Dunckley St., Portland, Oreg. 97212
Filed Jan. 23, 1967, Ser. No. 610,942
Int. Cl. C02b 1/40, 1/20
U.S. Cl. 210—53 18 Claims



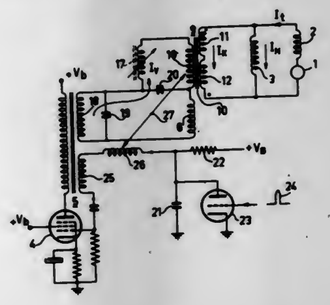
A continuous method and apparatus for treating liquid, such as water having particles suspended therein, by the addition of a double-layer controlling additive such as alum. An energy function in the form of an alternating function of streaming potential is continuously measured on a stream of such liquid, and the addition of the double-layer controlling additive is adjusted to maintain the double-layer properties of the liquid at a given level. A second coagulant such as activated silica may be added before the liquid is passed to settling basins and filters.

3,441,957
SWIMMING POOL AND UNDERWATER LIGHTING SYSTEM
Jerome Friedman, 744 Bound Brook Road, Dunellen, N.J. 08812
Filed Oct. 27, 1966, Ser. No. 589,944
Int. Cl. F21v 31/00
U.S. Cl. 240—26 19 Claims



A lighting system for a pool in which a light source and the electrical connections thereto are located a substantial distance away from any structural portion of the pool and light is conveyed to the water in the pool through an electrically non-conductive, light transmitting rod which is located between the light source and the pool wall. A housing for the light source is also provided including a reflector arrangement for passing light to the input end of the light conducting rod while conveying heat away therefrom.

3,441,958
SATURABLE REACTOR PINCUSHION CORRECTION CIRCUIT
Jan Abraham Cornelis Korver, Emmasingel, Eindhoven, Netherlands, assignor to U.S. Philips Corporation, New York, N.Y., a corporation of Delaware
Filed Feb. 9, 1967, Ser. No. 614,895
Claims priority, application Netherlands, Feb. 19, 1968, 6602180
Int. Cl. H01j 29/70
U.S. Cl. 315—27 10 Claims



A television deflection circuit including a saturable core reactor having first and second windings arranged thereon to reduce pin cushion distortion and further including a third winding arranged on the core and magnetically coupled to a first one of said windings so as to compensate for any distortion introduced into the deflection waveform by the varying inductance of said first winding during the stroke portion of the deflection waveform.

3,441,959
TEXTURED PANEL AND PROCESS OF PRODUCING SAME
Vernon F. Sears, Pelham Manor, and William D. MacDonald, White Plains, N.Y., and Frederic B. Comlossy, South Bend, Ind., assignors to U.S. Plywood Champion Papers, Inc., a corporation of New York
Filed June 5, 1961, Ser. No. 114,828
Int. Cl. B32b 3/26, 21/02, 21/06
U.S. Cl. 161—161 8 Claims

5. A lignocellulosic product comprising a thick core of relatively heavy and thick wood particles having air spaces therein for escape of moisture while being bonded together and to provide for insulation during use, faces on each side of said core comprising a thin layer of wood shavings placed in a longitudinal direction, each wood shaving being fine and thin and of substantial area so as to produce a vignetted overlapping pattern, a resinous adhesive applied to said wood core particles and to said wood shavings, two membrane sheets in contact with each other; placed within said core both sheets in contact with the thick wood particles and parallel to said face shavings, said membrane sheets having no adhesive on their adjacent sides.

DESIGNS

APRIL 29, 1969

213,941
SNACK FOOD PRODUCT OR THE LIKE
Myron G. Cooper, Kenneth E. Grandon, Jr., and Richard M. Vondell, Battle Creek, Mich., assignors to Kellogg Company, Battle Creek, Mich., a corporation of Delaware
Filed June 5, 1968, Ser. No. 12,226
Term of patent 14 years
Int. Cl. D1—*01*
U.S. Cl. D1—1



213,942
SNACK FOOD PRODUCT OR THE LIKE
Myron G. Cooper, Kenneth E. Grandon, Jr., and Richard M. Vondell, Battle Creek, Mich., assignors to Kellogg Company, Battle Creek, Mich., a corporation of Delaware
Filed June 5, 1968, Ser. No. 12,227
Term of patent 14 years
Int. Cl. D1—*01*
U.S. Cl. D1—1



213,943
SNACK FOOD PRODUCT OR THE LIKE
Myron G. Cooper, Kenneth E. Grandon, Jr., and Richard M. Vondell, Battle Creek, Mich., assignors to Kellogg Company, Battle Creek, Mich., a corporation of Delaware
Filed June 5, 1968, Ser. No. 12,228
Term of patent 14 years
Int. Cl. D1—*01*
U.S. Cl. D1—1



213,944
SNACK FOOD PRODUCT OR THE LIKE
Myron G. Cooper, Kenneth E. Grandon, Jr., and Richard M. Vondell, Battle Creek, Mich., assignors to Kellogg Company, Battle Creek, Mich., a corporation of Delaware
Filed June 5, 1968, Ser. No. 12,229
Term of patent 14 years
Int. Cl. D1—*01*
U.S. Cl. D1—1



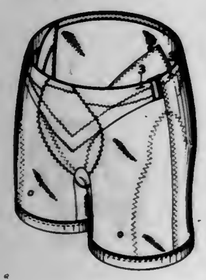
213,945
SNACK FOOD PRODUCT OR THE LIKE
Myron G. Cooper, Kenneth E. Grandon, Jr., Richard M. Vondell and Donald C. Ellis, Battle Creek, Mich., assignors to Kellogg Company, Battle Creek, Mich., a corporation of Delaware
Filed June 5, 1968, Ser. No. 12,230
Term of patent 14 years
Int. Cl. D1—*01*
U.S. Cl. D1—1



213,946
SNACK FOOD PRODUCT OR THE LIKE
Myron G. Cooper, Kenneth E. Grandon, Jr., Richard M. Vondell and Donald C. Ellis, Battle Creek, Mich., assignors to Kellogg Company, Battle Creek, Mich., a corporation of Delaware
Filed June 5, 1968, Ser. No. 12,231
Term of patent 14 years
Int. Cl. D1—*01*
U.S. Cl. D1—2



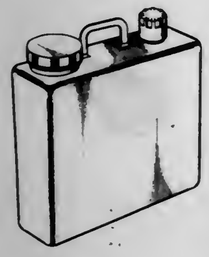
213,947
PANTY GIRDLE
Harry Dubner, New York, N.Y., assignor to Milady Brassiere and Corset Co., Inc., New York, N.Y., a corporation of New York
Filed May 14, 1968, Ser. No. 11,919
Term of patent 14 Years
Int. Cl. D2—*02*
U.S. Cl. D2—4



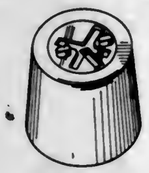
213,948
JUG OR THE LIKE
Victor F. Anderson, Wenonah, N.J., assignor to Shell Oil Company, New York, N.Y., a corporation of Delaware
Filed Sept. 28, 1967, Ser. No. 8,780
Term of patent 14 years
Int. Cl. D9—*01*
U.S. Cl. D9—48



213,949
CONTAINER FOR LIQUIDS
John E. Lenhart, Midway City, Calif., assignor to Purex Corporation, Ltd., Lakewood, Calif., a corporation of California
Filed June 12, 1967, Ser. No. 7,439
Term of patent 14 years
Int. Cl. D9—*04*
U.S. Cl. D9—175



213,950
FLINT-DISPENSING CAP
Edgar Strelow, Raboisen 101, Hamburg 1, Germany
Filed Nov. 9, 1967, Ser. No. 9,338
Term of patent 14 years
Int. Cl. D9—*99*
U.S. Cl. D9—275



213,951
DRAGSTER TRAILER
Edwin B. Wills, 4752 E. Carmen Ave., Fresno, Calif. 93703
Filed May 17, 1968, Ser. No. 11,983
Term of patent 14 years
Int. Cl. D12—*10*
U.S. Cl. D14—3



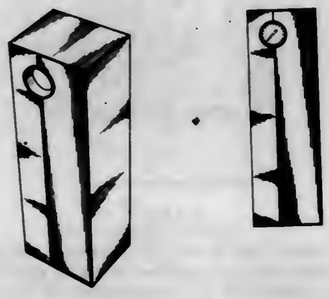
213,952
CHAIR FRAME
Wayland B. Parker, South Boston, Va., assignor to Schlumberger Limited (Schlumberger N.V.), New York, N.Y., a corporation of the Netherlands Antilles
Filed Jan. 10, 1968, Ser. No. 10,110
Term of patent 14 years
Int. Cl. D6—*01*
U.S. Cl. D15—1



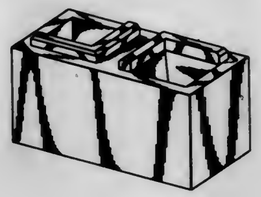
213,953
CHAIR
Wayland B. Parker, South Boston, Va., assignor to Schlumberger Limited (Schlumberger N.V.), New York, N.Y., a corporation of the Netherlands Antilles
Filed Apr. 5, 1968, Ser. No. 11,333
Term of patent 14 years
Int. Cl. D6—*01*
U.S. Cl. D15—1



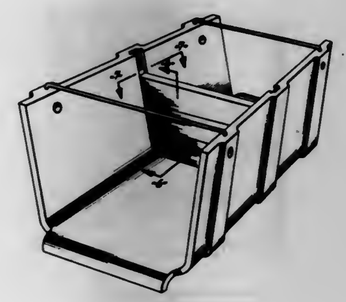
213,954
COVER FOR A PORTABLE FIRE EXTINGUISHER
Arnold H. Koch, Arlington Heights, Ill., assignor to General Fire Extinguisher Corporation, Northbrook, Ill., a corporation of Delaware
Filed Nov. 3, 1967, Ser. No. 9,263
Term of patent 14 years
Int. Cl. D29—*01*
U.S. Cl. D16—2



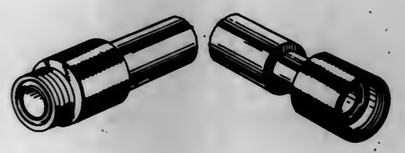
213,955
BUILDING BLOCK
Harold C. Phillips, 246 Oakley Ave., Youngstown, Ohio 44512
Filed Apr. 10, 1968, Ser. No. 11,389
Term of patent 14 years
Int. Cl. D25—*01*
U.S. Cl. D18—2



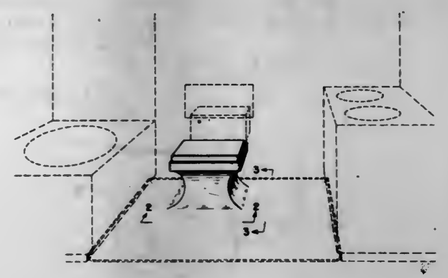
213,956
PORTABLE WIER
Ernie G. Jones, Jr., 4021 Berrendo Drive, Sacramento, Calif. 95825, and Edwin W. Schwenk, Sacramento, Calif. (4905 St. Lynn Lane, Carmichael, Calif. 95608)
Filed June 6, 1968, Ser. No. 12,235
Term of patent 14 years
Int. Cl. D23—*01*
U.S. Cl. D23—1



213,957
HOSE
William H. Myerly, 1230 River Vista Drive, Des Moines, Iowa 50315
Filed Feb. 8, 1968, Ser. No. 10,498
Term of patent 14 years
Int. Cl. D23—*01*
U.S. Cl. D23—44



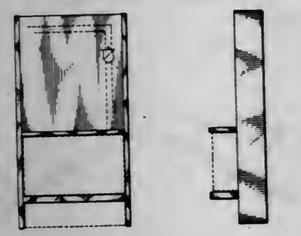
213,958
WATER CLOSET ENCLOSURE OR SIMILAR ARTICLE
Kay L. Ruggles, Salt Lake City, Utah, assignor to American Standard Inc., New York, N.Y., a corporation of Delaware
Filed Dec. 12, 1967, Ser. No. 9,748
Term of patent 14 years
Int. Cl. D23—*02*
U.S. Cl. D23—71



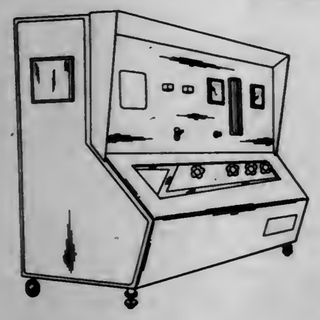
213,959
FIREPLACE
Edward Klein, Wilmette, Ill., assignor to Lear Siegler, Inc., Santa Monica, Calif., a corporation of Delaware
Continuation-in-part of design application Ser. No. 8,504, Sept. 5, 1967. This application June 5, 1968, Ser. No. 12,213
Term of patent 14 years
Int. Cl. D23—*03*
U.S. Cl. D23—94



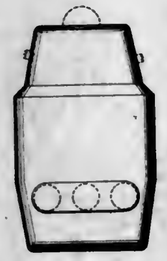
213,960
ELECTRIC FIREPLACE
Donald E. Winegardner, Huntington, Ind., assignor to The Majestic Company, Inc., Huntington, Ind., a corporation of Indiana
Filed Aug. 7, 1967, Ser. No. 8,148
Term of patent 14 years
Int. Cl. D23—*03*
U.S. Cl. D23—97



213,961
OZONE APPARATUS
Paul Rene Blanchard, Paris, France, assignor to Compagnie Generale des Eaux, Paris, France, a corporation of France
Filed Apr. 25, 1967, Ser. No. 6,831
Term of patent 14 years
Claims priority, application France Oct. 25, 1966
Int. Cl. D23—*04*
U.S. Cl. D23—150



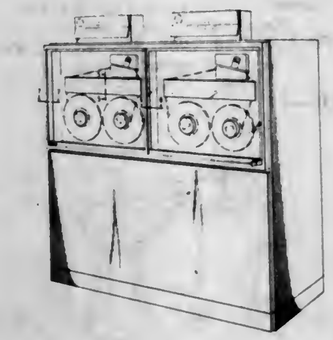
213,962
CASING FOR ELECTRIC TESTER
Robert A. Potruch, Bay Harbor Island, Fla., assignor to Lumidor Products Corporation, Hialeah, Fla., a corporation of Florida
Filed July 2, 1968, Ser. No. 12,598
Term of patent 7 years
Int. Cl. D10—*10*
U.S. Cl. D26—1



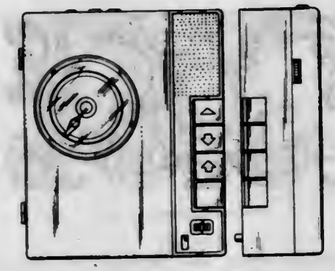
213,963
CLIP FOR ELECTRIC TERMINAL BOARD
Louis F. Dinkel, Rosemount, Minn., assignor to Control Design, Inc., Minneapolis, Minn., a corporation of Minnesota
Filed Feb. 26, 1968, Ser. No. 10,714
Term of patent 14 years
Int. Cl. D8—*03*; D13—*99*
U.S. Cl. D26—1



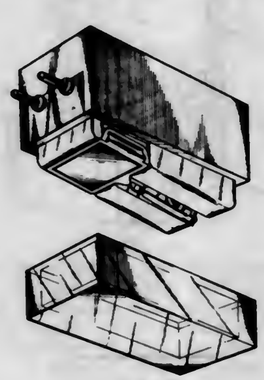
213,964
TAPE DRIVE
Robert V. Jones and Joseph F. Talerico, Poughkeepsie, N.Y., assignors to International Business Machines Corporation, Armonk, N.Y., a corporation of New York
Filed Apr. 14, 1966, Ser. No. 1,886
Term of patent 14 years
Int. Cl. D14—*02*
U.S. Cl. D26—5



213,965
PORTABLE DICTATING MACHINE
Monte L. Levin, New York, N.Y., assignor to Roy M. Bloom, Scarsdale, N.Y.
Filed Nov. 28, 1967, Ser. No. 9,569
Term of patent 14 years
Int. Cl. D14—*02*
U.S. Cl. D26—14



213,966
COMBINED PHONOGRAPH PICKUP CARTRIDGE AND COVER THEREFOR
Machiel de Vries, De Kempenaerstraat 51, Amsterdam, Netherlands
Filed Dec. 12, 1967, Ser. No. 9,747
Term of patent 3½ years
Int. Cl. D14—*01*
U.S. Cl. D26—14





213,967
COMBINATION SOUND RECEIVER, AMPLIFIER, AND SPEAKER SYSTEM
W. Brent Hardy, 55 W. Louise Ave., Salt Lake City, Utah 84115
Filed Dec. 22, 1967, Ser. No. 9,895
Term of patent 3½ years
Int. Cl. D14—*03*
U.S. Cl. D26—14



213,968
ANTENNA FOR A RADIO OR TELEVISION SET
John D. Callaghan, Cherry Hill, N.J., assignor to Radio Corporation of America, a corporation of Delaware
Filed July 16, 1968, Ser. No. 12,784
Term of patent 14 years
Int. Cl. D14—*03*
U.S. Cl. D26—14



213,969
HEARING AID
Ronald R. Giller, Danbury, Conn., assignor to Dictograph Products Company, Shelter Rock Lane, Conn., a corporation of Connecticut
Continuation of design applications Ser. No. 11,212, and Ser. No. 11,213, Mar. 29, 1968. This application Aug. 5, 1968, Ser. No. 13,380
Term of patent 14 years
Int. Cl. D24—*04*
U.S. Cl. D26—14



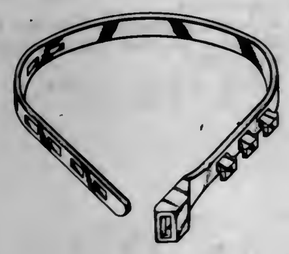
213,970
ANTENNA SPINNER
Donald J. Mayhew, 1319 Saxony Lane, Houston, Tex. 77058
Filed Dec. 28, 1967, Ser. No. 9,964
Term of patent 14 years
Int. Cl. D12—*14*; D21—*04*
U.S. Cl. D29—1



213,971
URN
Henry Black, Manilla Road, Industrial Estate, Southend-on-Sea, Essex, England
Filed June 30, 1967, Ser. No. 7,656
Term of patent 3½ years
Claims priority, application Great Britain Dec. 30, 1966
Int. Cl. D11—*02*
U.S. Cl. D29—28



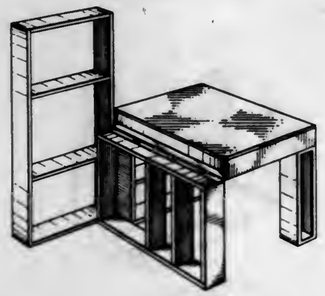
213,972
ANIMAL COLLAR
Victor F. Anderson, Wenonah, and David P. Atwood, Hopewell, N.J., assignors to Shell Oil Company, New York, N.Y., a corporation of Delaware
Filed Apr. 10, 1968, Ser. No. 11,378
Term of patent 14 years
Int. Cl. D30—*04*
U.S. Cl. D30—38



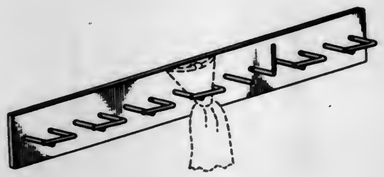
213,973
DECORATIVE PANEL FOR FURNITURE OR THE LIKE
Henry Klein, 252—05 Culman Ave., Little Neck, N.Y. 11362
Filed July 23, 1968, Ser. No. 12,859
Term of patent 7 years
Int. Cl. D6—*01*
U.S. Cl. D33—1



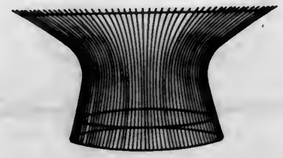
213,974
COMBINED DESK AND SIDE SHELF UNIT
Charles H. Provost, 180—02 145th Road, Springfield Gardens, N.Y. 11413
Filed Feb. 5, 1968, Ser. No. 10,453
Term of patent 14 years
Int. Cl. D6—*01*
U.S. Cl. D33—7



213,975
NECKTIE RACK
Robert L. Woerner, 823 Azalea, Houston, Tex. 77018
Filed Feb. 13, 1967, Ser. No. 5,794
Term of patent 7 years
Int. Cl. D6—*01*
U.S. Cl. D33—8



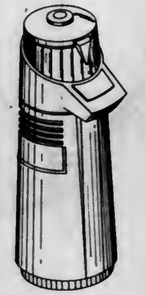
213,976
PEDESTAL OR THE LIKE
Warren Platner, North Haven, Conn., assignor to Art Metal-Knoll Corporation, a corporation of Delaware
Continuation-in-part of design application Ser. No. 86,788, Aug. 31, 1965. This application Aug. 1, 1967, Ser. No. 8,082
Term of patent 14 years
Int. Cl. D6—*01*
U.S. Cl. D33—14



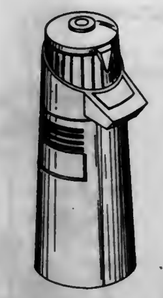
213,977
COMBINED TOOTHBRUSH AND PASTE HOLDER AND CUP AND MOUTHWASH DISPENSER
Marilyn S. Powers, 14893 Dasher Ave., Allen Park, Mich. 48101
Filed Apr. 8, 1968, Ser. No. 11,362
Term of patent 14 years
Int. Cl. D6—*01*
U.S. Cl. D33—27



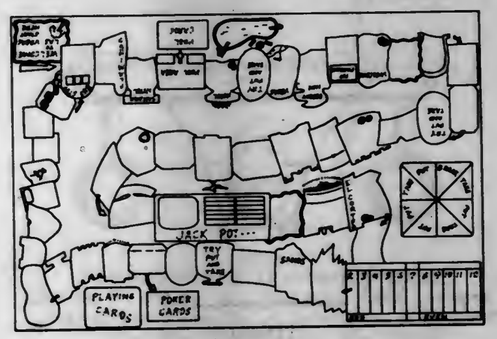
213,978
COMBINATION HOT LATHER DISPENSER AND AEROSOL LATHER CONTAINER
Theodore R. Flowers, Fairfield, Conn., assignor to Eversharp, Inc., a corporation of Delaware
Filed Nov. 15, 1967, Ser. No. 9,413
Term of patent 14 years
Int. Cl. D6—*01*
U.S. Cl. D33—30



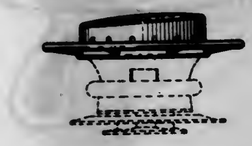
213,979
HOT LATHER DISPENSER
Theodore R. Flowers, Fairfield, Conn., assignor to Eversharp, Inc., a corporation of Delaware
Filed Nov. 15, 1967, Ser. No. 9,432
Term of patent 14 years
Int. Cl. D6—*01*
U.S. Cl. D33—30



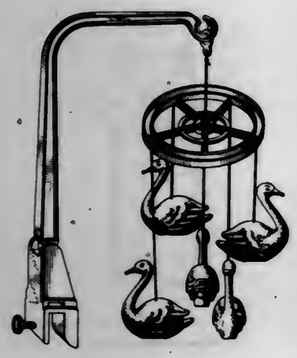
213,980
GAME BOARD
Louis Tartack, 2427 S. Hutchinson St., Philadelphia, Pa. 19148, and Raymond Jannetti, 805 Rocklynn Road, Springfield, Pa. 19064
Filed Oct. 30, 1967, Ser. No. 9,210
Term of patent 14 years
Int. Cl. D21—*01*
U.S. Cl. D34—5



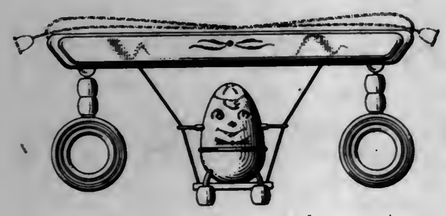
213,981
BUMPER FOR A PINBALL MACHINE
Roman F. Garbark, Westchester, Ill., assignor to D. Gottlieb & Co., Chicago, Ill., a corporation of Illinois
Filed Nov. 24, 1967, Ser. No. 9,542
Term of patent 14 years
Int. Cl. D21—*01*
U.S. Cl. D34—5



213,982
HANGING-BIRD DISPLAY TOY
Joseph Daniel Simon, 22 Midwood Cross, East Hills, N.Y. 10940
Filed May 21, 1968, Ser. No. 12,019
Term of patent 7 years
Int. Cl. D21—*02, 03*
U.S. Cl. D34—15



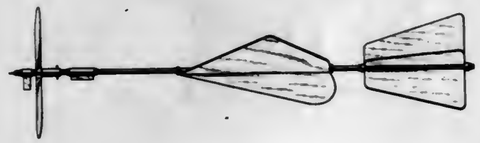
213,983
CRADLE GYM TOY
Joseph Daniel Simon, 22 Midwood Cross, East Hills, N.Y. 10940
Filed May 21, 1968, Ser. No. 12,018
Term of patent 7 years
Int. Cl. D21—*03*
U.S. Cl. D34—15



213,984
TOY GUN
Clement C. Buseck, Erie, and John R. Bonnett, Girard, Pa., assignors to Louis Marx & Co., Inc., a corporation of New York
Filed Apr. 24, 1968, Ser. No. 11,589
Term of patent 14 years
Int. Cl. D21—*02*
U.S. Cl. D34—15



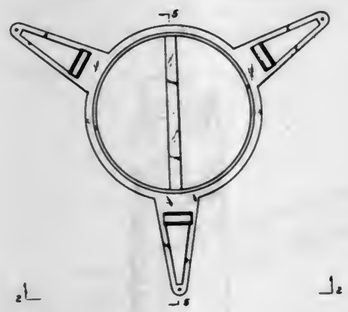
213,985
TOY AIRPLANE
Wilburt Marshall, Rte. 1, Box 61, Carrizo Springs, Tex. 78834
Continuation of design applications Ser. No. 8,349, Aug. 22,1967, and Ser. No. 8,348, Aug. 22, 1967. This application May 16, 1968, Ser. No. 12,555
Term of patent 7 years
Int. Cl. D21—*02;* D12—*07*
U.S. Cl. D34—15



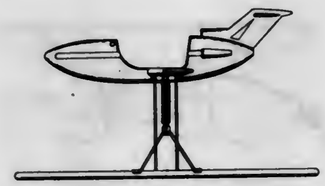
213,986
ANTENNA SPINNER
James E. Sides, 9419 Coremeadow, Dallas, Tex. 75230
Filed July 11, 1968, Ser. No. 12,705
Term of patent 14 years
Int. Cl. D12—*14;* D21—*04*
U.S. Cl. D34—15



213,987
KITE FLIGHT CONTROL HANDLE
Theodore A. Benze, 111 Western Concourse, Amityville, N.Y. 11701
Filed July 30, 1968, Ser. No. 12,956
Term of patent 14 years
Int. Cl. D21—*04, 99*
U.S. Cl. D34—15



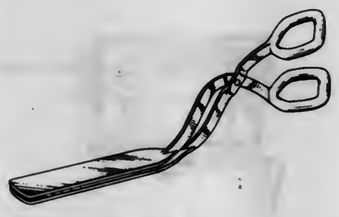
213,988
TOY AIRPLANE
Thomas A. Hall, Rte. 2, Box 239, Hillsboro, Oreg. 97123
Filed Aug. 12, 1968, Ser. No. 13,080
Term of patent 14 years
Int. Cl. D21—*02*
U.S. Cl. D34—15



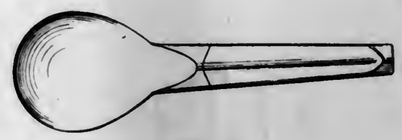
213,989
CUTTING BOARD
Arthur M. Boone, P.O. Box 1041, Bay City, Tex. 77414
Filed Nov. 2, 1967, Ser. No. 9,259
Term of patent 14 years
Int. Cl. D7—*99*
U.S. Cl. D44—1



213,990
KITCHEN TONGS
Stephen A. Lee, 8735 Rue Riviera, Apt. 4B, Lawrence, Ind. 46226
Filed Jan. 24, 1968, Ser. No. 10,288
Term of patent 14 years
Int. Cl. D7—*02*
U.S. Cl. D44—4



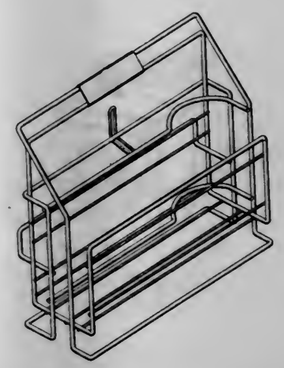
213,991
ICE CREAM SPADE
Monte Levin, Roslyn Heights, N.Y., assignor to Rudi Baer, doing business as Progressus Company, New York, N.Y.
Filed Feb. 1, 1968, Ser. No. 10,394
Term of patent 14 years
Int. Cl. D7—*03*
U.S. Cl. D44—29



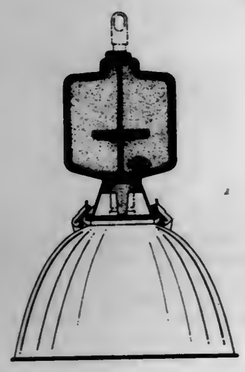
213,992
FORK
Falle Uldall, Nykobing, Denmark, assignor to Hutzler Manufacturing Company, a partnership
Original design application Jan. 31, 1967, Ser. No. 5,670, now Patent No. 211,656, dated July 9, 1968. Divided and this application Feb. 29, 1968, Ser. No. 12,062
Term of patent 14 years
Int. Cl. D7—*03*
U.S. Cl. D44—29



213,993
COOKING OIL ACCESSORY RACK
Salvatore C. Mineo, Jr., Fullerton, Calif., assignor to Hunt-Wesson Foods, Inc., a corporation of Delaware
Filed May 20, 1968, Ser. No. 12,003
Term of patent 14 years
Int. Cl. D6—*01;* D20—*02*
U.S. Cl. D44—29



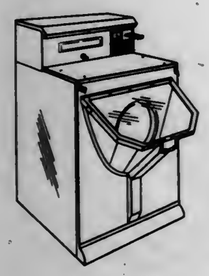
213,994
LIGHTING FIXTURE
Ronald G. Blaisdell, Saugus, and Hendrik A. J. de Vos, Wenham, Mass., assignors to Sylvania Electric Products Inc., a corporation of Delaware
Filed Jan. 2, 1968, Ser. No. 10,001
Term of patent 14 years
Int. Cl. D26—*03*
U.S. Cl. D48—23



213,995
CIGARETTE LIGHTER
Kenjiro Goto, Tokyo, Japan, assignor to Mansei Kogyo Kabushiki Kaisha, Kawaguchi-shi, Japan
Filed Aug. 8, 1968, Ser. No. 13,061
Term of patent 14 years
Int. Cl. D27—*08*
U.S. Cl. D48—27



213,996
WASHING MACHINE
John T. Langston, Edwards Road, Taylors, S.C. 29687
Filed Apr. 1, 1968, Ser. No. 11,254
Term of patent 14 years
Int. Cl. D7—*06*
U.S. Cl. D49—1

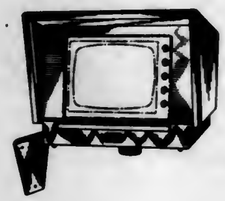


213,997
CERAMIC CASTING APPARATUS
Robert R. Salmans, Wichita, Kans., assignor to Ceramics of Kansas, Inc., Wichita, Kans., a corporation of Kansas
Filed May 13, 1968, Ser. No. 11,891
Term of patent 14 years
Int. Cl. D15—*05*
U.S. Cl. D55—1

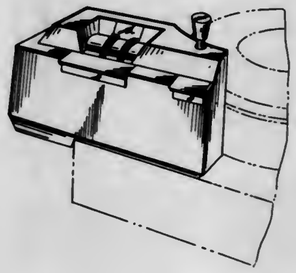


213,998
HYDRAULIC WORKHOLDING CLAMP
Vitas T. Thomas and Robert A. Lovdahl, Racine, Wis., assignors to Tomco, Inc., Racine, Wis., a corporation of Wisconsin
Filed Apr. 8, 1968, Ser. No. 11,367
Term of patent 14 years
Int. Cl. D8—*02*
U.S. Cl. D55—1

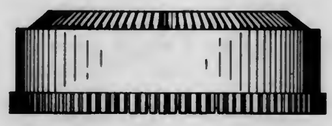
213,999
COMBINED TELEVISION HOUSING AND SUPPORT BRACKET THEREFOR
Walter G. Anders, Canton, Ohio, assignor to Diebold, Incorporated, Canton, Ohio, a corporation of Ohio
Filed Oct. 9, 1967, Ser. No. 8,918
Term of patent 14 years
Int. Cl. D14—*03*
U.S. Cl. D56—4



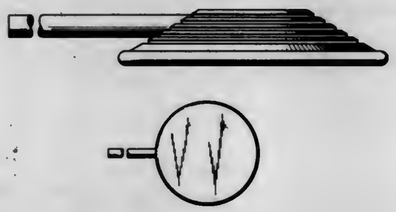
214,000
RANDOM SLIDE SELECTOR ATTACHMENT FOR A SLIDE PROJECTOR
Richard W. Lanigan, Arlington Heights, Ill., assignor to GAF Corporation, New York, N.Y., a corporation of Delaware
Filed Feb. 20, 1968, Ser. No. 10,655
Term of patent 14 years
Int. Cl. D16—*03*
U.S. Cl. D61—1



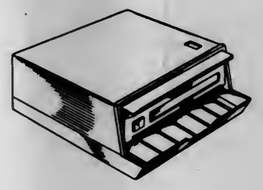
214,001
SLIDE TRAY
Thomas M. Steinbach, Park Ridge, and Robert M. Simonelli, Des Plaines, Ill., assignors to GAF Corporation, New York, N.Y., a corporation of Delaware
Filed Feb. 20, 1968, Ser. No. 10,656
Term of patent 14 years
Int. Cl. D16—*07*
U.S. Cl. D61—1



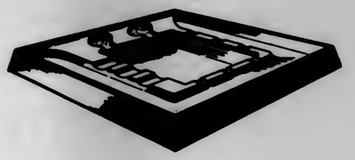
214,002
STETHOSCOPE HEAD
Gustav F. Machlup and David Littmann, Belmont, Mass., assignors to Minnesota Mining and Manufacturing Company, Maplewood, Minn., a corporation of Delaware
Filed June 26, 1968, Ser. No. 12,515
Term of patent 14 years
Int. Cl. D24—*03*
U.S. Cl. D83—12



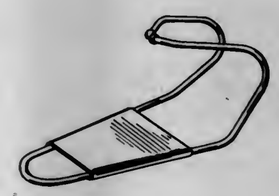
214,003
AUTOMATIC LIGHTER AND DISPENSER
Edward W. Peterson, 2040 Duffy Lane, Bannockburn, Ill.
Filed Feb. 19, 1968, Ser. No. 10,625
Term of patent 14 years
Int. Cl. D27—*05*
U.S. Cl. D85—2



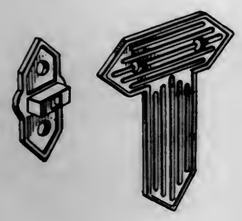
214,004
ASHTRAY
Charles H. Truelsen, 240 Keeline Bldg., Omaha, Nebr. 68102
Filed Feb. 13, 1968, Ser. No. 10,556
Term of patent 14 years
Int. Cl. D27—*03*
U.S. Cl. D85—2



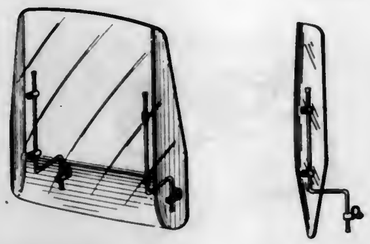
214,005
BOOTJACK
William Hillson, 1 Edgewood Lane, Orangeburg, N.Y. 10962
Filed May 14, 1968, Ser. No. 11,935
Term of patent 14 years
Int. Cl. D3—*99*
U.S. Cl. D86—10



214,006
HANDBAG SNAP LOCK
David Damast, 522 Shore Road, Long Beach, N.Y. 11561
Filed May 7, 1968, Ser. No. 11,809
Term of patent 3½ years
Int. Cl. D8—*03*
U.S. Cl. D87—2



214,007
MOTORCYCLE WINDSHIELD
Walter R. Hiatt, Long Beach, and Paul R. Jones, Norwalk, Calif., assignors to Bates Industries, Inc., Long Beach, Calif., a corporation of California
Filed May 18, 1966, Ser. No. 2,340
Term of patent 14 years
Int. Cl. D12—*11, 14*
U.S. Cl. D90—1



LIST OF DEFENSIVE PUBLICATIONS

APPLICANTS TO WHOM

DEFENSIVE PUBLICATIONS WERE ISSUED ON THE 29TH DAY OF APRIL, 1969

"Published at the request of the applicant or owner in accordance with the Notice of April 11, 1968, 849 O.G. 1221. Identification is by serial number of the application."

Buckson, Gerald I., to Troxel Mfg. Co. Defect detector having rotating prism scanner having plurality of pairs of photocells with coloring and space filtering. 749,337, 4–29–69, Cl. 250—219.

Buckson, Gerald I., J. A. Masino, and S. V. Williams, to E. I. du Pont de Nemours and Co. Photoelectric scanner for detecting ridges and indentations in a yarn package. 702,459, 4–29–69, Cl. 250—219.

Buckson, Gerald I., J. A. Masino, E. J. Sturdevant, and S. V. Williams, to E. I. du Pont de Nemours and Co. Radiation sensitive apparatus for detecting rotating yarn package defects. 751,270, 4–29–69, Cl. 250—219.

Dickakian, Gazi B. M. Acidic resins derived from polymers or copolymers of conjugated diolefins. 708,499, 4–29–69, Cl. 260—78.5.

Du Pont de Nemours, E. I., and Co.: *See*—
Buckson, Gerald I., Masino, and Williams. 702,459.
Buckson, Gerald I., Masino, Sturdevant, and Williams. 751,270.
Martin, Kenneth V. 650,439.
Meyer, Gerhardt E., and Moore. 774,071.
Robbins, Gordon B. 634,477.

Ford Motor Co.: *See*—
Moroney, William N. 782,704.

Gibson, Charles L., and W. T. Tucker. Process for the preparation of hexamethylphosphortriamide. 772,436, 4–29–69, Cl. 260—551.

Hargis, Charles W., J. E. Williams, and H. S. Young. Oxidative conversion of alicyclic alcohols to ketones. 785,042, 4–29–69, Cl. 260—586.

Lin, Hung C. Semiconductor integrated circuit. 769,261, 4–29–69, Cl. 317—235.

Martin, Kenneth V., to E. I. du Pont de Nemours and Co. Fabric surfaced hydrocarbon rubber laminate and process of preparing same. 650,439, 4–29–69, Cl. 161—96.

Masino, John A.: *See*—
Buckson, Gerald I., Masino, and Williams. 702,459.
Buckson, Gerald I., Masino, Sturdevant, and Williams. 751,270.

Maxwell, Donald A., and B. N. Scoggins. Process of sweetening and stabilizing sulfate grade turpentine. 773,655, 4–29–69, Cl. 260—675.5.

Meyer, Gerhardt E., and C. B. Moore, to E. I. du Pont de Nemours and Co. Apparatus for analyzing uniformity of sheet-like material. 774,071, 4–29–69, Cl. 250—219.

Moore, Charles B.: *See*—
Meyer, Gerhardt E., and Moore. 774,071.

Moroney, William N., to Ford Motor Co. Sequential photometer for measuring output of a vehicle mounted lamp. 782,704, 4–29–69, Cl. 356—121.

Robbins, Gordon B., to E. I. du Pont de Nemours and Co. Process for multicolored dyeing of polycarbonamide yarns and staple. 634,477, 4–29–69, Cl. 8—21.

Scoggins, Bobby N.: *See*—
Maxwell, Donald A., and Scoggins. 773,655.

Sturdevant, Eugene J.: *See*—
Buckson, Gerald I., Masino, Sturdevant, and Williams. 751,270.

Troxel Mfg. Co.: *See*—
Buckson, Gerald I. 749,337.

Tucker, William T.: *See*—
Gibson, Charles L., and Tucker. 772,436.

Williams, James E.: *See*—
Hargis, Charles W., Williams, and Young. 785,042.

Williams, Stanley V.: *See*—
Buckson, Gerald I., Masino, and Williams. 702,459.
Buckson, Gerald I., Masino, Sturdevant, and Williams. 751,270.

Young, Howard S.: *See*—
Hargis, Charles W., Williams, and Young. 785,042.

LIST OF REISSUE PATENTEES

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NOTE.—Arranged in accordance with the first significant character or word of the name (in accordance with city and telephone directory practice).

American Cyanamid Co.: *See*—
Rodgers, John L., and Millonis. Re. 26,565.

Avco Broadcasting Corp.: *See*—
Rockwell, Ronald J. Re. 26,567.

Baldwin, John A., Jr., to Bell Telephone Laboratories, Inc. Preference circuit employing magnetic elements. Re. 26,572, 4–29–69, Cl. 340—172.5.

Bell Telephone Laboratories, Inc.: *See*—
Baldwin, John A., Jr. Re. 26,572.

Dunn, James T. E., and R. J. Sloat. Method and mechanism for lubricating the shaft elements of a pump rotor for pumping an abradant-containing liquid. Re. 26,570, 4–29–69, Cl. 184—1.

Fast Load Control, Inc.: *See*—
Park, Robert H. Re. 26,571.

Foxboro Co., The: *See*—
Nazareth, Alfred, Jr. Re. 26,573.

General Electric Co.: *See*—
Kurt, Howard D., and Gould. Re. 26,576.

Gould, Herbert R.: *See*—
Kurt, Howard D., and Gould. Re. 26,576.

Haug, Edward W. Tool for forming toothed parts. Re. 26,569, 4–29–69, Cl. 72—76.

Kurt, Howard D., and H. R. Gould, to General Electric Co. Busway distribution system for supplying a plurality of electric discharge devices through ballast devices. Re. 26,576, 4–29–69, Cl. 315—177.

Layton, Jack D., to Layton Mfg. Co. Mechanism for attaching trailing and lead vehicles. Re. 26,566, 4–29–69, Cl. 280—460.

Layton Mfg. Co.: *See*—
Layton, Jack D. Re. 26,566.

Lear Siegler, Inc.: *See*—
Volk, Sidney. Re. 26,575.

Millonis, Jerry P.: *See*—
Rodgers, John L., and Millonis. Re. 26,565.

Nazareth, Alfred, Jr., to The Foxboro Co. Industrial process control apparatus. Re. 26,573, 4–29–69, Cl. 330—10.

Park, Robert H., to Fast Load Control, Inc. Means for maintaining stability of power transmission systems. Re. 26,571, 4–29–69, Cl. 307—86.

Rockwell, Ronald J., to Avco Broadcasting Corp. Amplifier of the transformer-output type with regenerative feedback network for reducing low frequency distortion. Re. 26,567, 4–29–69, Cl. 330—82.

Rodgers, John L., and J. P. Millonis, to American Cyanamid Co. 2-ortho-hydroxy-phenyl-4-(3H)-quinazolinones. Re. 26,565, 4–29–69, Cl. 260—251.

Sardee Corp., The: *See*—
Sarovich, Steve. Re. 26,568.

Sarovich, Steve, to The Sardee Corp. Upward magnetic can conveyor. Re. 26,568, 4–29–69, Cl. 198—41.

Schmit, Roger A., to Teletype Corp. Code transmitter-distributor with [mechanical] means for varying duration of stop pulse. Re. 26,577, 4–29–69, Cl. 178—53.1.

Sloat, Robert J.: *See*—
Dunn, James T. E., and Sloat. Re. 26,570.

Strange, Booth B., and M. J. Wells, to Western Geophysical Co. of America. Method and apparatus for signal compositing and recording. Re. 26,574, 4–29–69, Cl. 340—15.5.

Teletype Corp.: *See*—
Schmit, Roger A. Re. 26,577.

Volk, Sidney, to Lear Siegler, Inc. Hot air furnace. Re. 26,575, 4–29–69, Cl. 126—110.

Wells, Melvin J.: *See*—
Strange, Booth B., and Wells. Re. 26,574.

Western Geophysical Co. of America: *See*—
Strange, Booth B., and Wells. Re. 26,574.

LIST OF DESIGN PATENTEES

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PATENTS WERE ISSUED ON THE 29TH DAY OF APRIL, 1969

NOTE.—Arranged in accordance with the first significant character or word of the name (in accordance with city and telephone directory practice).

American Standard Inc.: *See*—
Ruggles, Kay L. 213,958.
Anders, Walter G., to Diebold, Inc. Combined television housing and support bracket therefor. 213,999,, 4–29–69, Cl. D56—4.
Anderson, Victor F., to Shell Oil Co. Jug or the like. 213,948, 4–29–69, Cl. D9—48.
Anderson, Victor F., and D. P. Atwood, to Shell Oil Co. Animal collar. 213,972, 4–29–69, Cl. D30—38.
Art Metal-Knoll Corp.: *See*—
Platner, Warren. 213,976.
Atwood, David P.: *See*—
Anderson, Victor F., and Atwod. 213,972.
Baer, Rudi: *See*—
Levin, Monte. 213,991.
Bates Industries, Inc.: *See*—
Hiatt, Walter R., and Jones. 214,007.
Benze, Theodore A. Kite flight control handle. 213,987, 4–29–69, Cl. D34—15.
Black, Henry. Urn. 213,971, 4–29–69, Cl. D29—28.
Blanchard, Paul R., to Compagnie Generale des Eaux. Ozone apparatus. 213,961, 4–29–69, Cl. D23—150.
Blaisdell, Ronald G., and H. A. J. de Vos, to Sylvania Electric Products, Inc. Lighting fixture. 213,994, 4–29–69, Cl. D48—23.
Bloom, Roy M.: *See*—
Levin, Monte L. 213,965.
Bonnett, John R.: *See*—
Buseck, Clement C., and Bonnett. 213,984.
Boone, Arthur M. Cutting board. 213,989, 4–29–69, Cl. D44—1.
Buseck, Clement C., and J. R. Bonnett, to Louis Marx & Co., Inc. Toy gun. 213,984, 4–29–69, Cl. D34—15.
Callaghan, John D., to Radio Corp. of America. Antenna for a radio or television set. 213,968, 4–29–69, Cl. D26—14.
Ceramics of Kansas, Inc.: *See*—
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Compagnie Generale des Eaux: *See*—
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Control Design, Inc.: *See*—
Dinkel, Louis F. 213,963.
Cooper, Myron G., K. E. Grandon, Jr., and R. M. Vondell, to Kellogg Co. Snack food product or the like. 213,941, 4–29–69, Cl. D1—1.
Cooper, Myron G., K. E. Grandon, Jr., and R. M. Vondell, to Kellogg Co. Snack food product or the like. 213,942, 4–29–69, Cl. D1—1.
Cooper, Myron G., K. E. Grandon, Jr., and R. M. Vondell, to Kellogg Co. Snack food product or the like. 213,943, 4–29–69, Cl. D1—1.
Cooper, Myron G., K. E. Grandon, Jr., and R. M. Vondell, to Kellogg Co. Snack food product or the like. 213,944, 4–29–69, Cl. D1—1.
Cooper, Myron G., K. E. Grandon, Jr., R. M. Vondell, and D. C. Ellis, to Kellogg Co. Snack food product or the like. 213,945, 4–29–69, Cl. D1—1.
Cooper, Myron G., K. E. Grandon, Jr., R. M. Vondell, and D. C. Ellis, to Kellogg Co. Snack food product or the like. 213,946, 4–29–69, Cl. D1—2.
Damast, David. Handbag snap lock. 214,006, 4–29–69, Cl. D87—2.
De Vos, Hendrik A. J.: *See*—
Blaisdell, Ronald G., and de Vos. 213,994.
De Vries, Machiel. Combined phonograph pickup cartridge and cover therefor. 213,966, 4–29–69, Cl. D26—14.
Dictograph Products Co.: *See*—
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Diebold, Inc.: *See*—
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Dinkel, Louis F., to Control Design, Inc. Clip for electric terminal board. 213,963, 4–29–69, Cl. D26—1.
Dubner, Harry, to Milady Brassiere and Corset Co., Inc. Panty girdle. 213,947, 4–29–69, Cl. D2—4.
Eversharp, Inc.: *See*—
Flowers, Theodore R. 213,978.
Flowers, Theodore R. 213,979.
Flowers, Theodore R., Eversharp, Inc. Combination hot lather dispenser and aerosal lather container. 213,978, 4–29–69, Cl. D33—30.
Flowers, Theodore R., to Eversharp, Inc. Hot lather dispenser. 213,979, 4–29–69, Cl. D33—30.
GAF Corp.: *See*—
Lanigan, Richard W. 214,000.
Steinbach, Thomas M., and Simonelli. 214,001.
Garbark, Roman F., to D. Gottlieb & Co. Bumper for a pinball machine. 213,981, 4–29–69, Cl. D34—5.
General Fire Extinguisher Corp.: *See*—
Koch, Arnold H. 213,954.
Giller, Ronald R., to Dictograph Products Co. Hearing aid. 213,969, 4–29–69, Cl. D26—14.
Goto, Kenjiro, to Mansei Kogyo Kabushiki Kaisha. Cigarette lighter. 213,995, 4–29–69, Cl. D48—27.
Gottlieb, D., & Co.: *See*—
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Cooper, Myron G., Grandon, and Vondell. 213,941.
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Cooper, Myron G., Grandon, and Vondell. 213,944.
Cooper, Myron G., Grandon, Vondell, and Ellis. 213,945.
Cooper, Myron G., Grandon, Vondell, and Ellis. 213,946.
Hall, Thomas A. Toy airplane. 213,988, 4–29–69, Cl. D34—15.
Hardy, W. Brent. Combination sound receiver, amplifier, and speaker system. 213,967, 4–29–69, Cl. D26—14.
Hiatt, Walter R., and P. R. Jones, to Bates Industries, Inc. Motorcycle windshield. 214,007, 4–29–69, Cl. D90—1.
Hillson, William. Boot jack. 214,005, 4–29–69, Cl. D86—10.
Hunt-Wesson Foods, Inc.: *See*—
Mineo, Salvatore C., Jr. 213,993.
Hutzler Mfg. Co.: *See*—
Uldall, Falle. 213,992.
International Business Machines Corp.: *See*—
Jones, Robert V., and Talerico. 213,964.
Jannetti, Raymond: *See*—
Tartack, Louis, and Jannetti. 213,980.
Jones, Ernie G., Jr., and E. W. Schwenk. Portable weir. 213,956, 4–29–69, Cl. D23—1.
Jones, Paul R.: *See*—
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Jones, Robert V., and J. F. Talerico, to International Business Machines Corp. Tape drive. 213,964, 4–29–69, Cl. D26—5.
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Klein, Edward, to Lear Siegler, Inc. Fireplace. 213,959, 4–29–69, Cl. D23—94.
Klein, Henry. Decorative panel for furniture or the like. 213,973, 4–29–69, Cl. D33—1.
Koch, Arnold H., to General Fire Extinguisher Corp. Cover for a portable fire extinguisher. 213,954, 4–29–69, Cl. D16—2.
Langston, John T. Washing machine. 213,996, 4–29–69, Cl. D19—1.
Lanigan, Richard W., to GAF Corp. Random slide selector attachment for a slide projector. 214,000, 4–29–69, Cl. D61—1.
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Lee, Stephen A. Kitchen tongs. 213,990, 4–29–69, Cl. D44—4.
Lenhart, John E., to Purex Corp., Ltd. Container for liquids. 213,949, 4–29–69, Cl. D9—175.
Levin, Monte, to R. Baer, d.b.a. Progressus Co. Ice cream spade. 213,991, 4–29–69, Cl. D44—29.
Levin, Monte L., to R. M. Bloom. Portable dictating machine. 213,965, 4–29–69, Cl. D26—14.
Littmann, David: *See*—
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Lovdahl, Robert A.: *See*—
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Machlup, Gustav F., and D. Littmann, to Minnesota Mining and Mfg. Co. Stethoscope head. 214,002, 4–29–69, Cl. D83—12.
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Marshall, Wilburt. Toy airplane. 213,985, 4–29–69, Cl. D34—15.
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Buseck, Clement C., and Bonnett. 213,984.
Mayhew, Donald J. Antenna spinner. 213,970, 4–29–69, Cl. D29—1.
Milady Brassiere and Corset Co., Inc.: *See*—
Dubner, Harry. 213,947.
Mineo, Salvatore C., Jr., to Hunt-Wesson Foods, Inc. Cooking oil accessory rack. 213,993. 4–29–69, Cl. D44—29.
Minnesota Mining and Mfg. Co.: *See*—
Machlup, Gustav F., and Littmann. 214,002.
Myerly, William H. Hose. 213,957, 4–29–69, Cl. D23—44.
Parker, Wayland B., to Schlumberger Ltd. (Schlumberger N.V.). Chair frame. 213,952, 4–29–69, Cl. D15—1.
Parker, Wayland B., to Schlumberger Ltd. (Schlumberger N.V.). Chair. 213,953, 4–29–69, Cl. D15—1.
Peterson, Edward W. Automatic lighter and dispenser. 214,003, 4–29–69, Cl. D85—2.
Phillips, Harold C. Building block. 213,955, 4–29–69, Cl. D18—2.
Platner, Warren, to Art Metal-Knoll Corp. Pedestal or the like. 213,976, 4–29–69, Cl. D33—14.
Potruch, Robert A., to Lumidor Products Corp. Casing for electric tester. 213,962, 4–29–69, Cl. D26—1.
Powers, Marilyn S. Combined toothbrush and paste holder and cup and mouthwash dispenser. 213,977, 4–29–69, Cl. D33—27.

Provost, Charles H. Combined desk and side shelf unit. 213,974, 4–29–69, Cl. D33—7.
Purex Corp., Ltd.: *See*—
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Radio Corp. of America: *See*—
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Ruggles, Kay L., to American Standard Inc. Water closet enclosure or similar article. 213,958, 4–29–69, Cl. D23—71.
Salmans, Robert R., to Ceramics of Kansas, Inc. Ceramic casting apparatus. 213,997, 4–29–69, Cl. D55—1.
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Parker, Wayland B. 213,953.
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Simon, Joseph D. Hanging-bird display toy. 213,982, 4–29–69, Cl. D34—15.
Simon, Joseph D. Cradle gym toy. 213,983, 4–29–69, Cl. D34—15.
Simonelli, Robert M.: *See*—
Steinbach, Thomas M., and Simonelli. 214,001.
Steinbach, Thomas M., and R. M. Simonelli, to GAF Corp. Slide tray. 214,001, 4–29–69, Cl. D61—1.
Strelow, Edgar. Flint dispensing cap. 213,950, 4–29–69, Cl. D9—275.
Sylvania Electric Products, Inc.: *See*—
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Talerico, Joseph F.: *See*—
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Truelsen, Charles H. Ash tray. 214,004, 4–29–69, Cl. D85—2.
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Cooper, Myron G., Grandon, and Vondell. 213,942.
Cooper, Myron G., Grandon, and Vondell. 213,943.
Cooper, Myron G., Grandon, and Vondell. 213,944.
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Cooper, Myron G., Grandon, Vondell, and Ellis. 213,946.
Wills, Edwin B. Dragster trailer. 213,951, 4–29–69, Cl. D14—3.
Winegardner, Donald E., to The Majestic Co., Inc. Electric fireplace. 213,960, 4–29–69, Cl. D23—97.
Woerner, Robert L. Necktie rack. 213,975, 4–29–69, Cl. D33—8.

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PATENTS WERE ISSUED ON THE 29ND DAY OF APRIL, 1969

NOTE.—Arranged in accordance with the first significant character or word of the name (in accordance with city and telephone directory practice).

Aasen, Leiv B.: *See—*
Wortz, Edward C., and Aasen, Leiv B. 3,441,020.

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Worden, Donald P., and Abbott, Edward F. 3,441,704.

Abner, Charles L. Safety device for holding, retaining and snuffing out a burning cigarette or cigar. 3,441,030, 04-29-69, Cl. 131-256.

ACF Industries, Incorporated: *See—*
O'Leary, Walter E., Thornton, Duane V., and Buckthorpe, Tom C., 3,440,971.

Achenbach Sohne G.m.b.H.: *See—*
Barten, Ernst Heinrich, 3,441,234.

Achterling, Harold J., Prosa, Aldo C., Spencer, Donald J., and Perry, Robert C. Rule inserting apparatus for linecasting machines. 3,441,124, 04-29-69, Cl. 199-061.

Adam, Charles R., and West, Robert E., to Cascade Industries, Incorporated. Swimming pool wall construction. 3,440,780, 04-29-69, Cl. 052-169.

Addressograph-Multigraph Corporation: *See—*
Kolibas, James A., 3,441,345.

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Lassig, Wolfgang, and Ludloff, Wolfgang, 3,441,347.

Agfa-Gevaert Aktiengesellschaft: *See—*
Eppe, Rudolf, 3,441,884.

Ahlgren, Hans H., and Leidvik, Martin, to Stabilator Aktiebolag. Device in drills. 3,441,097, 04-29-69, Cl. 175-214.

Aida, Yoshikazu, and Kakizawa, Toshizo, to Agency of Industrial Science & Technology, Ministry of International Trade and Industry. High frequency wattmeter employing inducti ve shielding and a capacitive shunt for frequency compensation. 3,441,855, 04-29-69, Cl. 324-106.

Air Products and Chemicals, Inc.: *See—*
Pryor, John A., and Bolez, Carl A., 3,440,828.

Air Reduction Company, Incorporated: *See—*
Lindemann, Martin K., 3,441,547.
Tedeschi, Robert J., and Moore, George L., 3,441,621.

Ajax Magnethermic Corporation: *See—*
Sommer, Richard A., 3,441,261.

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Aktiengesellschaft Brown, Boveri & Cie: *See—*
Christener, Hanspeter, 3,441,803.
Roth, Karl, Anwander, Elmar, and Schonhuber, Max-Josef, 3,441,773.

Albert, Herman. Adjustable clamp. 3,441,265, 04-29-69, Cl. 269-203.

Albright, Donald R., Shartrand, Allan C., and Otteson, Albert J., to General Electric Company. Dynamoelectric machine cooling arrangement. 3,441,758, 04-29-69, Cl. 310-058.

Alder, Robert L., to Jackson, Byron, Inc. Centrifugally controlled signalling drift apparatus. 3,440,730, 04-29-69, Cl. 033-205.

Aldinger, Paul A.: *See—*
Leidy, Lester R., Jr., and Aldinger, Paul A. 3,441,945.

Alfa-Laval AB: *See—*
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Alkar Engineering Corporation: *See—*
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Alkon Products Corporation: *See—*
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Allen, William H. Key cutting machine. 3,440,906, 04-29-69, Cl. 076-110.

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Allgeyer, David F., and Bourgeois, Joseph F. J., to UMC Industries, Inc. Glass lid for refrigerated merchandising cabinet. 3,440,767, 04-29-69, Cl. 049-404.

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Beacham, Harry Hoyt, Kreinik, Jerry M., and Thomas, James Larue, to FMC Corporation. Transparent reinforced compositions containing diallyl phthalate prepolymers. 3,441,535, 04-29-69, Cl. 260-040.

Beavitt, Alan R., to Plessey Company Limited, The. Vacuum evaporation processes. 3,440,874, 04-29-69, Cl. 073-150.

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Bemis Company, Inc.: *See—*
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Bendix Corporation, The: *See—*
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Benjamin, Ivan E.: *See—*
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Benmussa, Henri, Marty, Pierre Rene Louis, and Kobus, Stanislas, to International Standard Electric Corporation. Dial pulse detecting system. 3,441,675, 04-29-69, Cl. 179-016.

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Blake, Stephen, to Wallace & Tiernan Inc., mesne. Diketo-dicarboxylic acids and salts and preparation thereof by alkaline oxidation. 3,441,605, 04-29-69, Cl. 260-537.

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Blue, Sidney D., to Reeves Brothers, Inc. Carpet underlay and method of making the same. 3,441,464, 04-29-69, Cl. 161-067.

Blum, Bernard, Gowen, James R., and Schwartzenberg, John W., to Leeds & Northrup Company. Process measurement system for basic oxygen refining of steel. 3,441,725, 04-29-69, Cl. 235-193.

Blume, Horst K., to Phoenix Precision Instrument Company. Liquid chromatographic column. 3,440,864, 04-29-69, Cl. 073-061.1

Blum, Louis, and Horgan, William J., Jr. Handrail. 3,441,253, 04-29-69, Cl. 256-065.

Bodine, Charles M., to Signetics Corporation. Plug-in integrated circuit package and carrier assembly and including a test fixture therefor. 3,441,853, 04-29-69, Cl. 324-158.

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Boester, Carl F. Household toilet waste disposal unit and method. 3,440,669, 04-29-69, Cl. 004-010.

Bofinger, Karl, Borkmann, Frank Frederick, and Stone, George Martin, to American Can Company. End feeding apparatus and method. 3,441,156, 04-29-69, Cl. 214-305.

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Bonsack, James P., to SCM Corporation, mesne. Titanium salt purification. 3,441,373, 04-29-69, Cl. 023-087.

Boodman, Norman S., Perkins, George W., and Walter, Jack W., to United States Steel Corporation. Jet fuels from hydrogenated coal tar derivatives and pinane-containing materials. 3,441,497, 04-29-69, Cl. 208-015.

Boone, Christopher B. Fluroescent lamp ballast with integral fuseholder and replaceable fuse. 3,441,889, 04-29-69, Cl. 337-001.

Boop, Gene T., to Profitable Resources Inc. Jet perforating gun arming switch and circuitry. 3,441,093, 04-29-69, Cl. 175-004.55

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Bofinger, Karl, Borkmann, Frank Frederick, and Stone, George Martin 3,441,156.

Bornzin, James H., to International Harvester Company. Safety power take-off for tractors. 3,440,890, 04-29-69, Cl. 074-011.

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Boueil, Raymond, and Gardeux, Gerard, to Regie Nationale des Usines Renault. Devices for simultaneously applying the brakes of a tractor and of its trailer. 3,441,108, 04-29-69, Cl. 188-003.

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Bourns, Inc.: *See—*
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Boyles, Alfred, to United States Pipe and Foundry Company. Method for testing ductile iron castings. 3,440,868, 04-29-69, Cl. 073-088.

Boyles Bros. Drilling Co.: *See—*
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Branson Instruments, Incorporated: *See—*
Shoh, Andrew, 3,441,875.

Brauer, Horst, Fenner, Erich, and Kuschke, Renate, to Siemens Aktiengesellschaft. Ceramic bodies of ferroelectric material with perovskite structure which is partially p-conduct- ing and partially n-conducting. 3,441,517, 04-29-69, Cl. 252-520.

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Braund, Reed J., and Weinberg, Seymour B., to Bell Telephone Laboratories, Incorporated. Potential sensing PBX class-of-service selector circuit. 3,441,679, 04-29-69, Cl. 179-018.

Bray, William E., to Texas Instruments, Incorporated. High frequency binary memory and logic circuit. 3,441,914, 04-29-69, Cl. 340-173.

Bremer, James A., to Ford Motor Company. Dimpled press stock. 3,440,988, 04-29-69, Cl. 113-120.

Brendle, Thomas A.: *See—*
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Bren, Eunice M.: *See—*
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Spielmann, Erich R., 3,440,797.

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Brooks, Leonard. Bow holder. 3,441,241, 04-29-69, Cl. 248-156.

Brown, Edgar D., Jr., to General Electric Company. Copolymeric organopolysiloxane lubricant com- position. 3,441,585, 04-29-69, Cl. 260-448.2

Browning, Gordon D. Container sorting apparatus. 3,441,132, 04-29-69, Cl. 209-072.

Browning, William C., to Milchem Incorporated. Drilling mud additive for filtration control. 3,441,504, 04-29-69, Cl. 252-008.5

Brown, Roger S. Pressure supplied paint roller. 3,441,355, 04-29-69, Cl. 401-219.

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Bryson, Neil Burton, to Alluminium Laboratories Limited. Casting of aluminum ingots. 3,441,079, 04-29-69, Cl. 164-089.

Bucher, Paul. Adjustable nozzle for jet propulsion engine. 3,441,218, 04-29-69, Cl. 239-265.25

Buckley, Herman T.: *See—*
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Budlong, Albert H., Calhoun, Edward T. D., and Goeller, Leopold F., Jr., to Bell Telephone Laboratories, Incorporated. Conference circuit with selective call splitting. 3,441,678, 04-29-69, Cl. 179-018.

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Bueler, Richard C., to Wagner Electric Corporation. Control valve. 3,441,318, 04-29-69, Cl. 303-006.

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Bunn, Clinton O. Vapor detecting device. 3,441,693, 04-29-69, Cl. 200-061.04

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Burgis, Beverly G.: *See—*
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Burkhardt, Louis C.: *See—*
Hammel, Jay E., Baker, Don A., Burkhardt, Louis C., DiMarco, Joseph N., Henson, Robert M., Karr, Hugh J., and Marshall, John 3,441,775.

Burks, Howard L., 1/2 to Follrath, Jack K. Automatic beer coil cleaner. 3,441,034, 04-29-69, Cl. 134-058.

Burne, Frederick A., to Valyi, Emery I. Inflatable pallets. 3,440,976, 04-29-69, Cl. 108-051.

Burns, Jesse L. Tool for removing arrows and arrowheads from trees. 3,441,251, 04-29-69, Cl. 254-131.

Burritt, Burnell O., to Universal Fluid Dynamics Company. Spring amplifying device. 3,441,263, 04-29-69, Cl. 267-001.

Burr, Malcolm F., to Chase Brass and Copper Co., Inc. Method of producing a corrosion resistant alloy of Cu-Ni by liquid phase sintering. 3,441,409, 04-29-69, Cl. 075-208.

Burroughs Corporation: *See—*
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Markgraf, Andreas G., 3,441,938.

Bushnell, Calvin L., and Latimer, Howard J., Jr., to United Aircraft Corporation. Fuel cell with containment for electrolyte expansion. 3,441,442, 04-29-69, Cl. 136-086.

Busker, Leroy H., and Grenlund, Wesley E., to Beloit Corporation. Microwave moisture sensing system. 3,441,844, 04-29-69, Cl. 324-058.5

Buss, David R., to Upjohn Company, The. Preparation of 9(11)-dehydro steroids from their 11β-hydroxy counterparts. 3,441,559, 04-29-69, Cl. 260-239.55

Busse, Claus A.: *See—*
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Butrico, Frank A., to Federal Pacific Electric Company. Multisection power factor correction capacitor. 3,441,816, 04-29-69, Cl. 317-243.

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Byam, Erwin B., and McMurray, John C., to Textron Inc. Cyclic positioning mechanism. 3,440,860, 04-29-69, Cl. 072-427.

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Camera Corporation of America: *See—*
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Campbell, Arthur W., to Vego Chemical Corporation. Detergent composition. 3,441,510, 04-29-69, Cl. 252-153.

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Canadian Patents & Development Limited: *See—*
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Caparone, Michael John, and Dykzeul, Theodore John, to Robertshaw Controls Company. Cartridge type pressure regulator. 3,441,049, 04-29-69, Cl. 137-454.6

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Capuano, Daniel Vincent: *See—*
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Cardwell, John G., Jr., to General Electric Company. Filament mount structure for electric lamps and manufacture thereof. 3,441,772, 04-29-69, Cl. 313-113.

Cardwell, John G., Jr., to General Electric Company. Filament support for incandescent electric lamps. 3,441,776, 04-29-69, Cl. 313-273.

Carey, William R.: *See—*
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Carlsson, Sven A.: *See—*
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Carl Zeiss-Stiftung: *See—*
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Carmet Company: *See—*
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Carmichael, Keith S., to Du Pont de Nemours, E. I., and Company. Process for simultaneously severing and sealing layers of thermoplastic materials. 3,441,460, 04-29-69, Cl. 156-251.

Caron, Rene Jean: *See—*
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Carrier Corporation: *See—*
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Damratowski, Leonard P., 3,440,806.
Fragnito, Daniel A., and Herb, Carl C., 3,441,082.
Huesgen, Eugene L., 3,441,200.
McGrath, William L., 3,440,835.
Morrow, David R., 3,441,380.

Carroll, Robert P. Selector switch for multiple circuit control. 3,441,743, 04-29-69, Cl. 307-028.

Carstens, Jorgen V. Method of delivering superimposed folded sheets as prepared books. 3,441,267, 04-29-69, Cl. 270-045.

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Carver, Norman E., and Silver, Joseph M., to Ogden Iron Works Company. Machine for cleaning sugar beet samples. 3,440,674, 04-29-69, Cl. 015-003.14

Cascade Industries, Incorporated: *See—*
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Case, J. I., Company: *See—*
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Cassiers, Paul Maria: *See—*
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Castle, James W. Side loading egg case. 3,441,193, 04-29-69, Cl. 229-033.

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Caterpillar Tractor Company: *See—*
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Costa, Philip J., 3,441,887.
Grawey, Charles E., 3,441,644.

Catino, Sigmund C., and Strobel, Albert F., to GAF Corporation. Process for preparing 2-(4-stilbyl) naphthotriazoles. 3,441,562, 04-29-69, Cl. 260-240.

Caveny, Leonard H., to Thiokol Chemical Corporation. Thermal protection system for missile components subjected to excessive periods of aerodynamic heating. 3,440,820, 04-29-69, Cl. 060-253.

Cawley, John H., and Schiff, Daniel, to United States of America, Navy, mesne. System for measuring sound velocity in water as a function of depth. 3,441,901, 04-29-69, Cl. 340-005.

Celanese Corporation: *See—*
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Cerneau, Pierre, to Societe de Chaudronnerie et de Montage Tissot & Cie. Devices for linking and guiding a carriage on a carriage on a metal sheet. 3,441,191, 04-29-69, Cl. 228-032.

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Chalco Engineering Corporation: *See—*
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Chamberlin, Robert S.: *See—*
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Chambers, Robert O., to Caterpillar Tractor Company. Compact broad range power transmission. 3,440,901, 04-29-69, Cl. 074-677.

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Chance, Calvin L., to Teledyne Exploration Company, mesne. Streamer cable depth control. 3,440,992, 04-29-69, Cl. 114-235.

Chandley, George D., to TRW, Inc. Method and apparatus for improving grain structures and soundness of castings. 3,441,078, 04-29-69, Cl. 164-053.

Chao, Tai S., Kjonaas, Manley, and Hoffman, William D., to Sinclair Research, Inc. Liquid esters of neoalkyl polyols and neoalkyl fatty acids. 3,441,600, 04-29-69, Cl. 260-488.

Charlade, Jean, to Commissariat a l'Energie Atomique. Device for transmitting electrical measurements. 3,441,897, 04-29-69, Cl. 339-030.

Chase Brass and Copper Co., Inc.: *See—*
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Chatkis, Jacob, to Foster Grant Co., Inc. Foldable garment hanger. 3,441,183, 04-29-69, Cl. 223-094.

Chemical Construction Corporation: *See—*
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Chesner, Ramon J., and Prestridge, James C., to Allis-Chalmers Manufacturing Company. Fuel cell module with shutter assembly. 3,441,444, 04-29-69, Cl. 136-086.

Chicago Bridge & Iron Company: *See—*
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Chicago Musical Instrument Company: *See—*
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Chidley, John S., Nylund, George J., and Dolinsky, Hyman. Shipping seal. 3,441,304, 04-29-69, Cl. 292-307.

Chiel, Christian, to Voith, J. M., GmbH. Paper web transfer device utilizing suction. 3,441,476, 04-29-69, Cl. 162-306.

Chiola, Vincent, Dodds, Robert E., and Vanderpool, Clarence D., to Sylvania Electric Products, Inc. Recovery of complex tungsten and molybdenum compounds from solutions. 3,440,732, 04-29-69, Cl. 034-005.

Chow, Ho, to Heim Universal Corporation, The. Linkage joints. 3,441,300, 04-29-69, Cl. 287-090.

Christener, Hanspeter, to Aktiengesellschaft Brown, Boveri & Cie. Lightning arrester. 3,441,803, 04-29-69, Cl. 317-065.

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Chrysler Corporation: *See—*
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Chun, Herbert H., to Varian Associates. Dither-tuned tunable microwave tube apparatus. 3,441,794, 04-29-69, Cl. 315-039.61

Church, Richard A., to Carrier Corporation. Air conditioning apparatus. 3,441,080, 04-29-69, Cl. 165-002.

Ciba Limited: *See—*
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Claff, Clarence Lloyd. Perfume dispenser. 3,441,353, 04-29-69, Cl. 401-132.

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Clark Equipment Company: *See—*
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Clark, Floyd W. Work holder and bench for fitting hardware to doors and the like. 3,441,068, 04-29-69, Cl. 144-288.

Clark, Melville, Jr. Signal waveform generation. 3,441,653, 04-29-69, Cl. 084-001.17

Clark, Robert C., and Jones, Jerry M., to General Electric Company. Width gage which generates pulse width proportional to deviation from desired width. 3,441,739, 04-29-69, Cl. 250-219.

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Clasby, David N., and Hall, Roger D., to Bendix Corporation, The. Cavity backed spiral antenna. 3,441,937, 04-29-69, Cl. 343-895.

Clay-Adams, Inc.: *See—*
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Clayton, Robert H., to International Telephone and Telegraph Corporation. Camera tube having a variable resolving aperture. 3,441,786, 04-29-69, Cl. 315-011.

Cleland, Charles E., to Continental Machines, Inc. Remotely controlled prime mover. 3,441,056, 04-29-69, Cl. 137-625.65

Clement, Finn, and Cope, Paul E., to Proctor & Gamble Company, The. Coated collapsible tubes. 3,441,057, 04-29-69, Cl. 138-139.

Clement, George F., Compton, Harry B., Stagg, Uberto K., Jr., and Zebe, Charles W., to Bell Telephone Laboratories, Incorporated. Telephone line concentrator priority call system. 3,441,681, 04-29-69, Cl. 179-018.

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Cobaugh, Robert Franklin, to AMP Incorporated. Apparatus for making electrical connections. 3,440,723, 04-29-69, Cl. 029-628.

Coccellato, Marco, 35% to Quaranta, William. Clam opening device. 3,440,684, 04-29-69, Cl. 017-076.

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Coffer, William E., Miller, Robert L., and Shewan, John, to Ref-Con Corporation. Remote reporting system. 3,441,929, 04-29-69, Cl. 340-409.

Cohen, George R., to Standard Pressed Steel Co. Bolt and method of making same. 3,440,922, 04-29-69, Cl. 085-009.

Cohn, Marius, to Sperry Rand Corporation. General purpose boolean function generator utilizing dual-threshold logic elements. 3,441,859, 04-29-69, Cl. 328-092.

Cole, William J., to Motorola, Inc. Encoder-decoder circuit including diode switching of a stage from an amplifier to an oscillator. 3,441,854, 04-29-69, Cl. 325-018.

Collens, Granger H., to Reliance Electric and Engineering Company, The. Frame for dynamoelectric machine with reluctance varying magnetic shim space. 3,441,760, 04-29-69, Cl. 310-091.

Collins, John W. Bowling ball. 3,441,274, 04-29-69, Cl. 273-063.

Collins Radio Company: *See—*
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Collins, William A., to Rudy Manufacturing Company. Method of constructing a continuous tube finned heat exchanger. 3,440,704, 04-29-69, Cl. 029-157.3

Collis, Alec Peter Orme, and Carr, David Ward, to English Electric Valve Company Limited. Vapour cooled discharge tube arrangements. 3,441,081, 04-29-69, Cl. 165-074.

Colman, John E., to Electric Reduction Company of Canada. Bipolar electrolytic cell. 3,441,495, 04-29-69, Cl. 204-268.

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Combustion Engineering, Inc.: *See—*
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Comlossy, Frederic B.: *See—*
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Compton, Harry B.: *See—*
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Conder International Limited: *See—*
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Consolidated Engineering Company, Inc. (CECO): *See—*
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Constantakis, Roberto, and Hudgens, James J., to Monsanto Company. Method and apparatus for quenching filaments. 3,440,685, 04-29-69, Cl. 018-008.

Constant, Rene Leon: *See—*
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Container Corporation of America: *See—*
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Continental Can Company, Inc.: *See—*
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Fitko, Chester W., and Ravve, Abraham, 3,441,469.
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Cooke, Conrad Reginald. Synchro receiver responsive to the relative movement between two gratings. 3,441,741, 04-29-69, Cl. 250-237.

Cook, James M.: *See—*
Eskra, Rudolph, and Cook, James M. 3,440,765.

Cooper, Brian Frederick, to English Electric Valve Company Limited. Microwave tube cathode of the barium-calcium aluminate type. 3,441,781, 04-29-69, Cl. 313-346.

Cope, Paul E.: *See—*
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Copper, Brian Frederick, to English Electric Valve Company Limited. Magnetrons having cyclically varying frequencies. 3,441,796, 04-29-69, Cl. 315-039.61

Corbett, Herbert O., to National Distillers & Chemical Corporation. Extrusion die having angularly moving central mandrel. 3,440,686, 04-29-69, Cl. 018-014.

Cordell, Martin, to Studley Paper Company, Inc. Vacuum cleaner filter bag. 3,440,805, 04-29-69, Cl. 055-368.

Corinthian Cornice Systems, Inc.: *See—*
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Costa, Philip J., to Caterpillar Tractor Company. High frequency rotary inductive coupling. 3,441,887, 04-29-69, Cl. 336-120.

Cotter, Howard E., and Barth, Jay E. Center-feed spreader. 3,441,224, 04-29-69, Cl. 239-656.

Cotter, Howard E., and Barth, Jay E. Mixer assembly for wide-path spreader of granular materials. 3,441,225, 04-29-69, Cl. 239-683.

Couche, Raymond Arthur. Wool scouring process. 3,441,368, 04-29-69, Cl. 008-139.1

Coulombe, Lionel J., to Singer Company, The. Throat plate raising attachments for sewing machines. 3,440,987, 04-29-69, Cl. 112-260.

Coulter Electronics: *See—*
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Courtaulds Limited: *See—*
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Cover, James A., to Harsco Corporation. Tailgate apparatus. 3,440,764, 04-29-69, Cl. 049-280.

Cox, Ronald H.: *See—*
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Cranage, Bidwell C., to Stile-Craft Manufactures, Inc. Secondary poppet and pusher system. 3,441,046, 04-29-69, Cl. 137-329.1

Crane, Charles V. Electronic door lock and supervisory system. 3,441,808, 04-29-69, Cl. 317-134.

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Crocella, Paolo, and Sirtoli, Mario, to Montecatini Edison S.p.A. Road signal fixture. 3,440,996, 04-29-69, Cl. 116-063.

Cromer, Charles F., and Wolf, Charles B., to Westinghouse Electric Corporation. Movable bridging contact structure for power circuit interrupters. 3,441,692, 04-29-69, Cl. 200-048.

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Cubbage, Henry D., to United States of America, Navy. Hair faired cable. 3,440,991, 04-29-69, Cl. 114-235.

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Dachs, Karl, Wilhelm, Hans, Wick, Kurt, Schwenke, Wolfgang, and Naeder, Max, to Badische Anilin- & Soda-Fabrik Aktiengesellschaft. Artificial limbs of expanded polyamides. 3,440,668, 04-29-69, Cl. 003-001.

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Daly, Edgar Frank, and Shrewsbury, Derek David, to Pye Limited. Optical apparatus for measuring the light transmission of a sample body. 3,441,349, 04-29-69, Cl. 356-093.

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Damratowski, Leonard P., to Carrier Corporation. Separator tube cap. 3,440,806, 04-29-69, Cl. 055-449.

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Davies-White, William A., to Laboratory for Electronics, Inc. Liquified gas delivery system. 3,440,829, 04-29-69, Cl. 062-051.

D'Avignon, Jacques, and Power, Bernard A., to Weather Engineering Corporation of Canada Ltd. Method and apparatus for seeding clouds. 3,441,214, 04-29-69, Cl. 239-002.

Davis, Harry E. Method and apparatus for making stirrers. 3,441,637, 04-29-69, Cl. 264-095.

Davis, Kenneth J., to National Broach & Machine Company. Gear grinding machine. 3,440,769, 04-29-69, Cl. 051-095.

Davison, Thomas M., to Dresser Systems, Inc. Master automatic gain control of seismic amplifiers. 3,441,867, 04-29-69, Cl. 330-052.

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de Bucs, Eugen Szabo, Oesterhelt, Gerhard, and Pietsch, Doris, to Siemens Aktiengesellschaft. Fused junction between a germanium-silicon semiconductor member and a junction element and method of producing the same. 3,441,812, 04-29-69, Cl. 317-234.

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DeCloux, Richard J., and Madsen, John Robert, to Beede Electrical Instrument Co., Inc. Indicating meter relay with photoelectric means for sensing the overlapping of indicating pointer over set pointer. 3,441,740, 04-29-69, Cl. 250-231.

Dede, Joseph B., Jr., to Quaker Oats Company, The. Method of producing elastic gels from the residue of acid hydrolyzed pentosan-containing lignocellulosic material. 3,441,528, 04-29-69, Cl. 260-017.2

Defontenay, Paul. Apparatus for winding and unwinding sheet material or the like. 3,441,233, 04-29-69, Cl. 242-075.5

De Frees, Joseph H. Tank manhole closure. 3,441,166, 04-29-69, Cl. 220-046.

de Gaston, Raoul H. Work holding apparatus. 3,441,264, 04-29-69, Cl. 269-089.

Degener, Eberhart, and Holtschmidt, Hans, to Farbenfabriken Bayer Aktiengesellschaft. Arylimino chlorocarbonyl cyanides and preparation thereof. 3,441,592, 04-29-69, Cl. 260-465.

de Grood, Emmett A. Ski release harness. 3,441,286, 04-29-69, Cl. 280-011.35

Deighton, William Rupert, to International Printers Limited. Process for producing printing plates. 3,441,486, 04-29-69, Cl. 204-006.

Deiss, Claude, to Fabriques Reunies de Lampes Electriques. Base for electric lamp. 3,441,778, 04-29-69, Cl. 313-318.

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de la Bretoniere, Andre Benoit, to American Enka Corporation. Method and apparatus for heating thread-like products. 3,441,702, 04-29-69, Cl. 219-010.61

Delafrange, Kenneth M., and Rappaport, Max, said Rappaport assor. to said Delafrange. Receptacle overload switch. 3,441,799, 04-29e69, Cl. 317-009.

De Luca, Peter L. Dummy warhead for rocket, missile or the like. 3,440,963, 04-29-69, Cl. 102-092.7

De Lucia, Victor E., to Torr Laboratories Inc. Vacuum relay. 3,441,882, 04-29-69, Cl. 335-154.

Deman, Pierre J. F., to Compagnie Francaise Thomson Houston-Hotchkiss-Brandt. Self-tuning filter system. 3,441,861, 04-29-69, Cl. 328-165.

Demas, Nickolas P., to Wagner Electric Corporation, mesne. Method for gettering completed gas filled lamps and the product resulting therefrom. 3,441,332, 04-29-69, Cl. 316-026.

De Mura, George N. Waterproof ventilator for boat windshields. 3,440,945, 04-29-69, Cl. 098-037.

Denny, James M., and Carlsson, Sven A., to Security Aluminum Company. Building construction with intersecting walls. 3,440,785, 04-29-69, Cl. 052-275.

Densmore, D. J., Company, The: *See—*
Wood, Edward H., 3,440,683.

Dent, Frederick James, to Gas Council, The. Production of combustible gases. 3,441,395, 04-29-69, Cl. 048-214.

Depmer, Wilhelm. Method of pelleting hops and then solvent extracting. 3,441,416, 04-29-69, Cl. 099-050.5

Desormiere, Bernard P. L., Parouty, Jean Claude, and Piechon, Andre L., to Compagnie Francaise Thomson-Houston-Hotchkiss-Brandt. Gyromagnetic resonance magnetometer with ferrimagnetic sample. 3,441,837, 04-29-69, Cl. 324-000.5

Desoutter Brothers Limited: *See—*
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D'Eustachio, Dominic, and Johnson, Howard E., to Pittsburgh Corning Corporation. Process for making cellular materials. 3,441,396, 04-29-69, Cl. 065-022.

Deutsche Gold- und Silber-Scheideanstalt vormals Roessler: *See—*
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Dexter, Martin, Spivack, John D., and Steinberg, David H., to Geigy Chemical Corporation. Esters of di(lower) alkylhydroxyphenyl alkanoic acid containing a hetero atom. 3,441,575, 04-29-69, Cl. 260-399.

Dgetluck, John, to Pioneer Packaging, Inc. Display mitt. 3,441,178, 04-29-69, Cl. 222-105.

Dick, John O.: *See—*
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Didchenko, Rostislav, to Union Carbide Corporation. Process for the manufacture of carbon textiles. 3,441,378, 04-29-69, Cl. 023-209.1

Diebold, Adolf, Raichle, Ludwig, and Dussel, Wilhelm, to Badische Anilin- & Soda-Fabrik Aktiengesellschaft. Cutting apparatus for plastic sheeting. 3,441,232, 04-29-69, Cl. 242-056.7

Dien, Chi K., to Allied Chemical Corporation. Synthetic resin compositions containing alpha- phenylthioanthraquinones as colorants. 3,441,536, 04-29-69, Cl. 260-041.

Dietz, John W., and McWhorter, John R., Jr., to Du Pont de Nemours, E. I., and Company. Catalytic hydrogenation of nitroalkanes to N- alkylhydroxylamines. 3,441,610, 04-29-69, Cl. 260-583.

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Dike, Roy W., to Continental Can Company, Inc. Integral plastic container and carrying handle. 3,441,172, 04-29-69, Cl. 220-094.

Dill, Robert F. Method and joint structure in monolithically-poured concrete. 3,440,934, 04-29-69, Cl. 094-018.

DiMarco, Joseph N.: *See—*
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Dimroth, Peter, to Badische Anilin- & Soda-Fabrik Aktiengesellschaft. Pigments comprising metal derivatives of complex Schiff's bases. 3,441,578, 04-29-69, Cl. 260-429.

Dinger, Edward H., to General Electric Company. Selected gain control system. 3,441,825, 04-29-69, Cl. 318-313.

Dingfeld, Albert Vincent: *See—*
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Disley, Kenneth Thomas, Pearce, Roy George, Christopher, Leonard Henry, and Culver, Leonard James, to Foster Wheeler Corporation. Waste heat boilers. 3,441,006, 04-29-69, Cl. 122-007.

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Divecha, Amarnath P., Hahn, Henry, and Lare, Paul J., to Melpar, Inc. Preparation of fiber-reinforced metal alloy composites by compaction in the semi-molten phase. 3,441,392, 04-29-69, Cl. 029-182.8

Divine, George T. Frederick. Underwater trenching apparatus. 3,440,743, 04-29-69, Cl. 037-079.

Do All Science Center, Inc.: *See—*
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Doban Labs, Inc.: *See—*
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Doerner, Frank, to Doerner Products Co., Limited. Chair control. 3,441,311, 04-29-69, Cl. 297-305.

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Doring, William H., and Brindley, Robert E., to Brindley, Robert E. Union Carbide Corporation. Portable rechargeable lighting device. 3,441,730, 04-29-69, Cl. 240-010.63

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Dow Chemical Company, The: *See—*
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Bargeron, Kim G., and Soderquist, Fred J., 3,441,625.
Burkett, Francis L., 3,441,196.
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Drabik, Josef, to Kromschroder, G., Aktiengesellschaft. Concentric pipe coupling having spring biased sealing means. 3,441,295, 04-29-69, Cl. 285-133.

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Drew, Howard F., and Hall, Robert E., to Procter & Gamble Company, The. Detergent containing alkoxy hydroxypropylamine oxide. 3,441,508, 04-29-69, Cl. 252-137.

Drew, Howard F., and Hall, Robert E., said Drew assor to the Procter & Gamble Company. Hydroxyalkylamine oxide detergent compounds. 3,441,611, 04-29-69, Cl. 260-584.

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Dreyfoos, Alex W., Jr., and Mergens, George W., to Photo Electronics Corporation. Non-linear amplifiers and systems. 3,441,663, 04-29-69, Cl. 178-005.2

Drone, Gary A., to Allis-Chalmers Manufacturing Company. Compensating hydraulic stabilizing system for bulldozer. 3,441,092, 04-29-69, Cl. 172-803.

Druseikis, Frederick, to General Motors Corporation. Low profile concealed articulating wiper-washer assembly. 3,440,679, 04-29-69, Cl. 015-250.04

Duddridge, Geoffrey, to International Standard Electric Corporation. Adjustable bipolar power supply. 3,441,830, 04-29-69, Cl. 321-043.

Duffield, Robert S. Portable seat. 3,441,314, 04-29-69, Cl. 297-377.

du Fosse, Peter, Glenfield, George E., , Harris, Neville Wreford, and Hughes, Brian Geoffrey, to S-F-D Laboratories, Inc. English Electric Valve Company Limited. Reverse magnetron having a circular electric mode purifier in the output waveguide Travelling wave amplifier tubes. 3,441,793, 04-29-69, Cl. 315-003.5

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Dunn, Grace Thompson. Eyeglass frame. 3,441,341, 04-29-69, Cl. 351-041.

Dunn, Lloyd G., and Hrovath, John W., deceased (by Hrovath, Linda M., sole heir), to Aluminum Company of America. Container opening device. 3,441,169, 04-29-69, Cl. 220-054.

Du Pont de Nemours, E. I., and Company: *See—*
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Dutt, Herbert V., and Fosnaugh, Harland R., to General Motors Corporation. Energy absorbing steering wheel. 3,440,897, 04-29-69, Cl. 074-552.

Duxbury, Margaret J. Plaited skirt with multiple plaited expansible waistband. 3,440,664, 04-29-69, Cl. 002-221.

Dwyer, Frank J., and Herdlein, Richard J., to Allied Chemical Corporation. Filled cellular urethanes. 3,441,523, 04-29-69, Cl. 260-002.5

Dye, Cloyde G., to PPG Industries Inc. Deaeration and compaction of siliceous pigment. 3,441,387, 04-29-69, Cl. 023-313.

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Edwards, Derrik Robert, to United Kingdom Atomic Energy Authority. Pickling apparatus. 3,441,035, 04-29-69, Cl. 134-103.

Edwards, Le Roy B., to Roystoys Inc. Amusement device. 3,441,278, 04-29-69, Cl. 273-101.

Eggermont, Mildred H. Game apparatus. 3,441,280, 04-29-69, Cl. 273-135.

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Ehrlich, Melvin P., and Stoller, Milton, to Nuclear Research Associates, Inc. Magnesium-cupric oxide primary battery. 3,441,445, 04-29-69, Cl. 136-100.

Eichelberger, William E., to Corning Glass Works. Miniature pressure transducer. 3,440,873, 04-29-69, Cl. 073-141.

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Hackworth, Jesse J., Sr. Holder for mason's line. 3,440,728, 04-29-69, Cl. 033-085.

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Hammann, William C., and Schisla, Robert M., to Monsanto Company. Tractants and method of use. 3,440,894, 04-29-69, Cl. 074-200.

Hammel, Jay E., Baker, Don A., Burkhardt, Louis C., DiMarco, Joseph N., Henson, Robert M., Karr, Hugh J., and Marshall, John, to United States of America, Atomic Energy Commission. Dipole current lead for a plasma containment device. 3,441,775, 04-29-69, Cl. 313-231.

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Hannifan, Martin K., and Ballard, James, to Anaconda Company, The. Recovery of metal values by leaching. 3,441,316, 04-29-69, Cl. 299-005.

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Hardy, Harold Kenyon, and Jones, Cecil Henry, to United Kingdom Atomic Energy Authority. Hydrostatic extrusion apparatus. 3,440,849, 04-29-69, Cl. 072-060.

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Harrison, Lee, III. Means and method for generating shadows and shading for an electronically generated display. 3,441,789, 04-29-69, Cl. 315-018.

Harris, William B., to Bell Telephone Laboratories, Incorporated. Thyristor switch circuit having diode controlled firing means. 3,441,873, 04-29-69, Cl. 331-107.

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Lott, Chancy M., 31.37% to Taylor, Christopher G. 15% to Morgan, Vic, doing business as Morgan, Vic, Associates 17.26% to McKerracher, William 7.84% to Mahoney, Thomas P. 2.50% to Wallace, Lawrence G., and 2.50% to Carter, C. L. Building structure having spiral transportation ramp thereon. 3,440,781, 04-29-69, Cl. 052-175.

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Luberoff, Benjamin J., and Gold, Daniel H., to Lummus Company, The. Preparation of nonvicinal toluene diisocyanates. 3,441,587, 04-29-69, Cl. 260-453.

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Luenberger, Frederick O., and Tucker, Charles J., to Emerson Electric Co. Demountable vertical pump motor with reducer gear, heat exchanger, and lubrication system. 3,441,762, 04-29-69, Cl. 310-157.

Lumb, Edwin T. Dial for electrical apparatus. 3,440,998, 04-29-69, Cl. 116-124.1

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Magol, Byram Jamshed, to Foster Wheeler Corporation. Corrugated furnace seal. 3,440,978, 04-29-69, Cl. 110-165.

Maher, Charles Anthony, Jr. United Aircraft Corporation Pneumatic air temperature control system. 3,441,213, 04-29-69, Cl. 236-013.

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Malone, Frank Leslie, to Boeing Company, The. Variable orifice nozzle mixing ejector. 3,441,045, 04-29-69, Cl. 137-114.

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Manning, Shannon L., to Hallmark Cards, Incorporated. Gift wrapping ensemble and holder therefor. 3,441,127, 04-29-69, Cl. 206-047.

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Marks, Louis W., to General Electric Company. High voltage current transformer having rigid secondary eye bolt and flexible primary cables in high voltage tank. 3,441,885, 04-29-69, Cl. 336-084.

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Martinsen, Lyle J., to Boyles Bros. Drilling Co. Core drilling system. 3,441,098, 04-29-69, Cl. 175-246.

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Maybury, Gordon Howard, and Moore, Frank Woodward, to Lucas, Joseph, (Industries) Limited. Slipring unit for dynamoelectric machines. 3,441,765, 04-29-69, Cl. 310-232.

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McDonald, James A., and Wilmarth, Paul C., to Radio Corporation of America. Stabilization of television deflection circuits. 3,441,790, 04-29-69, Cl. 315-027.

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McGill, Robert W., to Meyer, Geo. J. Can feeding mechanism. 3,441,120, 04-29-69, Cl. 198-031,

McGowan, Thomas L. Swimming appliance. 3,440,994, 04-29-69, Cl. 115-022.2

McGrath, William L., to Carrier Corporation. Apparatus for controlling refrigerant flow. 3,440,835, 04-29-69, Cl. 062-505.

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Merke, Joseph P., Jr., to Plastic Moldings Corporation, The. Molded plastic impeller for mixing machine. 3,441,254, 04-29-69, Cl. 259-134.

Merola, Carl R., and Mamrose, Wesley, to Westinghouse Electric Corporation. Brewing apparatus. 3,440,952, 04-29-69, Cl. 099-289.

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Messer, Chester R., to Page Belting Company. Air-cushioned bumper. 3,441,062, 04-29-69, Cl. 139-166.

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Perkins, Frederick G., and Minick, Carl Edward 3,441,829.

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Minton, Ernest Dale. Convertible lawn edger and cleaner. 3,441,089, 04-29-69, Cl. 172-014.

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Mitchell, Roy William, and Scarrott, Gordon George, to International Computer and Tabulators Limited. Graphic display systems for CRT responsive to selected parts of plural filtered step waveforms including precursor, linear and overshoot parts. 3,441,926, 04-29-69, Cl. 340-324.

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Moore, William C., and Connors, John D., to Welch Allyn, Inc. Unitary light projecting assembly for diagnostic instruments. 3,441,340, 04-29-69, Cl. 351-016.

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Mulligan, William A., and Murphy, Remington M., to TRW, Inc. Vitreous enamel resistor composition and resistor made therefrom. 3,441,516, 04-29-69, Cl. 252-512.

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Newman, Stanley F., Dion, Gerald H., and Cwycyshyn, Walter, to General Motors Corporation. Rotary limit switch. 3,441,691, 04-29-69, Cl. 200-047.

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Nielsen, Axel L. Delayed action hydrostatic switch. 3,441,696, 04-29-69, Cl. 200-081.

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Onstott, Edward I., to United States of America, United States Atomic Energy Commission. Electrolytic desalination of saline water by a differential redox method. 3,441,488, 04-29-69, Cl. 204-149.

Osaka Kiko Kabushiki Kaisha: *See—*
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Pastoriza, James J. Multiple signal sampling and storage elements sequentially discharged through an operational amplifier. 3,441,913, 04-29-69, Cl. 340-173.

Pastuszak, Ronald F., to Precision Systems Company, Inc. Apparatus for rapidly and precisely positioning a succession of small workpieces. 3,441,121, 04-29-69, Cl. 198-033.

Patchell, Albert George, Lloyd, Ronald, and Stephenson, Arthur Ripon, to Smith, T. J., & Nephew Limited. Process for making an open network structure. 3,441,638, 04-29-69, Cl. 264-154.

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Paulson, Kendall G., to Electronic Engineering Co. of California. Process for interconnecting integrated circuits. 3,440,722, 04-29-69, Cl. 029-626.

Paulson, Kendall G., to Electronic Engineering Co. of California. Process and product for interconnecting integrated circuits. 3,441,805, 04-29-69, Cl. 317-101.

Payne, Ivan Salisbury, to Lansing Bagnall Limited. Control systems for direct current electric motors. 3,441,827, 04-29-69, Cl. 318-332.

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Pearson, Arthur J., to Owens-Corning Fiberglas Corporation. Film faced fibrous body. 3,441,465, 04-29-69, Cl. 161-084.

Pearson, Ronald K. Coil filter. 3,441,145, 04-29-69, Cl. 210-445.

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Koblitz, Francis Frederick, and Petrella, Robert Gabriel, 3,441,531.

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Pepworth, David Peter: *See—*
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Perkins, Frederick G., and Minick, Carl Edward, to Horsfall, Jack, d/b/a York Electronics. Emergency stand-by electric service apparatus. 3,441,829, 04-29-69, Cl. 320-040.

Perkins, Frederick G., and Minick, Carl Edward, to Perkins, Frederick G. Emergency stand-by electric service apparatus. 3,441,829, 04-29-69, Cl. 320-040.

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Peterson, Dean M., Pickering, Charles E., and Windle, William, Jr., to Eastman Kodak Company. Photographic camera with retractile lens and shutter trigger. 3,440,939, 04-29-69, Cl. 095-011.

Peterson, Richard L., to Minnesota Mining and Manufacturing Company. Adhesives and adhesive tapes. 3,441,430, 04-29-69, Cl. 117-068.5

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Pierce, Andrew G., Jr., and Frick, John G., Jr., to United States of America, Agriculture. Wrinkle-resistant cotton fabrics with improved moisture absorption. 3,441,366, 04-29-69, Cl. 008-116.3

Pierce, Andrew G., Jr., and Frick, John G., Jr., to United States of America, Agriculture. Method for setting finishes on cellulosic textiles with catalyst composition of magnesium halide and organic acid. 3,441,367, 04-29-69, Cl. 008-116.3

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Pim, Norman Lester, to Bliss, E. W., Company. Downender for transferring coils. 3,441,148, 04-29-69, Cl. 214-001.

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Pinto, Anthony, Cornish, Arthur H., Leonard, Eugene, Wolf, Edgar, and Lau, Edward H., to Otis Elevator Company. Material handling and storage system. 3,441,713, 04-29-69, Cl. 235-061.6

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Pittman, Allen G., and Wasley, William L., to United States of America, Agriculture. Enhancing the repellency of fibrous materials with fluoroalkoxyalkyl silanes or siloxanes. 3,441,431, 04-29-69, Cl. 117-121.

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Pollock, Larry J., and Shaunfield, Wallace N., to Westinghouse Electric Corporation. Semiconductor structures for integrated circuitry and method of making the same. 3,441,815, 04-29-69, Cl. 317-235.

Pomerantz, Harry, to Lee, Raymond, Organization, Inc., The. Quick attachable button. 3,440,692, 04-29-69, Cl. 024-108.

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Pouliot, Arcade J. Sea locker. 3,441,113, 04-29-69, Cl. 190-051.

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Prince, Roland L. Crab trap. 3,440,758, 04-29-69, Cl. 043-100.
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Purucker, Donald, and Hartwig, Walter J., to Allis-Chalmers Manufacturing Company. Controlled atmosphere rotary furnace. 3,441,257, 04-29-69, Cl. 263-012.
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Quenneville, Raymond N., to United Aircraft Corporation. Electrically operated clutch mechanism. 3,441,116, 04-29-69, Cl. 192-067.
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Quillevere, Herve Alain, and Caruel, Jacques Emile Jules, to Societe Nationale d'Etude de Construction de Moteurs d'Aviation. Combustion and cooling air control in turbojet engines. 3,440,818, 04-29-69, Cl. 060-039.65
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Rantsch, Kurt, and Trotscher, Otto, to Carl Zeiss-Stiftung, doing business as Zeiss, Carl. Positioning device for the absolute digital determination of measuring values. 3,441,350, 04-29-69, Cl. 356-170.
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Rogers, George W., to Goodwill Industries of Western Connecticut, Inc. Ice velocipede. 3,441,285, 04-29-69, Cl. 280-007.12
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Romell, Dag. Gas scrubber. 3,440,799, 04-29-69, Cl. 055-107.
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Rudy, Erland W., to Bendix Corporation, The. Circuit for supplying writing signals for use with electrosensitive paper recorders. 3,441,946, 04-29-69, Cl. 346-074.

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Sauer, Edgar, to Zeiss Ikon Aktiengesellschaft. Mirror reflex camera with focal plane shutter. 3,440,943, 04-29-69, Cl. 095-057.

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Savage, John W., to Susquehanna Corporation, The. Chopper stabilized electrical meter circuit with envelope detector and feedback means. 3,441,851, 04-29-69, Cl. 324-099.

Savit, Carl H., to Western Geophysical Company of America. Extendable intersection hydrophone arrays. 3,441,902, 04-29-69, Cl. 340-007.

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Tomiyama, Hirofumi. Turret indexing mechanism. 3,440,905, 04-29-69, Cl. 074-822.
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Tomota, Miyaji, and Saito, Bunjiro, to Kabushikikaisha Yokogawa Denki Seisakusho (Yokogawa Electric Works, Ltd.). Driving device for step motors. 3,441,821, 04-29-69, Cl. 318-138.
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Van Poucke, Raphael Karel, De Cat, Arthur Henri, and Monbaliu, Marcel Jacob, to Gevaert Photo-Producten N.V. Production of photographic color images utilizing pyrazolone color couplers. 3,441,414, 04-29-69, Cl. 096-100.

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Weissflog, Sieghard, and Muller, Karl-Heinz, to VEB Sachsensing Automobilwerke Zwickau. Rotary piston type of combustion engine. 3,440,929, 04-29-69, Cl. 091-130.

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Weissman, Ira, and Kinter, Malcolm L., to Varian Associates. High Q radio frequency circuit employing a superconductive layer on a porous thermally matched substrate. 3,441,880, 04-29-69, Cl. 333-099.

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Welch, Eldred, to GAF Corporation. Process for the purification of crude 2,5- dichloro-3-nitrobenzoic acid (dinoben). 3,441,603, 04-29-69, Cl. 260-525.

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Wendler, Norman L., Taub, David, and Kuo, Chan Hwa, to Merck & Co., Inc. Method of preparing nicotinamide and novel intermediates therefore. 3,441,568, 04-29-69, Cl. 260-294.9

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(U.S. States, Territories and Armed Forces, the Commonwealth of Puerto Rico, and the Canal Zone)

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53 : RE.26,570

53 : 3,440,831	53 : 3,441,321	55 : 3,440,673	55 : 3,440,823	55 : 3,441,122	55 : 3,441,390
3,440,872	3,441,513	3,440,676	3,440,851	3,441,248	3,441,427
3,441,045	3,441,891	3,440,681	3,440,881	3,441,256	3,441,430
3,441,067	3,441,909	3,440,739	3,440,910	3,441,257	3,441,444
3,441,291	54 : 3,440,917	3,440,740	3,440,950	3,441,258	3,441,704
3,441,309	3,440,984	3,440,810	3,441,021	3,441,306	

Design Patents

6 : 213,949	17 : 213,959	25 : 214,002	34 : 213,948	36 : 213,987	48 : 213,970
213,951	213,981	26 : 213,941	213,968	213,991	213,975
213,956	214,000	213,942	213,972	214,005	213,985
213,993	214,001	213,943	36 : 213,947	214,006	213,986
214,007	214,003	213,944	213,964	39 : 213,955	213,989
9 : 213,969	18 : 213,960	213,945	213,965	213,999	49 : 213,958
213,976	213,990	213,946	213,973	41 : 213,988	50 : 213,967
213,978	19 : 213,957	213,977	213,974	42 : 213,980	51 : 213,952
213,979	20 : 213,997	27 : 213,963	213,982	213,984	213,953
12 : 213,962	25 : 213,994	31 : 214,004	213,983	45 : 213,996	55 : 213,998
17 : 213,954					

U.S. DEPARTMENT OF COMMERCE

OFFICIAL GAZETTE of the UNITED STATES PATENT OFFICE

April 29, 1969 Volume 861 Number 5

TRADEMARKS

NOTICES

Trademark Suits

Notices under 15 U.S.C. 1116; Trademark Act of July 5, 1946

Reg. No. 617,131 (VOLKSWAGEN), Volkswagenwerk, GmbH, Vehicles—namely, automobiles and trucks, aircraft, boats; and parts of and accessories for automobiles—namely, radiators, direction indicators, windshield defrosters, anti-dazzle appliances, windshield wipers, shock absorbers, brakes, and baggage racks; **Reg. No. 631,649** (VW IN CIRCLE), same; **Reg. No. 653,695** (VW), same; **Reg. No. 790,621** (VOLKSWAGEN) same, Automobiles and trucks, aircraft, and boats; and parts of and accessories for automobiles—namely, radiators, direction indicators, windshield defrosters, anti-dazzle appliances, windshield wipers, shock absorbers, brakes, and baggage racks; **Reg. No. 790,959** (VW AND DESIGN), same; **Reg. No. 791,311** (VW), same; **Reg. No. 804,869** (VW AND DESIGN), same, Repair and reconditioning of motor vehicles, aircraft and boats; **Reg. No. 806,881** (VOLKSWAGEN), same, Vehicles—namely, automobiles and trucks, aircraft, and boats; and parts and accessories for automobiles and trucks, aircraft and boats—namely, radiators, direction indicators, windshield wipers, shock absorbers, brakes, and baggage racks; **Reg. No. 815,632** (VW), same, Repair, reconditioning and replacement of motors and accessories and parts thereof, and repair and reconditioning of motor vehicles, aircraft, and boats; **Reg. No. 819,297** (VOLKSWAGEN), same, filed Jan. 15, 1969, D.C., C.D. Calif. (Los Angeles), Doc. 69–103–R, *Volkswagenwerk Aktiengesellschaft* v. *Accurate Foreign Car Service et al.* Same, filed Feb. 6, 1969, D.C. Md. (Baltimore), Doc. 20435, *Volkswagenwerk Aktiengesellschaft* v. *William Blackwell, etc.*

Reg. No. 631,649. (See Reg. No. 617,131.)

Reg. No. 653,695. (See Reg. No. 617,131.)

Reg. No. 757,835 (REPRESENTATION OF A MALE CHEF WITH HAT AND CANE), Kentucky Fried Chicken, Inc., Freshly prepared chicken and gravy, packaged and sold in retail trade; **Reg. No. 805,773** (COLONEL SANDERS' RECIPE), Kentucky Fried Chicken Corporation, Restaurant services; **Reg. No. 806,184** (HUMAN HEAD DESIGN), same; **Reg. No. 807,690** (KENTUCKY PLANTATION), same, Barbecue sauce; **Reg. No. 807,843** (HUMAN FIGURE WITH CHEF'S HAT AND CANE), same, Restaurant services; **Reg. No. 810,835** (HUMAN HEAD DESIGN), same, Fried chicken, cooked and frozen; cooking sauce, gravy, gravy base mix, and an herb and spice mix; chicken parts (gizzards and livers); fish and shrimp; biscuits, baked beans; Bar-B-Q (chicken and pork); prepared potatoes; salads; maple syrup; and candy; **Reg. No. 813,559** (COL. SANDERS' RECIPE KENTUCKY FRIED CHICKEN, same, Frosen and fresh prepared chicken and gravy, packaged and sold in retail trade, prepared potatoes, chicken parts (gizzards and livers), fish and shrimp, biscuits, baked beans, barbecue (chicken and pork), and salads; **Reg. No. 814,610** (COL. SANDERS' RECIPE), same

CONDITION OF TRADEMARK APPLICATIONS AS OF FEBRUARY 28, 1969

Total number of applications awaiting action [excluding renewals and Sec. 12(c)]	16,090
Date of oldest new application	January 23, 1968
Date of oldest amended application (filing date)	June 4, 1963

C. M. WENDT, Director, Trademark Examining Operation

TRADEMARK EXAMINING DIVISIONS, EXAMINERS AND TRADEMARK CLASSES UNDER EXAMINATION	Oldest Application	
	New	Amended
(I) L. J. BETTENDORF, Classes 2, 3, 4, 5, 7, 9, 10, 11, 27, 28, 30, 32, 33, 37, 38, 39, 40, 41, 42, 43, 50; Certification Marks, Classes A and B	6-24-68	6-4 -68
(II) F. H. WETHERBEE, Classes 1, 6, 15, 18, 45, 46, 47, 48, 49, 51, 52; Collective Membership Mark, Class 200	5-13-68	3-4 -66
(III) P. S. BALL, Classes 19, 21, 23, 26, 31, 34, 35, 36	6-19-68	1-21-66
(IV) M. E. ABRAMSON, Classes 8, 12, 13, 14, 16, 17, 20, 22, 24, 25, 29, 44; Service Marks, Classes 100, 101, 102, 103, 104, 105, 106, and 107	1-23-68	3-18-66
Renewals (All Classes)	1-3 -69	
Sec. 12(c) Publications (All Classes)	1-16-69	

Applications filed during the month of February 1969—2,344

Registrations Issued ---------- 286—No. 868,554 to No. 868,839
Renewals Issued ---------- 120

The TRADEMARK SECTION of the OFFICIAL GAZETTE, issued weekly, is mailed under the direction of the Superintendent of Documents, Government Printing Office, Washington, D.C., 20402 to whom all subscriptions should be made payable and all communications addressed; subscription price, $20.50 per annum, foreign mailing $5.75 additional; single copies, 40 cents each.

PRINTED COPIES OF TRADEMARK REGISTRATIONS are furnished by the Patent Office for 20 cents each. Address orders to the Commissioner of Patents, Washington, D.C. 20231.

Fried chicken, cooked and frozen; cooking sauce, gravy, gravy base mix, and an herb and spice mix; prepared potatoes; chicken parts (gizzards and livers); fish and shrimp; biscuits; baked beans; Bar-B-Q (chicken and pork) salads; maple syrup; and candy; Reg. No. 815,167 (KENTUCKY FRIED CHICKEN), same, Restaurant services; Reg. No. 838,662 (COLONEL SANDERS' RECIPE KENTUCKY FRIED CHICKEN), same; Reg. No. 838,895 (KENTUCKY FRIED CHICKEN), same, Freshly prepared chicken and chicken with gravy, chicken parts (gizzards and livers), fish and shrimp, biscuits, potatoes, salads of a vegetable and poultry nature, baked beans, and Bar-B-Q (chicken and pork); Reg. No. 839,658 (KENTUCKY PLANTATION AND DESIGN), same, Table syrup; Reg. No. 846,026 (MAN DRESSED IN WHITE SUIT), Restaurant services, filed July 24, 1968, D.C., E.D. Mich. (Detroit), Doc. 31525, *Kentucky Fried Chicken Corp.* v. *Kentucky Colonel, Inc. et al.* Consent judgment for permanent injunction, Feb. 4, 1969.

Reg. No. 790,621. (See Reg. No. 617,131.)

Reg. No. 790,959. (See Reg. No. 617,131.)

Reg. No. 791,311. (See Reg. No. 617,131.)

Reg. No. 804,969. (See Reg. No. 617,131.)

Reg. No. 805,773. (See Reg. No. 757,835.)

Reg. No. 806,104. (See Reg. No. 757,835.)

Reg. No. 807,060. (See Reg. No. 757,835.)

Reg. No. 807,043. (See Reg. No. 757,835.)

Reg. No. 808,381. (See Reg. No. 617,131.)

Reg. No. 810,835. (See Reg. No. 757,835.)

Reg. No. 813,550. (See Reg. No. 757,835.)

Reg. No. 814,610. (See Reg. No. 757,835.)

Reg. No. 815,167. (See Reg. No. 757,835.)

Reg. No. 815,682. (See Reg. No. 617,131.)

Reg. No. 819,297. (See Reg. No. 617,131.)

Reg. No. 838,662. (See Reg. No. 757,835.)

Reg. No. 838,895. (See Reg. No. 757,835.)

Reg. No. 839,658. (See Reg. No. 757,835.)

Reg. No. 846,026. (See Reg. No. 757,835.)

MARKS PUBLISHED FOR OPPOSITION

SECTION 1

The following marks are published in compliance with section 12(a) of the Trademark Act of 1946. Application for the registration of these marks in more than one class has been filed as provided in section 30 of said act as amended by Public Law 772, 87th Congress, approved Oct. 9, 1962, 76 Stat. 769. Opposition under section 13 may be filed within thirty days of this publication. See Rules 2.101 to 2.105.

A separate fee of twenty-five dollars for each class opposed must accompany the opposition.

[NOTE: For publication of marks presented in applications for registration in one class, see section 2.]

SN 250,097. Kitchen & Perry, Inc., Greenville, S.C. Filed July 12, 1966.

KP

Class 23—Cutlery, Machinery, and Tools, and Parts Thereof

For Textile Brushing Machines and Air Vacuum System for Use Therewith (Int. Cl. 7).

Class 34—Heating, Lighting, and Ventilating Apparatus

For Textile Conditioning Equipment—Namely, Curing Ovens, Tenters, and Infra-Red Dryers (Int. Cl. 11).

First use February 1965.

SN 265,136. Beck Distributing Corp., Melville, N.Y. Filed Feb. 21, 1967.

BECK

Class 6—Chemicals and Chemical Compositions

For Hydraulic Brake Fluid and Rust Inhibitor With Incidental Lubricating Properties (Int. Cl. 1).

Class 19—Vehicles

For Air Conditioning and Automotive Engine Cooling Radiators; Automobile Accessories—Namely, Rearview Mirrors, Non-Driving Axles; Brakes and Brake Parts, Namely, Brake Shoes, Master Brake Cylinders, Repair Kits for Wheel Cylinders, and Wheel Cylinders; Bumpers and Brackets, Fenders and Braces, Fender Tips for Motorcycles, Fender Trims, Hoods, Panels; Structural Parts for Automobiles, Motorcycles, and the Like, Namely, Bumpers and Brackets, Motorcycle Wind Guards, Steering Apparatus and Assemblies, Windshields, and Wheels; and Safety Bars for the Protection of the Occupant of Automobiles or Motorcycles in the Case of Overturning (Int. Cl. 12).

Class 21—Electrical Apparatus, Machines, and Supplies

For Automotive Generators and Parts Thereof, Automotive and Motorcycle Headlamps, Bulbs, Fuses, Lamps, Parking Lights, and Stop Lights; Electrical Insulating Connectors, Direction Indicator Lamps; Electrical Systems—Namely, Electric Cords, Cables and Wires, Electrical Terminals, Electrical Tail Lamps, Electrical Horns, Ignition Coils and Parts, Electrical Oil Pressure Switches, Spark Plugs, and Storage Batteries (Int. Cls. 9, 11, and 12).

Class 23—Cutlery, Machinery, and Tools, and Parts Thereof

For Automotive Pumps—Namely, Fuel Pumps, Oil Pumps, Pump Parts, Vacuum Pumps and Water Pumps; Automotive Bearings—Namely, Bushings, Flywheel Ring Gears, Motor Bearings and Roller Bearings; Differentials, Driving Axles, Engines; Engine Parts—Namely, Camshaft Bushes, Camshaft Gears, Carburetors, Engine Mountings, Intake and Exhauts Valves, Piston and Cylinder Liners and Kits, Valve Springs Valves, Springs and Keepers; Exhaust Tail Pipes; Repair Kits and Hand Tools for Automotive, Motorcycle and General Maintenance—Namely, Spanners, Sockets, and Wrenches; Manifolds, Mufflers and Parts; Oil Pressure Switches; and Mechanical Tire Mounting and Dismounting Levers (Int. Cls. 8 and 12).

Class 35—Belting, Hose, Machinery Packing, and Nonmetallic Tires

For Automotive and Motorcycle Tires and Tubes; Brake Linings, Disc Brake Pads, Fan Belts, Grease Retainers, Gaskets and Gasket Packing and Gasket Sealing Materials, Oil Seals and Oil Plugs, Radiator Hoses and Transmission Linings (Int. Cls. 12 and 17).

Class 39—Clothing

For Boots, Gloves, and Helmets With and Without Goggles and/or Eye Shields for Men and Women (Int. Cls. 9 and 25).

First use in or about January 1942.

SN 273,148. Range Engineering Development Corporation, San Angelo, Tex. Filed June 6, 1967.

FOAMICIDE

Class 6—Chemicals and Chemical Compositions

For Herbicide (Int. Cl. 5).

Class 103—Construction and Repair

For Contract Work for Custom Application of Herbicide Upon Brush and Weeds (Int. Cl. 37).

First use May 29, 1966.

SN 275,114. American Feldmuehle Corporation, Glenbrook, Conn. Filed June 30, 1967.

AFC

Owner of Reg. Nos. 685,507 and 697,777.

Class 21—Electrical Apparatus, Machines, and Supplies

For Ceramic Parts, Metallized or Non-Metallized, in Electrical Products—Namely, Insulators, Housings of Mercury Vapor and Silicon Rectifiers, and Thyristors, in Electrical Devices, Namely, Envelopes, Windows, Cathode Supports of Transmitter Tubes, Klystrons, Magnetrons, Travelling Wave Tubes, Components for High Duty Tubes, Microwave Windows, Substrates for Micromodules (Int. Cls. 9 and 17).

Class 23—Cutlery, Machinery, and Tools, and Parts Thereof

For Ceramic Parts, Metallized or Non-Metallized, for Metal Wire Drawing and Cabling Machines, for Metal Working Machines, for Paper Machines, for Pumps, for Wear Parts on Mills and Separators—Namely, Bearings, Linings, Grinding Plates and Surfaces, Grinding Balls, Pulverizer Hammer or Impact Members, Rotor Shafts, Cylinders, Pistons, Valve Seats, and Other Wear Parts on Acid Pumps, for Textile Machines, Thread Guides and Cutting Tool Inserts Made of Ceramic (Int. Cl. 7).

Class 35—Belting, Hose, Machinery Packing, and Non-metallic Tires

For Ceramic Parts, Metallized or Non-Metallized, for Abrasive-Resistant Mechanical Seals in Constructive and Chemical Equipment and in Other Machinery (Int. Cl. 7).

First use Feb. 21, 1967.

SN 279,969. Vidar Corporation, Mountain View, Calif. Filed Sept. 8, 1967.

VICOM

Class 21—Electrical Apparatus, Machines, and Supplies

For Voice and Data Carrier System Utilizing Telephone Cables (Int. Cl. 9).
First use Aug. 9, 1965.

Class 26—Measuring and Scientific Appliances

For Span and Repeater Test Sets for Locating Transmission Faults and Measuring Performance Margins (Int. Cl. 9).
First use May 19, 1967.

SN 281,284. Fuji Seitetsu Kabushiki Kaisha (Fugi Iron & Steel Co., Ltd.), Chiyoda-ku, Tokyo, Japan. Filed Sept. 27, 1967.

FUJI IRON & STEEL CO., LTD.

No claim is made to the words "Fugi Iron & Steel Co., Ltd.," apart from and except in association with the rest of the mark as shown. Owner of U.S. Reg. No. 800,177.

Class 13—Hardware and Plumbing and Steam-Fitting Supplies

For Pipes and Tubes, Corrugated Metal Pipe (Int. Cl. 6).

Class 14—Metals and Metal Castings and Forgings

For Pig Iron; Steel Ingots; Semi-Finished Steel—Namely, Blooms, Slabs, Billets and Sheet Bars; Steel Products—Namely, Round Bars, Deformed Bars, Square Bars, Flat Bars, Beams, Piles, Channels, Angles, Plates, Sheets, Rails, Wire Rods, Galvanized Iron Sheets, Tin Plates; Poles, Guard Rails and Gaurd Cables; Keystone Plates, Road Cover Deck, Electrical Sheets, Chromium Plates Sheets, Color Printed Sheets, Terne Sheet, Deck Plates, Floor Plates, Striped Plates (Int. Cl. 6).

First use April 1950; in commerce in or about October 1950.

SN 281,807. Mooney Brothers Corporation, Little Falls, N.J. Filed Oct. 4, 1967.

Class 13—Hardware and Plumbing and Steam-Fitting Supplies

For Relief Valves, Check Valves, Reflux Splitters, Vacuum Breakers, Piping and Pipe Couplings for the Control of Liquids and Gases in Chemical Processing Operations (Int. Cl. 6).

Class 23—Cutlery, Machinery, and Tools, and Parts Thereof

For Agitators and Pumps for the Circulation, Transfer or Agitation of Liquids in Chemical Processing Operations (Int. Cl. 7).

Class 31—Filters and Refrigerators

For Filtering Devices Designed Primarily for the Filtration of Corrosive Liquids and Gases (Int. Cl. 11).

First use Mar. 10, 1959.

SN 290,966. Onitsuka Co., Ltd., Kobe, Hyogo Prefecture, Japan. Filed Feb. 13, 1968.

Applicant disclaims the words "Sport Shoes for Sports Men" apart from the mark as shown. Owner of U.S. Reg. No. 832,457.

Class 22—Games, Toys, and Sporting Goods

For Training Shoes, Track and Field Shoes, Marathon Shoes, Volleyball Shoes, Golf Shoes, Alpine Shoes, Gymnastic Shoes, Weightlifting Shoes, Badminton Shoes, Handball Shoes, Soccer Shoes, Rugby Shoes, Softball Shoes, Boxing and Wrestling Shoes, Running and Spike Shoes, Ski and Bowling Shoes (Int. Cl. 25).

Class 39—Clothing

For Basketball Shoes, Table Tennis Shoes, Outdoor Tennis Shoes, Dancing Shoes, Ballet Toe Shoes, and Slippers (Int. Cl. 25).

First use Jan. 27, 1965; in commerce on or about Mar. 1 1965.

SN 291,445. Task Force, Inc., Detroit, Mich. Filed Feb. 19, 1968.

Class 6—Chemicals and Chemical Compositions

For Rust Inhibitors for Industrial and Household Use (Int. Cl. 2).

Class 52—Detergents and Soaps

For General Purpose Cleaners and Rust and Stain Removers (Int. Cl. 3).

First use on or about Feb. 23, 1967.
Subj. to Intf. with SN 286,397.

SN 293,655. Mechanics for Electronics, Inc., Cambridge, Mass. Filed Mar. 20, 1968.

MFE

Class 21—Electrical Apparatus, Machines, and Supplies

For Translational and Rotational Motors, Electro-Mechanical Actuators, and Position Transducers (Int. Cls. 7 and 9).

Class 26—Measuring and Scientific Appliances

For Instruments for Recording Electrical Input Signals in Visible Form (Int. Cl. 9).

First use Feb. 16, 1962.

SN 293,801. Conelec, Incorporated, Elmira, N.Y. Filed Mar. 21, 1968.

Owner of Reg. No. 855,927.

Class 23—Cutlery, Machinery, and Tools, and Parts Thereof

For Electrical Speed Control Circuit for a Variable Speed Drive and Electric Fuel Pumps for Internal Combustion Engines (Int. Cl. 7).

Class 26—Measuring and Scientific Appliances

For Electronic Fuel Metering Systems for Internal Combustion Engines (Int. Cl. 9).

First use June 1964.

SN 298,097. American Machine & Foundry Company, New York, N.Y. Filed May 14, 1968.

SKI-DADDLER

Class 26—Measuring and Scientific Appliances

For Goggles (Int. Cl. 9).

Class 39—Clothing

For Snow Suits, Gloves, and Jackets (Int. Cl. 25).

First use November 1967.

SN 299,528. The Toyo Rubber Industry Co., Ltd., Nishi-ku, Osaka, Japan. Filed June 3, 1968.

PATORA

Owner of Japanese Reg. Nos. 731,016, 731,017, dated Jan. 25, 1967, and 729,664, dated Jan. 13, 1967.

Class 1—Raw or Partly Prepared Materials

For Artificial Leather Sold by the Piece (Int. Cl. 18).

Class 39—Clothing

For Men's Suits, Trousers, Sport Coats, Vests, Overcoats, Jackets, Capes; Women's Suits, Skirts, Coats, Capes; Children's Suits, Coats, Trousers, Skirts; and Gloves, Hats, and Shoes for Men, Women, and Children (Int. Cl. 25).

SN 300,662. Stonetree Corp., Chicago, Ill. Filed June 18, 1968.

TUT

Class 6—Chemicals and Chemical Compositions

For Composition Used as an Additive to Laundry Detergents Which Acts as a Fabric Softener (Int. Cl. 3).

Class 52—Detergents and Soaps

For Dishwashing Detergent and Soap (Int. Cl. 3).

First use June 1958.

SN 301,664. Clairol Incorporated, New York, N.Y. Filed July 1, 1968.

POSITION

Class 51—Cosmetics and Toilet Preparations

For Hair Tinting, Dyeing and Coloring Preparations, Hair Conditioner, Hair Lightener, and Hair Spray (Int. Cl. 3).

Class 52—Detergents and Soaps

For Hair Shampoo (Int. Cl. 3).

First use June 14, 1968.

SN 303,958. Shoe Corporation of America, Columbus, Ohio. Filed July 31, 1968.

Class 18—Medicines and Pharmaceutical Preparations

For Rubbing Alcohol and Petroleum Jelly (Int. Cl. 5).

Class 39—Clothing

For Hosiery (Int. Cl. 25).

Class 51—Cosmetics and Toilet Preparations

For Mouthwash (Int. Cl. 3).

First use Aug. 1, 1957.

SN 304,727. Clairol Incorporated, New York, N.Y. Filed Aug. 9, 1968.

SINGLE TOUCH

Owner of Reg. No. 354,183.

Class 51—Cosmetics and Toilet Preparations

For Hair Tinting, Dyeing and Coloring Preparation, Hair Conditioner, and Hair Spray (Int. Cl. 3).

Class 52—Detergents and Soaps

For Hair Shampoo (Int. Cl. 3).

First use Apr. 30, 1968.

SN 304,728. Clairol Incorporated, New York, N.Y. Filed Aug. 9, 1968.

ONE WOMAN

Class 51—Cosmetics and Toilet Preparations

For Bath Oil, Moisture Lotion, Dusting Powder, and After-Bath Refresher (Int. Cl. 3).

Class 52—Detergents and Soaps

For Soap Bar (Int. Cl. 3).

First use May 8, 1968.

SN 304,730. Clairol Incorporated, New York, N.Y. Filed Aug. 9, 1968.

GREAT LITTLE SOMETHING

Class 51—Cosmetics and Toilet Preparations

For Hair Tinting, Dyeing and Coloring Preparation (Int. Cl. 3).

Class 52—Detergents and Soaps

For Hair Shampoo (Int. Cl. 3).

First use Apr. 30, 1968.

SN 304,848. Clairol Incorporated, New York, N.Y. Filed Aug. 12, 1968.

ULTRESSE

Class 51—Cosmetics and Toilet Preparations

For Hair Tinting, Dyeing and Coloring Preparation, Hair Spray, and Hair Conditioner (Int. Cl. 3).

Class 52—Detergents and Soaps

For Hair Shampoo (Int. Cl. 3).

First use June 5, 1968.

SN 306,092. Surf-Jet Manufacturing Inc., Lindenhurst, N.Y. Filed Aug. 28, 1968.

SURF-JET

The pictorial representation of the surfboard is disclaimed apart from the mark as shown.

Class 19—Vehicles

For Power-Propelled Surfboards (Int. Cl. 12).

Class 22—Games, Toys, and Sporting Goods

For Surfboards (Int. Cl. 28).

Class 39—Clothing

For Sport Shirts (Int. Cl. 25).

First use Aug. 2, 1968.

SECTION 2

The following marks are published in compliance with section 12(a) of the Trademark Act of 1946. Opposition under section 13 may be filed within thirty days of publication. See Rules 2.101 to 2.105.

A fee of twenty-five dollars must accompany the opposition.

[NOTE: For publication of marks presented in a combined application for registration in more than one class, see section 1.]

Class 1—Raw or Partly Prepared Materials

SN 281,682. Charmglow Products, Inc., Antioch, Ill. Filed Oct. 3, 1967.

CHARM-ROK

Owner of Reg. Nos. 704,310 and 831,435.

For Heatable, Noncombustible, Mineral Materials Employed as a Charcoal Substitute for Cooking (Int. Cl. 4).

First use Sept. 5, 1967.

SN 285,686. Toyad Corporation, Latrobe, Pa. Filed Nov. 27, 1967.

UPDOWN

The mark consists of the word "Updown" and a fanciful representation of a swan.

For Neoprene Foam Cushioning, Foamed Neoprene, Foamed Polyethylene, and Other Foamed Elastomers Sold in Sheet Form (Int. Cl. 17).

First use Nov. 6, 1967.

SN 288,547. Standard Industrial Minerals, Inc., Bishop, Calif. Filed Jan. 10, 1968.

STANDARD INDUSTRIAL MINERALS

The monogram feature of the mark comprises the letters "SIM." The lining on the drawing is not for the purpose of color but shows contrasts only. No claim is made to the words "Industrial Minerals" apart from the mark.

For Non-Metallic Minerals Used in Industrial and Manufacturing Processes as Fillers, Extenders, and the Like (Int. Cl. 1).

First use on or about July 18, 1967.

SN 291,531. Southern Oyster Shell Milling Corporation, d.b.a. Oyster Shell Products Company, Mobile, Ala. Filed Feb. 20, 1968.

REDI-RUF

For Crushed Oyster Shell for Domestic Animals (Int. Cl. 31).

First use Jan. 30, 1968.

SN 292,569. Floral Development Corp., Holliston, Mass. Filed Mar. 6, 1968.

FILFAST

For Frangible Plastic Foam Material Useful as a Support Base for Flowers, and Also as a Filtering, Insulating, and Packaging Material (Int. Cl. 17).

First use at least as early as Feb. 8, 1968.

SN 295,723. Disco, Inc., Mitchell, S. Dak. Filed Apr. 16, 1968.

DISCO

Owner of Reg. No. 92,323.

For Field Seeds and Garden Seeds Including Hybrid Corn and Hybrid Sorghum Seed (Int. Cl. 31).

First use Jan. 30, 1962.

SN 301,499. Anthony H. Alves, d.b.a. Alves Fur Farms, Oakhurst, Calif. Filed June 27, 1968.

QUANTIC-BEIGE

For Live Chinchillas (Int. Cl. 31).

First use Dec. 7, 1967.

SN 315,350. Bingham Seed Company, Inc., Jacksonville, Fla. Filed Dec. 30, 1968.

GROFAST

For Raw Prepared Rye Grass Seed, and Raw Prepared Hybrid Sorghum and Sudangrass Seed (Int. Cl. 31).

First use Aug. 1, 1963, on rye grass seed.

Class 2—Receptades

SN 274,450. Nelson Sales Company, Kansas City, Mo. Filed June 21, 1967.

NESCO

For Bags, Including Ditty Bags, Rubberized Toilet Kit Bags, Canteens, and Covers Therefor (Int. Cl. 18).

First use on or about June 1, 1965.

SN 285,812. Azuma Trading Co., Inc., New York, N.Y. Filed Nov. 29, 1967.

ATC

For Lacquer and Wooden Ware—Namely, Dishes, Trays, Bowls, Jewelry, and Silverware Chests; and Wicker Ware—Namely, Baskets, Vase and Bottle Carriers, Chests, and Trays (Int. Cl. 21).

First use Nov. 6, 1967.

SN 301,640. Pacific Foam Packaging, Los Angeles, Calif. Filed June 28, 1968.

HARD SHELL FOAM

Applicant disclaims the term "Foam" apart from the mark as a whole.

For Cellular Plastic Receptacles, Boxes, and Cartons for Fragile Objects (Int. Cl. 20).

First use Aug. 31, 1967.

Class 3—Baggage, Animal Equipments, Portfolios, and Pocketbooks

SN 309,411. Leo T. Moore, d.b.a. Vinyloy Tray Company, Arlington, Va. Filed Oct. 10, 1968.

VINYLOY

For Pet Trays, Dishes, Pans, and Utensils (Int. Cl. 21).

First use May 5, 1959.

Class 4—Abrasives and Polishing Materials

SN 299,943. E. Reed Burns Manufacturing & Sales Co., Inc., Maspeth, N.Y., assignee of E. Reed Burns Manufacturing Corporation, Brooklyn, N.Y. Filed June 7, 1968.

E. Reed Burns

The mark is the signature of E. Reed Burns, now deceased.

Owner of Reg. No. 503,368.

For Buffs and Metal Polish (Int. Cls. 3 and 21).

First use 1915.

SN 306,457. Cardinal Engineering Corporation, Conshohocken, Pa. Filed Sept. 3, 1968.

BLUE/LINE

For Abrasive Blades (Int. Cl. 7).

First use July 12, 1966.

SN 308,088. C & S Associates, d.b.a. Wood 'n Wax Shop, Alexandria, Va. Filed Sept. 24, 1968.

WILLIAMSVILLE WAX

No exclusive claim is made to the word "Wax."

For Wax for Furniture and Leather Goods (Int. Cl. 3).

First use Oct. 10, 1967.

SN 309,744. C & S Associates, d.b.a. Wood 'n Wax Shop, Alexandria, Va. Filed Oct. 16, 1968.



For Wax for Furniture and Leather Goods (Int. Cl. 3).

First use Oct. 10, 1967.

SN 314,764. Minnesota Mining and Manufacturing Company, St. Paul, Minn. Filed Dec. 18, 1968.

ROLOC

For Abrasive Discs (Int. Cl. 3).

First use Nov. 19, 1968.

Class 5—Adhesives

SN 287,636. R. & J. Dick Co., Inc., King of Prussia, Pa. Filed Dec. 27, 1967.

Dixylon

For Plastic Transmission and Conveyer Belt Joining Solution (Int. Cl. 1).
First use 1957.

SN 289,283. Dr. Kurt Herberts & Co., vorm. Otto Louis Herberts, Wuppertal-Barmen, Germany. Filed Jan. 22, 1968.

HERBERTS E. P.

Owner of German Reg. No. 794,516, dated July 18, 1964.
For Laminating Adhesives (Int. Cl. 1).
First use Sept. 4, 1964; in commerce Sept. 4, 1964.

Class 6—Chemicals and Chemical Compositions

SN 271,381. The Murphy Chemical Company, Limited, Wheathampstead, near St. Albans, England. Filed May 12, 1967.

ANALOAM

Owner of British Reg. No. 546,113, dated Nov. 13, 1933.
For Chemical Substances for Testing Soil for Agricultural and Horticultural Purposes (Int. Cl. 1).

SN 278,686. Givaudan Corporation, Clifton, N.J. Filed Aug. 21, 1967.

ENVIE

The mark is a French word meaning "desire, longing or envy."
For Perfume Compositions for Use in the Manufacture of Perfumes, Soaps, and Cosmetics (Int. Cl. 1).
First use June 14, 1967.

SN 282,356. Carlisle Chemical Works, Inc., Reading, Ohio. Filed Oct. 12, 1967.

CAR-BAN

Owner of Reg. No. 795,406.
For Agents for Inhibiting Growth of Bacteria, Fungi, Algae, and Other Organisms Including Preservatives for Adhesives, Leather, Plastics, Textiles, Crude Oil, Wood, Waxes, and Latexes (Int. Cls. 1 and 5).
First use May 1, 1964.

SN 286,534. International Salt Company, Clarks Summit, Pa. Filed Dec. 8, 1967.

TNA·5

For Textile Dyeing Reagent (Int. Cl. 2).
First use on or about Mar. 13, 1953.

SN 288,690. N. T. Gates Company, d.b.a. N. T. Gates Co., Camden, N.J. Filed Jan. 12, 1968.

SAHARA

For Dehydrating Agent Comprising Dehydrated Clay Alone, or in Combination With Silica Gel or Activated Charcoal (Int. Cl. 1).
First use on or about Jan. 29, 1962.

SN 291,451. Universal Oil Products Company, d.b.a. UOP Erlen Products, Des Plaines, Ill. Filed Feb. 19, 1968.

ERLEN G-30

For Chemical Steam Boiler Compound With Corrosion Inhibiting Properties (Int. Cl. 2).
First use Mar. 20, 1962.

SN 296,256. Standard Oil Company, Flemington, N.J. Filed Apr. 23, 1968.

EDCO

For Plasticizers (Int. Cl. 1).
First use Oct. 31, 1967.

SN 296,478. The Wun Drop Company, Littleton, Colo. Filed Apr. 24, 1968.

LIME TREE

The word "Lime" is disclaimed apart from the mark as shown.
For Scented Additive for Water Used in Steam Irons (Int. Cl. 3).
First use Apr. 10, 1968.

SN 298,284. Domtar Limited, Montreal, Quebec, Canada. Filed May 16, 1968.

DOMTAR

Owner of Canadian Reg. Nos. 131,955, dated July 19, 1963, and 107/25,361, dated Oct. 30, 1919; and U.S. Reg. No. 797,669.
For Phenol, Cresol, Coal Tar Acids and Derivatives; Solvents, Wood Preservatives, Flotation Oils, Naphthalene, Phthalic Anhydride, Insecticides, Surface Active Agents, Dyestuffs; Coloring Materials and Auxiliary Chemical Products Used in the Manufacture, Processing, and Dyeing of Textiles, Leather and Furs; Pigments; Salt for Use in Refrigeration, Ice Control and Water Softening; Salt for Use in Industry and Chemical Processing; Fungicides; Ammonia, Bleaches, Starching and Sizing Preparations; Disinfectants; Laundry Rinses, and Sodium Hypochlorite Solutions (Int. Cls. 1, 2, 3, 4, and 5).
First use July 19, 1963; in commerce July 19, 1963.

SN 300,353. W. R. Grace & Co., New York, N.Y. Filed June 13, 1968.

XZ-36

For Fluid Cracking Catalyst Containing Molecular Sieves (Int. Cl. 1).
First use Mar. 20, 1968.

SN 304,089. Gulf Marketing, Inc., Clearwater, Fla. Filed Aug. 1, 1968.

TRIMEX

For Catalytic Agent, in Dry Powder Form, for Promoting Combustion Efficiency in Carbonaceous Fuels (Int. Cl. 1).
First use on or about May 20, 1968.

SN 304,157. Sylvester A. Scalpelli, Joliet, Ill. Filed Aug. 1, 1968.

PUROGAS

For Chemicals Used in the Purification of Exhaust Gases (Int. Cl. 1).
First use July 13, 1968.

SN 304,618. Donald J. Passmore, d.b.a. Passmore and Sons, Portland, Oreg. Filed Aug. 7, 1968.

DENTICYDE

For Cold Germicidal Agent for Dental Tools (Int. Cl. 5).
First use Jan. 15, 1960.

SN 314,684. Ralston Purina Company, St. Louis, Mo. Filed Dec. 17, 1968.

CHECK-FLY

For Pesticide (Int. Cl. 5).
First use May 1966.

Class 7—Cordage

SN 289,349. Sperry Rand Corporation, New York, N.Y. Filed Jan. 22, 1968.



For Baler Twine and Baler Wire for Wrapping and Tying Bales (Int. Cls. 6 and 22).
First use Sept. 8, 1967.

SN 289,350. Sperry Rand Corporation, New York, N.Y. Filed Jan. 22, 1968.

SPERRY RAND

For Baler Twine and Baler Wire for Wrapping and Tying Bales (Int. Cls. 6 and 22).
First use Sept. 8, 1967.

SN 289,351. Sperry Rand Corporation, New York, N.Y. Filed Jan. 22, 1968.

SPERRY RAND

For Baler Twine and Baler Wire for Wrapping and Tying Bales (Int. Cls. 6 and 22).
First use Sept. 8, 1967.

SN 289,352. Sperry Rand Corporation, New York, N.Y. Filed Jan. 22, 1968.

SPERRY RAND

For Baler Twine and Baler Wire for Wrapping and Tying Bales (Int. Cls. 6 and 22).
First use Sept. 8, 1967.

Class 10—Fertilizers

SN 182,076. Genii Plant Line, Inc., Montebello, Calif. Filed Nov. 29, 1963.

LIVING EARTH

For Planter Mixes and Soil Conditioners (Int. Cl. 1).
First use Sept. 12, 1956.

SN 295,132. Flower Power Fertilizer Company, Avondale, Pa. Filed Apr. 8, 1968.

FLOWER POWER

For Plant Fertilizer (Int. Cl. 1).
First use Feb. 9, 1968.

SN 309,821. Abbott Laboratories, d.b.a. Amdal Company, North Chicago, Ill. Filed Oct. 17, 1968.



The drawing is lined for the color green, but no claim is made for any particular color.
For Plant Nutrients, Growth Promotants, and Crop Regulators (Int. Cl. 1).
First use on or about July 1, 1965.

SN 309,983. Norsk Hydro-Elektrisk Kvaelstofaktieselskab, Oslo, Norway. Filed Oct. 18, 1968.

HYDRO-PRILLS

For Artificial Fertilizers (Int. Cl. 1).
First use Aug. 15, 1968; in commerce Aug. 15, 1968.

SN 310,233. Hooker Chemical Corporation, Niagara Falls, N.Y. Filed Oct. 22, 1968.

TREND

For Fertilizers (Int. Cl. 1).
First use Mar. 22, 1968.

Class 12—Construction Materials

SN 280,847. Steelcote Manufacturing Co., St. Louis, Mo. Filed Sept. 14, 1967.

THIOCAULK

For Polysulfide Rubber, Weather Resistant Sealing Preparation (Int. Cl. 17).
First use Apr. 18, 1956.

SN 294,094. Supradur Manufacturing Corporation, Wind Gap, Pa. Filed Mar. 25, 1968.

If it's Supradur it's Supra-durable!

Owner of Reg. No. 595,408.
For Asbestos-Cement Siding and Roofing Shingles (Int. Cl. 19).
First use July 1964.

SN 295,948. Penn Crete Products Co. Inc., Philadelphia, Pa. Filed Apr. 18, 1968.

PENN CRETE

Owner of Reg. No. 243,640.
For Dry, Powdery Cementitious Material—Namely, Exterior and Interior Stucco and Dry Coloring Pigments for Mixing With Stucco Mixes (Int. Cl. 19).
First use on or about Dec. 16, 1927.

SN 296,794. Berger Lumber Corp., West Kingston, R.I. Filed Apr. 29, 1968.

BERGER

For Prefabricated Homes (Int. Cl. 19).
First use on or about July 8, 1959.

SN 296,796. Berger Lumber Corp., West Kingston, R.I. Filed Apr. 29, 1968.

KINGSTON KOTTAGES

No claim of exclusive right is made to "Kottages" for the goods recited.
For Prefabricated Homes (Int. Cl. 19).
First use on or about Mar. 23, 1957.

SN 297,134. Appalachian Seamless Surfaces, Inc., Wiley Ford, W. Va. Filed May 2, 1968.



Applicant disclaims the word "Appalachian" and "Surfaces" apart from the mark as shown.
For Seamles or Monolithic Urethane and Polymeric Resin Coatings, Applied Over Colored Flakes or Chips, Stone Chips, Glass Crystals, Abrasives, etc., Encased in a Synthetic Resin Applied by Pouring, Brushing, Rolling, Troweling or Spraying Over Existing Floors and Surfaces (Int. Cl. 19).
First use Sept. 15, 1967.

SN 303,125. AC Inc., Ashland, Ky. Filed July 19, 1968.

A C MARBLE

Applicant disclaims the word "Marble" apart from the mark as shown.
For Crushed Marble Bonded With Resin (Int. Cl. 19).
First use July 12, 1968.

SN 304,956. Pacific Adhesives Company, Inc., Hillsboro, Oreg. Filed Aug. 12, 1968.

PACOR

For Composite Structural Sheets (Composite Lumber Cores Veneered on Both Faces) (Int. Cl. 19).
First use May 14, 1968.

SN 305,054. Lehigh Portland Cement Company, Allentown, Pa. Filed Aug. 13, 1968.

LEHIGH

Owner of Reg. Nos. 311,725, 500,827, and others.
For Portland Cement and Concrete Aggregate (Int. Cl. 19).
First use Jan. 15, 1915.

SN 305,857. Santee Portland Cement Corporation, Holly Hill, S.C. Filed Aug. 23, 1968.

SANTEE

For Masonry Cement (Int. Cl. 19).
First use May 13, 1966.

SN 310,983. Sani-Gro Mfg. Co., Ortonville, Minn. Filed Oct. 31, 1968.

SANI-GRO

For Gate-Equipped Enclosures With Defined Nursing Chamber and Brooder Chamber Divisions for Farrowing Sows and Rearing Piglets (Int. Cl. 19).
First use Oct. 1, 1967.

SN 311,848. Concrete Designs, Tucson, Ariz. Filed Nov. 12, 1968.

ARRIVE

For Precast Concrete Tiles for Floors, Walls, and Ceilings (Int. Cl. 19).
First use Aug. 3, 1968.

Class 13—Hardware and Plumbing and Steam-Fitting Supplies

SN 281,237. Suburban Metal Industries Limited, Scarboro, Ontario, Canada. Filed Sept. 26, 1967.

LOAD-LOK

Owner of Canadian Reg. No. 152,546, dated Aug. 18, 1967.
For Cargo Control and Material Handling Equipment—Namely, Cargo Control Track, Rope Tie-Offs, Floor and Decking Brackets, Adjustable Shoring Poles, Flange Plates, End Strap Connectors, Metal Fasteners, Buckles, Clamps, Anchor Hooks, Pallet Hooks, Strap Webbing, Corner Posts, and Threading Plates (Int. Cl. 6).

SN 286,512. Cory Corporation, Chicago, Ill. Filed Dec. 8, 1967.

FLAV-R-EXTRACTOR

For Spreader Plate for Distributing Incoming Water in a Coffee Brewing Apparatus (Int. Cl. 21).
First use Oct. 2, 1967.

SN 304,898. DK Pneumatics, Inc., Atlanta, Ga. Filed Aug. 12, 1968.

DEK-O-MAT

For Selective Filter, Regulator and Lubricator for Compressed Air Lines (Int. Cl. 7).
First use Aug. 5, 1968.

SN 308,478. Donald W. Fether, d.b.a. D. W. Fether Co., Saticoy, Calif. Filed Sept. 30, 1968.

BRIDGE SLOT

For Oil Well Liners (Int. Cl. 6).
First use May 1966.

SN 309,368. Flexible Valve Corporation, South Hackensack, N.J. Filed Oct. 10, 1968.



For Flexible Valves (Int. Cl. 17).
First use on or about June 23, 1965.

SN 310,288. The Steel City Corporation, Youngstown, Ohio. Filed Oct. 23, 1968.

POST L POST

For Metal Posts for Mounting Rural Mail Boxes (Int. Cl. 6).
First use at least as early as October 1963.

Class 14—Metals and Metal Castings and Forgings

SN 301,630. Matthey Bishop, Inc., Malvern, Pa. Filed June 28, 1968.

MBI

For Exotic Metal, Featuring Those in the Platinum Group, for Final Preparation, Designed for Use in Industry (Int. Cl. 14).
First use on or about May 13, 1968.

Class 15—Oils and Greases

SN 284,613. A. W. Chesterton Company, Everett, Mass. Filed Nov. 13, 1967.

VIRTUE

For Chain Drive and Bearing Lubricant (Int. Cl. 4).
First use at least as early as Sept. 2, 1967.

SN 306,379. Illinois Bronze Powder & Paint Co., Lake Zurich, Ill. Filed Aug. 30, 1968.



The mark is a design resembling the combination of a fanciful "I" and "B." Owner of Reg. Nos. 821,818, 828,444, and others.
For Open Gear Lubricants and Lubricating Oils (Int. Cl. 4).
First use on or about Oct. 1, 1966.

Class 16—Protective and Decorative Coatings

SN 288,503. Foseco International Limited, Birmingham, England. Filed Jan. 10, 1968.

ESRACOTE

Priority claimed under Sec. 44(d) on British Reg. No. 912,402, dated July 24, 1967.
For Coatings for Application to, and Protection of, Electrodes Against Oxidation To Aid in Electro-Slag Refining in the Metallurgical Industry (Int. Cl. 1).

SN 291,748. S. C. Johnson & Son, Inc., Racine, Wis. Filed Feb. 23, 1968.

FORTIFY

For Sealing and Protective Coating Preparations for Porous Surfaces (Int. Cl. 2).
First use on or about Oct. 30, 1967.

Class 17—Tobacco Products

SN 299,403. Martin R. Dosal and Alberto Dosal (joint owners), Miami Shores, Fla., assignee of Dosal Tobacco Corporation, Hialeah, Fla. Filed May 31, 1968.

COMPETIDORA

The word "Competidora" is Spanish for "competitor," "rival," or "opponent." Owner of Reg. No. 761,836.
For Cigars (Int. Cl. 34).
First use Feb. 18, 1963.

SN 315,369. Universal Cigar Corporation, New York, N.Y. Filed Dec. 30, 1968.

TORINO

For Cigars (Int. Cl. 34).
First use Dec. 2, 1968.

Class 18—Medicines and Pharmaceutical Preparations

SN 284,739. Schieffelin & Co., New York, N.Y. Filed Nov. 13, 1967.



The words "Quality," "Integrity," and "Service" are disclaimed apart from the mark as shown.
For Pharmaceutical Preparations for Use in the Fields of Dermatology and Opthalmology; Topical Adjuvants; Hypnotics; Smelling Salts; Anticoagulants; and Medicinal Compounds for External Treatment of Hay Fever (Int. Cl. 5).
First use 1923.

SN 286,547. Noxell Corporation, Baltimore, Md. Filed Dec. 8, 1967.



For Medicated Skin Conditioners, Cleansers, Washing Cream, Washing Gel, Astringent Lotion; Medicated Shampoo and Scalp Cleanser; and Medicated Acne Pimple Preparation, All Used for Treating the Skin and Scalp (Int. Cls. 3 and 5).
First use Aug. 10, 1966.

SN 286,548. Noxell Corporation, Baltimore, Md. Filed Dec. 8, 1967.



Owner of Reg. Nos. 112,638, 837,796, and others.
For Medicated Skin Conditioners, Cleansers, Washing Cream, Washing Gel, Astringent Lotion; Medicated Shampoo and Scalp Cleanser; and Medicated Acne Pimple Preparation, All Used for Treating the Skin and Scalp (Int. Cls. 3 and 5).
First use Aug. 10, 1966.

SN 288,230. Pharmacia AB, Uppsala, Sweden. Filed Jan. 5, 1968.



Priority claimed under Sec. 44(d) on Swedish application filed July 5, 1967; Reg. No. 124,676, dated Aug. 23, 1968. The mark is in the form of a design which can be considered as two inter-twined drops.
For Medicines and Pharmaceutical Preparations (Int. Cl. 5).

SN 289,953. American Home Products Corporation, New York, N.Y. Filed Jan. 31, 1968.

PDS 200

For Veterinary Antibiotic Preparation for Treatment of Bacterial Infections of Horses (Int. Cl. 5).
First use Jan. 17, 1968.

SN 290,352. The Upjohn Company, Kalamazoo, Mich. Filed Feb. 5, 1968.

E-MYCIN

For Antibiotic Preparation (Int. Cl. 5).
First use Nov. 15, 1967.

SN 302,127. The Purdue Frederick Company, Yonkers, N.Y. Filed July 5, 1968.

ANTITHROMB

For Anticoagulant Preparation (Int. Cl. 5).
First use June 12, 1968.

SN 302,131. Richardson-Merrell Inc., New York, N.Y. Filed July 5, 1968.

Medifuran

The drawing is lined for red, but color is not claimed as a feature of the mark.
For Mastitis Preparation for Veterinary Use (Int. Cl. 5).
First use Nov. 29, 1963.

SN 302,218. Bristol-Myers Company, New York, N.Y. Filed July 8, 1968.

CLINIPRIN

For Analgesic (Int. Cl. 5).
First use May 28, 1968.

SN 307,944. Rucker Pharmacal Co., Inc., Shreveport, La. Filed Sept. 23, 1968.

F-E-P CREME

Without waiving any common law rights therein, applicant disclaims any exclusive right in the term "Creme," apart from the mark as shown.
For Topical Ointment for Treatment of Dermatological Disorders (Int. Cl. 5).
First use Apr. 12, 1965.

SN 308,852. Menley & James Laboratories, Ltd., Philadelphia, Pa. Filed Sept. 27, 1968.

SINE-OFF

For Sinus Headache Medicinal Preparation (Int. Cl. 5).
First use Sept. 19, 1968.

SN 314,538. The Dow Chemical Company, Midland, Mich. Filed Dec. 16, 1968.

RIFOLDIN

For Antibiotic Preparation (Int. Cl. 5).
First use Sept. 27, 1968.

SN 314,852. Carter-Wallace, Inc., New York, N.Y. Filed Dec. 19, 1968.

EASY DAY

For Feminine Cleansing Douche (Int. Cl. 5).
First use Nov. 21, 1968.

Class 19—Vehicles

SN 282,555. Ejecto Corporation, Saginaw, Tex. Filed Oct. 16, 1967.



The word "Control" is disclaimed apart from the mark as shown.
For Material Handling Body, Sold as a Component of a Dump Truck (Int. Cl. 12).
First use July 5, 1967.

SN 285,348. The Raleigh Cycle Company Limited, Nottingham, England, assignee of Raleigh Industries Limited, Nottingham, England. Filed Nov. 21, 1967.



For Bicycles, Motorcycles and Tricycles, for Use by Adults Only, and Parts Therefor (Int. Cl. 12).
First use at least as early as 1964; in commerce 1964.

SN 286,245. Cortland Furniture Co., Inc., New York, N.Y. Filed Dec. 5, 1967.

CORTLAND

For Baby Carriages and Baby Strollers (Int. Cl. 12).
First use 1952.

SN 289,021. Harwill, Inc., St. Charles, Mich. Filed Jan. 17, 1968.

COHO

For Boats (Int. Cl. 12).
First use Dec. 26, 1967.
Subj. to Intf. with SN 295,348 and SN 295,539.

SN 295,348. Lund Metalcraft, Inc., New York Mills, Minn. Filed Apr. 10, 1968.



Coho I

The drawing is lined for the color red, but no claim is made to color.
For Aluminum Fishing Boats (Int. Cl. 12).
First use Oct. 9, 1967.
Subj. to Intf. with SN 289,021.

SN 295,539. Lund Metalcraft, Inc., New York Mills, Minn. Filed Apr. 12, 1968.

COHO-I

For Aluminum Fishing Boats (Int. Cl. 12).
First use Oct. 9, 1967.
Subj. to Intf. with SN 289,021.

SN 298,187. Arc Rebuilders Inc., Long Island City, N.Y. Filed May 15, 1968.



For Rebuilt Power Steering Systems for Motor Vehicles (Int. Cl. 12).
First use Dec. 1, 1965.

SN 301,368. Stitchcraft Corporation, Forest City, Iowa. Filed June 25, 1968.

STITCHCRAFT

Owner of Reg. No. 860,550.
For Upholstered Cushions, Bucket Seats, Seats, Padded Dashboards, Mattresses, Davenos, Curtains, and Vehicle Seat Covers for Motor Homes, Travel Trailers, Camper Coaches, Tent Trailers, Houseboats, and Snowmobiles (Int. Cl. 12).
First use May 1, 1962.

SN 303,238. Spector Industries, Inc., Chicago, Ill. Filed July 22, 1968.

VARI-DECK

For Freight Vehicles—Namely, Motor Trucks, Trailers Connected to Motor Tractors, Railroad Cars, and Transferable Non-Self-Propelled Cargo Containers Adapted To Be Mounted on Trailer Trucks or Railway Flat Cars (Int. Cl. 12).
First use Apr. 9, 1968.

SN 310,494. Penn Bros. Inc., Baltimore, Md. Filed Oct. 24, 1968.



For Automobiles (Int. Cl. 12).
First use Feb. 10, 1968.

SN 311,472. Edison Industries, Inc., St. Paul, Minn. Filed Nov. 6, 1968.

NORTHERNAIRE

For Mobile Homes of the Type Towed by Automobile or Truck (Int. Cl. 12).
First use Aug. 14, 1968.

SN 311,572. Certain-Teed Products Corporation, Ardmore, Pa. Filed Nov. 7, 1968.

WEDGETITE

For Spring Emergency and Parking Brake (Int. Cl. 12).
First use July 3, 1968.

SN 311,633. Woodhead Manufacturing Company Limited, Ossett, England. Filed Nov. 7, 1968.

WOODROMATIC

Owner of British Reg. No. 901,224, dated Nov. 3, 1966.
For Shock Asorbers for Vehicles (Int. Cl. 12).

SN 312,354. Wayne Metalcraft Company, Chicago, Ill. Filed Nov. 15, 1968.

WAYNE

For Caps for Use on Automotive-Type Vehicles, Including Radiator Caps, Gas Tank Caps, Locking Gas Tank Caps, and Oil Breather Caps (Int. Cl. 12).
First use 1936.

SN 312,476. Johnson Welding & Mfg. Co., Rice Lake, Wis. Filed Nov. 18, 1968.

JOHNSON

For Truck Bodies (Int. Cl. 12).
First use in 1932.

SN 314,831. Thunderbird Products Corporation, North Miami, Fla. Filed Dec. 18, 1968.



For Fiber Glass Boats (Int. Cl. 12).
First use June 21, 1968.
Subj. to Intf. with SN 311,273.

SN 314,938. McCoy Manufacturing and Sales Co., Indianola, Iowa. Filed Dec. 20, 1968.

PRESIDENT

For Pickup Camper Coaches and Motor Homes (Int. Cl. 12).
First use December 1962.

SN 314,959. De Rose Industries, Inc., Cassopolis, Mich. Filed Dec. 20, 1968.



For Mobile Homes and Travel Trailers (Int. Cl. 12).
First use prior to 1958.

SN 315,218. Conparral Incorporated, St. Paul, Minn. Filed Dec. 26, 1968.

SNO-PONY

For Motor Driven Snow Vehicles (Int. Cl. 12).
First use Jan. 29, 1968.

Class 21—Electrical Apparatus, Machines, and Supplies

SN 203,526. Werner Pinternagel, d.b.a. Dynacord, Straubing, Germany. Filed Oct. 7, 1964.

Dynacord

Owner of German Reg. No. 771,509, dated Mar. 15, 1963; and U.S. Reg. No. 780,568.
For Microphones, Loudspeakers, Amplifiers, Echo and Resonance Repeater Devices, Sound Band Mixing Devices, and Mixing Consoles (Int. Cl. 9).
First use March 1951; in commerce Mar. 6, 1959.

SN 277,892. Viewall Television Products Corp., Anniston, Ala. Filed Aug. 2, 1967.

view-all

For Television Antennas, Electric Antenna Rotators, Electronic Amplifiers and Matching Transformers (Int. Cl. 9).
First use Feb. 20, 1967.

SN 279,586. U.S. Merchandise Mart, Inc., Washington, D.C. Filed Sept. 1, 1967.

AIRSCOOP

For Electric Air Circulating Fan Unit Used Primarily in Conjunction With, but Remote From an Air Conditioner, the Purpose of the Unit Being To Deflect Cool Air Upwardly Towards Areas Not Normally Cooled by the Air Conditioner (Int. Cl. 11).
First use May 20, 1967.

SN 283,444. John Oster Manufacturing Co., Milwaukee, Wis. Filed Oct. 26, 1967.

OSTERIZER

Owner of Reg. No. 512,246.
For Electric Food Blenders, Electric Food Liqueflers, Electric Juice Extractors, Electric Ice Crushers, Electric Food Mixers, Electric Blender Glass; and Parts Therefor (Int. Cl. 7).
First use Nov. 9, 1947.

SN 286,372. Sperry Rand Corporation, New York, N.Y. Filed Dec. 6, 1967.

SPERRY RAND

For Voltage Regulators; Electronic Acceleration and Handling Controls for Battery Powered Vehicles; Electric Control Panels; Electro-Servo Mechanisms; Solenoids; Electric Motors and Generators; Magnetic Amplifiers; Magnetic Clutches; Magnetic Brakes; Magnetic Degaussing Systems; Magnetic Detectors; and Parts for All of the Foregoing (Int. Cls. 7 and 9).
First use Sept. 11, 1967.

SN 286,373. Sperry Rand Corporation, New York, N.Y. Filed Dec. 6, 1967.



For Voltage Regulators; Electronic Acceleration and Handling Controls for Battery Powered Vehicles; Electric Control Panels; Electro-Servo Mechanisms; Solenoids; Electric Motors and Generators; Magnetic Amplifiers; Magnetic Clutches; Magnetic Brakes; Magnetic Degaussing Systems; Magnetic Detectors; and Parts for All of the Foregoing (Int. Cls. 7 and 9).
First use Sept. 11, 1967.

SN 286,374. Sperry Rand Corporation, New York, N.Y. Filed Dec. 6, 1967.



For Voltage Regulators; Electronic Acceleration and Handling Controls for Battery Powered Vehicles; Electric Control Panels; Electro-Servo Mechanisms; Solenoids; Electric Motors and Generators; Magnetic Amplifiers; Magnetic Clutches; Magnetic Brakes; Magnetic Degaussing Systems; Magnetic Detectors; and Parts for All of the Foregoing (Int. Cls. 7 and 9).
First use Sept. 11, 1967.

SN 286,375. Sperry Rand Corporation, New York, N.Y. Filed Dec. 6, 1967.

SPERRY RAND

For Voltage Regulators; Electronic Acceleration and Handling Controls for Battery Powered Vehicles; Electric Control Panels; Electro-Servo Mechanisms; Solenoids; Electric Motors and Generators; Magnetic Amplifiers; Magnetic Clutches; Magnetic Brakes; Magnetic Degaussing Systems; Magnetic Detectors; and Parts for All of the Foregoing (Int. Cls. 7 and 9).
First use Sept. 11, 1967.

SN 288,537. Precipitair Pollution Control, Inc., Somerville, N.J. Filed Jan. 10, 1968.

PRECIPITAIR

For Air Pollution Control Apparatus—Namely, Electrostatic Precipitators of Modular Construction (Int. Cl. 11).
First use Sept. 7, 1967.

SN 290,255. Avnet, Inc., New York, N.Y., assignee of Carol Wire & Cable Corp., Pawtucket, R.I. Filed Feb. 5, 1968.

FULL POWER

Owner of Reg. Nos. 529,902 and 639,280.
For Small Electrical Equipment (for Use on Automobiles or in the Home)—Namely, Cord Sets, Trouble Lights, Ignition Sets, Battery Cable, Booster Cable, and Terminals for Automotive, Electrical and Marine Use (Int. Cls. 9 and 11).
First use in or about January 1947.

SN 291,873. Insul-8-Corp., San Carlos, Calif. Filed Feb. 26, 1968.



Owner of Reg. Nos. 754,978, 839,913, and others.
For Insulated Electrical Cables and Fixtures for Tapping the Same (Int. Cl. 9).
First use about Oct. 27, 1967.

SN 292,545. Caelus Memories, Inc., San Jose, Calif. Filed Mar. 6, 1968.

CÆLUS

For Rotatable Magnetic Data Storage Medium for Use With Electronic Data Processing Equipment (Int. Cl. 9).
First use on or about Dec. 8, 1967.

SN 292,546. Caeleus Memories, Inc., San Jose, Calif. Filed Mar. 6, 1968.



For Rotatable Magnetic Data Storage Medium for Use With Electronic Data Processing Equipment (Int. Cl. 9).
First use on or about Dec. 8, 1967.

SN 292,547. Caeleus Memories, Inc., San Jose, Calif. Filed Mar. 6, 1968.



For Rotatable Magnetic Data Storage Medium for Use With Electronic Data Processing Equipment (Int. Cl. 9).
First use on or about Dec. 8, 1967.

SN 292,549. Chambers Corporation, Cleburne, Tex. Filed Mar. 6, 1968.



For Electric Wall Fireplaces (Int. Cl. 11).
First use Feb. 5, 1968.

SN 296,507. Tandy Corporation, d.b.a. Radio Shack, Boston, Mass. Filed Apr. 25, 1968.

DUOFONE

For Headphones (Int. Cl. 9).
First use at least as early as June 30, 1966.

SN 302,339. The Pyle-National Company, d.b.a. Steber Manufacturing Company, Chicago, Ill. Filed July 9, 1968.

PHASE IV

For Mercury Vapor and Metallic Vapor Luminaire Lighting Fixtures (Int. Cl. 11).
First use October 1967.

SN 302,513. The Pyle-National Company, d.b.a. Petelco, Inc., Chicago, Ill. Filed July 11, 1968.

DOWNLITE

For Metallic Vapor Floodlight Lighting Fixtures (Int. Cl. 11).
First use September 1967.

SN 303,701. Porchester Instrument Corporation, Port Chester, N.Y. Filed July 26, 1968.

PICOTRIM

For Electrical Condensers (Int. Cl. 9).
First use Jan. 15, 1968.

SN 304,573. Atlas Supply Company, Springfield, N.J. Filed Aug. 7, 1968.

ATLAS

Owner of Reg. Nos. 292,119, 521,610, and 679,167.
For Generators and Alternators for Use in Connection With Internal Combustion Engines (Int. Cl. 7).
First use July 29, 1968.

SN 305,538. Electro Products Laboratories, Inc. Chicago, Ill. Filed Aug. 20, 1968.

VERSA-PROX

For Proximity Control (Int. Cl. 9).
First use July 22, 1968.

SN 305,539. Electro Products Laboratories, Inc., Chicago, Ill. Filed Aug. 20, 1968.

MINI-PROX

For Proximity Control (Int. Cl. 9).
First use July 22, 1968.

SN 305,768. Thomas & Betts Corporation, Elizabeth, N.J. Filed Aug. 22, 1968.

SABRE TOOTH

For Grounding Sleeves and Rings, Grounding Sleeves for Jacketed Metal-Clad Cable, and Electrical Connectors With Grounding Sleeves (Int. Cl. 9).
First use in or about July 1967.

SN 307,980. Copper Kettle Creations, Inc., Wyomissing, Pa. Filed Sept. 23, 1968.

COPPER KETTLE CREATIONS

The word "Creations" is disclaimed apart from the mark as shown.
For Electric Lamps (Int. Cl. 11).
First use June 14, 1968.
Subj. to Intf. with SN 307,313.

SN 309,645. Dekka Lighting Corp., Great Neck, N.Y. Filed Oct. 15, 1968.

DEKKA-PLATE

No claim is made to the word "Plate" apart from the mark as shown.
For Bus Duct Covering (Int. Cl. 9).
First use Aug. 12, 1968.

Class 22 — Games, Toys, and Sporting Goods

SN 259,624. Etablissement Muz, Vaduz, Liechtenstein. Filed Nov. 29, 1966.

MUZ

Priority claimed under Sec. 44(d) on Liechtenstein Reg. No. 2,167, dated June 16, 1966. The term "Muz" is fanciful.
For Playing Cards, Doll Houses and Doll House Equipment and Furniture, Toboggans and Toboggan Construction Parts or Components, and Toy Construction Kits (Int. Cls. 16 and 28).

SN 264,057. Hockenberger & Co., Inc., Toledo, Ohio. Filed Feb. 6, 1967.

HOUSE OF GOLF

For Distance Computer for Playing the Game of Golf; Said Computer Being a Rectangular Tab Having an Adhesive Backing for Securement to a Golf Club. (Int. Cl. 28).
First use April 1960.

SN. 275,662. Hockenberger & Co., Inc., Toledo, Ohio. Filed July 10, 1967.

HOUSE OF GOLF

For Complete Line of Golf Equipment Including Golf Balls, Golf Clubs, Golf Bags, Golf Shoes, Golf Ball Washers, Golf Carts, Golf Tees, and Golf Club Covers (Int. Cls. 25 and 28).
First use Mar. 1, 1966.

SN 286,246. Cortland Furniture Co., Inc., New York, N.Y. Filed Dec. 5, 1967.

CORTLAND

For Doll and Toy Carriages, Baby Walkers, and Baby Jumpers (Int. Cl. 28).
First use 1952.

SN 289,816. Lowa-Schuhfabrik Lorenz Wagner K.G., Upper Bavaria, Germany. Filed Jan. 29, 1968.

LOWA

The drawing is lined for the color red, and no claim is made to color. Owner of German Reg. No. 733,159, dated Jan. 26, 1960.
For Mountain Boots, Hiking Boots, and Ski Boots (Int. Cl. 25).
First use 1958; in commerce Feb. 8, 1960.

SN 294,223. Ida Weinman, Rego Park, N.Y. Filed Mar. 26, 1968.

BACON N' EGG

For Equipment Sold as a Unit for Playing Children's Parlor Game (Int. Cl. 28).
First use February 1966.

SN 294,794. The Allen Company, Inc., Charlottesville, Va. Filed Apr. 3, 1968.

ACO

For Equipment Sold as a Unit for Playing a Card Game While Traveling (Int. Cl. 28).
First use Mar. 12, 1968.

SN 298,769. Randolph White, Saxonville, Mass. Filed May 21, 1968.

BOTTOMS UP

For Equipment for playing a Board Game (Int. Cl. 28).
First use Apr. 9, 1968.

SN 301,652. Uneeda Doll Co., Inc., Brooklyn, N.Y. Filed June 28, 1968.

DEBTEEN

For Dolls and Doll Accessories (Int. Cl. 28).
First use in or about January 1957.

SN 301,961. Paddleboard, Inc., Elk Rapids, Mich. Filed July 3, 1968.

"SADDLE-N-PADDLE"

For Paddleboards (Int. Cl. 28).
First use Mar. 6, 1968.

SN 302,546. Vogt Appliance Corporation, Kalamazoo, Mich., assignee of Vogt Appliance Company, Kalamazoo, Mich. Filed July 11, 1968.

VOGT

For Swivel Exercising Boards (Int. Cl. 28).
First use Apr. 30, 1967.

SN 307,168. Mattel, Inc., Hawthorne, Calif. Filed Sept. 12, 1968.

DAFFOROOPS

For Make and Play Toy Kit Comprising a Cake Bake (Support), Plastic Cake Supports, Molds and Mixing Spoon, Utensils, and Candy, Cake, and Frosting Mixes (Int. Cl. 28).
First use Feb. 13, 1968.

Class 23 — Cutlery, Machinery, and Tools and Parts Thereof

SN 276,628. Atlas Vending Co., Inc., Greenville, S.C. Filed July 24, 1967.

ATLAS

For In-Plant Food and Beverage Vending Through Coin-Operated Food and Beverage Vending Machines (Int. Cl. 9).
First use 1932.

SN 276,878. Studebaker Corporation, South Bend, Ind. Filed July 26, 1967.

BIG FOUR

For Automotive Equipment and Accessories Therefor—Namely, Tire Changers, Tire Spreaders, Tire Jacks, and Tire Studding Machines, Including Stud Guns and Stud Feeders (Int. Cl. 7).
First use March 1946.

SN 278,257. Universal Oil Products Company, Des Plaines, Ill. Filed Aug. 14, 1967.

AEROMIX SCRUBBER

The word "Scrubber" is disclaimed apart from the mark as shown.
For Wet Scrubber Apparatus for Washing Gaseous Streams Which Uses a Venturi-Shaped Gas and Liquid Mixing Section (Int. Cl. 7).
First use July 24, 1961.

SN 282,553. Educational Materials, Inc., Temple Terrace, Fla. Filed Oct. 16, 1967.

edmat

For Foam Cutters (Int. Cl. 7).
First use July 11, 1967.

SN 287,317. Pav-Saver Corporation, Milan, Ill. Filed Dec. 20, 1967.

PAV-SAVER

For Machine for Laying Concrete Pavement (Int. Cl. 7).
First use on or about Apr. 7, 1966.

SN 292,520. The Weatherhead Company, Cleveland, Ohio. Filed Mar. 5, 1968.

Owner of Reg. Nos. 727,456, 832,388, and others.
For Hydraulic Pumps and Motors; Service Tools and Machines for Use With Pipe, Tube and Hose Couplings—Namely, Tube Cutters, Flaring and Bending Tools, Wrenches, Mandrels, Crimping Tools, and Ring Pre-Set Tools (Int. Cls. 7 and 8).
First use at least as early as December 1967.

SN 294,377. Custom Wrought Products Co., Greentown, Pa. Filed Mar. 28, 1968.

Log-Port-R

For Fireplace Tools for Lifting and Moving Logs (Int. Cl. 8).
First use on or about April 15, 1967.

SN 294,746. Pall Corporation, Glen Cove, N.Y. Filed Apr. 2, 1968.

CENTRISEP

For Inertial Air Cleaners (Int. Cl. 11).
First use Aug. 2, 1967.

SN 294,874. Welles Products Corporation, Roscoe, Ill. Filed Apr. 3, 1968.

For Water and Waste Water Treatment Equipment—Namely, Propeller-Driven Pump Units for Cooling and Aerating Water in Open or Closed Areas, Such as Lakes, Ponds, Canals, and Like Bodies of Water (Int. Cl. 11).
First use July 17, 1963.

SN 300,745. Ryder Supply Company, Chambersburg, Pa. Filed June 18, 1968.

BONITA

Owner of Reg. No. 764,901.
For Silage Distributor (Int. Cl. 7).
First use Sept. 15, 1967.

SN 303,688. Liqui-Box Corporation, Columbus, Ohio. Filed July 26, 1968.

LIQUI-CASE

For Machine Which Places Two 10-Quart Packages in Wire Cases (Int. Cl. 7).
First use Aug. 13, 1965.

SN 303,992. Griffin Wellpoint Corporation, New York, N.Y. Filed July 31, 1968.

For Soil Dewatering Equipment—Namely, Wellpoints, Wellpoint Pumps, Hole Punchers, and Parts Thereof (Int. Cl. 7).
First use on or before Jan. 2, 1947.

SN 304,693. Lathan Manufacturing Co., Redwood City, Calif. Filed Aug. 8, 1968.

Timesaver

For Apparatus for Removing Skins From Sausages (Int. Cl. 7).
First use July 19, 1968.

SN 305,348. The Seagrave Corporation, Middleboro, Mass. Filed Aug. 16, 1968.

TOP-TROL

For Powerized, Remote Control Aerial Ladders (Int. Cl. 7).
First use May 4, 1968.

SN 305,394. Bach Machine Company, Martinsville, Va. Filed Aug. 19, 1968.

BACH

Owner of Reg. No. 779,214.
For Sanding Machines (Int. Cl. 7).
First use July 9, 1963.

SN 305,671. Pinking Shears Corporation, New York, N.Y. Filed Aug. 21, 1968.

PINK-RITE

Owner of Reg. No. 436,122.
For Pinking Shears (Int. Cl. 8).
First use 1938.

SN 305,700. The Warren Rupp Company, Mansfield, Ohio. Filed Aug. 22, 1968.

SANDPIPER

For Air Operated Diaphragm Pumps, Other Than Pumps Intended To Be Used in Conjunction With Dredges (Int. Cl. 7).
First use in or about July 1968.

SN 305,744. Practical Manufacturing Company, New York, N.Y. Filed Aug. 22, 1968.

POWERMASTER

For Metal Parts Washing Machines, Degreasing Machines, and Parts Washers (Int. Cl. 7).
First use 1946.

SN 305,969. Oneida Ltd., Oneida, N.Y. Filed Aug. 26, 1968.

WINDRIFT

For Stainless Steel Flatware (Int. Cl. 8).
First use Aug. 7, 1968.

SN 306,825. Tyton Corporation of America, Metuchen, N.J. Filed Sept. 6, 1968.

TYTON

For Cable Binding Systems, Strapping, and Cable Markers (Int. Cl. 7).
First use July 24, 1967.

SN 315,181. Industra Products, Inc., Fort Wayne, Ind. Filed Dec. 26, 1968.

SIMO

For Automatic Coil Winding, Wedging and Placing Machines (Int. Cl. 7).
First use Sept. 30, 1968.

Class 26—Measuring and Scientific Appliances

SN 247,001. Cabot Corporation, Boston, Mass. Filed June 1, 1966.

ABSORPTOMETER

For Instrument Designed To Measure With Precision the Absorption Characteristics of Pigments (e.g. Carbon Black, Titanium Dioxide, Mineral Pigments and Fillers) and Particularly the Quantities of Oil Absorbed by Different Commercial Grades of a Pigment (Int. Cl. 9).
First use Jan. 31, 1964.

SN 270,547. Brown, Boveri & Cie, Aktiengesellschaft, Mannheim-Käfertal, Germany. Filed May 3, 1967.

PROMENTA SCOLAR

Priority claimed under Sec. 44(d) on German application filed Nov. 30, 1966; Reg. No. 828,970, dated Jan. 25, 1967.
For Electrical Teaching Apparatus for Visual and Audio Presentation of Programmed Instructions (Int. Cl. 9).

SN 274,589. Cryogenic Associates, Inc., Indianopolis, Ind. Filed June 23, 1967.

CRYOGENIC ASSOCIATES

The lining is included as part of the mark and does not indicate color. Applicant disclaims the terms "Cryogenic" and "Associates" apart from the mark as shown.
For Cryogenic Appliances and Parts Thereof, and Instruments and Accessories for Use Therewith—Namely, Cryogenic Dewars, Cryostats, Controllers for Cryogenic Fluids, Cryogenic Fluid Temperature Sensing, Measuring and Flow Controlling Instruments, and Insulated Cryogenic Conduits and Plumbing Fixtures (Int. Cl. 9).
First use on or about Apr. 5, 1966.

SN 282,147. Tesa S.A., Vaud, Switzerland. Filed Oct. 9, 1967.

INOTEST

Owner of Swiss Reg. No. 209,540, dated Mar. 16, 1965.
For Instrument for Making Comparative Measurements of Large Inner and Outer Dimensions—Namely, a Measuring Gauge (Int. Cl. 9).

SN 289,890. Graflex, Inc., Rochester, N.Y. Filed Jan. 30, 1968.

CARREL MATE

Applicant disclaims the word "Carrel" apart from the mark as shown.
For Viewers for Photographic Film Strips (Int. Cl. 9).
First use Dec. 20, 1967.

SN 290,653. Robert René Durand-Vienne, Noisy-Le-Roi, Yvelines, France. Filed Feb. 8, 1968.

DATA-FEED

Priority claimed under Sec. 44(d) on French Reg. No. 728,126, dated Oct. 27, 1967.
For Data Acquisition, Handling and Processing Systems for Electronic Computers (Int. Cl. 9).

SN 290,654. Robert René Durand-Vienne, Noisy-Le-Roi, Yvelines, France. Filed Feb. 8, 1968.

F.E.E.D.

Owner of French Reg. No. 725,500, dated Jan. 6, 1967.
For Input and Output Terminal Units for Electronic Computers (Int. Cl. 9).

SN 293,533. Logetronics, Inc., Springfield, Va. Filed Mar. 18, 1968.

LOGECOLOR

Owner of Reg. Nos. 616,530, 804,234, and others.
For Electronic Photographic Color Printer and Reproducer (Int. Cl. 9).
First use Feb. 20, 1968.

SN 294,039. General Nucleonics, Inc., Columbus, Ohio. Filed Mar. 25, 1968.

SENSORMATIC

For Sensors, Such as Magnetometers, Used for Detecting Magnetic Fields Produced by Magnetized Materials Attached to Objects or Persons To Be Protected Against Theft or Mislocation (Int. Cl. 9).
First use Sept. 19, 1962.

SN 295,497. Bach Auricon, Inc., Los Angeles, Calif. Filed Apr. 12, 1968.

SUPER 1200

For Photographic and Sound-Recording Equipment—Namely, Sound-on-Film Cameras, Photographic Lenses, Ground-Glass Focusing System, View Finders, Sound-on-Film Recording Amplifiers, Sound-Proof Camera Housings, and Film Magazines, Carrying Cases, and Trunks Therefor (Int. Cl. 9).
First use prior to February 1952.

SN 297,155. Abbott Laboratories, North Chicago, Ill. Filed May 2, 1968.

PERTGEN

For Adsorption Column Containing a Radioactive Substance for Separating Clinically Useful Radioactive Isotopes (Int. Cl. 9).
First use Mar. 7, 1968.

SN 299,136. Information Handling Services, Inc., Englewood, Colo. Filed May 27, 1968.

SATELLITE

For Microfilm Viewing Apparatus (Int. Cl. 9).
First use Feb. 13, 1968.

SN 299,853. Metalphoto Corporation, Cleveland, Ohio. Filed June 6, 1968.

INSTAPLATE

For Photographic Processing Machine To Expose, Develop and Fix Images in Photosensitive Material (Int. Cl. 9).
First use Mar. 1, 1965.

SN 300,046. Addmaster Corporation, San Gabriel, Calif. Filed June 10, 1968.

CASHMASTER

The drawing is lined for the color silver. Owner of Reg. No. 852,291.
For Cash Registers (Int. Cl. 9).
First use on or about May 20, 1968.

SN 300,170. Bull & Roberts, Inc., Murray Hill, N.J. Filed June 11, 1968.

AQUALERT

For Oil Detection System—Namely, Sensing Chambers, With Ultraviolet Lamp and Sensor, Control Box To Be Used in Association Therewith, and Accessories Therefor (Int. Cl. 9).
First use Feb. 19, 1968.

SN 300,741. Photon, Inc., Wilmington, Mass. Filed June 18, 1968.

PROCESSMASTER

For Automatic Photographic Film or Paper Processors (Int. Cl. 9).
First use on or about June 10, 1968.

SN 304,946. Metro-Tel Corp., Westbury, N.Y. Filed Aug. 12, 1968.

Metro Tel

Owner of Reg. Nos. 740,535, and 765,395.
For Communication Monitoring Sets, Test and Measuring Sets for Electronic Communication Systems, and Polar Relay Test Sets (Int. Cl. 9).
First use during the fall of 1964; on or about June 1, 1960 as to the mark "Metro-Tel."

SN 306,474. Foster Grant Co., Inc., Leominster, Mass. Filed Sept. 3, 1968.

COMFORMATIC

For Sunglasses (Int. Cl. 9).
First use in or about October 1967.

SN 307,615. Hugh J. MacCotter, Jacksonville Beach, Fla. Filed Sept. 18, 1968.

MAGNETOMATIC

For Pipe Detector Unit for Locating Buried Pipe (Int. Cl. 9).
First use Dec. 24, 1967.

SN 307,877. Tex-O-Con Optics, Inc., Dallas, Tex. Filed Sept. 20, 1968.

PERM-O-DOT

For Contact Lenses (Int. Cl. 9).
First use at least as early as Feb. 7, 1968.

SN 309,942. Alco Automotive Industries, Inc., d.b.a. Alco Automotive Products, Chicago, Ill. Filed Oct. 18, 1968.

DIAG-MATIC

For U-Joint Testers (Int. Cl. 9).
First use Feb. 27, 1968.

Class 27 — Horological Instruments

SN 297,049. Edison Brothers Stores, Inc., St. Louis, Mo. Filed May 1, 1968.

Contour

For Watches (Int. Cl. 14).
First use Mar. 19, 1968.

SN 299,201. B & B Jewelry Sales, Inc., Houston, Tex. Filed May 28, 1968.

Chronotex

For Watches (Int. Cl. 14).
First use on or about Aug. 15, 1967.

SN 302,984. Robert Tabakow, Inc., New York, N.Y. Filed July 17, 1968.

CLAUDE PASTEUR

The name "Claude Pasteur" is fanciful and is not intended to be the name of any specific individual.
For Watches (Int. Cl. 14).
First use May 23, 1968.

SN 309,511. Croton Watch Co., Inc., Croton-on-Hudson, N.Y. Filed Oct. 14, 1968.

ALEUTIAN

For Watches (Int. Cl. 14).
First use Sept. 10, 1968.

Class 28 — Jewelry and Precious-Metal Ware

SN 289,676. Hamilton Watch Company, Lancaster, Pa. Filed Jan. 26, 1968.

MICHELE

For Sterling Silver Flatware (Int. Cl. 8).
First use Dec. 19, 1967.

SN 296,832. Kestenman Bros. Mfg. Co., Providence, R.I. Filed Apr. 29, 1968.

RIST-KOMFORT

For Metal Bracelets, Clasps, and Buckles in the Nature of Jewelry (Int. Cl. 14).
First use January 1936.

SN 300,990. Rogers, Lunt & Bowlen Company, d.b.a. Lunt Silversmiths, Greenfield, Mass. Filed Oct. 18, 1968.

BELVEDERE

For Silver Plated Holloware (Int. Cl. 14).
First use Aug. 20, 1968.

Class 29 — Brooms, Brushes, and Dusters

SN 299,452. First Rigid Foam Inc., Clinton, Mass. Filed May 31, 1968.

'CELCORE'

For Brush Blocks and Backs Made of Structural Foam (Int. Cl. 21).
First use Apr. 30, 1968.

SN 306,159. Modglin-Maid, Inc., Hazlehurst, Miss. Filed Aug. 28, 1968.

Magnestatic

The drawing is lined for the colors yellow and red.
For Plastic Brooms, Cotton Dust Mops, Nylon Dust Mops, and Rayon Dust Mops (Int. Cl. 21).
First use Apr. 30, 1968.

Class 30 — Crockery, Earthenware, and Porcelain

SN 287,513. Azuma Trading Co., Inc., New York, N.Y. Filed Dec. 26, 1967.

AZUMA

The Japanese word "Azuma" translated means "east."
For China and Earthen Ware—Namely, Breakfast, Lunch, Dinner and Tea Sets, Individual and Memorial Plates, Cups and Saucers, Vases, Mugs, Tea Pots, Tea Tiles, Pitchers, and Basins (Int. Cl. 21).
First use Nov. 6, 1967.

SN 294,663. Rosenthal Aktiengesellschaft, Selb, Bavaria, Germany. Filed Apr. 1, 1968.

CERAFLAM

Priority claimed under Sec. 44(d) on German application filed Oct. 13, 1967; Reg. No. 848,977, dated Aug. 23, 1968.
For Ceramic Cookware (Int. Cl. 21).

Class 31 — Filters and Refrigerators

SN 261,226. John E. Mitchell Company, Inc., Dallas, Tex. Filed Dec. 21, 1966.

ICEE

Owner of Reg. No. 724,170.
For Refrigerated Dispensing Machines for Beverages (Int. Cl. 11).
First use Aug. 25, 1960.

Class 32 — Furniture and Upholstery

SN 278,406. Al Nyman & Son, Inc., New York, N.Y. Filed Aug. 16, 1967.

alco

For Make-Up Mirrors, Book Ends, Book Rests, Book Racks, and Collapsible Book Supports and Separators (Int. Cls. 16 and 20).
First use Nov. 18, 1966; June 12, 1962, in another form.

SN 288,214. Goodwood Investments Ltd., Nassau, Bahamas. Filed Jan. 5, 1968.

REGAL CROWN

Owner of U.S. Reg. No. 787,251.
For Novelty Pillows (Int. Cl. 20).
First use at least as early as July 29, 1967; in commerce at least as early as July 29, 1967.

Class 33 — Glassware

SN 255,318. Hodes-Lange Corporation, North Bergen, N.J. Filed Sept. 28, 1966.



The mark comprises a red band encircling the bulb of the ampul.
For Ampuls Formed of Glass (Int. Cl. 21).
First use Oct. 19, 1965.

SN 308,684. Ford Motor Company, Dearborn, Mich. Filed Oct. 2, 1968.

CHROMALITE

For Glass Sheeets (Int. Cl. 21).
First use on or about June 7, 1968.

Class 34 — Heating, Lighting, and Ventilating Apparatus

SN 292,796. The Lincoln Electric Company, Cleveland, Ohio. Filed Mar. 8, 1968.

JET-LH

Owner of Reg. Nos. 590,581 and 635,789.
For Welding Electrodes (Int. Cl. 9).
First use at least by Dec. 1, 1967.

SN 308,177. Air Reduction Company, Incorporated, New York, N.Y. Filed Sept. 25, 1968.

STINGER

For Electric Welding Machines (Int. Cl. 7).
First use Mar. 22, 1968.

Class 35 — Belting, Hose, Machinery Packing, and Nonmetallic Tires

SN 284,803. C. E. Conover & Co., Inc., Fairfield, N.J. Filed Nov. 14, 1967.

REVONOC

For Modified Polytetrafluoroethylene Made Into Sealing Rings for Both Static and Dynamic Sealing (Int. Cl. 17).
First use January 1962.

SN 301,790. Uniroyal, Inc., New York, N.Y. Filed July 1, 1968.

WINTERTRAC

Owner of Reg. No. 525,052.
For Pneumatic Tires (Int. Cl. 12).
First use June 24, 1968.

SN 309,759. Goodyear Rubber & Supply Co., Inc., Portland, Oreg. Filed Oct. 16, 1968.

FABRI-CON

For Fabricated Rubber and Rubber-Like Products—Namely, Cleated, Flanged, V-Guide and Other Conveyor Belts for Food-Handling and Unlimited Industrial Usage; Gaskets, O-Rings, V-Belts, and Sleeves for All Industrial Applications (Int. Cls. 7 and 17).
First use Sept. 1, 1968.

SN 316,573. National Cooperatives, Inc., Albert Lea, Minn. Filed Jan. 15, 1969.

AGRI-POWER

For Tires (Int. Cl. 12).
First use at least as early as July 31, 1967.

Class 36 — Musical Instruments and Supplies

SN 290,262. Dearborn Records, Inc., Dearborn, Mich. Filed Feb. 5, 1968.



Applicant disclaims the word "Records" apart from the mark as shown.
For Phonograph Records (Int. Cl. 9).
First use Dec. 4, 1967.

SN 292,816. Amalio Santos, d.b.a. Borinquen Records Company, Brooklyn, N.Y. Filed Mar. 8, 1968.



Applicant disclaims the word "Records" apart from the mark as shown.
For Phonograph Records (Int. Cl. 9).
First use June 19, 1961.

SN 299,978. Goodway, Inc., Philadelphia, Pa. Filed June 7, 1968.

Goer8

Applicant disclaims the numeral "8" apart from the mark as shown.
For Portable Tape Cartridge Players (Int. Cl. 9).
First use Dec. 22, 1967.

SN 300,621. Remo Records Corp., New York, N.Y. Filed June 17, 1968.

SONO RADIO

For Phonograph Records (Int. Cl. 9).
First use Sept. 30, 1966.

SN 302,063. Fania Records, Inc., New York, N.Y. Filed July 5, 1968.

FANIA

For Phonograph Records (Int. Cl. 9).
First use June 1, 1964.

SN 302,228. Dubreq Studios Limited, London, England. Filed July 8, 1968.

STYLOPHONE

For Electronic Organs (Int. Cl. 15).
First use Jan. 24, 1968; in commerce Apr. 12, 1968.

SN 303,455. Uptite Records, Inc., New York, N.Y. Filed July 23, 1968.



The mark consists of a fanciful design of the word "Uptite."
For Phonograph Records (Int. Cl. 9).
First use May 1, 1968.

SN 308,758. Dan Armstrong Music, Inc., New York, N.Y. Filed Oct. 3, 1968.

DAN ARMSTRONG

"Dan Armstrong" is the name of the president of applicant's corporation, whose consent is of record.
For Bass and Guitar Strings (Int. Cl. 15).
First use June 15, 1967.

SN 309,438. Certron Corporation, Anaheim, Calif. Filed Oct. 11, 1968.

VIVID SOUNDS

Applicant disclaims the word "Sounds" apart from the mark as shown.
For Prerecorded Magnetic Tape in a Cassette (Int. Cl. 9).
First use Sept. 2, 1968.

SN 309,877. Mercury Record Productions, Inc., Chicago, Ill. Filed Oct. 17, 1968.

LIMELIGHT

Owner of Reg. No. 666,889.
For Tape Players and Phonographs, and Tape Recorders and Tape Players (Int. Cl. 9).
First use Aug. 20, 1968.

SN 312,382. The Estate of Paul H. Rowe, Sr., Los Angeles, Calif. Filed Nov. 18, 1968.

FLEMISH SYMPHONY

Without prejudice to applicant's common law rights, applicant disclaims the word "Symphony" apart from the mark as shown.
For Carillons (Int. Cl. 15).
First use Mar. 22, 1968.

SN 313,404. Lyle Fain, d.b.a. Fedco Audio Labs, Providence, R.I. Filed Dec. 2, 1968.



Applicant disclaims the word "Records" apart from the mark as shown.
For Phonograph Records (Int. Cl. 9).
First use on or about Nov. 7, 1968.

SN 314,304. Ernie Ball, Inc., Newport Beach, Calif. Filed Dec. 12, 1968.

SLINKY

For Strings for Musical Instruments—Namely, Guitars (Int. Cl. 15).
First use in or about August 1963.

Class 37 — Paper and Stationery

SN 263,376. Jacques Kreisler Manufacturing Corporation, North Bergen, N.J. Filed S.R. Jan. 26, 1967; Am. P.R. Mar. 12, 1968.

Kreisler

Owner of Reg. Nos. 642,339 and 821,852.
For Writing Instruments, To Wit, Mechanical Pencils and Ball Point Pens (Int. Cl. 16).
First use Apr. 27, 1966.

SN 280,075. Lindy Pen Company, Incorporated, North Hollywood, Calif. Filed Sept. 11, 1967.

SILVER QUILL

Applicant disclaims the word "Quill" apart from the mark as shown.
For Ballpoint Pens (Int. Cl. 16).
First use Apr. 24, 1967.

SN 281,199. Imperial Wallpaper Mill, Inc., Cleveland, Ohio. Filed Sept. 26, 1967.

SO-E-Z

For Paper Wallcoverings (Int. Cl. 27).
First use Jan. 15, 1967.

SN 283,773. Day-Timer, Inc., Allentown, Pa. Filed Oct. 31, 1967.

Pocket
DAY-TIMER

Owner of Reg. Nos. 706,672, 846,278, and others.
For Binders and Fillers Therefor (Int. Cl. 16).
First use Oct. 15, 1960.

SN 285,906. Chase Bag Company, New York, N.Y. Filed Nov. 30, 1967.

CHASECOTE

For Substrate Sheet Material Coated on One or Both Sides, and Substrate Sheet Materials Laminated and/or Coated, in Roll Form, Used in the Production of Various Types of Pouches and Bags (Int. Cl. 16).
First use Dec. 1, 1961.

SN 290,710. Bradner Central Company, Chicago, Ill. Filed Feb. 9, 1968.



Owner of Reg. No. 769,948.
For Writing Tablets, Note Books, Composition Books, Blank Spelling Books, Music Books, Drawing Books, Stenographic Notebooks, Memorandum Books, Fillers, Filler Pads for Use With Loose Leaf Books, Typewriter Paper and Second Sheets, Both Padded and Not Padded, Scratch Pads, Index Cards, Index Guides, Art Paper, Packages of Note Sheets and/or Envelopes, Box Stationery Containing Writing Paper and Envelopes, and Folders for Containing Paper and/or Envelopes (Int. Cl. 16).
First use Jan. 1, 1968.

SN 205,392. Venus Esterbrook Corporation, New York, N.Y. Filed Apr. 10, 1968.

PSYCHA-DOODLES

For Color Markers (Int. Cl. 16).
First use Feb. 15, 1968.

SN 299,415. G. J. Aigner Company, Chicago, Ill. Filed May 31, 1968.

AICO

Owner of Reg. Nos. 244,459, 602,387, and 602,388.
For Alphabetical, Numerical, and Insertable Stock Indexes; Custom Made Indexes; Blank Division Sheets for Loose Leaf Books; Plain and Printed Reinforced Paper; Alphabetical and Numerical Card Guides; Insertable Strip Index Tabbing; Insertable Pre-Cut Index Tabs; Plain and Insertable Tabbed Guides and Holders and Jackets for Data Processing Cards; Guides for Letters and Legal Forms; Check Guides for Banks; and Indexes and Blank Paper for Bound Books and Catalogs (Int. Cl. 16).
First use Mar. 15, 1922.

SN 301,060. Gladwin Industries, Inc., Atlanta, Ga. Filed June 21, 1968.

Ryton

For Re-Usable Plastic Work Sheets Having an Erasable Marking Surface (Int. Cl. 16).
First use on or about Jan. 11, 1968.

SN 306,317. Youth Education Systems, Inc., Stamford, Conn. Filed Aug. 30, 1968.

YES SIR!

Owner of Reg. No. 671,572.
For Typing Paper, Reproduction Paper, Overlay Paper, and Paper for General Business Use (Int. Cl. 16).
First use June 1967.

SN 306,797. The Northwest Paper Company, Cloquet, Minn. Filed Sept. 6, 1968.

NOROPAQUE

For Printing Papers (Int. Cl. 16).
First use Nov. 4, 1964.

SN 307,843. International Paper Company, New York, N.Y. Filed Sept. 20, 1968.

VAL-U-COAT

For Coated Paperboard for Folding Cartons (Int. Cl. 16).
First use Aug. 20, 1968.

SN 308,050. Tension Envelope Corporation, Kansas City, Mo. Filed Sept. 23, 1968.

RAK-BAK

For Envelopes (Int. Cl. 16).
First use on or about June 5, 1968.

SN 310,658. Georgia-Pacific Corporation, Portland, Oreg. Filed Oct. 28, 1968.

CORMATIC

For Toilet Tissue (Int. Cl. 16).
First use Oct. 23, 1967.

SN 314,496. Kimberly-Clark Corporation, Neenah, Wis. Filed Dec. 16, 1968.

KLEENEX BOUTIQUE

For Absorbent Paper Tissue Products—Namely, Facial Tissue, Toilet Tissue, and Towels (Int. Cl. 16).
First use Mar. 27, 1967.

Class 38—Prints and Publications

SN 270,039. American Chemical Society, Washington, D.C. Filed Apr. 26, 1967.

ENVIRONMENTAL SCIENCE & TECHNOLOGY

For Monthly Magazine Emphasizing Water, Air, and Waste Chemistry (Int. Cl. 16).
First use January 1967.

SN 278,210. Harrison Fotochrome Corp., Miami, Fla. Filed Aug. 14, 1967.



For Photographic Prints, Both Negative and Positive Prints (Int. Cl. 16).
First use January 1963.

SN 281,615. Lucille Pennington, d.b.a. RID (Religion in Dieting), Chicago, Ill. Filed Oct. 2, 1967.



RELIGION IN DIETING

The term "Religion in Dieting" is disclaimed apart from the mark as shown.
For Inspirational Booklet for Use as an Aid in Dieting (Int. Cl. 16).
First use Dec. 5, 1966.

SN 288,534. Emil John Pawlowski, M.D., Wakefield, Mass. Filed Jan. 10, 1968.

PATH TO PERMANENT PEACE

For Series of Books (Int. Cl. 16).
First use January 1956.

SN 294,953. Mine Publications, Inc., Minneapolis, Minn. Filed Apr. 4, 1968.

JOY

For Magazine for Children of Elementary Age (Int. Cl. 16).
First use Apr. 25, 1967.

SN 302,370. Agence France-Presse, New York, N.Y. Filed July 10, 1968.

A.F.P.

For News Dispatches (Int. Sl. 16).
First use on or about June 1, 1945.

SN 302,882. The Macmillan Company, New York, N.Y. Filed May 22, 1968.

ENGLISH 900

No registration rights are claimed for the term "English," apart from the mark as shown, but applicant waives none of its common law rights in the mark or any feature thereof.
For Textbooks, Workbooks, and Supplementary Readers (Int. Cl. 16).
First use Feb. 5, 1964.

SN 303,845. Lloyd D. Tracy, d.b.a. Vista Insurance Agency, Vista, Calif. Filed July 29, 1968.

INSURAQUIZ

For Magazine column Devoted to Matters Relating to Insurance (Int. Cl. 16).
First use July 16, 1964.

SN 306,014. Board of Publication of the Methodist Church, Inc., d.b.a. The Graded Press, Nashville, Tenn. Filed Aug. 22, 1968.

REAL

For Magazine Published Quarterly, and Teaching Guide for Class Teachers in Connection With the Use of Such Magazine (Int. Cl. 16).
First use May 7, 1968.

SN 306,015. Board of Publication of the Methodist Church Inc., d.b.a. The Graded Press, Nashville, Tenn. Filed Aug. 22, 1968.

NEW CREATION

For Magazine Published Quarterly, and Teaching Guide for Class Leaders in Connection With the Use of Such Magazine (Int. Cl. 16).
First use May 7, 1968.

SN 308,140. Radio and Television Packagers, Inc., New York, N.Y. Filed Sept. 24, 1968.

ANiMATOONS

For Motion Picture Involving Puppetry or Animation, or a Combination of Both (Int. Cl. 16).
First use Feb. 28, 1963.

SN 308,913. Norcross, Inc., New York, N.Y. Filed Oct. 4, 1968.

ROSE PANORAMA

For Greeting Cards (Int. Cl. 16).
First use Feb. 1, 1968.

SN 311,667. Chamber of Commerce of Metropolitan Baltimore, Inc., Baltimore, Md. Filed Nov. 8, 1968.

Baltimore

For Magazines (Int. Cl. 16).
First use October 1910.

Class 39—Clothing

SN 274,034. Virginia Maid Hosiery Mills, Inc., Pulaski, Va. Filed June 16, 1967.

SUPERWEAR

For Ladies' Hosiery (Int. Cl. 25).
First use Nov. 5, 1962.

SN 274,282. Leila Fashions, Inc., Miami, Fla. Filed June 2, 1967.

Leila Fashions SPORTSWEAR

Applicant disclaims the words "Fashions" and "Sportswear" apart from the mark as shown.
For Shifts, Slacks, Blouses, Slack and Blouse Sets, and Dresses (Int. Cl. 25).
First use Jan. 2, 1965.

SN 277,879. Miss Branell, New York, N.Y. Filed Aug. 9, 1967.

Miss Branell

Owner of Reg. No. 656,479.
For Ladies' Dresses, Suits, Blouses, Sweaters, Skirts, and Coats (Int. Cl. 25).
First use June 16, 1967.

SN 281,790. Gowns By Priscilla of Boston, Inc., Boston, Mass. Filed Oct. 4, 1967.

Miss Betsy

For Wedding Gowns and Bridesmaid Dresses (Int. Cl. 25).
First use July 28, 1959.

SN 284,649. Seymour Gassel, d.b.a. H. Gassel & Co., Chicago, Ill. Filed Nov. 13, 1967.

MICKEY-ETTE

Owner of Reg. No. 173,760.
For Dresses (Int. Cl. 25).
First use Aug. 10, 1967.

SN 284,890. Becton, Dickinson and Company, East Rutherford, N.J. Filed Nov. 15, 1967.

POLY-D

Owner of Reg. No. 718,285.
For Boots (Int. Cl. 25).
First use on or about June 7, 1967.

SN 285,411. Fortune Designs, Inc., Dallas, Tex. Filed Nov. 22, 1967.

JO LESTER
misses from dallas

The name "Jo Lester" is fanciful. The words "Misses From Dallas" are disclaimed apart from the mark. The drawing is lined for the color gold, but no claim is made as to color.
For Misses' and Junior Dresses (Int. Cl. 25).
First use Dec. 1, 1966.

SN 286,273. Loyal Togs Inc., New York, N.Y. Filed Dec. 5, 1967.

LOYAL TOGS

The term "Togs" is claimed only in connection with the mark as shown.
For Children's Clothing—Namely, Boys' and Girls' Slacks, Butcher Boy Blouse and Slack Sets, Jumpsuits, Playdresses, and Bloomers (Int. Cl. 25).
First use Nov. 10, 1967.

SN 286,972. Fiorella's Inc., New York, N.Y., assignee of Mr. Fiorello, Inc., New York, N.Y. Filed Dec. 15, 1967.

MR FIORELLO

Owner of Reg. No. 722,094.
For Men's Shoes (Int. Cl. 25).
First use May 28, 1967.

SN 287,187. Toni California, Los Angeles, Calif. Filed Dec. 18, 1967.

Toni CALIFORNIA

The word "California" is disclaimed apart from the mark as a whole.
For Women's Apparel, Consisting of Dresses, Suits, Trousers, Blouses, and Skirts (Int. Cl. 25).
First use Oct. 12, 1967.

SN 287,188. Toni California, Los Angeles, Calif. Filed Dec. 18, 1967.

Anthoni CALIFORNIA

The word "California" is disclaimed apart from the mark as a whole.
For Women's Apparel, Consisting of Dresses, Suits, Trousers, Blouses and Skirts (Int. Cl. 25).
First use Oct. 12, 1967.

SN 288,614. Ilene Goldman, New York, N.Y., Filed Jan. 11, 1968.



For Children's Dresses (Int. Cl. 25).
First use Dec. 20, 1967.

SN 289,547. Uniforms By Ostwald, Inc., Staten Island, N.Y. Filed Jan. 24, 1968.

OSTIQUE

For Fabrics Made Up as Uniforms (Int. Cl. 25).
First use Apr. 4, 1967.

SN 290,390. Guicher & Coste, Societe Anonyme, Paris, France. Filed Feb. 6, 1968.

PODIUM

Owner of French Reg. No. 724,030, dated Dec. 7, 1966.
For Men's and Young Men's Clothing—Namely, Suits, Coats, Overcoats, Trousers, Raincoats, and Waistcoats; Men's and Young Men's Haberdashery, Namely, Shirts, Cardigans, Sweaters, Ties, and Belts (Int. Cl. 25).

SN 290,604. Robert Hall Clothes, Inc., d.b.a. Robert Hall Clothes, New York, N.Y. Filed Feb. 8, 1968.

CLEAN SWEEP

For Men's Slacks and Trousers (Int. Cl. 25).
First use on or about Jan. 25, 1968.

SN 291,168. McCrory Corporation, New York, N.Y. Filed Feb. 15, 1968.

Royal Choice

Owner of Reg. No. 739,755.
For Brassieres (Int. Cl. 25).
First use 1958.

SN 291,529. Ricardo, Inc., Miami Springs, Fla. Filed Feb. 20, 1968.

RICARDO

For Women's Hosiery (Int. Cl. 25).
First use on or about Aug. 7, 1967.

SN 291,640. Walter S. Schwartz and Arthur Schwartz (joint owners), d.b.a. Fredrica, New York, N.Y. Filed Feb. 21, 1968.

SHIM

For Fur Neckwear (Int. Cl. 25).
First use as early as Dec. 29, 1967.

SN 292,255. Blauer Mfg. Co., Inc., Boston, Mass. Filed Mar. 1, 1968.

PYROFITE

For Raincoats (Int. Cl. 25).
First use at least as early as Dec. 16, 1967.

SN 293,327. Fritz M. Tubke K.G., Berlin, Germany. Filed Mar. 14, 1968.



Owner of German Reg. No. 671,780, dated May 20, 1954.
For Cravats, Scarves, Knitted Ties, Handkerchiefs, Pajamas, Housecoats, Bathrobes, Bathing Suits, Suspenders, Gloves, Belts, Hosiery, Hats and Caps All Being Exclusively for Men (Int. Cl. 25).

SN 297,922. Ingenue of California, Inc., d.b.a. Ingenue of California, Los Angeles, Calif. Filed May 13, 1968.



For Women's, Juniors', and Children's Dresses (Int. Cl. 25).
First use at least as early as January 1966.

SN 297,973. Cluett, Peabody & Co., Inc., New York, N.Y. Filed May 13, 1968.

GRAND BAROQUE

For Dress Shirts (Int. Cl. 25).
First use Oct. 23, 1963.

SN 299,008. M. M. Ebert & Co. Inc., New York, N.Y. Filed May 24, 1968.

MAGIC FLIP

For Girdles, Panty Girdles, Hose, and Pantyhose (Int. Cl. 25).
First use Apr. 10, 1968.

SN 299,941. Robert Bruce, Inc., Philadelphia, Pa. Filed June 7, 1968.

WOOL O' MIST

Applicant disclaims the word "Wool" apart from the mark as shown.
For Men's Sweaters and Knit Shirts (Int. Cl. 25).
First use March 1968.

SN 300,191. William Greenwald, Incorporated, Bridgeport, Conn. Filed June 11, 1968.

BAY STREET LTD.

For Men's and Boys' Sport Coats, Slacks, Pants, Sweaters, Shirts, Gloves, and Swimwear (Int. Cl. 25).
First use Apr. 15, 1968.

SN 301,097. John B. Stetson Company, Philadelphia, Pa. Filed June 21, 1968.

OLD MASTERS

Owner of Reg. No. 738,696.
For Headwear—Namely, Hats and Caps; Footwear—Namely, Boots, Shoes and Slippers; Suits; Vests; Coats of All Types; Sweaters; Robes; Capes; Rainwear; Trousers; Shorts; Underwear; Hosiery; Sleepwear; Swimwear; Neckwear; Belts; Gloves; and Handkerchiefs (Int. Cl. 25).
First use 1929.

SN 302,139. Sylva Manufacturing Corp., New York, N.Y. Filed July 5, 1968.

SKAT-A-BOUTS

For Children's Jump Suits, Jackets, Sweat Shirts, and Pants (Int. Cl. 25).
First use May 10, 1968.

SN 302,927. Dover Shirt Co., Inc., New York, N.Y. Filed July 17, 1968.

Ferrari

For Men's and Boys' Dress and Sport Shirts; Ladies' Blouses, Man-Tailored Dresses, and Neckwear (Int. Cl. 25).
First use June 27, 1968.

SN 302,928. Dover Shirt Co., Inc., New York, N.Y. Filed July 17, 1968.

Lord Ferrari

The name "Lord Ferrari" is fanciful.
For Men's and Boys' Dress and Sport Shirts; Ladies' Blouses, Man-Tailored Dresses, and Neckwear (Int. Cl. 25).
First use June 27, 1968.

SN 303,206. Teddy Lyn Manufacturing Co., Alhambra, Calif. Filed July 19, 1968.

TEDDY LYN

"Teddy I yn" is a fanciful name.
For Hospital Gowns (Int. Cl. 25).
First use Aug. 1, 1967.

SN 303,616. S. S. Kresge Company, Detroit, Mich. Filed July 25, 1968.

THOMAS ATWOOD

The name "Thomas Atwood" is fictitious.
For Shoes (Int. Cl. 25).
First use on or before Dec. 6, 1967.

SN 304,100. Malden Knitting Mills, d.b.a. Edgeworth Mills, Malden, Mass. Filed Aug. 1, 1968.



THE JAMAICAN

The term "Jamaican" is disclaimed apart from the mark as shown. The drawing is lined for the colors red, green, and yellow.
For Men's and Boys' Shirts (Int. Cl. 25).
First use Nov. 23, 1966.

SN 304,464. Gold, Inc., d.b.a. T.V. Bootees by Patee, Inc., Denver, Colo. Filed Aug. 6, 1968.

T.V. BOOTEE

No claim is made to the word "Bootee" apart from the mark as shown. Owner of Reg. No. 806,752.
For Cloth Bootees for Infants and Children (Int. Cl. 25).
First use on or about Jan. 15, 1954.

SN 304,841. Norman O. White, Fort Wayne, Ind. Filed July 15, 1968.

SLAKLOCK

For Trousers and Shirt Button-Down Strips Therefor (Int. Cl. 25).
First use Dec. 29, 1967.

SN 305,534. Davenshire Inc., Davenport, Iowa. Filed Aug. 20, 1968.

ADDISON EAST

For Women's Slacks, Shorts, Pants, and Sweaters (Int. Cl. 25).
First use on or about Aug. 7, 1968.

SN 305,535. Davenshire Inc., Davenport, Iowa. Filed Aug. 20, 1968.

BOARDWALK

For Women's Slacks, Shorts, Pants, and Sweaters (Int. Cl. 25).
First use on or about Aug. 6, 1968.

SN 306,050. Endicott Johnson Corporation, Endicott, N.Y. Filed Aug. 27, 1968.

TRAIL KING

For Utility and Work Shoes (Int. Cl. 25).
First use Nov. 1, 1967.

SN 306,258. Mamiye Brothers Inc., New York, N.Y. Filed Aug. 29, 1968.

VORNLOFT

For Polo Shirts, Blouses, Underwear, Stretch Tights, Slacks, and Shorts (Int. Cl. 25).
First use Aug. 1, 1968.

SN 306,396. Plymouth Mfg. Co., Boston, Mass. Filed Aug. 30, 1968.

PLYMGUARD

For Men's Rainwear (Int. Cl. 25).
First use Aug. 20, 1968.

SN 306,552. Country Bird, New York, N.Y. Filed Sept. 4, 1968.

Country bird

For Women's and Teens' Dresses, Robes, Jackets, Shifts, Jumpers, and Shirts (Int. Cl. 25).
First use Aug. 21, 1968.

SN 306,646. Curtis-Stephens-Embry Co., Inc., Reading, Pa. Filed Sept. 5, 1968.

JABBERWOCKS

For Girls' Shoes (Int. Cl. 25).
First use on or about Aug. 14, 1968.

SN 307,119. John Meyer of Norwich, Inc., Norwich, Conn. Filed Sept. 11, 1968.

TRUE GRIT

For Articles of Outer Wearing Apparel for Women and Young Women—Namely, Dresses, Skirts, Shirts, Blouses, Sweaters, and Trousers of Assorted Length (Int. Cl. 25).
First use Aug. 23, 1958.

SN 309,644. Barberini, Ltd., New York, N.Y. Filed Oct. 15, 1968.

BARBARELLA

For Ladies' Apparel—Namely, Suits, Coats, and Dresses (Int. Cl. 25).
First use on or about Oct. 1, 1968.

SN 309,959. Foremost-McKesson, Inc., d.b.a. American Sun Mark Company, New York, N.Y. Filed Oct. 18, 1968.

HELPING HANDS

For Household Utility Glove (Int. Cl. 25).
First use at least as early as Sept. 24, 1968.

SN 310,730. Jean Paul Creations, Inc., New York, N.Y. Filed Oct. 29, 1968.

JEAN PAUL CREATIONS

The term "Creations" is disclaimed apart from the mark as shown. The name "Jean Paul" is fanciful and not that of any particular living individual.
For Men's Wearing Apparel, i.e., Men's Jackets, Shorts, Ties, and Shirts (Int. Cl. 25).
First use Oct. 21, 1968.

SN 311,449. Seasport, Inc., Uncasville, Conn. Filed Nov. 6, 1968.



The word "Sportswear" is disclaimed apart from the mark as shown.
For Tennis Apparel, Beachwear, Gymwear, Jackets, Sweat Shirts, Knit Shirts, and Sweaters (Int. Cl. 25).
First use Aug. 19, 1968.

SN 312,763. Eileen Togs, Corp., New York, N.Y. Filed Nov. 21, 1968.

LOVE, EILEEN

For Women's, Teens', and Children's Sportswear—Namely, Shorts, Pants, Pants-Tops, Dresses, Skirts, Suits, and Vests, Blouses, and Shirts (Int. Cl. 25).
First use May 1, 1968.

SN 313,059. D'Orsay Mills, Inc., Reading, Pa. Filed Nov. 26, 1968.

HEATHERIB

Owner of Reg. No. 755,583.
For Men's Hosiery (Int. Cl. 25).
First use Aug. 9, 1968.

SN 313,214. Stevens-Bolton Corporation, New York, N.Y. Filed Nov. 27, 1968.

FANCYPANTS

Owner of Reg. No. 821,176.
For Women's Underpants (Int. Cl. 25).
First use Aug. 21, 1968; 1956 as to the mark "Fancipants."

Class 40—Fancy Goods, Furnishings, and Notions

SN 263,159. Beaconway Stores, Inc., Chelsea, Mass. Filed Jan. 24, 1967.

ROMAXE

Owner of Reg. No. 782,929.
For Needles, Buttons, Iron-On Patches, Sew-On Patches, Elastic Braid, and Knitting Accessories—Namely, Stitch Holders, Stitch Markers, Crochet Hooks, and Afghan Hooks (Int. Cl. 26).
First use at least as early as Mar. 1, 1966.

SN 269,607. Fashion Tress, Inc., Miami Beach, Fla. Filed Apr. 20, 1967.

LES CHEVEUX
By Fashion Tress

The words "Les Cheveux" mean "the hair" in French. Applicant disclaims the exclusive right to the use of the words "Les Cheveux" apart from the mark as shown.
For Ladies' Wigs and Hair Pieces (Int. Cl. 26).
First use on or about Mar. 6, 1967.

SN 291,216. Yardley of London, Inc., Totowa, N.J. Filed Feb. 15, 1968.

LASHERIE

For False Eyelashes (Int. Cl. 26).
First use Feb. 2, 1968.

SN 297,998. B. B. Greenberg Co., Cranston, R.I. Filed May 13, 1968.

Ballerina

For Ornamental Shoe Attachments—Namely, Bows and Buckles (Int. Cl. 26).
First use on or about Apr. 15, 1968.

SN 301,670. Amerace Corporation, New York, N.Y. Filed July 1, 1968.

THE COSMOPOLITANS

For Combs (Int. Cl. 21).
First use Feb. 19, 1968.

SN 305,453. Johnson & Johnson, d.b.a. Permacel, New Brunswick, N.J. Filed Aug. 19, 1968.

SUPER BONDEX

Owner of Reg. Nos. 435,827, 655,665, and others.
For Iron-On Patches (Int. Cl. 26).
First use July 26, 1968.

Class 42—Knitted, Netted, and Textile Fabrics, and Substitutes Therefor

SN 289,799. Gifu Seisen Kabushiki Kaisha, d.b.a. Gifu Dyeing Co., Ltd., Gifu-shi, Gifu-ken, Japan. Filed Jan. 29, 1968.

GIFUDYEING Co. LTD.

For Knitted, Netted, Woven or Non-Woven Textile Fabrics Used in Making Jackets, Suits, Coats, Japanese Style Clothing, Shirts, Underwear, Packing Cloth, Tent Cloth and Sail Cloth; and for Lining, Interlining, Upholstery, and Drapery Purposes (Int. Cl. 24).
First use Mar. 3, 1952; in commerce May 31, 1964.

SN 293,555. Mercury Mills, Inc., Dalton, Ga. Filed Mar. 18, 1968.

Mercury

For Rugs, Carpets, and Carpeting (Int. Cl. 27).
First use Mar. 22, 1966.

SN 294,925. Ely & Walker, Inc., Nashville, Tenn. Filed Apr. 4, 1968.

E & W

Owner of Reg. Nos. 45,582, 745,504, and others.
For Finished Sheets, Pillowcases, Blankets, Towels, Wash Cloths, Diapers, Mattress Pads, Pot Holders, Bedspreads, Drapes, Curtains, Rugs, Shower Curtains, and Vinyl Table Covering; Textile Fabrics in the Piece Suitable for Use in Mattresses, Pillows, Upholstered Furniture, Slip Covers, Sheets, Pillowcases, Draperies, Bedspreads, Tablecloths; Under and Outer Garments for Men, Women and Children—Namely, Underwear, Dresses, Suits, Coats, Trousers, Shirts, Jackets, and the Like (Int. Cl. 24).
First use June 1, 1906.

SN 295,141. Henry Pollak Inc., New York, N.Y. Filed Apr. 8, 1968.

ESKIMAID

For Pile Fabric Piece Goods (Int. Cl. 24).
First use May 17, 1967.

SN 298,645. Toyo Rayon Co., Ltd., Chuo-ku, Tokyo, Japan. Filed May 20, 1968.

TORAYFINE

Owner of Japanese Reg. No. 696,152, dated Jan. 24, 1966; and U.S. Reg. No. 816,161.
For Knitted, Netted, and Woven and Non-Woven Fabrics of Rayon, Nylon, Other Synthetic Fibers, Their Blends and Combinations Thereof (Int. Cl. 24).

SN 299,027. Kleinfab Corporation, New York, N.Y. Filed May 24, 1968.

Kleinfab

For Textile Fabrics in the Piece of Cotton, Rayon, Synthetic Fibres, and Combinations Thereof (Int. Cl. 24).
First use Jan. 8, 1962.

SN 299,603. Waumbec Mills Incorporated, New York, N.Y. Filed June 3, 1968.

SEMI-DEMI

For Textile Fabrics, Including Knitted Fabrics, for Manufacture Into Women's, Men's, Boys' and Children's Wearing Apparel, Including Women's and Children's Dresses, Skirts, Suits and Sportswear, and Men's and Boys' Pants, Coats, Slacks, Sportswear and Jackets (Int. Cl. 24).
First use Mar. 25, 1968.

SN 299,604. Waumbec Mills Incorporated, New York, N.Y. Filed June 3, 1968.

SQUANGLE

For Textile Fabrics, Including Knitted Fabrics, for Manufacture Into Women's, Men's, Boys' and Children's Wearing Apparel, Including Women's and Children's Dresses, Skirts, Suits, and Sportswear, and Men's and Boys' Pants, Coats, Slacks, Sportswear and Jackets (Int. Cl. 24).
First use Mar. 21, 1968.

SN 299,605. Waumbec Mills Incorporated, New York, N.Y. Filed June 3, 1968.

WIDGET

For Textile Fabrics, Including Knitted Fabrics, for Manufacture Into Women's, Men's, Boys' and Children's Wearing Apparel, Including Women's and Children's Dresses, Skirts, Suits, and Sportswear, and Men's and Boys' Pants, Coats, Slacks, Sportswear and Jackets (Int. Cl. 24).
First use Mar. 27, 1968.

SN 303,969. Styleset Fabrics, Inc., New York, N.Y. Filed July 31, 1968.

MISTY

For Fabrics in the Piece Made of Natural Fibers, Synthetic Fibers, and Combinations Thereof, for Making Clothing and Household Furnishings (Int. Cl. 24).
First use Apr. 4, 1968.

SN 312,110. E. T. Barwick Industries, Inc., Chamblee, Ga. Filed Nov. 14, 1968.

WESTERNAIRE

For Carpets (Int. Cl. 27).
First use May 25, 1965.

SN 312,112. E. T. Barwick Industries, Inc., Chamblee, Ga. Filed Nov. 14, 1968.

DEL ORO

For Carpets (Int. Cl. 27).
First use Dec. 4, 1967.

SN 312,113. E. T. Barwick Industries, Inc., Chamblee, Ga. Filed Nov. 14, 1968.

CHAIRMAN

For Carpets (Int. Cl. 27).
First use Dec. 7, 1966.

SN 312,114. E. T. Barwick Industries, Inc., Chamblee, Ga. Filed Nov. 14, 1968.

KINGSPOINT

For Carpets (Int. Cl. 27).
First use Nov. 3, 1966.

SN 312,115. E. T. Barwick Industries, Inc., Chamblee, Ga. Filed Nov. 14, 1968.

BORN FREE

For Carpets (Int. Cl. 27).
First use Dec. 12, 1967.

SN 312,116. E. T. Barwick Industries, Inc., Chamblee, Ga. Filed Nov. 14, 1968.

BOLTON

For Carpets (Int. Cl. 27).
First use Apr. 26, 1968.

SN 312,117. E. T. Barwick Industries, Inc., Chamblee, Ga. Filed Nov. 14, 1968.

ANGEL GLOW

For Carpets (Int. Cl. 27).
First use June 8, 1967.

SN 312,118. E. T. Barwick Industries, Inc., Chamblee, Ga. Filed Nov. 14, 1968.

ROAD WEST

For Carpets (Int. Cl. 27).
First use Dec. 2, 1967.

SN 312,133. E. T. Barwick Industries, Inc., Chamblee, Ga. Filed Nov. 14, 1968.

DELACOURT

For Carpets (Int. Cl. 27).
First use Nov. 29, 1967.

SN 312,139. E. T. Barwick Industries, Inc., Chamblee, Ga. Filed Nov. 14, 1968.

REDONDO BEACH

For Carpets (Int. Cl. 27).
First use Nov. 27, 1967.

SN 312,141. E. T. Barwick Industries, Inc., Chamblee, Ga. Filed Nov. 14, 1968.

PARK WEST

For Carpets (Int. Cl. 27).
First use May 12, 1965.

SN 312,142. E. T. Barwick Industries, Inc., Chamblee, Ga. Filed Nov. 14, 1968.

YACHT CLUB

For Carpets (Int. Cl. 27).
First use May 8, 1967.

Class 44—Dental, Medical, and Surgical Appliances

SN 266,910. Oxygen Equipment and Service Company, Chicago, Ill. Filed Mar. 16, 1967.

Vac-center

For Vacuum Suction Units for Use in Hospitals (Int. Cl. 10).
First use 1960.

SN 266,911. Oxygen Equipment and Service Company, Chicago, Ill. Filed Mar. 16, 1967.

VacuMatic

For Vacuum Regulators for Use in Hospitals (Int. Cl. 10).
First use 1957.

SN 266,913. Oxygen Equipment and Service Company, Chicago, Ill. Filed Mar. 16, 1967.

Oxy-Vac center

The word "Center" is disclaimed apart from the mark as shown.
For Oxygen Tents, Vacuum Suction Units, and Vacuum Regulators for Use in Hospitals (Int. Cl. 10).
First use 1964.

SN 277,438. Coles Electronic Corporation, Philadelphia, Pa. Filed Aug. 3, 1967.

MALIS

For Surgical Equipment—Namely, Neuro Coagulators (Int. Cl. 10).
First use Nov. 27, 1961.

SN 281,131. Steam Shower Inc., New York, N.Y. Filed Sept. 25, 1967.

STEAM SHOWER



Applicant disclaims the words "Steam Shower" apart from the mark as shown.
For Steam Bath Equipment (Int. Cl. 10).
First use Nov. 5, 1964.

SN 281,133. Thermasol Ltd., New York, N.Y. Filed Sept. 25, 1967.

SAUNA TUB



Applicant disclaims the words "Sauna Tub" apart from the mark as shown.
For Steam Bath Equipment (Int. Cl. 10).
First use Jan. 10, 1967.

SN 281,134. Thermasol Ltd., New York, N.Y. Filed Sept. 25, 1967.

SAUNA SHOWER



Applicant disclaims the words "Sauna Shower" apart from the mark as shown.
For Steam Bath Equipment (Int. Cl. 10).
First use Jan. 10, 1967.

SN 286,941. Ipco Hospital Supply Corporation, New York, N.Y. Filed Dec. 14, 1967.

CAP·N·CARY

For Bedside Thermometer Kit—Namely, a tubular Container, a Thermometer, and a Small Foam Rubber Pad Containing Antiseptic Fluid (Int. Cl. 5).
First use Sept. 8, 1967.

SN 288,839. George W. Meek, d.b.a. George W. Meek & Associates, Fort Myers, Fla. Filed Jan. 15, 1968.

BED-Jon



Applicant disclaims the word "Bed" apart from its combination with "Jon" and their combined use. The drawing comprises a fanciful representation of a bed.
For Bed Pan (Int. Cl. 10).
First use Apr. 15, 1967.

SN 289,995. Howard S. Leight, d.b.a. Leight Industries, Los Angeles, Calif. Filed Jan. 31, 1968.

ULTRA SILENT

For Ear Protectors in the Nature of Ear Plugs (Int. Cl. 10).
First use Nov. 17, 1966.

SN 290,038. Willy Rüsch, Rommelshausen, Germany. Filed Jan. 31, 1968.

ERU

Priority claimed under Sec. 44(d) on German application filed Aug. 3, 1967; Reg. 839,857, dated Dec. 5, 1967.
For Elastic Surgical Instruments Made of Rubber, Coated Fabric or Plastic—Namely, Catheters; Cushions, Bags, Urinals, Pressure Bulbs, All Made of Rubber or of Another Elastic Material for Medical Uses (Int. Cl. 10).

SN 305,879. Carl-Gunnar Daniel Engstrom, Stockholm, Sweden. Filed Aug. 26, 1968.

ENGSTRÖM

For Respirators (Int. Cl. 10).
First use during November 1956; in commerce during November 1956.

SN 308,806. Pennsalt Chemicals Corporation, Philadelphia, Pa. Filed Oct. 3, 1968.

CENTURA

For Mobile Dental Handpiece Unit (Int. Cl. 10).
First use Oct. 29, 1967.

SN 310,654. Elkins Dental Laboratories, Inc., Chickasha, Okla. Filed Oct. 28, 1968.



Applicant disclaims the representation of the dentures apart from the mark as shown. The drawing is stippled for purposes of shading only.
For Prosthetic Appliances—Namely, Dentures, Orthodontic Appliances, and Bridge Work (Int. Cl. 10).
First Use Sept. 26, 1968.

SN 312,170. Vita Zahnfabrik H. Rauter K.G., Postfach, Germany. Filed Nov. 14, 1968.

VITAPAN

Owner of German Reg. No. 844,201, dated Apr. 4, 1968; and U.S. Reg. Nos. 259,601, 751,363, and others.
For Artificial Teeth, Dental-Ceramical Substances (Int. Cls. 5 and 10).

SN 312,518. Unipak, Inc., Boston, Mass. Filed Nov. 18, 1968.

DENTAL MATE

For Oral Spray Unit Operating by Means of Attachment to a Water Faucet (Int. Cl. 10).
First use Oct. 10, 1968.

SN 312,746. Baxter Laboratories, Inc., Morton Grove, Ill. Filed Nov. 21, 1968.

MINISET

For Small Vein Infusion Set for Surgical and Medical Use (Int. Cl. 10).
First use Nov. 4, 1968.

SN 313,969. R-L Laboratories, Inc., New York, N.Y. Filed Dec. 9, 1968.



For Water Bottles (Int. Cl. 21).
First use Oct. 24, 1968.

Class 45—Soft Drinks and Carbonated Waters

SN 289,501. Gini International Limited, Evanston, Ill. Filed Jan. 24, 1968.

brio

The Italian word "Brio" means "vivacious." Owner of U.S. Reg. No. 796,026.
For Soft Drinks and the Base for Making the Same (Int. Cl. 32).
First use Jan. 15, 1968.

Class 46—Foods and Ingredients of Foods

SN 264,011. American Dairy Queen Corporation, Minneapolis, Minn. Filed Feb. 6, 1967.

MR. MALTIE

Owner of Reg. No. 772,915.
For Chocolate Malted Milk Flavored Confection Sold in a Frozen State on a Stick (Int. Cl. 30).
First use July 6, 1962.

SN 268,957. Godiva S.p.r.l., Brussels, Belgium. Filed Apr. 12, 1967.



The words shown on the mark are "Ego Godiva Comitissa Diu Istud Desideravi"; the English translation of these words is "I Godiva most beloved have long desired this." Owner of U.S. Reg. No. 836,376.
For Candy (Int. Cl. 30).
First use Jan. 3, 1967; in commerce Jan. 3, 1967.

SN 270,652. Anheuser-Busch, Incorporated, St. Louis, Mo. Filed May 4, 1967.

GRANT'S FARM

For Table Syrup (Int. Cl. 30).
First use Mar. 10, 1967.

SN 278,316. National Biscuit Company, New York, N.Y. Filed Aug. 15, 1967.



For Instant Milk Shake Mix With Freeze Dried Ice Cream (Int. Cl. 30).
First use May 15, 1967.

SN 279,162. Aslesen Company, Minneapolis, Minn. Filed Aug. 28, 1967.



For Canned Fruits and Vegetables; Ground Spices; Food Flavoring Extracts; Chocolate Icing; Butterscotch Fudge, Butter Rum Fudge, Wild Strawberry, Chocolate Syrup, Hot Fudge Chocolate, Creme de Menthe, Liquid Malt, Marshmallow, Pineapple, and Strawberry Fountain Toppings; Food Syrups Used for Food Purposes; Canned Meat Products—Namely, Corn beef Hash, Beef Stew, Meatballs and Gravy, Sliced Dried Beef, Sliced Franks, Cocktail Meatballs, Bacon Bits, Cured Ham Shanks, Pork and Gravy, Diced Ham, and Beef Chunks; Poultry Products—Namely, Diced, Boned, and Shredded Chicken and Chicken Stew; Stuffed Peppers and Cabbage; Chile Con Carne; Ravioli With Meat Sauce; Spaghetti With Meat Sauce and Cheese; Canned Olives; Cocktail Onions; Jellies and Preserves; Peanut Butter; Pickles; Corn, Sweet, and Dill Relish; Apple, Blueberry, Cherry, Peach, Hawaiian Pineapple, and Strawberry Pie Fillings; Salad Dressing; Sauces; Canned Soups; Pancake Syrup; Tea and Coffee; Seafoods—Namely, Clams, Salmon, Sardines, and Tuna; Spiced Fruits; Canned Fruit Juices; Honey; Marshmallows; Tomato Ketchup; Chile Sauce; Tomato Paste; Raisins; Vacuum-Packed Nuts; and Vinegar (Int. Cls. 29, 30 and 32).
First use Feb. 14, 1941.

SN 285,452. National Tea Co., Chicago, Ill. Filed Nov. 22, 1967.

top treat

Owner of Reg. Nos. 743,876, 836,390, and others.
For Various Flavored Syrups Used as Toppings for Ice Cream and Other Desserts (Int. Cl. 30).
First use June 8, 1959.

SN 286,848. Societe Agricole les Fermiers Reunis des Flandres, Steenvoorde (Nord), France. Filed Dec. 13, 1967.

DOUCIN

Owner of French Reg. No. 713,975, dated Sept. 30, 1966.
For Butter, Cheese, Fluid Milk, Powdered Milk Yogurt, and Gellified Milk (Int. Cl. 29).

SN 287,143. Carnation Company, Los Angeles, Calif. Filed Dec. 18, 1967.

CARNATION

Owner of Reg. Nos. 54,383, 819,186, and others.
For Canned Fruit Pie Fillings (Int. Cl. 29).
First use Sept. 28, 1967.

SN 289,071. Associated Wild Rice Producers, Inc., Isle, Minn. Filed Jan. 18, 1968.



The drawing is lined for the colors red and yellow, but no claim is made to color.
For Packaged Wild Rice and Canned Precooked Wild Rice (Int. Cl. 29).
First use Oct. 2, 1963.

SN 289,549. Vroman Foods, Inc., Toledo, Ohio, by change of name from The Vroman Ice Cream Company, Toledo, Ohio. Filed Jan. 24, 1968.



For Frozen Desserts and Confections—Namely, Ice Cream, Coated Ice Cream Confections, Frozen Custards, Ice Milk, Milk Sherbert, Fruit Juices, and Ices (Int. Cls. 30 and 32).
First use Apr. 14, 1966.

SN 290,183. Lynn Products, Inc., Chicago, Ill. Filed Feb. 2, 1968.

BREATH ALLURE

The word "Breath" is disclaimed apart from the mark as shown.
For Candy Substitute—Namely, a Flavored Mouth Freshening Preparation in Lozenge or Tablet Form (Int. Cl. 30).
First use Apr. 24, 1967.

SN 290,337. Shipley Do-Nut Flour and Supply Co., Inc., Houston, Tex. Filed Feb. 5, 1968.

SHIPLEY

For Doughnuts, Pastries, Turnovers, Cream-Filled Bakery Bars, Cinnamon Rolls, Eclairs, Fillings of Chocolate and Cream Nature for Bakery Products, Flour, and Doughnut and Pastry Icings (Int. Cl. 30).
First use on or before Mar. 1, 1937.

SN 290,338. Shipley Do-Nut Flour and Supply Co., Inc., Houston, Tex. Filed Feb. 5, 1968.



Without disclaiming any of its common law rights, applicant disclaims the word "Do-Nuts" and the representation of a doughnut, apart from the mark as shown.
For Doughnuts, Pastries, Turnovers, Cream-Filled Bakery Bars, Cinnamon Rolls, Eclairs, Fillings of Chocolate and Cream Nature for Bakery Products, Flour, and Doughnut and Pastry Icings (Int. Cl. 30).
First use on or before Mar. 1, 1937.

SN 290,339. Shipley Do-Nut Flour and Supply Co., Inc., Houston, Tex. Filed Feb. 5, 1968.

Shipley

For Doughnuts, Pastries, Turnovers, Cream-Filled Bakery Bars, Cinnamon Rolls, Eclairs, Fillings of Chocolate and Cream Nature for Bakery Products, Flour, and Doughnut and Pastry Icings (Int. Cl. 30).
First use on or before Mar. 1, 1937.

SN 295,805. California Almond Growers Exchange, Sacramento, Calif. Filed Apr. 17, 1968.



The drawing is lined for the color blue. Owner of Reg. Nos. 141,883, 855,648, and others.
For Almonds and Almond Products—Namely, Almond Candies, Pastes and Pastries (Int. Cl. 30).
First use at least as early as Oct. 30, 1967.

SN 296,448. M. A. Paxton, Inc., Dana, N.C. Filed Apr. 24, 1968.

TOPS OF THE BLUE RIDGE MOUNTAINS

For Fresh Apples (Int. Cl. 31).
First use Sept. 1, 1965.

SN 297,106. Toasta Foods Company, Minneapolis, Minn. Filed May 1, 1968.

TOASTA

Owner of Reg. No. 796,487.
For Onion Rings, Fish Sticks, French Fried Potatoes, Grilled Cheese Sandwiches, Filling for Denver Sandwiches (Consisting of Whole Egg, Potato, Green Pepper, Onion, Milk, Salt and Pepper), French Toast, Waffles, and Danish Rolls, All in Frozen Form (Int. Cls. 29 and 30).
First use Mar. 18, 1968.

SN 297,316. Prune and Fruit Powder, Inc., Los Angeles, Calif. Filed May 8, 1968.

MARAVILLA

For Non-Toxic, Calcium Polysulfide Chemical Food Compound Packaged in Liquid or Capsule Form (Int. Cl. 5).
First use August 1962.

SN 298,650. Ward Foods, Inc., New York, N.Y. Filed May 20, 1968.

FARM CREST
yoyo

Owner of Reg. Nos. 297,972, 861,753, and others.
For Bakery Products—Namely, Snack Cakes (Int. Cl. 30).
First use February 1967.

SN 298,655. Anderson, Clayton & Co., Dallas, Tex. Filed May 16, 1968.

ACCOmmodation

For Margarine, Cooking and Salad Oil, and Vegetable Shortening (Int. Cl. 29).
First use Jan. 15, 1968.

SN 301,862. Sunshine Biscuits, Inc., New York, N.Y. Filed July 2, 1968.

GERONIMO

For Oatmeal Peanut Butter Sandwich Cookie (Int. Cl. 30).
First use June 25, 1968.

SN 302,292. American Potato Company, San Francisco, Calif. Filed July 9, 1968.

POTATO PEARLS

Applicant disclaims the word "Potato" apart from the mark as shown.
For Dehydrated Potatoes (Int. Cl. 29).
First use May 31, 1968.

SN 302,550. Wilson Pharmaceutical & Chemical Corporation, Chicago, Ill. Filed July 11, 1968.

SOL-U-PRO

Owner of Reg. No. 750,251.
For Processed Gelatin and Hydrolyzed Collagen for Use in Various Food Products (Int. Cl. 1).
First use at least as early as December 1954.

SN 302,632. Mark Morris Associates, Topeka, Kans., assignee of Mark Morris Associates, Inc., d.b.a. Mar-Ko Company, Topeka, Kans. Filed July 12, 1968.

SCIENCE DIET

Applicant claims exclusive rights to use of the word "Diet" as part of its mark, but not otherwise.
For Food Products for Animals—Namely, Primates, Felidae, and Canidae (Int. Cl. 31).
First use on or about Mar. 6, 1968.

SN 302,767. Seitz Packing Company, Inc., St. Joseph, Mo. Filed July 15, 1968.

SEITZ

For Prepared Meats and Meat Products—Namely, Cooked Ham, Bacon, Sausage, Corned Beef, Bologna, Salami, Wieners, Frankfurters, Cold Cuts, Chili, Souse, Luncheon Meat, Bologna, Cheese, and Pickle Loaf, Barbecue Loaf, Liver Cheese Loaf, Olive Loaf, Pickle Loaf, Macaroni and Cheese Loaf, Honey Loaf, Old Fashioned Style Loaf, and Peppered Loaf (Int. Cl. 29).
First use 1936.

SN 302,838. W. R. Grace & Co., New York, N.Y. Filed July 16, 1968.

MEAT*MATE

For Seasoned Textured Vegetable Protein Meat Extender for Use in Ground Beef Recipes (Int. Cl. 30).
First use June 4, 1968.

SN 302,991. Tuscan Dairy Farms, Inc., Union, N.J. Filed July 17, 1968.

MINI MILK

The word "Milk" is disclaimed apart from the mark as shown.
For Low Fat Fortified Milk (Int. Cl. 29).
First use June 25, 1968.

SN 303,276. Perry H. Chipurnoi Inc., Long Island City, N.Y. Filed July 22, 1968.

GUMBINOS

For Licorice Candy (Int. Cl. 30).
First use June 18, 1968.

SN 304,044. Agway, Inc., Dewitt, N.Y. Filed Aug. 1, 1968.

RISE

For Fish Food (Int. Cl. 31).
First use May 8, 1968.

SN 304,758. Cherry Meat Packers, Inc., Chicago, Ill. Filed Aug. 9, 1968.

CHERRY BRAND

Applicant disclaims the word "Brand" apart from the mark as shown.
For Fresh Meat and Prepared Meat Products Such as Sausage, Salami, and Luncheon Meat; Cheese, Butter, Fresh Eggs; and Fresh Dressed and Frozen Poultry (Int. Cl. 29).
First use at least as early as 1936.

SN 306,029. General Mills, Inc., Minneapolis, Minn. Filed Aug. 27, 1968.

TIGER

For Dog and Cat Food (Int. Cl. 31).
First use on or prior to July 26, 1968.

SN 306,857. O'Connell Packing Co., Sherwood, Oreg. Filed Sept. 9, 1968.



For Dog Food (Int. Cl. 31).
First use at least as early as May 26, 1948.

SN 309,523. Roush Bakery Products Co., Inc., Sacramento, Calif. Filed Oct. 14, 1968.

HILLBILLY
Mini-tures

For purposes of this registration only, and without waiver of its common law rights therein, applicant disclaims the designation "Mini-Tures" apart from the mark as shown. Owner of Reg. No. 786,501.
For Bread (Int. Cl. 30).
First use July 6, 1968.

SN 311,216. Young's Market Company, Los Angeles, Calif. Filed Nov. 4, 1968.

LUANNA

For Canned Artichoke Hearts, Pickles, Canned Smoked Oysters; Canned and Bottled Olives; Canned Water Chestnuts; and Seasoned Dry Rice (Int. Cl. 29).
First use June 1966.

SN 311,781. General Mills, Inc., Minneapolis, Minn. Filed Nov. 12, 1968.

CHIPOPOTAMUS

For Potato Chips (Int. Cl. 29).
First use on or prior to Aug. 20, 1968.

SN 311,782. General Mills, Inc., Minneapolis, Minn. Filed Nov. 12, 1968.

"I'VE GOT THE HUNGRIES"

For Potato Chips (Int. Cl. 29).
First use on or prior to Aug. 20, 1968.

SN 311,788. Mel Finerman Co., Inc., Oxnard, Calif. Filed Nov. 12, 1968.

Takeoff

For Fresh Vegetables (Int. Cl. 31).
First use Mar. 26, 1968.

SN 311,994. The United Dairy Company, St. Clairsville, Ohio. Filed Nov. 13, 1968.

HANDY

Owner of Reg. No. 762,423.
For Canned Milk and Non-Dairy Creamer (Int. Cl. 29).
First use 1930.

SN 312,404. Southland Frozen Foods, Inc., Great Neck, N.Y. Filed Nov. 18, 1968.

SOUTHLAND

Owner of Reg. No. 615,930.
For Frozen Foods, i.e., Frozen Vegetables and Frozen Shrimp (Int. Cl. 29).
First use Jan. 1, 1944.

SN 312,405. Southland Frozen Foods, Inc., Great Neck, N.Y. Filed Nov. 18, 1968.

Southland

Owner of Reg. No. 615,930.
For Frozen Foods, i.e., Frozen Vegetables and Frozen Shrimp (Int. Cl. 29).
First use July 1, 1958; Jan. 1, 1944, as to the word "Southland."

SN 312,954. Edlo Enterprises, Inc., San Francisco, Calif. Filed Nov. 25, 1968.

TRIM

Owner of Reg. Nos. 550,505, 765,210, and others.
For Yogurt (Int. Cl. 29).
First use Nov. 15, 1968.

SN 312,960. U.S. Cocoa Corporation, Camden, N.J. Filed Nov. 25, 1968.

DE-CALO

For Low Calorie, Instant Hot Chocolate-Cocoa Mix (Int. Cl. 30).
First use Oct. 31, 1968.

SN 314,763. Meyenberg Milk Products, Inc., Ripon, Calif. Filed Dec. 18, 1968.

MEYENBERG'S
All-Pure

Owner of Reg. Nos. 372,920, 793,121, and others.
For Canned Evaporated Milk (Int. Cl. 29).
First use Jan. 20, 1942.

Class 47—Wines

SN 169,878. Societe E. Blanchard et Fils, Saint-Lambert-du-Lattay, France. Filed May 28, 1963.

DOMAINE BLANCHARD

The English translation of the French word "Domaine" means "estate of."
For Wines (Int. Cl. 33).
First use Apr. 11, 1957; in commerce Apr. 11, 1957.

SN 173,292. Societe E. Blanchard et Fils, Saint-Lambert-du-Lattay, France. Filed July 18, 1963.

E BLANCHARD ET FILS

For Wines (Int. Cl. 33).
First use 1933; in commerce 1933.

Class 49—Distilled Alcoholic Liquors

SN 272,895. Paramount Distillers, Incorporated, Cleveland, Ohio. Filed June 2, 1967.

PARAMOUNT

For Brandy, Liqueurs, Rock and Rye, and Vodka (Int. Cl. 33).
First use Jan. 1, 1935.

SN 294,493. William Grant & Sons Limited, Dufftown, Scotland. Filed Mar. 29, 1968.

B P

Owner of U.S. Reg. No. 747,756.
For Scotch Whisky (Int. Cl. 33).
First use Mar. 6, 1961; in commerce Sept. 9, 1961.

Class 50—Merchandise Not Otherwise Classified

SN 278,052. The Williams Inlan Corporation, Westport, Conn., assignee of Paul G. Williams, Jr., Westport, Conn. Filed Aug. 10, 1967.

PATTERN SEEKER

For Three-Dimensional Planning and Programming Frames; and Planning, Programming and Presentation Boards; and Planning and Programming Equipment and Software Therefor—Namely, Three-Dimensional Planning and Programming Frames, Suspension Files Therefor, Unprinted and Partially Printed Forms, Planning, Programming and Presentation Boards, Sold in Combinations (Int. Cl. 20).
First use on or about June 29, 1967.

SN 281,974. Eaton Brothers Corporation, Hamburg, N.Y. Filed Oct. 6, 1967.

VELVETEX

Owner of Reg. No. 602,822.
For Artificial Grass Mats for Decorative Purposes (Int. Cl. 27).
First use on or about June 22, 1966.

SN 303,317. Krain & Canton, Inc., Bloomfield, N.J. Filed July 22, 1968.

THREE KINGS

For Decorative Items—Namely, Glass Ornaments, Garlands, Tinsel, Icicles, Artificial Trees and Boutique Items, Namely, Table Centerpieces and Wall Decorations (Int. Cl. 28).
First use Feb. 7, 1968.

SN 308,665. Tackmer Corporation, Palo Alto, Calif. Filed Oct. 2, 1968.

PUT-ON

For Self-Adhesive Display Panels (Int. Cl. 20).
First use Oct. 16, 1967.

Class 51—Cosmetics and Toilet Preparations

SN 218,797. Colgate-Palmolive Company, New York, N.Y., assignee of Caryl Richards, Inc., New York, N.Y. Filed May 13, 1965.



Owner of Reg. No. 844,275.
For Personal Deodorant (Int. Cl. 5).
First use Nov. 30, 1964.

SN 284,687. Luzier Incorporated, Kansas City, Mo. Filed Nov. 13, 1967.

FABULOUS TOUCH

For Hair Color Rinse (Int. Cl. 3).
First use Aug. 8, 1967.

SN 288,182. Avon Products, Inc., New York, N.Y. Filed Jan. 5, 1968.

HER PRETTINESS

For Cologne, Dusting Powder, Cream Sachet, Talcum Powder, Hand Cream, Lip Pomade, Skin Cream Lotion, and Bubble Bath (Int. Cl. 3).
First use Dec. 20, 1967.

SN 289,849. Watkins Products, Inc., Winona, Minn. Filed Jan. 29, 1968.

Scentique

For Cologne (Int. Cl. 3).
First use Jan. 9, 1968.

SN 294,766. Worth Parfums, Societe Anonyme, d.b.a. Worth, Paris, France. Filed Mar. 25, 1968.

SCHUSS

Owner of French Reg. No. 725,304, dated July 6, 1967.
For Perfumes, Eau de Cologne, Toilet Water, Cosmetic Lotions and Creams for the Face, Body and Hands, and Rouge (Int. Cl. 3).

SN 297,525. Bristol-Myers Company, New York, N.Y. Filed May 7, 1968.

CHANTE DE PEARL

The French words "Chante de" mean "song of" in English. Applicant disclaims the word "Pearl" apart from the mark as shown.
For Cosmetic-Bath Oil (Int. Cl. 3).
First use Apr. 1, 1968.

SN 300,450. Ferdinand T. Hopkins, d.b.a. Ferd T. Hopkins & Son, New York, N.Y. Filed June 14, 1968.

ORIENTAL CREAM

Applicant disclaims the word "Cream" apart from the mark as shown. Owner of Reg. Nos. 98,954 and 341,170.
For Skin Lotion (Int. Cl. 3).
First use 1847.

SN 302,043. Clairol Incorporated, New York, N.Y. Filed July 5, 1968.

THE FUN COLORS

Applicant disclaims the word "Colors" apart from the mark as shown.
For Hair Tinting, Dyeing and Coloring Preparations, Lipstick, Nail Enamel, and Eye Shadow (Int. Cl. 3).
First use Mar. 22, 1968.

SN 303,024. Alberto-Culver Company, Melrose Park, Ill. Filed July 18, 1968.

RELEASE

Owner of Reg. Nos. 71,643 and 842,326.
For Toothpaste (Int. Cl. 3).
First use June 17, 1968.

SN 304,449. Clairol Incorporated, New York, N.Y. Filed Aug. 6, 1968.

CLAIROL COMPLETE!

For Hair Conditioner (Int. Cl. 3).
First use June 27, 1968.

SN 304,759. Clairol Incorporated, New York, N.Y. Filed Aug. 9, 1968.

FIRM DIRECTION

For Setting Lotion, Setting Gel, Permanent Waving Lotion, and Hair Straightening Preparation (Int. Cl. 3).
First use June 5, 1968.

SN 304,789. Helene Curtis Industries, Inc., Chicago, Ill. Filed Aug. 9, 1968.

BEAUTY FLUFF

For Facial Moisturizing Lotion (Int. Cl. 3).
First use on or about June 28, 1968.

SN 304,790. Helene Curtis Industries, Inc., Chicago, Ill. Filed Aug. 9, 1968.

LOVE PUFF

For Facial Moisturizing Lotion (Int. Cl. 3).
First use on or about June 28, 1968.

SN 304,792. Helene Curtis Industries, Inc., Chicago, Ill. Filed Aug. 9, 1968.

TRIUMPH

For Hair Fixative Spray (Int. Cl. 3).
First use on or about Mar. 1, 1968.

SN 304,793. Helene Curtis Industries, Inc., Chicago, Ill. Filed Aug. 9, 1968.

BEAUTY PUFF

For Facial Moisturizing Lotion (Int. Cl. 3).
First use on or about June 28, 1968.

SN 305,396. Bristol-Myers Company, New York, N.Y. Filed Aug. 19, 1968.

DYNALIFE

For Hair Groom and Conditioner (Int. Cl. 3).
First use Aug. 2, 1968.

SN 305,523. Avon Products, Inc., New York, N.Y. Filed Aug. 20, 1968.

FLUFF-AWAY

For Facial Cleansing Lotion (Int. Cl. 3).
First use Aug. 1, 1968.

SN 311,209. David A. Neuman, d.b.a. Katydid Products, New York, N.Y. Filed Nov. 4, 1968.

BLACK BEAUTY

For Face Powder, Nail Polish, Personal Deodorant, Mouthwash, Toothpaste, Personal Dusting Powder, Cologne, Hair Dressing, Hand and Body Lotion, Cleansing Cream for Cosmetic Purposes, Eye Make-Up, and Lipstick (Int. Cls. 3 and 5).
First use June 1, 1968.
Subj to Intf. with SN 307,490, SN 309,019, and SN 312,693.

SN 314,488. Colgate-Palmolive Company, New York, N.Y. Filed Dec. 16, 1968.

GUARD

Owner of Reg. No. 831,575.
For Shaving Cream (Int. Cl. 3).
First use Nov. 12, 1968.

Class 52—Detergents and Soaps

SN 285,915. The Ellis Machine Co., Inc., Danbury, Conn. Filed Nov. 30, 1967.

CLEAN WATER PRODUCTS

Without waiving any common law rights therein, applicant disclaims the word "Products" except in the combination "Clean Water Products."
For Biodegradeable Cleaning Compounds—Namely, Cleaners and Detergents for Dishwashing, for Bowl and Tile Cleaning, for Spray Cleaning Household Surfaces, and for Window Cleaning, in Concentrated and Dilute Solutions and Laundry Powders (Int. Cl. 3).
First use Oct. 30, 1967.

SN 290,291. Helene Curtis Industries, Inc., Chicago, Ill., Filed Feb. 5, 1968.

SKI STREAKS

For Hair Shampoo (Int. Cl. 3).
First use on or about Jan. 19, 1968.

SN 297,530. Bristol-Myers Company, New York, N.Y. Filed May 7, 1968.

MOUNTAIN SPRING

For Hair Shampoo (Int. Cl. 3).
First use Apr. 1, 1968.

SERVICE MARKS

Class 100 — Miscellaneous

SN 276,523. Automatic Retailers of America, Inc., Philadelphia, Pa. Filed July 21, 1967.



No claim is made to the words "Coffee System" except in combination with the mark as shown.

For Providing Coffee to Business, Industry, Schools, Colleges, Hospitals, and the Like, by Means of Installed and Serviced Equipment Provided With Operational Ingredients for Producing Hot Coffee (Int. Cl. 42).

First use May 12, 1967.

SN 284,750. Strom Engineering Corporation, Minneapolis, Minn. Filed Nov. 13, 1967.



The drawing is lined for yellow or gold, but color is not claimed as a feature of the mark.

For Mechanical, Electronic, and Industrial Engineering Services, and Drafting Services, Relating to Product Design and to the Engineering Development of Products and Systems (Int. Cl. 42).

First use 1964.

SN 288,689. The Frost and Higgins Company, Burlington, Mass. Filed Jan. 12, 1968.



The drawing is lined for the colors green and yellow. The applicant disclaims the terms "The Care of Trees" and "Landscaping" apart from the mark as shown.

For Plant Nursery and Landscaping Services (Int. Cl. 42).

First use in or about 1946; in or about 1925 in a different form.

SN 298,833. John Loumis, Salt Lake City, Utah. Filed May 22, 1968.



The words "Mexican Food" are disclaimed apart from the mark as shown.

For Restaurant Services (Int. Cl. 42).

First use on or about Apr. 11, 1968; 1944 as to "Tampico."

SN 300,194. The Inn, Bermuda Dunes, Calif. Filed June 11, 1968.



For Hotel/Motel Services (Int. Cl. 42).

First use 1962.

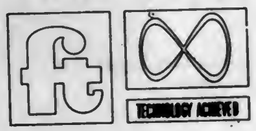
SN 300,587. Golden Boy, Inc., Tulsa, Okla. Filed June 17, 1968.



For Restaurant Services (Int. Cl. 42).

First use May 30, 1968.

SN 300,782. Flow Technology, Inc., Tempe, Ariz. Filed June 19, 1968.



For Calibrating and Testing Fluid Flow Measuring and Control Equipment (Int. Cl. 42).

First use Jan. 18, 1965.

Class 101 — Advertising and Business

SN 254,957. The Webb Publishing Company, St. Paul, Minn. Filed Sept. 22, 1966.

Webb

For Printing and Publishing Services for Others (Int. Cl. 35).

First use Aug. 1, 1962.

SN 258,495. Circle Selection, Inc., Syracuse, N.Y. Filed Nov. 14, 1966.

PICK-A-WINNER

For Promoting the Sale of Goods and/or Services of Others Through the Distribution of Printed Materials and Advertising Designed for Promotional Contests (Int. Cl. 35).

First use Sept. 14, 1966.

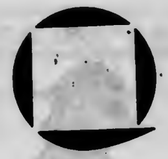
SN 285,836. The Irving-Cloud Publishing Company, Chicago, Ill. Filed Nov. 29, 1967.

INSTANT INQUIRY

For Advertising Services—Namely, Advertising the Goods and Services of Others in the Hardware Field Through the Distribution of Post Cards Requesting Further Information From the Advertisers (Int. Cl. 35).

First use Oct. 5, 1967.

SN 291,636. Quad Typographers, Inc., New York, N.Y. Filed Feb. 21, 1968.



For Graphic Art Services—Namely, Typography and Printing for Others (Int. Cl. 35).

First use Oct. 1, 1965.

SN 293,458. American Textile Machinery Association, Vienna, Va. Filed Mar. 18, 1968.



For Arranging and Conducting International Trade Shows for Manufacturers of Textile Machinery (Int. Cl. 35).

First use July 24, 1964.

SN 293,885. Screen Gems, Inc., New York, N.Y. Filed Mar. 22, 1968.



Applicant disclaims the wording "Honey Fried Chicken." The lining on the drawing is for shading only and is not intended to represent color. Owner of Reg. No. 802,412.

For Rendering Technical Assistance to Restaurant Operators in All Phases of Their Business (Int. Cl. 35).

First use Jan. 3, 1968.

SN 293,922. Glendinning Companies Inc., Westport, Conn. Filed Mar. 22, 1968.

FUN & FORTUNE

Owner of Reg. Nos. 583,742 and 591,434.

For Sales Promotional Services in the Nature of Games and Contests (Int. Cl. 35).

First use Jan. 6, 1953.

SN 296,844. Labor Pool of America, Inc., Oak Brook, Ill. Filed Apr. 29, 1968.



The words "Labor Pool" are disclaimed apart from the mark as shown without prejudice to any common law rights. Owner of Reg. No. 738,390.

For Furnishing Temporary Personnel to the Users Thereof (Int. Cl. 35).

First use in or about January 1965.

SN 299,838. Foto-Men, Inc., Natick, Mass. Filed June 6, 1968.

fom

For Engineering Services in the Planning and Institution of Information, Storage and Retrieval Data Processing Systems for Others (Int. Cl. 35).

First use at least as Early as May 5, 1967.

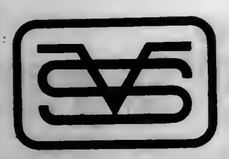
SN 301,550. Quote Company of America, Inc., Floral Park, N.Y. Filed June 27, 1968.



For Quote Services Covering Stocks, Sports, News, and Travel (Int. Cl. 35).

First use Mar. 15, 1968.

SN 312,169. Videographic Systems, Inc., Hauppauge, N.Y. Filed Nov. 14, 1968.



For Computerized Typesetting Services (Int. Cl. 35).
First use June 30, 1967.

Class 102 — Insurance and Financial

SN 213,767. Colonial Penn Life Insurance Company, Philadelphia, Pa. Filed Mar. 10, 1965.

LIVING HERITAGE

For Life Insurance Underwriting Services (Int. Cl. 36).
First use Feb. 12, 1965.

SN 283,155. Probus Plan—First Mutual Professional and Business Retirement Plan, Inc., Poughkeepsie, N.Y. Filed Oct. 23, 1967.



Applicant disclaims the word "Plan" apart from the mark as shown.
For Establishment and Operation of Retirement Plans for Others (Int. Cl. 36).
First use December 1966.

SN 287,715. American Republic Assurance Company, Des Moines, Iowa. Filed Dec. 28, 1967.



The drawing is lined to indicate the mark as used and not for color. Owner of Reg. No. 796,154.
For Underwriting of Life Insurance, Annuities, Endowments, and Indemnities (Int. Cl. 36).
First use Sept. 8, 1967.

SN 288,316. The Home Life Insurance Company of America, Philadelphia, Pa. Filed Jan. 8, 1968.

Moneycare

For Estate Planning Services With Particular Emphasis on Insurance (Int. Cl. 36).
First use on or about July 1, 1967.

SN 290,994. American Savings Plans, Inc. (Illinois corporation), Chicago, Ill., assignee of American Savings Plans, Inc. (Colorado corporation), Denver, Colo. Filed Feb. 14, 1968.

AMERICAN SAVINGS PLANS, INC.

The words "Savings Plans, Inc." are disclaimed apart from the mark as shown.
For Establishing and Managing Savings and Pension Plans Which Utilize Insurance and Mutual Funds (Int. Cl. 36).
First use Dec. 15, 1967.

SN 304,329. First National City Bank, New York, N.Y. Filed Aug. 5, 1968.

THE LOAN WITH THE SANTA CLAUS CLAUSE

Applicant disclaims the words "The Loan" apart from the mark as shown.
For Personal Loan Services (Int. Cl. 36).
First use November 1967.

Class 103 — Construction and Repair

SN 243,557. Warrenizing, Inc., Princeton, W. Va., assignee of Warrenizing 1 Hour Cleaners, Bluefield, W. Va. Filed Apr. 15, 1966.

WARRENIZING

For Dry Cleaning Services (Int. Cl. 37).
First use Mar. 1, 1963.

SN 286,209. The Superior Oil Company, Houston, Tex. Filed Dec. 4, 1967.

SUPCO

For Oil and Gas Well Drilling (Int. Cl. 37).
First use at least as early as 1939.

SN 288,855. Red Wing Exterminating Co., Inc., Chattanooga, Tenn. Filed Jan. 15, 1968.



The drawing is lined for the color brown, but this color is not claimed as an essential feature of the mark.
For Pest and Termite Control Services (Int. Cl. 37)
First use Apr. 1, 1955.

SN 296,533. The Goodyear Tire & Rubber Company, Akron, Ohio. Filed Apr. 25, 1968.

GOODYEAR

Owner of Reg. No. 848,799.
For Automotive Repair Service (Int. Cl. 37).
First use Mar. 4, 1968.

SN 306,476. Gasket Service, Inc., Odessa, Tex. Filed Sept. 3, 1968.



The pictorial representation of the gasket which forms the central portion of the character, is disclaimed apart from the mark as shown.
For Fabrication of Gaskets From Various Natural and Synthetic Materials and Combinations of Such Materials Like Metals, Rubbers, Leather, Cork, Asbestos, and Plastics for Sealing Liquids, Solids and Gases in and Out of Vessels, Piping, Engines, Compressors, Meters, Pumps and Other Equipment Requiring a Gasket for Any Purpose; Furnishing for Installation and Repair, Special Gaskets, Seals, Materials and Compounds Manufactured by Others (Int. Cl. 37).
First use Oct. 1, 1966.

SN 316,048. Communication Service Corporation, Long Beach, Calif. Filed Jan. 8, 1969.



For Installation and Maintenance of Telephone Apparatus (Int. Cl. 37).
First use June 9, 1964.

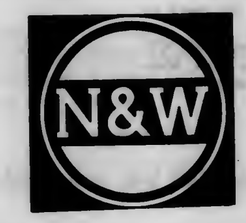
Class 105 — Transportation and Storage

SN 280,335. Ryder System, Inc., Miami, Fla. Filed Sept. 14, 1967.



For Leasing and Renting of Trailers and Other Vehicles (Int. Cl. 39).
First use Apr. 30, 1967.

SN 295,250. Norfolk and Western Railway Company, Roanoke, Va. Filed Apr. 9, 1968.



Owner of Reg. No. 505,511.
For Railroad Transportation of Passengers and Freight (Int. Cl. 39).
First use October 1964.

SN 297,158. American Express Company, New York, N.Y. Filed May 2, 1968.

CAREFREE

For Conducting Travel Tours (Int. Cl. 39).
First use October 1965.

SN 309,721. Phaze-Way Travel System, Inc., New York, N.Y. Filed Oct. 16, 1968.

Phaze-Way

For Travel Consulting, Organizing, Planning and Supervising (Int. Cl. 39).
First use on or about Nov. 14, 1967.

SN 310,984. Sea-Land Service, Inc., Elizabeth, N.J. Filed Oct. 31, 1968.



The mark consists of a stylized display of the letters "SL" interposed between the letters forming the words "Sea" and "Land." Owner of Reg. Nos. 742,107 and 769,310.
For Transportation of Freight in Containers Which Are Moved Successively as the Demountable Bodies of Land Vehicles and by Marine Vessels (Int. Cl. 39).
First use in the fall of 1961; Dec. 15, 1960, as to the logo "SL" alone.

Class 106 — Material Treatment

SN 288,860. C. A. Roberts Co., d.b.a. Universal Metal Finishing, Franklin Park, Ill. Filed Jan. 15, 1968.



For Metal Finishing Services in Connection With Hard Coating of Aluminum Alloys (Int. Cl. 40).
First use Aug. 1964.

SN 289,254. American Combining Company, Arverne, N.Y. Filed Jan. 22, 1968.

AQUATRON

For Processing of Textile Fabrics of Others (Int. Cl. 40).
First use Dec. 26, 1967.

Class 107 — Education and Entertainment

SN 284,227. The National Secretaries Association (International), Kansas City, Mo. Filed Nov. 6, 1967.

INTERNATIONAL SECRETARY OF THE YEAR

For Promoting Secretarial Education by Sponsoring Competition Between Contestants as to Secretarial Proficiency and Awarding Honors to Winners (Int. Cl. 41).
First use in or about 1954.

SN 294,512. Joan W. Lantz, San Francisco, Calif. Filed Mar. 29, 1968.

THE MAIN ATTRACTION

For Entertainment Services Provided by a Vocal and Instrumental Group (Int. Cl. 41).
First use June 10, 1967.

SN 296,093. Atomic Energy Commission, Bethesda, Md. Filed Apr. 22, 1968.



The drawing is lined for the color green. The chemical symbols Gd. Tb, Dy, Ho, Er, Tm, Yb, Lu, Y, Sc, La, Ce, Pr, Nd, Pm, Sm and Eu and the Latin word "Rarvs" are disclaimed apart from the mark as shown.
For Rare-Earth Information Services (Int. Cl. 41).
First use Mar. 1, 1966.

SN 311,099. Loyola Academy, Wilmette, Ill. Filed Nov. 1, 1968.

ACADEMY PLAYHOUSE

The word "Playhouse" is disclaimed apart from the mark as shown.
For Entertainment Services—Namely, Staging Theatrical Performances (Int. Cl. 41).
First use on or about June 21, 1967.

COLLECTIVE MEMBERSHIP MARKS

Class 200

SN 307,287. Tau Kappa Epsilon Fraternity, Indianapolis, Ind. Filed Sept. 13, 1968.



The lining on the drawing is for shading purposes only.
For Indicating Membership in Applicant.
First use prior to 1922.

CERTIFICATION MARKS

Class A—Goods

SN 268,189. Independent Associated Distributors, Inc., New York, N.Y. Filed Apr. 3, 1967.

LOOM JEWELS

The mark certifies that the goods bearing the mark meet standards required by applicant as to being first quality. No claim is made to the word "Loom" apart from the mark as shown.
For Cotton, Synthetic, Blended Synthetic, Linen, and Silk Piece Goods, and Sheets, Pillow Cases, Mattress Pads, Mattress Covers, Bed Spreads, Curtains and Towels Made of Said Piece Goods; Scatter Rugs; and Infants' Wear.
First use Nov. 14, 1931.

TRADEMARK REGISTRATIONS ISSUED

PRINCIPAL REGISTER

Class 1—Raw or Partly Prepared Materials

868,554. KAYFAX. ICI America Inc. SN 273,894. Pub. 2-11-69. Filed 6-14-67.

868,555. CLEARSEAL. Borden, Inc., by change of name from The Borden Company. SN 274,404. Pub. 8-6-68. Filed 6-21-67.

868,556. NEW CASTLE KID AND DESIGN. Allied Kid Company. SN 281,535. Pub. 2-11-69. Filed 10-2-67.

868,557. CORENCO AND DESIGN. Corenco Corporation. SN 290,584. Pub. 2-11-69. Filed 2-8-68.

868,558. PLYACRYL. Reichhold Chemicals, Inc. SN 293,335. Pub. 12-24-68. Filed 3-1-68.

868,559. WELL-FIBE. Nichols & Company, Inc. SN 294,304. Pub. 2-11-69. Filed 3-27-68.

868,560. WELL-SPHERE. Nichols & Company, Inc. SN 294,306. Pub. 2-11-69. Filed 3-27-68.

868,561. RAT IN HAND (DESIGN). The Charles River Breeding Laboratories, Inc. SN 294,469. Pub. 2-11-69. Filed 3-29-68.

868,562. MANGASPAR. Cametco, Inc. SN 297,380. Pub. 2-11-69. Filed 5-6-68.

868,563. ZEFKRYL. Dow Badische Company. SN 305,882. Pub. 2-11-69. Filed 8-26-68.

868,564. ZEFREX. Dow Badische Company. SN 305,883. Pub. 2-11-69. Filed 8-26-68.

868,565. ZEFMER. Dow Badische Company. SN 305,884. Pub. 2-11-69. Filed 8-26-68.

Class 2—Receptacles

868,566. R (DESIGN). Racine Hydraulics, Inc. MULTIPLE CLASS (Classes 2, 13, and 23). SN 284,526. Pub. 2-11-69. Filed 11-13-67.

868,567. STYROSTYLE. Rexall Drug and Chemical Company, d.b.a. Thompson Industries. SN 299,492. Pub. 2-11-69. Filed 5-31-68.

868,568. MYTISCAF. Mytiscaf. SN 301,240. Pub. 2-11-69. Filed 6-24-68.

868,569. PIZZA DISC. Thermo-Disc, Inc. SN 302,985. Pub. 2-11-69. Filed 7-17-68.

868,570. CART-ALL. Craft Corporation. SN 303,097. Pub. 11-12-68. Filed 7-19-68.

Class 3—Baggage, Animal Equipments, Portfolios, and Pocketbooks

868,571. DESIGN OF STYLIZED BIRD. Air New Zealand Limited. SN 282,425. Pub. 2-11-69. Filed 10-13-67.

868,572. WAYFARER. Sears, Roebuck and Co. SN 296,876. Pub. 2-11-69. Filed 4-29-68.

Class 4—Abrasives and Polishing Materials

868,573. WARNER. Warner-Patterson Company. MULTIPLE CLASS (Classes 4, 6, 15, and 52). SN 261,770. Pub. 7-30-68. Filed 1-3-67.

868,574. JEWEL. Abrasive Products, Inc. SN 302,369. Pub. 2-11-69. Filed 7-10-68.

Class 5—Adhesives

868,575. SEKISUI. Sekisui Kagaku Kogyo Kabushiki Kaisha, d.b.a. Sekisui Chemical Company, Ltd. MULTIPLE CLASS (Classes 5, 12, 13, 21, 26, and 50). SN 287,778. Pub. 2-11-69. Filed 12-28-67.

Class 6—Chemicals and Chemical Compositions

868,573. (See Class 4 for this trademark.)

868,576. "THIS STUFF JUST KILLS ME!" Hot Shot Quality Products, Inc. SN 268,411. Pub. 2-11-69. Filed 4-5-67.

868,577. WSP X1000. Wilson Pharmaceutical & Chemical Corporation. SN 277,949. Pub. 2-11-69. Filed 8-9-67.

868,578. WSP X1000C. Wilson Pharmaceutical & Chemical Corporation. SN 277,950. Pub. 2-11-69. Filed 8-9-67.

868,579. WSP X250. Wilson Pharmaceutical & Chemical Corporation. SN 277,952. Pub. 2-11-69. Filed 8-9-67.

868,580. GELLOID. Marine Colloids, Inc. SN 278,394. Pub. 2-11-69. Filed 8-16-67.

868,581. SILATOX. Silaco Chemical Company. SN 279,336. Pub. 2-11-69. Filed 8-29-67.

868,582. SILACIDE. Silaco Chemical Company. SN 280,470. Pub. 2-11-69. Filed 9-15-67.

868,583. CM-TEST. Baxter Laboratories, Inc. SN 281,251. Pub. 2-11-69. Filed 9-11-67.

868,584. EXTERMITAL. Extermital Chemicals, Inc. SN 281,279. Pub. 2-11-69. Filed 9-27-67.

868,585. EXTERMITAL ETC. AND DESIGN. Extermital Chemicals, Inc. SN 281,280. Pub. 2-11-69. Filed 9-27-67.

868,586. FRESH GUARD. Airwick Industries, Inc., by change of name from Airkem, Inc. SN 285,102. Pub. 2-11-69. Filed 11-17-67.

868,587. WUN DROP. Wun Drop Company. SN 288,148. Pub. 2-11-69. Filed 1-4-68.

868,588. EIDESCO. Willy Krause. SN 291,214. Pub. 2-11-69. Filed 2-15-68.

868,589. LEATHER-LOK. National Starch and Chemical Corporation. SN 292,219. Pub. 2-11-69. Filed 2-29-68.

868,590. P-12. Belton Corporation. SN 293,578. Pub. 2-11-69. Filed 3-18-68.

868,591. SERVICE PACK. Morton International, Inc. SN 295,839. Pub. 2-11-69. Filed 4-17-68.

868,592. SPURSO. Mooney Chemicals, Inc. SN 297,306. Pub. 2-11-69. Filed 5-3-68.

868,593. COLORTRACE. GAF Corporation, by change of name from General Aniline & Film Corporation. SN 297,401. Pub. 2-11-69. Filed 5-6-68.

868,594. ANSCOSTAT. GAF Corporation, by change of name from General Aniline & Film Corporation. SN 297,402. Pub. 2-11-69. Filed 5-6-68.

868,595. GAFTEX. GAF Corporation, by change of name from General Aniline & Film Corporation. SN 297,403. Pub. 2-11-69. Filed 5-6-68.

868,596. ANSCOTRACE. GAF Corporation, by change of name from General Aniline & Film Corporation. SN 297,404. Pub. 2-11-69. Filed 5-6-68.

868,597. AMALON. American Aniline Products, Inc. SN 297,643. Pub. 2-11-69. Filed 5-8-68.

868,598. MISCELLANEOUS DESIGN. Albert Verley & Company. SN 297,914. Pub. 2-11-69. Filed 5-13-68.

868,599. UCAR. Union Carbide Corporation. SN 299,387. Pub. 2-11-69. Filed 5-29-68.

868,600. PPG INDUSTRIES AND DESIGN. PPG Industries, Inc. SN 302,686. Pub. 2-11-69. Filed 7-15-68.

868,601. IRONEES. The Ironees Company. SN 303,864. Pub. 2-11-69. Filed 7-30-68.

Class 8 — Smokers' Articles, Not Including Tobacco Products

868,602. YELLO-BOLE NOVA. S. M. Frank & Co., Inc. SN 287,815. Pub. 12-24-68. Filed 12-29-67.

Class 9 — Explosives, Firearms, Equipments, and Projectiles

868,603. SACMAG. Sullivan Arms Corporation. SN 298,515. Pub. 2-11-69. Filed 5-20-68.

Class 10 — Fertilizers

868,604. FARMSCO. Allied Chemical Corporation. SN 281,756. Pub. 2-11-69. Filed 10-4-67.

868,605. ENGROSOL. Standard Oil Company. SN 297,222. Pub. 2-11-69. Filed 5-2-68.

Class 11 — Inks and Inking Materials

868,606. YOUR PARTNER FOR PROGRESS IN PURPLE. Colonial Carbon Company. MULTIPLE CLASS (Classes 11 and 37). SN 283,629. Pub. 2-11-69. Filed 10-30-67.

868,607. C AND DESIGN. Colonial Carbon Company. MULTIPLE CLASS (Classes 11 and 37). SN 283,630. Pub. 2-11-69. Filed 10-30-67.

Class 12 — Construction Materials

868,575. (See Class 5 for this trademark.)

868,608. MICACOR. Formica Corporation, assignee, by mesne assignment, of Decor Plastics Corp. SN 179,207. Pub. 3-29-66. Filed 10-17-63.

868,609. SANCOURA. Carboline Company. SN 228,989. Pub. 1-3-67. Filed 9-30-65.

868,610. TEX-COTE. Textured Coatings of America, Inc. SN 262,861. Pub. 2-11-69. Filed 1-9-67.

868,611. MISCELLANEOUS DESIGN. Scales Manufacturing Corp. SN 290,757. Pub. 2-11-69. Filed 2-9-68.

868,612. RES-SEAL. Scales Manufacturing Corp. SN 290,758. Pub. 2-11-69. Filed 2-9-68.

868,613. ROLLING DOOR AND DESIGN. The McGhee Corporation. SN 296,182. Pub. 2-11-69. Filed 4-22-68.

868,614. ASPCO ENGINEERED AND DESIGN. Asphalt Sealer Products Company, Inc. SN 304,295. Pub. 2-11-69. Filed 8-5-68.

Class 13 — Hardware and Plumbing and Steam-Fitting Supplies

868,566. (See Class 2 for this trademark.)

868,575. (See Class 5 for this trademark.)

868,615. TWO CIRCUMFERENTIAL RED BANDS. Wheeling Steel Corporation. SN 281,652. Pub. 10-29-68. Filed 10-2-67.

868,616. FLATTER PLATTER. M.J.G. Corporation, d.b.a. Greenbrier Products Corp. SN 284,823. Pub. 2-11-69. Filed 11-14-67.

868,617. PLAST-O-MATIC. Plast-O-Matic Valves Incorporated. SN 285,145. Pub. 2-11-69. Filed 11-17-67.

868,618. ANCHOR. Anchor Post Products, Inc. SN 294,906. Pub. 2-11-69. Filed 4-4-68.

Class 15 — Oils and Greases

868,573. (See Class 4 for this trademark.)

868,619. ENERJET. The British Petroleum Company Limited. SN 279,926. Pub. 6-25-68. Filed 9-8-67.

Class 18 — Medicines and Pharmaceutical Preparations

868,620. ANALONES. Nejo Pharmacal, Inc. SN 247,047. Pub. 12-26-67. Filed 6-1-66.

868,621. AMBODRENE. Drugs for Veterinary Medicine, Inc. SN 288,291. Pub. 12-24-68. Filed 1-8-68.

Class 19 — Vehicles

868,622. MIGHTY PACK. Wayne Engineering Corporation. SN 283,479. Pub. 2-11-69. Filed 10-26-67.

868,623. PORTA-CABIN. Pardonnet Manufacturing Company, Inc. SN 291,180. Pub. 2-11-69. Filed 2-15-68.

868,624. PAMCO. Pardonnet Manufacturing Company, Inc. SN 291,181. Pub. 2-11-69. Filed 2-15-68.

868,625. AERO-GO. Aero-Go., Inc. SN 299,081. Pub. 2-11-69. Filed 5-27-68.

868,626. BILTMORE. J. J. Newberry Co. SN 310,684. Pub. 2-11-69. Filed 10-28-68.

Class 21 — Electrical Apparatus, Machines, and Supplies

868,575. (See Class 5 for this trademark.)

868,627. PERMA FUSE. Robertson Transformer Co. SN 275,690. Pub. 6-11-68. Filed 7-10-67.

868,628. PANAGRAPH. The Scam Instrument Corporation. SN 285,462. Pub. 2-11-69. Filed 11-22-67.

868,629. SLENDERET. Stromberg-Carlson Corporation. SN 296,209. Pub. 2-11-69. Filed 4-22-68.

868,630. POWERLYTIC. Sprague Electric Company. SN 296,726. Pub. 2-11-69. Filed 4-26-68.

868,631. C AND GLOBE DESIGN. Cummings & Co., Inc. SN 296,812. Pub. 2-11-69. Filed 4-29-68.

868,632. MINIPLAX. United-Carr Incorporated. SN 297,109. Pub. 2-11-69. Filed 5-1-68.

868,633. 2+2. Sunbeam Corporation. SN 297,224. Pub. 2-11-69. Filed 5-2-68.

868,634. SMOKETRONIC. Speco, Inc. SN 298,054. Pub. 2-11-69. Filed 5-13-68.

868,635. WAVEMASTER. Ross Electronics Corporation. SN 298,152. Pub. 2-11-69. Filed 5-14-68.

868,636. M AND DESIGN. The Maytag Company. MULTIPLE CLASS (Classes 21 and 24). SN 309,712. Pub. 2-11-69. Filed 10-16-68.

868,637. MAYTAG. The Maytag Company. MULTIPLE CLASS (Classes 21 and 24). SN 309,713. Pub. 2-11-69. Filed 10-16-68.

Class 22 — Games, Toys, and Sporting Goods

868,638. INLAND SURFER. Ventura International Plastics, Inc. SN 206,098. Pub. 6-7-66. Filed 11-12-64.

868,639. GENIE. Exer-Genie, Inc. SN 254,677. Pub. 8-15-67. Filed 9-19-66.

868,640. BATACA. Eusebio F. Acevedo. SN 269,731. Pub. 2-6-68. Filed 4-21-67.

Class 23 — Cutlery, Machinery, and Tools, and Parts Thereof

868,566. (See Class 2 for this trademark.)

868,641. TIGER CLAW AND DESIGN. Standard Engineering Co., Inc. SN 253,918. Pub. 6-4-68. Filed 9-6-66.

868,642. UNIVERSAL. Universal Instruments Corporation. SN 288,559. Pub. 2-11-69. Filed 1-10-68.

868,643. BURROUGHS. Burroughs Corporation. SN 289,077. Pub. 2-11-69. Filed 1-18-68.

868,644. GOLDEN HARVEST. Morbark Debarker Company. SN 290,312. Pub. 12-24-68. Filed 2-5-68.

868,645. HYDRO LASER AND DESIGN. Tritan Corporation, by change of name from Tritec Corporation. SN 291,109. Pub. 12-31-68. Filed 2-14-68.

868,646. HYDRO-DYNE. The Heald Machine Company. SN 292,933. Pub. 2-11-69. Filed 3-11-68.

868,647. AIR MAN AND DESIGN. Hokuetsu Kogyo Kabushiki Kaisha. SN 293,035. Pub. 2-11-69. Filed 3-12-68.

868,648. SW AND DESIGN. Scott & Williams, Inc. SN 295,464. Pub. 2-11-69. Filed 4-11-68.

868,649. KITCHEN DEVILS. Harold George Bearston, d.b.a. Bearston Cutlery and Hardware Co. SN 296,793. Pub. 2-11-69. Filed 4-29-68.

868,650. GLASSMASTER. Cook Machinery Co., Inc. SN 298,205. Pub. 2-11-69. Filed 5-15-68.

868,651. ATLAS. Atlas Supply Company. SN 298,310. Pub. 2-11-69. Filed 5-16-68.

868,652. WIS. John A. Wisner, d.b.a. Wis Wall Washer Machine Co. SN 298,488. Pub. 2-11-69. Filed 5-17-68.

868,653. SILVERMIST. Imperial Knife Associated Companies, Inc. SN 298,602. Pub. 2-11-69. Filed 5-20-68.

868,654. MONTROSE. Imperial Knife Associated Companies, Inc. SN 298,603. Pub. 2-11-69. Filed 5-20-68.

868,655. CORONET. SCM Corporation. SN 299,794. Pub. 2-11-69. Filed 6-5-68.

868,656. ATLAS. Atlas Supply Company. SN 306,326. Pub. 2-11-69. Filed 8-30-68.

868,657. PUMP-O-MATIC. Fedtro, Inc. SN 309,718. Pub. 2-11-69. Filed 10-16-68.

868,658. DOCTOR MACHINE. Wood Industries, Inc., d.b.a. Stanford Engineering Company. SN 309,819. Pub. 2-11-69. Filed 10-17-68.

868,659. STANFORD. Wood Industries, Inc., d.b.a. Stanford Engineering Company. SN 309,820. Pub. 2-11-69. Filed 10-17-68.

868,660. TALK OF THE TOWN. Imperial Skyliner Autowash, Inc. SN 310,394. Pub. 2-11-69. Filed 10-24-68.

Class 24 — Laundry Appliances and Machines

868,636. (See Class 21 for this trademark.)

868,637. (See Class 21 for this trademark.)

Class 26 — Measuring and Scientific Appliances

868,575. (See Class 5 for this trademark.)

868,661. KOVO. Kovo, Podnik Zahranicniho Obchodu pro Dovoz a Vyvoz Vyrobku Presneho Strojirenstvi. SN 108,899. Pub. 5-15-62. Filed 11-22-60.

868,662. GC (DESIGN). Graphic Controls Corporation. SN 267,420. Pub. 2-11-69. Filed 3-23-67.

868,663. VERB. Victor Comptometer Corporation. SN 271,194. Pub. 2-11-69. Filed 5-10-67.

868,664. EBS. Litton Business Systems, Inc., by change of name from Monroe International, Inc. SN 271,496. Pub. 2-11-69. Filed 5-15-67.

868,665. HEMA-TEK. Miles Laboratories, Inc. SN 282,597. Pub. 2-11-69. Filed 10-16-67.

868,666. MATHEX. Encyclopaedia Britannica Publications Limited. SN 283,997. Pub. 2-11-69. Filed 11-2-67.

868,667. ORWO. VEB Filmfabrik Wolfen. SN 285,598. Pub. 2-11-69. Filed 11-24-67.

868,668. ORWO. VEB Filmfabrik Wolfen. SN 285,599. Pub. 2-11-69. Filed 11-24-67.

868,669. ORWOCOLOR. VEB Filmfabrik Wolfen. SN 285,600. Pub. 2-11-69. Filed 11-24-67.

Class 27 — Horological Instruments

868,670. JUNGHANS ASTRO-CHRON. Gebruder Junghans G.m.b.H. SN 290,275. Pub. 11-19-68. Filed 2-5-68.

Class 28 — Jewelry and Precious-Metal Ware

868,671. OLD DEERFIELD. Rogers, Lunt & Bowlen Company, d.b.a. Lunt Silversmiths. SN 302,642. Pub. 2-11-69. Filed 7-12-68.

868,672. DIAMOND ELEGANCE. Textron Inc. SN 302,987. Pub. 2-11-69. Filed 7-17-68.

Class 30 — Crockery, Earthenware, and Porcelain

868,673. PETITE ROSE. Home Decorators, Inc. SN 304,190. Pub. 2-11-69. Filed 8-2-68.

Class 31 — Filters and Refrigerators

868,674. ECONO-CELL. Flanders Filters, Inc. SN 276,425. Pub. 2-11-69. Filed 7-20-67.

868,675. GRAVEX. Union Tank Car Company (Delaware corporation), by assignment and change of name from Union Tank Car Company (New Jersey corporation). SN 281,407. Pub. 2-11-69. Filed 9-28-67.

Class 32 — Furniture and Upholstery

868,676. ROOM-MATES. Mattel, Inc. SN 309,517. Pub. 2-11-69. Filed 10-14-68.

Class 33 — Glassware

868,677. L IN SQUARE. Obear-Nester Glass Company. SN 290,007. Pub. 2-11-69. Filed 1-31-68.

Class 34 — Heating, Lighting, and Ventilating Apparatus

868,678. CRAGMET. Cragmet Corporation. SN 299,110. Pub. 2-11-69. Filed 5-27-68.

868,679. CECO. Combustion Equipment Company. SN 299,432. Pub. 2-11-69. Filed 5-31-68.

868,680. PETRYLOY. Rexarc, Incorporated. SN 299,493. Pub. 2-11-69. Filed 5-31-68.

Class 35 — Belting, Hose, Machinery Packing, and Nonmetallic Tires

868,681. WIDE STAR-TRAK. O.K. Tire and Rubber Co., Inc. SN 271,637. Pub. 2-11-69. Filed 5-16-67.

868,682. CON-O-VERSAL. C. E. Conover & Co., Inc. SN 284,802. Pub. 6-25-68. Filed 11-14-67.

868,683. UHT. Sparks Manufacturing Corporation. SN 302,646. Pub. 2-11-69. Filed 7-12-68.

868,684. NU-TRAC. TSC Industries, Inc. SN 302,774. Pub. 2-11-69. Filed 7-15-68.

868,685. DYNACRAFT. Pacific Car and Foundry Company, d.b.a. Dynacraft Company. SN 305,156. Pub. 2-11-69. Filed 8-14-68.

Class 36 — Musical Instruments and Supplies

868,686. MUSIC OF MANY LANDS. Request Records, Inc. SN 252,211. Pub. 2-11-69. Filed 8-11-66.

868,687. WITHDRAWN.

868,688. "TRIXIE." Humes & Berg Mfg. Co., Inc. SN 302,084. Pub. 2-11-69. Filed 7-5-68.

868,689. CHURCHMICE. Arthur T. Morgan, Jr., d.b.a. Chapel Time Records or Chapel Time Music Co. SN 303,431. Pub. 2-11-69. Filed 7-23-68.

Class 37 — Paper and Stationery

868,606. (See Class 11 for this trademark.)

868,607. (See Class 11 for this trademark.)

868,690. IRRESISTIBLES. CPS Industries, Inc. SN 261,457. Pub. 2-11-69. Filed 12-27-66.

868,691. DATA CARRIER. Moore Business Forms, Inc. SN 293,844. Pub. 12-24-68. Filed 3-21-68.

868,692. COFFEE BREAK AND DESIGN. Ashuelot Paper Company. SN 298,397. Pub. 2-11-69. Filed 5-17-68.

868,693. SOF-KNIT. Fort Howard Paper Company. SN 299,012. Pub. 2-11-69. Filed 5-24-68.

868,694. RAPIDCARD. Regent Standard Forms, Inc. SN 299,160. Pub. 2-11-69. Filed 5-22-68.

868,695. PEN-O-PAKE. Sanford Ink Company. SN 299,162. Pub. 2-11-69. Filed 5-27-68.

868,696. DUO-FLEX AND DESIGN. Gulfstream Press, Inc. SN 299,229. Pub. 2-11-69. Filed 5-28-68.

Class 38 — Prints and Publications

868,697. DAC BULLETIN. Diamond Abrasives Corporation. SN 288,800. Pub. 10-22-68. Filed 1-15-68.

868,698. PRIMERA PLANA. Editorial Primera Plana S.R.L. SN 290,953. Pub. 2-11-69. Filed 2-13-68.

868,699. A WORD EDGEWISE. The Hearst Corporation. SN 310,025. Pub. 2-11-69. Filed 10-21-68.

868,700. WIFE PRESERVERS. The Hearst Corporation. SN 310,026. Pub. 2-11-69. Filed 10-21-68.

Class 39 — Clothing

868,701. VAN ALLYN. Volk Bros. Company. SN 272,122. Pub. 2-11-69. Filed 5-22-67.

868,702. ELGEE. L. Goldstein (Mantles) Limited. SN 274,426. Pub. 2-11-69. Filed 6-21-67.

868,703. JOYCE GALLEY. Joyce Galley Originals, Inc. SN 275,134. Pub. 2-11-69. Filed 6-30-67.

868,704. SCAT BACK. Hayes Garment Company. SN 276,444. Pub. 2-11-69. Filed 7-20-67.

868,705. MISS BOND. Bond Stores, Incorporated. SN 279,359. Pub. 2-11-69. Filed 8-30-67.

868,706. GLENGAIR. Glengair Limited. SN 280,227. Pub. 2-11-69. Filed 9-13-67.

868,707. FF FASHIONS FOUR. Fashions Four, Inc. SN 280,576. Pub. 2-11-69. Filed 9-18-67.

868,708. LOLL EASE. Loll Ease, Inc. SN 292,210. Pub. 2-11-69. Filed 2-29-68.

868,709. SAINT LAURENT RIVE GAUCHE. Lanvin-Charles of the Ritz, Inc. SN 301,016. Pub. 2-11-69. Filed 6-21-68.

868,710. MINIMAX. A. Sagner's Son. SN 301,450. Pub. 2-11-69. Filed 6-26-68.

868,711. BOUTIK-NIT. Boutik-Nit. SN 302,385. Pub. 2-11-69. Filed 7-10-68.

868,712. WESTCOTT. Kanter & Alpert, Inc. SN 302,420. Pub. 2-11-69. Filed 7-10-68.

868,713. G.T.L. Spartans Industries, Inc. SN 302,647. Pub. 2-11-69. Filed 7-12-68.

Class 44 — Dental, Medical, and Surgical Appliances

868,714. MICRO-LINE. American Hospital Supply Corporation, assignee of V. Mueller & Company. SN 276,460. Pub. 2-11-69. Filed 7-20-67.

868,715. PACE. Unitek Corporation. SN 277,737. Pub. 2-11-69. Filed 8-7-67.

868,716. DISPENSTIRS. Hyson, Westcott & Dunning, Inc. SN 281,578. Pub. 2-11-69. Filed 10-2-67.

868,717. REPRESENTATION OF TWO MEN. Pichon Freres. SN 293,295. Pub. 2-11-69. Filed 3-14-68.

868,718. SERVO-CARE. Air Reduction Company, Incorporated. SN 294,151. Pub. 2-11-69. Filed 3-26-68.

868,719. THE NEW GENERATION TAMPON. International Playtex Corporation. SN 294,282. Pub. 2-11-69. Filed 3-27-68.

868,720. SAF-T-HEATER. J. F. Jelenko & Co., Inc. SN 295,340. Pub. 2-11-69. Filed 4-10-68.

868,721. HEID-A-SORB. Air Reduction Company, Incorporated. SN 295,899. Pub. 2-11-69. Filed 4-18-68.

868,722. SAFE-T-WALKER. Guardian Products Company, Inc. SN 296,152. Pub. 2-11-69. Filed 4-22-68.

868,723. COLORGRAD. Pyramid International, Inc. SN 296,578. Pub. 2-11-69. Filed 4-25-68.

868,724. ANALGIZER. Abbott Laboratories. SN 302,697. Pub. 2-11-69. Filed 7-15-68.

868,725. HEINE AND DESIGN. Optotechnik G.m.b.H. SN 303,817. Pub. 2-11-69. Filed 7-29-68.

868,726. CS-1. C. R. Bard, Inc. SN 304,198. Pub. 2-11-69. Filed 8-2-68.

868,727. DISPERSALLOY. Unitek Corporation. SN 304,837. Pub. 2-11-69. Filed 8-9-68.

868,728. S AND DESIGN. Sarns, Inc. SN 305,071. Pub. 2-11-69. Filed 8-13-68.

868,729. JELLI COOL. Eagle Druggists Supply Co., Inc. SN 305,420. Pub. 2-11-69. Filed 8-19-68.

868,730. ORTHOTIQUE. Sickroom Service, Inc. SN 306,516. Pub. 2-11-69. Filed 9-3-68.

Class 45 — Soft Drinks and Carbonated Waters

868,731. KING KASTLE. King Kastle Systems, Inc., d.b.a. King Kastle Systems. MULTIPLE CLASS (Classes 45 and 46). SN 262,943. Pub. 12-3-68. Filed 1-20-67.

868,732. WITHDRAWN.

Class 46 — Foods and Ingredients of Foods

868,731. (See Class 45 for this trademark.)

868,733. LABEL DESIGN. Riviana Foods Inc., assignee of Mark Morris Associates, Inc. SN 174,696. Pub. 2-11-69. Filed 8-8-63.

868,734. MINUTE MAGIC. General Mills, Inc. SN 236,085. Pub. 1-2-68. Filed 1-10-66.

868,735. LA TOLTECA. Toltec Foods, Inc., assignee of La Tolteca Company. SN 253,889. Pub. 6-6-67. Filed 9-6-66.

868,736. FO-TI TIENG. Vernon M. Kuhns, d.b.a. Kev Enterprises. SN 273,650. Pub. 2-11-69. Filed 6-12-67.

868,737. PEPPIMINT. Philip Morris Incorporated, d.b.a. Clark Gum Co. SN 273,789. Pub. 10-22-68. Filed 6-13-67.

868,738. HYDE PARK AND DESIGN. Malone & Hyde, Inc. SN 281,595. Pub. 12-24-68. Filed 10-2-67.

868,739. ANIMEX ETC. AND DESIGN. Animex Centrala Importowo-Eksportowa Artykulow i Przetworow Pochodzenia Zwierzecego, d.b.a. Animex. SN 281,950. Pub. 2-11-69. Filed 10-6-67.

868,740. NUTRETS. Mark Morris Associates, assignee of Mar-Ko Company. SN 283,351. Pub. 10-1-68. Filed 10-25-67.

868,741. TOP O'BEST. Aulabaugh Bros., Inc. SN 288,181. Pub. 2-11-69. Filed 1-5-68.

868,742. FELINE (DESIGN). Mark Morris Associates, assignee of Mar-Ko Company. SN 288,835. Pub. 9-3-68. Filed 1-15-68.

868,743. MARMOSET (DESIGN). Mark Morris Associates, assignee of Mar-Ko Company. SN 288,836. Pub. 9-3-68. Filed 1-15-68.

868,744. PRIMATE (DESIGN). Mark Morris Associates, assignee of Mar-Ko Company. SN 288,837. Pub. 9-3-68. Filed 1-15-68.

868,745. WEIGHT WATCHERS PROGRAM DINNER. Weight Watchers International, Inc. SN 291,655. Pub. 2-11-69. Filed 2-21-68.

868,746. AMPAC ETC. AND DESIGN. The American Meat Packing Corporation. SN 300,886. Pub. 2-11-69. Filed 6-20-68.

868,747. YOUNG AT HEART. Castle & Cooke, Inc., d.b.a. Dole Company. SN 307,166. Pub. 2-11-69. Filed 9-12-68.

Class 49 — Distilled Alcoholic Liquors

868,748. SUNDANCE. Renfield Importers, Ltd. SN 297,593. Pub. 2-11-69. Filed 5-7-68.

Class 50 — Merchandise Not Otherwise Classified

868,575. (See Class 5 for this trademark.)

868,749. STAN PAK AND DESIGN. Standard Packaging Corporation. SN 276,960. Pub. 2-11-69. Filed 7-27-67.

Class 51 — Cosmetics and Toilet Preparations

868,750. SHEEBA. Judith Muller, Ltd., assignee, by mesne assignment, of Pharmaceutical Laboratories, Inc. SN 257,795. Pub. 8-22-67. Filed 11-2-66.

868,751. BAT-SHEBA. Judith Muller, Ltd. SN 266,904. Pub. 8-22-67. Filed 3-16-67.

868,752. UP-BEAT. Sears, Roebuck and Co. SN 274,993. Pub. 5-7-68. Filed 6-28-67.

868,753. SOLFEGE. Comptoir de la Parfumerie S.A., Ancienne Maison Tschanz. SN 276,313. Pub. 2-11-69. Filed 7-19-67.

868,754. GAMBIT. Borden, Inc., by change of name from The Borden Company. SN 276,529. Pub. 2-11-69. Filed 7-21-67.

868,755. ADRIFT. Bishop Industries Inc. SN 277,509. Pub. 2-11-69. Filed 8-4-67.

868,756. FANCY FACE. Alberto-Culver Company. SN 286,620. Pub. 2-11-69. Filed 12-11-67.

868,757. MY OWN. The Emko Company. SN 286,655. Pub. 2-11-69. Filed 12-11-67.

868,758. BIRD OF PARADISE. Avon Products, Inc. SN 286,895. Pub. 2-11-69. Filed 12-14-67.

868,759. AGUA BRAVA. Antonio Puig, S.A. SN 287,948. Pub. 2-11-69. Filed 1-2-68.

868,760. A PLUS ETC. AND DESIGN. Nu Tress Laboratories, Inc. SN 289,416. Pub. 2-11-69. Filed 1-23-67.

868,761. BIWA. Tecla, Societe Anonyme. SN 289,540. Pub. 2-11-69. Filed 1-24-68.

868,762. GREENBRIAR. Daggett & Ramsdell International Corp. SN 291,141. Pub. 12-24-68. Filed 2-15-68.

868,763. FUNLIGHTS. Clairol Incorporated. SN 292,185. Pub. 2-11-69. Filed 2-29-68.

868,764. PICOT. Picot Limited. SN 296,193. Pub. 2-11-69. Filed 4-22-68.

868,765. EROTICA. Faberge, Inc. SN 296,412. Pub. 2-11-69. Filed 4-24-68.

868,766. MOUNTAIN SPRING. Bristol-Myers Company. SN 297,523. Pub. 2-11-69. Filed 5-7-68.

868,767. TRANQUIL. Avon Products, Inc. SN 298,399. Pub. 2-11-69. Filed 5-17-68.

868,768. KAHRALIA. Avon Products, Inc. SN 298,401. Pub. 2–11–69. Filed 5–17–68.

868,769. THE QUEEN OF LONG BEACH. Cosmetco. SN 298,432. Pub. 2–11–69. Filed 5–17–68.

868,770. TAI WINDS. Avon Products, Inc. SN 299,305. Pub. 2–11–69. Filed 5–29–68.

868,771. BOUTIQUE BLONDE. Alberto-Culver Company. SN 302,172. Pub. 1–21–69. Filed 7–8–68.

868,772. MELO. Alberto-Culver Company. SN 302,275. Pub. 2–11–69. Filed 7–9–68.

868,773. PERSON TO PERSON. Colgate-Palmolive Company. SN 304,649. Pub. 12–24–68. Filed 8–8–68.

Class 52 — Detergents and Soaps

868,573. (See Class 4 for this trademark.)

868,774. SHEEBA. Judith Muller, Ltd., assignee, by mesne assignment, of Pharmaceutical Laboratories, Inc. SN 258,576. Pub. 8–22–67. Filed 11–14–66.

868,775. HETRARED. Masury-Columbia Co. SN 276,326. Pub. 2–11–69. Filed 7–19–67.

868,776. EBERHARD FABER. Eberhard Faber Inc. SN 286,758. Pub. 2–11–69. Filed 12–12–67.

868,777. NPI. Nutrilite Products, Inc. SN 287,086. Pub. 2–11–69. Filed 12–18–67.

868,778. CLEVE-TEK B–19. Cleveland Technical Center, Inc. SN 288,602. Pub. 2–11–69. Filed 1–11–68.

868,779. CLEVE-TEK. Cleveland Technical Center, Inc. SN 288,604. Pub. 2–11–69. Filed 1–11–68.

868,780. GROOVEE. Valley Home Decorators, Inc., d.b.a. Futuramic Research. SN 291,456. Pub. 2–11–69. Filed 2–19–68.

868,781. SERVICEMASTER. Servicemaster Industries Inc. SN 293,055. Pub. 2–11–69. Filed 3–12–68.

868,782. NEW-MARVEL. New-Mar, Inc. SN 293,734. Pub. 2–11–69. Filed 3–20–68.

868,783. NAMI LO. National Milling and Chemical Company. SN 293,943. Pub. 2–11–69. Filed 3–22–68.

868,784. RETURN. The Grant Company. SN 295,728. Pub. 2–11–69. Filed 4–16–68.

868,785. KALOW. Philadelphia Quartz Company, d.b.a. Philadelphia Quartz Company of California. SN 295,762. Pub. 2–11–69. Filed 4–16–68.

868,786. TRANQUIL. Avon Products, Inc. SN 298,400. Pub. 2–11–69. Filed 5–17–68.

868,787. KAHRALIA. Avon Products, Inc. SN 298,402. Pub. 2–11–69. Filed 5–17–68.

868,788. JONES MOTOR PURR AND DESIGN. Otho Jones, d.b.a. Jones Motor Purr Co. SN 305,705. Pub. 2–11–69. Filed 8–22–68.

868,789. DUNKIN DEMONS. Chas. Pfizer & Co., Inc. SN 308,572. Pub. 2–11–69. Filed 10–1–68.

868,790. DUNKIN SNAKES. Chas. Pfizer & Co., Inc. SN 308,574. Pub. 2–11–69. Filed 10–1–68.

868,791. DUNKIN MONSTERS. Chas. Pfizer & Co., Inc. SN 308,575. Pub. 2–11–69. Filed 10–1–68.

868,792. SWISSBOY. Fairchild Chemical Corporation. SN 310,277. Pub. 2–11–69. Filed 10–23–68.

868,793. BOWL QUICK. The Procter & Gamble Company. SN 310,979. Pub. 2–11–69. Filed 10–31–68.

Service Marks

Class 100 — Miscellaneous

868,794. MR. BIG TOP AND DESIGN. B.T.S. Franchising Systems, Inc. SN 233,439. Pub. 11–19–68. Filed 11–29–65.

868,795. SHANE. Shane and Associates Inc. SN 256,980. Pub. 2–11–69. Filed 10–21–66.

868,796. MINUTE MAN AND DESIGN. Minute Man Foods, Inc. SN 270,800. Pub. 1–30–68. Filed 5–5–67.

Class 101 — Advertising and Business

868,797. AN AMERICAN TRADITION. Stop and Save Trading Stamp Corporation. SN 271,656. Pub. 2–11–69. Filed 5–16–67.

868,798. THE MATCHMAKERS. Management Recruiters International, Inc. SN 294,401. Pub. 1–14–69. Filed 3–28–68.

Class 102 — Insurance and Financial

868,799. MARGINSURE AND DESIGN. Continental Assurance Co. SN 283,876. Pub. 2–11–69. Filed 11–1–67.

868,800. MARGINSURE. Continental Assurance Co. SN 283,877. Pub. 2–11–69. Filed 11–1–67.

868,801. DRIVE DM MASTER AND DESIGN. General Fire and Casualty Company. SN 286,261. Pub. 2–11–69. Filed 12–5–67.

Class 103 — Construction and Repair

868,802. BIRD. Bird Space Technology, Inc. SN 262,121. Pub. 2–11–69. Filed 1–9–67.

868,803. GO-FER GROVES SAFELY AND DESIGN. S. J. Groves & Sons Company. SN 272,723. Pub. 2–11–69. Filed 5–31–67.

868,804. GAF. GAF Corporation. SN 309,422. Pub. 2–11–69. Filed 10–11–68.

Class 105 — Transportation and Storage

868,805. CAN DO AND DESIGN. Traveler's City, Ltd. SN 290,666. Pub. 2–11–69. Filed 2–8–68.

868,806. SWINGING SINGLES. Swinging Singles Travel Club. SN 293,320. Pub. 2–11–69. Filed 3–14–68.

Class 106 — Material Treatment

868,807. ALTRA AND DESIGN. Altra Mold Corporation. SN 290,151. Pub. 2–11–69. Filed 2–2–68.

Class 107 — Education and Entertainment

868,808. WEATHER DIAL. Weather Phone Corporation of America. SN 229,158. Pub. 2–11–69. Filed 10–1–65.

868,809. WEATHER PHONE. Weather Phone Corporation of America. SN 229,159. Pub. 2–11–69. Filed 10–1–65.

868,810. BURROUGHS. Burroughs Corporation, SN 295,014. Pub. 2–11–69. Filed 4–5–68.

SUPPLEMENTAL REGISTER

These registrations are not subject to opposition.

SECTION 1

(Combined Certificates)

868,814. Baron Blakeslee, Inc., Chicago, Ill. SN 302,004. Filed P.R. 7–5–68; Am. S.R. 2–11–69.

BARON BLAKESLEE

Class 21—Electrical Apparatus, Machines, and Supplies

For Ultrasonic Degreasing and Cleaning Machines (Int. Cl. 9).

Class 23—Cutlery, Machinery, and Tools, and Parts Thereof

For Plastic Polishing and Refurbishing Machines (Int. Cl. 7).

First use on or about June 1, 1966.

SECTION 2

Class 18 — Medicines and Pharmaceutical Preparations

868,814. See Section 1 (Combined Certificate.)

868,811. The S. E. Massengill Company, Bristol, Tenn. SN 268,530. Filed P.R. 4–6–67; Am. S.R. 12–19–68.

PET-KOF TABS

For Pharmaceutical—Namely, a Veterinary Tablet for the Treatment of Coughs in Dogs (Int. Cl. 5).

First use Jan. 30, 1967.

Class 21 — Electrical Apparatus, Machines, and Supplies

868,814. See Section 1 (Combined Certificate).

868,812. Ovitron Corporation, Newburgh, N.Y. SN 271,169. Filed P.R. 5–10–67; Am. S.R. 1–22–69.

RADIOLITE

For High Intensity Lamp and Radio Combinations (Int. Cl. 9).

First use Jan. 6, 1967.

868,813. Inland Controls, Inc., Boston, Mass. SN 278,220. Filed P.R. 8–14–67; Am. S.R. 2–7–69.

HYBAND

For Servo Motor Drive Systems, Including Actuators, Torque Motors, and Electronic Amplifiers (Int. Cl. 9).

First use in or about January 1966.

Class 23 — Cutlery, Machinery, and Tools, and Parts Thereof

868,814. See Section 1 (Combined Certificate.)

Class 26 — Measuring and Scientific Appliances

868,815. HH Controls Co., Inc., Arlington, Mass. SN 306,663. Filed 9–5–68.

OPTACH

For Electro-Optical Incremental Shaft-Encoders (Int. Cl. 9).

First use Mar. 14, 1966.

Class 28 — Jewelry and Precious-Metal Ware

868,816. Textron Inc., Providence, R.I. SN 294,540. Filed P.R. 3–29–68; Am. S.R. 2–5–69.

HISPANA

The English translation of the mark "Hispana" is "Spanish."

For Sterling Silver Flatware (Int. Cl. 8).

First use Dec. 19, 1967.

Class 32 — Furniture and Upholstery

868,817. King-Seeley Thermos Co. (Delaware corporation), Freeport, Ill., assignee of King-Seeley Thermos Co. (Michigan corporation), Freeport, Ill. SN 266,108. Filed P.R. 3–6–67; Am. S.R. 2–3–69.

fold-n-lok

For Portable Foldable Utility Tables With Locking Action in Both Folded and Unfolded Condition (Int. Cl. 20).

First use Dec. 27, 1966.

868,818. New York Feather Co., Inc., New York, N.Y. SN 297,694. Filed P.R. 5–8–68; Am. S.R. 2–4–69.

SLANT'N SLEEP

For Pillows and Cushions (Int. Cl. 20).

First use July 6, 1967.

Class 34 — Heating, Lighting, and Ventilating Apparatus

868,819. King-Seeley Thermos Co. (Delaware corporation), Freeport, Ill., assignee of King-Seeley Thermos Co. (Michigan corporation), Freeport. Ill. SN 266,107. Filed P.R. 3–6–67; Am. S.R. 2–3–69.

fold-n-lok

For Portable Foldable Outdoor Grills With Locking Action in Both Folded and Unfolded Condition (Int. Cl. 11).
First use Dec. 28, 1966.

Class 37 — Paper and Stationery

868,820. Fitchburg Coated Products, Inc., Scranton, Pa. SN 265,817. Filed P.R. 3–2–67; Am. S.R. 1–23–69.

Communication Papers FOR INDUSTRY

For Recording Paper (Int. Cl. 16).
First use not later than Sept. 23, 1964.

868,821. Maxmark Enterprises Limited, d.b.a. Cardinal Products, Toronto, Ontario, Canada. SN 267,288. Filed P.R. 3–20–67; Am. S.R. 12–20–68.

ADD-A-PAGE

For Photograph Albums and Snap-In Transparent Vinyl Pocket Sheets Therefor (Int. Cl. 16).
First use Sept. 2, 1966.

Class 38 — Prints and Publications

868,822. The Houston Post Company, Houston, Tex. SN 273,892. Filed P.R. 6–14–67; Am. S.R. 2–10–69.

TEE AND SYMPATHY

For Publications—Namely, a Newspaper Column (Int. Cl. 16).
First use Jan. 14, 1966.

868,823. The Sacramento Union Corporation, Sacramento, Calif. SN 273,987. Filed P.R. 6–15–67; Am. S.R. 2–10–69.

FOOD FARE

For Weekly Newspaper Column (Int. Cl. 16).
First use about July 20, 1966.

868,824. Petroleum Engineer Publishing Company, Dallas, Tex. SN 277,206. Filed P.R. 7–31–67; Am. S.R. 2–3–69.

rig locator

For Periodically Issued Directory Supplement to a Magazine (Int. Cl. 16).
First use October 1955.

868,825. The Professional Press, Inc., Chicago, Ill. SN 278,610. Filed P.R. 8–18–67; Am. S.R. 1–29–69.

JOURNAL OF LEARNING DISABILITIES

For Magazine (Int. Cl. 16).
First use on or about Aug. 10, 1967.

Class 39 — Clothing

868,826. Red Kap, Inc., Nashville, Tenn. SN 261,349. Filed P.R. 12–23–66; Am. S.R. 1–3–69.

RED-E-PREST

For Shirts and Pants (Int. Cl. 25).
First use Nov. 17, 1966.

868,827. Edmonton Manufacturing Company, d.b.a. Topps Manufacturing Co., and Elin Uniform Mfg. Co., Rochester, Ind. SN 264,045. Filed P.R. 2–6–67; Am. S.R. 12–30–68.

TOPPMASTER

For Industrial and Other Work Garments for Butchers, Carpenters, Doctors, Nurses, Office and Restaurant Workers and the Like—Namely, Work Uniforms, Work Clothes, Work Shirts, Trousers, Jackets, Coats, Coveralls, Shopcoats, Butcher Frocks, Shop Aprons, Caps, Neckties, Raincoats, Dress Slacks, Sweatshirts, and Bowling Shirts (Int. Cl. 25).
First use on or about Apr. 2, 1963.

868,828. Hortex, Incorporated, El Paso, Tex. SN 280,780. Filed P.R. 9–20–67; Am. S.R. 12–19–68.

RIPPLE TWILL

For Boys' Slacks (Int. Cl. 25).
First use Aug. 16, 1967.

868,829. Blue Bell, Inc., Greensboro, N.C. SN 290,218. Filed P.R. 2–5–68; Am. S.R. 1–10–69.

COWBOY CUT

For Jeans (Int. Cl. 25).
First use July 1965.

Class 44 — Dental, Medical, and Surgical Appliances

868,830. Robert L. Ward, d.b.a. Ward Products Co., Wheaton, Ill. SN 267,086. Filed P.R. 3–17–67; Am. S.R. 1–15–69.

Rest Aid

For Kinesitherapy Devices—Namely, Massaging Vibrators for Beds and Heating and Massaging Cushions (Int. Cl. 10).
First use May 2, 1965.

Class 46 — Foods and Ingredients of Foods

868,831. Matlow Bros., Inc., Hoboken, N.J. SN 270,688. Filed P.R. 5–4–67; Am. S.R. 10–1–68.

MERRIE ENGLAND

For Candy (Int. Cl. 30).
First use on or about Apr. 25, 1967.

Class 49 — Distilled Alcoholic Liquors

868,832. Retail Centers of the Americas, Inc., d.b.a. Bargain Town U.S.A., Lawrence, N.Y. SN 291,187. Filed P.R. 2–15–68; Am. S.R. 11–5–68.

LORD DARCY

The name "Lord Darcy" does not identify any particular individual.
For Whiskey and Gin (Int. Cl. 33).
First use June 6, 1966.

868,833. J. R. Parkington & Company Limited, d.b.a. Moreno y Ca, London, England. SN 299,582. Filed 6–3–68.



Owner of British Reg. No. 887,477, dated Nov. 26, 1965.
For Sherry Wines (Int. Cl. 33).

Class 51 — Cosmetics and Toilet Preparations

868,834. Bishop Industries Inc., Union, N.J. SN 277,510. Filed P.R. 8–4–67; Am. S.R. 1–23–69.

BLUSHING FINISH

For Pressed Tinted Make-Up and Brush Sold in a Compact (Int. Cl. 3).
First use June 28, 1967.

868,835. Bonne Bell, Inc., Lakewood, Ohio. SN 289,073. Filed P.R. 1–18–68; Am. S.R. 12–6–68.

A LITTLE PINK

For Liquid Facial Make-Up (Int. Cl. 3).
First use June 26, 1967.

868,836. Bonne Bell, Inc., Lakewood, Ohio. SN 289,074. Filed P.R. 1–18–67; Am. S.R. 12–9–68.

A LITTLE PEACH

For Liquid Facial Make-Up (Int. Cl. 3).
First use June 26, 1967.

868,837. Estee Lauder, Incorporated, New York, N.Y. SN 290,622. Filed P.R. 2–8–68; Am. S.R. 1–27–69.

CHINABERRY

For Lipsticks (Int. Cl. 3).
First use Jan. 22, 1968.

Class 52 — Detergents and Soaps

868,838. Astor Products, Inc., Jacksonville, Fla. SN 289,468. Filed P.R. 1–24–68; Am. S.R. 12–23–68.

PINK LILAC

For Liquid Detergent for Dishes and Fabrics (Int. Cl. 3).
First use Dec. 4, 1967.

Service Mark

Class 101 — Advertising and Business

868,839. Mars Sales Corporation, Des Moines, Iowa. SN 282,109. Filed P.R. 10–9–67; Am. S.R. 12–13–68.

COUNTRY & WESTERN RECORD CLUB U.S.A.

For Phonograph Record Mail Order Services (Int. Cl. 35).
First use May 1, 1967.

TRADEMARK REGISTRATIONS RENEWED

251,488. GLOSFAST. Cl. 16 (Int. Cl. 2). 1–8–29.
252,269. MATALESE. Cl. 39 (Int. Cl. 25). 1–29–29.
252,354. VEHNAKERMA. Cl. 46 (Int. Cl. 30). 2–5–29.
252,670. "V-C FERTILIZERS" ETC. AND DESIGN. Cl. 10 (Int. Cl. 1). 2–12–29.
254,479. BLUE ARROW. Cl. 46 (Int. Cl. 30). 3–26–29.
255,074. WISSCOLOY. Cl. 35 (Int. Cl. 7). 4–16–29.
255,145. BELLA. Cl. 42 (Int. Cl. 24). 4–16–29.
255,735. BOURNVILLE. Cl. 46 (Int. Cl. 30). 4–30–29.
255,826. EVENING IN PARIS. Cl. 51 (Int. Cl. 3). 4–30–29.
258,393. PEMBROOK. Cl. 39 (Int. Cl. 25). 7–9–29.
441,204. ESTERINE. Cl. 46 (Int. Cl. 29), 11–2–48.
441,689. SECURIT'S ETC. AND DESIGN. Cl. 13 (Int. Cl. 6). 12–28–48.
442,053. LA CARMEA LOPEZ CARO AND DESIGN. Cl. 51 (Int. Cl. 3). 2–8–49.
442,064. COLIBRI. Cl. 6 (Int. Cl. 4). 2–8–49.
442,074. SHERWIN-WILLIAMS. Cl. 12 (Int. Cls. 2, 17, and 19). 2–8–49.
442,075. KRIM-KO. Cl. 46 (Int. Cl. 32). 2–8–49.
442,099. PESTMASTER. Cl. 6 (Int. Cl. 5). 2–22–49.
442,120. SHERWIN-WILLIAMS. Cl. 38 (Int. Cl. 16). 2–22–49.
442,156. OBLONG RECTANGULAR FRAME. Cl. 52 (Int. Cl. 1). 3–1–49
442,367. CREST EMBLEM. Cl. 42 (Int. Cl. 24). 4–5–49.
442,512. SILENTIZE WITH FENDIX. Cl. 16 (Int. Cl. 2). 4–19–49.
442,876. FEATHERQUEEN. Cl. 42 (Int. Cl. 24). 6–14–49.
442,922. THERA-VITA. Cl. 18 (Int. Cl. 5). 6–21–49.
442,987. WAG. Cl. 46 (Int. Cls. 29 and 30). 6–28–49.
503,778. NO-TAR-IN. Cl. 12 (Int. Cl. 19). 11–9–48.
504,008. THE GRADE TEACHER. Cl. 38 (Int. Cl. 16). 11–16–48.
505,241. COOLSHIRE. Cl. 39 (Int. Cl. 25). 12–28–48.
505,302. A–535. Cl. 18 (Int. Cl. 5). 12–28–48.
505,326. LONG. Cl. 23 (Int. Cls. 7 and 12). 1–4–49.
505,506. B & B. Cl. 3 (Int. Cl. 18). 1–4–49.
505,513. FLEX-DRI. Cl. 106 (Int. Cl. 40). 1–4–49.
505,692. FRONTIER. Cl. 15 (Int. Cl. 4). 1–18–49.
506,208. H & A CORDAGE AND DESIGN. Cl. 7 (Int. Cl. 22). 2–1–49.
506,420. COUNTESS ISSERLYN. Cl. 51 (Int. Cl. 3). 2–8–49.
506,446. DAN DEE. Cl. 46 (Int. Cls. 29 and 30). 2–8–49.
506,450. SIROCCO. Cl. 51 (Int. Cl. 3). 2–8–49.
506,506. ALVA. Cl. 51 (Int. Cl. 3). 2–8–49.

506,554. NEWPORT. Cl. 6 (Int. Cl. 4). 2–8–49.
506,651. ATLAS. Cl. 26 (Int. Cl. 9). 2–15–49.
506,735. J. Cl. 6 (Int. Cl. 1). 2–15–49.
506,736. M. Cl. 6 (Int. Cl. 1). 2–15–49.
506,737. N. Cl. 6 (Int. Cl. 1). 2–15–49.
506,740. S. Cl. 6 (Int. Cl. 1). 2–15–49.
506,742. U. Cl. 6 (Int. Cl. 1). 2–15–49.
506,757. B. Cl. 6 (Int. Cl. 1). 2–15–49.
507,038. SPEED-RITE. Cl. 6 (Int. Cl. 5). 2–22–49.
507,218. MEDORA. Cl. 46 (Int. Cl. 31). 3–1–49.
507,288. SNAP-PER-ROO. Cl. 39 (Int. Cl. 25). 3–1–49.
507,289. TEM-TEX. Cl. 39 (Int. Cl. 25). 3–1–49.
507,295. ANNULAR BAND. Cl. 6 (Int. Cl. 1). 3–1–49.
507,363. ROCKMASTER. Cl. 9 (Int. Cl. 13). 3–8–49.
507,569. KOILFIN. Cl. 21 (Int. Cl. 11). 3–15–49.
507,754. FINSTRIP. Cl. 21 (Int. Cl. 11). 3–15–49.
507,592. NUFORM. Cl. 23 (Int. Cl. 7). 3–15–49.
507,666. SS. Cl. 6 (Int. Cl. 1). 3–15–49.
507,992. METSO 99. Cl. 6 (Int. Cl. 1). 3–22–49.
508,395. BIG CROP. Cl. 10 (Int. Cl. 1). 4–12–49.
508,783. INTERNAPS. Cl. 37 (Int. Cl. 16). 4–19–49.
508,784. PALMER. Cl. 37 (Int. Cl. 16). 4–19–49.
508,785. POM. Cl. 37 (Int. Cl. 16). 4–19–49.
508,786. TIDYNAPS. Cl. 37 (Int. Cl. 16). 4–19–49.
508,895. NORTHWESTERN STATES ETC. AND DESIGN. Cl. 12 (Int. Cl. 19). 4–26–49.
509,214. ELEPHANT BRAND. Cl. 13 (Int. Cl. 6). 5–3–49.
509,260. THE GRAND MACNISH AND DESIGN. Cl. 49 (Int. Cl. 33). 5–3–49.
509,303. FRANKLIN. Cl. 42 (Int. Cl. 24). 5–3–49.
509,455. MORTEN'S BEST. Cl. 46 (Int. Cl. 30). 5–3–49.
509,488. STOCKTON. Cl. 46 (Int. Cl. 29). 5–3–49.
509,571. INDIA. Cl. 6 (Int. Cl. 3). 5–10–49.
509,700. A. Cl. 6 (Int. Cl. 1). 5–10–49.
509,701. G. Cl. 6 (Int. Cl. 1). 5–10–49.
509,763. PLASTIROLL. Cl. 11 (Int. Cl. 7). 5–10–49.
509,805. NATIONAL FOOD BROKERS ASSN. AND DESIGN. Cl. 102 (Int. Cl. 36). 5–10–49.
509,872. NICOPRESS. Cl. 21 (Int. Cl. 9). 5–17–49.
509,873. NICOPRESS. Cl. 21 (Int. Cl. 9). 5–17–49.
510,123. FORD TIMES. Cl. 38 (Int. Cl. 16). 5–24–49.
510,537. HILLSIDE. Cl. 46 (Int. Cl. 29). 6–7–49.
510,556. BETAN AND DESIGN. Cl. 51 (Int. Cl. 3). 6–7–49.
510,594. GIBSON. Cl. 36 (Int. Cl. 15). 6–7–49.
510,639. ELAM'S. Cl. 46 (Int. Cl. 30). 6–7–49.
510,669. PERFEX. Cl. 52 (Int. Cl. 3). 6–7–49.
510,695. IMDRIN. Cl. 18 (Int. Cl. 5). 6–7–49.
510,756. TALLSO. Cl. 52 (Int. Cl. 3). 6–7–49.
510,998. MENTOR. Cl. 38 (Int. Cl. 16). 6–14–49.
511,042. IRONCLAD. Cl. 7 (Int. Cl. 22). 6–14–49.
511,173. HOOSIER. Cl. 39 (Int. Cl. 25). 6–21–49.
511,218. TOM & JERRY ETC. AND DESIGN. Cl. 39 (Int. Cl. 25). 6–21–49.
511,219. MISSOURI MULE ETC. AND DESIGN. Cl. 39 (Int. Cl. 25). 6–21–49.
511,220. JOHANSEN. Cl. 39 (Int. Cl. 25). 6–21–49.
511,235. HEATHERTON. Cl. 39 (Int. Cl. 25). 6–21–49.
511,246. DOLE. Cl. 6 (Int. Cl. 1). 6–21–49.
511,279. WHIZ BEST NICKEL CANDY BAR THER IZ-Z. Cl. 46 (Int. Cl. 30). 6–21–49.
511,339. UTAH BOND AND DESIGN. Cl. 37 (Int. Cl. 16). 6–21–49.
511,358. RUSTPRUF. Cl. 6 (Int. Cl. 1). 6–21–49.
511,379. DR. SCHOLL'S. Cl. 18 (Int. Cl. 5). 6–21–49.
511,527. STRONG BARN. Cl. 12 (Int. Cl. 6). 6–21–49.
511,547. NK-ELEPHANT AND DESIGN. Cl. 19 (Int. Cls. 6 and 12). 6–28–49.
511,575. FLAME OTROL AND DESIGN. Cl. 26 (Int. Cl. 9). 6–28–49.
511,576. WHEELCO. Cl. 26 (Int. Cl. 9). 6–28–49.
511,639. UMBRELLA GIRL (DESIGN). Cl. 46 (Int. Cl. 30). 6–28–49.
511,666. NATCO. Cl. 46 (Int. Cl. 29). 6–28–49.
511,779. MOOG. Cl. 19 (Int. Cl. 12). 7–5–49.
511,927. SIGNET. Cl. 38 (Int. Cl. 16). 7–5–49.
512,051. HUDSON. Cl. 16 (Int. Cl. 2). 7–12–49.
512,092. ARIEL. Cl. 39 (Int. Cl. 25). 7–12–49.
512,154. POWERS X-RAY AND DESIGN. Cl. 26 (Int. Cls. 1 and 10). 7–12–49.
512,226. MICROFORMER. Cl. 26 (Int. Cl. 9). 7–12–49.
512,246. OSTERIZER. Cl. 21 (Int. Cl. 7). 7–12–49.
512,258. JAY-CEE AND DESIGN. Cl. 14 (Int. Cl. 6). 7–12–49.
512,352. PHOTO-VARICOLOR. Cl. 38 (Int. Cl. 16). 7–19–49.
512,354. PHOTO-COLORIT. Cl. 38 (Int. Cl. 16). 7–19–49.
512,356. AMERICAN ART. Cl. 38 (Int. Cl. 16). 7–19–49.
512,357. PHOTO-COTE. Cl. 38 (Int. Cl. 16). 7–19–49.
512,358. PHOTO-FINISH. Cl. 38 (Int. Cl. 16). 7–19–49.
512,386. SELECCION SUPREMA. Cl. 17 (Int. Cl. 34). 7–19–49.
512,472. EBONY. Cl. 37 (Int. Cl. 16). 7–19–49.
512,482. FLO-MIX. Cl. 11 (Int. Cl. 1). 7–19–49.
512,534. LENOX. Cl. 1 (Int. Cl. 22). 7–19–49.
512,586. MOVIE LIFE. Cl. 38 (Int. Cl. 16). 7–19–49.
512,591. SUPERIOR GIFT LINE. Cl. 38 (Int. Cl. 16). 7–19–49.
513,080. BRAVO. Cl. 47 (Int. Cl. 33). 8–2–49.

TRADEMARK REGISTRATIONS CANCELED

Section 8

737,877. VISICART. Cl. 26. 9–18–62.

The following registrations issued Mar. 12, 1963

746,401. ANCHOR. Cl. 1.
746,405. KODAPHANE. Cl. 1.
746,407. RANDY JEAN. Cl. 2.
746,410. KV-PAK. Cl. 2.
746,411. BON AMI AND DESIGN. Cl. 4.
746,412. BONANZA. Cl. 5.
746,413. LIQUID SUN. Cl. 6.
746,414. SOLEX. Cl. 6.
746,416. SAN-O-PEN. Cl. 6.
746,418. LITHATE. Cl. 6.
746,422. UMBRELL. Cl. 6.
746,426. MANCO DENVER. Cl. 6.
746,429. FLO-GRO AND DESIGN. Cl. 10.
746,435. ART WHITE. Cl. 12.
746,437. SPECTERIOR AND DESIGN. Cl. 12.
746,438. CALAG. Cl. 12.
746,443. FLEUR DE LIS. Cl. 12.
746,444. COUNTRY. Cl. 12.
746,447. HOSPITALITY. Cl. 12.
746,448. E-RIB. Cl. 12.
746,449. BONUSPAN. Cl. 12.
746,456. HELLER PLY. Cl. 13.
746,458. IMA WHIZ AND DESIGN. Cl. 13.
746,460. KNIGHT. Cl. 13.
746,462. EO AND DESIGN. Cl. 13.
746,465. WESSONITE. Cl. 14.
746,467. KOLD SOLV. Cl. 14.
746,469. TIM AND DESIGN. Cl. 15.
746,481. SNAPPY. Cl. 19.
746,485. SAPPHIRE. Cl. 19.
746,488. TRANSFER LINER. Cl. 19.
746,489. SAFETI-CRAFT. Cl. 19.
746,492. GEOMETILE. Cl. 20.
746,495. TRIPLE-EYE AND DESIGN. Cl. 21.
746,498. MITE-SITE. Cl. 21.
746,500. MACE. Cl. 21.
746,506. SONIC AIRE. Cl. 21.
746,519. NORELCO. Cl. 21.
746,523. VIRGINIAN. Cl. 21.
746,525. TV GUNS OF THE WEST. Cl. 22.
746,526. MATCH GOLF. Cl. 22.
746,531. MATCH-RITE. Cl. 22.
746,536. BALEMASTER. Cl. 23.
746,541. D DAVIS D AND DESIGN. Cl. 23.
746,543. WEDGE-SCREW. Cl. 23.
746,544. MODE DANISH. Cl. 23.
746,551. JACKSTEM. Cl. 23.
746,553. TOTE-A-LOAD. Cl. 23.
746,556. PUNCH-O-MASK. Cl. 23.
746,561. EURALUX. Cl. 26.
746,565. LABCO INTERNATIONAL AND DESIGN. Cl. 26.
746,566. HITE-MIKE. Cl. 26.

746,567. DREAM LITE AND DESIGN. Cl. 26.
746,573. GEOMETRIC DESIGN. Cl. 26.
746,576. NORTH STAR. Cl. 27.
746,578. CONSTANT 14K. Cl. 28.
746,587. J.H.H. Cl. 28.
746,590. YR. Cl. 28.
746,592. A.R. Cl. 28.
746,594. TB. Cl. 28.
746,595. GW AND DESIGN. Cl. 28.
746,597. THREE DAGGERS (DESIGN). Cl. 28.
746,600. ESR. Cl. 28.
746,603. GFB. Cl. 28.
746,604. RUGGED RED. Cl. 29.
746,609. HI-LINER. Cl. 32.
746,610. TEL-A-BENCH AND DESIGN. Cl. 32.
746,611. BOCRA. Cl. 32.
746,614. TRU-PLATE. Cl. 32.
746,615. GOURMET CONTINENTAL. Cl. 32.
746,617. EXOTILITE. Cl. 32.
746,622. BOCRA. Cl. 34.
746,628. FLO-LOK. Cl. 35.
746,630. DU-RAY. Cl. 35.
746,636. PROGRAMMER I. Cl. 36.
746,637. MARASHEL. Cl. 36.
746,644. PENN/BRITE PLATE LABEL. Cl. 37.
746,646. FANCIFUL DESIGN OF THE LETTERS SMV. Cl. 38.
746,647. SPELLING LABORATORY. Cl. 38.
746,648. SRA SPELLING LABORATORY. Cl. 38.
746,649. NEW PERSPECTIVES. Cl. 38.
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505,824. CROWN. Cl. 6. 1–18–49. Stauffer Chemical Company, San Francisco, Calif. Amended to appear:

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760,989. THE SUNDAY OKLAHOMAN. Cl. 38. 12–3–63. The Oklahoma Publishing Company, Oklahoma City, Okla. Corrected: In the statement, column 1, line 1, "Oklahoma" second occurrence should be deleted and *Delaware* should be inserted.

865,510. WM WAREHOUSE MARKET AND DESIGN. Cl. 101. 2–25–69. Nash-Finch Company, doing business as Warehouse Market, Minneapolis, Minn. Corrected: In the statement, column 2, after line 5, *Concurrent use restricted to Iowa, Minnesota, Nebraska and North Dakota. Concurrent use with user.* should be inserted.

866,535. F FELCO AND DESIGN. Cl. 46. 3–11–69. Farmers Regional Cooperative, Fort Dodge, Iowa. Corrected: In the statement, column 1, line 1, "Region" should be deleted and *Regional* should be inserted

866,547. LOC-LENS. Cl. 50. 3–11–69. General Steel Industries, Inc., doing business as Flex-O-Lite Division, St. Louis, Mo. Corrected: In the statement, column 1, line 2, "Felx" should be deleted and *Flex* should be inserted.

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Granite City Steel Co., Granite City, Ill. 511,527, ren. 4–29–69. Cl. 12.
Graniteville Co., Graniteville, S.C. 746,705, canc. Cl. 42.
Grant Co., The, Chicago, Ill. 868,784, pub. 2–11–69. Cl. 52.
Graphic Controls Corp., Buffalo, N.Y. 868,662, pub. 2–11–69. Cl. 26.
Greenbrier Products Corp.: *See*—
M.J.G. Corp.
Groves, S. J., & Sons Co., Minneapolis, Minn. 868,803, pub. 2–11–69. Cl. 103.

Guardian Products Co., Inc., North Hollywood, Calif. 868,722, pub. 2–11–69. Cl. 44.
Gulfstream Press, Inc., Miami, Fla. 868,696, pub. 2–11–69. Cl. 37.
Guth Chemical Co., Chicago, Ill. 746,418, canc. Cl. 6.
HH Controls Co. Inc., Arlington, Mass. 868,815. Cl. 26.
Hall, James H., d.b.a. James H. Hall Co., Providence, R.I. 746,587, canc. Cl. 28.
Hall, James H., Co.: *See*—
Hall, James H.
Hamilton Distributing Co., Asheboro, N.C. 746,469, canc. Cl. 15.
Harbison-Walker Refractories Co., Pittsburgh, Pa. 746,488, canc. Cl. 12.
Hartwall Productions, Philadelphia, Pa. 746,637, canc. Cl. 36.
Hawaiian Pineapple Co., Ltd., San Francisco, Calif., to Castle & Cooke, Inc., Honolulu, Hawaii. 511,246, ren. 4–29–69. Cl. 6.
Hayes Garment Co., Nashville, Tenn. 868,704, pub. 2–11–69. Cl. 39.
Heald Machine Co., The, Worcester, Mass. 868,646, pub. 2–11–69. Cl. 23.
Hearst Corp., The, New York, N.Y. 868,699–700, pub. 2–11–69. Cl. 38.
Helfgott, Irving I.: *See*—
Vernon & Vermont Pharmacy.
Hijos De N. Lopez Caro, Barcelona, Spain. 442,053, ren. 4–29–69. Cl. 51.
Hindu Incense Mfg. Co., Chicago, Ill. 509,571, ren. 4–29–69. Cl. 6.
Hokuetsu Kogyo Kabushiki Kaisha, Nishi-Kambara-gun, Niigata-ken, Japan. 868,647, pub. 2–11–69. Cl. 23.
Home Decorators, Inc., Newark, N.Y. 868,673, pub. 2–11–69. Cl. 30.
Hooyen & Allison Co., The, Xenia, Ohio. 506,208, ren. 4–29–69. Cl. 7.
Hoover, Joseph, & Sons Co., Philadelphia, Pa. 512,591, ren. 4–29–69. Cl. 38.
Hortex, Inc., El Paso, Tex. 868,828. Cl. 39.
Hot Shot Quality Products, Inc., Memphis, Tenn. 868,576, pub. 2–11–69. Cl. 6.
Houston Post Co., The, Houston, Tex. 868,822. Cl. 38.
Hudson, H. D., Mfg. Co., Chicago, Ill. 512,051, ren. 4–29–69. Cl. 16.
Humes & Berg Mfg. Co., Inc., East Chicago, Ind. 868,688, pub. 2–11–69. Cl. 36.
Hynson, Westcott & Dunning, Inc., Baltimore, Md. 868,716, pub. 2–11–69. Cl. 44.
ICI America Inc., New York, N.Y. 868,554, pub. 2–11–69. Cl. 1.
Ideal Publishing Corp., to Ideal Publishing Corp., New York, N.Y. 512,586, ren. 4–29–69. Cl. 38.
Imperial Knife Associated Companies, Inc., Providence, R.I. 868,653–4, pub. 2–11–69. Cl. 23.
Imperial Skyliner Autowash, Inc., Buffalo, N.Y. 868,660, pub. 2–11–69. Cl. 23.
Industrial Extracts Ltd., West Perth, Australia. 746,414, canc. Cl. 6.
Industrial Marketing Associates, Inc., Houston, Tex. 746,458, canc. Cl. 13.
Ingersoll-Rand Co., New York, N.Y. 746,551, canc. Cl. 23.
Inland Controls, Inc., Boston, Mass. 868,813. Cl. 21.
International Flavor Machines, Inc., St. Louis, Mo. 746,732, canc. Cl. 46.
International Flavors & Fragrances Inc.: *See*—
Van Amerigen-Haebler, Inc.
International Inspection Inc., Pasadena, Calif. 746,495, canc. Cl. 21.
International Latex Corp., Dover, Del. 746,691–2, canc. Cl. 39.
International Perfume Co., Inc.: *See*—
Bourjois Inc.
International Playtex Corp., Dover, Del. 868,719, pub. 2–11–69. Cl. 44.
Ironees Co., The, Philadelphia, Pa. 868,601, pub. 2–11–69. Cl. 6.
Jay Electronics Inc., Flushing, N.Y. 746,636, canc. Cl. 36.
Jelenko, J. F., & Co., Inc., New Rochelle, N.Y. 868,720, pub. 2–11–69. Cl. 44.
Johansen Brothers Shoe Co., Inc., St. Louis, Mo. 511,220, ren. 4–29–69. Cl. 39.
Johnson City Foundry & Machine Works, Inc., Johnson City, Tenn. 512,258, ren. 4–29–69. Cl. 14.
Johnson & Johnson, New Brunswick, N.J. 746,722, canc. Cl. 44.
Jones, John H., d.b.a. Bellwood Laboratories, Bellwood, Ill. 737,877, canc. Cl. 26.
Jones Motor Purr Co.: *See*—
Jones, Otho.
Jones, Otho, d.b.a. Jones Motor Purr Co., Manhattan Beach, Calif. 868,788, pub. 2–11–69. Cl. 52.
KVP Sutherland Paper Co., Kalamazoo, Mich. 746,410, canc. Cl. 2.
Kanter & Alpert, Inc., Chicago, Ill. 868,712, pub. 2–11–69. Cl. 39.
Karman Inc.: *See*—
Feldt, Max.
Kean, W. R., Co., San Francisco, Calif. 746,721, canc. Cl. 44.
Kev Enterprises: *See*—
Kuhns, Vernon M.
King Kastle Systems: *See*—
King Kastle Systems, Inc.
King Kastle Systems, Inc., d.b.a. King Kastle Systems Chicago, Ill. 868,731, pub. 12–3–68. Multiple Class (Classes 45 and 46).
King-Seeley Thermos Co., from King-Seeley Thermos Co., Freeport, Ill. 868,817. Cl. 32.
King-Seeley Thermos Co., from King-Seeley Thermos Co., Freeport, Ill. 868,819. Cl. 34.
Kovo, Podnik Zahranicniho Obchodu Pro Dovoz A Vyvoz Vyrobku Presneho Strojirenstvi, Prague, Czechoslovakia. 868,661, pub. 5–15–62, Cl. 26.
Krause, Willy, Bielefeld, Germany. 868,588, pub. 2–11–69. Cl. 6.
Kreiss Corp., New York, N.Y. 746,506, canc. Cl. 21.
Krim-Ko Corp., Chicago, Ill., to The National Sugar Refining Co., New York, N.Y. 442,075, ren. 4–29–69. Cl. 46.
Kuhns, Vernon M., d.b.a. Kev Enterprises, Honolulu, Hawaii. 868,736, pub. 2–11–69. Cl. 46.
Labco International, St. Joseph, Mich. 746,565, canc. Cl. 26.
Lanvin-Charles of The Ritz, Inc., New York, N.Y. 868,709, pub. 2–11–69. Cl. 39.
La Tolteca Co.: *See*—
Toltec Foods, Inc.
Le Lis, Naamloze Vennootschap, Hamme, Belgium. 746,707, canc. Cl. 42.
Lelong, Lucien, Inc., Chicago, Ill., to Parfums Lucien Lelong Corp., New York, N.Y. 506,450, ren. 4–29–69. Cl. 51.
Levinsohn Textile Co., to Levinsohn Textile Co., Inc., New York, N.Y. 442,367, ren. 4–29–69. Cl. 42.
Levinsohn Textile Co., to Levinsohn Textile Co., Inc., New York, N.Y. 442,876, ren. 4–29–69. Cl. 42.
Levinsohn Textile Co., Inc.: *See*—
Levinsohn Textile Co.
Lewis, Tillie, Foods, Inc.: *See*—
Flotill Products, Inc.
Lighting Specialties, Inc., Los Angeles, Calif. 746,768, canc. Cl. 21.
Linzel, Edward: *See*—
Saint Mary's Press.
Linzel, Edward, d.b.a. Saint Mary's Press, New York, N.Y. 746,646, canc. Cl. 38.
Liquid Sun Co., Passaic, N.J. 746,413, canc. Cl. 6.
Litton Business Systems, Inc., from Monroe International, Inc., Orange, N.J. 868,664, pub. 2–11–69. Cl. 26.
Loll Ease, Inc., New York, N.Y. 868,708, pub. 2–11–69. Cl. 39.
Lowrey Imports: *See*—
Lowrey, Walter B., and Mark P. Lowrey.
Lowrey, Walter B., and Mark P. Lowrey, d.b.a. Lowrey Imports, New Orleans, La. 746,674, canc. Cl. 39.
Lunt Silversmiths: *See*—
Rogers, Lunt & Bowlen Co.
M.J.G. Corp., d.b.a. Greenbrier Products Corp., Los Angeles, Calif. 868,616, pub. 2–11–69. Cl. 13.
Mace Corp.: *See*—
Military & Computer Electronics, Inc.
MacFarlane's Candies of Southern California, Inc., d.b.a. Warren Watkins Candies, Los Angeles, Calif. 746,731, canc. Cl. 46.
MacNish, Robert, & Co. Ltd.: *See*—
McNish, Robert, & Co. Ltd.
Malone & Hyde, Inc., Memphis, Tenn. 868,738, pub. 12–24–68. Cl. 46.
Management Recruiters International, Inc., Cleveland, Ohio. 868,798, pub. 1–14–69. Cl. 101.
Manco Chemical Co., Inc., Denver, Colo. 746,426, canc. Cl. 6.
Marine Colloids, Inc., Springfield, N.J. 868,580, pub. 2–11–69. Cl. 6.
Markem Corp.: *See*—
Markem Machine Co.
Markem Machine Co., to Markem Corp., Kenne, N.H. 509,763, ren. 4–29–69. Cl. 11.
Mar-Ko Co.: *See*—
Morris, Mark, Associates.
Mars Sales Corp., Des Moines, Iowa. 868,839. Cl. 101.
Marshall, Charles W., d.b.a. Marshall Sales Co., Portland, Oreg. 746,752, canc. Cl. 52.
Marshall Sales Co.: *See*—
Marshall, Charles W.
Mask-O-Matic, Inc., Hawthorne, N.J. 746,556, canc. Cl. 23.
Massengill, S. E., Co., The, Bristol, Tenn. 868,811. Cl. 18.
Masury-Columbia Co., Melrose Park, Ill. 868,775, pub. 2–11–69. Cl. 52.
Matlow Bros., Inc., Hoboken, N.J. 868,831. Cl. 46.
Mattel, Inc., Hawthorne, Calif. 868,676, pub. 2–11–69. Cl. 32.
Maxmark Enterprises Ltd., d.b.a. Cardinal Products, Toronto, Ontario, Canada. 868,821. Cl. 37.
Maytag Co., The, Newton, Iowa. 868,636–7, pub. 2–11–69. Multiple Class (Classes 21 and 24).
McGhee Corp., The, Oklahoma City, Okla. 868,618, pub. 2–11–69. Cl. 12.
McNish, Robert, & Co. Ltd., Glasgow, to Robert MacNish & Co. Ltd., Dumbarton, Scotland. 509,260, ren. 4–29–69. Cl. 49.
Mead Corp., The: *See*—
Dixon & Co.
Michigan Chemical Corp., St. Louis, Mich. 442,099, ren. 4–29–69. Cl. 6.
Miles Laboratories, Inc., Elkhart, Ind. 868,665, pub. 2–11–69. Cl. 26.
Military & Computer Electronics, Inc., d.b.a. Mace Corp., Fort Lauderdale, Fla. 746,500, canc. Cl. 21.
Minute Man Foods, Inc., Little Rock, Ark. 868,796, pub. 1–30–68. Cl. 100.
Mishawaka Rubber Co., Inc.: *See*—
Mishawaka Rubber & Woolen Mfg. Co.
Mishawaka Rubber & Woolen Mfg. Co., to Mishawaka Rubber Co., Inc., Mishawaka, Ind. 511,173, ren. 4–29–69. Cl. 39.
Mishawaka Rubber & Woolen Mfg. Co., to Mishawaka Rubber Co., Inc., Mishawaka, Ind. 512,092, ren. 4–29–69. Cl. 39.
Mite Corp., New Haven, Conn., from R.F. Industries, Inc., Summit, N.J. 746,498, canc. Cl. 21.
Mobil Oil Corp.: *See*—
Virginia-Carolina Chemical Corp.
Monroe International, Inc.: *See*—
Litton Business Systems, Inc.
Moog Industries, Inc., St. Louis, Mo. 511,779, ren. 4–29–69. Cl. 19.

Mooney Chemicals, Inc., Cleveland, Ohio. 868,592, pub. 2–11–69. Cl. 6.
Moore Business Forms, Inc., Niagara Falls, N.Y. 868,691, pub. 12–24–68. Cl. 37.
Morbark Debarker Co., Winn, Mich. 868,644, pub. 12–24–68. Cl. 23.
Moreno y Ca: *See*—
Parkington, J. R., & Co. Ltd.
Morgan, Arthur T., Jr., d.b.a. Chapel Time Records or Chapel Time Music Co., Bridge City, Tex. 868,689, pub. 2–11–69. Cl. 36.
Morris, Mark, Associates, from Mar-Ko Co., Topeka, Kans. 868,740, pub. 10–1–68. Cl. 46.
Morris, Mark, Associates, from Mar-Ko Co., Topeka, Kans. 868,742–4, pub. 9–3–68. Cl. 46.
Morris, Mark, Associates, Inc.: *See*—
Riviana Foods Inc.
Morris, Philip, Inc., d.b.a. Clark Gum Co., New York, N.Y. 868,737, pub. 10–22–68. Cl. 46.
Morton Milling Co.: *See*—
Tex-O-Kan Flour Mills Co.
Morton International, Inc.: *See*—
Morton Salt Co.
Morton International, Inc., Chicago, Ill. 868,591, pub. 2–11–69. Cl. 6.
Morton Salt Co., to Morton International, Inc., Chicago, Ill. 511,639, ren. 4–29–69. Cl. 46.
Mueller, V., & Co.: *See*—
American Hospital Supply Corp.
Muller, Judith, Ltd., Haifa, Israel, from Pharmaceutical Laboratories, Inc., Jersey City, N.J. 868,750–1, pub. 8–22–67. Cl. 51.
Muller, Judith, Ltd., Haifa, Israel, from Pharmaceutical Laboratories, Inc., Jersey City, N.J. 868,774, pub. 8–22–67. Cl. 52.
Mytiscaf, Magny-en-Vexin, Val d'Oise, France. 868,568, pub. 2–11–69. Cl. 2.
Nash-Finch Co., d.b.a. Warehouse Market, Minneapolis, Minn. 865,510, cor. Cl. 101.
National Association of Insurance Agents, Inc., New York, N.Y. 868,687, pub. 2–11–69. Cl. 36.
National Bakers Services, Inc.: *See*—
Elam Mills, Inc.
National Biscuit Co.: *See*—
Cream of Wheat Co.
National Food Brokers Association, Washington, D.C. 509,805, ren. 4–29–69. Cl. 102.
National Milling & Chemical Co., Philadelphia, Pa. 868,783, pub. 2–11–69. Cl. 52.
National Starch & Chemical Corp., New York, N.Y. 868,589, pub. 2–11–69. Cl. 6.
National Sugar Refining Co., The: *See*—
Krim-Ko Corp.
National Tea Co., Chicago, Ill. 510,537, ren. 4–29–69. Cl. 46.
National Tea Co., Chicago, Ill. 511,666, ren. 4–29–69. Cl. 46.
National Telephone Supply Co., The, Cleveland, Ohio. 509,872–3, ren. 4–29–69. Cl. 21.
Nejo Pharmacal, Inc., Houston, Tex. 868,620, pub. 12–26–67. Cl. 18.
New American Library, Inc., The: *See*—
New American Library of World Literature, Inc., The.
New American Library of World Literature, Inc., The, to The New American Library, Inc., New York, N.Y. 511,927, ren. 4–29–69. Cl. 38.
New American Library of World Literature, Inc., The, to The New American Library, Inc., New York, N.Y. 510,998, ren. 4–29–69. Cl. 38.
New York Feather Co., Inc., New York, N.Y. 868,818, Cl. 32.
New York & Pennsylvania Co. Inc., New York, N.Y. 746,644, canc. Cl. 37.
Newberry, J. J., Co., New York, N.Y. 868,626, pub. 2–11–69. Cl. 19.
Newhouse, J. L., & Son, Inc., New York, N.Y. 746,774, canc. Cl. 28.
New-Mar, Inc., Chicago, Ill. 868,782, pub. 2–11–69. Cl. 52.
Newport Industries, Inc., Pensacola, Fla., to Tenneco Chemicals, Inc., New York, N.Y. 506,554, ren. 4–29–69. Cl. 6.
Nichols & Co., Inc., Boston, Mass. 868,559–60, pub. 2–11–69. Cl. 1.
Nixdorff-Krein Mfg. Co., to Nixdorff-Krein Mfg. Co., St. Louis, Mo. 509,214, ren. 4–29–69. Cl. 13.
Nixdorff-Krein Mfg. Co., to Nixdorff-Krein Mfg. Co., St. Louis, Mo. 511,547, ren. 4–29–69. Cl. 19.
North American Philips Co., Inc., New York, N.Y. 746,519, canc. Cl. 21.
Northwestern States Portland Cement Co., Mason City, Iowa. 508,895, ren. 4–29–69. Cl. 12.
Nu Tress Laboratories, Inc., North Hollywod, Calif. 868,760, pub. 2–11–69. Cl. 51.
Nutrilite Products, Inc., Buena Park, Calif. 868,777, pub. 2–11–69. Cl. 52.
O.K. Rubber Welders, Inc., d.b.a. Flo-Lok Rubber Co., Guntersville, Ala. 746,628, canc. Cl. 35.
O.K. Tire & Rubber Co., Inc., Littleton, Colo. 868,681, pub. 2–11–69. Cl. 35.
Obear-Nester Glass Co., East St. Louis, Ill. 868,677, pub. 2–11–69. Cl. 33.
Oklahoma Publishing Co., The, Oklahoma City, Okla. 760,989, cor. Cl. 38.
Optotechnik G.m.b.H., Kientalsta, Germany. 868,725, pub. 2–11–69. Cl. 44.
Organic Soil Builders, Inc., St. Paul, Minn. 746,416, canc. Cl. 6.
Oster, John, Mfg. Co., Milwaukee, Wis. 512,246, ren. 4–29–69. Cl. 21.
Ovitron Corp., Newburgh, N.Y. 868,812. Cl. 21.
PPG Industries, Inc., Pittsburgh, Pa. 868,600, pub. 2–11–69. Cl. 6.
Pacific Car & Foundry Co., d.b.a. Dynacraft Co., Renton, Wash. 868,685, pub. 2–11–69. Cl. 35.
Pantino, Inc., Hollywood, Fla. 746,677, canc. Cl. 39.
Pardonnet Mfg. Co., Inc., Livonia, Mich. 868,623–4, pub. 2–11–69. Cl. 19.
Parfums Lucien Lelong Corp.: *See*—
Lelong, Lucien, Inc.
Parkington, J. R., & Co. Ltd., d.b.a. Moreno y Ca, London, England. 868,833, Cl. 49.
Patterson-Sargent Co., The, Cleveland, Ohio, to Textron Inc., New Brunswick, N.J. 251,488, ren. 4–29–69. Cl. 16.
Payne, Bruce, & Associates, Inc., New York, N.Y. 746,649, canc. Cl. 38.
Penn Meter Co., Philadelphia, Pa. 746,573, canc. Cl. 26.
Perfex Co., The, Shenandoah, Iowa, to Tidy House Products Co., Omaha, Nebr. 510,669, ren. 4–29–69. Cl. 52.
Peter Pan Foundations, Inc., New York, N.Y. 746,679, canc. Cl. 39.
Peterson, C. B., Co., Nashville, Tenn. 746,772, canc. Cl. 28.
Petroleum Engineer Publishing Co., Dallas, Tex. 868,824. Cl. 38.
Pfizer, Chas., & Co., Inc., New York, N.Y. 868,789–91, pub. 2–11–69. Cl. 52.
Pharmaceutical Laboratories, Inc.: *See*—
Muller, Judith, Ltd.
Philadelphia Quartz Co., Philadelphia, Pa. 506,735–7, ren. 4–29–69. Cl. 6.
Philadelphia Quartz Co., Philadelphia, Pa. 506,740, ren. 4–29–69. Cl. 6.
Philadelphia Quartz Co., Philadelphia, Pa. 506,742, ren. 4–29–69. Cl. 6.
Philadelphia Quartz Co., Philadelphia, Pa. 506,757, ren. 4–29–69. Cl. 6.
Philadelphia Quartz Co., Philadelphia, Pa. 507,666, ren. 4–29–69. Cl. 6.
Philadelphia Quartz Co., Philadelphia, Pa. 507,992, ren. 4–29–69. Cl. 6.
Philadelphia Quartz Co., Philadelphia, Pa. 507,700–1, ren. 4–29–69. Cl. 6.
Philadelphia Quartz Co., d.b.a. Philadelphia Quartz Co. of California, Philadelphia, Pa. 868,785, pub. 2–11–69. Cl. 52.
Philadelphia Quartz Co. of California: *See*—
Philadelphia Quartz Co.
Pichon Freres, Loire, France. 868,717, pub. 2–11–69. Cl. 44.
Picot Ltd., London, England. 868,764, pub. 2–11–69. Cl. 51.
Pittsburgh Plate Glass Co., Pittsburgh, Pa. 746,604, canc. Cl. 29.
Plast-O-Matic Valves Inc., Clifton, N.J. 868,617, pub. 2–11–69. Cl. 13.
Powers X-Ray Products, Inc., Glen Cove, N.Y. 512,154, ren. 4–29–69. Cl. 26.
Precision Fittings, Inc.: *See*—
Essex Wire Corp.
Procter & Gamble Co., The, Cincinnati, Ohio. 868,793, pub. 2–11–69. Cl. 52.
Professional Press, Inc., The, Chicago, Ill. 868,825. Cl. 38.
Puig, Antonio, S.A., Barcelona, Spain. 868,759, pub. 2–11–69. Cl. 51.
Pyramid International, Inc., Ravenna, Ohio. 868,728, pub. 2–11–69. Cl. 44.
R.F. Industries, Inc.: *See*—
Mite Corp.
R & Y Jewelry Mfg.: *See*—
Rathaus, Rose.
Racine Hydraulics, Inc., Racine, Wis. 868,566, pub. 2–11–69. Multiple Class (Classes 2, 13, and 23).
Ralph's Trailer Sales & Service Co., Inc., Salina, Kans. 746,488, canc. Cl. 19.
Rathaus, Rose, d.b.a. R & Y Jewelry Mfg., New York, N.Y. 746,592, canc. Cl. 28.
Red Kap, Inc., Nashville, Tenn. 868,826. Cl. 39.
Regent Standard Forms, Inc., Philadelphia, Pa. 868,694, pub. 2–11–69. Cl. 37.
Regent-Sheffield, New York, N.Y. 746,544, canc. Cl. 23.
Reichhold Chemicals, Inc., White Plains, N.Y. 868,558, pub. 12–24–68. Cl. 1.
Relton Corp., Arcadia, Calif. 868,590, pub. 2–11–69. Cl. 6.
Renfield Importers, Ltd., Union, N.J. 868,748, pub. 2–11–69. Cl. 49.
Request Records, Inc., New Rochelle, N.Y. 868,686, pub. 2–11–69. Cl. 36.
Retail Centers of the Americas, Inc., d.b.a. Bargain Town U.S.A., Lawrence, N.Y. 868,832. Cl. 49.
Rexall Drug & Chemical Co., d.b.a. Thompson Industries, Los Angeles, Calif. 868,567, pub. 2–11–69. Cl. 2.
Rexarc, Inc., West Alexandria, Ohio. 868,680, pub. 2–11–69. Cl. 34.
Rhodes Pharmacal Co., Inc., Chicago, Ill. 510,695, ren. 4–29–69. Cl. 18.
Riviana Foods Inc., Houston, Tex., from Mark Morris Associates, Inc., Topeka, Kans. 868,733, pub. 2–11–69. Cl. 46.
Robbins, Anatole: *See*—
Robbins, Anatole, Inc.
Robbins, Anatole, Inc., d.b.a. Anatole Robbins, Los Angeles, Calif., to Alexandra de Markoff Sales Corp., New York, N.Y. 506,420, ren. 4–29–69. Cl. 51.
Robbins Floor Products, Inc., Tuscumbia, Ala. 746,492, canc. Cl. 20.
Robert Hosiery Mills, Inc., Collegeville, Pa. 746,717, canc. Cl. 42.
Roberts, Heller, Instruments Corp., Cleveland, Ohio. 746,456, canc. Cl. 13.
Robertson Transformer Co., Blue Island, Ill. 868,627, pub. 6–11–68. Cl. 21.
Rogers, Lunt & Bowlen Co., d.b.a. Lunt Silversmiths, Greenfield, Mass. 868,671, pub. 2–11–69. Cl. 28.
Rosenstein Bros., Paterson, N.J. 746,713–14, canc. Cl. 42.

Ross Electronics Corp., Chicago, Ill. 868,635, pub. 2–11–69. Cl. 21.
Ross-Matthai Corp., New York, N.Y. 746,745, canc. Cl. 50.
Rutigliano, Carl A., d.b.a. Snappy Products Co., Vacaville, Calif. 746,481, canc. Cl. 19.
Rutland Fire Clay Co., Rutland, Vt. 503,778, ren. 4–29–69. Cl. 12.
SCM Corp., New York, N.Y. 868,655, pub. 2–11–69. Cl. 23.
S.W. Virginia Tire Co., Inc., Richlands, Va. 746,523, canc. Cl. 21.
Sacramento Union Corp., The, Sacramento, Calif. 868,823. Cl. 38.
Sagner's, A., Son, Frederick, Md. 868,710, pub. 2–11–69. Cl. 39.
Sanford Ink Co., Bellwood, Ill. 868,695, pub. 2–11–69. Cl. 37.
Sarns, Inc., Ann Arbor, Mich. 868,728, pub. 2–11–69. Cl. 44.
Satec Systems, Inc.: *See*—
Baldwin Locomotive Works, The.
Scales Mfg. Corp., Orangeburg, N.Y. 868,611–12, pub. 2–11–69. Cl. 12.
Scam Instrument Corp., The, Skokie, Ill. 868,628, pub. 2–11–69. Cl. 21.
Scholl Mfg. Co., Inc., The, Chicago, Ill. 511,879, ren. 4–29–69. Cl. 18.
Science Research Associates, Inc., Chicago, Ill. 746,647–8, canc. Cl. 38.
Scott & Williams, Inc., Laconia, N.H. 868,648, pub. 2–11–69. Cl. 23.
Seaborn Cultured Pearls, Inc., New York, N.Y. 746,597, canc. Cl. 28.
Sears, Roebuck & Co., Chicago, Ill. 868,572, pub. 2–11–69. Cl. 3.
Sears, Roebuck & Co., Chicago, Ill. 868,752, pub. 5–7–68. Cl. 51.
Sekisui Chemical Co., Ltd.: *See*—
Sekisui Kagaku Kogyo Kabushiki Kaisha.
Sekisui Kagaku Kogyo Kabushiki Kaisha, d.b.a. Sekisui Chemical Co., Ltd., Itaku, Osaka, Japan. 868,575, pub. 2–11–69. Multiple Class (Classes 5, 12, 13, 21, 26, and 50).
Servicemaster Industries Inc., Downers Grove, Ill. 868,781, pub. 2–11–69. Cl. 52.
Shane & Associates Inc., Clayton, Mo. 868,795, pub. 2–11–69. Cl. 100.
Sherwin-Williams Co., The, Cleveland, Ohio. 442,074, ren. 4–29–69. Cl. 12.
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Standard Engineering Co., Inc., Fort Dodge, Iowa. 868,641, pub. 6–4–68. Cl. 23.
Standard Oil Co., Flemington, N.J. 868,605, pub. 2–11–69. Cl. 10.
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Standard Packaging Corp., Stamford, Conn. 868,749, pub. 2–11–69. Cl. 50.
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Wiegand, Edwin L., Co., Pittsburgh, Pa. 507,574, ren. 4–29–69. Cl. 21.
Wilson Pharmaceutical & Chemical Corp., Chicago, Ill. 868,577–9, pub. 2–11–69. Cl. 6.

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